

# XPS Controller

*Universal High-Performance Motion Controller/Driver*



*Labview manual  
V2.6.x*

## Confidentiality & Proprietary Rights

### **Reservation of TT Title :**

The Newport Programs and all materials furnished or produced in connection with them ("Related Materials") contain trade secrets of Newport and are for use only in the manner expressly permitted. Newport claims and reserves all rights and benefits afforded under law in the Programs provided by Newport Corporation.

Newport shall retain full ownership of Intellectual Property Rights in and to all development, process, align or assembly technologies developed and other derivative work that may be developed by Newport. Customer shall not challenge, or cause any third party to challenge, the rights of Newport.

### **Preservation of Secrecy and Confidentiality and Restrictions to Access:**

Customer shall protect the Newport Programs and Related Materials as trade secrets of Newport, and shall devote its best efforts to ensure that all its personnel protect the Newport Programs as trade secrets of Newport Corporation. Customer shall not at any time disclose Newport's trade secrets to any other person, firm, organization, or employee that does not need (consistent with Customer's right of use hereunder) to obtain access to the Newport Programs and Related Materials. These restrictions shall not apply to information (1) generally known to the public or obtainable from public sources; (2) readily apparent from the keyboard operations, visual display, or output reports of the Programs; (3) previously in the possession of Customer or subsequently developed or acquired without reliance on the Newport Programs; or (4) approved by Newport for release without restriction.

2003 Newport Corporation  
1791 Deere Ave.  
Irvine, CA 92606, USA  
(949) 863-3144

# Table of Contents

<b>TT1</b>	<b>Introduction .....</b>	<b>11</b>
<b>2</b>	<b>TCP/IP Communication .....</b>	<b>17</b>
2.1	Vis description .....	17
2.1.1	Open TCP-IP.vi .....	18
2.1.2	Close TCP-IP.vi .....	21
2.1.3	Close All Other Sockets.vi .....	23
2.1.4	Login.vi .....	24
<b>3</b>	<b>Common VIs description .....</b>	<b>25</b>
<b>4</b>	<b>Positioners .....</b>	<b>27</b>
4.1	VIs Description .....	27
4.1.1	Positioner Acceleration Auto Scaling.vi .....	28
4.1.2	Positioner Analog Tracking Position Parameters Get.vi .....	29
4.1.3	Positioner Analog Tracking Position Parameters Set.vi .....	30
4.1.4	Positioner Analog Tracking Velocity Parameters Get.vi .....	31
4.1.5	Positioner Analog Tracking Velocity Parameters Set.vi .....	32
4.1.6	Positioner Backlash Disable.vi .....	33
4.1.7	Positioner Backlash Enable.vi .....	34
4.1.8	Positioner Backlash Get.vi .....	35
4.1.9	Positioner Backlash Set.vi .....	36
4.1.10	Positioner Corrector Auto Tuning.vi .....	37
4.1.11	Positioner Corrector PIDDualFFVoltage Get.vi .....	38
4.1.12	Positioner Corrector PIDDualFFVoltage Set.vi .....	40
4.1.13	Positioner Corrector PIDFFAcceleration Get.vi .....	42
4.1.14	Positioner Corrector PIDFFAcceleration Set.vi .....	44
4.1.15	Positioner Corrector PIDFFVelocity Get.vi .....	46
4.1.16	Positioner Corrector PIDFFVelocity Set.vi .....	48
4.1.17	Positioner Corrector PIPosition Get.vi .....	50
4.1.18	Positioner Corrector PIPosition Set.vi .....	51
4.1.19	Positioner Corrector Notch Filters Get.vi .....	52
4.1.20	Positioner Corrector Notch Filters Set.vi .....	53
4.1.21	Positioner Current Velocity Acceleration Filters Get.vi .....	54
4.1.22	Positioner Current Velocity Acceleration Filters Set.vi .....	55
4.1.23	Positioner Driver Filters Get.vi .....	56
4.1.24	Positioner Driver Filters Set.vi .....	57
4.1.25	Positioner Driver Position Offsets Get.vi .....	58
4.1.26	Positioner Encoder Amplitude Values Get.vi .....	59
4.1.27	Positioner Encoder Calibration Parameters Get.vi .....	60
4.1.28	Positioner Excitation Signal Get.vi .....	61
4.1.29	Positioner Excitation Signal Set.vi .....	62
4.1.30	Positioner Maximum Velocity And Acceleration Get.vi .....	64
4.1.31	Positioner Motion Done Get.vi .....	65

Preface

4.1.32	Positioner Motion Done Set.vi .....	66
4.1.33	Positioner Position Compare AquadB Always Enable.vi .....	67
4.1.34	Positioner Position Compare AquadB Windowed Get.vi .....	68
4.1.35	Positioner Position Compare AquadB Windowed Set.vi .....	69
4.1.36	Positioners Encoder Index Difference Get.vi .....	70
4.1.37	Positioner SGamma Exact Velocity Ajusted Displacement Get.vi .....	71
4.1.38	Positioner SGamma Parameters Get.vi .....	72
4.1.39	Positioner SGamma Parameters Set.vi .....	73
4.1.40	Positioner SGamma Previous Motion Times Get.vi .....	74
4.1.41	Positioner Stage Parameter Get.vi .....	75
4.1.42	Positioner Stage Parameter Set.vi .....	76
4.1.43	Positioner Driver Status Get.vi .....	77
4.1.44	Positioner Driver Status String Get.vi .....	78
4.1.45	Positioner Error Get.vi .....	79
4.1.46	Positioner Error String Get.vi .....	80
4.1.47	Positioner Hardware Status Get.vi .....	81
4.1.48	Positioner Hardware Status String Get.vi .....	82
4.1.49	Positioner User Travel Limits Get.vi .....	83
4.1.50	Positioner User Travel Limits Set.vi .....	84
4.1.51	Positioner Position Compare Get.vi .....	85
4.1.52	Positioner Position Compare Set.vi .....	86
4.1.53	Positioner Position Compare Disable.vi .....	87
4.1.54	Positioner Position Compare Enable.vi .....	88
4.1.55	Positioner Position Compare Pulse Parameters Get.vi .....	89
4.1.56	Positioner Position Compare Pulse Parameters Set.vi .....	90
4.1.57	Positioner Hard Interpolator Factor Get.vi .....	91
4.1.58	Positioner Hard Interpolator Factor Set.vi .....	92
4.1.59	Positioner Group Jog Parameters Get.vi .....	93
4.1.60	Positioner Group Jog Current Get.vi .....	94
4.1.61	Positioner Group Jog Parameters Set.vi .....	95
4.1.62	Positioner Group Move Absolute.vi .....	96
4.1.63	Positioner Group Move Relative.vi .....	97
4.1.64	Positioner Group Corrector Output Get.vi .....	98
4.1.65	Positioner Group Position Current Get.vi .....	99
4.1.66	Positioner Group Position Setpoint Get.vi .....	100
4.1.67	Positioner Group Position Target Get.vi .....	101
4.1.68	Positioner Raw Encoder Position Get.vi .....	102
4.1.69	Positioner Time Flasher Disable.vi .....	103
4.1.70	Positioner Time Flasher Enable.vi .....	104
4.1.71	Positioner Time Flasher Get.vi .....	105
4.1.72	Positioner Time Flasher Set.vi .....	106
<b>4.2</b>	<b>Controls description .....</b>	<b>107</b>
4.2.1	Tracking Position Control.ctl .....	107
4.2.2	Tracking Position Indicator.ctl .....	107
4.2.3	Tracking Velocity Control.ctl .....	107
4.2.4	Tracking Velocity Indicator.ctl .....	108
4.2.5	Corrector PIDDualFFVoltage Control.ctl .....	109

Preface

4.2.6	Corrector PIDDualFFVoltage Indicator.ctl .....	109
4.2.7	Corrector PIDFFAcceleration Control.ctl .....	110
4.2.8	Corrector PIDFFAcceleration Indicator.ctl .....	110
4.2.9	Corrector PIDFFVelocity control.ctl .....	111
4.2.10	Corrector PIDFFVelocity Indicator.ctl .....	111
4.2.11	Corrector PIPosition Control.ctl .....	112
4.2.12	Corrector PIPosition Indicator.ctl .....	112
4.2.13	Notch Filter Control.ctl .....	112
4.2.14	Notch Filter Indicator.ctl .....	113
4.2.15	Motion Done Control.ctl .....	113
4.2.16	Motion Done Indicator.ctl .....	113
4.2.17	SGamma Control.ctl .....	114
4.2.18	SGamma Indicator.ctl .....	114
4.2.19	Position Compare Control.ctl .....	114
4.2.20	Position Compare Indicator.ctl .....	115
<b>5</b>	<b>Groups .....</b>	<b>116</b>
5.1	<b>VIs description used by all groups .....</b>	<b>116</b>
5.1.1	Group Analog Tracking Mode Disable.vi .....	116
5.1.2	Group Analog Tracking Mode Enable.vi .....	117
5.1.3	Group Home Search.vi .....	118
5.1.4	Group Home Search And Relative Move.vi .....	119
5.1.5	Group Initialize.vi .....	120
5.1.6	Group Initialize With Encoder Calibration.vi .....	121
5.1.7	Group Jog Mode Disable.vi .....	122
5.1.8	Group Jog Mode Enable.vi .....	123
5.1.9	Group Kill.vi .....	124
5.1.10	Group Motion Disable.vi .....	125
5.1.11	Group Motion Enable.vi .....	126
5.1.12	Group Move Abort.vi .....	127
5.1.13	Group Status Get.vi .....	128
5.1.14	Group Status String Get.vi .....	129
5.1.15	Group Referencing Action Execute.vi .....	130
5.1.16	Group Referencing Start.vi .....	131
5.1.17	Group Referencing Stop.vi .....	132
<b>6</b>	<b>Single Axis Group .....</b>	<b>133</b>
6.1	<b>VIs Description .....</b>	<b>133</b>
6.1.1	Single Axis Group Acceleration Setpoint Get.vi .....	134
6.1.2	Single Axis Group Current Following Error Get.vi .....	135
6.1.3	Single Axis Group Jog Parameters Get.vi .....	136
6.1.4	Single Axis Group Jog Current Get.vi .....	137
6.1.5	Single Axis Group Jog Parameters Set.vi .....	138
6.1.6	Single Axis Group Move Absolute.vi .....	139
6.1.7	Single Axis Group Move Relative.vi .....	140
6.1.8	Single Axis Group Position Current Get.vi .....	141
6.1.9	Single Axis Group Corrector Output Get.vi .....	142

6.1.10	Single Axis Group Position Setpoint Get.vi .....	143
6.1.11	Single Axis Group Position Target Get.vi .....	144
6.1.12	Single Axis Slave Mode Disable.vi .....	145
6.1.13	Single Axis Slave Mode Enable.vi .....	146
6.1.14	Single Axis Slave Parameters Get.vi .....	147
6.1.15	Single Axis Slave Parameters Set.vi .....	148
<b>6.2</b>	<b>Controls description .....</b>	<b>149</b>
6.2.1	Single Group Jog Control.ctf .....	149
6.2.2	Single Group Jog Indicator.ctf .....	149
<b>7</b>	<b>Spindle Group .....</b>	<b>150</b>
<b>7.1</b>	<b>Vis Description .....</b>	<b>150</b>
7.1.1	Spindle Group Acceleration Setpoint Get.vi .....	151
7.1.2	Spindle Group Current Following Error Get.vi .....	152
7.1.3	Spindle Group Spin Parameters Get.vi .....	153
7.1.4	Spindle Group Spin Current Get.vi .....	154
7.1.5	Spindle Group Spin Parameters Set.vi .....	155
7.1.6	Spindle Group Spin Mode Stop.vi .....	156
7.1.7	Spindle Group Move Absolute.vi .....	157
7.1.8	Spindle Group Move Relative.vi .....	158
7.1.9	Spindle Group Position Current Get.vi .....	159
7.1.10	Spindle Group Corrector Output Get.vi .....	160
7.1.11	Spindle Group Position Setpoint Get.vi .....	161
7.1.12	Spindle Group Position Target Get.vi .....	162
7.1.13	Spindle Slave Mode Disable.vi .....	163
7.1.14	Spindle Slave Mode Enable.vi .....	164
7.1.15	Spindle Slave Parameters Get.vi .....	165
7.1.16	Spindle Slave Parameters Set.vi .....	166
<b>7.2</b>	<b>Controls description .....</b>	<b>167</b>
7.2.1	Single Group Spin Control.ctf .....	167
7.2.2	Single Group Spin Indicator.ctf .....	167
<b>8</b>	<b>XY group .....</b>	<b>168</b>
<b>8.1</b>	<b>Vis description .....</b>	<b>168</b>
8.1.1	XY Group Acceleration Setpoint Get.vi .....	169
8.1.2	XY Group Current Following Error Get.vi .....	170
8.1.3	XY Group Jog Parameters Get.vi .....	171
8.1.4	XY Group Jog Current Get.vi .....	172
8.1.5	XY Group Position PCO Raw Encoder Get.vi .....	173
8.1.6	Axis Group Jog parameters Set.vi .....	174
8.1.7	Axis Group Move Absolute.vi .....	175
8.1.8	Axis Group Move Relative.vi .....	176
8.1.9	XY Group Position Corrected Profiler Get.vi .....	177
8.1.10	XY Group Position Current Get.vi .....	178
8.1.11	XY Group Corrector Output Get.vi .....	179
8.1.12	XY Group Position Setpoint Get.vi .....	180
8.1.13	XY Group Position Target Get.vi .....	181

Preface

8.1.14	XY Line Arc Verification.vi .....	182
8.1.15	XY Line Arc Verification Result Get.vi .....	183
8.1.16	XY Line Arc Execution.vi .....	184
8.1.17	XY Line Arc Parameters Get.vi .....	185
8.1.18	XY Line Arc Pulse Output Set.vi .....	186
8.1.19	XY Line Arc Pulse Output Get.vi .....	187
<b>8.2</b>	<b>Controls description .....</b>	<b>188</b>
8.2.1	XY Group Jog Control.ctl .....	188
8.2.2	XY Group Jog Indicator.ctl .....	188
8.2.3	XY Current Position.ctl .....	188
8.2.4	XY Set Point Position.ctl .....	189
8.2.5	XY Target Position Indicator.ctl .....	189
8.2.6	XY Target Position control.ctl .....	189
8.2.7	XY Target Displacement.ctl .....	189
8.2.8	Axis Verification Result.ctl .....	189
8.2.9	XY Line Arc Trajectory Control.ctl .....	190
8.2.10	XY Line Arc Trajectory Indicator.ctl .....	190
8.2.11	XY Line Arc Pulse Output Control.ctl .....	190
8.2.12	XY Line Arc Pulse Output Indicator.ctl .....	190
<b>9</b>	<b>XYZ group .....</b>	<b>191</b>
<b>9.1</b>	<b>Vis description .....</b>	<b>191</b>
9.1.1	XYZ Group Acceleration Setpoint Get.vi .....	192
9.1.2	XYZ Group Position Corrected Profiler Get.vi .....	193
9.1.3	XYZ Group Current Following Error Get.vi .....	194
9.1.4	XYZ Group Jog Parameters Get.vi .....	195
9.1.5	XYZ Group Jog Current Get.vi .....	196
9.1.6	Axis Group Jog parameters Set.vi .....	197
9.1.7	Axis Group Move Absolute.vi .....	198
9.1.8	Axis Group Move Relative.vi .....	199
9.1.9	XYZ Group Corrector Output Get.vi .....	200
9.1.10	XYZ Group Position Corrected Profiler Get.vi .....	201
9.1.11	XYZ Group Position Current Get.vi .....	202
9.1.12	XYZ Group Position Setpoint Get.vi .....	203
9.1.13	XYZ Group Position Target Get.vi .....	204
9.1.14	XYZ Spline Verification.vi .....	205
9.1.15	XYZ Spline Verification Result Get.vi .....	206
9.1.16	XYZ Spline Execution.vi .....	207
9.1.17	XYZ Spline Parameters Get.vi .....	208
<b>9.2</b>	<b>Controls description .....</b>	<b>209</b>
9.2.1	XYZ Group Jog Control.ctl .....	209
9.2.2	XYZ Group Jog Indicator.ctl .....	209
9.2.3	XYZ Set Point Position.ctl .....	210
9.2.4	XYZ Current Position.ctl .....	210
9.2.5	XYZ Target Position Indicator.ctl .....	210
9.2.6	XYZ Target Position Control.ctl .....	210
9.2.7	XYZ Target Displacement.ctl .....	211

9.2.8	Axis Verification Result.ctl .....	211
9.2.9	XYZ Spline Trajectory Control.ctl .....	211
9.2.10	XYZ Spline Trajectory Indicator.ctl .....	211
<b>10</b>	<b>Multiple Axes Group .....</b>	<b>213</b>
10.1	Vis description .....	213
10.1.1	Multiple Axes Group Acceleration Setpoint Get.vi .....	214
10.1.2	Multiple Axes Group Current Following Error Get.vi .....	215
10.1.3	Multiple Axes Group Jog Parameters Get.vi .....	216
10.1.4	Multiple Axes Group Jog Current Get.vi .....	217
10.1.5	Axis Group Jog parameters Set.vi .....	218
10.1.6	Axis Group Move Absolute.vi .....	219
10.1.7	Axis Group Move Relative.vi .....	220
10.1.8	Multiple Axes Group Corrector Output Get.vi .....	221
10.1.9	Multiple Axes Group Position Current Get.vi .....	222
10.1.10	Multiple Axes Group Position Setpoint Get.vi .....	223
10.1.11	Multiple Axes Group Position Target Get.vi .....	224
10.1.12	Multiple Axes PVT Verification.vi .....	225
10.1.13	Multiple Axes PVT Verification Result Get.vi .....	226
10.1.14	Multiple Axes PVT Execution.vi .....	227
10.1.15	Multiple Axes PVT Parameters Get.vi .....	228
10.1.16	Multiple Axes PVT Pulse Output Set.vi .....	229
10.1.17	Multiple Axes PVT Pulse Output Get.vi .....	230
10.2	Controls description .....	231
10.2.1	Multiple Group Jog Control.ctl .....	231
10.2.2	Multiple Group Jog Indicator.ctl .....	231
10.2.3	Multiple Current Position.ctl .....	231
10.2.4	Multiple Set Point Position.ctl .....	232
10.2.5	Multiple Target Position Indicator.ctl .....	232
10.2.6	Multiple Target Position Control.ctl .....	232
10.2.7	Multiple Target Displacement.ctl .....	232
10.2.8	Axis Verification Result.ctl .....	232
10.2.9	Multiple Target Displacement.ctl .....	232
10.2.10	Multiple Axes PVT Pulse Output Control.ctl .....	233
10.2.11	Multiple Axes PVT Pulse Output Indicator.ctl .....	233
<b>11</b>	<b>GPIO .....</b>	<b>234</b>
11.1	Vis description .....	234
11.1.1	GPIO Analog Get.vi .....	235
11.1.2	GPIO Analog Set.vi .....	236
11.1.3	GPIO Analog Gain Get.vi .....	237
11.1.4	GPIO Analog Gain Set.vi .....	238
11.1.5	GPIO Digital Get.vi .....	239
11.1.6	GPIO Digital Set.vi .....	240
<b>12</b>	<b>Gathering .....</b>	<b>241</b>
12.1	Vis description .....	241



Preface

12.1.1.	Gathering Configuration Get.vi .....	242
12.1.2.	Gathering Configuration Set.vi .....	243
12.1.3.	Gathering Current Number Get.vi .....	244
12.1.4.	Gathering Data Acquire.vi .....	245
12.1.5.	Gathering Data Get.vi .....	246
12.1.6.	Gathering Data Multiple Lines Get.vi .....	247
12.1.7.	Gathering Run Append.vi .....	248
12.1.8.	Gathering External Configuration Get.vi .....	249
12.1.9.	Gathering External Configuration Set.vi .....	250
12.1.10.	Gathering External Current Number Get.vi .....	251
12.1.11.	Gathering External Data Get.vi .....	252
12.1.12.	Gathering External Stop And Save.vi .....	253
12.1.13.	Gathering List Get.vi .....	254
12.1.14.	Gathering Reset.vi .....	255
12.1.15.	Gathering Run.vi .....	256
12.1.16.	Gathering Stop.vi .....	257
12.1.17.	Gathering Stop And Save.vi .....	258
<b>13</b>	<b>Events, Actions and Timers .....</b>	<b>259</b>
13.1.	<b>New Vis description .....</b>	<b>259</b>
13.1.1.	Event Extended Configuration Trigger Set.vi .....	259
13.1.2.	Event Extended Configuration Trigger Get.vi .....	261
13.1.3.	Event Extended Configuration Action Set.vi .....	262
13.1.4.	Event Extended Configuration Action Get.vi .....	264
13.1.5.	Event Extended Start.vi .....	265
13.1.6.	Event Extended Wait.vi .....	266
13.1.7.	Event Extended Remove.vi .....	267
13.1.8.	Event Extended Get.vi .....	268
13.1.9.	Event Extended All Get.vi .....	269
13.2.	<b>Old Vis description .....</b>	<b>270</b>
13.2.1.	Event Add.vi .....	270
13.2.2.	Event Remove.vi .....	273
13.2.3.	Event Get.vi .....	275
13.2.4.	Event Wait.vi .....	276
13.2.5.	Timer Get.vi .....	278
13.2.6.	Timer Set.vi .....	279
13.3.	<b>Controls description .....</b>	<b>280</b>
13.3.1.	Action.ctl .....	280
13.3.2.	Action DOToggle.ctl .....	281
13.3.3.	Action DOPulse.ctl .....	281
13.3.4.	Action DOSet.ctl .....	282
13.3.5.	Action DACSet.SetpointPosition.ctl .....	282
13.3.6.	Action DACSet.SetpointVelocity.ctl .....	283
13.3.7.	Action DACSet.SetpointAcceleration.ctl .....	283
13.3.8.	Action GatheringRun.ctl .....	284
<b>14</b>	<b>General features .....</b>	<b>285</b>

<b>14.1</b>	<b>Vis description .....</b>	<b>285</b>
14.1.1	Controller Motion Kernel Time Load Get.vi .....	286
14.1.2	Controller Status Get.vi .....	287
14.1.3	Controller Status String Get.vi .....	288
14.1.4	Double Global Array Get.vi .....	289
14.1.5	Double Global Array Set.vi .....	290
14.1.6	Error String Get.vi .....	291
14.1.7	Elapsed Time Get.vi .....	292
14.1.8	Firmware Version Get.vi .....	293
14.1.9	Global Array Get.vi .....	294
14.1.10	Global Array Set.vi .....	295
14.1.11	Kill All.vi .....	296
14.1.12	Optional Module Execute.vi .....	297
14.1.13	Optional Module Kill.vi .....	298
14.1.14	Reboot.vi .....	299
14.1.15	TCL Script Execute.vi .....	300
14.1.16	TCL Script Execute And Wait.vi .....	301
14.1.17	TCL Script Execute With Priority.vi .....	302
14.1.18	TCL Script Kill.vi .....	303
<b>15</b>	<b>Examples .....</b>	<b>304</b>
15.1	Configuration get.vi .....	305
15.2	GPIO Get.vi .....	307
15.3	Positioners Position and Status Get.vi .....	309
15.4	XY example motion .vi .....	311
15.5	XY example reading .vi .....	313
15.6	Analog encoder calibration display.vi .....	315

# 1 Introduction

The LabVIEW drivers for the XPS Controller have been developed under LABVIEW 8.2

Copy the folder ../Admin/Public/Drivers/LabView of your XPS controller to the **user.lib** folder of LABVIEW 8.2

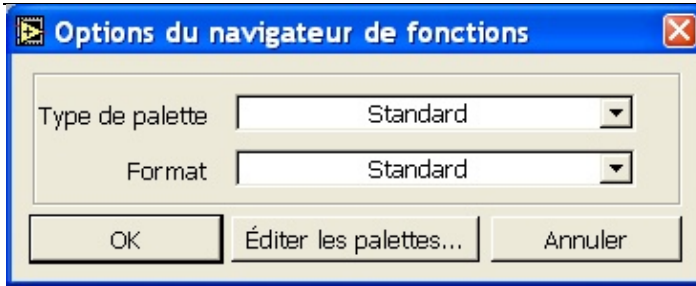
This folder directory contains the documentation, the .mnu files and the different libraries:


<b>TCP Communication</b>	: Vi's to open and close the communication
<b>Positioner</b>	: Vi's to use the different positioners
<b>Axis</b>	: Common Vi's to all groups
<b>Single Axis</b>	: Vi's to use Single Axis group
<b>Spindle</b>	: Vi's to use Spindle group
<b>XY Axes</b>	: Vi's to use XY Axes
<b>XYZ Axes</b>	: Vi's to use XYZ Axes
<b>Multiple Axes</b>	: Vi's to use Multiple Axes
<b>GPIO</b>	: Vi's to use GPIO
<b>Gathering</b>	: Vi's to use gathering
<b>Event</b>	: Vi's to configure events, actions on a positioner and timers
<b>General</b>	: General Vi's
<b>Utilit</b>	: used by other Vi's defined above, not accessible directly.

Open LabVIEW, select the Window Functions, if you have the menu XPS-C8 in menu user (cf page 11)




Edit the palets by clicking on  and selecting Edit the palets,



When you click on  of the function palet, you will get a window corresponding to the functions of the user.lib, insert a menu in this window by right clicking this window. To insert the menu select the option link to a directory and choose the directory XPS-C8-Contoller

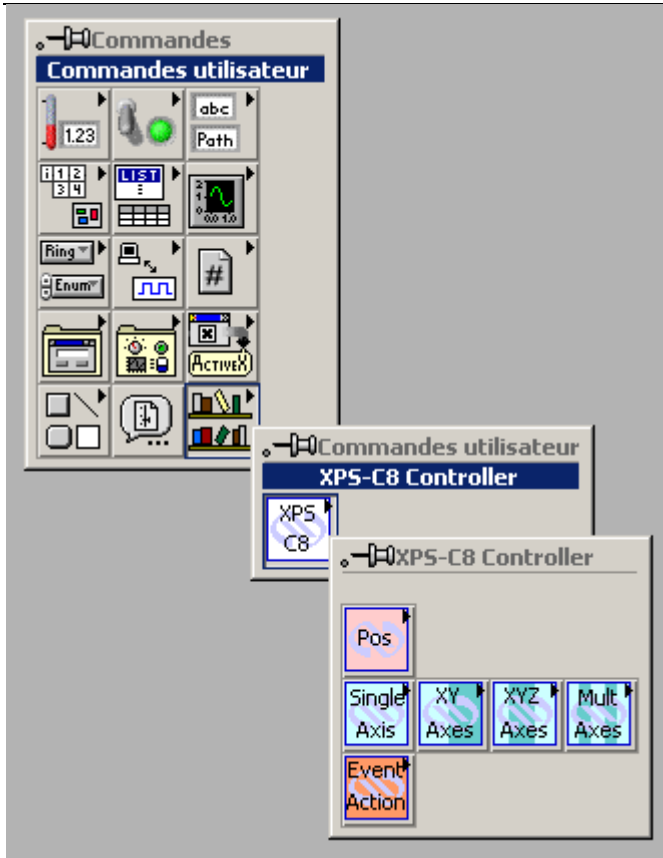


When you click on  of the control palet, you will get a window corresponding to the controls of the user.lib, insert a menu in this window by right clicking in this window. To insert the menu select the option link to a directory and choose the directory XPS-C8-Contoller

Record the change.

After this, you have access to the controls and Vis.

You must have the XPS **controls** menu on the **front panel**:



Clicking on the menu **Positioner** (icon POS) allows you to create controls for a Positioner (Examples : Cluster Tracking Position ...)

Clicking on the different menus for the groups allows you to create controls for the Groups (Example cluster Jog) :

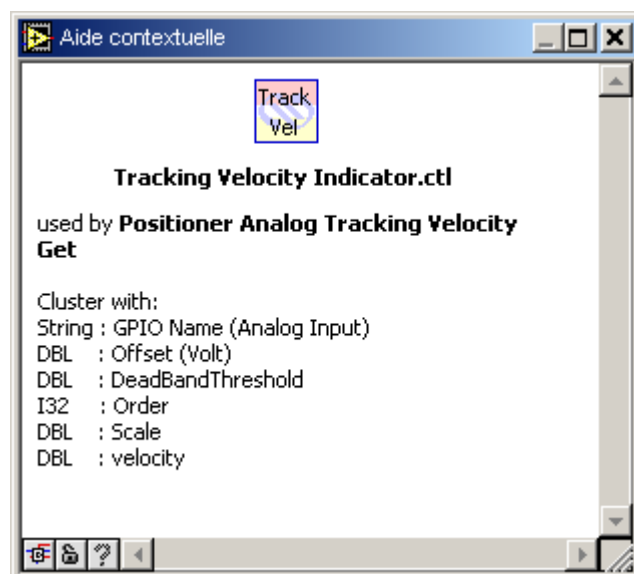
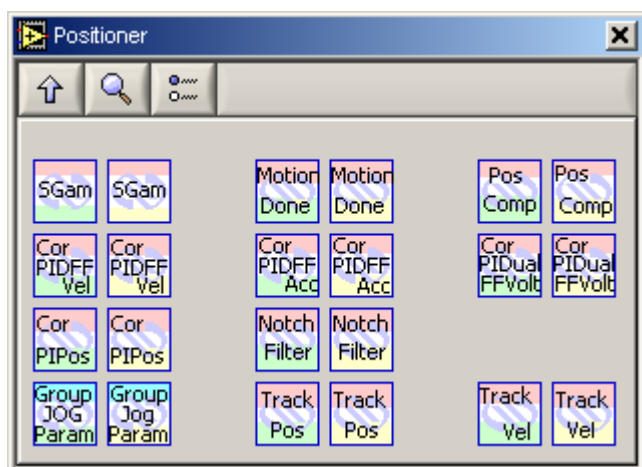
- icon **single Axis** (blue)
- icon **Spindle** (dark blue circle)
- icon **XY Axes** (two blue colour bands)
- icon **XYZ Axes** (three blue colour bands)
- icon **Mult** (Multiple) Axes (five blue colours bands)

Clicking on **Event Action** allows you to create controls or helps you to define an action

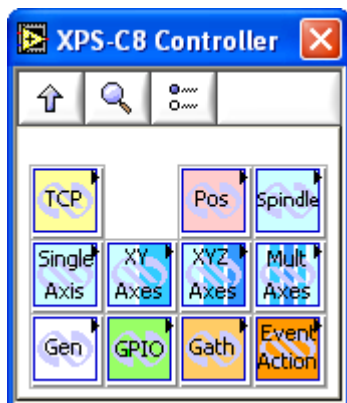
When you activate the Control Help, you see the definition of the control selected.

The color in the bottom of controls indicates if the control is an **indicator (yellow)** or a **control (green)**. The other color represents the category of Vis and is the same as the associated menu.

For example in **Menu Positioner controls** you have the following controls :



You must have the menu of **VIs for XPS** in the **diagram** window:



Click on menu **TCP** when you want to use Vis related to TCP (Open and Close)

Click on menu **Positioner** (icon POS) when you want to use VIs related to Positioner.

Click on different menus about groups to use VIs related to Groups :

- icon **Single** Axis (blue)
- icon **Spindle** (dark blue circle)
- icon **XY** Axes (two blue colour bands)
- icon **XYZ** Axes (three blue colour bands)
- icon **Mult** (Multiple) Axes (five blue colours bands)

Clicking on **General** allows you to use Vis included in general library

Click on **GPIO** when you want to use GPIO

Clicking on **Gath** allows you to set parameters for gathering

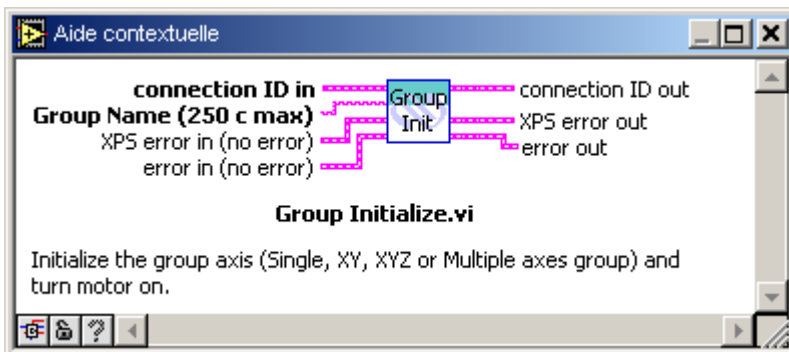
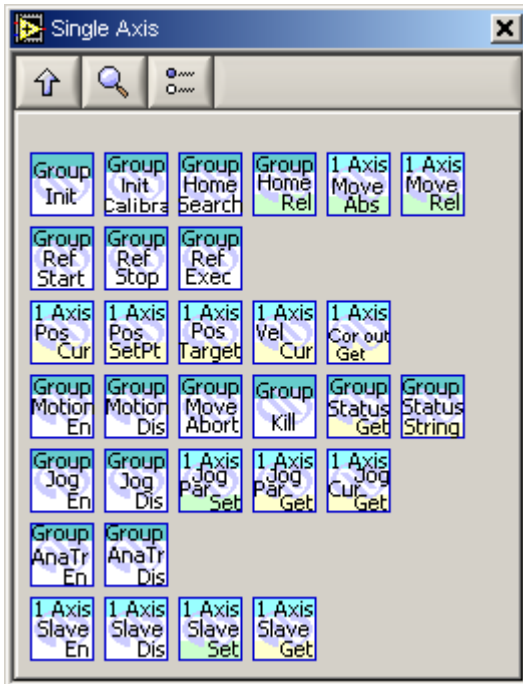
Clicking on **Event Actions** allows you to set up events and action for a positioner

When you activate the window Help, you see the description of the VI.

The **color in the bottom** of the icon representing a VI indicates if the VI gets or sets parameters

The **other color** represents the category of Vis and is the same as the associated menu

For example in **Menu Single Axis** you can use the following VIs:



Some group VIs are common to all groups (Example Group Home Search). The color representing this VI is dark blue.

XYZ Spline Exec is specified for XYZ group (the icon has three colours).

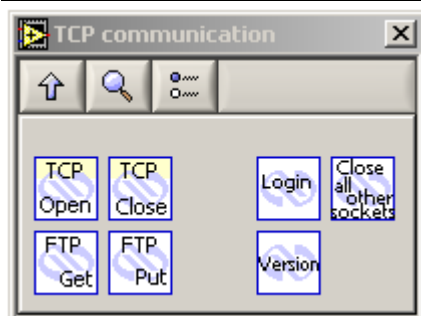
**NOTE:**  
For the floating values, the decimal point must be used.



## 2 TCP/IP Communication



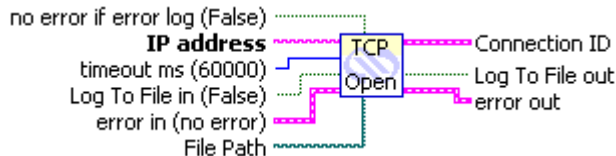
### 2.1 Vis description



## 2.1.1 Open TCP-IP.vi


This VI opens a TCP connection for a given address and port to communicate with the XPS. This VI gets a connection ID that identifies the connection. This connection ID must be passed to use each VI. This VI also opens a file if Log To File is selected to be true. All the strings received by XPS will be written at the end of this file. If an error occurred at open or when a record is written in this file, the error will not be reported in error out if the flag no error is TRUE.

### Connector Pane




### Controls and indicators


 **IP address**

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **status** The **status** boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **code** The **code** input identifies the error or warning.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **source** The **source** string describes the origin of the error or warning.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **File Path** if not defined or if defined and an error occurred at open, you must select the file in a File Select Popup. If you cancel this popup, no file will be open and the flag Log To File out will be FALSE, the error out will be positioned if no error if error log is FALSE.

 **Log To File in (False)** If true, all the strings sent to the XPS will be written at end of a file (Path of file passed to Open TCP-IP)


 **no error if error log (False)** no error if error log : if TRUE, the error file will not be transmitted in error out.

 **timeout ms (60000)**


 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the

error displayed.

 **status** The **status** boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **code** The **code** input identifies the error or warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **source** The **source** string describes the origin of the error or warning.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


## Connection ID

 **connection TCP** Identification of the TCP connection.


 **LogTo File** A copy of Log To File.

 **Log File refnum** Identification of the Log File if the flag Log To File is TRUE


 **no error if error log** A copy of flag no error if error log passed to Open TCP-IP

 **Log To File out** FALSE if no log file is opened  
TRUE if a file log is opened


 **address**

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **status** The **status** boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.













 **code** The **code** input identifies the error or warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **source** The **source** string describes the origin of the error or warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **File Path** if not defined or if defined and an error occurred at open, you must select the file in a File Select Popup. If you cancel this popup, no file will be open and the flag Log To File out will be FALSE, the error out will be positioned if no error if error log is FALSE.

-  **Log To File in (False)** If true, all the strings sent to the XPS will be written at end of a file (Path of file passed to Open TCP-IP)
-  **no error if error log (False)** no error if error log : if TRUE, the error file will not be transmitted in error out.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **status** The **status** boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **code** The **code** input identifies the error or warning.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **source** The **source** string describes the origin of the error or warning.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Connection ID**
-  **connection TCP** Identification of the TCP connection.
-  **LogTo File** A copy of Log To File.
-  **Log File refnum** Identification of the Log File if the flag Log To File is TRUE
-  **no error if error log** A copy of flag no error if error log passed to Open TCP-IP
-  **Log To File out** FALSE if no log file is opened  
TRUE if a file log is opened

## 2.1.2 Close TCP-IP.vi

Closes the connection TCP/IP identified by connection TCP of the cluster connection ID in. Closes the log file if logging (recording of all strings received or sent to XPS) is active.

### Connector Pane



### Controls and indicators

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**status** The **status** boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**code** The **code** input identifies the error or warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**source** The **source** string describes the origin of the error or warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection with the XPS to close and the identification of the logging file to close if log to file is active. See the TCP Open VI for more information.

**connection TCP**

**LogTo File**

**Log File refnum**

**no error if error log**

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**status** The **status** boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**code** The **code** input identifies the error or warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**source** The **source** string describes the origin of the error or warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

## 2.1.3 Close All Other Sockets.vi







This function closes all other sockets than the one used to call this function.

To call this vi, you need to be logged in with at least Administrator rights (see Login function).

### Connector Panel



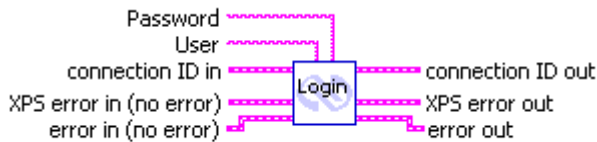
### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used for communication with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information or warning out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 2.1.4 Login.vi

This function allows a user to identify himself to be logged in with at least Administrator rights (see Login function).

### Connector Pane



### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used for communication with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **User** : Name of the user
-  **Password** : non crypted password of the user
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information or warning out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.



## 3 Common VIs description


### All Vis

- Sends the command to the XPS via the connection TCP of cluster connection ID.
- Reads and analyzes the results of the XPS (A time-out of 20 s is defined for the result reading except for moving (Group Move Absolute, Group Move Relative) and trajectory execution Vis where there is no time-out).

### Connector Pane



### Controls and indicators present in all XPS Vis (Positioner, Groups, GPIO, Events, actions and timers, General)


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used for communication with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **connection TCP**


 **LogTo File**

 **Log File refnum**


 **no error if error log**

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **status** The **status** boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **code** The **code** input identifies the error or warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **source** The **source** string describes the origin of the error or warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**status** The **status** boolean is either TRUE (X) for a XPS error, or FALSE (checkmark) for no XPS error.



**code** The **code** input identifies the XPS error.



**source** The **source** string describes the origin of the XPS error.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**connection TCP**



**LogTo File**



**Log File refnum**



**no error if error log**



**error out** The **error out** cluster passes XPS error information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**status** The **status** boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**code** The **code** input identifies the error or warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**source** The **source** string describes the origin of the error or warning.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.



**status** The **status** boolean is either TRUE (X) for a XPS error, or FALSE (checkmark) for no XPS error.



**code** The **code** input identifies the XPS error.

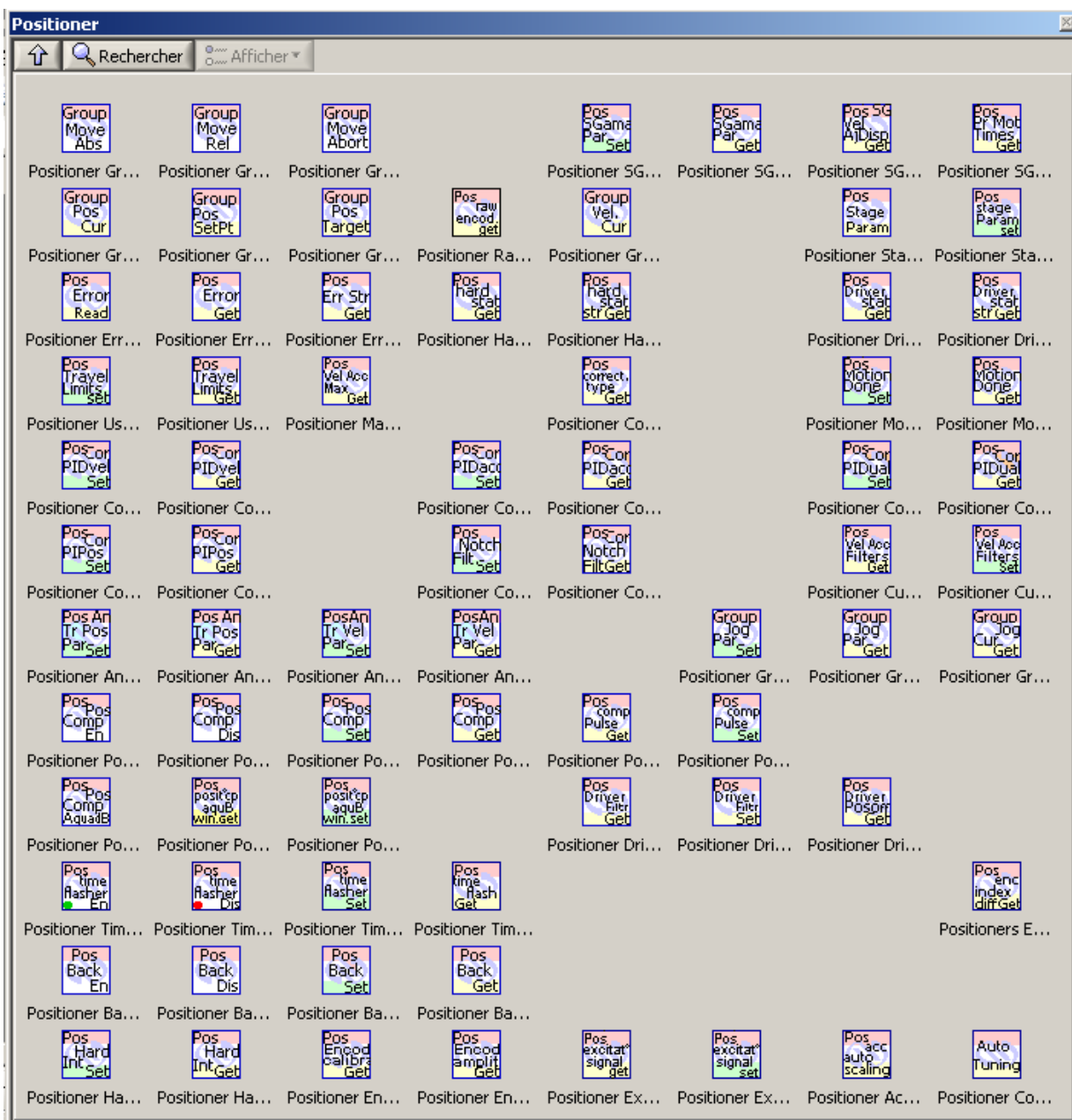


**source** The **source** string describes the origin of the XPS error.

## 4 Positioners



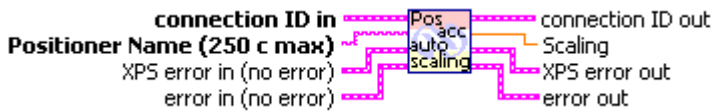
### 4.1 VIs Description



### 4.1.1 Positioner Acceleration Auto Scaling.vi

Process an auto-calibration of the Scaling Acceleration. To call this vi, the group needs to be in “Not Initialized” state.

#### Connector Pane



#### Controls and Indicators



**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**Positioner Name (250 c max)**



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**Error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs. The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**Scaling Acceleration**



**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.














## 4.1.2 Positioner Analog Tracking Position Parameters Get.vi

Returns the current GPIO name, the current offset, the current scale, the velocity and acceleration used by analog tracking position mode (in cluster Tracking Position)

### Connector Pane



### Controls and Indicators

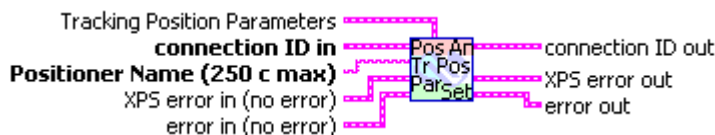
-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **Error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Tracking Position Parameters**
  -  **GPIO Name (AI)**  
GPIO2.ADC1 : Analog Input #1 of the INT card connector #2  
GPIO2.ADC2 : Analog Input #2 of the INT card connector #2  
GPIO2.ADC3 : Analog Input #3 of the INT card connector #2  
GPIO2.ADC4 : Analog Input #4 of the INT card connector #2
  -  **Offset (Volt)**
  -  **Scale**
  -  **Velocity (units/s)**
  -  **Acceleration (units/s<sup>2</sup>)**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

### 4.1.3 Positioner Analog Tracking Position Parameters Set.vi

The analog tracking position must not be activated.

Allows modification of the GPIO name, the offset, the scale, the velocity and acceleration used by the analog tracking position mode (in cluster Tracking Position)

#### Connector Pane



#### Controls and Indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Positioner Name (250 c max)**

**Tracking Position Parameters**

**GPIO Name (AI)**

GPIO2.ADC1 : Analog Input #1 of the INT card connector #2  
GPIO2.ADC2 : Analog Input #2 of the INT card connector #2  
GPIO2.ADC3 : Analog Input #3 of the INT card connector #2  
GPIO2.ADC4 : Analog Input #4 of the INT card connector #2

**Offset (Volt)**

**Scale**

**Velocity (units/s)**

**Acceleration (units/s<sup>2</sup>)**

**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
















#### 4.1.4 Positioner Analog Tracking Velocity Parameters Get.vi

Returns the GPIO name, the offset, the scale, the deadband threshold, the order, the velocity and acceleration used by analog tracking velocity mode (in cluster Tracking Velocity)

##### Connector Pane



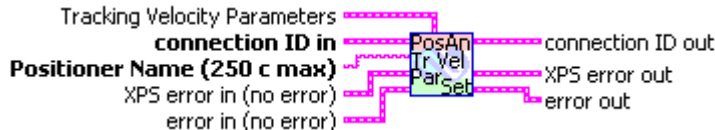
##### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Tracking Velocity Parameters**
  -  **GPIO Name (AI)**  
GPIO2.ADC1 : Analog Input #1 of the INT card connector #2  
GPIO2.ADC2 : Analog Input #2 of the INT card connector #2  
GPIO2.ADC3 : Analog Input #3 of the INT card connector #2  
GPIO2.ADC4 : Analog Input #4 of the INT card connector #2
  -  **Offset (Volt)**
  -  **Scale**
  -  **DeadBandThreshold (Volt)**
  -  **Order**
  -  **Velocity (units/s)**
  -  **Acceleration (units/s<sup>2</sup>)**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
















### 4.1.5 Positioner Analog Tracking Velocity Parameters Set.vi

The analog tracking position mode must not be activated. This VI allows to modify the GPIO name, the offset, the scale, the deadband threshold, the order, the velocity and the acceleration used by the analog tracking velocity mode (in cluster Tracking Velocity)

#### Connector Pane



#### Controls and Indicators

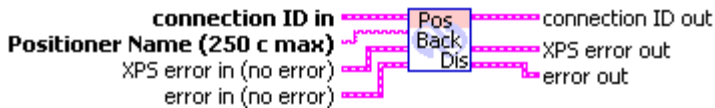
-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **Tracking Velocity Parameters**
  -  **GPIO Name (AI)**  
 GPIO2.ADC1 : Analog Input #1 of the INT card connector #2  
 GPIO2.ADC2 : Analog Input #2 of the INT card connector #2  
 GPIO2.ADC3 : Analog Input #3 of the INT card connector #2  
 GPIO2.ADC4 : Analog Input #4 of the INT card connector #2
  -  **Offset (Volt)**
  -  **Scale**
  -  **DeadBandThreshold (Volt)**
  -  **Order**
  -  **Velocity (units/s)**
  -  **Acceleration (units/s<sup>2</sup>)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.










## 4.1.6 Positioner Backlash Disable.vi

Disables the backlash.

### Connector Pane



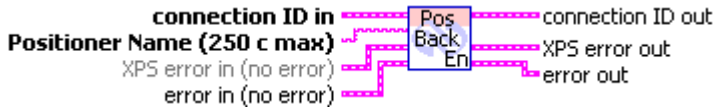
### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used for communication with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information or warning out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








## 4.1.7 Positioner Backlash Enable.vi

Enables the backlash

### Connector Pane



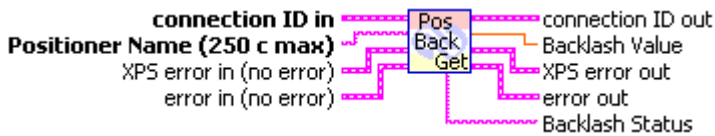
### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information or warning out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.










## 4.1.8 Positioner Backlash Get.vi

Reads backlash value and status

### Connector Pane



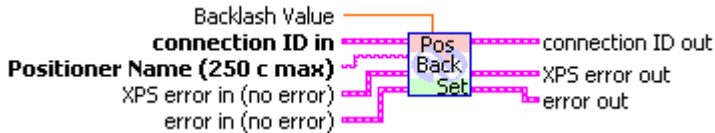
### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Backlash Status**
-  **Backlash Value**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 4.1.9 Positioner Backlash Set.vi

This VI sets the backlash value

### Connector Pane



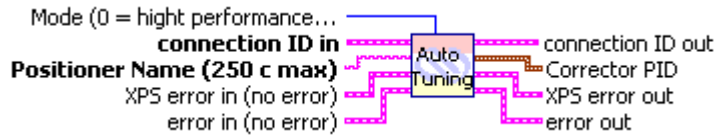
### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Positioner Name (250 c max)**
  -  **Backlash Value**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.













## 4.1.10 Positioner Corrector Auto Tuning.vi

This VI sets the backlash value

### Connector Pane



### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **Mode :**
- 0 = high performance
  - 1 = robust
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **Corrector PID**
-  **Kp**
-  **Ki**
-  **Kd**
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

### 4.1.11 Positioner Corrector PIDDualFFVoltage Get.vi

Corrector Type must be "PIDDualFFVoltage".







Returns the corrector filter parameters :

- User Closed Loop Status,
- User KP,
- User KI,
- User KD,
- User KS,
- User Integration Time,
- User Derivative Filter Depth,
- User GKP,
- User GKI,
- User GKD,
- User Kform,
- User Feed Forward Gain Velocity,
- User Feed ForwardGain Acceleration and
- User Friction (in cluster Corrector PIDDualFFVoltage)

#### Connector Pane



#### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.












The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


#### Corrector PIDDualFFVoltage

 **Closed Loop Status**

 **KP**

 **KI**

-  **KD**
-  **KS**
-  **Integration Time (s) in Seconds**
-  **Derivative Filter Cut Off frequency**
-  **GKP**
-  **GKI**
-  **GKD**
-  **KForm**
-  **Feed Forward Gain Velocity (units) Units**
-  **Feed Forward Gain Acceleration (units)**
-  **Friction**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 4.1.12 Positioner Corrector PIDDualFFVoltage Set.vi

Corrector Type must be "PIDDualFFVoltage".

Updates corrector filters' parameters in **Cluster Corrector PIDDualFFVoltage** (control)

Saves the new corrector filters parameters:

User Closed Loop Status = New Closed Loop Status

User KP = New KP

User KI = New KI

User KD = New KD

User KS = New KS

User Integration Time = New Integration Time

User Derivative Filter Cut Off Frequency = New Derivative Filter Cut Off Frequency

User GKP = New GKP

User GKI = New GKI

User GKD = New GKD

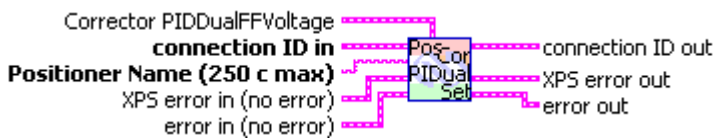
User KForm = New KForm

User Kfeedforward Gain Velocity=New Feed Forward Gain Velocity


User Kfeed Forward Gain Acceleration = New Feed Forward Gain Acceleration


User Friction = New Friction

### Connector Pane



### Controls and Indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **Corrector PIDDualFFVoltage**

 **Closed Loop Status**

 **KP**

 **KI**

 **KD**

 **KS**

 **Integration Time (s) in Seconds**

 **Derivative Filter Cut Off frequency**

 **GKP**





**GKI**



**GKD**



**KForm**



**Feed Forward Gain Velocity (units) Units**



**Feed Forward Gain Acceleration (units)**



**Friction**



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

### 4.1.13 Positioner Corrector PIDFFAcceleration Get.vi

CorrectorType must be "PIDFFAcceleration".


Returns the corrector filter parameters in **cluster Corrector PIDFFAcceleration** (control) :


UserClosedLoopStatus,  
UserKP,  
UserKI,  
UserKD,  
UserKS,  
UserIntegrationTime,  
UserDerivativeFilterDepth,  
UserGKP,  
UserGKI,  
UserGKD,  
UserKform and  
UserFeedForwardGainAcceleration.

#### Connector Pane





#### Controls and Indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **connection TCP**

 **LogTo File**

 **Log File refnum**












 **no error if error log**


 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Corrector PIDFFAcceleration**

 **Closed Loop Status**

-  **KP**
-  **KI**
-  **KD**
-  **KS**
-  **Integration Time (seconds)**
-  **Derivative Filter Cut Off frequency**
-  **GKP**
-  **GKI**
-  **GKD**
-  **KForm**
-  **Feed Forward Gain Acceleration (units)**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 4.1.14 Positioner Corrector PIDFFAcceleration Set.vi

Corrector Type must be "PIDFFAcceleration".

Updates corrector filters' parameters in **cluster Corrector PIDFFAcceleration** (control)

Saves the new corrector filters parameters :

User Closed Loop Status = New Closed Loop Status

User KP = New KP

User KI = New KI

User KD = New KD

User KS = New KS

User Integration Time = New Integration Time

User Derivative Filter Cut Off Frequency = New Derivative Filter Cut Off Frequency

User GKP = New GKP

User GKI = New GKI

User GKD = New GKD

User KForm = New KForm

User Kfeed Forward Gain Acceleration = New Feed Forward Gain Acceleration

### Connector Pane



### Controls and Indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Positioner Name (250 c max)**

**Corrector PIDDualFFAcceleration**

**Closed Loop Status**

**KP**

**KI**

**KD**

**KS**

**Integration Time (s)**

**Derivative Filter Cut Off frequency**





**GKP**

**GKI**

 **GKD**

 **KForm**

 **Feed Forward Gain Acceleration (units)**

-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

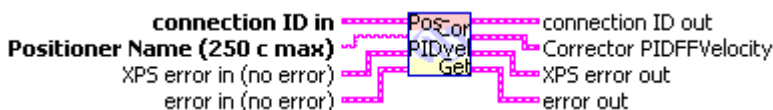
### 4.1.15 Positioner Corrector PIDFFVelocity Get.vi

CorrectorType must be "PIDFFVelocity".







Returns the corrector filter parameters in **cluster Corrector PIDFFVelocity** (control) :

UserClosedLoopStatus,  
UserKP,  
UserKI,  
UserKD,  
UserKS,  
UserIntegrationTime,  
UserDerivativeFilterDepth,  
UserGKP,  
UserGKI,  
UserGKD,  
UserKForm and  
UserFeedForwardGainVelocity.

#### Connector Pane



#### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.









#### Corrector PIDFFVelocity


 **Closed Loop Status**

 **KP**

 **KI**

 **KD**

-  **KS**
-  **Integration Time (second)**
-  **Derivative Filter Cut Off frequency**
-  **GKP**
-  **GKI**
-  **GKD**
-  **Kform**
-  **Feed Forward Gain Velocity (units)**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

### 4.1.16 Positioner Corrector PIDFFVelocity Set.vi

Corrector Type must be "PIDFFVelocity".

Updates corrector filters' parameters in **cluster Corrector PIDFFVelocity** (control)

Saves the new corrector filters parameters :

User Closed Loop Status = New Closed Loop Status

User KP = New KP

User KI = New KI

User KD = New KD

User KS = New KS

User Integration Time = New Integration Time

User Derivative Filter Cut Off Frequency = New Derivative Filter Cut Off Frequency

User GKP = New GKP

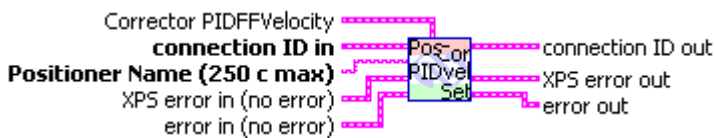
User GKI = New GKI

User GKD = New GKD


User KForm = New KForm


User Kfeed Forward Gain Velocity = New Feed Forward Gain Velocity

#### Connector Pane



#### Controls and Indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **Corrector PIDFFVelocity**

 **Closed Loop Status**

 **KP**

 **KI**

 **KD**

 **KS**

 **Integration Time (s)**

 **Derivative Filter Cut Off frequency**

 **GKP**

 **GKI**

 **GKD**





**Kform**



**Feed Forward Gain Velocity (units)**



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

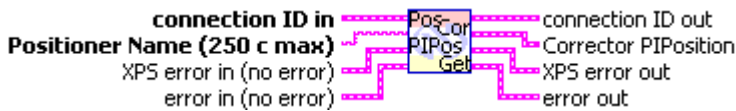
## 4.1.17 Positioner Corrector PIPosition Get.vi

Corrector Type must be "PIPosition".


Returns the corrector filter parameters in **cluster Corrector PIPosition** :


User Closed Loop Status,  
User KP,  
User KI and  
User Integration Time

### Connector Pane





### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **Corrector PIPosition**

 **Closed Loop Status**

 **KP**

 **KI**

 **Integration Time (seconds)**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

### 4.1.18 Positioner Corrector PIPosition Set.vi

Corrector Type must be "PIPosition".

Updates corrector filters' parameters (cluster PIPosition)

Saves the new corrector filters parameters :

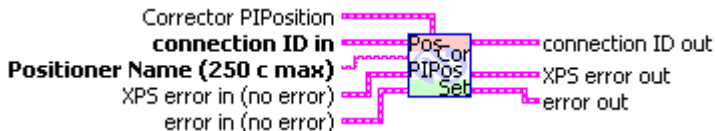
User Closed Loop Status = New Closed Loop Status

User KP = New KP













User KI = New KI

User Integration Time = New Integration Time

#### Connector Pane



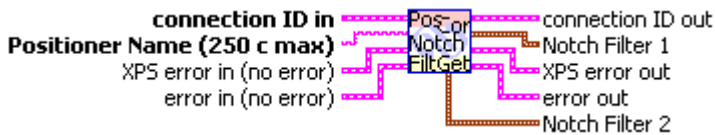
#### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Positioner Name (250 c max)**
  -  **Corrector PIPosition**
    -  **Closed Loop Status**
    -  **KP**
    -  **KI**
    -  **Integration Time (seconds)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


### 4.1.19 Positioner Corrector Notch Filters Get.vi


Returns parameters of the two notch filters in **2 cluster Notch Filters** :  
UserNotchFrequency1, UserNotchBandwidth1, UserNotchGain1, UserNotchFrequency2,  
UserNotchBandwidth2 and UserNotchGain2.

#### Connector Pane





#### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Notch Filter 1**

 **Notch Frequency (Hertz)**

 **Notch Bandwidth (Hertz)**


 **Notch Gain**

 **Notch Filter 2**

 **Notch Frequency (Hertz)**

 **Notch Bandwidth (Hertz)**

 **Notch Gain**

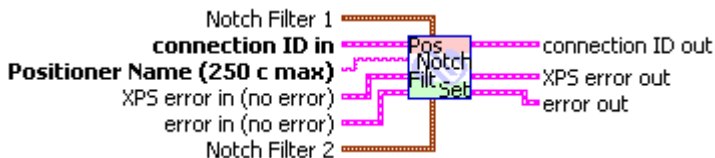
 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 4.1.20 Positioner Corrector Notch Filters Set.vi


Updates parameters of the two notch filters (**cluster Notch Filter**) :


User Notch Frequency1 = New Notch Frequency1  
User Notch Bandwidth1 = New Notch Bandwidth1  
User Notch Gain1 = New Notch Gain1  
User Notch Frequency2 = New Notch Frequency2  
User Notch Bandwidth2 = New Notch Bandwidth2  
User Notch Gain2 = New Notch Gain2

### Connector Pane



### Controls and Indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **Notch Filter 1**

 **Notch Frequency (Hertz)**

 **Notch Bandwidth (Hertz)**


 **Notch Gain**


 **Notch Filter 2**


 **Notch Frequency (Hertz)**


 **Notch Bandwidth (Hertz)**

 **Notch Gain**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

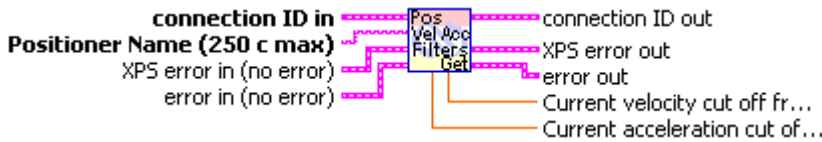
 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

### 4.1.21 Positioner Current Velocity Acceleration Filters Get.vi

Returns the current velocity cut off frequency and the current acceleration cut of frequency to filter current velocity and current acceleration in the gathering.

#### Cadre connecteur



#### Commandes et indicateurs

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**Positioner Name (250 c max)**

**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

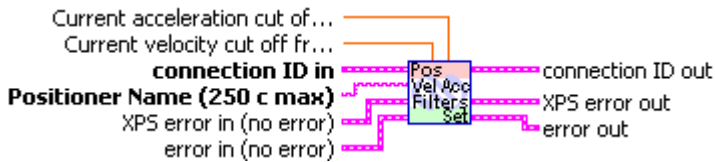
**Current velocity cut off frequency (Hertz)**

**Current acceleration cut off frequency (Hertz)**

## 4.1.22 Positioner Current Velocity Acceleration Filters Set.vi

Sets the current velocity cut off frequency and the current acceleration cut of frequency to filter current velocity and current acceleration in the gathering.

### Cadre connecteur



### Commandes et indicateurs

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**Positioner Name (250 c max)**

**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Current velocity cut off frequency (Hertz)**

**Current acceleration cut off frequency (Hertz)**

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

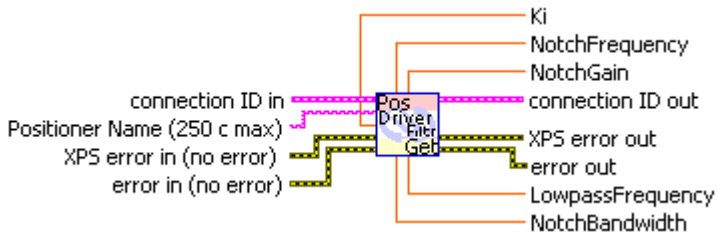
### 4.1.23 Positioner Driver Filters Get.vi

This API returns the encoder amplitude values (in Volts), it is useful to the user to know how big the encoder output signals is at any moment.


#### CAUTION:


The Encoder Type must be "AnalogInterpolated"


#### Connector Pane




#### Controls and Indicators


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **Positioner Name (250 c max)**

 **Error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

 **Error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **Ki**

 **NotchFrequency**

 **NotchBandwidth**

 **NotchGain**

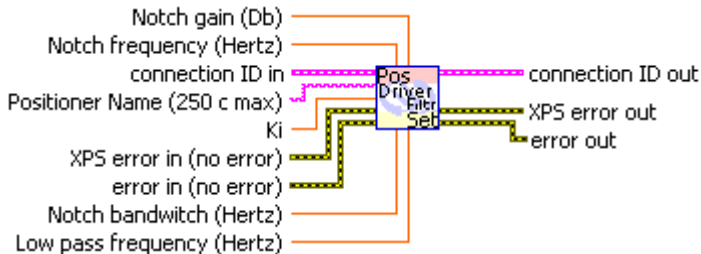
 **LowpassFrequency**















## 4.1.24 Positioner Driver Filters Set.vi

Set the current velocity cut off frequency and the current acceleration cut of frequency to filter current velocity and current acceleration in the gathering.

### Connector Pane



### Controls and Indicators

- 
**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.
- 
**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.  
 The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
- 
**Positioner Name (250 c max)**
- 
**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
- 
**Ki**
- 
**Notch frequency (Hertz)**
- 
**Notch bandwitch (Hertz)**
- 
**Notch gain (Db)**
- 
**Low pass frequency (Hertz)**
- 
**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
- 
**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
 The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
- 
**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

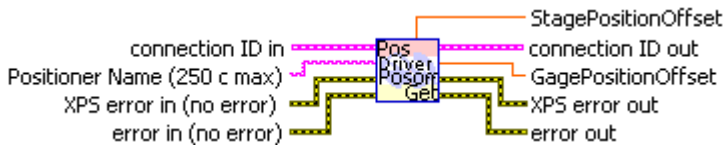
### 4.1.25 Positioner Driver Position Offsets Get.vi

This API returns the encoder amplitude values (in Volts), it is useful to the user to know how big the encoder output signals is at any moment.


#### CAUTION:


The Encoder Type must be "AnalogInterpolated"


#### Connector Pane




#### Controls and Indicators


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **Positioner Name (250 c max)**

 **Error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

 **Error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **StagePositionOffset**

 **GagePositionOffset**

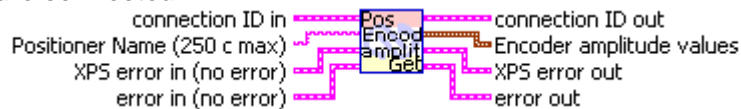
## 4.1.26 Positioner Encoder Amplitude Values Get.vi

This API returns the encoder amplitude values (in Volts), it is useful to the user to know how big the encoder output signals are at any given time.


### CAUTION:

the Encoder Type must be "AnalogInterpolated"


### Cadre connecteur




### Commandes et indicateurs


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


 **Encoder amplitude values** Dynamic Parameters of the actuator for a future Motion

 **Max Sinus Amplitude**


 **Current Sinus Amplitude**

 **Max Cosinus Amplitude**

 **Current Cosinus Amplitude**

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

### 4.1.27 Positioner Encoder Calibration Parameters Get.vi

After an encoder calibration (by GroupInitializeWithEncoderCalibration API), the user sends this API to get the encoder calibration parameter values.

These values are to be put by the user to the stage.ini file corresponding stage section in order to have good encoder imperfections compensation at the controller next booting.


#### CAUTION:

the Encoder Type must be "AnalogInterpolated"


#### Cadre connecteur




#### Commandes et indicateurs


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


 **Encoder calibration Parameters** Dynamic Parameters of the actuator for a future Motion

 **Sinus Offset**


 **Cosinus Offset**

 **Differential Gain**

 **Phase Compensation**

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

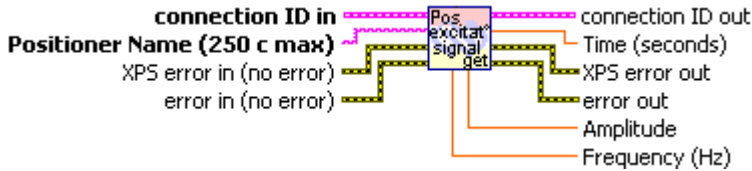
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.


## 4.1.28 Positioner Excitation Signal Get.vi


This function gets the previously configured excitation signal parameters.

### Connector Pane




### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **Positioner Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

 **Frequency (Hz)**

 **Amplitude**

 **Time (seconds)**

### 4.1.29 Positioner Excitation Signal Set.vi

This function sends an excitation command to the motor during a time. This function is allowed for "PIDFFAcceleration", "PIDFFVelocity" or "PIDDualFFVoltage" control loop.

The parameters to configure are:

**Signal type** (0: sine, 1: echelon, 2: random-amplitude, 3: random-pulse-width binary-amplitude, integer)

**Frequency** (Hz, double)

**Amplitude** (acceleration, velocity or voltage unit, double)

**During time** (seconds, double).

The function effective parameters for each mode are: (here: **Limit** means AccelerationLimit, VelocityLimit or VoltageLimit)

#### 0 - Sine signal mode :

*Frequency* ( $\geq 1$  and  $\leq 5000$ )

*Amplitude* ( $> 0$  and  $\leq \text{Limit}$ )

*Time* ( $> 0$ )

#### 1 - Echelon signal mode :

*Amplitude* ( $> 0$  and  $\leq \text{Limit}$ , or  $< 0$  and  $\geq -\text{Limit}$ )

*Time* ( $> 0$ ).

+ During Time : *Signal* = Amplitude

+ End of Time : *Signal* = 0

#### 2 - Random-amplitude signal mode :

*Amplitude* ( $> 0$  and  $\leq \text{Limit}$ )

*Time* ( $> 0$ )

*Frequency* ( $\geq 1$  and  $\leq 5000$ ).

*Signal* is generated with a random value at every controller base time ( $T_{\text{base}} = 0.1 \text{ ms}$ ), then is filtered with a second order low-pass filter at the cut-off Frequency value.

#### 3 - Random-pulse-width binary-amplitude signal mode :

*Amplitude* ( $> 0$  and  $\leq \text{Limit}$ )

*Time* ( $> 0$ )

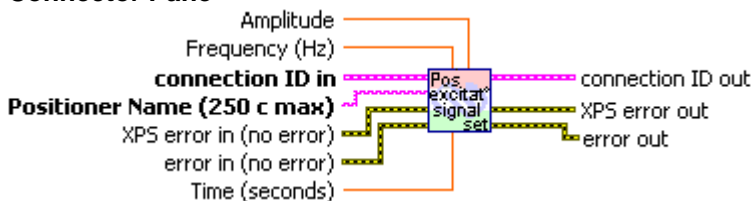
*Frequency* ( $\geq 1$  and  $\leq 5000$ ).

*Signal* is a sequence of pulses ( $\text{Signal} = \text{Amplitude}$  or  $= 0$ ) with pulse randomly varied width (multiple of  $T_{\text{base}}$ ).

*Frequency* is the controlled system band-width (cut-off frequency), necessary for the PRBS (Pseudo Random Binary Sequence) function configuration.

The function non-effective parameters can accept any value, the value 0 is recommended for simplicity.

#### Connector Pane



## Controls and Indicators



**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**Positioner Name (250 c max)**



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**Frequency (Hz)**



**Amplitude**



**Time (seconds)**



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

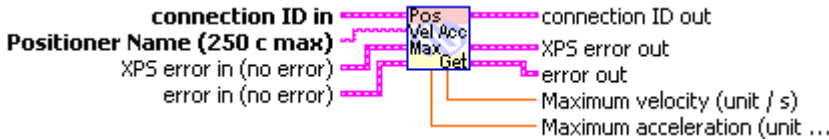


**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 4.1.30 Positioner Maximum Velocity And Acceleration Get.vi

Returns the maximum velocity and the maximum acceleration from the "stage.ini" configuration file.

### Cadre connecteur



### Commandes et indicateurs

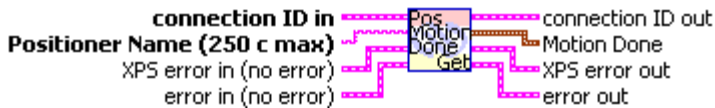
- connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
- error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
- Positioner Name (250 c max)**
- XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
- connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
- error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
- XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
- Maximum velocity (unit / s)**
- Maximum acceleration (unit / s<sup>2</sup>)**




## 4.1.31 Positioner Motion Done Get.vi


Returns motion done values for the "Velocity And Position Window" (in **cluster Motion Done**):  
User Position Window, User Velocity Window, User Checking Time, User Mean Period and User Timeout.

### Connector Pane





### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

### Motion Done


 **Position Window (units)**

 **Velocity Window (units/seconds)**

 **Checking Time (seconds)**

 **Mean Period (seconds)**

 **Timeout (seconds)**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

### 4.1.32 Positioner Motion Done Set.vi

Updates motion done parameters (**cluster Motion done**) only if Motion Done Mode is "VelocityAndPositionWindow" :


User Position Window = New Position Window  
User Velocity Window = New Velocity Window  
User Checking Time = New Checking Time  
User Mean Period = New Mean Period  
User Timeout = New Timeout


If the Motion Done Mode parameter is "Theoretical", these parameters are not taken into consideration

#### Connector Pane



#### Controls and Indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **Motion Done**


 **Position Window (units)**


 **Velocity Window (units/seconds)**


 **Checking Time (seconds)**

 **Mean Period (seconds)**


 **Timeout (seconds)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

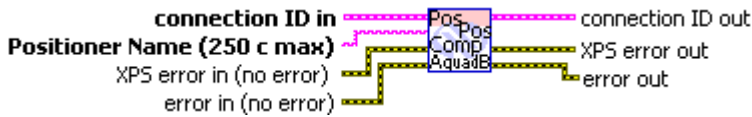
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


### 4.1.33 Positioner Position Compare AquadB Always Enable.vi


This VI enables to generate AquadB signal in the always mode.

#### Connector Pane




#### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **Positioner Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

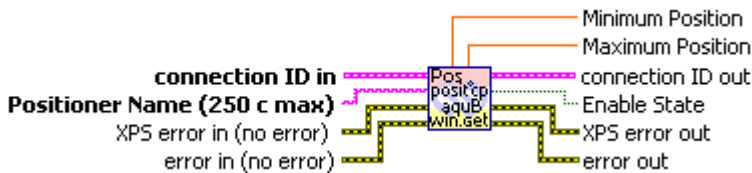
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


### 4.1.34 Positioner Position Compare AquadB Windowed Get.vi


This VI returns the current parameters used in the AquadB signal position windowed mode.

#### Connector Pane




#### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **Positioner Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

 **Minimum Position**

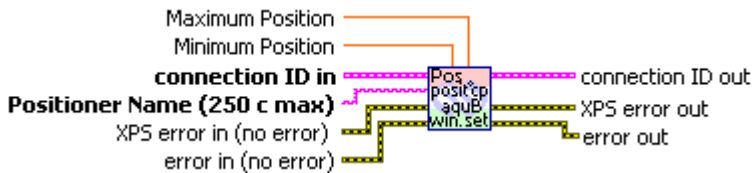
 **Maximum Position**

 **Enable State**


### 4.1.35 Positioner Position Compare AquadB Windowed Set.vi


This VI generates AquadB signal in the position windowed mode.

#### Connector Pane




#### Controls and Indicators

 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **Positioner Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **Minimum Position**

 **Maximum Position**

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

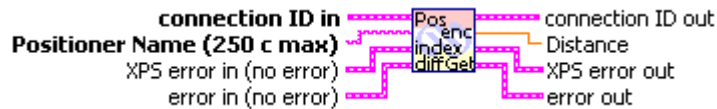
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









### 4.1.36 Positioners Encoder Index Difference Get.vi

This function is used for any gantry. After a home search, the user can check the distance between the indexes of the two positioners (primary and secondary).

#### Connector Pane



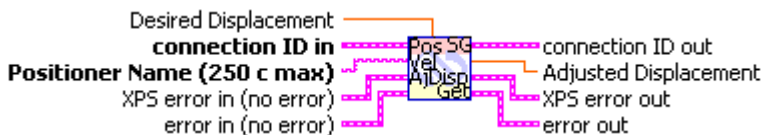
#### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Positioner Name (250 c max)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Distance** : The actual distance between the two indexes of the two positioners of a gantry configuration. This distance is only measured during GroupHomeSearch.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


## 4.1.37 Positioner SGamma Exact Velocity Adjusted Displacement Get.vi


Returns adjusted displacement to get exact velocity in the SGamma profile case

### Connector Pane




### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **Desired Displacement**


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

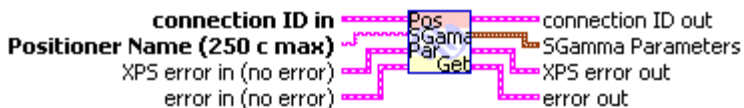
 **Adjusted Displacement**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


### 4.1.38 Positioner SGamma Parameters Get.vi


Returns the dynamic parameters of the positioner for a future motion (in **cluster SGamma**) :  
User Velocity, User Acceleration, User Minimum Jerk Time and User Maximum Jerk Time

#### Connector Pane





#### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **SGamma Parameters** Dynamic Parameters of the actuator for a future Motion

 **Velocity (units/seconds)**

 **Acceleration (units/seconds<sup>2</sup>)**

 **Minimum Jerk Time (seconds)**

 **Maximum Jerk Time (seconds)**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

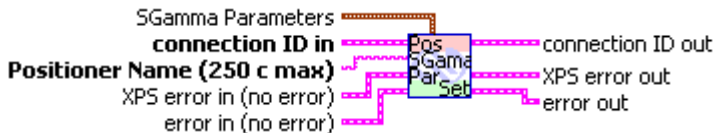


### 4.1.39 Positioner SGamma Parameters Set.vi


Updates positioner dynamic parameters (**cluster SGamma**) for a future displacement :


User Velocity = New Velocity  
User Acceleration = New Acceleration  
User Minimum Jerk Time = New Minimum Jerk Time  
User Maximum Jerk Time = New Maximum Jerk Time

#### Connector Pane



#### Controls and Indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Positioner Name (250 c max)**


 **SGamma Parameters**


 **Velocity units/seconds**


 **Acceleration (units/seconds<sup>2</sup>)**

 **Minimum Jerk Time (seconds)**


 **Maximum Jerk Time (seconds)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

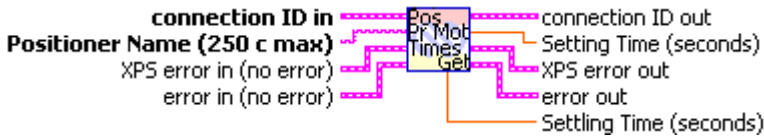
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


## 4.1.40 Positioner SGamma Previous Motion Times Get.vi


Returns the setting and settling times from the motion done.

### Connector Pane





### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Setting Time (seconds)**

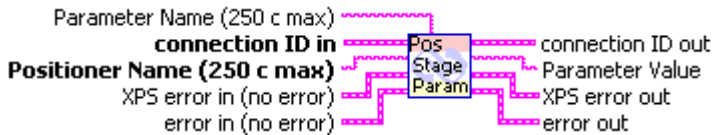
 **Settling Time (seconds)**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

#### 4.1.41 Positioner Stage Parameter Get.vi

Return the stage parameter from the selected positioner.

##### Connector Pane



##### Controls and Indicators



**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifier of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**Positioner Name (250 c max)**



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**Parameter Name (250 c max)**



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

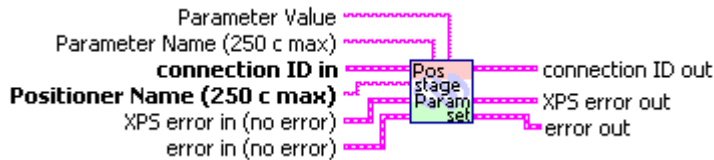


**Parameter Value**

## 4.1.42 Positioner Stage Parameter Set.vi

Set the stage parameter from the selected positioner. (need to be logged in with Administrator rights)

### Connector Pane



### Controls and Indicators



**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**Positioner Name (250 c max)**



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**Parameter Name (250 c max)**



**Parameter Value (250 c max)**



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.



**Parameter Value**

## 4.1.43 Positioner Driver Status Get.vi

Returns the positioner driver status.

To get the driver status description, call the "Positioner Driver Status String Get" VI

### Connector Pane



### Controls and Indicators

**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**Positioner Name (250 c max)**

**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

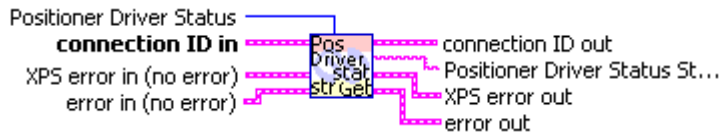
**Positioner Driver Status**

**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 4.1.44 Positioner Driver Status String Get.vi

Returns the description of positioner driver status in relation to the positioner driver status code.

### Connector Pane



### Controls and Indicators



**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**Positioner Driver Status**



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.



**Positioner Driver Status String**

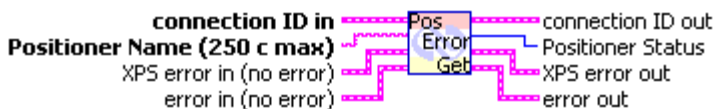
#### 4.1.45 Positioner Error Get.vi

Returns the positioner status code and clears the positioner status.









To get the status code description, call the "Positioner Status String Get" VI

The positioner status is composed of the corrector status, the profile generator status and the servitudes status.

##### Connector Pane



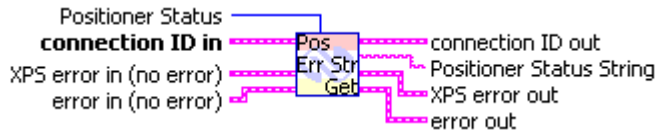
##### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Positioner Name (250 c max)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Positioner Status**
  -  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 4.1.46 Positioner Error String Get.vi

Returns the positioner status description in relation to a positioner status code (see § Positioner errors list).

### Connector Pane



### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Status**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
-  **Positioner Status String**



## 4.1.47 Positioner Hardware Status Get.vi









This VI returns the positioner hardware status.

To get the hardware status description, call the "Positioner Hardware Status String Get" VI

### Connector Pane



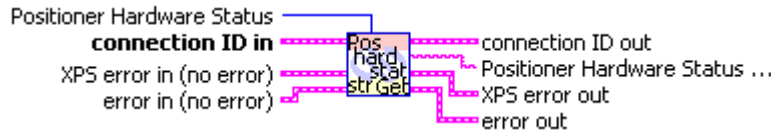
### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Positioner Hardware Status**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 4.1.48 Positioner Hardware Status String Get.vi

This VI returns the positioner hardware status description in relation to a positioner hardware status.

### Connector Pane



### Controls and Indicators



**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**Positioner Hardware Status**



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

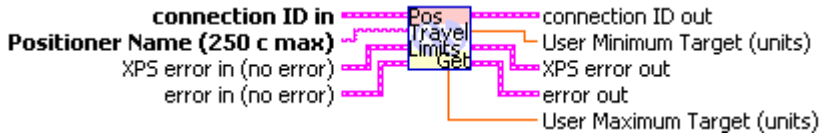


**Positioner Hardware Status String**


## 4.1.49 Positioner User Travel Limits Get.vi


Reads user travel limits : User Maximum Target Position and User Minimum Target Position.

### Connector Pane





### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **User Maximum Target (units)** in units

 **User Minimum Target (units)** in units

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 4.1.50 Positioner User Travel Limits Set.vi

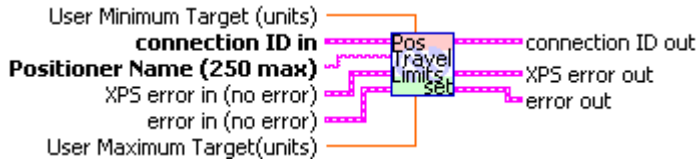
Updates user travel limits' parameters.

Saves travel limits parameters :










User Minimum Target Position=New User Minimum Target Position

User Maximum Target Position = New User Maximum Target Position

### Connector Pane



### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Positioner Name (250 max)**
  -  **User Maximum Target(units)**
  -  **User Minimum Target (units)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


## 4.1.51 Positioner Position Compare Get.vi


This VI returns the position compare parameters in cluster Position Compare. These parameters are used when the position compare mode is enabled.

### Connector Pane





### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **Position Compare Parameters**

 **Minimum Position**

 **Maximum Position**

 **Position Step**

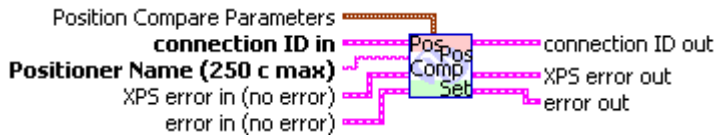
 **Enable State**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.












## 4.1.52 Positioner Position Compare Set.vi

This VI sets the position compare parameters (passed by cluster Position compare)  
These parameters are used when the position compare mode is enabled.

### Connector Pane



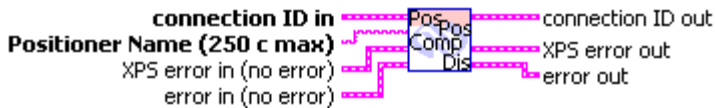
### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Positioner Name (250 c max)**
  -  **Position Compare Parameters**
    -  **Minimum Position**
    -  **Maximum Position**
    -  **Position Step**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








### 4.1.53 Positioner Position Compare Disable.vi

This VI disables the position compare mode. The interpolation is managed by the controller and the pulses generation on the interpolation board output (PCO connector) is stopped.

#### Connector Pane



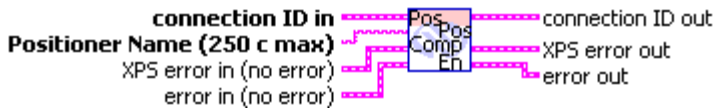
#### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Positioner Name (250 c max)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








### 4.1.54 Positioner Position Compare Enable.vi

This VI enables the position compare mode. The interpolation is managed by the interpolation board and the pulses are generated on the interpolation board output (PCO connector).

#### Connector Pane



#### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

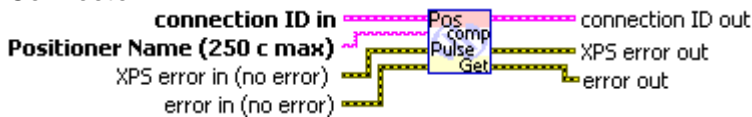


## 4.1.55 Positioner Position Compare Pulse Parameters Get.vi


This VI returns the configured pulse width and the configured encoder settling time used by the position compare output PCO pulse.


These parameters are used when the position compare mode is enabled.

### Connector




### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **Positioner Name (250 c max)**


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

 **PCO Pulse Width (µs)**  
Must equal to 0.2 (default), 1, 2.5 or 10 µs

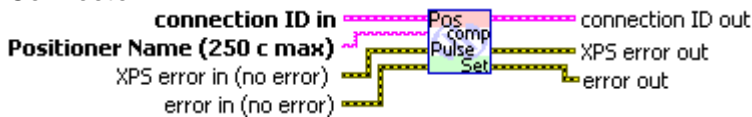
 **Encoder Settling time (µs)**  
Must equal to 0.075 (default), 1, 4 or 12 µs

## 4.1.56 Positioner Position Compare Pulse Parameters Set.vi

This VI sets two additional parameters (the pulse width and the encoder settling time) for the position compare output trigger of the PCO connector on the XPS controller cards.

These parameters are used when the position compare mode is enabled.

### Connector



### Controls and Indicators



**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**Positioner Name (250 c max)**



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**PCO Pulse Width (µs)**



**Encoder Settling time (µs)**



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

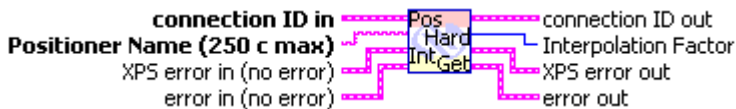


**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


## 4.1.57 Positioner Hard Interpolator Factor Get.vi


This VI returns the hard interpolator factor

### Connector Pane





### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

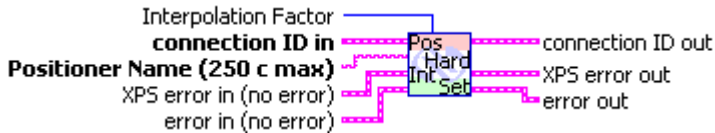
 **Interpolation Factor**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 4.1.58 Positioner Hard Interpolator Factor Set.vi

This VI sets the hard interpolator factor.

### Connector Pane



### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Positioner Name (250 c max)**
  -  **Interpolation Factor**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.











## 4.1.59 Positioner Group Jog Parameters Get.vi

This VI returns the current velocity and the current acceleration used by JOG mode (in **cluster Group Jog**)

### Connector Pane



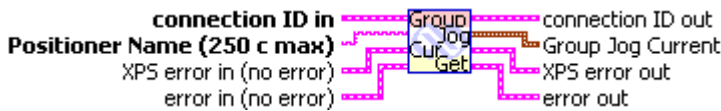
### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Group Jog Parameters**
  -  **Velocity (units/s)**
  -  **Acceleration (units/s<sup>2</sup>)**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 4.1.60 Positioner Group Jog Current Get.vi

This VI returns the current velocity and the current acceleration used by JOG mode (in **cluster Group Jog**)

### Connector Pane



### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs..
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Group Jog Current**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 4.1.61 Positioner Group Jog Parameters Set.vi

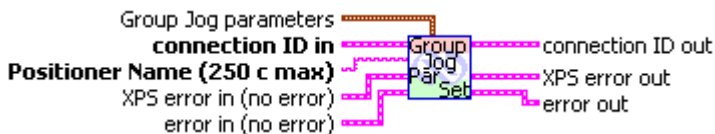
The JOG mode must be activated (after the call of "Group Jog Mode Enable" VI)

This VI allows changing the velocity and acceleration used by the JOG mode on the fly (**cluster Group Jog**). If an error occurs, the positioner and all axes from the same group are stopped with a NULL velocity.











### Parameters coherence test :

Velocity > Maximum Velocity	=> Velocity = Maximum Velocity
Velocity < - Maximum Velocity	=> Velocity = - Maximum Velocity
Acceleration <= 0	=> ERROR and stop motion
Acceleration > Maximum Acceleration	=> Acceleration = Maximum Acceleration

### Connector Pane



### Controls and Indicators

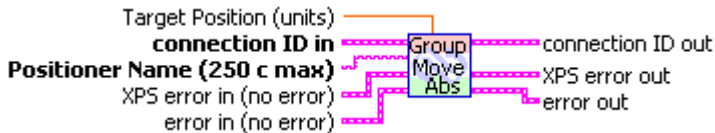
-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Positioner Name (250 c max)**
  -  **Group Jog parameters**
    -  **Velocity (units/s)**
    -  **Acceleration (units/s²)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 4.1.62 Positioner Group Move Absolute.vi









The selected positioner moves to the target position.

The absolute move refers to the acceleration, velocity, minimumTjerkTime and maximumTjerkTime predefined in the "Stages.ini" or redefined with the "Positioner...Parameters Set" VI.

### Connector Pane



### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Positioner Name (250 c max)**
  -  **Target Position (units)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.



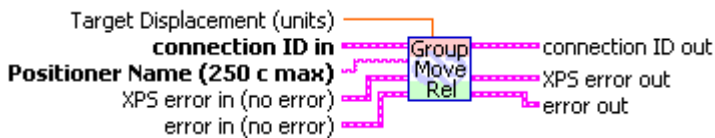
### 4.1.63 Positioner Group Move Relative.vi

The selected positioner moves to the target position :

Target Position = Current Position + Target Displacement

The relative move refers to the acceleration, velocity, minimum Tjerk Time and maximum Tjerk Time predefined in the "Stages.ini" or redefined with the "Positioner...Parameters Set" VI.

#### Connector Pane



#### Controls and Indicators

- connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  - error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  - Positioner Name (250 c max)**
  - Target Displacement (units)**
  - XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  - connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  - error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
- XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


## 4.1.64 Positioner Group Corrector Output Get.vi


Reads the selected positioner corrector output.

### Connector Pane





### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

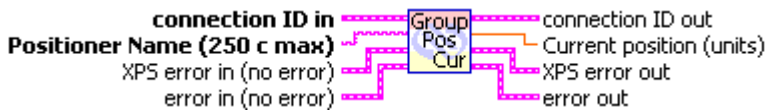
 **Corrector Output (units)**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 4.1.65 Positioner Group Position Current Get.vi

Reads the selected positioner current position (SetpointPosition - PositionError).

### Connector Pane



### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Current position (units)**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 4.1.66 Positioner Group Position Setpoint Get.vi

Reads the selected positioner Setpoint position (profiler position).

### Connector Pane



### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Set Point position (units)**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 4.1.67 Positioner Group Position Target Get.vi

Reads the selected positioner target position.

### Connector Pane



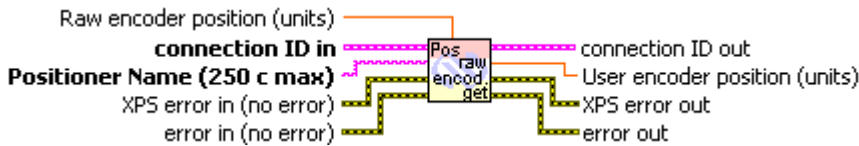
### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Target position (units)**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


## 4.1.68 Positioner Raw Encoder Position Get.vi


This function allows get the raw encoder position from a user corrected position for a positioner.

### Connector Pane




### Controls and Indicators

 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Positioner Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **Raw encoder position (units)**

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

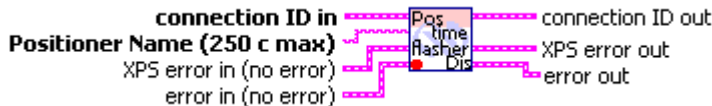
 **User encoder position (units)**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








## 4.1.69 Positioner Time Flasher Disable.vi

Disable the Time Flasher mode.

### Connector Pane



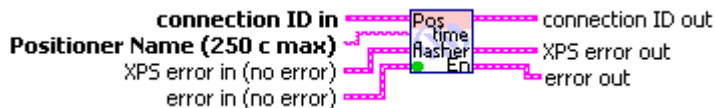
### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








## 4.1.70 Positioner Time Flasher Enable.vi

Enable the Time Flasher mode.

### Connector Pane



### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.















## 4.1.71 Positioner Time Flasher Get.vi

Get Time Flasher information.

### Connector Pane



### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **Time Flasher Parameters**
  -  Minimum position : Start of time flashing window
  -  Maximum position : End of time flashing window
  -  Time Period between every pulse
  -  State : true if positioner is in time flashing window
-  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.












## 4.1.72 Positioner Time Flasher Set.vi

Set Time Flasher information.

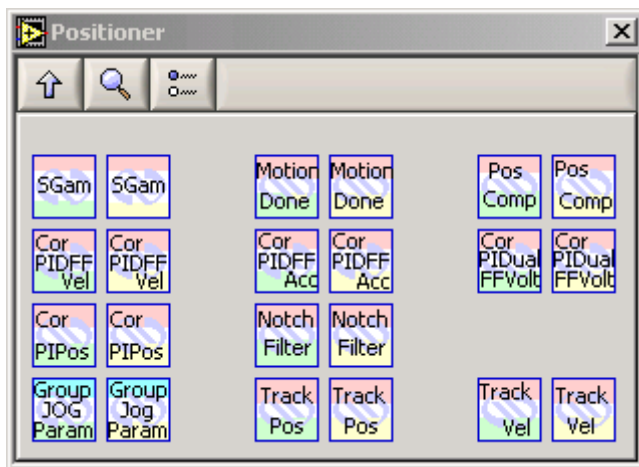
### Connector Pane



### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **Time Flasher Parameters**
  -  Minimum position : Start of time flashing window
  -  Maximum position : End of time flashing window
  -  Time Period between every pulse
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 4.2 Controls description



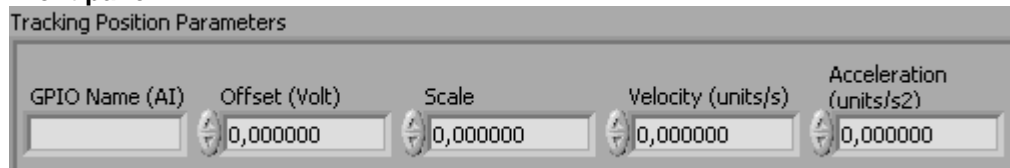
### 4.2.1 Tracking Position Control.ctl

This control is used by **Positioner Analog Tracking Position Parameters Set**

#### Connector Pane



#### Front panel



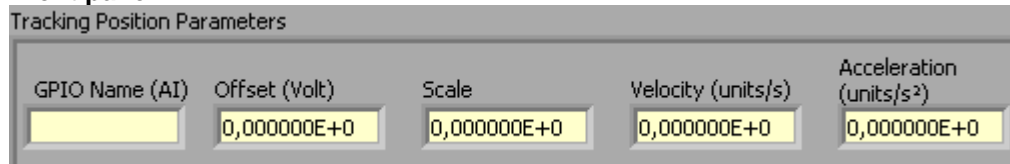
### 4.2.2 Tracking Position Indicator.ctl

This indicator is used by **Positioner Analog Tracking Position Parameters Get**

#### Connector Pane



#### Front panel



### 4.2.3 Tracking Velocity Control.ctl

This control is used by **Positioner Analog Tracking Velocity Parameters Set**

#### Connector Pane



### Front panel

Tracking Velocity Parameters

GPIO Name (AI)	Offset (Volt)	Scale	
<input type="text"/>	<input type="text" value="0,000000"/>	<input type="text" value="0,000000"/>	
DeadBandThreshold (Volt)	Order	Velocity (units/s)	Acceleration (units/s <sup>2</sup> )
<input type="text" value="0,000000"/>	<input type="text" value="0"/>	<input type="text" value="0,000000"/>	<input type="text" value="0,000000"/>

## 4.2.4 Tracking Velocity Indicator.ctl

This indicator is used by **Positioner Analog Tracking Velocity Parameters Get**

### Connector Pane



### Front panel

Tracking Velocity Parameters

GPIO Name (AI)	Offset (Volt)	Scale	
<input type="text"/>	<input type="text" value="0,000000E+0"/>	<input type="text" value="0,000000E+0"/>	
DeadBandThreshold (Volt)	Order	Velocity (units/s)	Acceleration (units/s <sup>2</sup> )
<input type="text" value="0,000000E+0"/>	<input type="text" value="0"/>	<input type="text" value="0,000000E+0"/>	<input type="text" value="0,000000E+0"/>

## 4.2.5 Corrector PIDDualFFVoltage Control.ctl

This control is used by **Positioner Corrector PIDDualFFVoltage Set**

### Connector Pane



### Front panel

Corrector PIDDualFFVoltage

Closed Loop Status	KP	KI	KD	KS
Opened	0,000000	0,000000	0,000000	0,000000
Integration Time (seconds)	Derivative Filter Cut Off frequency	GKP	GKI	GKD
0,000000	0,000000	0,000000	0,000000	0,000000
KForm	Feed Forward Gain Velocity (units)	Feed Forward Gain Acceleration (units)	Friction	
0,000000	0,000000	0,000000	0,000000	

## 4.2.6 Corrector PIDDualFFVoltage Indicator.ctl

This indicator is used by **Positioner Corrector PIDDualFFVoltage Get**

### Connector Pane



### Front panel

Corrector PIDDualFFVoltage

Closed Loop Status	KP	KI	KD	KS
Opened	0,000000E+0	0,000000E+0	0,000000E+0	0,000000E+0
Integration Time (seconds)	Derivative Filter Cut Off frequency	GKP	GKI	GKD
0,000000E+0	0,000000E+0	0,000000E+0	0,000000E+0	0,000000E+0
KForm	Feed Forward Gain Velocity (units)	Feed Forward Gain Acceleration (units)	Friction	
0,000000E+0	0,000000E+0	0,000000E+0	0,000000E+0	

## 4.2.7 Corrector PIDFFAcceleration Control.ctf

This control is used by **Positioner Corrector PIDDualFFAcceleration Set**

### Connector Pane



### Front panel

Corrector PIDDualFFAcceleration

Closed Loop Status	KP	KI	KD	KS
<input checked="" type="checkbox"/> Opened	0,000000	0,000000	0,000000	0,000000
Integration Time (seconds)	Derivative Filter Cut Off frequency	GKP	GKI	GKD
0,000000	0,000000	0,000000	0,000000	0,000000
KForm	Feed Forward Gain Acceleration (units)			
0,000000	0,000000			

## 4.2.8 Corrector PIDFFAcceleration Indicator.ctf

This indicator is used by **Positioner Corrector PIDDualFFAcceleration Get**

### Connector Pane



### Front panel

Corrector PIDFFAcceleration

Closed Loop Status	KP	KI	KD	KS
<input checked="" type="checkbox"/> Opened	0,000000E+0	0,000000E+0	0,000000E+0	0,000000E+0
Integration Time (seconds)	Derivative Filter Cut Off frequency	GKP	GKI	GKD
0,000000E+0	0,000000E+0	0,000000E+0	0,000000E+0	0,000000E+0
KForm	Feed Forward Gain Acceleration (units)			
0,000000E+0	0,000000E+0			

## 4.2.9 Corrector PIDFFVelocity control.ctf

This control is used by **Positioner Corrector PIDFFVelocity Set**

### Connector Pane



### Front panel

Corrector PIDFFVelocity

Closed Loop Status	KP	KI	KD	KS
<input type="checkbox"/> Opened	0,000000	0,000000	0,000000	0,000000
Derivative Filter				
Integration Time (s)	Cut Off frequency	GKP	GKI	GKD
0,000000	0,000000	0,000000	0,000000	0,000000
Feed Forward				
KForm	Gain Velocity (units)			
0,000000	0,000000			

## 4.2.10 Corrector PIDFFVelocity Indicator.ctf

This indicator is used by **Positioner Corrector PIDFFVelocity Get**

### Connector Pane



### Front panel

Corrector PIDFFVelocity

Close Loop Status	KP	KI	KD	KS
<input type="checkbox"/> Opened	0,000000E+0	0,000000E+0	0,000000E+0	0,000000E+0
Derivative Filter				
Integration Time (second)	Cutt Off frequency	GKP	GKI	GKD
0,000000E+0	0,000000E+0	0,000000E+0	0,000000E+0	0,000000E+0
Feed Forward				
KForm	Gain Velocity (units)			
0,000000E+0	0,000000E+0			

### 4.2.11 Corrector PIPosition Control.ctl

This control is used by **Positioner Corrector PIPosition Set**

#### Connector Pane



#### Front panel

Corrector PIPosition

Closed Loop Status	KP	KI	Integration Time (seconds)
Opened	0,000000	0,000000	0,000000

### 4.2.12 Corrector PIPosition Indicator.ctl

This indicator is used by **Positioner Corrector PIPosition Get**

#### Connector Pane



#### Front panel

Corrector PIPosition

Closed Loop Status	KP	KI	Integration Time (seconds)
Opened	0,000000E+0	0,000000E+0	0,000000E+0

### 4.2.13 Notch Filter Control.ctl

This control is used by **Positioner Corrector Notch Filters Set**

#### Connector Pane



#### Front panel

Notch Filter

Notch Frequency (Hertz)	Notch Bandwidth (Hertz)	Notch Gain
0,000000	0,000000	0,000000



#### 4.2.14 Notch Filter Indicator.ctf

This indicator is used by **Positioner Corrector Notch Filters Get**

##### Connector Pane



##### Front panel

Notch Filter

Notch Frequency (Hertz)	Notch Bandwidth (Hertz)	Notch Gain
0,000000E+0	0,000000E+0	0,000000E+0

#### 4.2.15 Motion Done Control.ctf

This control is used by **Positioner Motion Done Set**

##### Connector Pane



##### Front panel

Motion Done

Position Window (units)	Velocity Window (units/seconds)	Checking Time (seconds)	Mean Period (seconds)	Timeout (seconds)
0,000000	0,000000	0,000000	0,000000	0,000000

#### 4.2.16 Motion Done Indicator.ctf

This indicator is used by **Positioner Motion Done Get**

##### Connector Pane



##### Front panel

Motion Done

Position Window (units)	Velocity Window (units/seconds)	Checking Time (seconds)	Mean Period (seconds)	Timeout (seconds)
0,000000E+0	0,000000E+0	0,000000E+0	0,000000E+0	0,000000E+0

## 4.2.17 SGamma Control.ctl

This control is used by **Positioner SGamma Parameters Set**

### Connector Pane



### Front panel

SGamma Parameters

Velocity units/ seconds	Acceleration (units/seconds <sup>2</sup> )	Minimum Jerk Time (seconds)	Maximum Jerk Time (seconds)
0,000000	0,000000	0,000000	0,000000

## 4.2.18 SGamma Indicator.ctl

This indicator is used by **Positioner SGamma Parameters Get**

### Connector Pane



### Front panel

SGamma Parameters

Velocity (units/ seconds)	Acceleration (units/seconds <sup>2</sup> )	Minimum Jerk Time (seconds)	Maximum Jerk Time (seconds)
0,000000E+0	0,000000E+0	0,000000E+0	0,000000E+0

## 4.2.19 Position Compare Control.ctl

This control is used by **Positioner Motion Compare Set**

### Connector Pane



### Front panel

Position Compare Parameters

Minimum Position	Maximum Position	Position Step
0,000000	0,000000	0,000000

## 4.2.20 Position Compare Indicator.ctl


This indicator is used by **Positioner Motion Compare Get**

### Connector Pane



### Front panel

Position Compare Parameters

Minimum Position	Maximum Position	Position Step	Enable State
0,000000E+0	0,000000E+0	0,000000E+0	

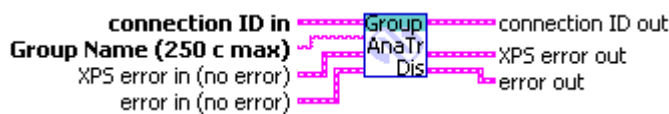
## 5 Groups

### 5.1 VIs description used by all groups








#### 5.1.1 Group Analog Tracking Mode Disable.vi

The group must be in ANALOG TRACKING status.

##### Connector Pane



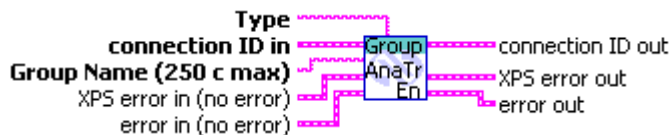
##### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 5.1.2 Group Analog Tracking Mode Enable.vi

The group must be in ready status (after initialization and home search) and if OK this VI will enable the analog tracking mode for the group.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **Type Possible Values**  
Position  
Velocity
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

### 5.1.3 Group Home Search.vi

This Vi activates the selected home search, configured in the Stages.ini, for the selected group axis.

**HomeSearchProfileGeneratorType =**

IndexHomeSearch  
No IndexHomeSearch  
MechanicalZeroAndIndexHomeSearch  
MechanicalZeroHomeSearch  
MinusEndOfRunAndIndexHomeSearch  
MinusEndOfRunHomeSearch








**If the selected group is a XY group**

The XY home search sequence can be Together, X after Y or Y after X

#### Connector Pane



#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 5.1.4 Group Home Search And Relative Move.vi

### Group Home Search And Relative Move.vi

Activates the selected home search, configured in the Stages.ini, for the selected group axis and executes a displacement.

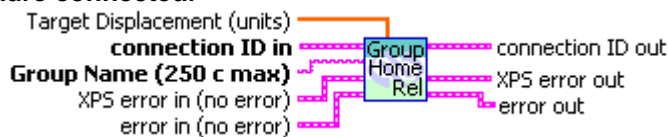
#### HomeSearchProfileGeneratorType =

IndexHomeSearch  
No IndexHomeSearch  
MechanicalZeroAndIndexHomeSearch  
MechanicalZeroHomeSearch  
MinusEndOfRunAndIndexHomeSearch  
MinusEndOfRunHomeSearch

#### If the selected group is a XY group

The XY home search sequence can be Together, X after Y or Y after X

#### Cadre connecteur



#### Controls and indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**Group Name (250 c max)**

**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Target Displacement (units)**  
Array of relative positions

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

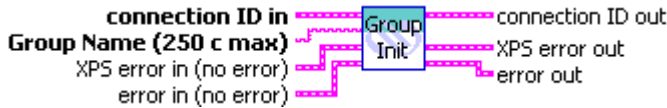
**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








## 5.1.5 Group Initialize.vi

Initializes the group axis (Single, Spindle, XY, XYZ or Multiple axes group) and turns motor on.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.



## 5.1.6 Group Initialize With Encoder Calibration.vi

Initializes the motors, calibrate the encoder and activate the servo loop of the selected single axis group.


NOTE :

To get the calibration results, use the PositionerEncoderCalibrationParametersGet API.


### Cadre connecteur




### Commandes et indicateurs


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **Group Name (250 c max)**

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

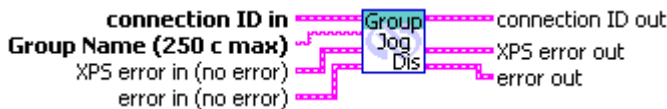
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.








## 5.1.7 Group Jog Mode Disable.vi

The group must be in JOGGING status and the positioner must be idle (velocity NULL)

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information or warning out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








## 5.1.8 Group Jog Mode Enable.vi

The group must be in ready status (after initialization and home search) and if OK the JOG mode is enabled for the group. (JOGGING status).

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information or warning out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








### 5.1.9 Group Kill.vi

Kills and resets the group. The group comes back to "not initialised" status.

#### Connector Pane



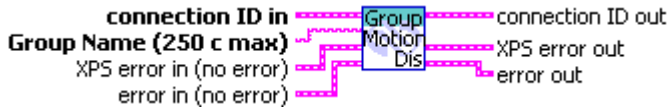
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs..
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








### 5.1.10 Group Motion Disable.vi

This VI turns motor OFF and sets the "Motion Enable" status to FALSE for the selected group.

#### Connector Pane



#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








## 5.1.11 Group Motion Enable.vi

Initializes positions and corrector before turning motor ON and setting the "Motion Enable" status to TRUE for the selected group.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








## 5.1.12 Group Move Abort.vi

Aborts the motion : stops the motion in progress on the selected group.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









### 5.1.13 Group Status Get.vi

Reads the group status (See § "Group state list" ) and returns the group status code.

#### Connector Pane



#### Controls and indicators

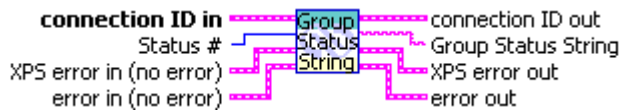
-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Status**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.











### 5.1.14 Group Status String Get.vi

Returns the group status string corresponding to the group status code (see § group state list).

#### Connector Pane



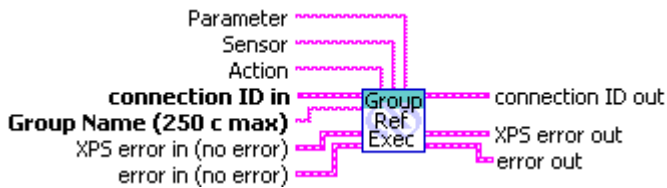
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Status #**
  -  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **Group Status String**
  -  **error out** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

## 5.1.15 Group Referencing Action Execute.vi

Executes an action in the referencing state for the selected group axis.

### Connector Pane



### Controls and indicators

**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**Group Name (250 c max)**

**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Action**

**Sensor**

**Parameter**

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

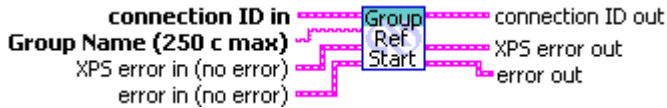
**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 5.1.16 Group Referencing Start.vi

Enter the given group in referencing state.

This function will allow find a reference position for all the stages of this group.

### Connector Pane



### Controls and indicators

**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**Group Name (250 c max)**

**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


## 5.1.17 Group Referencing Stop.vi


This function sets a group in ready state from referencing state.

### Cadre connecteur




### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **Group Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

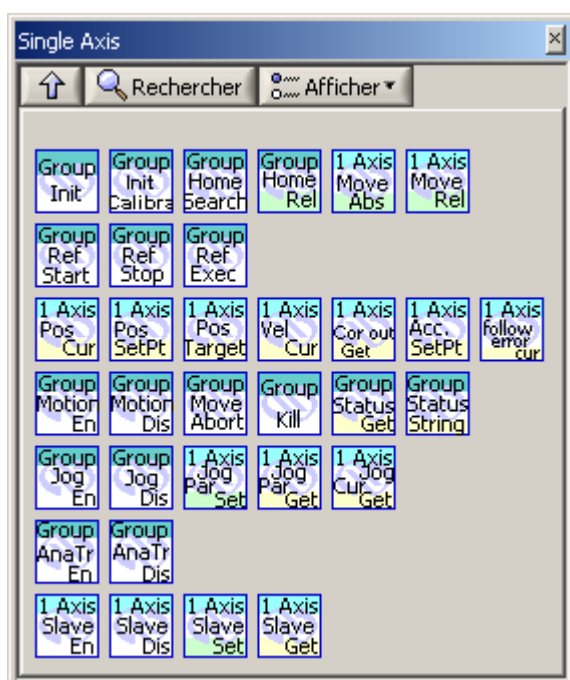
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 6 Single Axis Group



### 6.1 VIs Description




## 6.1.1 Single Axis Group Acceleration Setpoint Get.vi


Get current value of setpoint acceleration (Single Axis).

### Connector Pane




### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **SingleAxis Group Name (250 c max)**


 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

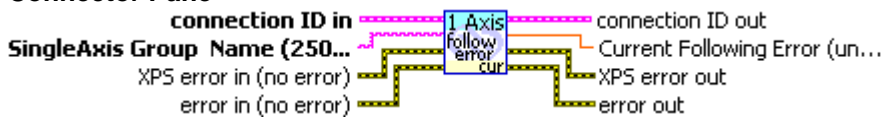
 **Setpoint Acceleration (units / s<sup>2</sup>)**

 **XPS error out** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


## 6.1.2 Single Axis Group Current Following Error Get.vi


This function returns the current following error of the selected SingleAxis group.

### Connector Pane




### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **SingleAxis Group Name (250 c max)**


 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

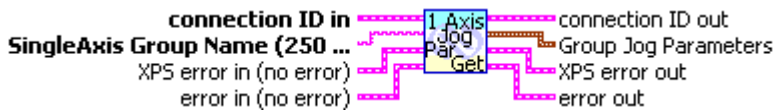
 **Current Following Error (units)**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

### 6.1.3 Single Axis Group Jog Parameters Get.vi

This VI returns the current velocity and the current acceleration used by JOG mode (in cluster Group Jog)

#### Connector Pane



#### Controls and indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Group Name (250 c max)**

**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**Group Jog Parameters**

**Velocity (units/s)**

**Acceleration (units/s<sup>2</sup>)**

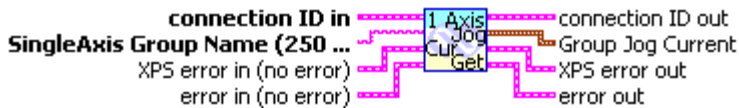
**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.













## 6.1.4 Single Axis Group Jog Current Get.vi

This VI returns the current velocity and the current acceleration used by JOG mode (in cluster Group Jog)

### Connector Pane



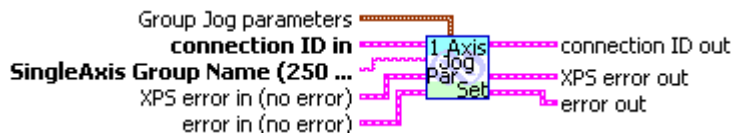
### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Group Jog Current**
    -  **Velocity (units/s)**
    -  **Acceleration (units/s<sup>2</sup>)**
  -  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.











### 6.1.5 Single Axis Group Jog Parameters Set.vi

The JOG mode must be activated (after the call of "Group Jog Mode Enable" VI) This VI allows changing the velocity and acceleration (passed in cluster Group Jog) used by the JOG mode on the fly. If an error occurs, the positioner is stopped with a NULL velocity.

#### Connector Pane



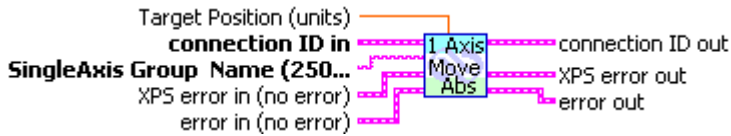
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **Group Jog parameters**
    -  **Velocity (units/s)**
    -  **Acceleration (units/s<sup>2</sup>)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 6.1.6 Single Axis Group Move Absolute.vi

The selected single axis moves to the target position. The absolute move refers to the acceleration, velocity, minimum Tjerk Time and maximum Tjerk Time predefined in the "Stages.ini" or redefined with the "Positioner...Parameters Set" VI.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **Target Position (units)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

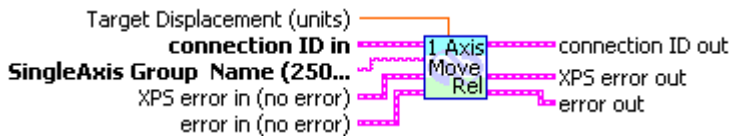
## 6.1.7 Single Axis Group Move Relative.vi

The Single Axis moves to the target position :


Target Position = Current Position + Target Displacement.


The relative move refers to the acceleration, velocity, minimum Tjerk Time and maximum Tjerk Time predefined in the "Stages.ini" or redefined with the "Positioner...Parameters Set" VI.

### Connector Pane



### Controls and indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **SingleAxis Group Name (250 c max)**


 **Target Displacement (units)**

 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 6.1.8 Single Axis Group Position Current Get.vi

Reads the Single Axis current position (Set point Position – Position Error).

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Current Position (units)**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 6.1.9 Single Axis Group Corrector Output Get.vi

Reads the Single Axis corrector output

### Connector Pane



### Controls and indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Group Name (250 c max)**

**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

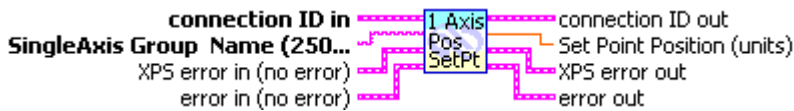
**Corrector Output (units)**

**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 6.1.10 Single Axis Group Position Setpoint Get.vi

Reads the Set point Position (profiler position) of the Single Axis.

### Connector Pane



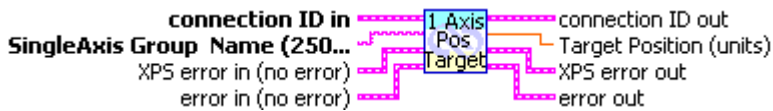
### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Set Point Position (units)**
  -  **XPS error out** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.









## 6.1.11 Single Axis Group Position Target Get.vi

Reads the Single Axis target position.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Target Position (units)**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.










## 6.1.12 Single Axis Slave Mode Disable.vi

Disables the slave mode. The motion profile is set to the previous motion profile.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








### 6.1.13 Single Axis Slave Mode Enable.vi

Enables the slave mode only if the "SingleAxis" group is ready. The current motion profile is saved and becomes "SlaveMotionProfileGenerator".

#### Connector Pane



#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


## 6.1.14 Single Axis Slave Parameters Get.vi


Returns the slave parameters (Positioner Name and Ratio)

### Connector Pane





### Controls and indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Group Name (250 c max)**

 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Ratio**

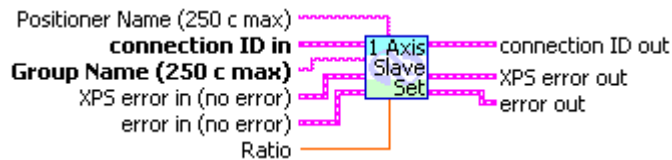
 **Positioner Name (250 c max)**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.










## 6.1.15 Single Axis Slave Parameters Set.vi

Sets the slave parameters : the slave must be a "Single Axis" group and the master must be a positioner. The slave will follow the master at the ratio that is applied. The slave-master mode is activated only after the call of "Single Axis Slave Mode Enable" VI.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **Ratio**
  -  **Positioner Name (250 c max)**
  -  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

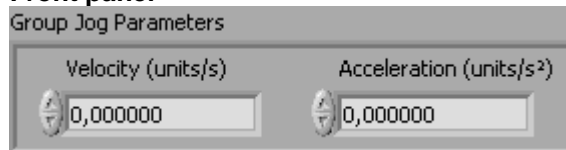
## 6.2 Controls description



### 6.2.1 Single Group Jog Control.ctl

This control is used by **Single Axis Group Jog Parameters Set**

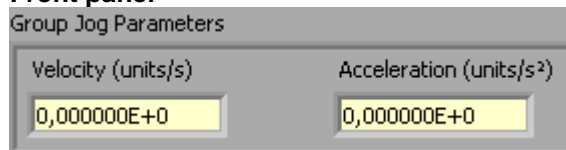
#### Front panel



### 6.2.2 Single Group Jog Indicator.ctl

This indicator is used by **Single Axis Group Jog Parameters Get**

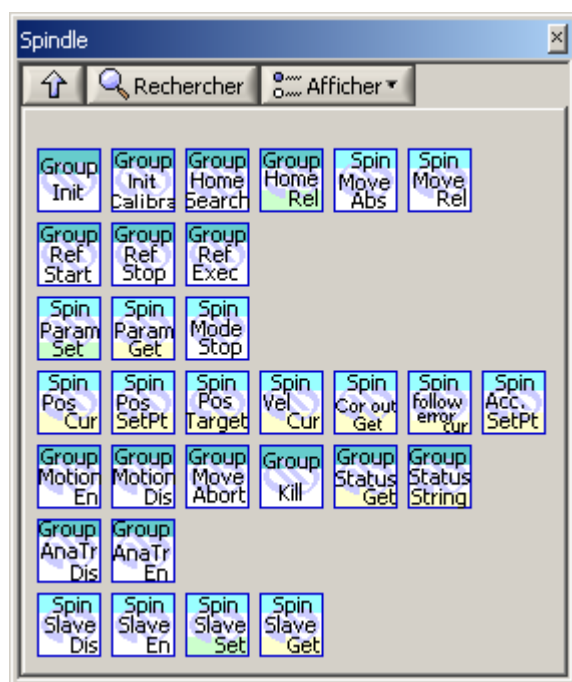
#### Front panel



# 7 Spindle Group



## 7.1 VIs Description



## 7.1.1 Spindle Group Acceleration Setpoint Get.vi

Get current value of setpoint acceleration (Spindle)

### Connector Pane



### Controls and Indicators

**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**Spindle Group Name (250 c max)**

**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

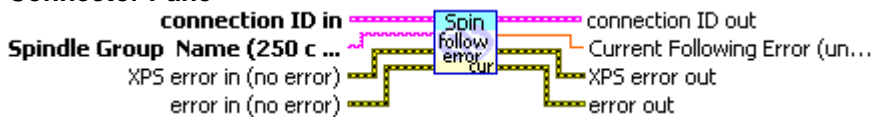
**Setpoint Acceleration (units / s<sup>2</sup>)**

**XPS error out** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


## 7.1.2 Spindle Group Current Following Error Get.vi


This function returns the current following error of the selected spindle group.

### Connector Pane




### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Spindle Group Name (250 c max)**


 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Current Following Error (units)**

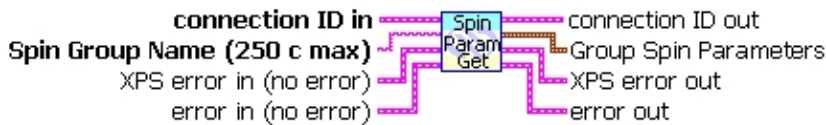
 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.













### 7.1.3 Spindle Group Spin Parameters Get.vi

This VI returns the current velocity and the current acceleration used by SPIN mode

#### Connector Pane



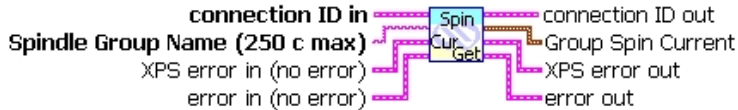
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Group Spin Parameters**
    -  **Velocity (units/s)**
    -  **Acceleration (units/s<sup>2</sup>)**
  -  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 7.1.4 Spindle Group Spin Current Get.vi

This VI returns the current velocity and the current acceleration used by SPIN mode

### Connector Pane



### Controls and Indicators



**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**Group Name (250 c max)**



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**Group Spin Current**



**Velocity (units/s)**



**Acceleration (units/s<sup>2</sup>)**

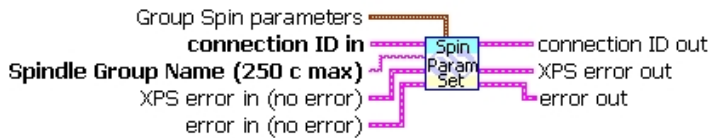


**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.











## 7.1.5 Spindle Group Spin Parameters Set.vi

The JOG mode must be activated (after the call of "Group Jog Mode Enable" VI) This VI allows changing the velocity and acceleration (passed in cluster Group Jog) used by the JOG mode on the fly. If an error occurs, the positioner is stopped with a NULL velocity.

### Connector Pane



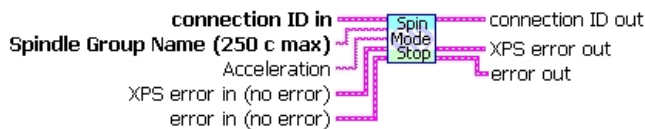
### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **Group Spin parameters**
  -  **Velocity (units/s)**
  -  **Acceleration (units/s<sup>2</sup>)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 7.1.6 Spindle Group Spin Mode Stop.vi

This allows to leave the SPIN mode. It first brakes with the given acceleration, stops the positioner, and then set the group to READY state

### Connector Pane



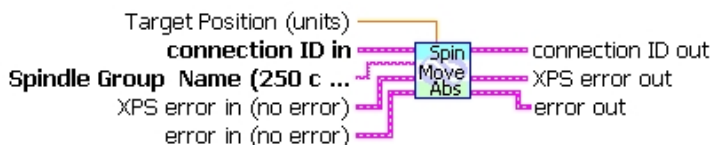
### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **Acceleration (units/s<sup>2</sup>)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 7.1.7 Spindle Group Move Absolute.vi

The selected spindle moves to the target position. The absolute move refers to the acceleration, velocity, minimum Tjerk Time and maximum Tjerk Time predefined in the "Stages.ini" or redefined with the "Positioner...Parameters Set" VI.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **Target Position (units)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

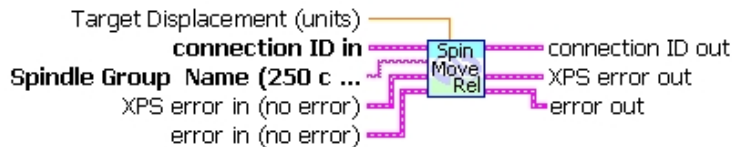
## 7.1.8 Spindle Group Move Relative.vi

The spindle moves to the target position :

Target Position = Current Position + Target Displacement.

The relative move refers to the acceleration, velocity, minimum Tjerk Time and maximum Tjerk Time predefined in the "Stages.ini" or redefined with the "Positioner...Parameters Set" VI.

### Connector Pane



### Controls and indicators



**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**Spindle Group Name (250 c max)**



**Target Displacement (units)**



**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


## 7.1.9 Spindle Group Position Current Get.vi


Reads the Spindle current position (Set point Position – Position Error).

### Connector Pane





### Controls and indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Group Name (250 c max)**


 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Current Position (units)**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 7.1.10 Spindle Group Corrector Output Get.vi

Reads the Spindle corrector output

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Corrector Output (units)**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.











## 7.1.11 Spindle Group Position Setpoint Get.vi

Reads the Set point Position (profiler position) of the Spindle.

### Connector Pane



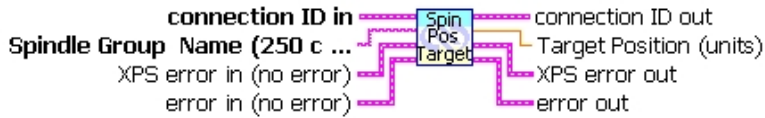
### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Set Point Position (units)**
  -  **XPS error out** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

## 7.1.12 Spindle Group Position Target Get.vi

Reads the Spindle target position.

### Connector Pane



### Controls and indicators



**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**Group Name (250 c max)**



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**Target Position (units)**

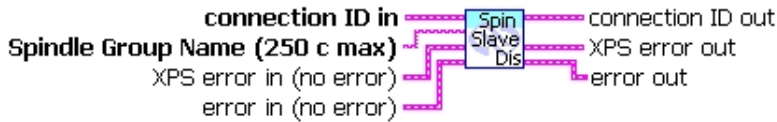


**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








### 7.1.13 Spindle Slave Mode Disable.vi

Disables the slave mode. The motion profile is set to the previous motion profile.

#### Connector Pane



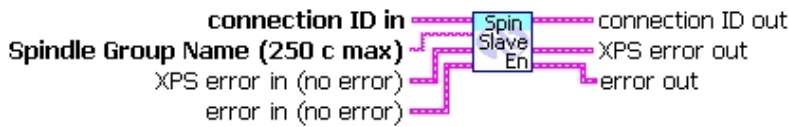
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








### 7.1.14 Spindle Slave Mode Enable.vi

Enables the slave mode only if the "Spindle" group is ready. The current motion profile is saved and becomes "SlaveMotionProfileGenerator".

#### Connector Pane



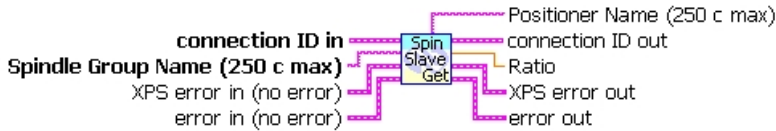
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.










## 7.1.15 Spindle Slave Parameters Get.vi

Returns the slave parameters (Positioner Name and Ratio)

### Connector Pane



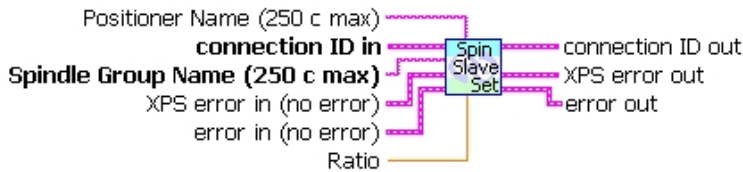
### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Ratio**
-  **Positioner Name (250 c max)**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.










## 7.1.16 Spindle Slave Parameters Set.vi

Sets the slave parameters : the slave must be a "Spindle" group and the master must be a Spindle positioner. The slave will follow the master at the ratio that is applied. The slave-master mode is activated only after the call of "Spindle Slave Mode Enable" VI.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **Ratio**
  -  **Positioner Name (250 c max)**
  -  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

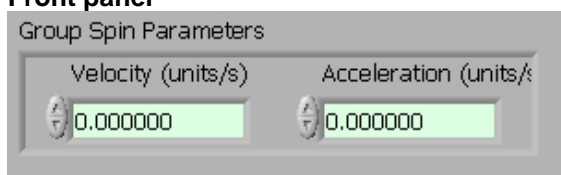
## 7.2 Controls description



### 7.2.1 Single Group Spin Control.ctl

This control is used by **Spindle Group Spin Parameters Set**

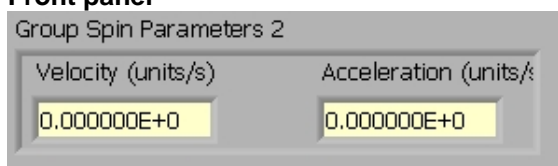
#### Front panel



### 7.2.2 Single Group Spin Indicator.ctl

This indicator is used by **Spindle Group Spin Parameters Get**

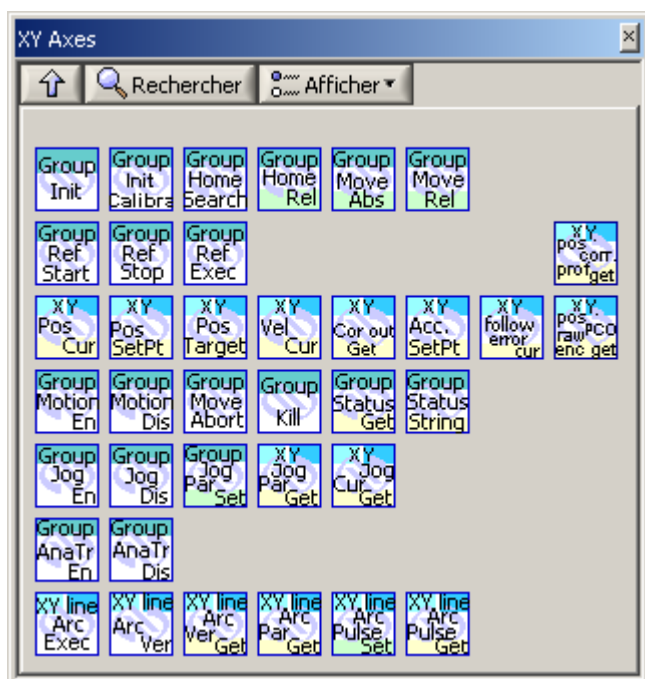
#### Front panel



# 8 XY group



## 8.1 Vis description













## 8.1.1 XY Group Acceleration Setpoint Get.vi

Get current value of setpoint acceleration (XY)

### Connector Pane



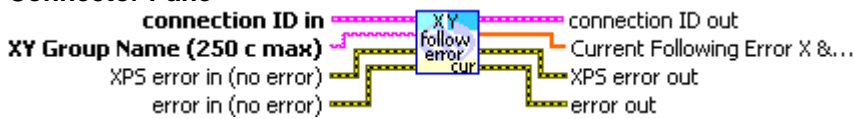
### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.
  
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
  
-  **XY Group Name (250 c max)**
  
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
  
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
  
-  **Setpoint Acceleration X & Y (units/s<sup>2</sup>)**











## 8.1.2 XY Group Current Following Error Get.vi

This function returns the current following error for X, Y positioners of the selected XY group.

### Connector Pane



### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.
  
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
  
-  **XY Group Name (250 c max)**
  
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
  
-  **Current Following Error X & Y (units)**
  -  **[0] Current Following Error X**
  -  **[1] Current Following Error Y**
  
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 8.1.3 XY Group Jog Parameters Get.vi

This VI returns the current velocity and the current acceleration (in **cluster Group Jog**) used by JOG mode for each positioner.

### Connector Pane



### Controls and indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Group Name (250 c max)**

**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**XPS error out** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Group Jog Parameters X & Y**

**Group Jog Parameters**

**Acceleration (units/s<sup>2</sup>)**

**Velocity (units/s)**

## 8.1.4 XY Group Jog Current Get.vi

This VI returns the current velocity and the current acceleration (in **cluster Group Jog**) used by JOG mode for each positioner.

### Connector Pane



### Controls and Indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs..

**Group Name (250 c max)**

**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**XPS error out** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Group Jog Current X & Y**

**Group Jog Parameters**

**DBL** Velocity (units/s)

**DBL** Acceleration (units/s<sup>2</sup>)

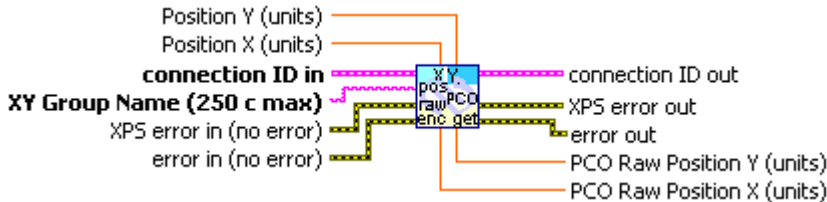
## 8.1.5 XY Group Position PCO Raw Encoder Get.vi

This function allows getting the X and Y PCO raw encoder positions from the user X and Y corrected positions.


### NOTE:


This function is only allowed with a XY group.

### Connector Pane



### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **XY Group Name (250 c max)**

 **Position X (units)**


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Position Y (units)**

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

 **PCO Raw Position X (units)**

 **PCO Raw Position Y (units)**


## 8.1.6 Axis Group Jog parameters Set.vi


The JOG mode must be activated (after the call of "Group Jog Mode Enable" VI). This VI allows changing the velocity and acceleration used by the JOG mode on each positioner (These values are passed by an array of cluster Group Jog) on the fly. If an error occurs, each positioner is stopped with a NULL velocity.

### Connector Pane



### Controls and indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **Group Name (250 c max)**


 **Group Jog Parameters**


 **Group Jog parameters**

 **Velocity (units/s)**


 **Acceleration (units/s<sup>2</sup>)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

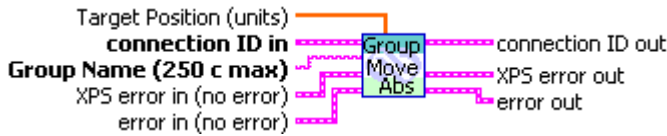
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.










## 8.1.7 Axis Group Move Absolute.vi

The selected XY group moves to the X and Y target positions. The absolute move refers to the acceleration, velocity, minimum Jerk Time and maximum Jerk Time predefined in the "Stages.ini" or redefined with the "Positioner...Parameters Set" VI.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **Target Position (units)**  
 **Target Position**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
 The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 8.1.8 Axis Group Move Relative.vi

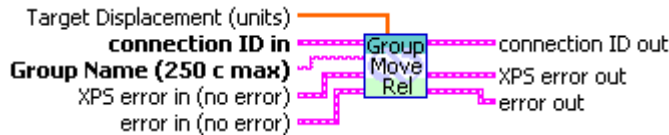
The selected XY group moves to the X and Y target positions :

Target Position X = Current Position X + Target Displacement X

Target Position Y = Current Position Y + Target Displacement Y

The relative move refers to the acceleration, velocity, minimum JerkTime and maximum Jerk Time predefined in the "Stages.ini" or redefined with the Positionerr...Parameters Set" VI.

### Connector Pane



### Controls and indicators

- connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  - error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  - Group Name (250 c max)**
  - Target Displacement (units)**
  - Target Displacement**
  - XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  - connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  - error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
- XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.



## 8.1.9 XY Group Position Corrected Profiler Get.vi

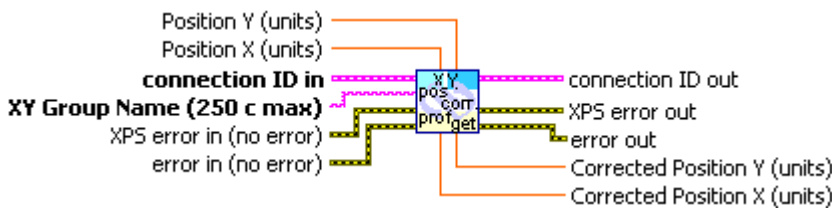
This function allows correct a theoretical position.

This corrected position is the theoretical position recalculated with the XY mapping correction.












This function applies the XY mapping on the theoretical user positions and returns the corrected positions. These corrected profiler positions (X and Y) take the XY mapping correction into account.

**NOTE:** This function is only allowed with a XY group.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies theTCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XY Group Name (250 c max)**
-  **Position X (units)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Position Y (units)**
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
-  **Corrected Position X (units)**
-  **Corrected Position Y (units)**

## 8.1.10 XY Group Position Current Get.vi

Reads the X and Y current positions (Set point Position – Position Error).

### Connector Pane



### Controls and indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Group Name (250 c max)**

**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**Current Position X & Y (units)**

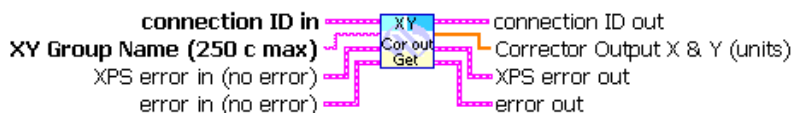
**Current Position**

**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


## 8.1.11 XY Group Corretor Output Get.vi


Reads the X and Y corrector outputs.

### Connector Pane





### Controls and indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Group Name (250 c max)**

 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Corrector outputs X & Y (units)**

 **Corrector output**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.










## 8.1.12 XY Group Position Setpoint Get.vi

Reads X and Y Set point Positions (profiler position).

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
-  **Set point Position X & Y (units)**
-  **Set Point Position**

### 8.1.13 XY Group Position Target Get.vi

Reads the X and Y target positions.

#### Connector Pane



#### Controls and indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Group Name (250 c max)**

**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**Target Position X & Y (units)**

**Target Position**

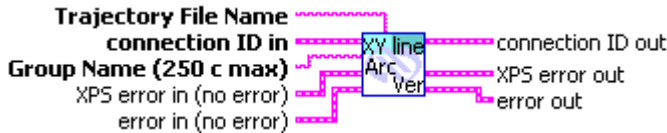
**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 8.1.14 XY Line Arc Verification.vi









XY LineArc trajectory file verification.

The result needs to be read with the "XY LineArc Verification Result Get" VI. This VI is independent from the XY Line Arc Execution VI, so the user does not need to execute this VI before executing the XY Line Arc Execution. The trajectory file must be stored in the "\\ADMIN\\Public\\Trajectory" controller directory.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **File Name**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.














## 8.1.15 XY Line Arc Verification Result Get.vi

This VI is used to get the results previously calculated by "XY Line Arc Verification" VI, positioner by positioner. The results include the position limits (min and max values), max trajectory curved velocity, max trajectory curved acceleration (in cluster Verification Result). This VI doesn't work if the trajectory file has not been previously examined

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Positioner Name (250 c max)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Trajectory File Name**
  -  **XY Line Arc Verification Result**
    -  **Minimum Position (units)**
    -  **Maximum Position (units)**
    -  **Maximum Velocity (units/s)**
    -  **Maximum Acceleration (units/s<sup>2</sup>)**
  -  **XPS error out** The **XPS error out** cluster passes error information out of a VI to be used by other VIs.













## 8.1.16 XY Line Arc Execution.vi

Executes an XY LineArc trajectory from a trajectory data file passed in cluster XY Trajectory. The trajectory file must be stored in the "ADMIN\Public\Trajectory" controller directory.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **Trajectory File Name**
  -  **XY Line Arc Trajectory**
  -  **Velocity (units/s)**
  -  **Acceleration (units/s<sup>2</sup>)**
  -  **Number of times of execution**
  -  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.



## 8.1.17 XY Line Arc Parameters Get.vi

Gets the XY Line Arc trajectory parameters (trajectory name, cluster XY Trajectory : trajectory velocity, trajectory acceleration, current executing element number). This VI works only during the period of trajectory execution.

### Connector Pane



### Controls and indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Group Name (250 c max)**

**XPS error in (no error)** The **XPS error in** cluster can accept XPS error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**Trajectory File Name**

**XY Line Arc Trajectory**

**Velocity (units/s)**

**Acceleration (units/s<sup>2</sup>)**

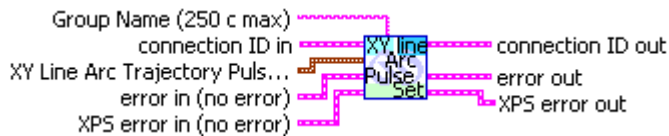
**Current Element Number**

**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.












## 8.1.18 XY Line Arc Pulse Output Set.vi

Configure and activate the pulse generation on XY LineArc trajectory (cluster XY Line Arc Pulse Output : Start length, end length, path length interval). Once the pulse generation is done, it's stopped. To reactivate it, re-call this API.

### Connector Pane



### Controls and indicators

-  **Group Name (250 c max)**
  
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
  
-  **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies theTCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.
  
-  **XY Line Arc Trajectory Pulse output**
  -  **StartLength**
  -  **EndLength**
  -  **PathLengthInterval**
  
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
  
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
  
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
  
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.


## 8.1.19 XY Line Arc Pulse Output Get.vi


Get the last configuration of pulse generation on XY LineArc trajectory (cluster XY Line Arc Pulse Output : start length, end length, path length interval).

### Connector Pane




### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **XY Group Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept XPS error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

 **XY Line Arc Trajectory Pulses**

 **StartLength**

 **EndLength**

 **PathLengthInterval**

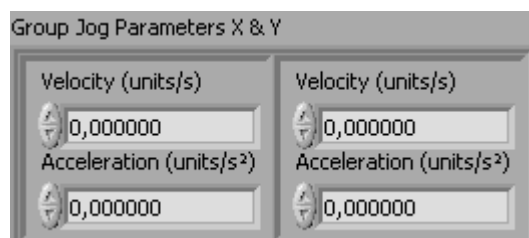
## 8.2 Controls description



### 8.2.1 XY Group Jog Control.ctl

This control is used by **Axis Group Jog Parameters Set** (in menu XY axes)

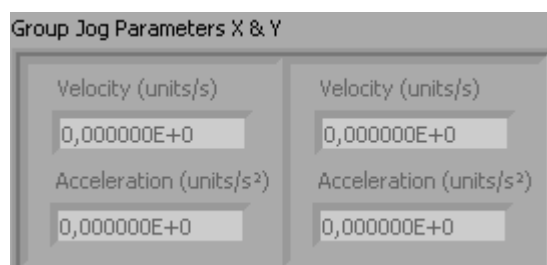
#### Front panel



### 8.2.2 XY Group Jog Indicator.ctl

This indicator is used by **XY Group Jog Parameters Get** (in menu XY axes)

#### Front panel



### 8.2.3 XY Current Position.ctl

This indicator is used by **XY Group Position Current Get** (in menu XY axes)

### Front panel

Current Position X & Y (units)

0,0000000000E+0	0,0000000000E+0
-----------------	-----------------

## 8.2.4 XY Set Point Position.ctl

This indicator is used by **XY Group Position Setpoint Get** (in menu XY axes)

### Front panel

Set point Position X & Y (units)

0,0000000000E+0	0,0000000000E+0
-----------------	-----------------

## 8.2.5 XY Target Position Indicator.ctl

This indicator is used by **XY Group Position Target Get** (in menu XY axes)

### Front panel

Target Position X & Y (units)

0,0000000000E+0	0,0000000000E+0
-----------------	-----------------

## 8.2.6 XY Target Position control.ctl

This control is used by **Axis Group Move Absolute** (in menu XY axes)

### Front panel

Target Position X & Y (units)

0,000000	0,000000
----------	----------

## 8.2.7 XY Target Displacement.ctl

This control is used by **Axis Group Move Relative** (in menu XY axes)

### Front panel

Target Displacement X & Y (units)

0,000000	0,000000
----------	----------

## 8.2.8 Axis Verification Result.ctl

This indicator is used by **XY Line Arc Verification Result Get** (in menu XY axes)

### Front panel

Verification result

Minimum Position (units)	Maximum Position (units)	Maximum Velocity (units/s)	Maximum Acceleration (units/s <sup>2</sup> )
0,000000E+0	0,000000E+0	0,000000E+0	0,000000E+0

## 8.2.9 XY Line Arc Trajectory Control.ctl

This control is used by **XY Line Arc Execution (in menu XY axes)**

### Front panel

XY Line Arc Trajectory

Velocity (units/s)	Acceleration (units/s <sup>2</sup> )	Number of times of execution
0,000000	0,000000	0,000000

## 8.2.10 XY Line Arc Trajectory Indicator.ctl

This indicator is used by **XY Line Arc Parameters Get (in menu XY axes)**

### Front panel

XY Line Arc Trajectory

Velocity (units/s)	Acceleration (units/s <sup>2</sup> )	Current Element Number
0,000000E+0	0,000000E+0	0,000000E+0

## 8.2.11 XY Line Arc Pulse Output Control.ctl

This indicator is used by **XY Line Arc Pulse Output Set (in menu XY axes)**

### Front panel

XY Line Arc Trajectory Pulse output

StartLength	EndLength	PathLengthInterval
0.000000	0.000000	0.000000

## 8.2.12 XY Line Arc Pulse Output Indicator.ctl

This indicator is used by **XY Line Arc Pulse Output Get (in menu XY axes)**

### Front panel

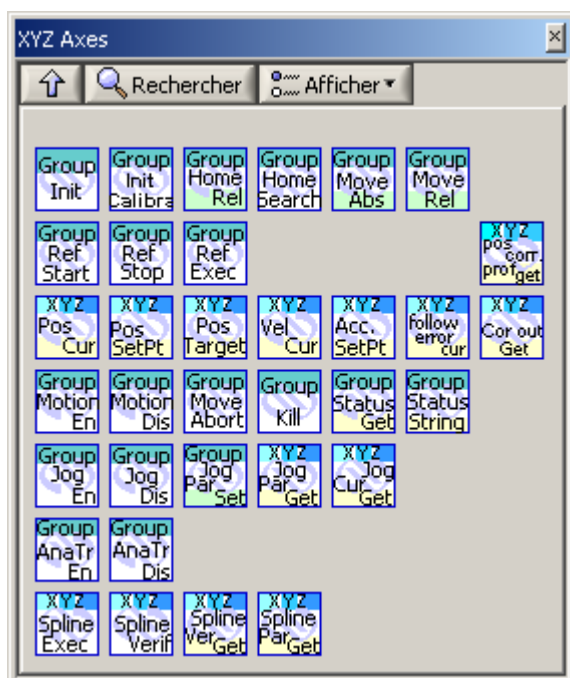
XY Line Arc Trajectory Pulses

StartLength	EndLength	PathLengthInterval
0.000000E+0	0.000000E+0	0.000000

## 9 XYZ group



### 9.1 Vis description



### 9.1.1 XYZ Group Acceleration Setpoint Get.vi

Get current value of setpoint acceleration (XYZ)

#### Connector Pane



#### Controls and Indicators

**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**XYZ Group Name (250 c max)**

**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

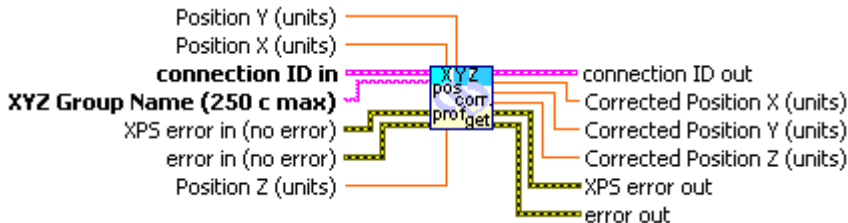
**Setpoint Acceleration X, Y & Z (units/s<sup>2</sup>)**
















### 9.1.2 XYZ Group Position Corrected Profiler Get.vi

This function allows correcting a theoretical position. This corrected position is the theoretical position recalculated with the XYZ mapping correction. The XYZ mapping is applied on the theoretical user positions and the corrected positions are returned.

#### Connector Pane



#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifier of the logging file if log to file is active. See the TCP Open VI for more information.
-  **XYZ Group Name (250 c max)**
-  **User Position X (units)**
-  **User Position Y (units)**
-  **User Position Z (units)**
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
-  **Corrected Position X (units)**
-  **Corrected Position Y (units)**
-  **Corrected Position Z (units)**


### 9.1.3 XYZ Group Current Following Error Get.vi


This function returns the current following error for X, Y, Z positioners of the selected XYZ group.

#### Connector Pane




#### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **XYZ Group Name (250 c max)**

 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

 **Current Following Error X, Y & Z (units)**

 **[0] Current Following Error X**

 **[1] Current Following Error Y**

 **[2] Current Following Error Z**












## 9.1.4 XYZ Group Jog Parameters Get.vi

This VI returns the current velocity and the current acceleration (in array of XYZ Group Jog) used by JOG mode for each positioner.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
-  **Group Jog Parameters X,Y & Z**
  -  **Group Jog Parameters**
    -  **Acceleration (units/s<sup>2</sup>)**
    -  **Velocity (units)**


## 9.1.5 XYZ Group Jog Current Get.vi


This VI returns the current velocity and the current acceleration (in array of XYZ Group Jog) used by JOG mode for each positioner.

### Connector Pane





### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **Group Name (250 c max)**

 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

 **Group Jog Current X,Y & Z**

 **Group Jog Parameters**

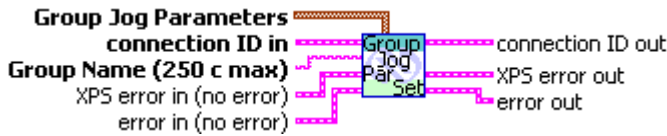
 **Velocity (units)**

 **Acceleration (units/s<sup>2</sup>)**












## 9.1.6 Axis Group Jog parameters Set.vi

The JOG mode must be activated (after the call of "Group Jog Mode Enable" VI). This VI allows changing the velocity and acceleration used by the JOG mode on each positioner (These values are passed by an array of cluster Group Jog) on the fly. If an error occurs, each positioner is stopped with a NULL velocity.

### Connector Pane



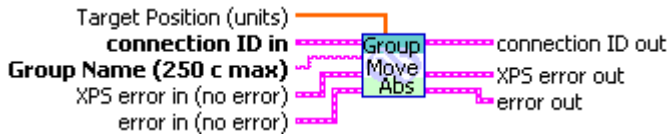
### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **Group Jog Parameters**
    -  **Group Jog parameters**
      -  **Velocity (units/s)**
      -  **Acceleration (units/s<sup>2</sup>)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.










## 9.1.7 Axis Group Move Absolute.vi

The selected XY group moves to the X and Y target positions. The absolute move refers to the acceleration, velocity, minimum Tjerk Time and maximum Tjerk Time predefined in the "Stages.ini" or redefined with the "Positioner...Parameters Set" VI.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **Target Position (units)**  
 **Target Position**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.)
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 9.1.8 Axis Group Move Relative.vi

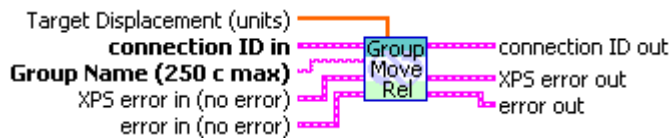
The selected XY group moves to the X and Y target positions :

Target PositionX = Current Position X + Target DisplacementX

Target PositionY = Current Position Y + Target Displacement Y

The relative move refers to the acceleration, velocity, minimum JerkTime and maximum JerkTime predefined in the "Stages.ini" or redefined with the Positionerr...Parameters Set" VI.

### Connector Pane



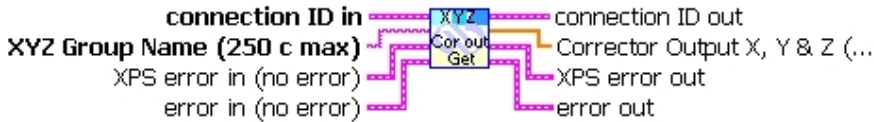
### Controls and indicators

- connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies theTCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  - error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  - Group Name (250 c max)**
  - Target Displacement (units)**
  - Target Displacement**
  - XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  - connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  - error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
- XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.













## 9.1.9 XYZ Group Corrector Output Get.vi

Reads the X, Y, Z corrector output.

### Connector Pane



### Controls and indicators

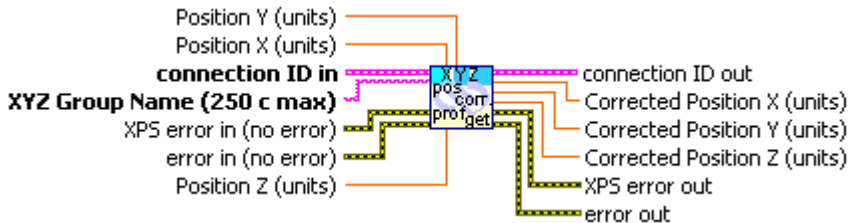
-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **status** The **status** boolean is either TRUE (X) for a XPS error, or FALSE (checkmark) for no XPS error.
-  **code** The **code** input identifies the XPS error.
-  **source** The **source** string describes the origin of the XPS error.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
-  **Corrector outputs X, Y & Z (units)**
-  **Corrector outputs**




### 9.1.10 XYZ Group Position Corrected Profiler Get.vi

This function allows correcting a theoretical position. This corrected position is the theoretical position recalculated with the XYZ mapping correction. The XYZ mapping is applied on the theoretical user positions and the corrected positions are returned.

#### Connector Pane



#### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifier of the logging file if log to file is active. See the TCP Open VI for more information.


 **XYZ Group Name (250 c max)**


 **User Position X (units)**


 **User Position Y (units)**


 **User Position Z (units)**

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs. The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error information out of a VI to be used by other VIs. The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

 **Corrected Position X (units)**

 **Corrected Position Y (units)**

 **Corrected Position Z (units)**













## 9.1.11 XYZ Group Position Current Get.vi

Reads the X, Y, Z current positions (Set point Position – Position Error).

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **status** The **status** boolean is either TRUE (X) for a XPS error, or FALSE (checkmark) for no XPS error.
  -  **code** The **code** input identifies the XPS error.
  -  **source** The **source** string describes the origin of the XPS error.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
  -  **Current Position X, Y & Z (units)**
  -  **Current Position**










### 9.1.12 XYZ Group Position Setpoint Get.vi

This VI reads the Set point positions (profiler position) of the three positioners from the XYZ group.

#### Connector Pane



#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
-  **Set point Position X, Y & Z (units)**
-  **Set Point Position (units)**










### 9.1.13 XYZ Group Position Target Get.vi

Reads the three positioner Target positions (profiler position) from XYZ group.

#### Connector Pane



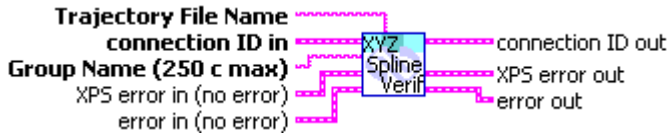
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
-  **Target Position X, Y & Z (units)**
-  **Target Position (units)**









### 9.1.14 XYZ Spline Verification.vi

XYZ Spline trajectory file verification. The result needs to be read with the VI "XYZ Spline Verification Result Get". This VI is independent from the "XYZ Spline Execution" VI, so the user does not need to execute this VI before executing the XYZ Spline Execution. The trajectory file must be stored in the "ADMIN\Public\Trajectory" controller directory.

#### Connector Pane



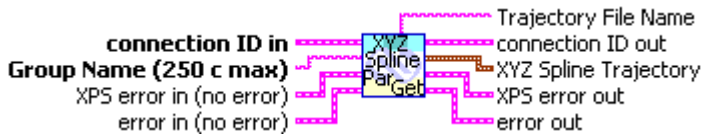
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **Trajectory File Name**
  -  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.














### 9.1.15 XYZ Spline Verification Result Get.vi

This VI is used to get the results previously calculated by "XYZ Spline Verification" VI, positioner by positioner. The results include the position limits (min and max values), max trajectory curved velocity, max trajectory curved acceleration. This VI doesn't work if the trajectory file has not been previously examined.

#### Connector Pane



#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Positioner Name (250 c max)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Trajectory File Name**
  -  **Verification result**
    -  **Minimum Position (units)**
    -  **Maximum Position (units)**
    -  **Maximum Velocity (units/s)**
    -  **Maximum Acceleration (units/s<sup>2</sup>)**
  -  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.












## 9.1.16 XYZ Spline Execution.vi

Executes an XYZ Spline trajectory from a trajectory data file (passed in **cluster Trajectory**). The trajectory file must be stored in the "\\ADMIN\\Public\\Trajectory" controller directory.

### Connector Pane



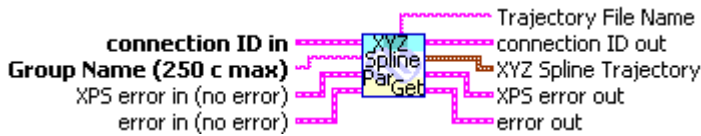
### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **Trajectory File Name**
-  **XYZ Spline Trajectory**
-  **Velocity (units/s)**
-  **Acceleration (units/s<sup>2</sup>)**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


## 9.1.17 XYZ Spline Parameters Get.vi


Gets the XYZ Spline trajectory parameters (in cluster XYZ Spline Trajectory : trajectory name, trajectory velocity, trajectory acceleration, current executing element number). This VI works only during the period of trajectory execution.

### Connector Pane





### Controls and indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Group Name (250 c max)**

 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **Trajectory File Name**

 **XYZ Spline Trajectory**

 **Velocity (units/s)**

 **Acceleration (units/s<sup>2</sup>)**

 **Current Element Number**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.



## 9.2 Controls description



### 9.2.1 XYZ Group Jog Control.ctl

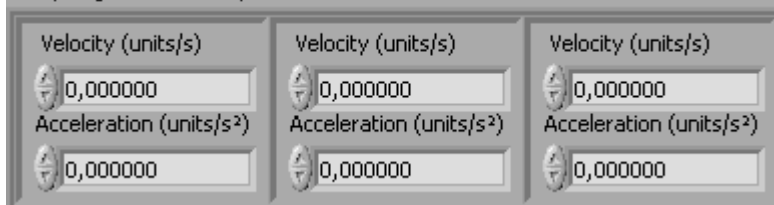
This control is used by **Axis Group Jog Parameters Set** (in menu XYZ axes)

#### Connector Pane



#### Front panel

Group Jog Parameters X, Y & Z



### 9.2.2 XYZ Group Jog Indicator.ctl

This indicator is used by **XYZ Group Jog Parameters Get** (in menu XYZ axes)

#### Connector Pane



#### Front panel

Group Jog Parameters X, Y & Z

Velocity (units/s) 0,000000E+0	Velocity (units/s) 0,000000E+0	Velocity (units/s) 0,000000E+0
Acceleration (units/s <sup>2</sup> ) 0,000000E+0	Acceleration (units/s <sup>2</sup> ) 0,000000E+0	Acceleration (units/s <sup>2</sup> ) 0,000000E+0

### 9.2.3 XYZ Set Point Position.ctl

This indicator is used by **XYZ Group Position Setpoint Get** (in menu XYZ axes)

#### Connector Pane



#### Front panel

Set point Position X, Y & Z (units)

0,0000000000E+0	0,0000000000E+0	0,0000000000E+0
-----------------	-----------------	-----------------

### 9.2.4 XYZ Current Position.ctl

This indicator is used by **XYZ Group Position Current Get** (in menu XYZ axes)

#### Connector Pane



#### Front panel

Current Position X, Y & Z (units)

0,0000000000E+0	0,0000000000E+0	0,0000000000E+0
-----------------	-----------------	-----------------

### 9.2.5 XYZ Target Position Indicator.ctl

This indicator is used by **XYZ Group Position Target Get** (in menu XYZ axes)

#### Connector Pane



#### Front panel

Target Position X, Y & Z (units)

0,0000000000E+0	0,0000000000E+0	0,0000000000E+0
-----------------	-----------------	-----------------

### 9.2.6 XYZ Target Position Control.ctl

This control is used by **Axis Group Move Absolute** (in menu XYZ axes)

#### Connector Pane



### Front panel

Target Position X, Y & Z (units)

<input type="text" value="0,000000"/>	<input type="text" value="0,000000"/>	<input type="text" value="0,000000"/>
---------------------------------------	---------------------------------------	---------------------------------------

## 9.2.7 XYZ Target Displacement.ctl

This control is used by **Axis Group Move Relative** (in menu XYZ axes)

### Connector Pane

XYZ  
Target  
Disp

### Front panel

Target Displacement X, Y & Z (units)

<input type="text" value="0,000000"/>	<input type="text" value="0,000000"/>	<input type="text" value="0,000000"/>
---------------------------------------	---------------------------------------	---------------------------------------

## 9.2.8 Axis Verification Result.ctl

This indicator is used by **XYZ Spline Verification Result Get** (in menu XYZ axes)

### Connector Pane

Axis  
Verif  
Result

### Front panel

Verification result

Minimum Position (units)	Maximum Position (units)	Maximum Velocity (units/s)	Maximum Acceleration (units/s <sup>2</sup> )
<input type="text" value="0,000000E+0"/>	<input type="text" value="0,000000E+0"/>	<input type="text" value="0,000000E+0"/>	<input type="text" value="0,000000E+0"/>

## 9.2.9 XYZ Spline Trajectory Control.ctl

This control is used by **XYZ Spline Execution** (in menu XYZ axes)

### Connector Pane

XYZ  
Spline  
Trajec

### Front panel

XYZ Spline Trajectory

Velocity (units/s)	Acceleration (units/s <sup>2</sup> )
<input type="text" value="0,000000"/>	<input type="text" value="0,000000"/>

## 9.2.10 XYZ Spline Trajectory Indicator.ctl

This indicator is used by **XYZ Spline Parameters Get** (in menu XYZ axes)

### Connector Pane

XYZ  
Spline  
Trajec

### Front panel

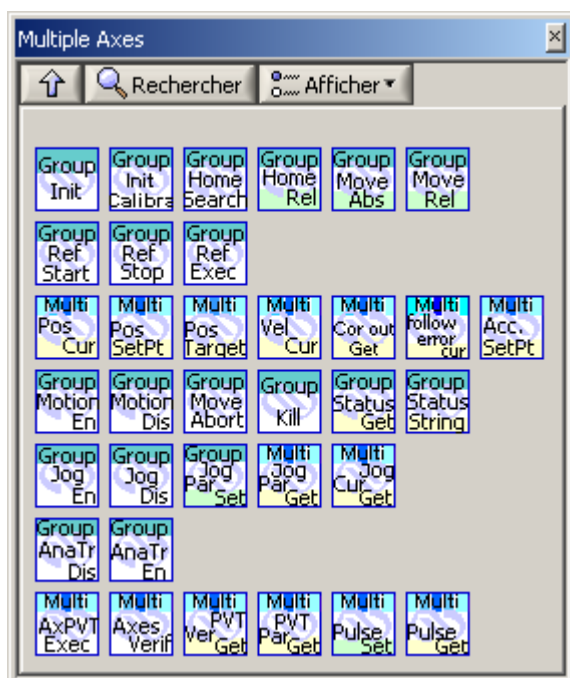
XYZ Spline Trajectory

Velocity (units/s)	Acceleration (units/s <sup>2</sup> )	Current Element Number
0,000000E+0	0,000000E+0	0

# 10 Multiple Axes Group



## 10.1 Vis description












## 10.1.1 Multiple Axes Group Acceleration Setpoint Get.vi

Get current value of setpoint acceleration (Multiple Axes)

### Connector Pane



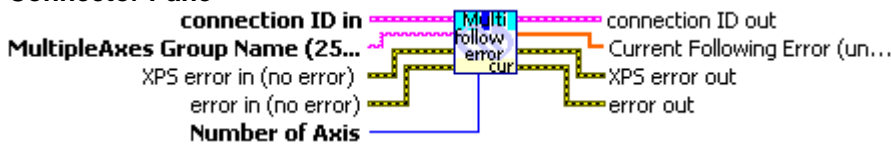
### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **MultipleAxes Group Name (250 c max)**
-  **Number of Axis**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Setpoint Acceleration (units / s<sup>2</sup>)**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.














## 10.1.2 Multiple Axes Group Current Following Error Get.vi

This function returns the current following error for one or all positioners of the selected group.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies theTCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.
  
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
  
-  **MultipleAxes Group Name (250 c max)**
  
-  **Number of Axis [1:8]**
  
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
  
-  **Current Following Error (units)**
  -  **[0] Current Following Error of positioner #1**
  -  **[1] Current Following Error of positioner #2**
  -  ...
  -  **[7] Current Following Error of positioner #8**
  
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


### 10.1.3 Multiple Axes Group Jog Parameters Get.vi


This VI returns the current velocity and the current acceleration used by JOG mode for each positioner in array of cluster (Group Jog)

#### Connector Pane




#### Controls and indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs..

 **Group Name (250 c max)**

 **Number of Axis**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Group Jog Parameters**

 **Group Jog Parameters 2**

 **Velocity (units/s)**

 **Acceleration (units/s<sup>2</sup>)**

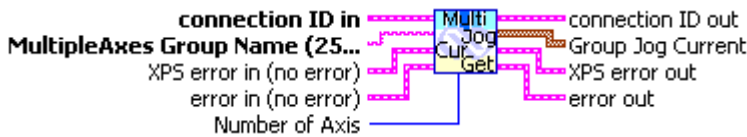
 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.




### 10.1.4 Multiple Axes Group Jog Current Get.vi


This VI returns the current velocity and the current acceleration used by JOG mode for each positioner in array of cluster (Group Jog)

#### Connector Pane




#### Controls and Indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Group Name (250 c max)**

 **Number of Axis**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Group Jog Current**

 **Group Jog Parameters 2**

 **Velocity (units/s)**

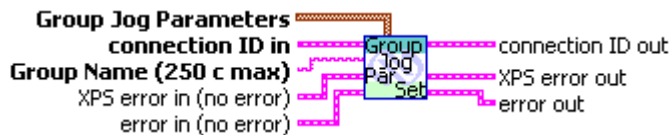
 **Acceleration (units/s<sup>2</sup>)**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.












### 10.1.5 Axis Group Jog parameters Set.vi

The JOG mode must be activated (after the call of "Group Jog Mode Enable" VI). This VI allows changing the velocity and acceleration used by the JOG mode on each positioner (These values are passed by an array of cluster Group Jog) on the fly. If an error occurs, each positioner is stopped with a NULL velocity

#### Connector Pane



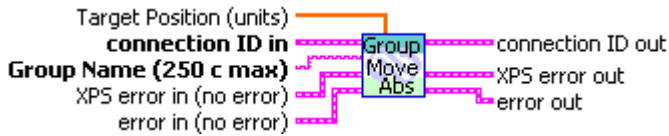
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **Group Name (250 c max)**
  -  **Group Jog Parameters**
    -  **Group Jog parameters**
      -  **Velocity (units/s)**
      -  **Acceleration (units/s<sup>2</sup>)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.










### 10.1.6 Axis Group Move Absolute.vi

The axes from the selected group moves to the target positions. The absolute move refers to the acceleration, velocity, minimum Jerk Time and maximum Jerk Time predefined in the "Stages.ini" or redefined with the "Positioner...Parameters Set" VI.

#### Connector Pane



#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **Target Position (units)**  
 **Target Position**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
 The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

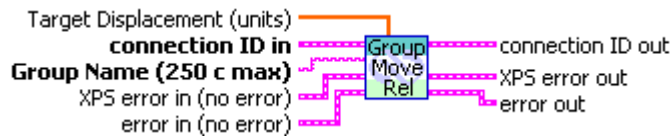
### 10.1.7 Axis Group Move Relative.vi

The axes from the selected group moves to the target positions :










Target Position = Current Position + Target Displacement

The relative move refers to the acceleration, velocity, minimum Jerk Time and maximum JerkTime predefined in the "Stages.ini" or redefined with the Positioner...Parameters Set" VI.

#### Connector Pane



#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **Target Displacement (units)**  
 **Target Displacement**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
 The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 10.1.8 Multiple Axes Group Corrector Output Get.vi

Reads the Multiple Axes group corrector output.

### Connector Pane



### Controls and indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Group Name (250 c max)**

**Number of Axis**

**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**Corrector outputs (units)**

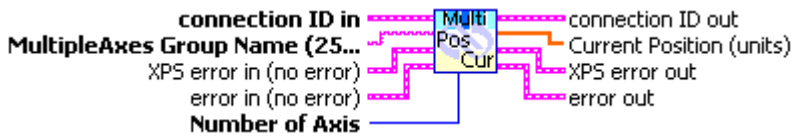
**Corrector output**

**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

### 10.1.9 Multiple Axes Group Position Current Get.vi

Reads the Multiple Axes group current position (Set point Position - Position Error).

#### Connector Pane



#### Controls and indicators

- connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
- error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
- Group Name (250 c max)**
- Number of Axis**
- XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
- connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
- error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
- Current Position (units)**  
  
 **Current Position**
- XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.











### 10.1.10 Multiple Axes Group Position Setpoint Get.vi

Reads Multiple Axes group Set point Position (profiler position).

#### Connector Pane



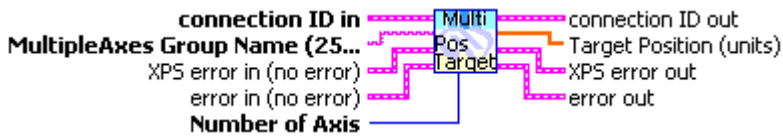
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **Number of Axis**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Set point Position (units)**
-  **Set Point Position**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.











### 10.1.11 Multiple Axes Group Position Target Get.vi

This VI reads Multiple Axes group target position (profiler position).

#### Connector Pane



#### Controls and indicators

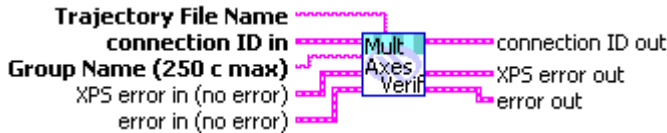
-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **Number of Axis**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Target Position (units)**
-  **Target Position**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.











### 10.1.12 Multiple Axes PVT Verification.vi

Multiple axes PVT trajectory verification. The result needs to be read with the VI "Multiple Axes PVT Verification Result Get". This VI is independent from the Multiple Axes PVT Execution" VI, so the user does not need to execute this VI before executing the Multiple Axes PVT Execution. The trajectory file must be stored in the "\\ADMIN\\Public\\Trajectory" controller directory.

#### Connector Pane



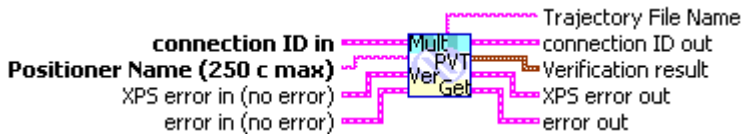
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **Trajectory File Name**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


### 10.1.13 Multiple Axes PVT Verification Result Get.vi


This VI is used to get results previously calculated by "Multiple Axes PVT Verification" VI, positioner by positioner. The results include minimum and maximum position limits, positioner maximum velocity, positioner maximum acceleration. This VI doesn't work if the trajectory file has not been previously examined.

#### Connector Pane





#### Controls and indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **XPS error out** cluster passes XPS error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Trajectory File Name**


 **Verification result**

 **Minimum Position (units)**

 **Maximum Position (units)**

 **Maximum Velocity (units/s)**

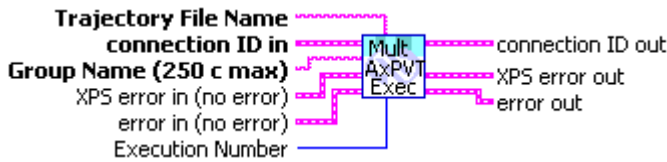
 **Maximum Acceleration (units/s<sup>2</sup>)**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

### 10.1.14 Multiple Axes PVT Execution.vi

Executes a PVT trajectory from a trajectory data file. The trajectory file must be stored in the "ADMIN\Public\Trajectory" controller directory.

#### Connector Pane



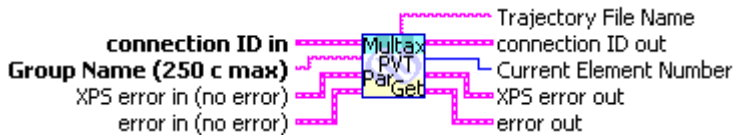
#### Controls and indicators

- connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  - error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  - Group Name (250 c max)**
  - XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  - Trajectory File Name**
  - Execution Number**
  - connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  - error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
- XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.










### 10.1.15 Multiple Axes PVT Parameters Get.vi

Gets the Multiple Axes PVT trajectory parameters (in cluster Multiple Axes PVT Trajectory : trajectory name, current executing element number). This VI works only during the period of trajectory execution.

#### Connector Pane



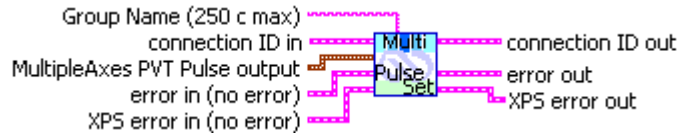
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Group Name (250 c max)**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Trajectory File Name**
-  **Current Element Number**
-  **XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs.












### 10.1.16 Multiple Axes PVT Pulse Output Set.vi

Configure and activate the pulse generation on MultipleAxes PVT trajectory (cluster MultipleAxes PVT Pulse Output : start element, end element, time interval). Once the pulse generation is done, it's stopped. To reactivate it, re-call this API.

#### Connector Pane



#### Controls and indicators

-  **Group Name (250 c max)**
  -  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.
-  **MultipleAxes PVT Pulse output**
    -  **Start Element**
    -  **End Element**
    -  **Time Interval**
  -  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.


### 10.1.17 Multiple Axes PVT Pulse Output Get.vi


Get the last configuration of pulse generation on MultipleAxes PVT trajectory (cluster MultipleAxes PVT Pulse Output : start element, end element, time interval).

#### Connector Pane




#### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **MultipleAxes Group Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept XPS error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

 **MultipleAxes PVT Pulse Output**

 **Start Element**

 **End Element**

 **Time Interval**

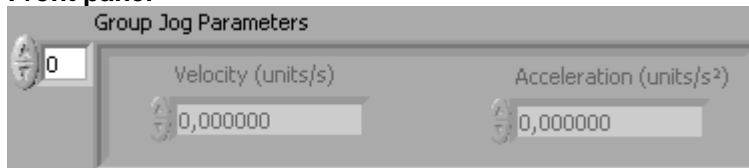
## 10.2 Controls description



### 10.2.1 Multiple Group Jog Control.ctl

This control is used by **Axis Group Jog Parameters Set** (in menu **Multiple axes**)

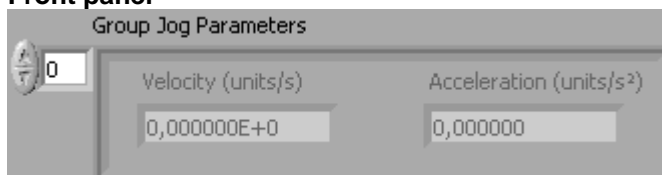
#### Front panel



### 10.2.2 Multiple Group Jog Indicator.ctl

This indicator used by **Multiple Axes Group Jog Parameters Get** (in menu **Multiple axes**)

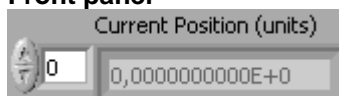
#### Front panel



### 10.2.3 Multiple Current Position.ctl

This indicator is used by **Multiple Axes Group Position Current Get** (in menu **Multiple axes**)

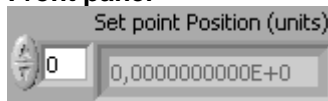
#### Front panel



### 10.2.4 Multiple Set Point Position.ctf

This indicator is used by **Multiple Axes Group Position Setpoint Get** (in menu **Multiple axes**)

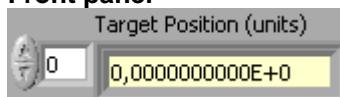
#### Front panel



### 10.2.5 Multiple Target Position Indicator.ctf

This indicator is used by **Multiple Axes Group Position Target Get** (in menu **Multiple axes**)

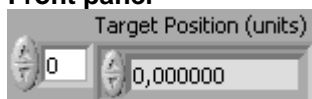
#### Front panel



### 10.2.6 Multiple Target Position Control.ctf

This control is used by **Axis Group Move Absolute** (in menu **Multiple axes**)

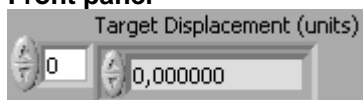
#### Front panel



### 10.2.7 Multiple Target Displacement.ctf

This control is used by **Axis Group Move Relative** (in menu **Multiple axes**)

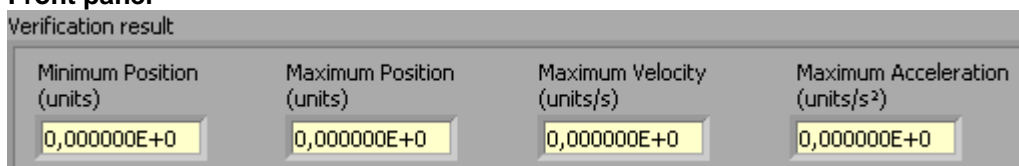
#### Front panel



### 10.2.8 Axis Verification Result.ctf

This indicator is used by **Multiple Axes PVT Verification Result Get** (in menu **Multiple axes**)

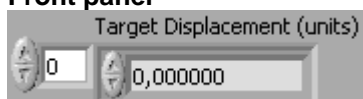
#### Front panel



### 10.2.9 Multiple Target Displacement.ctf

This control is used by **Axis Group Move Relative** (in menu **Multiple axes**)

#### Front panel





### 10.2.10 Multiple Axes PVT Pulse Output Control.ctf

This control is used by **Multiple Axes PVT Pulse Output Set** (in menu **Multiple axes**)

**Front panel**

MultipleAxes PVT Pulse output

Start Element	End Element	Time Interval
0	0	0.000000

### 10.2.11 Multiple Axes PVT Pulse Output Indicator.ctf

This control is used by **Multiple Axes PVT Pulse Output Get** (in menu **Multiple axes**)

**Front panel**

MultipleAxes PVT Pulse Output

Start Element	End Element	Time Interval
0	0	0.000000

# 11 GPIO



## 11.1 Vis description

---



## 11.1.1 GPIO Analog Get.vi

Reads analog value for one or several analog inputs or analog outputs

### Connector Pane



### Controls and indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

### GPIO Names (Analog)

#### GPIO Name (Analog)

GPIO2.ADC1 : Analog Input 1 of the INT card connector #2  
 GPIO2.ADC2 : Analog Input 2 of the INT card connector #2  
 GPIO2.ADC3 : Analog Input 3 of the INT card connector #2  
 GPIO2.ADC4 : Analog Input 4 of the INT card connector #2  
 GPIO2.DAC1 : Analog Output 1 of the INT card connector #2  
 GPIO2.DAC2 : Analog Output 2 of the INT card connector #2  
 GPIO2.DAC3 : Analog Output 3 of the INT card connector #2  
 GPIO2.DAC4 : Analog Output 4 of the INT card connector #2

**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

### Analog Values

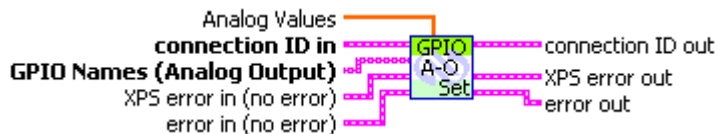
#### Analog Value

**XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs.

## 11.1.2 GPIO Analog Set.vi

Sets analog value for one or several analog outputs.

### Connector Pane



### Controls and indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

### GPIO Names (Analog Output)

#### GPIO Name (AO)

GPIO2.DAC1 : Analog Output 1 of the INT card connector #2  
GPIO2.DAC2 : Analog Output 2 of the INT card connector #2  
GPIO2.DAC3 : Analog Output 3 of the INT card connector #2  
GPIO2.DAC4 : Analog Output 4 of the INT card connector #2

**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

### Analog Values

#### Analog Value

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed..

**XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

### 11.1.3 GPIO Analog Gain Get.vi

Reads gain (1, 2, 4 or 8) for one or several analog inputs.

#### Connector Pane



#### Controls and indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

#### **GPIO Names (Analog Input)**

##### **GPIO Name (AI)**

GPIO2.ADC1 : Analog Input 1 of the INT card connector #2  
GPIO2.ADC2 : Analog Input 2 of the INT card connector #2  
GPIO2.ADC3 : Analog Input 3 of the INT card connector #2  
GPIO2.ADC4 : Analog Input 4 of the INT card connector #2

**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**status** The **status** boolean is either TRUE (X) for a XPS error, or FALSE (checkmark) for no XPS error.

**code** The **code** input identifies the XPS error.

**source** The **source** string describes the origin of the XPS error.

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

#### **Analog Input Gain Values**

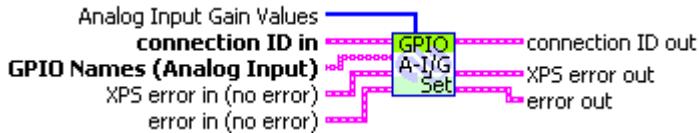
##### **Value**

**XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs.

### 11.1.4 GPIO Analog Gain Set.vi

Sets gain (1, 2, 4 or 8) for one or several analog inputs.

#### Connector Pane



#### Controls and indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

#### **GPIO Names (Analog Input)**

##### **GPIO Name (AI)**

GPIO2.ADC1 : Analog Input 1 of the INT card connector #2  
GPIO2.ADC2 : Analog Input 2 of the INT card connector #2  
GPIO2.ADC3 : Analog Input 3 of the INT card connector #2  
GPIO2.ADC4 : Analog Input 4 of the INT card connector #2

**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

#### **Analog Input Gain Values**

##### **Analog Input Gain**

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs.









## 11.1.5 GPIO Digital Get.vi

Reads digital input or digital output.

### Connector Pane



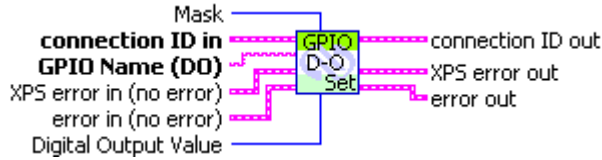
### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **GPIO Name (Digital)**  
 GPIO1.DI : Digital Input of the INT card connector #1  
 GPIO2.DI : Digital Input of the INT card connector #2  
 GPIO3.DI : Digital Input of the INT card connector #3  
 GPIO4.DI : Digital Input of the INT card connector #4  
 GPIO1.DO : Digital Output of the INT card connector #1  
 GPIO3.DO : Digital Output of the INT card connector #3  
 GPIO4.DO : Digital Output of the INT card connector #4
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
 The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Digital Value**
-  **XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs.

### 11.1.6 GPIO Digital Set.vi

Sets digital value for one or several digital outputs.

#### Connector Pane



#### Controls and indicators



**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



#### GPIO Name (DO)

GPIO1.DO : Digital Output of the INT card connector #1  
GPIO3.DO : Digital Output of the INT card connector #3  
GPIO4.DO : Digital Output of the INT card connector #4



#### Mask



#### Digital Output Value



**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



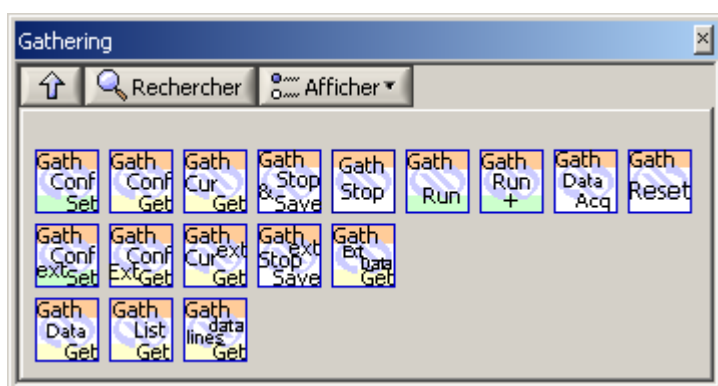
**XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs.



# 12 Gathering



## 12.1 Vis description



## 12.1.1 Gathering Configuration Get.vi

Gets the current Gathering configuration. Use the "Gathering List Get" VI to get the list of gathering types.

### Connector Pane



### Controls and indicators

- connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
- error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
- XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
- connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
- Type List**  
 **Type**
- error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
- XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 12.1.2 Gathering Configuration Set.vi

Configures the next acquisition. Use the "Gathering List Get" VI to get the list of gathering types.

### Connector Pane



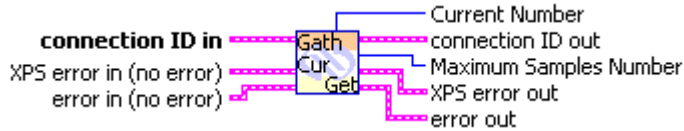
### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Gathering Type List**
  -  **Type**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









### 12.1.3 Gathering Current Number Get.vi

Returns the maximum number of possible samples and the current number during acquisition.

#### Connector Pane



#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Current Number**
-  **Maximum Samples Number**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 12.1.4 Gathering Data Acquire.vi

Acquire a configured data

### Connector Pane



### Controls and indicators



**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

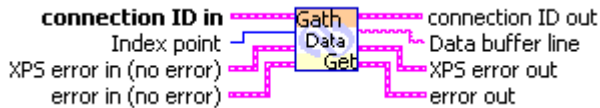


**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 12.1.5 Gathering Data Get.vi

Get a line of the gathered data

### Connector Pane



### Controls and indicators



**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifier of the logging file if log to file is active. See the TCP Open VI for more information.



**Index point** : number of the wanted line in the gathering data.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**Data buffer line**



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

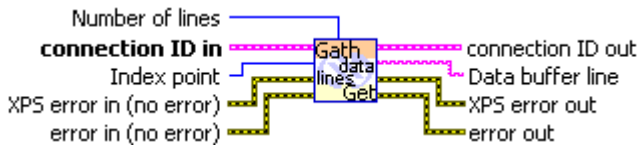


**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 12.1.6 Gathering Data Multiple Lines Get.vi

This function enables to read a number of data lines from the gathering buffer.  
The first line number is defined by an index of data buffer (ex: index #0 = Line #1).  
The reading buffer is limited to 32767 characters.

### Connector Pane



### Controls and indicators

**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Index point**

**Number of lines**

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**Data buffer line**

**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 12.1.7 Gathering Run Append.vi


This function allows re-start the current stopped data gathering.


For a more thorough description of the internal data gathering capability, please refer to the XPS Motion Tutorial, section named Data Gathering / Internal Data Gathering.

### Connector Pane





### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.










## 12.1.8 Gathering External Configuration Get.vi

Gets the current Gathering external configuration. Use the "Gathering List Get" VI to get the list of gathering types.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **Type List**
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









## 12.1.9 Gathering External Configuration Set.vi

Configures the next acquisition (external). Use the "Gathering List Get" VI to get the list of gathering types.

### Connector Pane



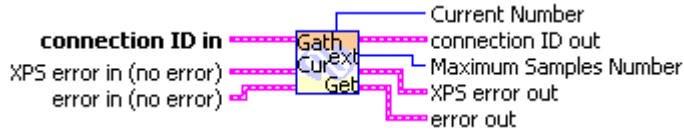
### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Gathering Type List**
  -  **Type**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


## 12.1.10 Gathering External Current Number Get.vi


Returns the maximum number of possible samples and the current number during acquisition (external)


### Connector Pane





### Controls and indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Current Number**

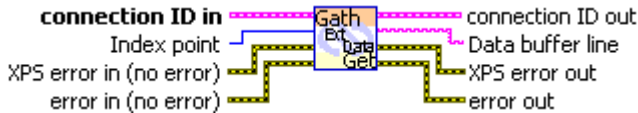
 **Maximum Samples Number**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


### 12.1.11 Gathering External Data Get.vi


This function enables to read one data line from the current external gathering buffer. The line number is defined by the index of point.

#### Connector Pane




#### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Index point**


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Data buffer line**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.







## 12.1.12 Gathering External Stop And Save.vi

Stops acquisition (external) and saves data in the GATHERING.DAT file (in the "\PUBLIC" controller folder).

### Connector Pane



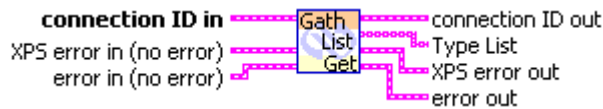
### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

### 12.1.13 Gathering List Get.vi

Gets the list of gathering types.

#### Connector Pane



#### Controls and indicators

- connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
- error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
- XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
- connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
- Type List**
- Type**
- error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
- XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

## 12.1.14 Gathering Reset.vi

Reset acquisition buffer.

### Connector Pane



### Controls and indicators



**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 12.1.15 Gathering Run.vi

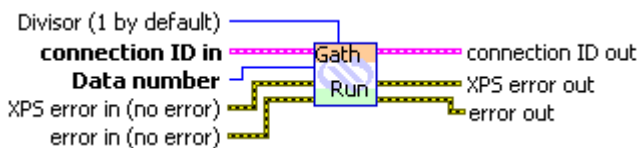
Starts a new data gathering.

The data gathering needs to be configured before using this function (See GatheringConfigurationSet)


The parameters are the number of data to be gathered and the divisor of the frequency (servo frequency) at which the data gathering will be done.


For a more thorough description of the internal data gathering capability, please refer to the XPS Motion Tutorial, section named Data Gathering / Internal Data Gathering.

### Connector Pane




### Controls and indicators

 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Data number**


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Divisor (1 by default)**

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

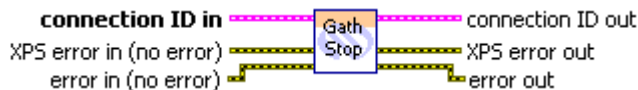


## 12.1.16 Gathering Stop.vi


Stops internal and external triggered data gathering.  
To save it to a file, use GatheringStopAndSave function.


For a more thorough description of the internal data gathering capability, please refer to the XPS Motion Tutorial, section named Data Gathering / Internal Data Gathering.

### Connector Pane





### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.







## 12.1.17 Gathering Stop And Save.vi

Stops acquisition and saves data in the GATHERING.DAT file (in the "\\PUBLIC" controller folder).

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

# 13 Events, Actions and Timers



## 13.1 New Vis description

### 13.1.1 Event Extended Configuration Trigger Set.vi

Configure one or several events.

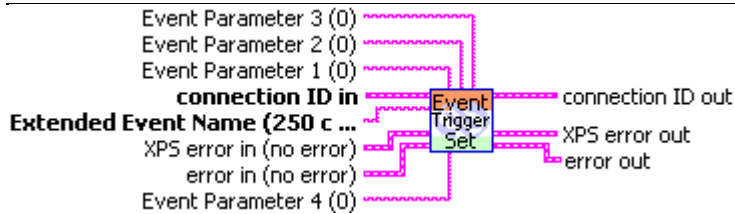
For each "full event name" [ActorName].[Category].EventName :

- Set actor name (Group name, Positioner name, GPIO name or Nothing)
- Set category name (Category or Nothing)
- Set event name

#### NOTE :

Before activating this event, you must configure the actions. Only next, use the "EventExtendedStart" API to launch your configured event.

#### Connector Pane



## Controls and indicators



**connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifier of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**Extended Event Name (250 c max)**



**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**Event Parameter 1 (0)** The Element Number for the events ElementNumberStart or ElementNumberState.

0 for the others events



**Event Parameter 2 (0)** The Element Number for the events ElementNumberStart or ElementNumberState.

0 for the others events



**Event Parameter 3 (0)** The Element Number for the events ElementNumberStart or ElementNumberState.

0 for the others events



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs..


### 13.1.2 Event Extended Configuration Trigger Get.vi


Get the last event configured by "EventExtendedConfigurationTriggerSet" API.

#### Connector Pane





#### Controls and indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Event Trigger Configuration**

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs..

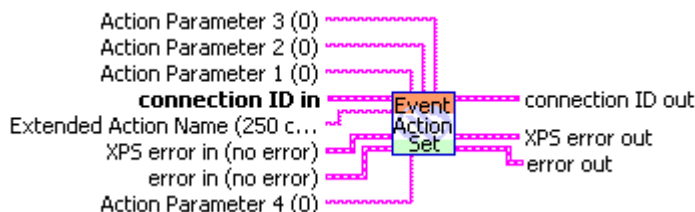
### 13.1.3 Event Extended Configuration Action Set.vi

Configure one or several actions.


#### NOTE :


Before activating the defined actions, you must configure the events. Only then, you can use the "EventExtendedStart" API.

#### Connector Pane




#### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **Extended Action Name (250 c max)**

 **Action Parameter 1 (0)** The Element Number for the events ElementNumberStart or ElementNumberState.


0 for the others events

 **Action Parameter 2 (0)** The Element Number for the events ElementNumberStart or ElementNumberState.


0 for the others events

 **Action Parameter 3 (0)** The Element Number for the events ElementNumberStart or ElementNumberState.

0 for the others events

 **Action Parameter 4 (0)** The Element Number for the events ElementNumberStart or ElementNumberState.

0 for the others events

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by

providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

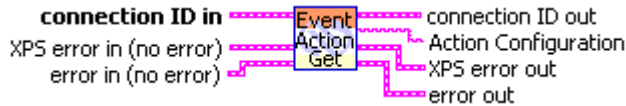


**XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs.


### 13.1.4 Event Extended Configuration Action Get.vi


Get the last action configured by "EventExtendedConfigurationActionSet" API.

#### Connector Pane





#### Controls and indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Action Configuration**

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs..



### 13.1.5 Event Extended Start.vi

Launch the last configured event(s) in relation to the last configured action(s).

#### Connector Pane



#### Controls and indicators



**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**ID**  
Event combination identifier is returned.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

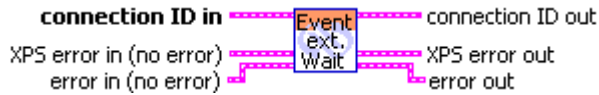


**XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs..


### 13.1.6 Event Extended Wait.vi


Launch the last configured event(s) and wait it occurs to unlock the socket.


#### Connector Pane




#### Controls and indicators


 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs..


### 13.1.7 Event Extended Remove.vi


Delete the event(s) defined by the "ID" event identifier (provided by "EventExtendedStart" API).

#### Connector Pane





#### Controls and indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **ID**  
Event combination identifier provided by the « EventExtendedStart » API.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

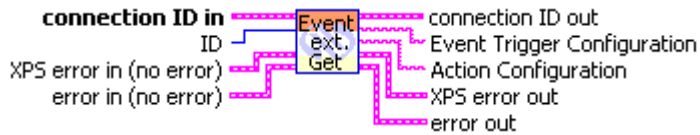
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs..

### 13.1.8 Event Extended Get.vi

Get the list of events and actions in progress in relation to the "ID" event identifier (provided by "EventExtendedStart" API).

#### Connector Pane



#### Controls and indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**ID**  
Identifier provided by "EventExtendedStart" API.

**Event Trigger Configuration**  
Event configuration description (always in progress)

**Action Configuration**  
Action configuration description (always in progress)

**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

**XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs..







### 13.1.9 Event Extended All Get.vi

Get the list of all "event and action" combination identifiers in progress.

#### Connector Pane



#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Event and Action Configurations**  
List of all identifiers of event combinations in progress
-  **Connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs..

## 13.2 Old Vis description

### 13.2.1 Event Add.vi

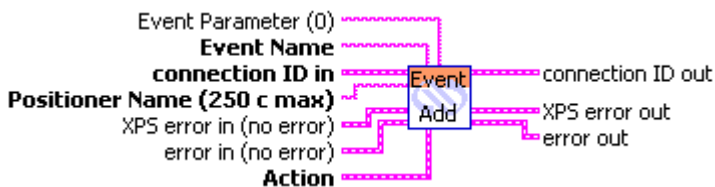
Adds an event associated to an action for the selected positioner.  
The events and the actions are defined in Control Panel (XPS-C8/Event Action)

When an action is accosiated with an event, it's only when the event has occurred that the action is trigged...


For example, if you want to set a digital output to a value only when the position is in constant velocity state then you must select the "DoSet" action associated with the "ConstantVelocityStart" event and the "ConstantVelocityEnd" event.


This action can NOT be used with the "ConstantVelocityState" event because the digital output is set as soon as and during every time a "ConstantVelocityState" event occurs and so, the digital output stays in the same state, even if the constant velocity state is finished.

#### Connector Pane




#### Controls and indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**


 **Action**  
DOToggle : The value of bits is reversed on digital output  
DOPulse : A pulse is generated on a digital output  
DOSet : The value of bits is modified on a digital output

DACSet.SetpointPosition : The Analog output is modified with the Setpoint Position value and this is multiplied by a gain and an offset is added

DACSet.SetpointVelocity : The Analog output is modified with the Setpoint Velocity value and this is multiplied by a gain and an offset is added

DACSet.SetpointAcceleration : The Analog output is modified with the Setpoint Acceleration value and this is multiplied by a gain and an offset is added

GatheringRun : allows to release a gathering on an event

 **Name**  
DOToggle  
DOPulse  
DOSet  
DACSet.SetpointPosition  
DACSet.SetpointVelocity  
DACSet.SetpointAcceleration



GatheringRun

**Param 1**

depends of the action

GPIO Name (digital output) for actions DOToggle, DOPulse, DOSet

GPIO Name (Analog output) for actions DACSet.SetpointPosition, DACSet.SetpointVelocity, DACSet.Acceleration



Nb Points for action GatheringRun

**Param 2**

depends of the action

Mask for actions DOToggle, DOPulse, DOSet

Gain for actions DACSet.SetpointPosition, DACSet.SetpointVelocity, DACSet.SetpointAcceleration



Divisor for action GatheringRun

**Param 3**

depends of the action

0 for actions DOToggle, DOPulse, GatheringRun

value of the digital output for action DOSet

offset for actions DACSet.SetpointPosition, DACSet.setpointVelocity, DACSet.SetpointAcceleration



**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**Event Name Definition for a positioner profile:**

Always : ALWAYS

Immediate : IMMEDIATELY

Timer1 :

Timer2 :

Timer3 :

Timer4 :

Timer5 :

Motion Done :

**Definition for a positioner equipped with a SGamma or Jog profile**

The Event name will be SGamma.name or Jog.name.

ConstantVelocityStart : when the constant velocity is reached :

ConstantVelocityEnd : when the constant velocity is finished

ConstantVelocitySate : during the constant velocity

ConstantAccelerationStart : when the constant acceleration is reached

ConstantAccelerationEnd : when the constant acceleration is finished

ConstantAccelerationState : during the constant acceleration

ConstantDecelerationStart : when the constant deceleration is reached

ConstantDecelerationEnd : when the constant deceleration is finished

ConstantDecelerationState : during the constant deceleration

MotionStart : when the motion is started

MotionEnd : when the motion is stopped

MotionState : during the motion

**Definition for a group with a trajectory profile (XYLineArc, Spline, PVT):**

The Event name will be XYLineArc.name or Spline.name or PVT.name.

TrajectoryStart : when the trajectory is started

TrajectoryEnd : when the trajectory is finished  
 TrajectoryState : during the trajectory  
 ElementNumberStart : when the element number is started  
 ElementNumberState : during the element number



**Event Parameter (0)** The Element Number for the events ElementNumberStart or ElementNumberState.

0 for the others events



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



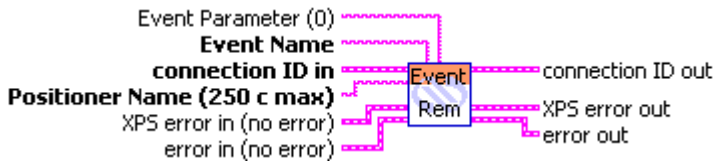
**XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs..




### 13.2.2 Event Remove.vi


Deletes an event associated to an action for the selected actuator. The events and the actions are defined in § Events and § Actions.

#### Connector Pane




#### Controls and indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Positioner Name (250 c max)**

 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Event Name Definition for a positioner profile:**

Always : ALWAYS

Immediate : IMMEDIATELY

Timer1 :

Timer2 :

Timer3 :

Timer4 :

Timer5 :

Motion Done :

#### Definition for a positioner equipped with a SGamma or Jog profile

The Event name will be SGamma.name or Jog.name.

ConstantVelocityStart : when the constant velocity is reached :

ConstantVelocityEnd : when the constant velocity is finished

ConstantVelocityState : during the constant velocity

ConstantAccelerationStart : when the constant acceleration is reached

ConstantAccelerationEnd : when the constant acceleration is finished

ConstantAccelerationState : during the constant acceleration

ConstantDecelerationStart : when the constant deceleration is reached

ConstantDecelerationEnd : when the constant deceleration is finished

ConstantDecelerationState : during the constant deceleration

MotionStart : when the motion is started

MotionEnd : when the motion is stopped

MotionState : during the motion

#### Definition for a group with a trajectory profile (XYLineArc, Spline, PVT):

The Event name will be XYLineArc.name or Spline.name or PVT.name.

TrajectoryStart : when the trajectory is started

TrajectoryEnd : when the trajectory is finished

TrajectoryState : during the trajectory

ElementNumberStart : when the element number is started

ElementNumberState : during the element number



**Event Parameter (0)** The Element Number for the events ElementNumberStart or ElementNumberState.

0 for the others events



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

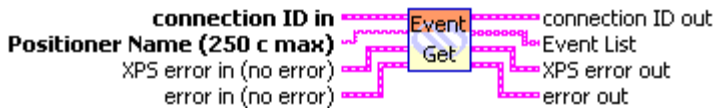


**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.










### 13.2.3 Event Get.vi

Gets the events and actions list for the selected actuator. The events and the actions are defined in § Events and § Actions.

#### Connector Pane



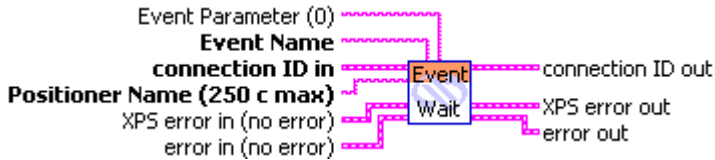
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Positioner Name (250 c max)**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **Event List**
-  **Event**
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes error or warning information out of a VI to be used by other VIs.

### 13.2.4 Event Wait.vi

This VI waits for an event for the selected positioner.

#### Connector Pane



#### Controls and indicators

**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Positioner Name (250 c max)**

**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

**Event Name Definition for a positioner profile:**

Always : ALWAYS  
Immediate : IMMEDIATELY  
Timer1 :  
Timer2 :  
Timer3 :  
Timer4 :  
Timer5 :  
Motion Done :

#### Definition for a positioner equipped with a SGamma or Jog profile

The Event name will be SGamma.name or Jog.name.  
ConstantVelocityStart : when the constant velocity is reached :  
ConstantVelocityEnd : when the constant velocity is finished  
ConstantVelocityState : during the constant velocity  
ConstantAccelerationStart : when the constant acceleration is reached  
ConstantAccelerationEnd : when the constant acceleration is finished  
ConstantAccelerationState : during the constant acceleration  
ConstantDecelerationStart : when the constant deceleration is reached  
ConstantDecelerationEnd : when the constant deceleration is finished  
ConstantDecelerationState : during the constant deceleration  
MotionStart : when the motion is started  
MotionEnd : when the motion is stopped  
MotionState : during the motion

#### Definition for a group with a trajectory profile (XYLineArc, Spline, PVT):

The Event name will be XYLineArc.name or Spline.name or PVT.name.  
TrajectoryStart : when the trajectory is started  
TrajectoryEnd : when the trajectory is finished  
TrajectoryState : during the trajectory  
ElementNumberStart : when the element number is started  
ElementNumberState : during the element number



**Event Parameter (0)** The Element Number for the events ElementNumberStart or ElementNumberState.

0 for the others events



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

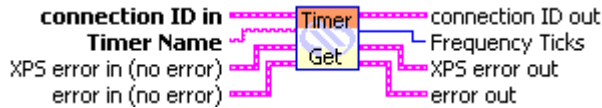


**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









### 13.2.5 Timer Get.vi

This VI returns the frequency ticks for the timer.

#### Connector Pane



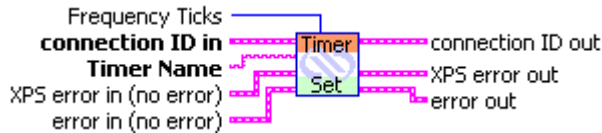
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Timer Name**
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Frequency Ticks**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 13.2.6 Timer Set.vi

This VI sets a timer

### Connector Pane



### Controls and indicators



**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**Timer Name**



**Frequency Ticks**



**XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



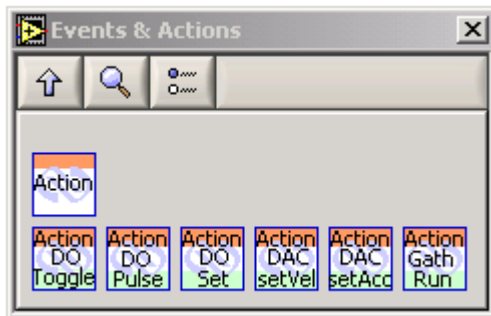
**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 13.3 Controls description



### 13.3.1 Action.ctl

#### Front panel



#### Controls and indicators



#### Action

**DOToggle** : The value of bits is reversed on digital output

**DOPulse** : A pulse is generated on a digital output

**DOSet** : The value of bits is modified on a digital output

**DACSet.SetpointPosition** : The Analog output is modified with the Setpoint Position value and this is multiplied by a gain and an offset is added

**DACSet.SetpointVelocity** : The Analog output is modified with the Setpoint Velocity value and this is multiplied by a gain and an offset is added

**DACSet.SetpointAcceleration** : The Analog output is modified with the Setpoint Acceleration value and this is multiplied by a gain and an offset is added

**GatheringRun** : allows to release a gathering on an event



#### Name



#### Param 1

Depends on the action



#### Param 2

Depends on the action



#### Param 3

Depends on the action




### 13.3.2 Action DOToggle.ctl


The value of bits is reversed on a digital output. The GPIO Name must be a digital output.


#### Front panel

Action			
Name	GPIO Name (DO)	Mask	Param 3
DOToggle			0


#### Controls and indicators


 **Action**

 **Name**

 **GPIO Name (DO)**

GPIO1.DO      Digital Output of the INT card connector # 1  
GPIO3.DO      Digital Output of the INT card connector # 3  
GPIO4.DO      Digital Output of the INT card connector # 4

 **Mask**

 **Param 3**


### 13.3.3 Action DOPulse.ctl


A pulse is generated on a digital output: the bvalue of the bit(s) is set during 1 micro second. The GPIO Name must be a digital output Name.


#### Front panel

Action			
Name	GPIO Name (DO)	Mask	Param 3
DOPulse			0


#### Controls and indicators


 **Action**

 **Name**

 **GPIO Name (DO)**

GPIO1.DO      Digital Output of the INT card connector # 1  
GPIO3.DO      Digital Output of the INT card connector # 3  
GPIO4.DO      Digital Output of the INT card connector # 4

 **Mask**

 **Param 3**


### 13.3.4 Action DOSet.ctl


The value of bits is modified on a digital output. The GPIO Name must be a digital output.


#### Front panel

Action			
Name	GPIO Name (DO)	Mask	Value
DOSet			0


#### Controls and indicators


 **Action**

 **Name**

 **GPIO Name (DO)**

GPIO1.DO      Digital Output of the INT card connector # 1  
 GPIO3.DO      Digital Output of the INT card connector # 3  
 GPIO4.DO      Digital Output of the INT card connector # 4

 **Mask**

 **Value**


### 13.3.5 Action DACSet.SetpointPosition.ctl


The analog output is set with the SetpointPosition value and this is multiplied by a gain and an offset is added. The GPIO Name must be a analog output name.


#### Front panel

Action			
Name	GPIO Name (AO)	Gain	Offset
DACSet.SetpointPosition		0	0


#### Controls and indicators


 **Action**

 **Name**

 **GPIO Name (AO)**

GPIO2.DAC1      Analog Output # 1 of the INT card connector # 2  
 GPIO2.DAC2      Analog Output # 2 of the INT card connector # 2  
 GPIO2.DAC3      Analog Output # 3 of the INT card connector # 2  
 GPIO2.DAC4      Analog Output # 4 of the INT card connector # 2

 **Gain**

 **Offset**


### 13.3.6 Action DACSet.SetpointVelocity.ctl


The analog output is set with the SetpointVelocity value and this is multiplied by a gain and an offset is added. The GPIO Name must be a analog output name.


#### Front panel

Name	GPIO Name (AO)	Gain	Offset
DACSet.SetpointVelocity		0	0


#### Controls and indicators


 **Action**

 **Name**

 **GPIO Name (AO)**

GPIO2.DAC1 Analog Output # 1 of the INT card connector # 2  
 GPIO2.DAC2 Analog Output # 2 of the INT card connector # 2  
 GPIO2.DAC3 Analog Output # 3 of the INT card connector # 2  
 GPIO2.DAC4 Analog Output # 4 of the INT card connector # 2

 **Gain**

 **Offset**


### 13.3.7 Action DACSet.SetpointAcceleration.ctl


The analog output is set with the SetpointAcceleration value and this is multiplied by a gain and an offset is added. The GPIO Name must be a analog output name.


#### Front panel

Name	GPIO Name (AO)	Gain	Offset
DACSet.SetpointAcceleration		0	0


#### Controls and indicators


 **Action**

 **Name**

 **GPIO Name (AO)**

GPIO2.DAC1 Analog Output # 1 of the INT card connector # 2  
 GPIO2.DAC2 Analog Output # 2 of the INT card connector # 2  
 GPIO2.DAC3 Analog Output # 3 of the INT card connector # 2  
 GPIO2.DAC4 Analog Output # 4 of the INT card connector # 2

 **Gain**

 **Offset**

### 13.3.8 Action GatheringRun.ctl

This action allows to release a gathering on an event, only if a gathering is configured previously with the "GatheringConfigurationSet" VI. The "Divisor" parameter must be = 1. Nbpoints \* NbType = MAX\_POINTS\_ACQUISITION.

#### Front panel

Name	Nb Points	Divisor	Param 3
GatheringRun			0

#### Controls and indicators



Action



Name



Nb Points



Divisor

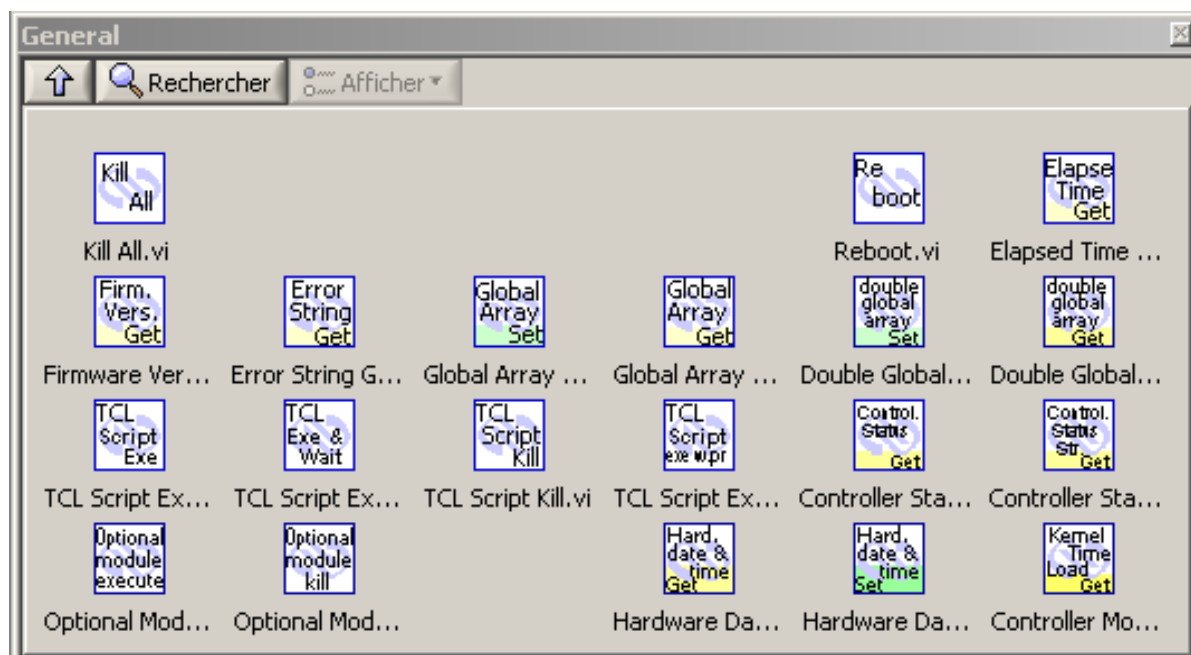


Param 3

# 14 General features



## 14.1 Vis description



### 14.1.1 Controller Motion Kernel Time Load Get.vi

This function allows to get the last exact value of controller motion kernel time load (total , corrector, profiler and servitudes calculation time).

$\text{CorrectorTimeLoad} = \text{CorrectorCalculationTime} / \text{CorrectorISRPeriod}$

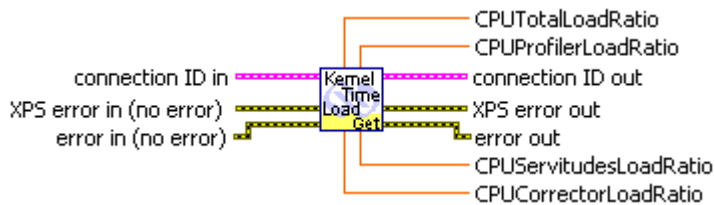
$\text{ProfilerTimeLoad} = \text{ProfilerCalculationTime} / \text{CorrectorISRPeriod} / \text{ProfileGeneratorISRRatio}$

$\text{ServitudesTimeLoad} = \text{ServitudesCalculationTime} / \text{CorrectorISRPeriod} / \text{ServitudesISRRatio}$











$\text{TotalTimeLoad} = \text{CorrectorTimeLoad} + \text{ProfilerTimeLoad} + \text{ServitudesTimeLoad}$

Note: Refer to system.ref file to get CorrectorISRPeriod, ProfileGeneratorISRRatio and ServitudesISRRatio.

#### Connector Pane



#### Controls and Indicators

-  **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies theTCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **CPUTotalLoadRatio**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
-  **CPUCorrectorLoadRatio**
-  **CPUProfilerLoadRatio**
-  **CPUServitudesLoadRatio**


## 14.1.2 Controller Status Get.vi


Returns the controller status code. The controller status codes are listed in the "Controller status list".

### Connector Pane





### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **XPS error in (no error)** The **XPS error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes error information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Controller Status**

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


### 14.1.3 Controller Status String Get.vi


Returns the controller status description corresponding to a controller status code (see § controller status list).

#### Connector Pane





#### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Controller Status Code** The **code** input identifies the XPS error.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

 **Controller Status String**



### 14.1.4 Double Global Array Get.vi

Gets the variable value from the global array of type "double", located by a "Number" index.  
So, the first variable value from the global array is located to the index "0".  
The returned value is returned in a double.









**NOTE:**

The number of datas in the global array of type "double" is limited to 1000.

**Connector Pane**



**Controls and indicators**

-  **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **Number**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **Double Value**
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

## 14.1.5 Double Global Array Set.vi

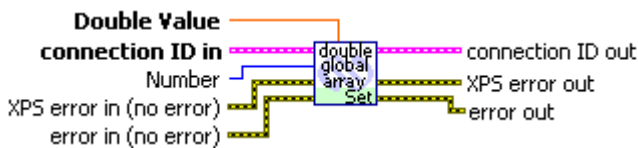
Sets a new value in the global array located at the "Number" index and the new value is setting in a double.

### NOTE:

The first variable value from the global array is always located to the index "0".

The number of datas in the global array is limited to 1000, so the last index is "999".

### Connector Pane



### Controls and indicators



**connection ID in**



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**Double Value**



**Number**



**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

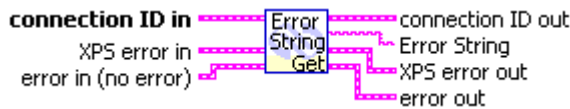


**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








### 14.1.6 Error String Get.vi

Returns the error string corresponding to an error code (see § Error list).

#### Connector Pane



#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs..
-  **XPS error in** The **XPS error in** cluster which you want to know the error string corresponding to the XPS error.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information or warning out of a VI to be used by other VIs.  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.
-  **Error String**








## 14.1.7 Elapsed Time Get.vi

Returns the elapsed time in seconds from controller power on.

### Connector Pane



### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs..
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information or warning out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **elapsed time**
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

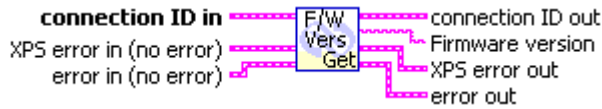
### 14.1.8 Firmware Version Get.vi

Gets the firmware name and the version number.








Firmware version string :

"XPS Controller Version 1.00"

#### Connector Pane



#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **Firmware version**
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.









### 14.1.9 Global Array Get.vi

Gets the global variable value from the global array at the "Number" index.

#### Connector Pane



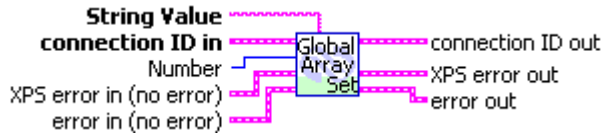
#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Number**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **String Value**
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

### 14.1.10 Global Array Set.vi

Sets the global variable value in the global array at the "Number" index

#### Connector Pane



#### Controls and indicators



**connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.



**error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**String Value**



**Number**



**XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.



**connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.



**error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.



**XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.







### 14.1.11 Kill All.vi

Kills and resets all groups. All groups come back to the "not initialised" status.

#### Connector Pane



#### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error or warning information out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

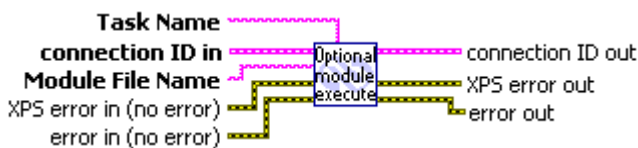


### 14.1.12 Optional Module Execute.vi


This function executes an optional (developed by the user) module. The optional module file (.OUT file) must be saved in the folder "\\ADMIN\Firmware" of the XPS controller.


- 1) An optional module has a main function whose name is identical to the **module name**. The term "execute a module" means executing its main function.
- 2) **TaskName** is a user designation for the module in execution. It is not possible to execute a module at the same time with a same task name, elsewhere the ERR\_OPTIONAL\_EXTERNAL\_MODULE\_EXECUTE (-95) is returned.

#### Connector Pane



#### Controls and indicators


 **Connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **Error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **Task Name**


 **Module File Name**

 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **Connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes XPS error information out of a VI to be used by other VIs.

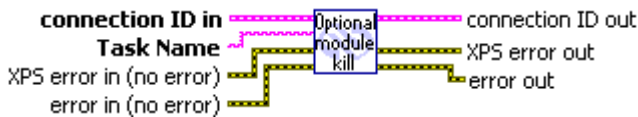
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


### 14.1.13 Optional Module Kill.vi


This function kills a running optional module selected by its task name. The task name is a user designation for the optional module in execution (see "Optional Module Execute").

#### Connector Pane




#### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **Task Name**

 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes XPS error information out of a VI to be used by other VIs.

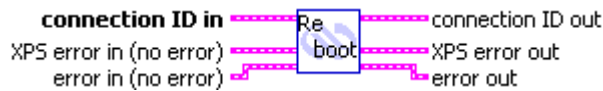
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.







## 14.1.14 Reboot.vi

Reboots the controller.

### Connector Pane



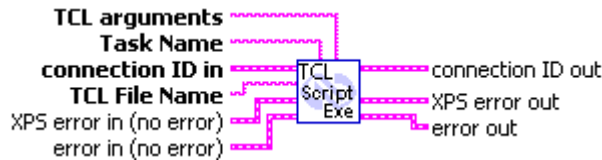
### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
  -  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
  -  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
  -  **error out** The **error out** cluster passes error information or warning out of a VI to be used by other VIs.
- The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes error information or warning out of a VI to be used by other VIs.


### 14.1.15 TCL Script Execute.vi


Executes a TCL program under the controller TCL interpreter. The TCL file must be saved in the "Admin\Public\Scripts" controller directory. The execution result is displayed on an opened Telnet session (please refer to the TCL Manual *5.0 Telnet connection* to open a Telnet session).

#### Connector Pane



#### Controls and indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.


 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **TCL File Name**

 **Task Name**


 **TCL arguments**

 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes XPS error information out of a VI to be used by other VIs.

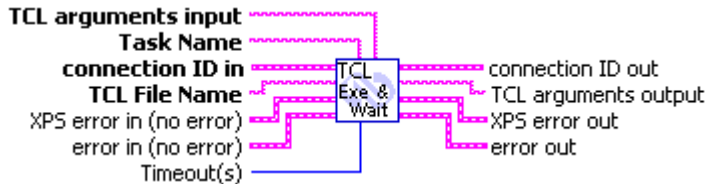
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.


### 14.1.16 TCL Script Execute And Wait.vi


Executes a TCL program under the controller TCL interpreter and waits for the end of execution. The TCL file must be saved in the "Admin\Public\Scripts" controller directory. The execution result is displayed in an opened Telnet session (please refer to the TCL Manual 5.0 *Telnet connection* to open a Telnet session).

#### Connector Pane



#### Controls and indicators

 **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **TCL File Name**


 **Task Name**

 **TCL arguments input**


 **Timeout (seconds)**

 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes XPS error information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

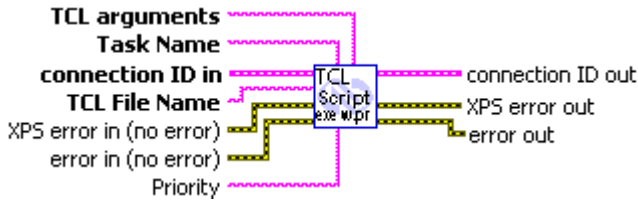
 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.

 **TCL arguments output**


### 14.1.17 TCL Script Execute With Priority.vi


This function executes a TCL script with the TCL task that its priority level is defined by user. The TCL script file must be saved in the folder "..\Public\Scripts" of the XPS controller.

#### Connector Pane



#### Controls and indicators


 **connection ID in** A unique reference to a XPS connection gets by TCP Open VI. It identifies the TCP/IP connection used for communicate with the XPS and the identifiant of the logging file if log to file is active. See the TCP Open VI for more information.

 **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.


 **Task Name**


 **TCL File Name**

 **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.


 **TCL arguments**

 **Priority**

 **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.

 **error out** The **error out** cluster passes XPS error information out of a VI to be used by other VIs.

The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.

 **XPS error out** The **XPS error out** cluster passes XPS error information out of a VI to be used by other VIs.








## 14.1.18 TCL Script Kill.vi

Kills a TCL script that is running.

### Connector Pane

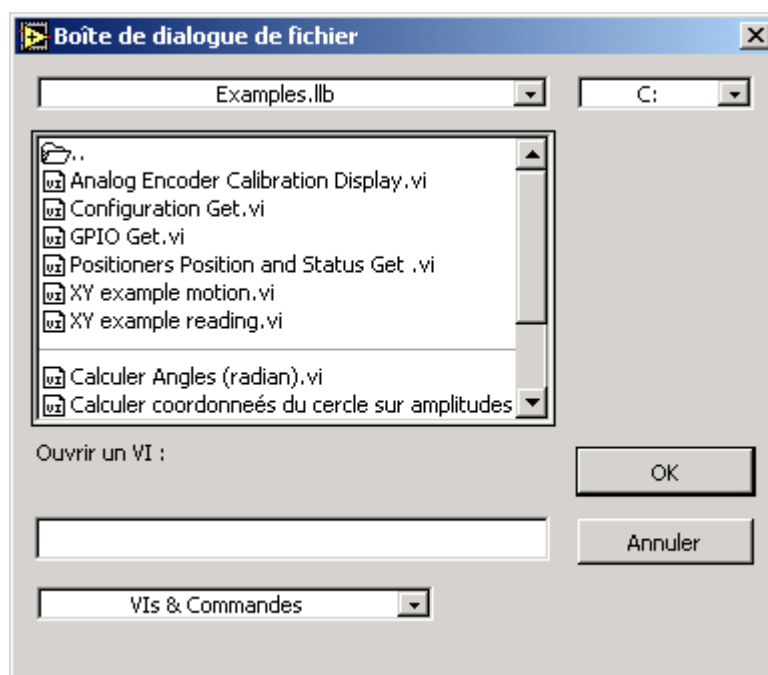
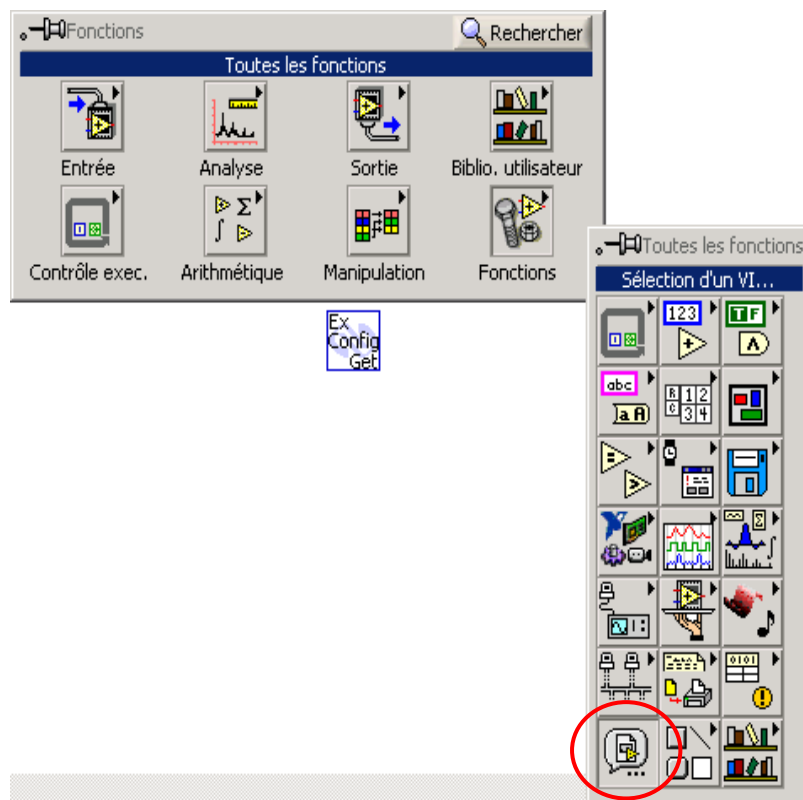


### Controls and indicators

-  **connection ID in** A unique reference to a XPS connection received by TCP Open VI. It identifies the TCP/IP connection used to communicate with the XPS and the identification of the logging file if log to file is active. See the TCP Open VI for more information.
-  **error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **Task Name**
-  **XPS error in (no error)** The **error in** cluster can accept error information wired from VIs previously called. Use this information to decide if any functionality should be bypassed in the event of errors from other VIs.
-  **connection ID out** This is a copy of the connection ID in. It is used programmatically to pass the connection ID in to any calling VIs. It simplifies dataflow programming by providing an easy method of chaining VIs together, thereby simplifying the diagram's structure.
-  **error out** The **error out** cluster passes error information or warning out of a VI to be used by other VIs.  
  
The pop-up option **Explain Error** (or Explain Warning) gives more information about the error displayed.
-  **XPS error out** The **XPS error out** cluster passes error information or warning out of a VI to be used by other VIs.

# 15 Examples

The examples are located in *Examples.llb* file, which can be found in the *../Admin/Public/Drivers/LabView/XPS-C8 Controller/Examples* directory of the XPS controller. Once integrated in LabView (*Examples.llb* have to be in the directory *Program Files/National Instruments/LabVIEW/user.lib/XPS-C8 Controller/Examples*), the vi examples can be opened, tested and even reused for your own vi programs from the menu *Window-> Functions pallet -> Functions -> VI selection*.





## 15.1 Configuration get.vi

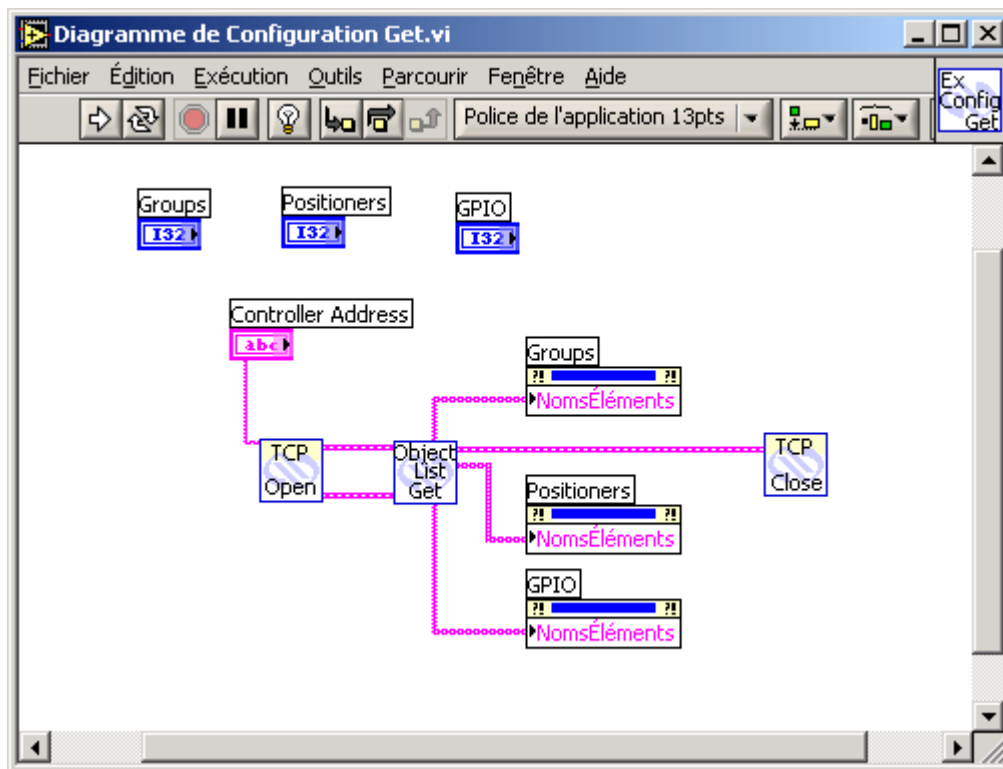
### Description

This example gets the XPS configuration: names of configured motion groups, names of associated positioners and the GPIO list. Before running it, enter the IP address of the XPS controller in the *Controller Address* edit box.

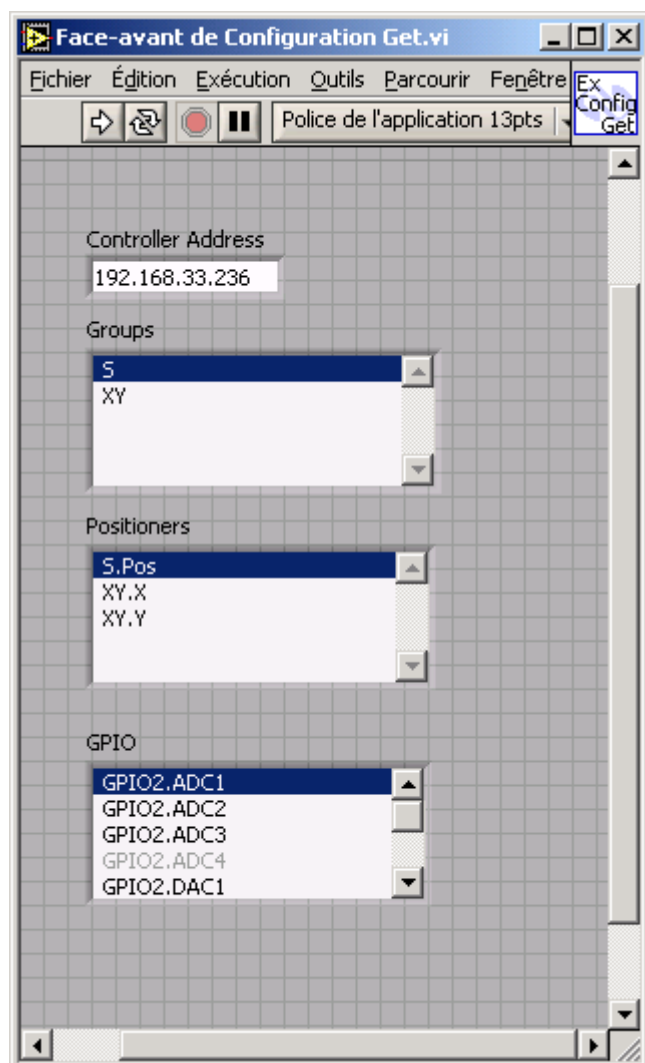
### Connector Pane



### Diagram



**Front panel with :**  
 1 single axis group named S and its positioner Pos  
 1 XY group named XY and its positioners X and Y.



## 15.2 GPIO Get.vi

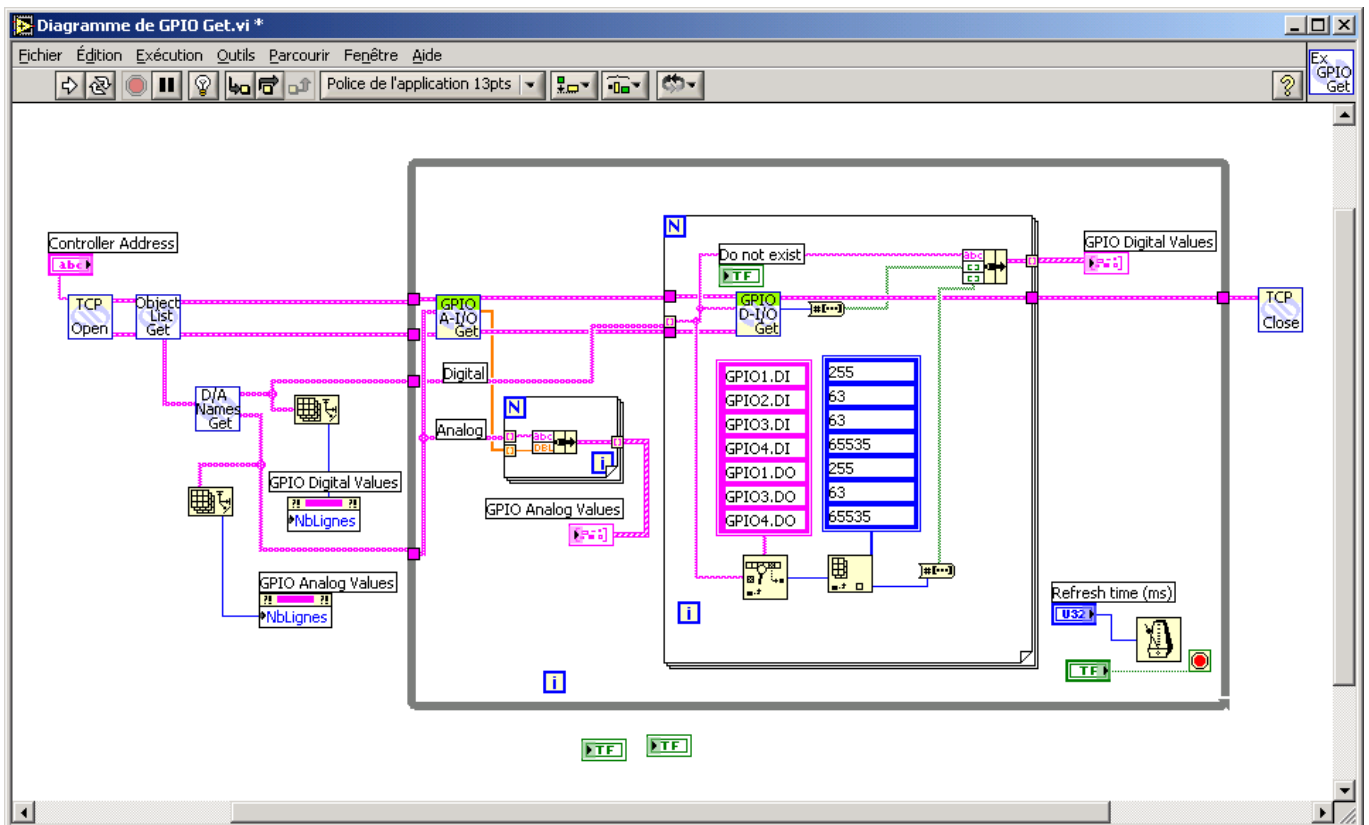
### Description

This example gets the GPIO analog and digital values. Before running it, enter the IP address of the XPS controller in the *Controller Address* edit box.

### Connector Pane

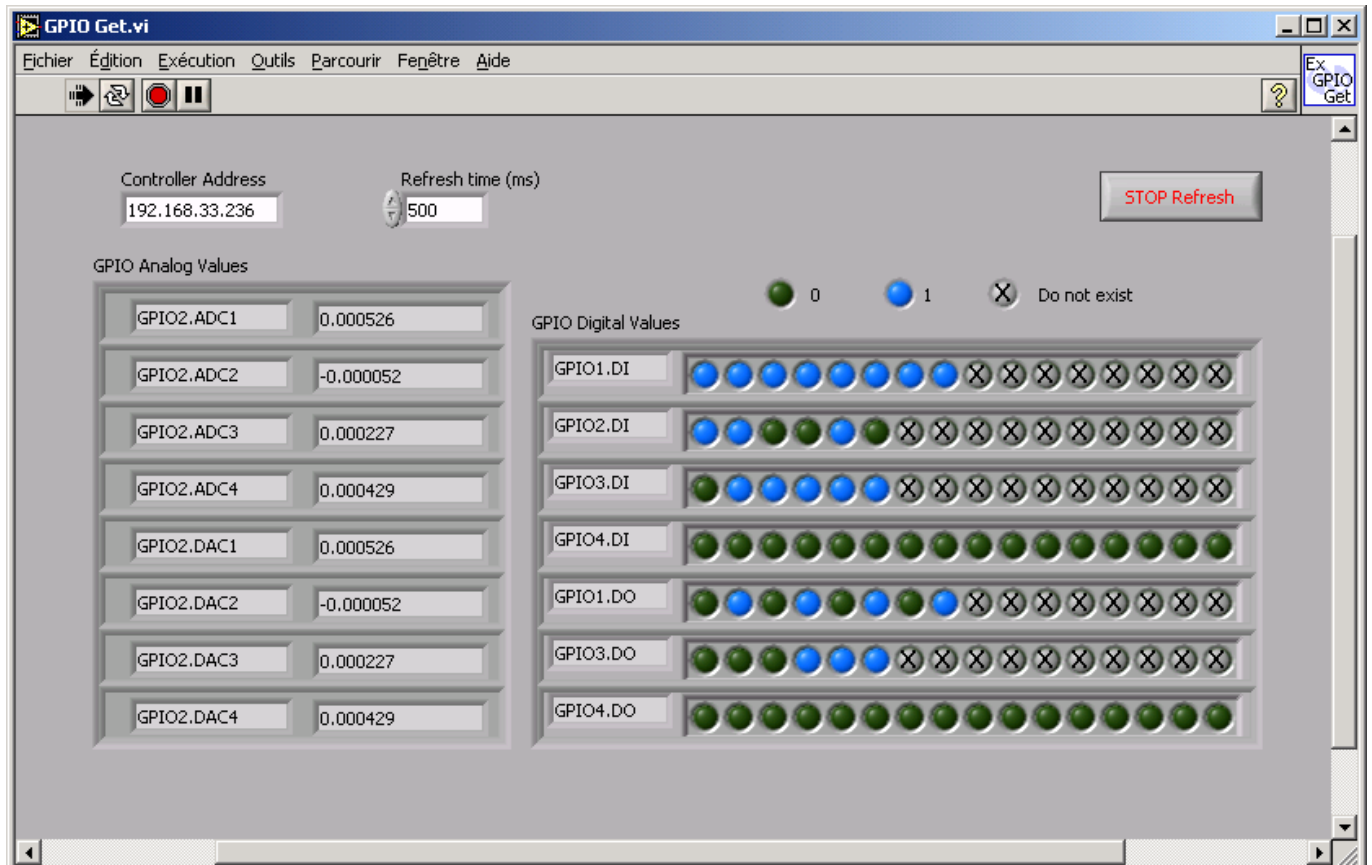


### Diagram



Front panel with :

- digital I/O
- GPIO1.DI = 255 (11111111)
- GPIO2.DI = 50 (110010)
- GPIO3.DI = 1 (1)
- GPIO4.DI = 0
- GPIO1.DO = 170 (10101010)
- GPIO3.DO = 56 (111000)
- GPIO4.DO = 0
- analog I/O set around 0.



## 15.3 Positioners Position and Status Get.vi

### Description

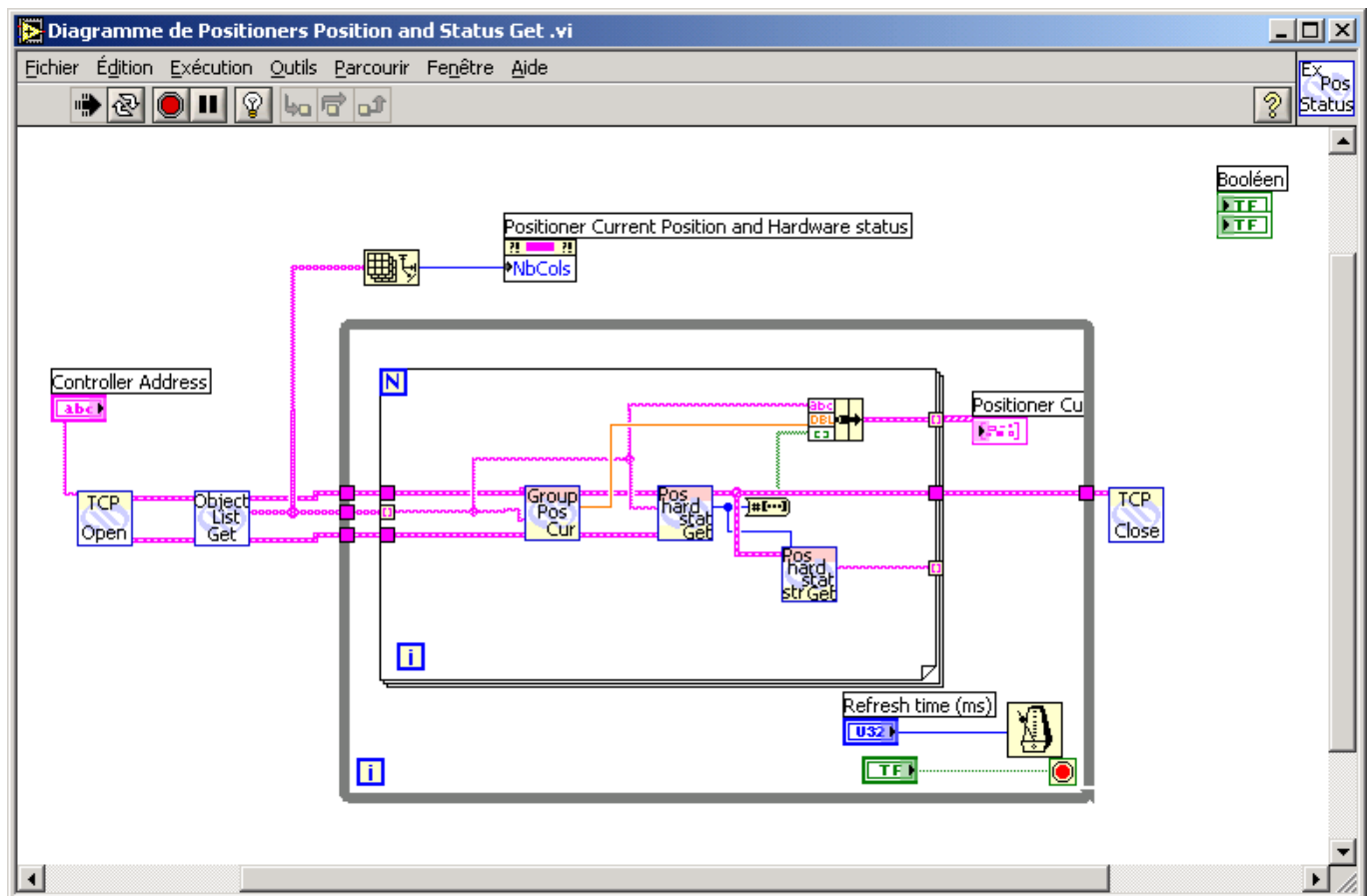
This example gets the position and the status for each positioner. Before running it, enter the IP address of the XPS controller in the *Controller Address* edit box.

Please refer to the XPS Programmer's Manual part 2.13 *Positioner hardware status list* for the explanations of the different status.

### Connector Pane

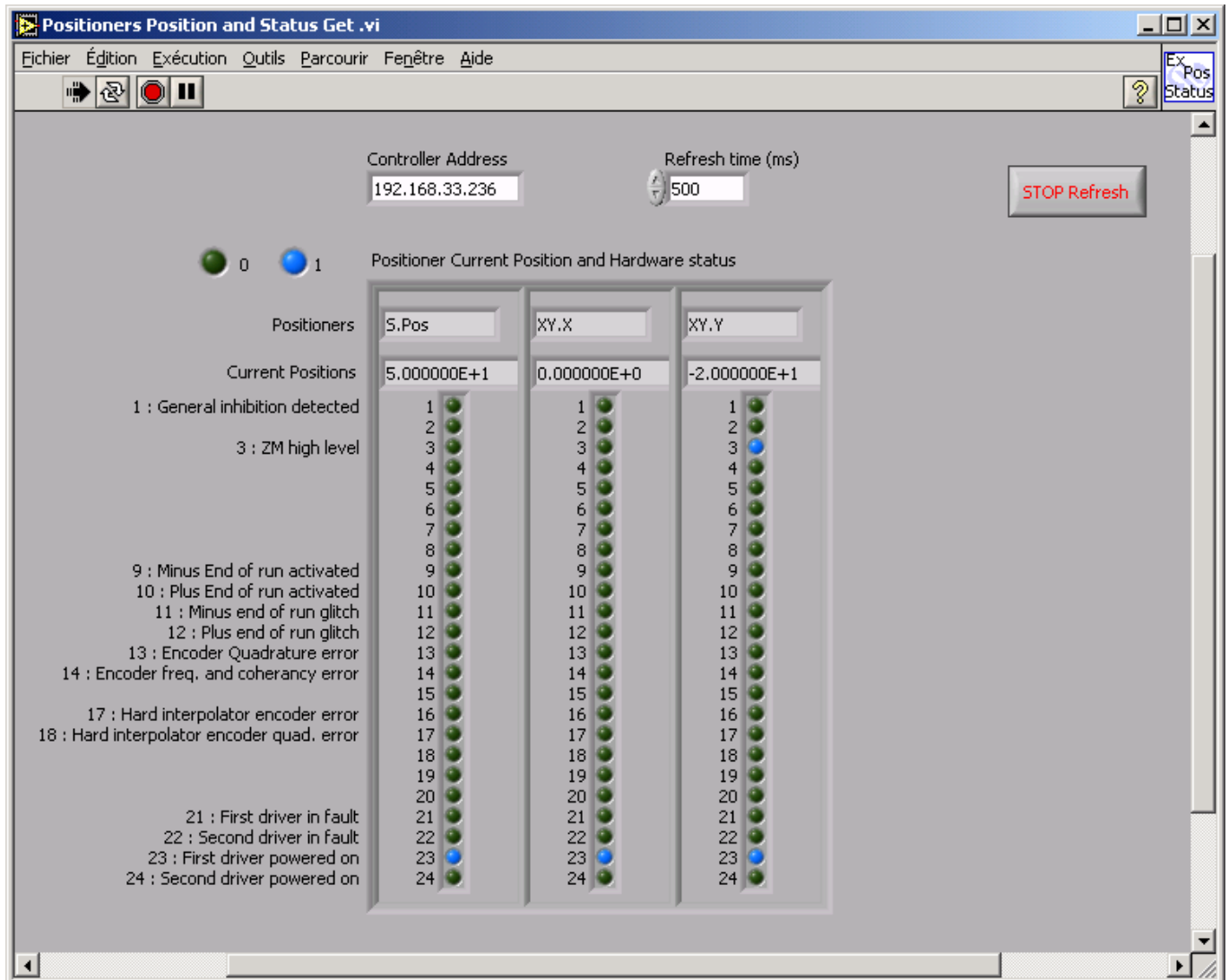


### Diagram



## Examples

**Front panel** shows that after the groups' initialization and home search, the single axis is at position 50 and the Y axis of the XY group is at the position -20.



## 15.4 XY example motion .vi

### Description

This example executes a motion on a XY group. Before running it,

- enter the IP address of the XPS controller in the *Address* edit box,
- enter the name of the XY group in the *Group name* edit box,
- enter the targeted positions of the X and Y positioners in the *Target displacement X & Y (units)* edit boxes.

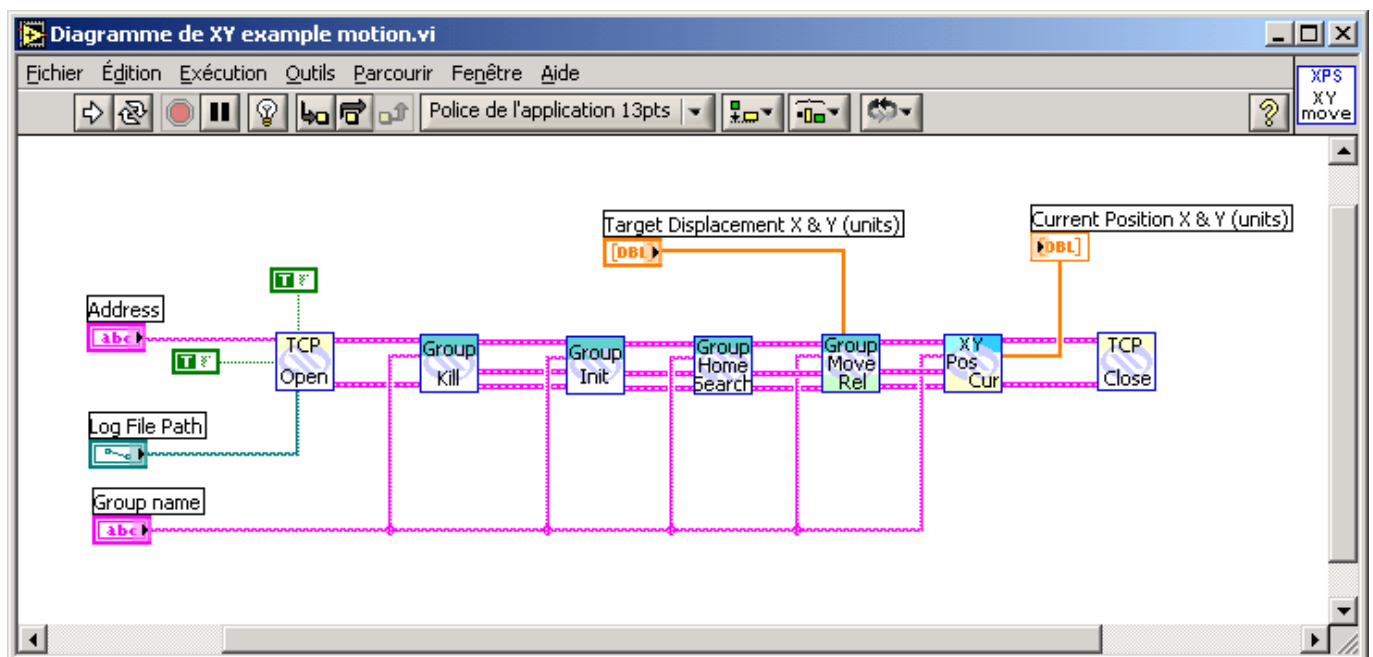
After execution of the vi, the current positions of the X and Y positioners are displayed in the *Current Position X & Y (units)* edit boxes.

A file called *log.txt* is generated in the disk C (path indicated in the *Log File Path* edit box). It lists all the commands that the VI file execution sent to the XPS.

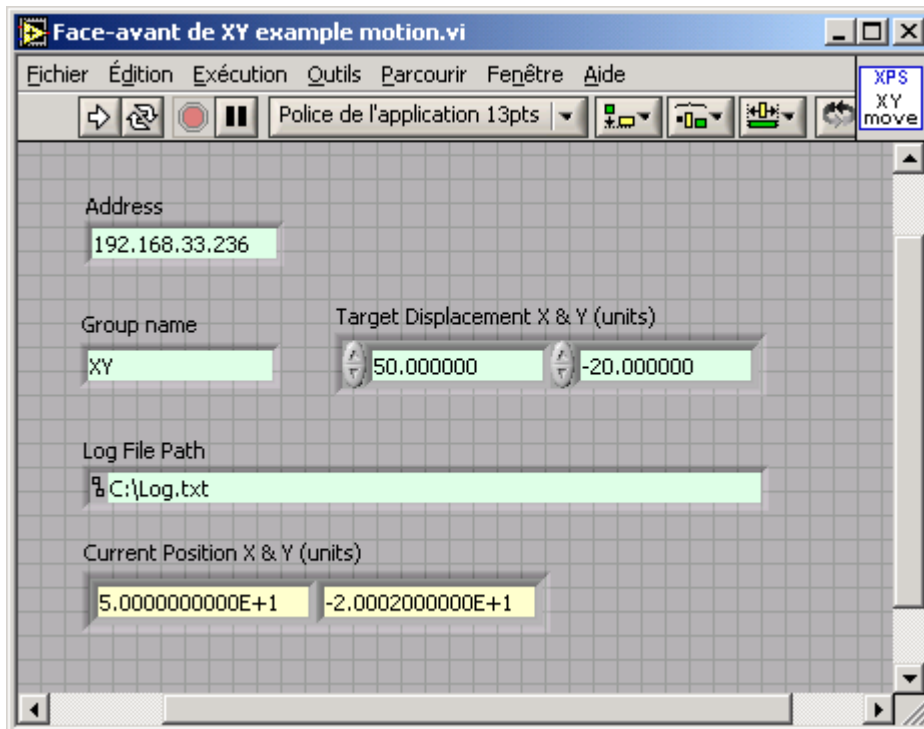
### Connector Pane



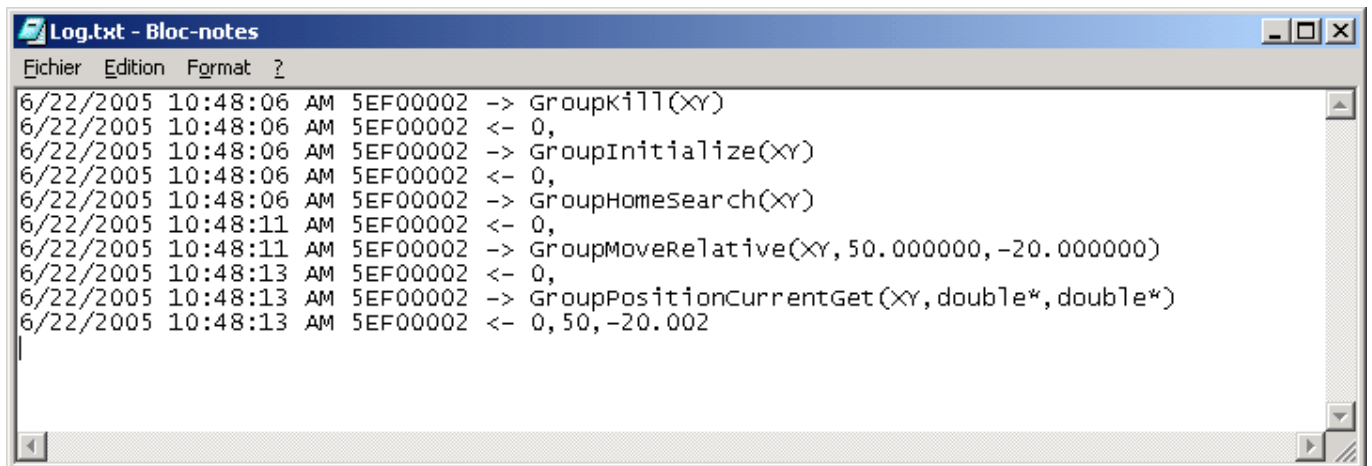
### Diagram



Front panel shows the displacement for (X; Y) = (50; -20)



### Log file





## 15.5 XY example reading .vi

### Description

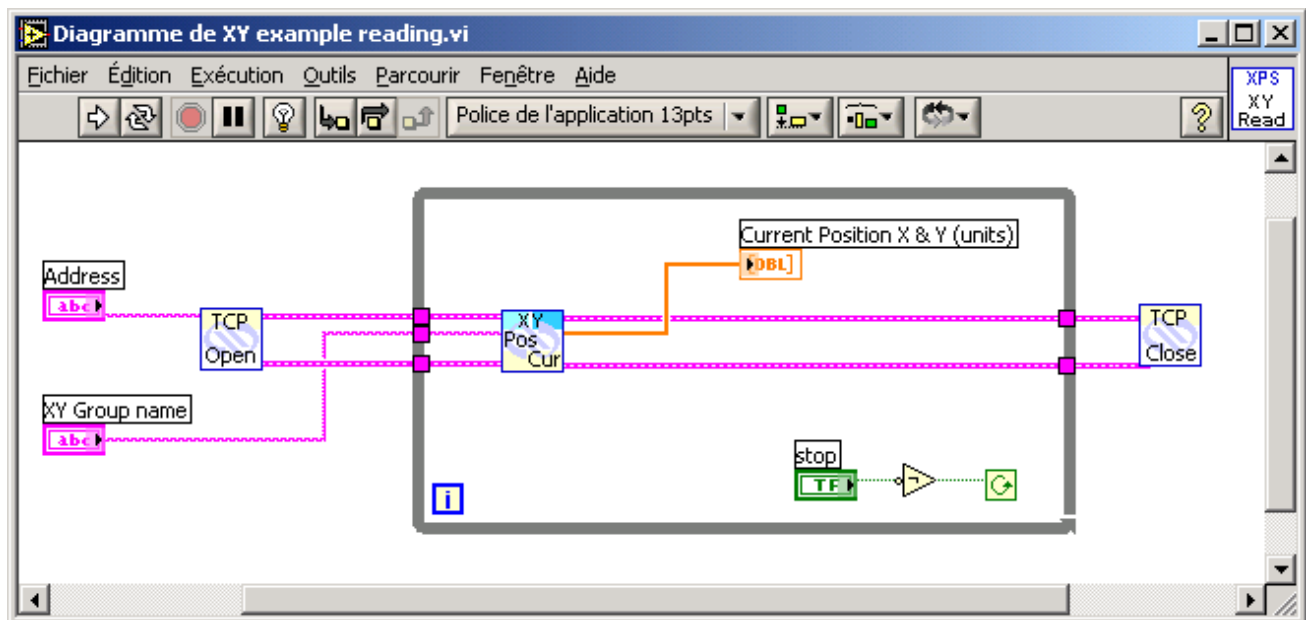
This example gets the current positions of X and Y positioners in the *Current Position X & Y (units)* edit boxes. Before running it,

- enter the IP address of the XPS controller in the *Address* edit box,
- enter the name of the XY group in the *XY Group name* edit box.

### Connector Pane

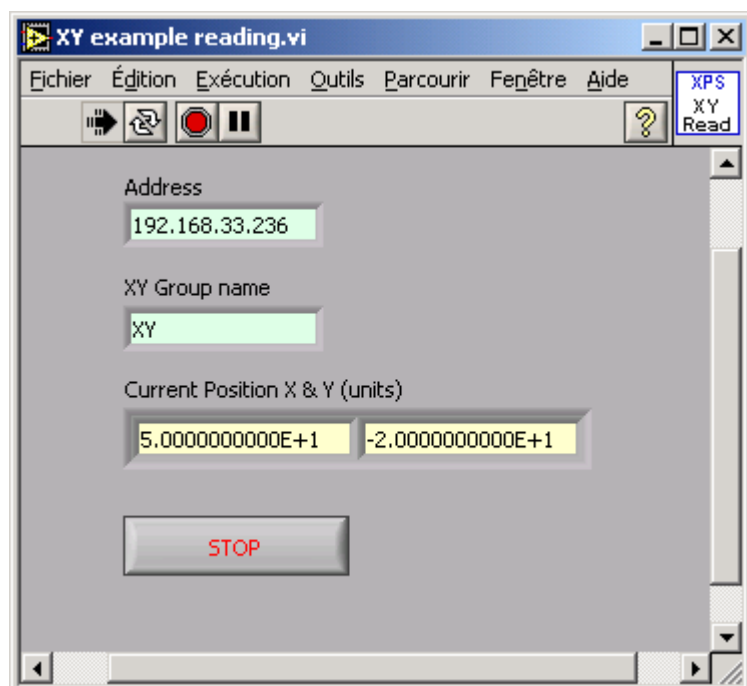
XPS  
XY  
Read

### Diagram



## Examples

**Front panel** shows the displacement for (X; Y) = (50; -20). During moves, the current positions are displayed in real time.



## 15.6 Analog encoder calibration display.vi

### Description

This example displays the encoder amplitude values (in Volts). It allows the user to know how big the encoder output signals are at any given time. Before running it, enter the IP address of the XPS controller in the *Controller Address* edit box. Then, select the positioner for which the analog encoder parameters are required and press the **START** button.

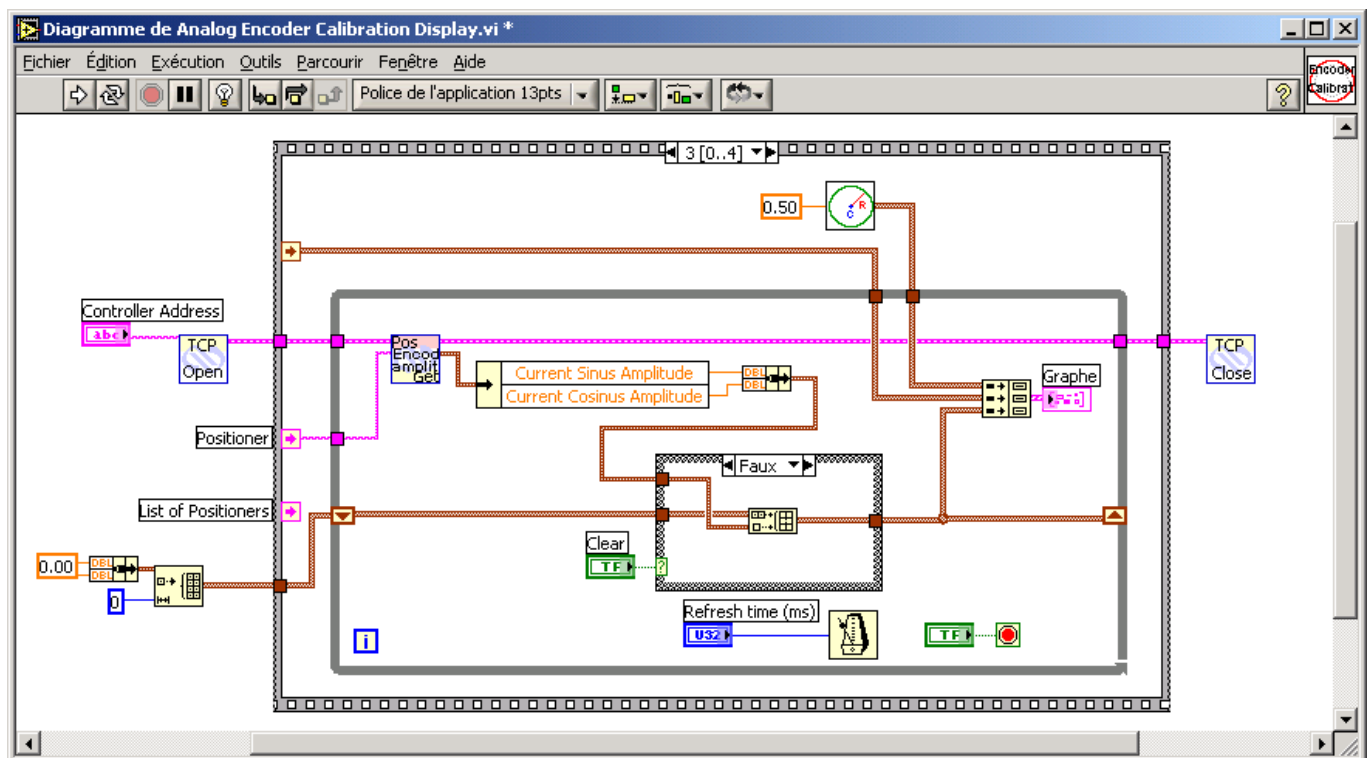
### CAUTION:

The Encoder Type must be "AnalogInterpolated" and the group must be initialized with encoder calibration.

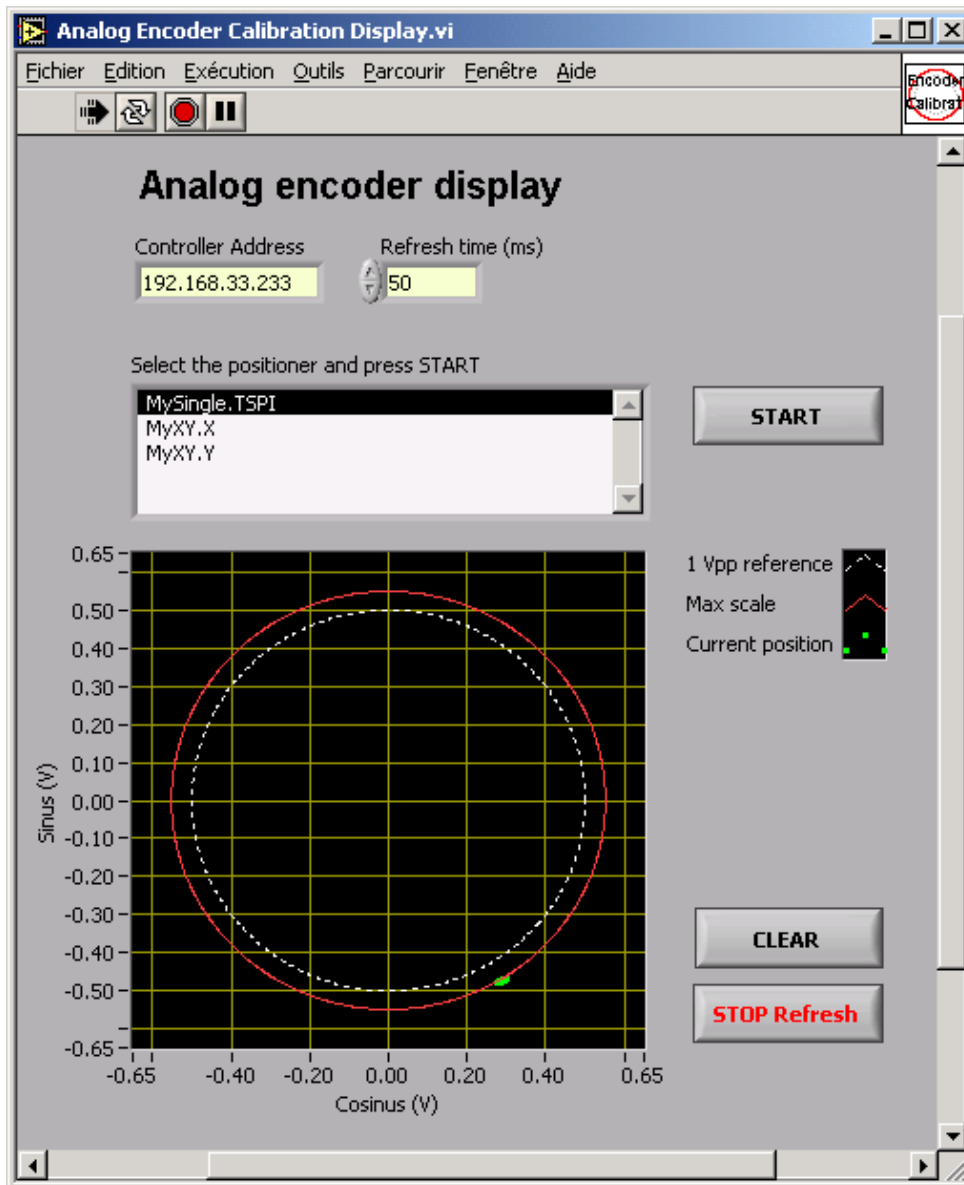
### Connector Pane



### Diagram

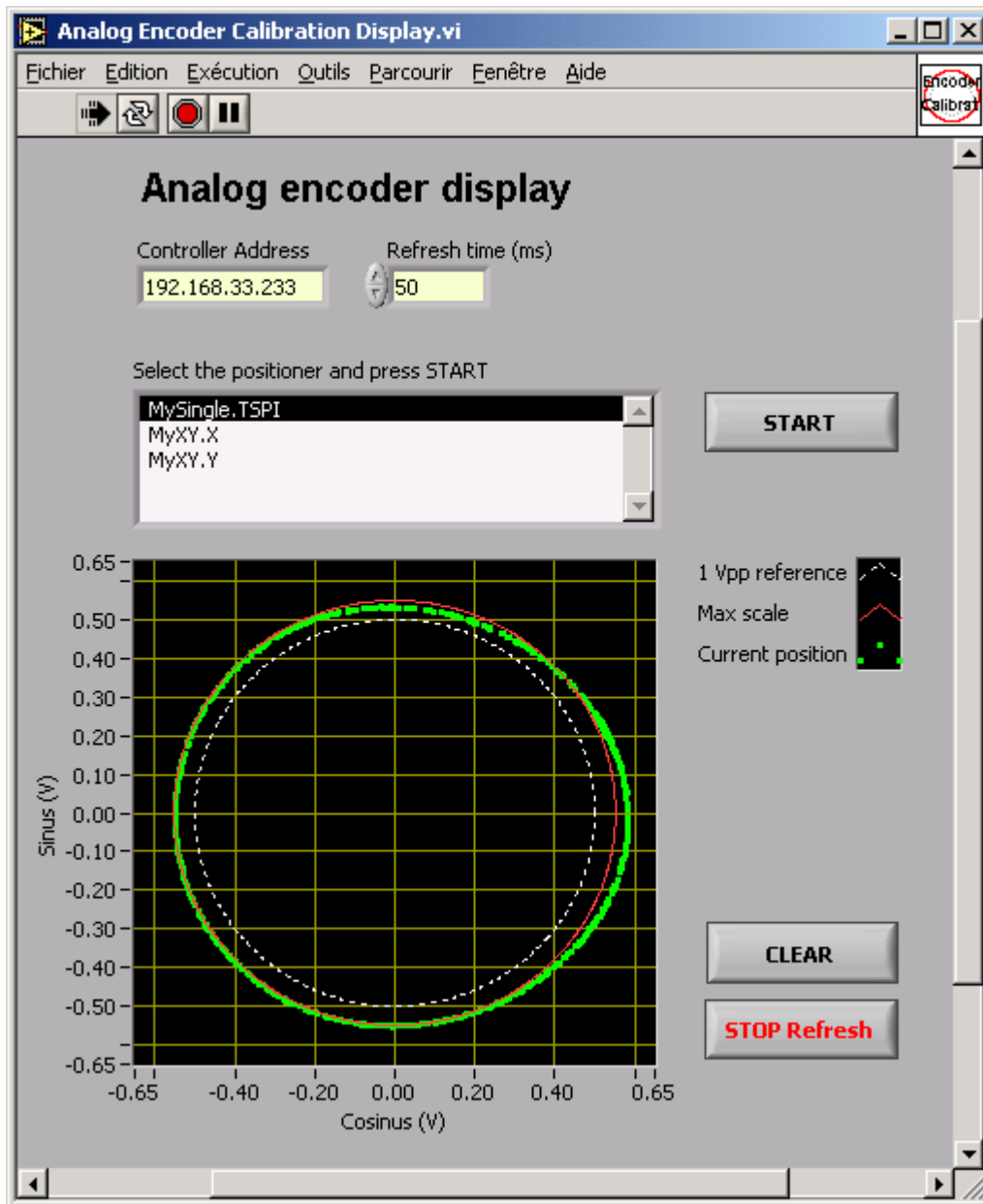


Front panel



Use **PositionerEncoderCalibrationParametersGet( )** and **PositionerEncoderAmplitudeValuesGet( )** APIs to get calibration results.

After the calibration setting :



---

## Newport Corporation Worldwide Headquarters

### North America & Asia:

Newport Corporation  
1791 Deere Avenue  
Irvine, CA 92606  
USA

Tel: (949)-863-3144 or  
(800)-222-6440  
Fax: (949)-253-1680

Email: [sales@newport.com](mailto:sales@newport.com)  
[tech@newport.com](mailto:tech@newport.com)

### Europe:

Newport / Micro-Contrôle S.A.  
11 Rue du Bois Sauvage  
F-91055 Evry Cedex  
FRANCE

Tel: 33-(0)1-60-91-68-68  
Fax: 33-(0)1-60-91-68-69

Email: [france@newport-fr.com](mailto:france@newport-fr.com)  
[tech\\_europe@newport.com](mailto:tech_europe@newport.com)



**Newport**

Visit Newport Online at: [www.newport.com](http://www.newport.com)



Newport Corporation, Irvine,  
California, has been certified  
compliant with ISO 9001 by the  
British Standards Institution.