Agilis AG-UC2 & AG-UC8

Agilis™ Series Controllers

Newport®
Experience | Solutions

Command Library API Manual

V2.0.0

For Motion, Think Newport™

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Agilis AG-UC2 & AG-UC8
Agilis™ Series Controllers

1 Introduction

1.1 Purpose

The purpose of this document is to describe the application programming interface (API) of the command library (AgilisCmdLib.dll) that is used to communicate with the AGILIS-UC2 or AGILIS-UC8 device.

1.2 Overview

The command library provides public methods to communicate with any AGILIS-UC2 or AGILIS-UC8 device and these methods work in both synchronous and asynchronous mode. Many of the ASCII commands that can be programmatically sent to the instrument have a corresponding method that can be called in the command library. For example, the ASCII "VE" command can be sent to the instrument to get the controller version, and the command library has a corresponding public method "VE" that returns the controller version and error information. For more information on a particular ASCII command see the manual for the controller.

2 Command Interface

2.1 Constructor

AgilisCmds ()

The constructor is used to create an instance of the command library.

2.2 Functions

2.2.1 General

2.2.1.1 OpenInstrument

Syntax

int OpenInstrument(string strDeviceKey)

string strDeviceKey: the device key is a serial COM port

return: 0 = successful or -1 = failure

Decription

This function allows opening communication with the selected device. If the opening failed, the returned code is -1.

2.2.1.2 CloseInstrument

Syntax

int CloseInstrument()

return: 0 = successful or -1 = failure

Decription

This function allows closing communication with the selected device. If the closing failed, the returned code is -1.

2.2.1.3 GetDevices

Syntax

string[] GetDevices()

return: list of strings that contains the accessible COM ports.

Decription

This function returns the list of connected devices available to communicate.

2.2.1.4 WriteToInstrument

Syntax

int WriteToInstrument(string command, ref string resp, int stage)

command: Instrument command

resp: Response of the command

stage: Instrument Stage

return: function error

Decription

This overridden function Queries or writes the command given by the user to the instrument.

2.2.2 Commands

2.2.2.1 CC_Get

Syntax

int CC_Get(out int ChannelNumber, out string errstring)

ChannelNumber: ChannelNumber

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous CC Get command which is used to Select channel (AGILIS-UC8 only). Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.2 CC_Set

Syntax
int CC_Set(int ChannelNumber, out string errstring)

ChannelNumber: ChannelNumber

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous CC Set command which is used to Select channel (AGILIS-UC8 only). Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.3 JA_Get

Syntax
int JA_Get(int controllerAddress, out int JogMode, out string errstring)

controllerAddress: controllerAddress

JogMode: JogMode

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous JA Get command which is used to Jog motion. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.4 JA_Set

Syntax
int JA_Set(int controllerAddress, int JogMode, out string errstring)

controllerAddress: controllerAddress

JogMode: JogMode

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous JA Set command which is used to Jog motion. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.5 MA

Syntax
int MA(int controllerAddress, out int Distance, out string errstring)

controllerAddress: controllerAddress

Distance: Distance

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous MA Get command which is used to Measure current position. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.6 ML

Syntax
int ML(out string errstring)

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous ML Set command which is used to Local mode. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.7 MR

Syntax
int MR(out string errstring)

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous MR Set command which is used to Remote mode. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.8 MV_Get

Syntax
int MV_Get(int controllerAddress, out int JogMode, out string errstring)

controllerAddress: controllerAddress

JogMode: JogMode

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous MV Get command which is used to Move to limit. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.9 MV_Set

Syntax
int MV_Set(int controllerAddress, int JogMode, out string errstring)

controllerAddress: controllerAddress

JogMode: JogMode

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous MV Set command which is used to Move to limit. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.10 PA_Get

Syntax
int PA_Get(int controllerAddress, out int Target, out string errstring)

controllerAddress: controllerAddress

Target: Target

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous PA Get command which is used to Absolute move. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.11 PA_Set

Syntax
int PA_Set(int controllerAddress, int Target, out string errstring)

controllerAddress: controllerAddress

Target: Target

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous PA Set command which is used to Absolute move. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.12 PH

Syntax
int PH(out int LimitStatus, out string errstring)

LimitStatus: LimitStatus

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous PH Get command which is used to Tell limit status. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.13 PR

Syntax
int PR(int controllerAddress, long NumberSteps, out string errstring)

controllerAddress: controllerAddress

NumberSteps: NumberSteps

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous PR Set command which is used to Relative move. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.14 RS

Syntax

int RS(out string errstring)

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous RS Set command which is used to Reset. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.15 ST

Syntax

int ST(int controllerAddress, out string errstring)

controllerAddress: controllerAddress

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous ST Set command which is used to Stop motion. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.16 SU_Get

Syntax

int SU_Get(int controllerAddress, string Direction, out int StepAmplitude, out string errstring)

controllerAddress: controllerAddress

Direction: Direction

StepAmplitude: StepAmplitude

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous SU Get command which is used to Set step amplitude. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.17 SU_Set

Syntax

int SU_Set(int controllerAddress, string Direction, int StepAmplitude, out string errstring)

controllerAddress: controllerAddress

Direction: Direction

StepAmplitude: StepAmplitude

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous SU Set command which is used to Set step amplitude. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.18 TE

Syntax
int TE(out int ErrorPreviousCommand, out string errstring)

ErrorPreviousCommand: ErrorPreviousCommand

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous TE Get command which is used to Get error of previous command. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.19 TP

Syntax
int TP(int controllerAddress, out int NumberSteps, out string errstring)

controllerAddress: controllerAddress

NumberSteps: NumberSteps

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous TP Get command which is used to Tell number of steps. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.20 TS

Syntax
int TS(int controllerAddress, out int AxisStatus, out string errstring)

controllerAddress: controllerAddress

AxisStatus: AxisStatus

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous TS Get command which is used to Get axis status. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.21 VE

Syntax
int VE(out string ControllerVersion, out string errstring)

ControllerVersion: ControllerVersion

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous VE Get command which is used to Firmware version. Refer to the AG-UC2-UC8 User's manual to get the command description.

2.2.2.22 ZP

Syntax

int ZP(int controllerAddress, out string errstring)

controllerAddress: controllerAddress

errString: The failure reason

return: 0 in success and -1 on failure

Description

This function is used to process synchrounous ZP Set command which is used to Zero position. Refer to the AG-UC2-UC8 User's manual to get the command description.

Service Form

Your Local Representative

Tel.: _____

Fax:_____

Name: _____

Company:_____

Address:_____

Country:_____

P.O. Number:_____

Item(s) Being Returned:_____

Model#: _____

Return authorization #: _____
(Please obtain prior to return of item)

Date: _____

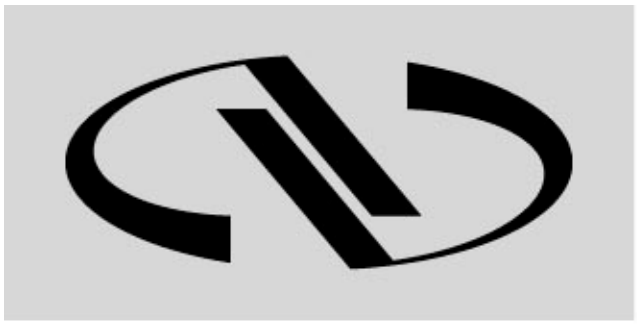
Phone Number: _____

Fax Number: _____

Serial #: _____

Description: _____

Reasons of return of goods (please list any specific problems): _____



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Newport Corporation
1791 Deere Ave.
Irvine, CA 92606, USA

Sales
Tel.: (800) 222-6440
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Technical Support
Tel.: (800) 222-6440
e-mail: tech@newport.com

Service, RMAs & Returns
Tel.: (800) 222-6440
e-mail: rma.service@newport.com

Europe
MICRO-CONTROLE Spectra-Physics S.A.S
1, rue Jules Guesde – Bât. B
ZI Bois de l'Épine – BP189
91006 Evry Cedex
France

Sales
Tel.: +33 (0)1.60.91.68.68
e-mail: france@newport-fr.com

Technical Support
e-mail: tech_europe@newport.com

Service & Returns
Tel.: +33 (0)2.38.40.51.55