

# RSLogix Micro Project Report



Processor Information

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Processor Type: Bul.1763      MicroLogix 1100 Series B

Processor Name: UNTITLED

Total Memory Used: 288 Instruction Words Used - 191 Data Table Words Used

Total Memory Left: 6368 Instruction Words Left

Program Files: 3

Data Files: 11

Program ID: 3138

I/O Configuration

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0	Bul.1763	MicroLogix 1100 Series B
1		
2		
3		
4		

## Channel Configuration

## CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex

CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex Edit Resource/Owner Timeout: 60  
CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex Passthru Link ID: 1  
CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex Write Protected: No  
CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex Comms Servicing Selection: Yes  
CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex Message Servicing Selection: Yes  
CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex 1st AWA Append Character: \d  
CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex 2nd AWA Append Character: \a

Source ID: 1 (decimal)  
Baud: 19200  
Parity: NONE  
Control Line : No Handshaking  
Error Detection: CRC  
Embedded Responses: Auto Detect  
Duplicate Packet Detect: Yes  
ACK Timeout(x20 ms): 50  
NAK Retries: 3  
ENQ Retries: 3

## CHANNEL 1 (SYSTEM) - Driver: Ethernet

CHANNEL 1 (SYSTEM) - Driver: Ethernet Edit Resource/Owner Timeout: 60  
CHANNEL 1 (SYSTEM) - Driver: Ethernet Passthru Link ID: 1  
CHANNEL 1 (SYSTEM) - Driver: Ethernet Write Protected: No  
CHANNEL 1 (SYSTEM) - Driver: Ethernet Comms Servicing Selection: Yes  
CHANNEL 1 (SYSTEM) - Driver: Ethernet Message Servicing Selection: Yes

Hardware Address: 00:00:00:00:00:00  
IP Address: 0.0.0.0  
Subnet Mask: 0.0.0.0  
Gateway Address: 0.0.0.0  
Msg Connection Timeout (x 1mS): 15000  
Msg Reply Timeout (x mS): 3000  
Inactivity Timeout (x Min): 30  
Bootp Enable: No  
Dhcp Enable: Yes  
SNMP Enable: No  
HTTP Enable: Yes  
Auto Negotiate Enable: Yes  
Port Speed Enable: 10/100 Mbps Full Duplex/Half Duplex  
Contact:  
Location:

## Program File List

Name	Number	Type	Rungs	Debug	Bytes
[SYSTEM]	0	SYS	0	No	0
	1	SYS	0	No	0
	2	LADDER	13	No	1015

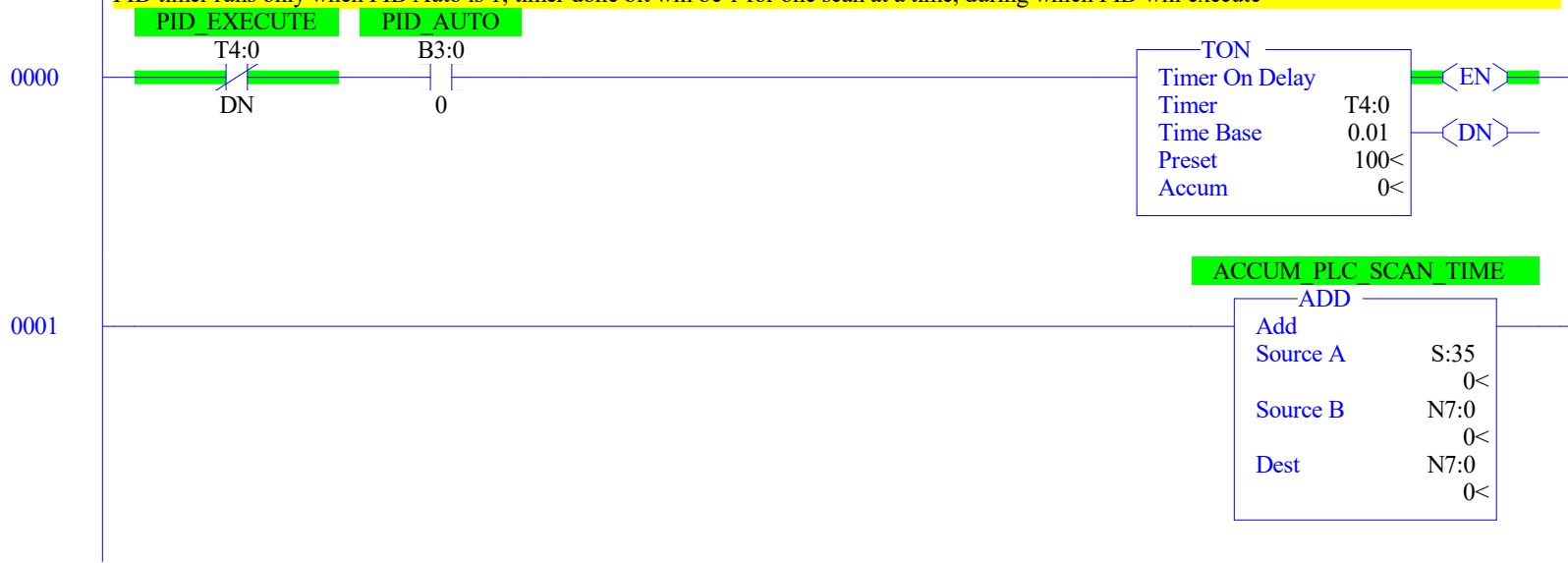
## Data File List

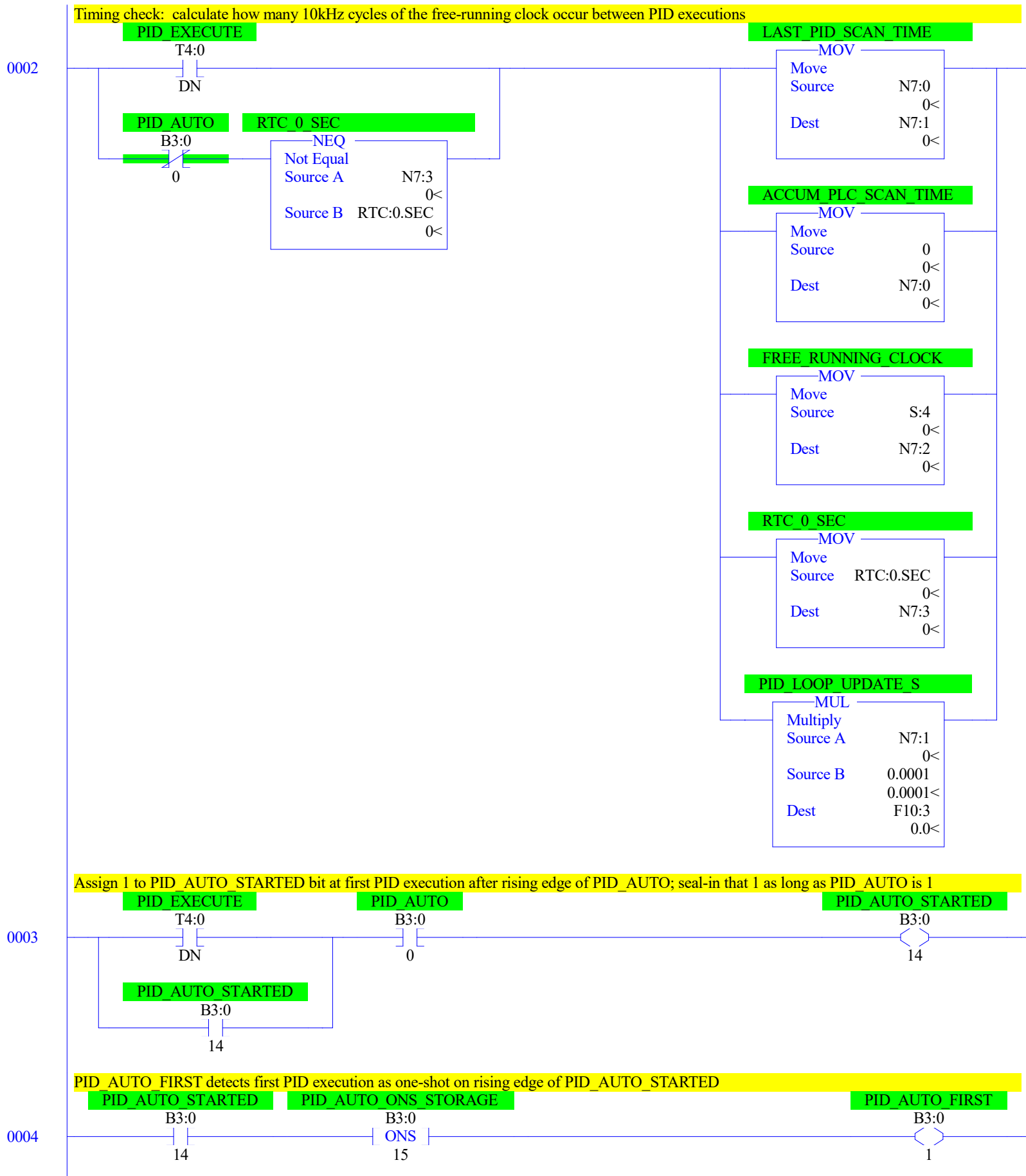
Name	Number	Type	Scope	Debug	Words	Elements	Last
OUTPUT	0	O	Global	No	12	4	O:3
INPUT	1	I	Global	No	18	6	I:5
STATUS	2	S	Global	No	0	66	S:65
BINARY	3	B	Global	No	10	10	B3:9
TIMER	4	T	Global	No	3	1	T4:0
COUNTER	5	C	Global	No	3	1	C5:0
CONTROL	6	R	Global	No	3	1	R6:0
INTEGER	7	N	Global	No	16	16	N7:15
DUMYTARGET	8	F	Global	No	2	1	F8:0
PARAMETERS	9	F	Global	No	64	32	F9:31
PID_FLOATS	10	F	Global	No	60	30	F10:29

## PID implements Rockwell Dependent form for MicroLogix 1100

Cf. <https://www.plcgurus.net/implement-controllogix-pid-controller/>

PID timer runs only when PID Auto is 1; timer done bit will be 1 for one scan at a time, during which PID will execute







Calculate PID Error; convert Reset (Ti) and Rate (Td) time constants from minutes to Hz and seconds, respectively; invert sign of Td\_seconds for Reverse-Reacting controller; calculate deltaTime

### PID\_EXECUTE

T4:0  
DN

### PID\_ERROR

SUB

Subtract

Source A F10:6

0.0<

Source B F10:5

0.0<

Dest F10:7

0.0<

### PID\_REVERSE\_REACTING

B3:0

2

### PID\_ERROR

MUL

Multiply

Source A F10:7

0.0<

Source B -1.0

-1.0<

Dest F10:7

0.0<

### PID\_RESET T SUB I

GRT

Greater Than (A>B)

Source A F10:1

0.0<

Source B 0.0

0.0<

### PID\_RESET HZ

DIV

Divide

Source A 1.0

1.0<

Source B F10:1

0.0<

Dest F10:15

0.0<

### PID\_RESET HZ

DIV

Divide

Source A F10:15

0.0<

Source B 60.0

60.0<

Dest F10:15

0.0<

### PID\_RESET T SUB I

LEQ

Less Than or Eql (A<=B)

Source A F10:1

0.0<

Source B 0.0

0.0<

### PID\_RESET HZ

MOV

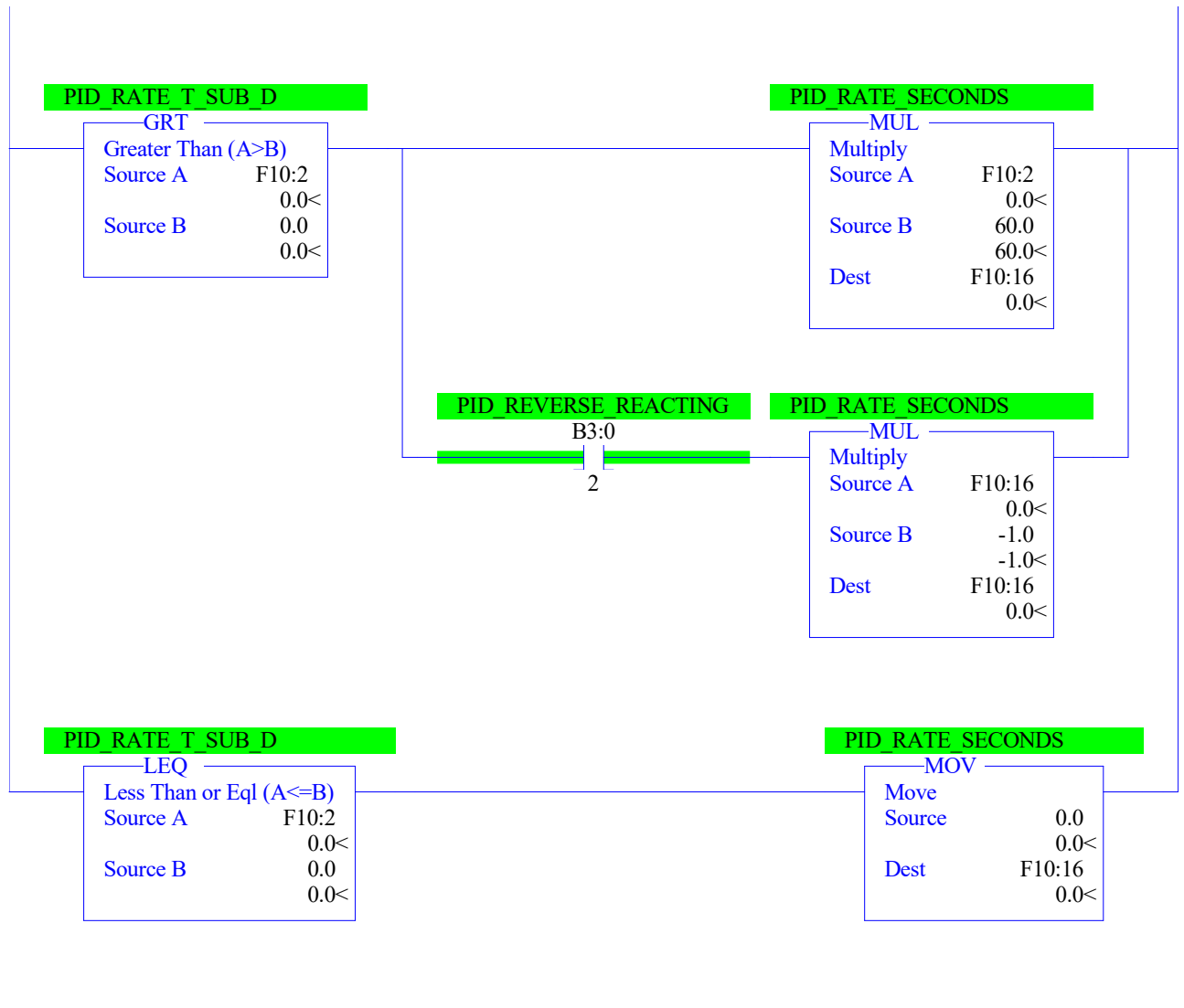
Move

Source 0.0

0.0<

Dest F10:15

0.0<



Special processing for first PID scan to ensure all increment terms will be zero by assigning appropriate values:

- PID\_PREVIOUS\_PV = 2 \* Setpoint - PID\_PREVIOUS\_VALUE

- PID\_PREVIOUS\_ERROR = PID\_ERROR

- PID\_PREVIOUS\_DPVDT = (PID\_PRESENT\_VALUE - PID\_PREVIOUS\_PV) / deltaT

0006

PID\_EXECUTE

PID\_AUTO\_FIRST

PID\_PREVIOUS\_PV

T4:0

B3:0

DN

1

MUL

Multiply

Source A

2.0

Source B

2.0&lt;

Source B

F10:5

Dest

0.0&lt;

Dest

F10:17

Dest

0.0&lt;

PID\_PREVIOUS\_PV

SUB

Subtract

Source A

F10:17

Source B

0.0&lt;

Source B

F10:6

Dest

0.0&lt;

Dest

F10:17

Dest

0.0&lt;

PID\_PREVIOUS\_ERROR

MOV

Move

Source

F10:7

Dest

0.0&lt;

Dest

F10:18

Dest

0.0&lt;

PID\_PREVIOUS\_DPVDT

SUB

Subtract

Source A

F10:6

Source B

0.0&lt;

Source B

F10:17

Dest

0.0&lt;

Dest

F10:19

Dest

0.0&lt;

PID\_PREVIOUS\_DPVDT

DIV

Divide

Source A

F10:19

Source B

0.0&lt;

Source B

F10:3

Dest

0.0&lt;

Dest

F10:19

Dest

0.0&lt;

Calculate Proportional (Gain) term increment: Ecurrent - Eprevious; multiplication by Kc will be done at the end;

PID\_EXECUTE

PID\_GAIN\_INCREMENT

T4:0

DN

SUB

Subtract

Source A

F10:7

Source B

0.0&lt;

Source B

F10:18

Dest

0.0&lt;

Dest

F10:10

Dest

0.0&lt;

0007

Calculate Integral (Reset) term increment:  $((E_{\text{current}} + E_{\text{previous}}) / 2) \Delta T / T_i$ 

PID\_EXECUTE

T4:0

DN

PID\_RESET\_INCREMENT

ADD

Add	
Source A	F10:7
	0.0<
Source B	F10:18
	0.0<
Dest	F10:11
	0.0<

PID\_RESET\_INCREMENT

DIV

Divide	
Source A	F10:11
	0.0<
Source B	2.0
	2.0<
Dest	F10:11
	0.0<

PID\_RESET\_INCREMENT

MUL

Multiply	
Source A	F10:11
	0.0<
Source B	F10:3
	0.0<
Dest	F10:11
	0.0<

PID\_RESET\_INCREMENT

MUL

Multiply	
Source A	F10:11
	0.0<
Source B	F10:15
	0.0<
Dest	F10:11
	0.0<

0009

Calculate Derivative (Rate) term increment:  $T_d (dPV/dt_{current} - dPV/dt_{previous}) / \Delta T$ ;  $dPV/dt \sim (PV_{current} - PV_{previous}) / \Delta T$ 

PID\_EXECUTE

T4:0

DN

PID\_DPVDT

SUB

Subtract

Source A F10:6

0.0&lt;

Source B F10:17

0.0&lt;

Dest F10:8

0.0&lt;

PID\_DPVDT

DIV

Divide

Source A F10:8

0.0&lt;

Source B F10:3

0.0&lt;

Dest F10:8

0.0&lt;

PID\_RATE\_INCREMENT

SUB

Subtract

Source A F10:8

0.0&lt;

Source B F10:19

0.0&lt;

Dest F10:12

0.0&lt;

PID\_RATE\_INCREMENT

MUL

Multiply

Source A F10:12

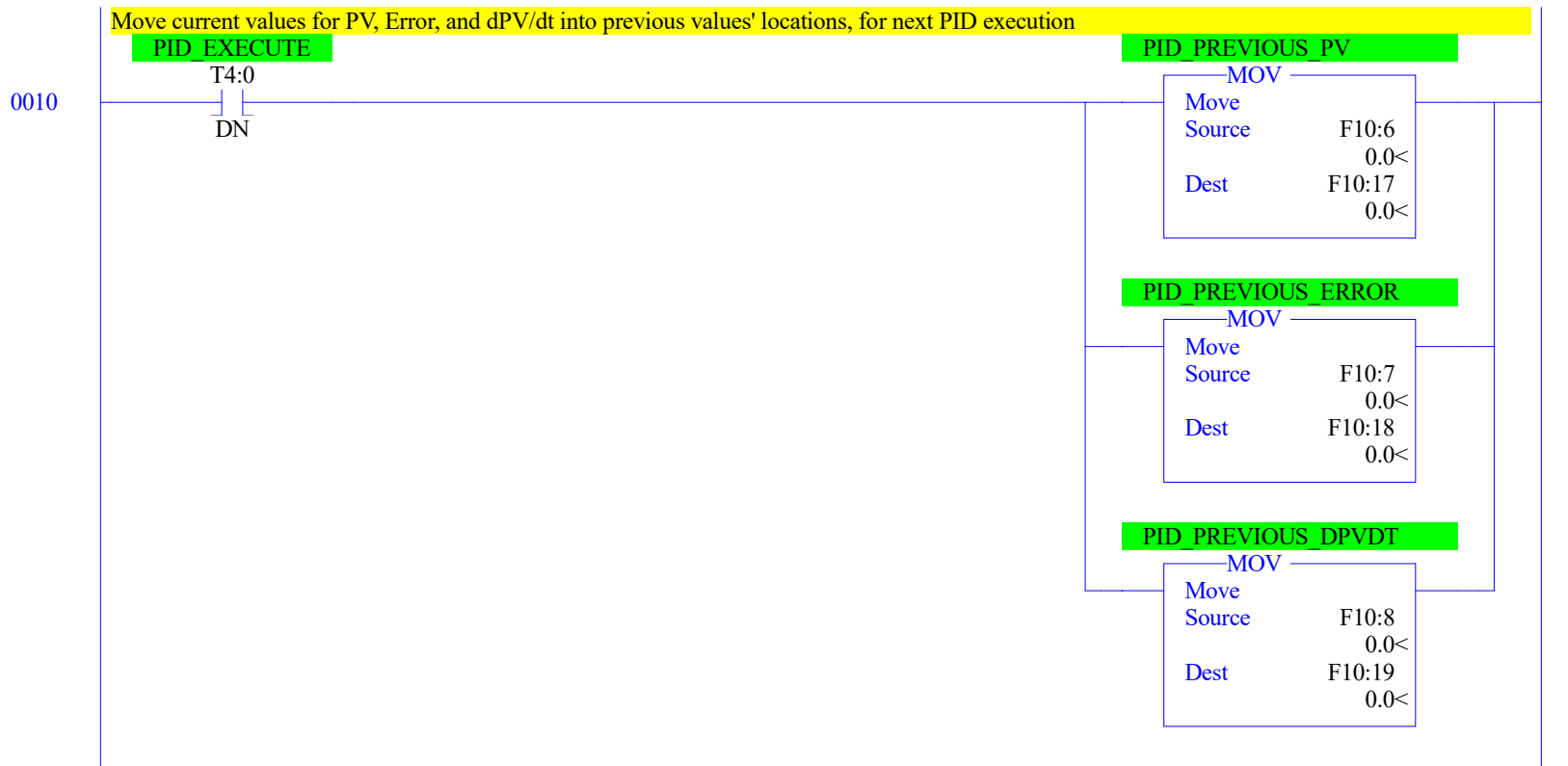
0.0&lt;

Source B F10:16

0.0&lt;

Dest F10:12

0.0&lt;



Sum P (Gain), I (Reset), and D (Rate) increments, scale result by Kc, add to output, limit output

PID\_EXECUTE

T4:0

DN

PID\_SCALED\_INCREMENT

ADD

Add

Source A F10:10

0.0&lt;

Source B F10:11

0.0&lt;

Dest F10:20

0.0&lt;

PID\_SCALED\_INCREMENT

ADD

Add

Source A F10:20

0.0&lt;

Source B F10:12

0.0&lt;

Dest F10:20

0.0&lt;

PID\_SCALED\_INCREMENT

MUL

Multiply

Source A F10:20

0.0&lt;

Source B F10:0

0.0&lt;

Dest F10:20

0.0&lt;

PID\_OUTPUT

ADD

Add

Source A F10:9

50.0&lt;

Source B F10:20

0.0&lt;

Dest F10:9

50.0&lt;

PID\_OUTPUT

LES

Less Than (A&lt;B)

Source A F10:9

50.0&lt;

Source B F10:21

0.0&lt;

PID\_OUTPUT

MOV

Move

Source F10:21

0.0&lt;

Dest F10:9

50.0&lt;

PID\_OUTPUT

GRT

Greater Than (A&gt;B)

Source A F10:9

50.0&lt;

Source B F10:22

100.0&lt;

PID\_OUTPUT

MOV

Move

Source F10:22

100.0&lt;

Dest F10:9

50.0&lt;

END

Offset	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
O:0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763	MicroLogix	1100	Series B
O:0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763	MicroLogix	1100	Series B
O:0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763	MicroLogix	1100	Series B
O:0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763	MicroLogix	1100	Series B



pressure_control.RSS																	
Data File I1 (bin) -- INPUT																	
Offset	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
I:0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763 MicroLogix 1100 Series B
I:0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763 MicroLogix 1100 Series B
I:0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763 MicroLogix 1100 Series B
I:0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763 MicroLogix 1100 Series B
I:0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763 MicroLogix 1100 Series B-Analog
I:0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763 MicroLogix 1100 Series B-Analog

**Main**

Processor Mode S:1/0 - S:1/4 = Remote Program Mode  
On Power up Go To Run (Mode Behavior) S:1/12 = 0  
First Pass S:1/15 = No  
Free Running Clock S:4 = 0000-0000-0000-0000

**Proc**

OS Catalog Number S:57 = 1100                      User Program Type S:63 = 8001h  
OS Series S:58 = A                                  Compiler Revision Number S:64 =  
OS FRS S:59 =  
Processor Catalog Number S:60 =  
Processor Series S:61 = A  
Processor FRN S:62 =

**Scan Times**

Maximum (x10 ms) S:22 = 0  
Watchdog (x10 ms) S:3 (high byte) = 10  
Last 100 uSec Scan Time S:35 = 0  
Scan Toggle Bit S:33/9 = 0

**Math**

Math Overflow Selected S:2/14 = 1                      Math Register (lo word) S:13 = 0  
Overflow Trap S:5/0 = 0                              Math Register (high word) S:14-S:13 = 0  
Carry S:0/0 = 0                                      Math Register (32 Bit) S:14-S:13 = 0  
Overflow S:0/1 = 0  
Zero Bit S:0/2 = 0  
Sign Bit S:0/3 = 0

**Chan 0**

Processor Mode S:1/0- S:1/4 = Remote Program Mode  
Node Address S:15 (low byte) = 0                      Outgoing Msg Cmd Pending S:33/2 = 0  
Baud Rate S:15 (high byte) = ?  
Channel Mode S:33/3 = 0  
Comms Active S:33/4 = 0  
Incoming Cmd Pending S:33/0 = 0  
Msg Reply Pending S:33/1 = 0

**Debug**

Suspend Code S:7 = 0  
Suspend File S:8 = 0

**Errors**

Fault Override At Power Up S:1/8 = 0                      Fault Routine S:29 = 0  
Startup Protection Fault S:1/9 = 0                      Major Error S:6 = 0h  
Major Error Halt S:1/13 = 0  
Overflow Trap S:5/0 = 0                              Error Description:  
Control Register Error S:5/2 = 0  
Major Error Executing User Fault Rtn. S:5/3 = 0  
Battery Low S:5/11 = 0  
Input Filter Selection Modified S:5/13 = 0  
ASCII String Manipulation error S:5/15 = 0

**Protection**

Deny Future Access S:1/14 = No  
Data File Overwrite Protection Lost S:36/10 = False

**Mem Module**

Memory Module Loaded On Boot S:5/8 = 0  
Password Mismatch S:5/9 = 0  
Load Memory Module On Memory Error S:1/10 = 0  
Load Memory Module Always S:1/11 = 0  
On Power up Go To Run (Mode Behavior) S:1/12 = 0  
Program Compare S:2/9 = 0  
Data File Overwrite Protection Lost S:36/10 = 0

**Forces**

Forces Enabled S:1/5 = Yes  
Forces Installed S:1/6 = No

Offset	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	(Symbol) Description
B3:0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	(PID_BITS)
B3:1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B3:2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B3:3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B3:4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B3:5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B3:6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B3:7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B3:8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B3:9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Offset	EN	TT	DN	BASE	PRE	ACC	(Symbol)	Description
T4:0	1	1	0	.01 sec	100	0		

Offset	CU	CD	DN	OV	UN	UA	PRE	ACC	(Symbol)	Description
C5:0	0	0	0	0	0	0	0	0		

Offset	EN	EU	DN	EM	ER	UL	IN	FD	LEN	POS	(Symbol)	Description
R6:0	0	0	0	0	0	0	0	0	0	0		

Data File N7 (dec) -- INTEGER

Offset	0	1	2	3	4	5	6	7	8	9
N7:0	0	0	0	0	0	0	0	0	0	0
N7:10	0	0	0	0	0	0				



Offset	0	1	2	3	4
F8:0	0				

Offset	0	1	2	3	4
F9:0	0	0	0	0	0
F9:5	0	0	0	0	0
F9:10	0	0	0	0	0
F9:15	0	0	0	0	0
F9:20	0	0	0	0	0
F9:25	0	0	0	0	0
F9:30	0	0			

Data File F10 -- PID\_FLOATS

Offset	0	1	2	3	4
F10:0	0	0	0	0	0
F10:5	0	0	0	0	50
F10:10	0	0	0	0	0
F10:15	0	0	0	0	0
F10:20	0	0	100	0	0
F10:25	0	0	0	0	0

## Address/Symbol Database

Address	Symbol	Scope	Description	Sym Group
	PID_REVERSE	Global		
	PID_PREVIOUS_PV	Global		
	PID_LAST_PV	Global		
B3:0	PID_BITS	Global		
B3:0/0	PID_AUTO	Global		
B3:0/1	PID_AUTO_FIRST	Global		
B3:0/2	PID_REVERSE_REACTING	Global		
B3:0/14	PID_AUTO_STARTED	Global		
B3:0/15	PID_AUTO_ONS_STORAGE	Global		
F8:0	UNUSED_DUMMY_TARGET	Global	AdvancedHMIControls push values here to update Analog Value Displays	
F9:0	PSIG	Global		
F9:1	DELTA_PSIG_FROM_MODE	Global		
F9:2	SPEED_0_100	Global		
F9:3	RAMP_DELTA_SPEED	Global		
F10:0	PID_GAIN_K_SUB_C	Global		
F10:1	PID_RESET_T_SUB_I	Global		
F10:2	PID_RATE_T_SUB_D	Global		
F10:3	PID_LOOP_UPDATE_S	Global		
F10:5	PID_SETPPOINT	Global		
F10:6	PID_PRESENT_VALUE	Global		
F10:7	PID_ERROR	Global		
F10:8	PID_DPVDVT	Global		
F10:9	PID_OUTPUT	Global		
F10:10	PID_GAIN_INCREMENT	Global		
F10:11	PID_RESET_INCREMENT	Global		
F10:12	PID_RATE_INCREMENT	Global		
F10:13				
F10:14				
F10:15	PID_RESET_HZ	Global		
F10:16	PID_RATE_SECONDS	Global		
F10:17	PID_PREVIOUS_PV	Global		
F10:18	PID_PREVIOUS_ERROR	Global		
F10:19	PID_PREVIOUS_DPVDVT	Global		
F10:20	PID_SCALED_INCREMENT	Global		
F10:21	PID_OUT_LOW_LIMIT	Global		
F10:22	PID_OUT_HIGH_LIMIT	Global		
F10:29				
N7:0	ACCUM_PLC_SCAN_TIME	Global		
N7:1	LAST_PID_SCAN_TIME	Global		
N7:2	FREE_RUNNING_CLOCK	Global		
N7:3	RTC_0_SEC	Global		
RTC:0.SEC				
S:0			Arithmetic Flags	
S:0/0			Processor Arithmetic Carry Flag	
S:0/1			Processor Arithmetic Underflow/ Overflow Flag	
S:0/2			Processor Arithmetic Zero Flag	
S:0/3			Processor Arithmetic Sign Flag	
S:1			Processor Mode Status/ Control	
S:1/0			Processor Mode Bit 0	
S:1/1			Processor Mode Bit 1	
S:1/2			Processor Mode Bit 2	
S:1/3			Processor Mode Bit 3	
S:1/4			Processor Mode Bit 4	
S:1/5			Forces Enabled	
S:1/6			Forces Present	
S:1/7			Comms Active	
S:1/8			Fault Override at Powerup	
S:1/9			Startup Protection Fault	
S:1/10			Load Memory Module on Memory Error	
S:1/11			Load Memory Module Always	
S:1/12			Load Memory Module and RUN	
S:1/13			Major Error Halted	
S:1/14			Access Denied	
S:1/15			First Pass	
S:2/0			STI Pending	
S:2/1			STI Enabled	
S:2/2			STI Executing	
S:2/3			Index Addressing File Range	
S:2/4			Saved with Debug Single Step	
S:2/5			DH-485 Incoming Command Pending	
S:2/6			DH-485 Message Reply Pending	
S:2/7			DH-485 Outgoing Message Command Pending	
S:2/15			Comms Servicing Selection	
S:3			Current Scan Time/ Watchdog Scan Time	
S:4			Time Base	
S:5/0			Overflow Trap	
S:5/2			Control Register Error	
S:5/3			Major Err Detected Executing UserFault Routine	
S:5/4			M0-M1 Referenced on Disabled Slot	
S:5/8			Memory Module Boot	
S:5/9			Memory Module Password Mismatch	
S:5/10			STI Overflow	
S:5/11			Battery Low	
S:6			Major Error Fault Code	

## Address/Symbol Database

Address	Symbol	Scope	Description	Sym Group
S:7			Suspend Code	
S:8			Suspend File	
S:9			Active Nodes	
S:10			Active Nodes	
S:11			I/O Slot Enables	
S:12			I/O Slot Enables	
S:13			Math Register	
S:14			Math Register	
S:15			Node Address/ Baud Rate	
S:16			Debug Single Step Rung	
S:17			Debug Single Step File	
S:18			Debug Single Step Breakpoint Rung	
S:19			Debug Single Step Breakpoint File	
S:20			Debug Fault/ Powerdown Rung	
S:21			Debug Fault/ Powerdown File	
S:22			Maximum Observed Scan Time	
S:23			Average Scan Time	
S:24			Index Register	
S:25			I/O Interrupt Pending	
S:26			I/O Interrupt Pending	
S:27			I/O Interrupt Enabled	
S:28			I/O Interrupt Enabled	
S:29			User Fault Routine File Number	
S:30			STI Setpoint	
S:31			STI File Number	
S:32			I/O Interrupt Executing	
S:33			Extended Proc Status Control Word	
S:33/0			Incoming Command Pending	
S:33/1			Message Reply Pending	
S:33/2			Outgoing Message Command Pending	
S:33/3			Selection Status User/DF1	
S:33/4			Communicat Active	
S:33/5			Communicat Servicing Selection	
S:33/6			Message Servicing Selection Channel 0	
S:33/7			Message Servicing Selection Channel 1	
S:33/8			Interrupt Latency Control Flag	
S:33/9			Scan Toggle Flag	
S:33/10			Discrete Input Interrupt Reconfigur Flag	
S:33/11			Online Edit Status	
S:33/12			Online Edit Status	
S:33/13			Scan Time Timebase Selection	
S:33/14			DTR Control Bit	
S:33/15			DTR Force Bit	
S:34			Pass-thru Disabled	
S:34/0			Pass-Thru Disabled Flag	
S:34/1			DH+ Active Node Table Enable Flag	
S:34/2			Floating Point Math Flag Disable,Fl	
S:35			Last 1 ms Scan Time	
S:36			Extended Minor Error Bits	
S:36/8			DII Lost	
S:36/9			STI Lost	
S:36/10			Memory Module Data File Overwrite Protection	
S:37			Clock Calendar Year	
S:38			Clock Calendar Month	
S:39			Clock Calendar Day	
S:40			Clock Calendar Hours	
S:41			Clock Calendar Minutes	
S:42			Clock Calendar Seconds	
S:43			STI Interrupt Time	
S:44			I/O Event Interrupt Time	
S:45			DII Interrupt Time	
S:46			Discrete Input Interrupt- File Number	
S:47			Discrete Input Interrupt- Slot Number	
S:48			Discrete Input Interrupt- Bit Mask	
S:49			Discrete Input Interrupt- Compare Value	
S:50			Processor Catalog Number	
S:51			Discrete Input Interrupt- Return Number	
S:52			Discrete Input Interrupt- Accumulat	
S:53			Reserved/ Clock Calendar Day of the Week	
S:55			Last DII Scan Time	
S:56			Maximum Observed DII Scan Time	
S:57			Operating System Catalog Number	
S:58			Operating System Series	
S:59			Operating System FRN	
S:61			Processor Series	
S:62			Processor Revision	
S:63			User Program Type	
S:64			User Program Functional Index	
S:65			User RAM Size	
S:66			Flash EEPROM Size	
S:67			Channel 0 Active Nodes	
S:68			Channel 0 Active Nodes	
S:69			Channel 0 Active Nodes	
S:70			Channel 0 Active Nodes	

## Address/Symbol Database

Address	Symbol	Scope	Description	Sym Group
S:71			Channel 0 Active Nodes	
S:72			Channel 0 Active Nodes	
S:73			Channel 0 Active Nodes	
S:74			Channel 0 Active Nodes	
S:75			Channel 0 Active Nodes	
S:76			Channel 0 Active Nodes	
S:77			Channel 0 Active Nodes	
S:78			Channel 0 Active Nodes	
S:79			Channel 0 Active Nodes	
S:80			Channel 0 Active Nodes	
S:81			Channel 0 Active Nodes	
S:82			Channel 0 Active Nodes	
S:83			DH+ Active Nodes	
S:84			DH+ Active Nodes	
S:85			DH+ Active Nodes	
S:86			DH+ Active Nodes	
T4:0/DN	PID_EXECUTE	Global		

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Address	Instruction	Description
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Group_Name	Description
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