

Program blocks / 02_Controller

PID [FB9]

PID Properties

General

Name	PID	Number	9	Type	FB	Language	SCL
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value
▼ Input		
SP	Real	0.0
PV	Real	0.0
MV	Real	0.0
kp	Real	0.0
ki	Real	0.0
kd	Real	0.0
▼ Output		
MV_PID	Real	0.0
InOut		
▼ Static		
ep	Array[0..1] of Real	
de	Real	0.0
suma_ep	Real	0.0
Temp		
Constant		

```

0001 #ep[0] := #SP - #PV;
0002
0003 IF (ABS(#ep[0])) < (ABS(#SP)) THEN
0004     #de := #ep[0] - #ep[1];
0005
0006     IF #MV < 10.0 THEN
0007     IF #MV > -10.0 THEN
0008         #suma_ep := #suma_ep + #ep[0];
0009     END_IF;
0010     END_IF;
0011
0012     #MV_PID := #kp * #ep[0] + #ki * #suma_ep + #kd * #de;
0013
0014     IF #MV_PID > 10.0 THEN
0015         #MV_PID := 10.0;
0016     END_IF;
0017
0018     IF #MV_PID < -10.0 THEN
0019         #MV_PID := -10.0;
0020     END_IF;
0021
0022     #ep[1] := #ep[0];
0023
0024 ELSE
0025     #ep[1] := 0.0;
0026     #suma_ep := 0.0;
0027
0028 END_IF;

```