



How to connect PID-Tuner to PID Compact

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1 Introduction

The Siemens S7 TIA Portal software comes with a standard PID block, the PID Compact. This instruction shows what to do in the PLC in order to allow tuning it using the [PID-Tuner software](#).

2 What to do in the PLC

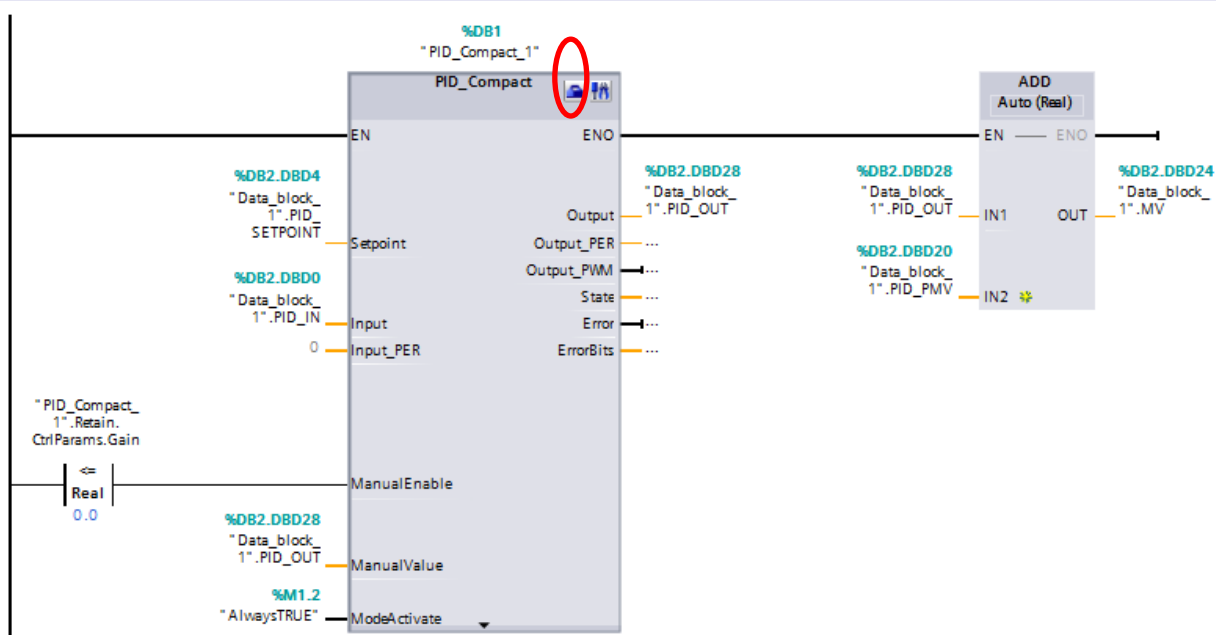
2.1 Make a datablock with tags that can be written via OPC.

We created these tags

	Name	Data type	Offset	Start value	Retain	Accessible f...	Visible in ...	Setpoint	Comment
1	Static				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	PID_IN	Real	0.0	0.0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Process Variable
3	PID_SETPOINT	Real	4.0	35.0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Setpoint
4	PID_KP	Real	8.0	25.0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Kp
5	PID_TI	Real	12.0	110.0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Ti
6	PID_TD	Real	16.0	0.0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Td
7	PID_PMV	Real	20.0	0.0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Perturbation on manipulated Variable
8	MV	Real	24.0	0.0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Manipulated Variable
9	PID_OUT	Real	28.0	0.0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Output of PID_Compact

2.2 Create a PID Compact instance

Create a network with a PID_Compact block and insert an ADD block where you add PID_PMV to the output of the PID block.

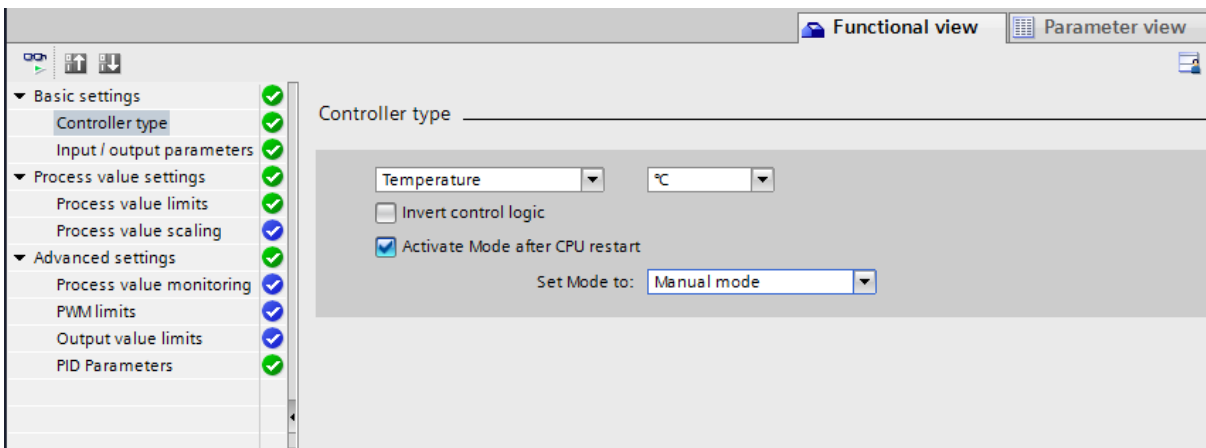


2.3 Configure the PID Compact

Push on the 'configuration' button (see red encircled area) above.

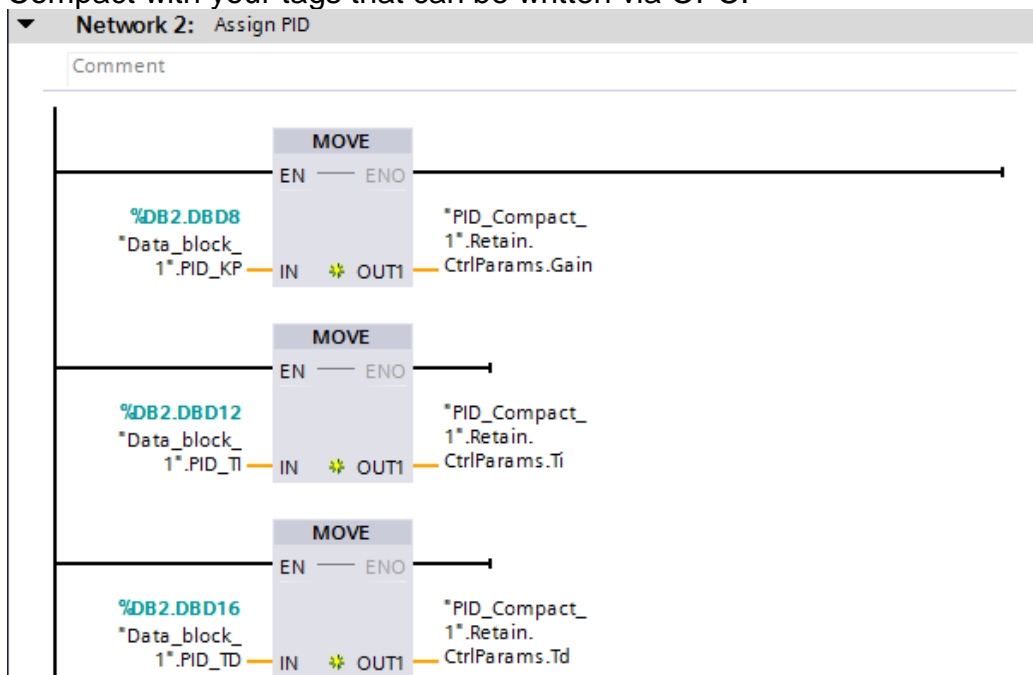


In the configuration window, set Mode to 'Manual mode', and select 'Activate Mode after CPU restart'



2.4 Overwrite PID gains

Create a couple of MOVE blocks and use those to overwrite the controller gains of the PID Compact with your tags that can be written via OPC:



2.5 That is it!

Please let us know if you encounter difficulties.

