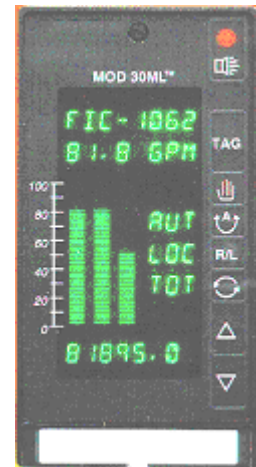


How to change the PID Output Mode based on an alarm or a digital signal

Using Supervisory Message block to write values.



Configuration Description:

This technote explains the procedure for configuring the MOD 30ML to use a process alarm or a discrete signal to change the PID block's output mode.

Applies to:

MOD 30ML, Modcell configured with ViZapp Software.

Instructions:

We will assume you have a fully functional PID block configured in the database. We will configure a PA or PAD block for the process alarm. We will use the Alarm attribute (A) from this block to trigger the mode change in the PID block. You can use any discrete signal also to do the same. The discrete signal can be an Alarm, output from an EX block or any discrete attribute from any block.

Supervisory Message Block: The SM block is used to send a single, logic or manually initiated, message to an addressable attribute. This is very useful especially to write values to those mnemonics or attributes that are not connectable in the database by using a connection. Example of such attributes are: OPMS (Output mode status) and SP of the PID block. The SM block has 3 inputs:

Send Input (SENDINP) - This is a discrete signal and is the source of signal that triggers the supervisory message transaction. Signal is edge triggered. The result is a one time write to the destination every time the SENDINP signal goes from LOW to HIGH.

Data Input (DATAINP) - The data to be transmitted to the source of the "write" message. This value is used in the "write" message.

Technical Notice

Set Entry (SETENTRY) – This is the attribute that is changed or in other words, the destination for the data.

In our example:

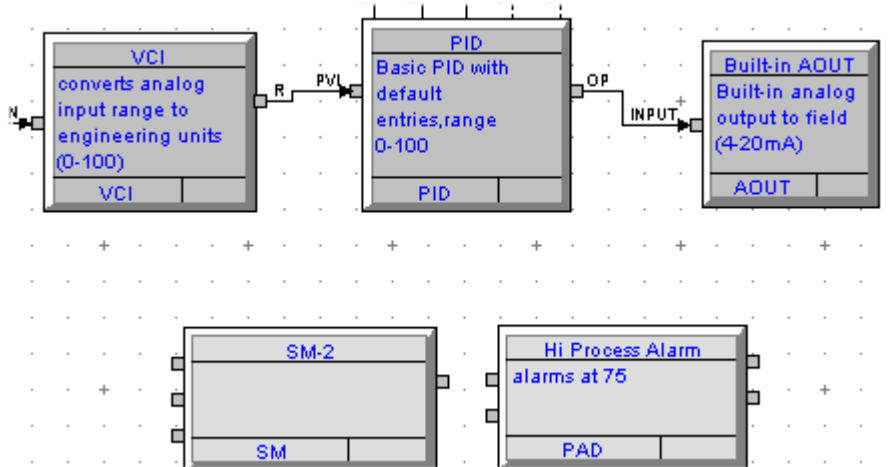
OPMS of the PID block is the SETENTRY

A of the PA or the PAD block is the SENDINP

A fixed value of 1 is the DATAINP for forcing the Output mode to AUTO in the PID block.

1. Place a PA or PAD block and a SM block in the database next to the PID block.

See the figure:



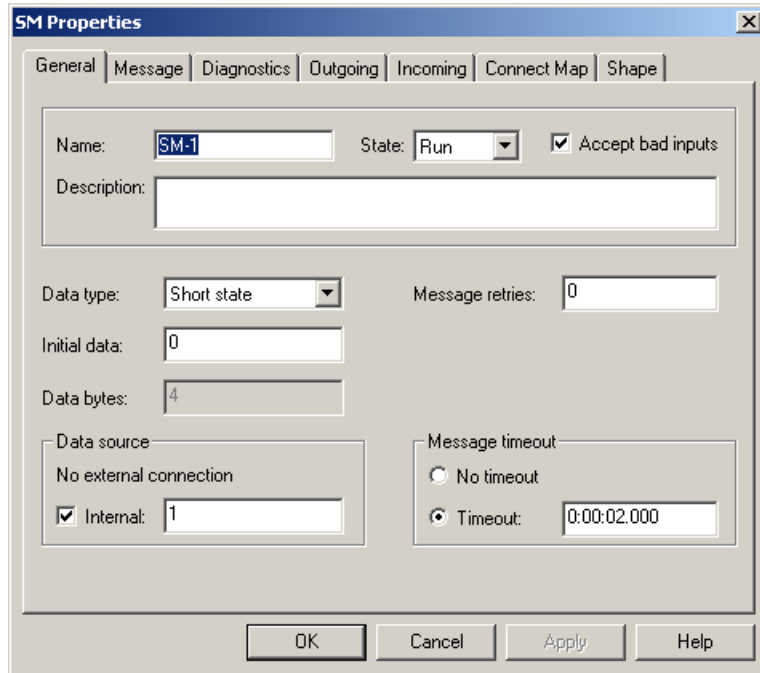
We will configure the PA or the PAD block to generate a HIGH alarm if the process variable (PVI) of the PID is more than a value of 50.

Configure the PA or the PAD block as shown in the figure:

3. Configure the SM block:

Select **Discrete** as the **Data Type** from the drop down menu.

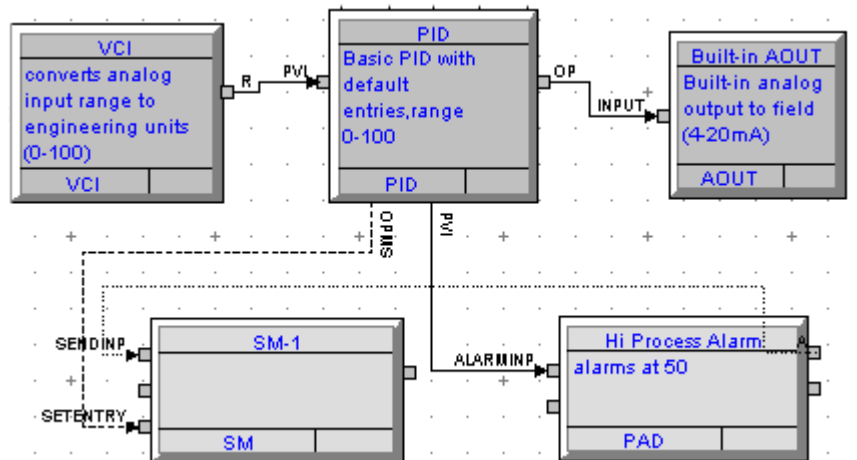
Select **Internal** as the **Data Source** by checking the check box and type **TRUE** in the **Data Source** field as shown:



Connect the blocks:

Connect **OPMS** from the PID block to the **SETENTRY** of the SM block.

Connect **A** from the PA or the PAD block to the **SENDINP** of the SM block.



Connect an analog input to the Alarm Input of the PA or the PAD block. In this example, the PVI from the PID block is connected to the ALARMINP of the PA or the PAD block as shown.

4. Save and compile the database and then download it to your controller.

Test the control strategy by changing the signal connected as the PVI of the PID block to a value more than 50.

Technical Notice

Note: You can use the SM block this way to write to any attribute of any block that s writable but not connectable. You could also use the SM block to write data to other MOD 30, MOD 30ML and Modcell instruments over ICN. Refer to the Database Reference Book or the online help on SM block for more details.