Example 10.8 Cascade Control

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0 — NOP

TIC2501 Heat exchanger temperature master loop.

1 — TIC_Tic.DN — TON
Timer: TIC_Tic
Preset: 1000
Accum: 0
EN
DN

2 — TIC_Tic.DN — PID
PID: TIC2501 ...
Process Variable: TT2501
<Local:4:I.Ch0Data>
Tieback: 0
Control Variable: FIC2502.SP
PID Master Loop: 0
Inhold Bit: 0
Inhold Value: 0
Setpoint: 310.0
Process Variable: 0.0
Output %: 0.0

FIC 2502 Steam flow slave loop

3 — FIC_Tic.DN — TON
Timer: FIC_Tic
Preset: 250
Accum: 0
EN
DN

4 — FIC_Tic.DN — PID
PID: FIC2502 ...
Process Variable: FT2502
<Local:4:I.Ch1Data>
Tieback: 0
Control Variable: FY2502
<Local:5:O.Ch0Data>
PID Master Loop: TIC2501
Inhold Bit: 0
Inhold Value: 0
Setpoint: 4.5
Process Variable: 0.0
Output %: 0.0

Handle loop modes. Master in manual when not controlling temperature. Slave in manual when controlling neither flow nor temperature.

5 — Heat Exch Temp Control HEX_TEMP — TIC2501.SWM

6 — Steam Flow Control STM_FLOW / Heat Exch Temp Control HEX_TEMP — FIC2502.SWM

When master in manual and slave in auto, copy operator flow SP to master Set Output. Must descale. When slave in manual, master set to track flow.

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TIC2501.SWM FIC2502.SWM

CPT
Dest TIC2501.SO
0.0
Expression ((FIC2502.SP-FIC2502.MINS)/(FIC2502.MAXS-FIC2502.MINS))*(100.0)

(End)