Application Description

An Automation Direct PC35 Process controller is to be used as a ratio controller to deliver accurate proportional control for a mixing application.

Specifications

Master Control: 1 x PC35-2010-AC
User supplied HW: 1 x 4-20 ma flow meters
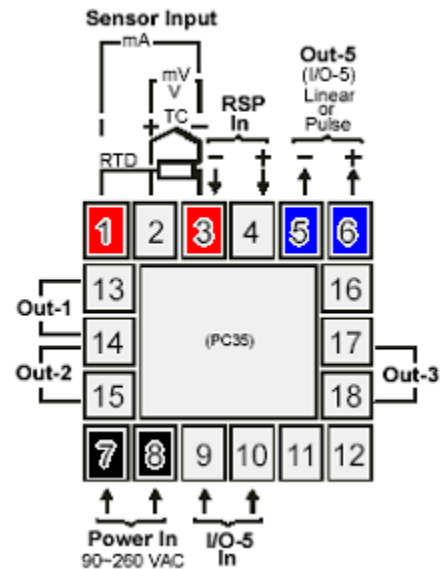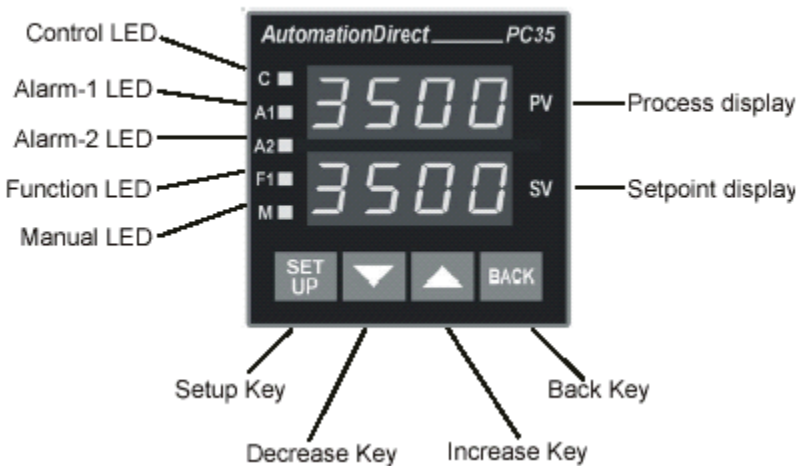   1 x 4-20 ma flow valves

Process: User needs to control a specific amount of material flowing from tank A into the mixing chamber.

Display: PV (process variable) 0-100% and SV (set point variable) 0-100%.

Alarms: High flow is set to 80%.
                Low flow is set to 10%.

Example Program:

Sphl	1370	99.99	high limit indication
Rsll	-150	-150	remote set point low limit indication
Rshl	1370	1370	remote set point high limit indication
Cycle 6 I/O			
Io 1	0	1	alarm output #1 active
Io 2	0	2	alarm output #2 active
Io 3	inactive[1]	n/a	n/a
Io 5	12	12	4-20 ma output to flow valves
Cycle 4 ALARMS			
FuA1	OFF	Hi	function for alarm #1 (High)
FuA2	OFF	Lo	function for alarm #2 (Low)
FuA3	OFF	OFF	n/a
FuA4	OFF	n/a	n/a
Bla1	NO	YES	#1 alarm blocking during power up active
Bla2	NO	YES	#2 alarm blocking during power up active
Bla3	NO	NO	n/a
Bla4	inactive[1]	n/a	n/a
Hya1	0	6	range of scale where alarm is active (even)
Hya2	0	6	range of scale where alarm is active (even)
Hya3	0	0	n/a
Hya4	inactive[1]	n/a	n/a
A1t1	0	0	alarm duration (0 means always active when in state)
A1t2	0	0	alarm duration (0 means always active when in state)
A2t1	0	0	n/a
A2t2	0	0	n/a
Cycle 3 RAMP & SOAK			
Cycle 3 not used			No ramp program required
Cycle 2 TUNING			
ATUN	NO	NO	active during tuning procedure (pg 28 & 29 of manual)
PB	0	x.x	P set during auto tune
HYST	0	0	not using Hysterisis control (ON/OFF)
IR	0	x.x	I set during auto tune
DT	0	x.x	D set during auto tune
CT	8	8	default
Act	Re	Re	reverse acting
bias	0	0	user preference after auto tune
oull	0	0	output low limit
ouhl	100	100	output high limit
stst	0	0	soft start
Sp.a1	-150	80	alarm #1 preset (tripping point)
Sp.a2	-150	10	alarm #2 preset (tripping point)
Sp.a3	-150	-150	n/a

Note—inactive (1) not available on this unit.

Basic Diagram:

Master Control

AutomationDirect ____ PC35

C ▪
A1▪ **3500** PV
A2▪
F1▪ **3500** SV
M ▪

SET | ▼ | ▲ | BACK
UP

A

4 - 20 ma
controlled
proportional valve

4 - 20 ma flow
transmitter

M