HumiTherm-cS Pro

Advanced 'Temperature + Humidity'
Programmable Controller with
Alarm & Retransmission Outputs

Operation Manual

This brief manual is primarily meant for quick reference to wiring connections and parameter searching. For more details on operation and application; please log on to www.ppiindia.net

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OPERATOR PAGE AND PARAMETERS : PAGE 0

Parameters	Settings (Default Value)
Standby StbY	nonE None both Both °C Temp rh Humidity (Default : None)
Select Channel SEL	°C Temp rh Humidity (Default : Temp)
Control Setpoint Cn.SP	Setpoint Low Limit to Setpoint High Limit (Default : 0.0)
Temperature or RH Alarm-1 Setpoint A1.SP	
Temperature or RH Alarm-2 Setpoint A2.SP	

ALARM PARAMETERS : PAGE-10

Parameters	Settings (Default Value)
Select Channel SEL	°C Temp rh Humidity (Default : Temp)
Alarm-1 Type A1tY	nonE None P_Lo Process Low P_Hi Process High dE Deviation Band bAnd Window Band (Default : None)
Alarm-1 Hysteresis A1HY	0.2 to 99.9 (Default : 2.0)
Alarm-1 Inhibit A1.h	no No YES Yes (Default : Yes)
Alarm 2 Type A2tY	*The parameter descriptions and settings are the same as that for Alarm-1.*
Alarm-2 Hysteresis A2HY	
Alarm-2 Inhibit A2.h	

CONTROL PARAMETERS : PAGE 11

Parameters	Settings (Default Value)
Select Channel SEL	°C Temp rh Humidity (Default : Temp)
Control Action C.Act	On.OF On-Off P Id PID (Default : PID)
Output Type OP.tY	rLY Relay SSr SSR 0-20 0 - 20mA 4-20 4 - 20mA 0-5 0 - 5 V 0-10 0 - 10 V (Default : Relay)
Control Mode tYPE	dhUn De-hum hUn Hum (Default : Hum)
Setpoint Low Limit SP.Lo	Temp = -199.9°C to SP.Hi RH = 0.0% to SP.Hi (Default : 0)
Setpoint High Limit SP.hi	Temp = SP.Lo to 600.0°C RH = SP.Lo to 100.0% (Default : 100)
Heat/humidification Power Low Limit PL	0.0% to Power High Limit (Default : 0.0)
Heat/humidification Power High Limit PH	Power Low Limit to 100.0% (Default : 100.0)
Proportional Band (Cool Pre-dominant Zone) Pb.C	For Temp = 0.1 to 999.9°C For RH = 0.1 to 999.9% (Default : 50.0)
Integral Time (Cool Pre-dominant Zone) It.C	1 to 3600 Seconds (Default : 100 sec.)
Derivative Time (Cool Pre-dominant Zone) dt.C	1 to 600 Seconds (Default : 16 sec.)
Proportional Band (Heat Pre-dominant Zone) Pb	For Temp = 0.1 to 999.9°C For RH = 0.1 to 999.9% (Default : 50.0)
Integral Time (Heat Pre-dominant Zone) It	1 to 3600 Seconds (Default : 100 sec.)

Parameters	Settings (Default Value)
Derivative Time (Heat Pre-dominant Zone) dt	1 to 600 Seconds (Default : 16 sec.)
Cycle Time Ct	0.5 to 100.0 Seconds (in steps of 0.5 secs.) (Default : 10.0 sec.)
Hysteresis HYSt	0.1 to 999.9 (Default : 2.0)

INPUT CONFIGURATION PARAMETERS : PAGE 12

Parameters	Settings (Default Value)
Select Channel SEL	°C Temp rh Humidity (Default : Temp)
Input Type inPt	Refer Table 1 (Default For Temp. : RTD, For RH : 0 to 5.0)
Signal Low S.Lo	
Signal High S.Hi	
Range Low r.Lo	-199.9 to 999.9 (Default : 0.0)
Range High r.Hi	-199.9 to 999.9 (Default : 100.0)
Offset OFSt	-50.0 to 50.0 (Default : 0.0)
Filter FiLt	0.5 to 60.0 Seconds (in steps of 0.5 Seconds) (Default : 2.0 sec.)

Input Type	Settings	Default
0 to 20mA	0.00 to Signal High	0.00
4 to 20mA	4.00 to Signal High	4.00
0 to 1.25 V	0.00 to Signal High	0.00
0 to 5 V	0.000 to Signal High	0.000
0 to 10 V	0.00 to Signal High	0.00
1 to 5 V	1.000 to Signal High	1.000

Input Type	Settings	Default
0 to 20mA	20.00 to Signal Low	20.00
4 to 20mA	20.00 to Signal Low	20.00
0 to 1.25 V	1.250 to Signal Low	1.250
0 to 5 V	5.000 to Signal Low	5.000
0 to 10 V	10.00 to Signal Low	10.00
1 to 5 V	5.000 to Signal Low	5.000

SUPERVISORY PARAMETERS : PAGE 13

Parameters	Settings (Default Value)
Tune Command tUnE	no No YES Yes (Default : No)
Standby Selection Permission StbY	dSbL Disable EnbL Enable (Default : Disable)
Control / alarm Set-point Adjustment Permission SP.OP	dSbL Disable EnbL Enable (Default : Disable)
Digital Input Function dI.FC	nonE None L.LOY Water Level A.ACK Alarm ACK (Default : None)
Water Level Logic Y.L.LO	OPEn Open as Low CLOS Close as Low (Default : Open as Low)
Device Slave ID Id	1 to 127 (Default : 1)
Baud Rate bAUd	4.8 4800 9.6 9600 19.2 19200 (Default : 9.6)
Parity PAr i	nonE None EuEn Even Odd Odd (Default : Even)
Serial Write Permission ConE	no No YES Yes (Default : No)

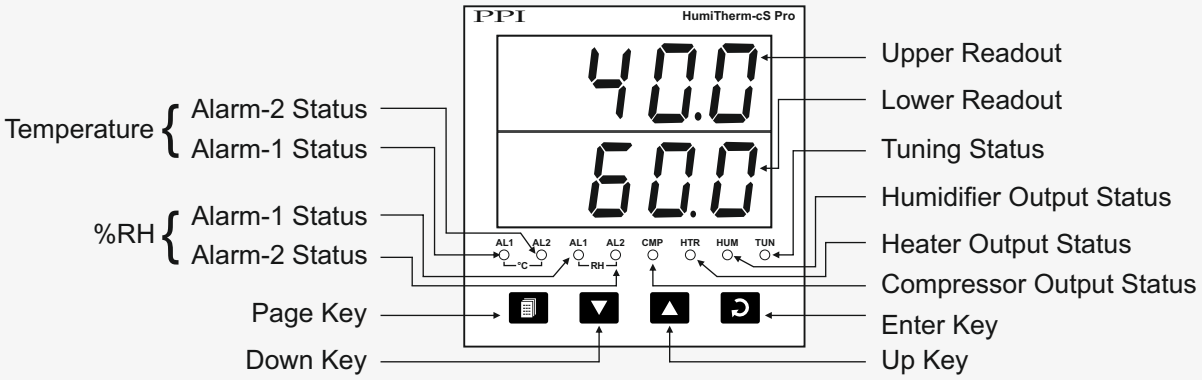
RETRANSMISSION PARAMETERS : PAGE 15

Parameters	Settings (Default Value)
Select Channel SEL	°C Temp rh Humidity (Default : Temp)
Retransmission Output Type rEt.o	0-20 0 - 20mA 4-20 4 - 20mA 0-5 0 - 5 V 0-10 0 - 10 V (Default : 4 - 20mA)
Retransmission Low rEt.L	Input Type Minimum Range to Input Type Maximum Range (Default : 0.0)
Retransmission High rEt.H	Input Type Minimum Range to Input Type Maximum Range (Default : 100.0)

COMPRESSOR SETTING PARAMETERS : PAGE 17

Parameters	Settings (Default Value)
Compressor Output Mode CP.OP	OFF OFF On ON AUtO AUTO (Default : Auto)
Compressor Strategy CP.St	SP.°C Dry Bulb SP Pu.°C Dry Bulb PV Pu.rh %RH PV (Default : Dry Bulb SP)
Boundary Set-point b.SP	Temp. SP Low Limit to Temp. SP High Limit (Default : 45.0)
Compressor Set-point CP.SP	0.0 to 50.0 (Default : 0.2)
Compressor Hysteresis CP.HY	0.1 to 25.0 (Default : 0.2)
Compressor Time Delay t.dLY	0.00 to 10.00 Min (in steps of 5 secs.) (Default : 0 Sec.)

FRONT PANEL LAYOUT



Keys Operation

Symbol	Key	Function
	PAGE	Press to enter or exit set-up mode.
	DOWN	Press to decrease the parameter value. Pressing once decreases the value by one count; keeping pressed speeds up the change.
	UP	Press to increase the parameter value. Pressing once increases the value by one count; keeping pressed speeds up the change.
	ENTER	Press to store the set parameter value and to scroll to the next parameter on the PAGE.

ELECTRICAL CONNECTIONS

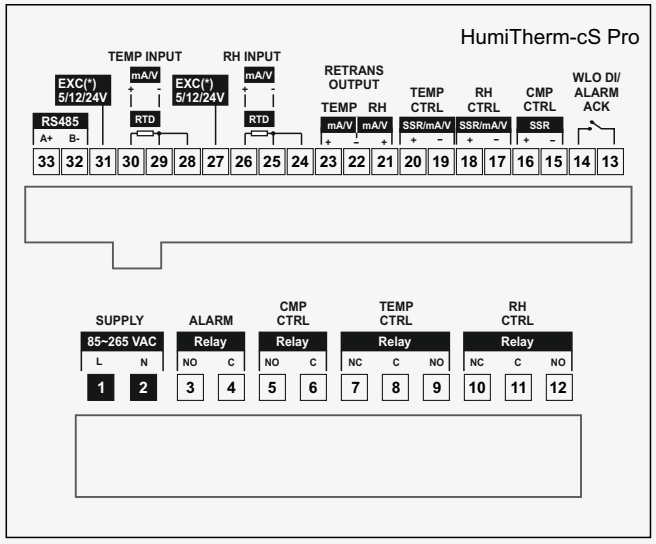


TABLE- 1

Option	Range (Min. to Max.)	Resolution
rtd 3-wire, RTD Pt100	-199.9 to +600.0°C	0.1 °C
0-20 0 to 20mA DC current	-199.9 to 999.9 units	0.1 units
4-20 4 to 20mA DC current		
rES.1 rES.2 Reserved (Default : 0 to 20mV)		
1.25 0 to 1.25V DC voltage		
5.0 0 to 5.0V DC voltage		
10.0 0 to 10.0V DC voltage		
1-5 1 to 5.0V DC voltage		

PV Error Indications for Dry Bulb Temperature

Message	Error Type
Or	Over-range Dry Bulb Temp. above Max. Range
Ur	Under-range Dry Bulb Temp. below Min. Range
OPEn	Sensor Open Dry Bulb Sensor (RTD) Broken / Open

PV Error Indications for Relative Humidity (RH)

Message	Error Type	Cause
Or	Over-range	Wet Bulb Temperature above Max. Range
Ur	Under-range	Wet Bulb Temperature below Min. Range
OPEn	Sensor Open	Wet Bulb Sensor (RTD) Broken / Open
rh.Er	RH Error	This error is indicated in the following cases : • Dry Bulb Temperature above 102.0°C. • Dry Bulb Temperature below -20.0°C. • Wet Bulb depression beyond: 50.0°C for Dry Bulb Temperature above 0°C 5.6°C for Dry Bulb Temperature below 0°C
100.0	Display Freezes To 100.0%	This error is indicated in the following cases : • Wet-Bulb Temperature exceeds Dry-Bulb Temperature. • Computed % RH above 100.0%.
0.0	Display Freezes To 0.0%	Computed % RH is below 0.0%.