

HumiTherm-c Pro

Enhanced
'Temperature + Humidity' PID Controller

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

PPI

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UTILITY PARAMETERS : PAGE-33																								
Parameters	Settings (Default Value)																							
Compressor Control Strategy CPSt	dbSP dbPV (Default : Dry Bulb SP)	Dry Bulb SP Dry Bulb PV																						
Input Type For Temperature CLIn	Refer Table 1 (Default : RTD)																							
Signal Low For Temperature CLSL	<table><tr><th>Input Type</th><th>Settings</th><th>Default</th></tr><tr><td>0 to 20 mA</td><td>0.00 to Signal High</td><td>0.00</td></tr><tr><td>4 to 20 mA</td><td>4.00 to Signal High</td><td>4.00</td></tr><tr><td>0 to 1.25 V</td><td>0.000 to Signal High</td><td>0.000</td></tr><tr><td>0 to 5 V</td><td>0.000 to Signal High</td><td>0.000</td></tr><tr><td>0 to 10 V</td><td>0.00 to Signal High</td><td>0.00</td></tr><tr><td>1 to 5 V</td><td>1.000 to Signal High</td><td>1.000</td></tr></table>	Input Type	Settings	Default	0 to 20 mA	0.00 to Signal High	0.00	4 to 20 mA	4.00 to Signal High	4.00	0 to 1.25 V	0.000 to Signal High	0.000	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 20 mA	0.00 to Signal High	0.00																						
4 to 20 mA	4.00 to Signal High	4.00																						
0 to 1.25 V	0.000 to Signal High	0.000																						
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																						
Signal High For Temperature CLSh	<table><tr><th>Input Type</th><th>Settings</th><th>Default</th></tr><tr><td>0 to 20 mA</td><td>Signal Low to 20.00</td><td>20.00</td></tr><tr><td>4 to 20 mA</td><td>Signal Low to 20.00</td><td>20.00</td></tr><tr><td>0 to 1.25 V</td><td>Signal Low to 1.250</td><td>1.250</td></tr><tr><td>0 to 5 V</td><td>Signal Low to 5.000</td><td>5.000</td></tr><tr><td>0 to 10 V</td><td>Signal Low to 10.00</td><td>10.00</td></tr><tr><td>1 to 5 V</td><td>Signal Low to 5.000</td><td>5.000</td></tr></table>	Input Type	Settings	Default	0 to 20 mA	Signal Low to 20.00	20.00	4 to 20 mA	Signal Low to 20.00	20.00	0 to 1.25 V	Signal Low to 1.250	1.250	0 to 5 V	Signal Low to 5.000	5.000	0 to 10 V	Signal Low to 10.00	10.00	1 to 5 V	Signal Low to 5.000	5.000		
Input Type	Settings	Default																						
0 to 20 mA	Signal Low to 20.00	20.00																						
4 to 20 mA	Signal Low to 20.00	20.00																						
0 to 1.25 V	Signal Low to 1.250	1.250																						
0 to 5 V	Signal Low to 5.000	5.000																						
0 to 10 V	Signal Low to 10.00	10.00																						
1 to 5 V	Signal Low to 5.000	5.000																						
DC Range Low For Temperature CLLo	-199.9 to 999.9 (Default : 0.0)																							
DC Range High For Temperature CLHi	-199.9 to 999.9 (Default : 100.0)																							
Offset For Temperature CLOF	-25.0 to +25.0°C (Default : 0.0)																							
Digital Filter for Temperature CLFi	3.0 to 60.0°C (Default : 3.0)																							
Input Type For %RH rhIn	The above parameters are for %RH input and the descriptions are the same as their temperature counterparts. Notes : (1) RTD Pt100 input selection is not available for %RH. (2) The factory default input type is 0-5 VDC with corresponding signal low, signal high, range low & range high default values.																							
Signal Low For %RH rhSL																								
Signal High For %RH rhSh																								
DC Range Low For %RH rhLo																								
DC Range High For %RH rhHi																								

Parameters	Settings (Default Value)
Offset For %RH rhOF	
Digital Filter for %RH rhFi	

TEMPERATURE PARAMETERS : PAGE-10	
Parameters	Settings (Default Value)
Temperature Alarm Band PCAL	0.3 to 25.0°C (Default : 0.5 °C)
Temperature Alarm Hysteresis PCHy	0.2 to 10.0°C (Default : 0.2 °C)
Temperature Proportional Band PCPb	0.1 to 999.9°C (Default : 5.0 °C)
Temperature Integral Time PCIt	0 to 1000 Seconds (Default : 100)
Temperature Derivative Time PCdt	0 to 250 Seconds (Default : 25)
Temperature Cycle Time PCct	0.5 to 25.0 Seconds (in steps of 0.5 secs.) (Default : 1.0)

RELATIVE HUMIDITY (% RH) PARAMETERS : PAGE-11	
Parameters	Settings (Default Value)
%RH Alarm Band rhAL	0.3 to 25.0% (Default : 2.0)
%RH Alarm Hysteresis rhHy	0.2 to 10.0% (Default : 2.0)
%RH Proportional Band rhPb	0.1 to 999.9% (Default : 10.0)
%RH Integral Time rhIt	0 to 1000 Seconds (Default : 100)
%RH Derivative Time rhdt	0 to 250 Seconds (Default : 25)
%RH Cycle Time rhCt	0.5 to 25.0 Seconds (in steps of 0.5 secs.) (Default : 1.0)

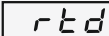
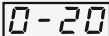
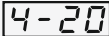
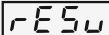
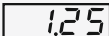
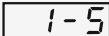
OP3 FUNCTION PARAMETERS : PAGE-13	
Parameters	Settings (Default Value)
Compressor Output Type CPtY	none None rLY Relay SSr SSR (Default : For Compressor O/P Type : SSR For Alarm O/P type : None)
Alarm Output Type ALtY	
Compressor Setpoint CPSP	0.0 to 50.0°C or 0.0 to 25.0°C (Default : 45.0 or 0.2)
Compressor Hysteresis CPHY	0.1 to 25.0°C (Default : 0.2)
Compressor Time Delay tdLY	0.00 to 10.00 Min. Sec (in steps of 5 Seconds) (Default : 00.00)

SUPERVISORY PARAMETERS : PAGE-12	
Parameters	Settings (Default Value)
SP Adjustment on PAGE-0 SP	dsbL Disable EnbL Enable (Default : Enable)
Self-Tune Command tUNE	no No YES Yes (Default : No)
Water Level-low Detection Logic WLLG	OPEN Open CLOS Close (Default : Open)
Slave Id Id	1 to 127 (Default : 1)
Baud Rate BAUD	48 4800 96 9600 192 19200 (Default : 9600)
Parity PARi	none None Even Even Odd Odd (Default : Even)

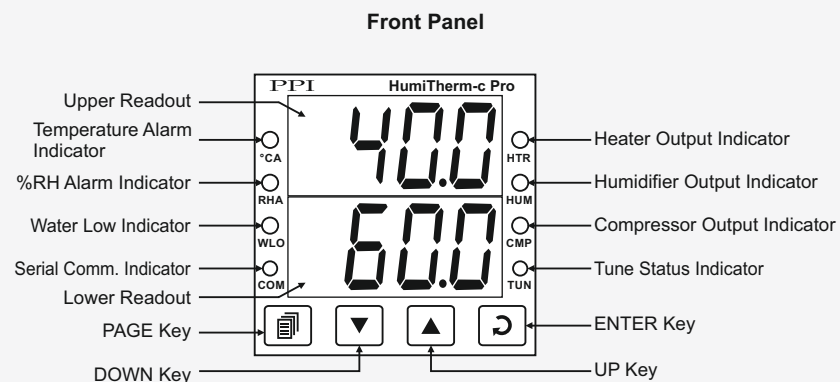
Parameters	Settings (Default Value)
Communication Write Enable ConE	no No YES Yes (Default : Yes)

COMPRESSOR OPERATION & POWER INDICATION : PAGE-1	
Parameters	Settings (Default Value)
Compressor Operation Mode CPOP	On On OFF Off AUTO Automatic (Default : Auto)
Output Power for Temperature Loop OUT.1	0 to 100.0% (View Only - Non editable)
Output Power for %RH Loop OUT.2	0 to 100.0% (View Only - Non editable)

Table 1

Option	What it means	Range (Min. to Max.)
	3-wire, RTD Pt100	-199.9 to 600.0°C / -199.9 to 999.9°F
	0 to 20mA DC current	Refer Parameters Signal Low Signal High Range Low Range High
	4 to 20mA DC current	
	Reserved (Don't Select)	
		
	0 to 1.25V DC voltage	
	0 to 5.0V DC voltage	
	0 to 10.0V DC voltage	
	1 to 5.0V DC voltage	

FRONT PANEL LAYOUT



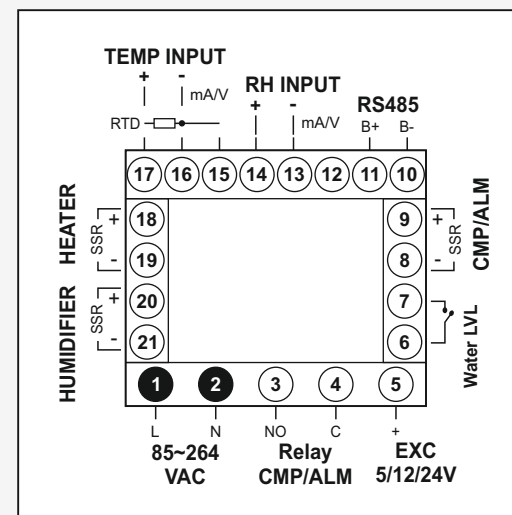
Keys Operation

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.

PV Error Indications

Message	PV Error Type
	Over-range (Dry-Bulb Temp. above Max. Range)
	Under-range (Dry-Bulb Temp. below Min. Range)
	Open (Sensor open / broken)

ELECTRICAL CONNECTIONS



WIRING CONNECTION

RH SENSORS

