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
101, Diamond Industrial Estate, Navghar,
Vasai Road (E), Dist. Palghar - 401 210.
Sales : 8208199048 / 8208141446
Support : 07498799226 / 08767395333
E: sales@ppiindia.net, support@ppiindia.net

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UTILITY PARAMETERS : PAGE-33

Parameters	Settings (Default Value)
Compressor Control Strategy `CP.St`	`db.SP` Dry Bulb SP `db.Pu` Dry Bulb PV (Default : Dry Bulb SP)
Input Type For Temperature `PC. In`	Refer Table 1 (Default : RTD)
Signal Low For Temperature `PCSL`	See table below
Signal High For Temperature `PCSh`	See table below
DC Range Low For Temperature `PCLo`	-199.9 to 999.9 (Default : 0.0)
DC Range High For Temperature `PCHi`	-199.9 to 999.9 (Default : 100.0)
Offset For Temperature `PCOF`	-25.0 to +25.0°C (Default : 0.0)
Digital Filter for Temperature `PCFi`	3.0 to 60.0°C (Default : 3.0)
Input Type For %RH `rh. In`	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`	

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	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

Parameters	Settings (Default Value)
Offset For %RH `rh.OF`	
Digital Filter for %RH `rh.Fi`	

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 `PC. It`	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 `rh. It`	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 `CP.tY` **Alarm Output Type** `AL.tY`	`nonE` None `rLY` Relay `SSr` SSR (Default : For Compressor O/P Type : SSR For Alarm O/P type : None)
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 `t.dLY`	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 `YLLO`	`OPEn` Open `CLOS` Close (Default : Open)
Slave Id `Id`	1 to 127 (Default : 1)
Baud Rate `bAUd`	`4.8` 4800 `9.6` 9600 `19.2` 19200 (Default : 9600)
Parity `PAri`	`nonE` None `EuEn` 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

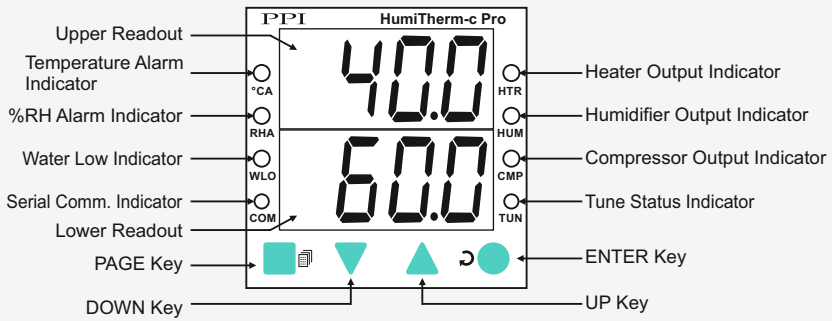
Parameters	Settings (Default Value)
Compressor Operation Mode `CP.OP`	`On` On `OFF` Off `AUtO` Automatic (Default : Auto)
Output Power for Temperature Loop `Out. 1`	0 to 100.0% (View Only - Non editable)
Output Power for %RH Loop `Out.2`	0 to 100.0% (View Only - Non editable)

Table 1

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

FRONT PANEL LAYOUT

Front Panel



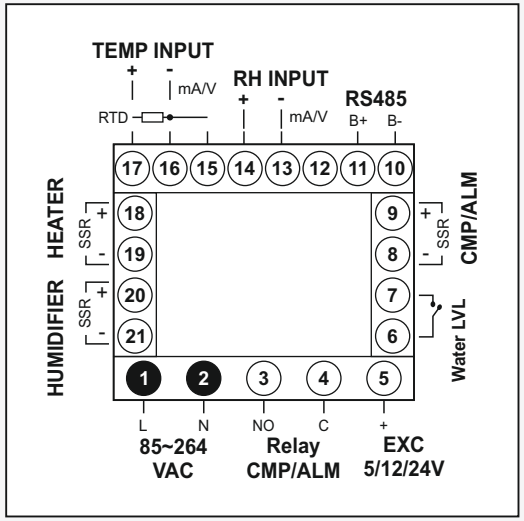
Keys Operation

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
Or	Over-range (Dry-Bulb Temp. above Max. Range)
Ur	Under-range (Dry-Bulb Temp. below Min. Range)
OPEn	Open (Sensor open / broken)

ELECTRICAL CONNECTIONS



WIRING CONNECTION

RH SENSORS

