

# HumiTherm-c Pro

Enhanced  
'Temperature + Humidity' PID Controller  
(Dry / Wet Version)

# 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](http://www.ppiindia.net)

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## TEMPERATURE PARAMETERS : PAGE-10

Parameters	Settings (Default Value)
Alarm Band <i>dbAL</i>	0.3 to 25.0°C (Default : 0.5 °C)
Alarm Hysteresis <i>dbHY</i>	0.2 to 10.0°C (Default : 0.2 °C)
Proportional Band (For T+RH mode) <i>dbPb</i>	0.1 to 999.9°C (Default : 5.0 °C)
Integral Time (For T+RH mode) <i>dbIt</i>	0 to 1000 Seconds (Default : 100)
Derivative Time (For T+RH mode) <i>dbdt</i>	0 to 250 Seconds (Default : 25)
Proportional Band (For Temp only mode) <i>Pb</i>	0.1 to 999.9°C (Default : 5.0 °C)
Integral Time (For Temp only mode) <i>It</i>	0 to 1000 Seconds (Default : 100)
Derivative Time (For Temp only mode) <i>dt</i>	0 to 250 Seconds (Default : 25)
Cycle Time <i>dbCt</i>	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 <i>rhAL</i>	0.3 to 25.0% (Default : 2.0)
%RH Alarm Hysteresis <i>rhHY</i>	0.2 to 10.0% (Default : 2.0)
%RH Proportional Band <i>rhPb</i>	0.1 to 999.9% (Default : 10.0)
%RH Integral Time <i>rhIt</i>	0 to 1000 Seconds (Default : 100)
%RH Derivative Time <i>rhdt</i>	0 to 250 Seconds (Default : 25)
%RH Cycle Time <i>rhCt</i>	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 Setpoint <i>CPSP</i>	0.0 to 50.0°C or 0.0 to 25.0°C (Default : 45.0 or 0.2)
Compressor Hysteresis <i>CPHY</i>	0.1 to 25.0°C (Default : 0.2)
Compressor Time Delay <i>CDLY</i>	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 <i>SP</i>	<i>dsbl</i> Disable <i>Enbl</i> Enable (Default : Enable)
Self-Tune Command <i>tUnE</i>	<i>no</i> No <i>YES</i> Yes (Default : No)
Water Level-low Detection Logic <i>YLLO</i>	<i>OPEn</i> Open <i>CLoS</i> Close (Default : Open)
Slave Id <i>Id</i>	1 to 127 (Default : 1)
Baud Rate <i>BAUD</i>	<i>48</i> 4800 <i>96</i> 9600 <i>192</i> 19200 (Default : 9600)
Parity <i>PARi</i>	<i>nonE</i> None <i>EvEn</i> Even <i>Odd</i> Odd (Default : Even)
Communication Write Enable <i>ConE</i>	<i>no</i> No <i>YES</i> Yes (Default : Yes)

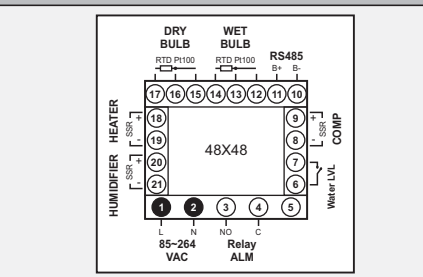
## UTILITY PARAMETERS : PAGE-33

Parameters	Settings (Default Value)
Compressor Control Strategy <i>CPSt</i>	<i>dbSP</i> Dry Bulb SP <i>dbPv</i> Dry Bulb PV (Default : Dry Bulb SP)
Zero Offset for Dry-Bulb Temperature Value <i>dbOF</i>	-25.0 to +25.0°C (Default : 0.0)
Zero Offset for Wet Bulb Temperature Value <i>YbOF</i>	-25.0 to +25.0°C (Default : 0.0)
Zero Offset for RH Value <i>rhOF</i>	-25.0 to +25.0°C (Default : 0.0)

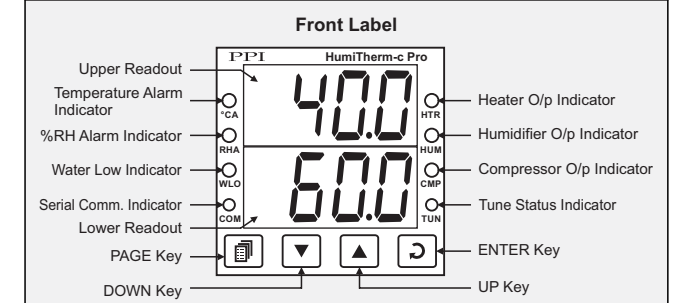
## COMPRESSOR OPERATION & POWER INDICATION : PAGE-1

Parameters	Settings (Default Value)
Compressor Operation Mode <i>CPOP</i>	<i>On</i> On <i>OFF</i> Off <i>AUTO</i> Automatic (Default : Auto)
Wet Bulb Temperature Setpoint <i>YbSP</i>	0 to 100.0% (View Only - Non editable)
Output Power for Temperature Loop <i>OUT.1</i>	0 to 100.0% (View Only - Non editable)
Output Power for %RH Loop <i>OUT.2</i>	0 to 100.0% (View Only - Non editable)

## ELECTRICAL CONNECTIONS



## FRONT PANEL LAYOUT



### Keys Operation

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

### PV Error Indications For Dry Bulb Temperature (Upper Readout)

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

### PV Error Indications For Relative Humidity (RH) (Lower Readout)

Message	PV Error Type
<i>Or</i>	Over-range (Wet-Bulb Temp. above Max. Range)
<i>Ur</i>	Under-range (Wet-Bulb Temp. below Min. Range)
<i>OPEn</i>	Open (Sensor open / broken)
<i>rhEr</i>	Either Dry Bulb Temp. is below -20.0°C or above 162.0°C. The error may also occur if Wet Bulb depression is more than 60.0°C.