

# HumiTherm-i Pro

Enhanced  
'Temperature + Humidity' Indicator  
(with Dry/Wet RTD Input Selection)

# 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)

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

**PPI**

Jan 2022

PAGE-10 : TEMPERATURE - ALARM PARAMETERS	
Parameters	Settings (Default Value)
Temperature Alarm Type <b>TYPE</b>	<b>nonE</b> None <b>P_Lo</b> Process Low <b>P_Hi</b> Process High (Default : None)
Temperature Alarm Setpoint <b>ALSP</b>	-50.0 to 150.0°C or -58.0 to 302.0°F (Default : For Process Low : -50.0 For Process High : 150.0)
Temperature Alarm Hysteresis <b>ALHY</b>	0.1 to 25.0 °C or °F (Default : 0.2)
Temperature Alarm Logic <b>ALLG</b>	<b>d,r</b> Direct <b>rEv</b> Reverse (Default : Direct)
Temperature Alarm Inhibit <b>AL.IH</b>	<b>no</b> No <b>YES</b> Yes (Default : Yes)

PAGE-11 : RELATIVE HUMIDITY - ALARM PARAMETERS	
Parameters	Settings (Default Value)
%RH Alarm Type <b>TYPE</b>	<b>nonE</b> None <b>P_Lo</b> Process Low <b>P_Hi</b> Process High (Default : None)
%RH Alarm Setpoint <b>ALSP</b>	0.0 to 100.0% (Default : For Process Low : 0.0 For Process High : 100.0)
%RH Alarm Hysteresis <b>ALHY</b>	0.1 to 25.0% (Default : 0.2)
%RH Alarm Logic <b>ALLG</b>	<b>d,r</b> Direct <b>rEv</b> Reverse (Default : Direct)
%RH Alarm Inhibit <b>AL.IH</b>	<b>no</b> No <b>YES</b> Yes (Default : Yes)

PAGE-12 : INPUT CHANNEL CONFIGURATION PARAMETERS																						
Parameters	Settings (Default Value)																					
Input Type For Temp Sensor <b>db.In</b>	Refer Table 1 (Default : RTD)																					
Signal Low For Temp Sensor <b>dbSL</b>	<table border="1"> <thead> <tr> <th>Input Type</th> <th>Settings</th> <th>Default</th> </tr> </thead> <tbody> <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> </tbody> </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 Temp Sensor <b>dbSH</b>	<table border="1"> <thead> <tr> <th>Input Type</th> <th>Settings</th> <th>Default</th> </tr> </thead> <tbody> <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> </tbody> </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																				
Temperature Range Low <b>dbLo</b>	-199.9 to 999.9 (Default : 0.0)																					
Temperature Range High <b>dbHi</b>	-199.9 to 999.9 (Default : 100.0)																					
Zero Offset For Temp Value <b>dbOF</b>	-25.0 to 25.0 (Default : 0.0)																					
Input Type For Humidity Sensor <b>HU.In</b>	Refer Table 1 (Default : 0 to 5 V)																					
Signal Low For Humidity Sensor <b>rhSL</b>	<table border="1"> <thead> <tr> <th>Input Type</th> <th>Settings</th> <th>Default</th> </tr> </thead> <tbody> <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> </tbody> </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 Humidity Sensor <b>rhSH</b>	<table border="1"> <thead> <tr> <th>Input Type</th> <th>Settings</th> <th>Default</th> </tr> </thead> <tbody> <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> </tbody> </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																				
%RH Range Low <b>rhLo</b>	-199.9 to 999.9 (Default : 0.0)																					
%RH Range High <b>rhHi</b>	-199.9 to 999.9 (Default : 100.0)																					

Parameters	Settings (Default Value)
Wet-bulb Temperature Zero Offset <b>wbOF</b>	-25.0 to 25.0 (Default : 0.0)
%RH Zero Offset <b>rhOF</b>	-99.0 to 99.0 (Default : 0.0)

PAGE-13 : SUPERVISORY PARAMETERS	
Parameters	Settings (Default Value)
Unit Selection for Temperature <b>Unit</b>	<b>oC</b> °C <b>oF</b> °F (Default : °C)
Dry-Bulb Temperature and % RH Min / Max Monitoring <b>Hi.Lo</b>	<b>no</b> No <b>YES</b> Yes (Default : No)
Password For Resetting PV High - Low <b>COde</b>	0 to 250 (Default : 0)
Slave Id <b>Id</b>	1 to 127 (Default : 1)
Baud Rate <b>baud</b>	<b>48</b> 4800 <b>96</b> 9600 <b>192</b> 19200 (Default : 9600)
Parity <b>PARi</b>	<b>nonE</b> None <b>EvEn</b> Even <b>OdD</b> Odd (Default : Even)
Communication Write Enable <b>COde</b>	<b>no</b> No <b>YES</b> Yes (Default : Yes)

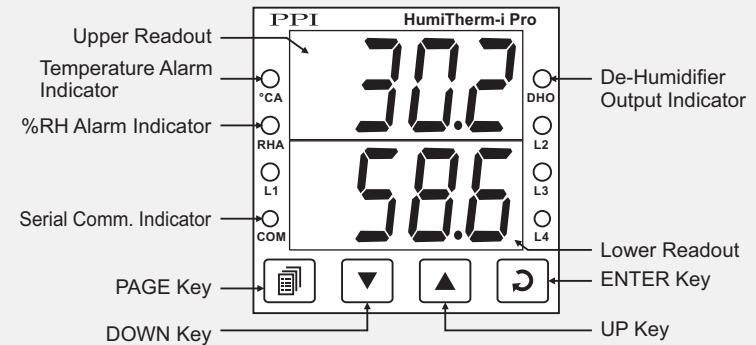
PAGE-14 : DE-HUMIDIFIER CONTROL PARAMETERS	
Parameters	Settings (Default Value)
De-humidifier Control <b>dHUc</b>	<b>dSbL</b> Disable <b>EnbL</b> Enable (Default : Disable)
De-humidifier Setpoint <b>dHSP</b>	0.0 to 100.0 (Default : 0)
De-humidifier Hysteresis <b>dHHY</b>	0.1 to 99.9 (Default : 2.0)

PAGE - 0 : OPERATOR PAGE AND PARAMETERS	
Parameters	Settings (Default Value)
Maximum Dry Bulb Temperature Value <b>dbHi</b>	View Only
Minimum Dry - Bulb Temperature Value <b>dbLo</b>	View Only
Maximum %RH Value <b>rhHi</b>	View Only
Minimum Peak of RH <b>rhLo</b>	View Only
Reset Command <b>rSt</b>	<b>no</b> No <b>YES</b> Yes (Default : No)
Reset Pass - Code <b>COde</b>	0 to 250 (Default : 0)

**Table 1**

Option	What it means	Range (Min. to Max.)	Resolution
	3-wire, RTD Pt100	-199.9 to +600.0 °C / -199.9 to 999.9 °F	0.1 °C / °F
	0 to 20mA DC current	-199.9 to 999.9 units	0.1 units
	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		

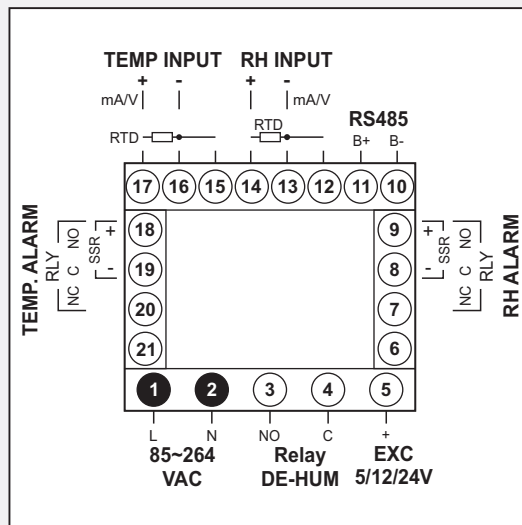
**FRONT PANEL LAYOUT**



**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.

**ELECTRICAL CONNECTIONS**



**PV Error Indications for Dry Bulb Temperature**

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

**PV Error Indications for Relative Humidity (RH)**

Message	Error Type	Cause
	Over-range	Wet Bulb Temperature above Max. Range
	Under-range	Wet Bulb Temperature below Min. Range
	Sensor Open	Wet Bulb Sensor (RTD) Broken / Open
	RH Error	This error is indicated in the following cases : <ul style="list-style-type: none"> <li>Dry Bulb Temperature above 102.0°C.</li> <li>Dry Bulb Temperature below -20.0°C.</li> <li>Wet Bulb depression beyond:                      50.0°C for Dry Bulb Temperature above 0°C                      5.6°C for Dry Bulb Temperature below 0°C</li> </ul>
	Display Freezes To 100.0%	This error is indicated in the following cases : <ul style="list-style-type: none"> <li>Wet-Bulb Temperature exceeds Dry-Bulb Temperature.</li> <li>Computed % RH above 100.0%.</li> </ul>
	Display Freezes To 0.0%	Computed % RH is below 0.0%.