HumiTherm-c Pro

Enhanced
'Temperature + Humidity'
PID Controller

PPI
The Perfection Experts

Enhanced Version of HumiTherm-c



What is New

- Extended Input Types for Temperature & Humidity Channels
- 8 LEDs for Status Indications
- Separate Relay / SSR Outputs for Compressor & Alarm
- Factory Set Excitation Voltage (5/12/24 VDC @ 30 mA)
- Digital Input for Low Water Level Detection
- No Jumper Settings for Input / Output Configuration
- RS485 Serial Port (MODBUS RTU) as Standard
- Plug-in Terminals for Easy Installation
- Reduced Enclosure Depth (94 mm with Terminals)

Features

- Independent Displays for Temperature & Humidity
- Factory Set Input Versions :
  - ► Temperature (RTD/V/mA) + RH Sensor (V/mA)
  - ► Dry Bulb RTD + Wet Bulb RTD
- Independent Zero Offset Adjustment for Temperature & Humidity
- Self Tune PID Control Loops for Temperature & Humidity
- SSR Outputs for Heating and Humidification Control
- Relay / SSR Outputs for Compressor & Alarm
- Digital Input for Low Water Level Detection
- Universal Supply Voltage : 85~264 VAC, 50/60 Hz
- DIN Standard Dimensions (mm) : 48(H) X 48(W) X 94(D)

Specifications

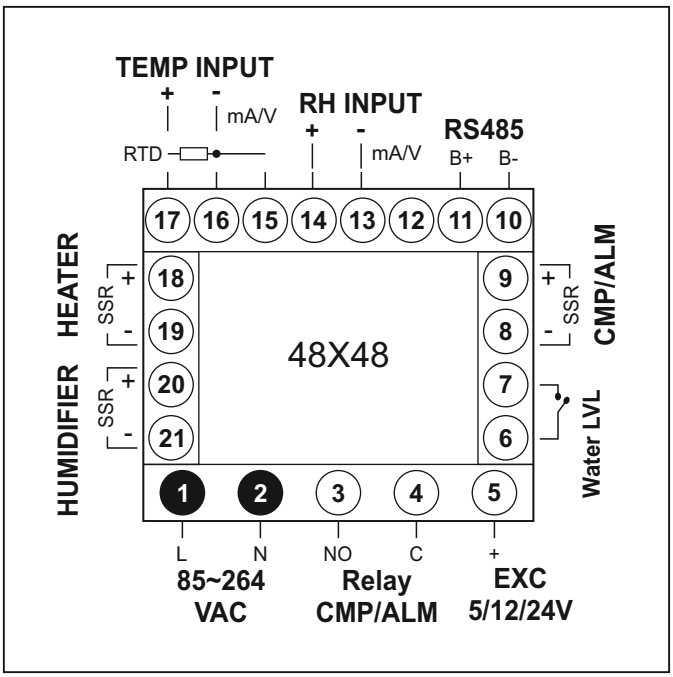
Display	
Digital Readouts	2 Rows of 4 digits, 0.36" Bright Green LED, 7 Segment
Status Indicators	8 Red LEDs
Keys	
Type	4 Tactile Push-button Switches
Functions	PAGE, DOWN, UP, ENTER
Sensor / Signal Input	
Temperature Input	***Version*** **Temperature + RH Sensor** RTD Pt100 / 0-20 mA / 4-20 mA / 0-5 VDC / 0-10 VDC / 1-5 VDC
	Version Dry Bulb / Wet Bulb RTD Pt100
RH Input	***Version*** **Temperature + RH Sensor** 0-20 mA / 4-20 mA / 0-5 VDC / 0-10 VDC / 1-5 VDC
	Version Dry Bulb / Wet Bulb RTD Pt100

Accuracy	RTD Pt100 : ± 0.25% of reading ± 1 LSD DC mA / Volts : ± 0.20% of reading ± 1 LSD
Display Range	RTD Pt100 Input : -199.9 to 600.0 °C DC Linear mA / V : Adjustable from -199.9 to 999.9 Counts
Display Resolution	Temperature : 0.1 Fixed Humidity : 0.1 Fixed
Zero Offset	Independent for Temperature & Humidity User Adjustable over Full Range
ADC	16 Bit (±32,768 Counts), Sigma-Delta (ΣΔ)
Input Resistance	> 8 MΩ for Pt100 > 47 KΩ for Voltage Input 249 Ω Precision Shunt for mA Input
Common Mode Rejection	> 100dB at 50/60 Hz
Signal Conditioning	First Order Analog R-C Low-Pass Filter
Input Protection	ESD : 8KV EFT : 2KV Surge : 1KV
Excitation Voltage (Not available for Dry Bulb / Wet Bulb Version)	
Ratings	5 V @ 30 mA (Standard) 12 V @ 30 mA (Optional) 24 V @ 30 mA (Optional) Note : For current output transmitters (0/4-20 mA), the Excitation Voltage can power only one input.
Water Level Monitoring	
Input	Digital Potential-free Contacts Input with programmable OPEN or CLOSE Logic.
Function	Alarm Alert & Automatic Boiler Heater Cut-off on Low Water Level Detection
Alarms	
Numbers	2, Independent (One Each for Temperature and Humidity)
Programmable Parameters	Limits : Symmetrical Band Around Setpoint Hysteresis : 0.2 to 10.0 Unit Counts
Output	Relay Change-over Contacts or SSR Drive (Relay or SSR selection is mutually exclusive with compressor output type)
Compressor Control	
Type	On-Off
Mode	Auto / Manual
Control Parameters	Manual Mode : On, Off Auto Mode : Time Delay
Output	Relay Change-over Contacts or SSR Drive (Relay or SSR selection is mutually exclusive with alarm output type)
Heating / Humidification Control	
Type	Self Tune PID (Independent Loop for Temperature & Humidity)
Mode	Reverse Control
Control Parameters	(Independently Settable for Temperature & Humidity) Proportional Band, Integral Time, Derivative Time, Cycle Time
Outputs	SSR Drive Outputs for Heating & Humidification Control

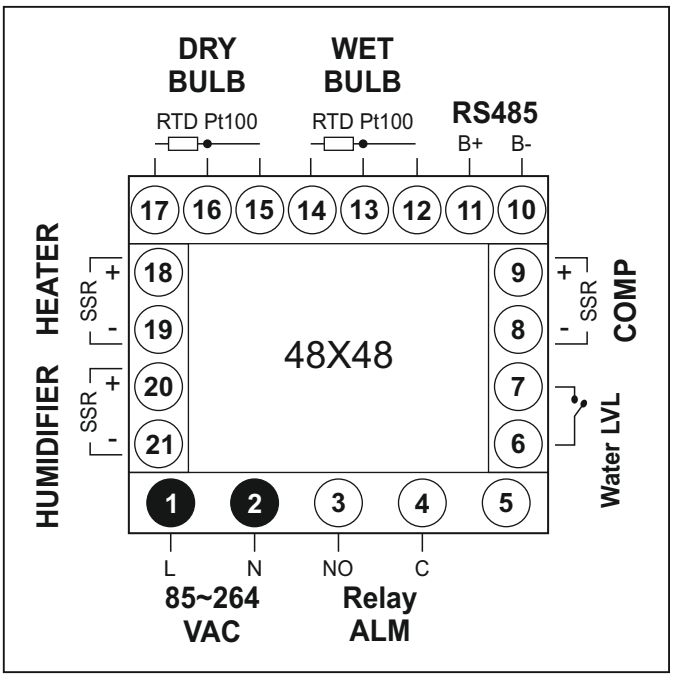
Outputs	
Relay	Contact Type : Potential-free Change-over Contacts Contact Rating : 5A Resistive @ 250 VAC Contact Life : > 5,00,000 Operations at Rated Voltage / Current
SSR Drive	12 VDC @ 30 mA
Serial Communication	
Port	RS485, 2-wire, Half Duplex, Start-Stop Synchronized
Protocol	MODBUS RTU
ID	Settable : 1 to 127
Baud Rate	Settable : 4800, 9600, 19200
Parity	Settable : None, Even, Odd
Max. Distance	1200 Metres
Power Supply	
Type	Switch Mode (SMPS)
Line Voltage	85~264VAC, 50/60Hz
Consumption	7VA Max
Physical	
Mounting	Plug-in with Panel Mounting Clamps
Overall Dimensions	48(H) X 48(W) X 94(D), mm
Panel Cutout	45(H) X 45(W), mm
Terminals	Screw Type, Plug-in Male / Female
Weight	200 gm, max
Environmental	
Operating Ambient	0~55°C & 5~90%RH Non-condensing
Storage Temperature	-10 to +70 °C
EMC Standards	EN50081-2 & EN 50082-2 Generic Stds for Industrial Environment
Safety Standards	Meets EN61010, Installation Catagory II
Atmospheres	Not Suitable for use in Corrosive or Explosive Atmospheres. The Panel in which the Instrument is Mounted must be free of Electrically Conductive Pollution.

Back Panel Terminations

Temp RTD / RH Sensor Version



Dry Bulb RTD / Wet Bulb RTD Version



Ordering Code

Model		–	Input Version		–	Excitation Voltage Output	
HCP	HumiTherm-c Pro		1	T+RH Sensor		5	5 VDC (Standard)
			2	Dry/Wet RTD		12	12 VDC
						24	24 VDC

Example Code **HCP - 1 - 5**

T+RH Sensor Input, 5 VDC Excitation Voltage

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