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

TEMPERATURE PARAMETERS : PAGE-10

Parameters	Settings (Default Value)
Alarm Band `db.AL`	0.3 to 25.0°C (Default : 0.5 °C)
Alarm Hysteresis `db.HY`	0.2 to 10.0°C (Default : 0.2 °C)
Proportional Band (For T+RH mode) `db.Pb`	0.1 to 999.9°C (Default : 5.0 °C)
Integral Time (For T+RH mode) `db.It`	0 to 1000 Seconds (Default : 100)
Derivative Time (For T+RH mode) `db.dt`	0 to 250 Seconds (Default : 25)
Proportional Band (For Temp only mode) `Pb`	0.1 to 999.9°C (Default : 5.0 °C)
Integral Time (For Temp only mode) `It`	0 to 1000 Seconds (Default : 100)
Derivative Time (For Temp only mode) `dt`	0 to 250 Seconds (Default : 25)
Cycle Time `db.Ct`	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 `rh.AL`	0.3 to 25.0% (Default : 2.0)
%RH Alarm Hysteresis `rh.HY`	0.2 to 10.0% (Default : 2.0)

OP3 FUNCTION PARAMETERS : PAGE-13

Parameters	Settings (Default Value)
Compressor Setpoint `CP.SP`	0.0 to 50.0°C **or** 0.0 to 25.0°C (Default : 45.0 **or** 0.2)
Compressor Hysteresis `CP.HY`	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 `Y.LLG`	`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)
Communication Write Enable `ConE`	`no` No / `YES` Yes (Default : Yes)

RELATIVE HUMIDITY (% RH) PARAMETERS : PAGE-11

Parameters	Settings (Default Value)
%RH Proportional Band `rh.Pb`	0.1 to 999.9% (Default : 10.0)
%RH Integral Time `rh.It`	0 to 1000 Seconds (Default : 100)
%RH Derivative Time `rh.dt`	0 to 250 Seconds (Default : 25)
%RH Cycle Time `rh.Ct`	0.5 to 25.0 Seconds (in steps of 0.5 secs.) (Default : 1.0)

UTILITY PARAMETERS : PAGE-33

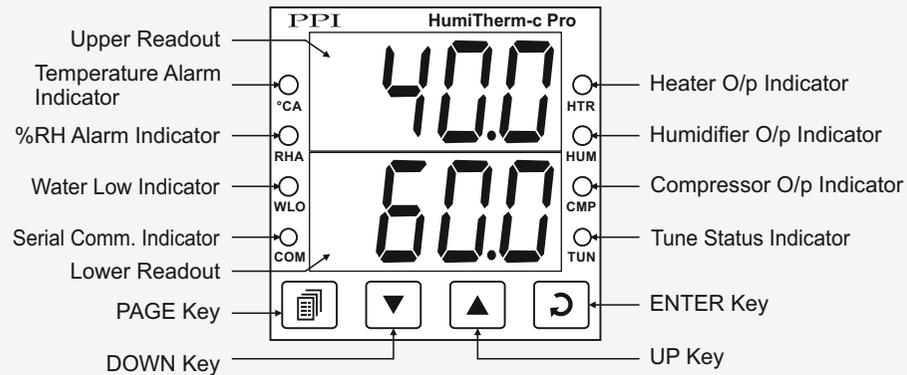| Parameters	Settings (Default Value)
Compressor Control Strategy `CP.St`	`db.SP` Dry Bulb SP / `db.Pu` Dry Bulb PV (Default : Dry Bulb SP)
Zero Offset for Dry-Bulb Temperature Value `db.OF`	-25.0 to +25.0°C (Default : 0.0)
Zero Offset for Wet Bulb Temperature Value `Yb.OF`	-25.0 to +25.0°C (Default : 0.0)
Zero Offset for RH Value `rh.OF`	-99.0 to +99.0°C (Default : 0.0)
Digital Filter For Dry Bulb Temperature `db.Fi` / Digital Filter For Wet Bulb Temperature `Yb.Fi`	3.0 to 60.0 (Default : 3.0)

COMPRESSOR OPERATION & POWER INDICATION : PAGE-1

Parameters	Settings (Default Value)
Compressor Operation Mode `CP.OP`	`On` On / `OFF` Off / `AUtO` Automatic (Default : Auto)
Wet Bulb Temperature Setpoint `Yb.SP`	0 to 100.0% (View Only - Non editable)
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)

OPERATOR PARAMETERS : PAGE-0

Parameters	Settings (Default Value)
Temperature Setpoint `db.SP`	-20.0 to 160.0°C **or** -199.9 to 600.0°C (Default : 25.0)
Humidity Setpoint `rh.SP`	0.0 to 100.0°C (Default : 40.0)
Single Mode Lower Indication `L.ind`	`rh` RH / `Unit` Unit (Default : 00.00)

FRONT PANEL LAYOUT

Front Panel

Upper Readout

Temperature Alarm Indicator — °CA

%RH Alarm Indicator — RHA

Water Low Indicator — WLO

Serial Comm. Indicator — COM

Lower Readout

PAGE Key

DOWN Key

PPI **HumiTherm-c Pro**

40.0

60.0

Heater O/p Indicator — HTR

Humidifier O/p Indicator — HUM

Compressor O/p Indicator — CMP

Tune Status Indicator — TUN

ENTER Key

UP Key

PV Error Indications For Dry Bulb Temperature (Upper Readout)

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)

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

Message	PV Error Type
Or	Over-range (Wet-Bulb Temp. above Max. Range)
Ur	Under-range (Wet-Bulb Temp. below Min. Range)
OPEn	Open (Sensor open / broken)
rh.Er	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 then 60.0°C.

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

DRY BULB — RTD Pt100

WET BULB — RTD Pt100

RS485 — B+ B-

HEATER — SSR + / -

HUMIDIFIER — SSR + / -

48X48

COMP — SSR + / -

Water LVL

Terminals: 17 16 15 14 13 12 11 10 / 18 / 19 / 20 / 21 / 9 / 8 / 7 / 6 / 1 2 3 4 5

L N NO C

85~264 VAC

Relay ALM