

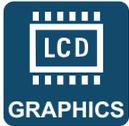
'Temperature + Humidity' Controller with Graphic Display

HumiTherm GD 96

128 X 64 Monochrome Graphic Display
Universal Temperature & Humidity Inputs
Self-Tune PID Control Loops
Water Level & Door Status Monitoring
¼ DIN (96x96) Compact Enclosure

Process Precision Instruments
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Salient Features

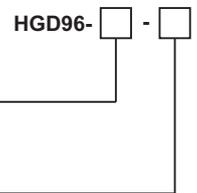
- 128 X 64 Monochrome Graphic Display for Comprehensive Process Information
- Simultaneous Display of Process Values, Set Values, Heat Power, Humidifier Power and Compressor On-Off Status
- Intelligent 'Water Level' & 'Door Open' Monitoring with Status Indication & Alarm Output
- Universal Input for Temperature (RTD Pt100/mA/V) & %RH (mA/V) with Built-in Excitation Voltage
- Independent Self Tune PID Control Loops for Temperature & %RH
- SSR Drive Outputs for Heat Control, Humidifier Control, Compressor Control & Alarm
- Built-in Audio Buzzer (Beeper) for Alarm Alerts
- Compressor Switching with Programmable Time Delay
- RS 485 MODBUS RTU Serial Communication Port
- Universal Supply Voltage : 85 ~ 264VAC, 50/60 Hz
- Size (mm) : 96(H) X 96 (W) X 84 (D)

General Information

Product Type 'Temperature + Humidity' Controller with Graphic Display

Ordering Code

Excitation Voltage		
1 : 5V	2 : 12V	3 : 24V
Default : 5 VDC		
Supply Voltage		
AC : 85~264 VAC (Default)		
DC : 18 to 32 VDC		



Example Code : HGD96-1-AC

Excitation : 5V
Supply Voltage : 85~264 VAC

Quantity 1 Unit

Accessories (Optional) USB to RS485 Converter

Similar Product HumiTherm-cS Pro
HumiTherm-c Pro

'Temperature + Humidity' Controller with Graphic Display

Operator Interface

Display	128 X 64 Monochrome Graphic LCD (Black Font on White Background)
Keys	4 Tactile Switches PAGE, DOWN, UP, ENTER

Channel Specifications

Temperature Input (User Configurable)	RTD Pt100, 3 wire 0-20 mA / 4-20 mA 0-5 VDC / 0-10 VDC / 1-5 VDC
Humidity (%RH) Input (User Configurable)	0-20 mA / 4-20 mA 0-5 VDC / 0-10 VDC / 1-5 VDC
Accuracy	RTD Pt100 : $\pm 0.25\%$ of reading ± 1 LSD DC mA / Volts : $\pm 0.20\%$ of reading ± 1 LSD
Display Range & Resolution	Temperature : 0 to 99.9°C (0.1 °C Fixed Resolution) Humidity : 0 to 99.9% (0.1 % Fixed Resolution)
Zero Offset	Independent for Temperature & Humidity (Adjustable over Full Range)
ADC	16 Bit ($\pm 32,768$ Counts), Sigma-Delta ($\Sigma\Delta$)
Input Resistance	> 8 M Ω for Pt100 > 47 K Ω for Voltage Input 249 Ω Precision Shunt for mA Input
Common Mode Rejection	> 100dB at 50/60 Hz
Input Protection	ESD : 8KV EFT : 2KV Surge : 1KV
Input Conditioning	First Order Analog R-C Low-Pass Filter & Settable Digital Low-Pass Filter

Excitation Voltage

Ratings (Factory Set)	5 VDC @ 15 mA (Standard) 12 VDC @ 15 mA (Optional) 24 VDC @ 50 mA (Optional)
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Boiler (Steam) Water Level Monitoring

Input	<ul style="list-style-type: none">• Digital Input (Potential-free Contacts) from Float Switch or Thermostat• Additional Digital Input for Float with Dual Switches (Low/High Levels or Low/Very-Low Levels)
Function	Alarm Alert & Automatic Boiler Heater Cut-off on Low Water Level Detection

Door Status Monitoring

Input	Digital Input (Potential-free Contacts) from Door Switch
Function	Alarm Alert on Door Opening for Longer than Set Time

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Alarm System

Process Alarm	Independent, Programmable High/Low Process Alarms for Temperature & Humidity
Door Open Alarm	Alarm on Chamber Door Remaining Open for More than Set Time Period (User Configurable. Can be disabled if not required.)
Water Level Alarm	Alarm on Boiler Water Level Low Detection (User Configurable. Can be disabled if not required.)
Audio Alert	Built-in Buzzer (Beeper)
Output	SSR Output (12 VDC @ 20 mA) for Remote Switching of Audio/Visual Gadget on Alarms
Alarm Acknowledge	<ul style="list-style-type: none">• Rear Panel Digital Input for Connecting Remote Alarm Acknowledge (Mute) Button• Front Panel Alarm Acknowledge (Mute) on Enter Key

Heat Control

Type	Self Tune PID
Control Parameters	Proportional Band, Integral Time, Derivative Time, Cycle Time
Output	SSR Drive Voltage (12 VDC @ 20 mA)

Humidity Control

Type	Self Tune PID
Control Parameters	Proportional Band, Integral Time, Derivative Time, Cycle Time
Output	SSR Drive Voltage (12 VDC @ 20 mA)

Compressor Control

Type	On-Off with Programmable Time Delay & Hysteresis
Control Strategy (Selectable)	<ol style="list-style-type: none">1) Manual Switching2) Programmable Temperature SP Threshold : Compressor is ON for temperature SP below set threshold & OFF above3) Cool Control : Switches ON-OFF based on temperature PV & SP
Output	SSR Drive Voltage (12 VDC @ 20 mA)

Serial Communication

Port	RS485, 2-wire, Half Duplex, Start-Stop Synchronized
Protocol	MODBUS RTU
Slave ID	Settable : 1 to 127
Baud Rate	Selectable : 9600, 19200, 38400
Parity	Selectable : None, Even, Odd
Max. Units per Loop	31
Max. Distance	1200 Meters

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Power Supply

Type	Switch Mode (SMPS)
Line Voltage	Standard : 85~264 VAC, 50/60Hz, Optional : 18 to 32 VDC
Consumption	5 VA Max

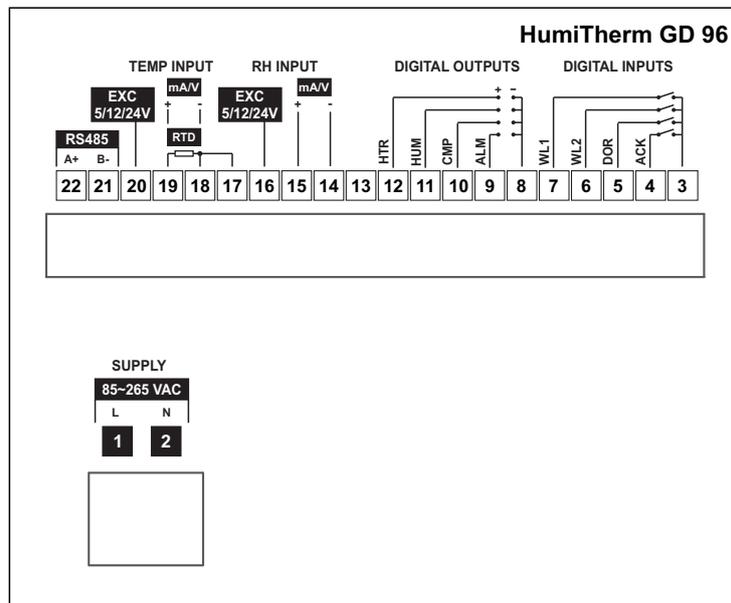
Physical

Mounting	Plug-in with Panel Mounting Clamps
Overall Dimensions	96(H) X 96(W) X 84(D), mm
Panel Cutout	92(H) X 92(W), mm
Terminals	Screw Type
Weight	400 gm, Appx.

Environmental

Operating Ambient	0 to 55°C & 5 to 90%RH Non-condensing
Storage Temperature	-10 to +70°C
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.

Terminations



Process Precision Instruments (An ISO 9001 : 2008 Company)

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