LIBRATHERM™
INSTRUMENTS PVT. LTD.

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(H2) MICROCONTROLLER BASED PID / ON-OFF TEMPERATURE - RELATIVE HUMIDITY CONTROLLER

DTH-723/C

DTH-723/A

MODEL WISE DESCRIPTIONS :

SR.NO.	MODEL	DESCRIPTION
9.5	DTH-723/C	Micro controller based PID / On-OFF Temperature & %Rh controller Two input and Four Outputs.
	DTH-723/A	Micro controller based High/Low Alarm output for Temperature & %Rh Two input and Four Outputs
	DTH-966/C	Micro controller based PID / On-OFF Temperature & %Rh controller Two input and Four Outputs.
	DTH-966/A	Micro controller based High/Low Alarm output for Temperature & %Rh Two input and Four Outputs

DESCRIPTION :

Libratherm offers two new models of Temperature and Humidity indicator & Controller Model DTH-723 and DTH-966 that are designed and developed using latest high-speed microcontroller for Stability Chamber, HVAC and other similar applications.

DTH-723/A and DTH-966/A : These models accepts inputs from the std. RTD (Pt-100) temperature sensor and from the capacitive type RH sensor. The instrument displays the temperature in the range 80.0 -100.0°C and humidity in the range of 0.0 - 100.0% RH on 4 digit 0.3"/0.5" 7-segment Red / Green LEDs. High and Low alarm outputs in the form of DC pulse and relay contacts are available for each parameter and are settable using front panel key boards.

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FEATURES :

- Microcontroller based design.
- Elegant appearance and compact in size.
- Highly accurate and sturdy in operation.
- Accuracy better than ± 0.1 % of the full scale.
- Very easy to operate.
- Software linearization of non-linear input curves for accurate indication and control
- Field proven Algorithm tested successfully for various process control applications over a period of 15 years.
- 72 x 72 x 120 mm. Size.
- Operates on 185 - 260 VAC ± 10%, 50 / 60 Hz.

APPLICATION :

- Environmental / Stability Chambers
- Walk In Chambers
- BOD Incubator etc
- HVAC

TECHNICAL SPECIFICATIONS:

No. Of Inputs	2 (one each for Temperature and Relative Humidity).
Input	Temperature and %RH sensor / Transmitter (Pt-100 / Capacitance based).
Range	-80.0 to 100.0 °C / 200.0 °C and 0.0 to 100.0 %RH.
Resolution	0.1 °C / 0.1%Rh.
Accuracy	Better than ± 0.1% for temperature and ± 2% for RH.(subject to type of sensor used)
Display	4 digit 0.3"/0.5" Red 7-segment display for temperature 4 digit 0.3"/0.5" Red / Green 7-segment display for %RH
Tuning *	Auto/Manual tuning of PID values.
Control Action *	PID for heat, Humidity or De-Humidity, On/Off with time delay for cool.
Control Output *	DC pulse (0-10VDC) to operate external Solid State Relays (SSR) **DTH-723 and 966/C**
Alarm Output	High / Low alarm each for temperature and RH (total 4 outputs) **DTH-723 and 966/A**
Compressor mode*	Auto/ON/OFF with programmable time delay of 10 to 120 seconds.
Open Sensor Indication	Display shows Flt-1 or Flt-2 and outputs will be turned OFF.
Settings	Using front panel membrane keyboard to set the various values.
Memory Backup	Retention of PID and set values in the non-volatile memory in the event of power failure.
Interface	Serial (RS232/RS485) for PC interface with Window based software on Modbus RTU Protocol (Optional feature)
Supply	230VAC / 110 VAC ± 10% (5VA), 50/60Hz or 24VDC @ 500mA.
Size	72 x 72 x 120 mm. (DTH-723), 96 x 96 x 120 mm (DTH-966)
Panel cut out	68 x 68 mm +/- 0.5 mm.(DTH-723) , 92 x 92 +/-0.5 mm (DH-966)
Enclosure	Metallic powder with polycarbonate front. (DTH-723) ABS plastic with polycarbonate front (DTH-966)

* Features available only in DTH-723/C and DTH-966/C.

ORDERING INFORMATION

MODEL	INPUT 1 (°C) (A)	RANGE (°C) (B)	INPUT2 (%RH) (C)	RANGE (%RH) (D)
DTH-723/C	(0-1)VDC (A1)	0.0 to 65.0 (B1)	(0-1)VDC (C1)	0.0 to 100.0 (D1)
DTH-723/A	Pt-100 (A2)	0.0 to 100.0 (B2)	(1-4)VDC (C2)	Other (D2)
DTH-966/C	(4-20) mA (A3)	0.0 to 200.0 (B3)	(4-20) mA (C3)	
DTH-966/A	Other (A4)	Other (B4)	Other (C5)	

OUTPUT - 1 (E)	OUTPUT - 2 (F)	OUTPUT - 3 (G)	OUTPUT - 4 (H)	SERIAL INTERFACE (I)	SUPPLY (J)
DC pulse for Heat (E1)	DC pulse for Cool (F1)	DC pulse for Humidity (G1)	DC pulse for De-Humidity (H1)	RS485 (I1)	230VAC (J1)
DC pulse for °C High Alarm (E2)	DC pulse for °C Low Alarm (F2)	DC pulse for RH High Alarm (G2)	DC pulse for RH Low Alarm (H2)	None (I2)	110VAC (I2)
			Common (°C/RH) High Alarm (H3)		

EXAMPLE 1: (DTH-723/C or DTH-966/C AS CONTROLLER)

MODEL	A	B	C	D	E	F	G	H	I	J
DTH-723/C	A2	B1	C2	D1	E1	F1	G1	H3	I1	J1
DTH-966/A										

This is Temperature & Humidity controller Model DTH-723 with Pt-100 input for temperature having range (0.0-65.0)oC and (1-4)VDC for %Rh having range (0.0-100.0)%RH with DC Pulse output for Air Heater, Compressor, Boiler Heater, & common High Alarm output, Operating on 230VAC supply.

EXAMPLE 2: (DTH-723/A or DTH-966/A FOR HIGH/LOW ALARM FOR TEMPERATURE/%RH)

MODEL	A	B	C	D	E	F	G	H	I	J
DTH-723/A	A2	B1	C2	D1	E2	F2	G2	H2	I1	J1
DTH -966/A										

This is Temperature & Humidity controller Model DTH-723 with Pt-100 input for temperature having range (0.0-65.0)oC and (1-4)VDC for %Rh having range (0.0-100.0)%RH with DC Pulse outputs for High and Low alarm for temperature and %RH value and Operating on 230VAC supply.

DETAILS ON DIFFERENT TYPES OF TEMPRATURE / %RH SENSORS :

(which can be used with above types of controller)

TYPE	I	II	III
Model	**HTS - 222**	**HYGRO-CLIP-S3**	**H290**
Make	**Libratherm**	**Rotronic**	**Rotronic**
Temp. Sensor	Pt-100	In-built	In-built
Supply	5VDC	(5-24) VDC	(5-24) VDC
%RH O/P	1 - 4 VDC	0 To 1 VDC	(4-20) mA DC
Range	0 to 100%	0 to 100%RH	0 to 100%RH
Accuracy	+/- 2% @ 25°C	+/- 2 to 3%RH	+/- 1%RH
Temp. O/P	Ohmic value	0 To 1 VDC	(4-20) mA DC
Temperature	- 40 to 85°C	- 40 to 60°C	- 40 to150°C
Accuracy	+/- 0.5%	+/- 0.5%	+/- 0.5%
Enclosure	SS tubular	ABS tubular	ABS -IP65

For more information please contact :

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