Precision Manufacturing

DT284
Digital Relative Humidity and Temperature Transmitter - Duct Mount

HYGROSMART ®
INTERCHANGEABLE
PROBE

The DT284 relative humidity transmitter uses the Hygrosmart module, integrated in the interchangeable probe. This device can be used in high-temperature applications due to the remote placing of the measurement element and its small overall size.
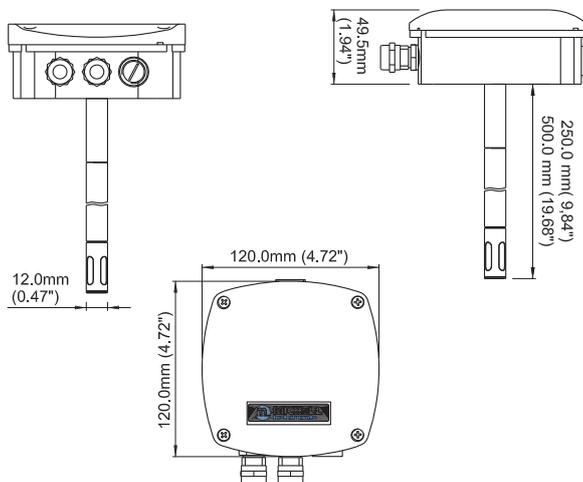
Highlights

- 12mm (0.47") probe diameter
- Analog and digital output standard
- Interchangeable probe
- Analog output signals selectable through software
- Metric or US measurement units selectable through software
- Can withstand temperatures up to 140°C (284°F)

Technical Specifications

Performance

Performance	
Measurement range (RH)	0–100% RH
Measurement range (T)	-30 to +140°C (-22 to +284°F)
Accuracy at 23°C (73°F) Humidity	<±2% RH (5–95% RH)
Accuracy at 23°C (73°F) Temperature	±0.4°C (±0.72°F)
Stability – RH Sensor	±1% RH/year
Response time – RH Sensor	<10 sec typical (for 90% of the step change)

Electrical output/input

Electrical output/input	
Output signal	0–1, 0–5, 0–10 V 0–20 mA, 4–20 mA, RS485
Supply voltage	15 - 27 V AC / 18 - 38 V DC
Load resistance	Current output: R ≤ 500 Ω
Power consumption	1.7 W

Operating conditions

Operating conditions	
Operating temperature Probe Housing Storage	-30 to +140°C (-22 to +284°F) -30 to +70°C (-22 to +158°F) -40 to +70°C (-40 to +158°F)

Mechanical specification

Mechanical specification	
Ingress protection	IP67
Material Housing Probe	Aluminum die casting Stainless steel
Dimensions Housing Probe	120 x 120 x 49.5mm (4.72 x 4.72 x 1.94") L=250/500mm ø12mm (L=9.84/19.68" ø0.47")
Weight	450g (15.87oz)
Electrical connections	Screw terminals

Dimensions

49.5mm (1.94")

250.0 mm (9.84")
500.0 mm (19.68")

12.0mm (0.47")

120.0mm (4.72")

120.0mm (4.72")

Accessories and Spare Parts

SS probe 250mm (9.84"), SS cover & mesh filter	USTE003
SS probe 500mm (19.69"), SS cover & mesh filter	USTE010
SS probe 250mm (9.84"), SS cover & sinter filter	USTE011
SS probe 500mm (19.69"), SS cover & sinter filter	USTE012
PEEK probe 250mm (9.84") & cover, SS mesh filter	USTE013
PEEK probe 500mm (19.69") & cover, SS mesh filter	USTE014
RS422/485 to PC (RS232) converter	330185
USB cable/software for configuration	F035263
Al mounting flange for ø12mm (0.47") SS probes	FLA012
SS sintered filter	H3
SS sintered filter with teflon coating	J3
SS mesh filter	K8
PEEK protection cap with SS mesh filter	K9
You can check your hygrometer with the Control Kit HKC which is based on the principle of non-saturated salt solutions. Refer to technical data sheet CONTROL KIT	HKC

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Instruments

DT284

Electrical Connections

Pin		Pin	
1	Power Supply V +	8	Output Channel 2 Ground
2	Power Supply V -	9	RS485 Data +
3	Output RS485 Ground	10	RS485 Data -
4	Ground	11	Not connected
5	Output Channel 1 Temperature +	12	Not connected
6	Output Channel 1 Ground	13	Output Channel 3 (not connected)
7	Output Channel 2 RH +	14	Output Channel 3 Ground (not connected)
	Do not connect pin 2 (V -) to pin 4 (Ground)		

Ordering Codes

To construct the order code, select the relevant feature from the tables below, starting with the base model, which is {Feature A} and then add on options to create a string: {Feature A}+{Feature B}+{Feature C}+{Feature D}+{Feature E}

Order example: DT284+A+11+N030+P140
Digital RH and temperature transmitter DT284, 4-20 mA output, stainless steel probe 250mm (9.84"), stainless steel cover and sintered filter, temp range -30 to +140ºC (-22 to +284ºF)

DT284	A	11	N030	P140

Base Model {Feature A}	
Digital RH and temperature transmitter	DT284

Signal Output {Feature B}	
4–20 mA	A
0–10 V	B
0–5 V	C
0–1 V	D
0–20 mA	E

Probe Type {Feature C}	
SS probe 250mm (9.84"), SS cover & mesh filter	3
SS probe 500mm (19.69"), SS cover & mesh filter	10
SS probe 250mm (9.84"), SS cover & sinter filter	11
SS probe 500mm (19.69"), SS cover & sinter filter	12
PEEK probe 250mm (9.84") & cover, SS mesh filter	13
PEEK probe 500mm (19.69") & cover, SS mesh filter	14

Temp High {Feature E}	
+20°C (+68°F)	P020
+30°C (+86°F)	P030
+50°C (+122°F)	P050
+70°C (+158°F)	P070
+100°C (+212°F)	P100
+140°C (+284°F)	P140
Other output scaling available on request	XXXX

Temp Low {Feature D}	
0°C (+32°F)	0000
-20°C (-4°F)	N020
-30°C (-22°F)	N030

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