

WM291

Relative Humidity/Temperature Digital Transmitter for Wall Mounting



The WM291 relative humidity transmitter includes the interchangeable HYGROSMART module. The interchangeable module lets you recalibrate the transmitter simply by replacing the sensor head with the HYGROSMART module. As a result, maintenance costs are greatly reduced and machine down-time is minimized.

Highlights

- Third output optional
- Analog and digital output standard
- Based on the interchangeable Hygrosmart module
- Analog output signals selectable through software
- Metric or imperial measurement units selectable through software
- Available with calculated absolute humidity, dew-point, frost point, mixing ratio or specific enthalpy output

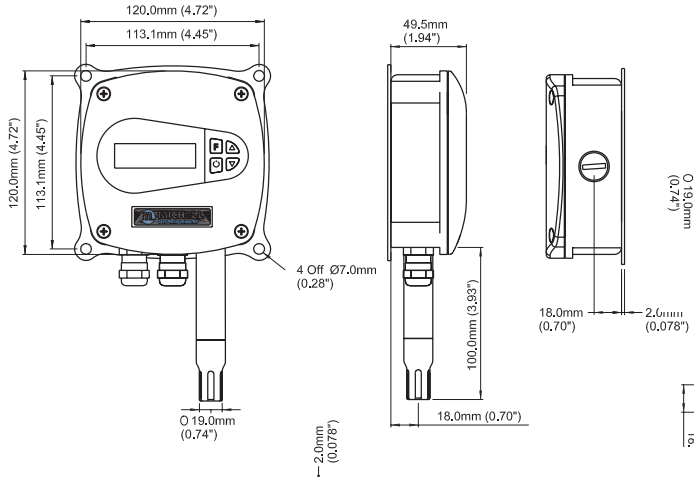
Technical Specifications

Performance	
Measurement range (RH)	0–100% RH
Measurement range (T)	-22 to +160°F / -30 to +70°C
RH Accuracy at 23°C / 73°F	<±2% RH (5-95% RH)
Temperature Accuracy	±0.72°F (14 to +122°F) ±0.4°C (-10 to +50°C)
Stability – RH Sensor	<±1% RH/year
Response time – RH Sensor	<10 sec typical (for 90% of the step change)
Electrical output/input	
Output signal	0–1 VDC, 0–5 VDC, 0–10 VDC 0–20 mA, 4–20 mA, RS485
Supply voltage	15 ≤ VAC ≤ 27 / 18 ≤ VDC ≤ 38
Load resistance	Current output: R ≤ 500 Ω
Power consumption	1.7 W
Operating conditions	
Operating humidity Probe, Housing, Storage	0–100% RH
Operating temperature	
Probe	-25 to +185°F / -30 to +85°C
Housing	-5 to +160°F / -20 to +70°C
Storage	-25 to +160°F / -30 to +70°C
Mechanical specification	
Ingress protection	IP65
Material	
Housing	Aluminum die casting
Probe	Delrin
Dimensions	
Housing	4.72 x 4.72 x 1.94" / 120 x 120 x 49.5mm
Probe	L=3.93", ø 0.74" / L=100mm, ø19mm
Weight	15.9oz / 450g
Electrical connections	Screw terminals
Display resolution	LCD, 2 lines x 16 characters

Accessories and spare parts

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	Control Kit HKC
Cable USB for configuration "DIGICOR" (USB/TTL)	F035263
RS422/485 to PC (RS232) converter	330185
Hygrosmart with Pt100	I7000.1
Delrin slotted cap, with stainless steel mesh filter	K7
Stainless steel sintered filter	H2
Stainless steel instered filter with teflon coating	J2
Delrin slotted cap, with polyester filter/PTFE	Z7

Dimensions



Electrical Connections

Pin	Description
1	V+
2	V -
3	RS485 output Ground
4	Ground
5	Output Channel 1 Temperature
6	Output Channel 1 Ground
7	Output Channel 2 RH
8	Output Channel 2 Ground
9	RS485 Data+
10	RS485 Data-
11	Not connected
12	Not connected
13	Output Channel 3 (optional)
14	Output Channel 3 Ground (optional)

Do not connect V - (pin 2) to Ground

Order codes

Relative humidity and temperature transmitter **WM291 A 0 K7 N030 P070 F**

Temperature and humidity output	
4-20 mA	A
0-10 V	B
0-5 V	C
0-1 V	D
0-20 mA	E

Optional output	
Dew point: -40 to 148°F / -40 to 100°C Td*	0
Mix ratio: 0-3500gr/lbm / 0-500 g/Kg	1
Absolute humidity: 0-600 g/m ³ / 0-262.197gr/ft ³	2
Specific enthalpy: 17.21 to 645.32 Btu/lb / -40 to 1500 KJ/Kg	3
Frost point: -58 to +50°F / -50 to +10°C	4

Protections and filters	
Delrin slotted cap, with stainless steel mesh filter	K7
Stainless Steel sintered filter	H2
Stainless steel sintered filter with teflon coating	J2
Delrin slotted cap, with polyester filter/PTFE	Z7

Temperature Units	
Fahrenheit	F
Celsius	C

Maximum temperature	
See table A (not to exceed 160F / 70C)	

Minimum temperature	
See table A	

Table A	
-40°	N040
-20°	N020
0°	0000
+40°	P040
+70°	P070
+100°	P100
+120°	P120
+160°	P160
Other values may be specified following the same format	

*Default configuration (Standard)

Example: WM291 A 0 K7 N030 P070 F

Relative humidity and temperature transmitter WM291, for wall-mounting, with display, dew point calculated, -30° to +70°F temperature range, with 4-20 mA temperature and humidity output signal, and Delrin cap and stainless steel mesh filter. In this example, the 4mA temperature signal is set for -30F and the 20mA is set for +70F.

Please note: Michell Instruments adopts a continuous development program which sometimes necessitates specification changes without notice. Please contact us for latest version. Ref: WM291_1001US_P



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