

WR293

Digital Relative Humidity and Temperature Transmitter, Remote Version

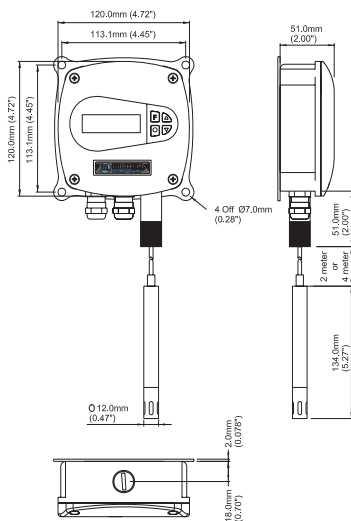


The WR293 relative humidity sensor uses the HYGROSMART module, integrated in the interchangeable probe and cable. This device can be used in high-temperature applications due to the remote measurement element and its small overall size. The interchangeable probe allows for simple recalibration and lower maintenance costs.

Highlights

- Third output, optional engineering units
- Analog and digital output standard
- Interchangeable probe
- Analog output signals selectable through software
- Metric or US measurement units selectable through software
- Available with calculated absolute humidity, dew-point, frost point, mixing ratio or specific enthalpy output

Dimensions



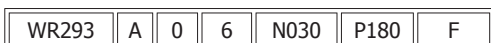
Technical Specifications	
Performance	
Measurement range (RH)	0–100% RH
Measurement range (T)	-20 to +390°F / -30 to +200°C
Accuracy at 23°C / 73°F Humidity	<±2% RH (5–95% RH)
Accuracy at 23°C / 73°F Temperature	±0.4°C / ±0.72°F
Stability – RH Sensor	<±1% RH/year
Response time – RH Sensor	<10 sec typical (for 90% of the step change)
Electrical output/input	
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 +390°F / -30 to +200°C
Housing	-25 to +160°F / -30 to +70°C
Storage	-40 to +160°F / -40 to +70°C
Mechanical specification	
Ingress protection	IP65
Material Housing	Aluminum die casting
Probe	Stainless steel
Dimensions Housing	4.72 x 4.72 x 2.00" / 120 x 120 x 51mm
Probe	L=5.27", ø 0.47" / L=134mm, ø12mm
Weight	15.9oz / 450g
Electrical connections	Screw terminals
Display resolution	LCD, 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
Aluminum mounting flange for fixing probe	FLA012
Cable USB for configuration "DIGICOR" (USB/TTL)	F035263
RS422/485 to PC (RD232) converter	330185
Stainless steel mesh filter	K8
PEEK protection cap with stainless steel mesh filter	K9
Stainless steel sintered filter	H3
Stainless steel filter with Teflon coating	J3
SS probe w/6.5' / 2m cable, SS cover and SS mesh filter	USTE002
SS probe w/13' / 4m cable, SS cover and SS mesh filter	USTE005
SS probe w/6.5' / 2m cable and SS sintered filter	USTE006
SS probe w/13' / 4m cable and SS sintered filter	USTE007
PEEK probe cover w/6.5' / 2m cable & SS mesh filter	USTE008
PEEK probe cover w/13' / 4m cable & SS mesh filter	USTE009

Electrical Connections	
Pin	
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 Signal (optional units)
14	Output Channel 3 Ground (optional units)
Do not connect V - (pin 2) to Ground	

Order codes

Relative humidity and temperature transmitter



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 + 212°F / -40 to +100°C*	0
Mix ratio: 0-3500gr/lbm / 0-500 g/Kg	1
Absolute humidity: 265 gr/ft ³ / 0–600 g/m ³	2
Specific enthalpy : -17.21 to 645.32 Btu/lbm / -40 to 1500 KJ/Kg	3
Frost point: -58 to + 50°F / -50 to +10°C	4

Interchangeable probe and cable	
Stainless steel probe with 6.5' / 2m cable output, stainless steel cover with stainless steel mesh filter (standard)	2
Stainless steel probe with 13' / 4m cable output, stainless steel cover with stainless steel mesh filter	5
Stainless steel probe with 6.5' / 2m cable output and stainless steel sintered filter	6
Stainless steel probe with 13' / 4m cable output and stainless steel sintered filter	7
Victrex PEEK probe cover with 6.5' / 2m cable output and stainless steel mesh filter	8
Victrex PEEK probe cover with 13' / 4m cable output and stainless steel mesh filter	9

* Default configuration (STD)

Temperature Units	
Fahrenheit	F
Celsius	C

Maximum temperature	
See table A (not to exceed 390°F / 200°C)	

Minimum temperature	
See table A	

Table A	
-40°	N040
-20°	N020
0	0000
+40°	P040
+70°	P070
+100°	P100
+200°	P200
+390°	P390
Other values may be specified following the same format	

Example: WR293 A 0 06 N030 P180 F

Relative humidity and temperature transmitter WR 293 with 4–20 mA 2-wire humidity output, dew point calculated, stainless steel probe with 6.5ft / 2m cable, and stainless steel sintered filter, and -30°F to 180°F temperature range. In this example, the 4mA temperature signal is set for -30F and the 20mA is set for +180F.

Please note: Michell Instruments adopts a continuous development program which sometimes necessitates specification changes without notice. Please contact us for latest version. Ref: WR293_1001US_P



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