

WR293

Digital Relative Humidity and Temperature Transmitter - Remote

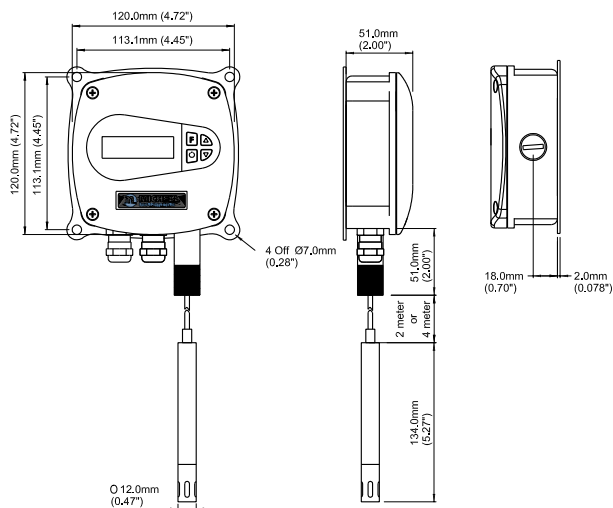


The WR293 relative humidity sensor uses the HYGROSMART module, integrated in the interchangeable probe and cable. This device can be used in high-temperature applications due to the remote measurement element and its small overall size. The interchangeable probe allows for simple recalibration and lower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

Highlights

- Third output optional
- Analog and digital output standard
- Interchangeable probe
- 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

Dimensions



Technical Specifications

Performance	
Measurement range (RH)	0–100% RH
Measurement range (T)	-30 to +200°C / -22 to +392°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	
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	-30 to +200°C / -22 to +392°F
Housing	-30 to +70°C / -22 to +158°F
Storage	-40 to +70°C / -40 to +158°F
Mechanical specification	
Ingress protection	IP65
Material Housing	Aluminum die casting
Probe	Stainless steel
Dimensions Housing	120 x 120 x 51mm / 4.72 x 4.72 x 2.00"
Probe	L=134mm, ø12mm / L=5.27", ø 0.47"
Weight	450g / 15.87oz
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 with 2m cable, SS cover and SS mesh filter	USTE002
SS probe with 4m cable, SS cover and SS mesh filter	USTE005
SS probe with 2m cable and SS sintered filter	USTE006
SS probe with 4m cable and SS sintered filter	USTE007
Victrex PEEK probe cover with 2m cable & SS mesh filter	USTE008
Victrex PEEK probe cover with 4m cable & SS mesh filter	USTE009

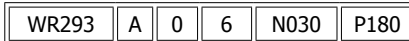
Electrical Connections

Pin	
1	Power Supply V+
2	Power Supply V -
3	Output RS485 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 pin 2 (V-) to pin 4 (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 +100°C / -40 to + 212°F	0
Mix ratio: 0–500g/Kg / 0-8oz/lb	1
Absolute humidity: 0–600 g/m³/ 262.197 gr/ft³	2
Specific enthalpy : -40 to 1500 KJ/Kg / -17.21 to 645.32 Btu/lb	3
Frost point: -50 to +10°C / -58 to + 50°F	4

Interchangeable probe and cable	
Stainless steel probe with 2m / 6.5' cable output, stainless steel cover with stainless steel mesh filter (standard)	2
Stainless steel probe with 4m / 13.1' cable output, stainless steel cover with stainless steel mesh filter	5
Stainless steel probe with 2m / 6.5' cable output and stainless steel sintered filter	6
Stainless steel probe with 4m / 13.1' cable output and stainless steel sintered filter	7
Victrex PEEK probe cover with 2m / 6.5' cable output and stainless steel mesh filter	8
Victrex PEEK probe cover with 4m / 13.1' cable output and stainless steel mesh filter	9

Maximum temperature
See table A

Minimum temperature
See table A

Table A	
Temperature value	Code
-30°C / -22°F	N030
-20°C / -4°F	N020
0°C / 32°F	0000
+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
+150°C / +302°F	P150
+180°C / +356°F	P180
+200°C / +392°F	P200
Other output scaling available on request TX	

Example: WR293 A 0 06 N030 P180

Relative humidity and temperature transmitter WR 293 with 4–20 mA 2-wire humidity output, dew point calculated, stainless steel probe with 2m / 6.5' cable, and stainless steel sintered filter. -30°C to 180°C / -22°F to +356°F temperature range.

Please note: Michell Instruments adopts a continuous development program which sometimes necessitates specification changes without notice. Please contact us for latest version. Ref: WR293_97194_V1_UK_1009