WR293

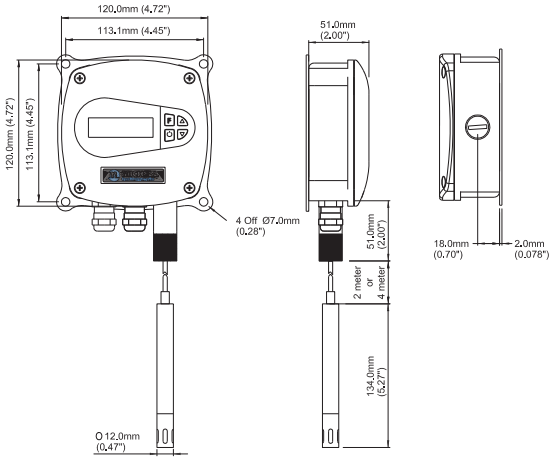
Digital Relative Humidity and Temperature Transmitter - Remote Probe for High Temperatures

The WR293 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 measurement element and its small overall size. The interchangeable probe allows for simple recalibration and lower maintenance costs.

Highlights

- Three outputs
- 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
- Can withstand temperatures up to 200°C (392°F)

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, 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 temperature Probe Housing Storage	 -30 to +200°C (-22 to +392°F) -30 to +70°C (-22 to +158°F) -40 to +70°C (-40 to +158°F)
Mechanical specification	
Ingress protection	IP65 (NEMA 4 level)
Material Housing Probe	 Aluminum die casting Stainless steel
Dimensions Housing Probe	 120 x 120 x 51mm (4.72 x 4.72 x 2.00") L=134mm, ø12mm (L=5.27", ø0.47")
Weight	450g (15.87oz)
Electrical connections	Screw terminals
Display resolution	LCD, 2 lines x 16 characters

Accessories and Spare Parts

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**
SS probe, cover & mesh filter, 2m (6.56') cable	**USTE002**
SS probe, cover & mesh filter, 2m + 2m extension (6.56' + 6.56') cable	**USTE005**
SS probe, cover & sinter filter, 2m (6.56') cable	**USTE006**
SS probe, cover & sinter filter, 2m + 2m extension (6.56' + 6.56') cable	**USTE007**
PEEK probe, cover, SS mesh filter, 2m (6.56') cable	**USTE008**
PEEK probe, cover, SS mesh filter, 2m + 2m extension (6.56' + 6.56') cable	**USTE009**
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**

Issue No: WR293_97194_V3_UK_0811

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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 (optional)
7	Output Channel 2 RH +	14	Output Channel 3 Ground (optional)
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}+{Feature F}

Order example: WR293+A+0+IP6+N030+P180
Digital RH and temperature transmitter WR293, 4-20 mA output, dew point calculated, stainless steel probe with 2m (6.56') cable and stainless steel sintered filter, -30 to +180ºC (-22 to +356ºF) temp range

WR293	A	0	IP6	N030	P180

Base Model {Feature A}	
Digital RH and temperature transmitter - Remote Probe for High Temperatures	WR293

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

3rd Output {Feature C}	
Dew point: -40 to +100ºC	0
Mixing ratio: 0-500 gr/Kg	1
Absolute Humidity: 0-600 g/m^3	2
Specific enthalpy: -40 to 1500 KJ/Kg	3
Frost point: -50 to +10ºC	4

Temp High {Feature F}	
+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	XXXX

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

Probe Type {Feature D}	
SS probe, cover & mesh filter, 2m (6.56') cable	IP2
SS probe, cover & mesh filter, 2m + 2m extension (6.56' + 6.56') cable	IP5
SS probe, cover & sinter filter, 2m (6.56') cable	IP6
SS probe, cover & sinter filter, 2m + 2m extension (6.56' + 6.56') cable	IP7
PEEK probe, cover, SS mesh filter, 2m (6.56') cable	IP8
PEEK probe, cover, SS mesh filter, 2m + 2m extension (6.56' + 6.56') cable	IP9