



BRH 100DC

Relative Humidity & Temperature Sensor

Capacitive humidity and temperature sensor with dew point and absolute humidity output. Software optimized for use in data centers with ESD risk assessment. Aluminium housing with special hard-anodised coating and stainless steel 10µm protective filter film. LED indicators for measurement status and faults.

Features

- Environment sensor optimized for air measurement in datacenter and ESD sensitive areas
- Excellent humidity & temperature sensor
- Precision rH/T measurement
- LED indicators through the filter cap
 - **rH** 0 ... 100 % rH
 - Accuracy: ± 0.5 % rH typ.
 - Long-term stability ± 0.19 % rH/year typ.
 - **T** -40 ... +85 °C
 - Accuracy: ± 0.1 % °C typ.
 - Long-term stability ± 0.03 °C/year typ.
 - **Td** Dew point calculation
 - **AH** Absolut humidity calculation
 - **r** Mixing ration calculation
- Output
 - RS485 Modbus-RTU
- Operating Voltage
 - 4 ... 28V DC
- 12mm aluminium tubing in 80mm length black anodized
- M12x1 mm Standard sensor connector



Applications

- Air monitoring in data centers or ESD-sensitive environments
- Rack-Monitoring
- Cooling applications
- Interior monitoring without direct sunlight
- Storage and Archive Rooms
- Retrofit-Projects
- Climate Chambers / Test Environments
- OEM integration into third-party systems

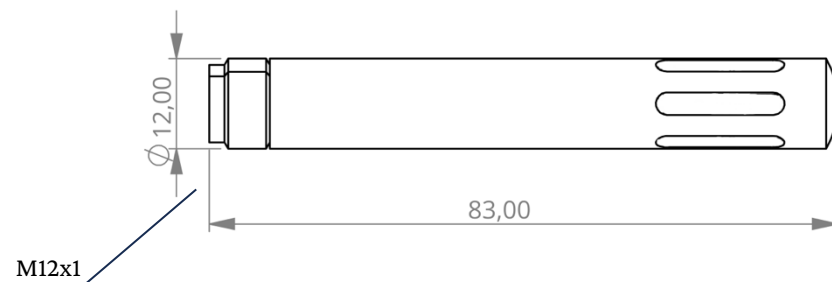
Specifications

Electrical Data

All specifications at $T_A = 25\text{ °C}$ unless otherwise noted.

Parameter	Min.	Typ.	Max.	Unit	Conditions/Comments
Operating temperature	-40		85	°C	
Humidity					
rH accuracy		±0.5	±2	% rH	10 ... 50% rH
Temperature coefficient ¹		±1.0	±2	% rH	10...70% rH
		±1.0	±2.5	% rH	10...80% rH
		±1.5	±3	% rH	10...90% rH
rH repeatability	±0.02			%	
rH response time	4			sec	
Temperature					
T accuracy		±0.1	0.2	°C	0 ... 50°C
		±0.1	0.3	°C	-40 ... 100°C
		±0.1	0.4	°C	-40 ... 125°C
Power supply					
DC voltage	4.0		28	V	
Current consumption				mA	
Communication parameter					
Output	RS485			Modbus-RTU	
EMC Standards					
Standard	Emission residential area			EN61000-6-3:2020	
	Suceptibility residential area			EN61000-6-1:2019	

Mechanical Data



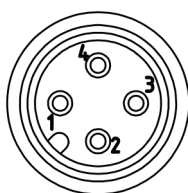
[1] All dimensions in millimeter

(tolerance : ± 0.2)

[2] Scale : freestyle

[3] Housing : Aluminium black hard-anodised coating concerning to ISO 10074:2021; MIL-PRF-8625F and LN 9368-4-2200

Pin Assignment



Pin	Signal	Description
1	+UB	Supply Voltage
2	B-RS485 / Data-	RS485 B inverted Data
3	GND	Ground
4	A-RS485 / Data+	RS485 A non-inverted Data

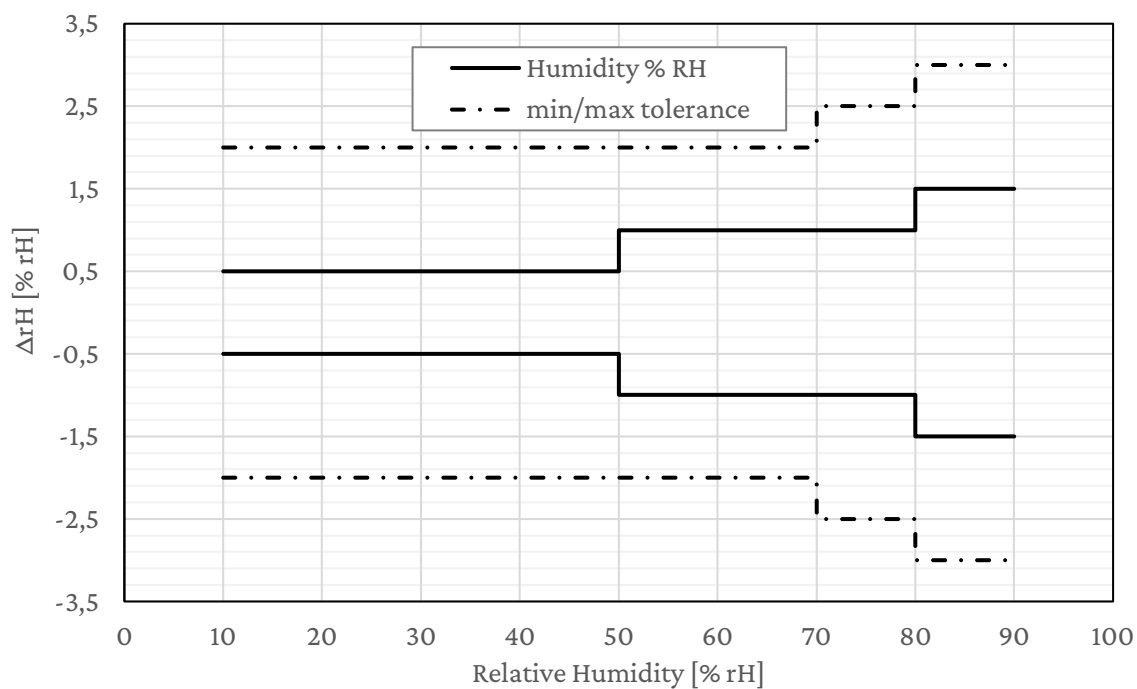
Marking



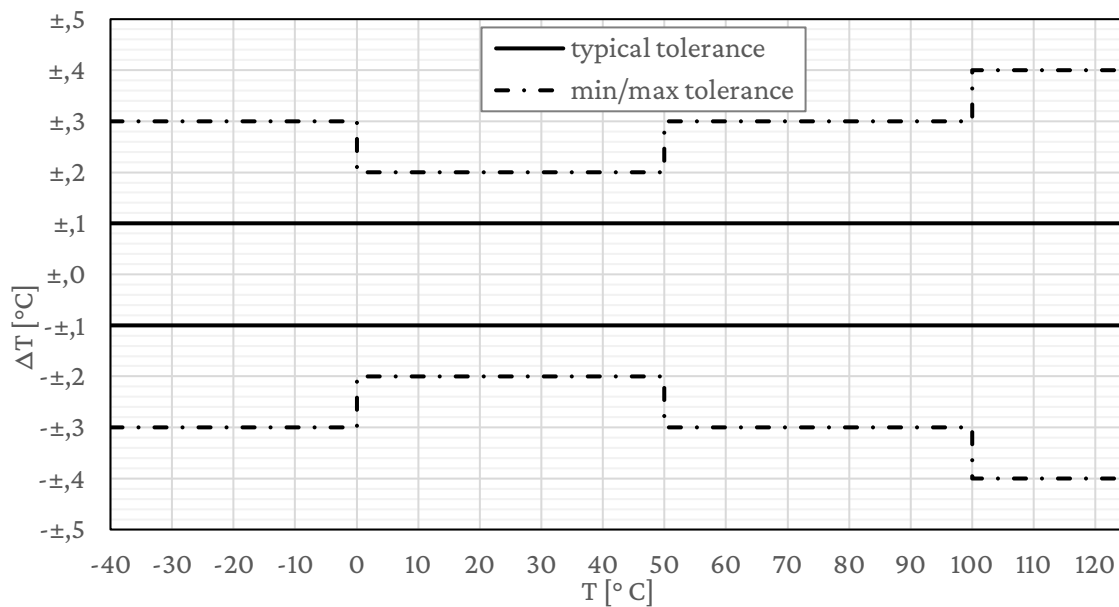
Each device is marked with a 16×16-point DataMatrix code and a serial number in plain text

Typical Characteristics

Humidity



Temperature



Accessories



MRS 100KIT



Bracket 12mm

Ordering

<i>Product/Replacement part</i>	<i>Order number</i>
BRH 100DC	710000
MRS 100KIT	740100
Bracket 12mm	270011
M12 4pol. Connection cable 2m	290004
M12 4pol. Connection cable 5m	290005

Revision History

2026-08-10	Rev. 0: Initial Version
2026-08-31	Rev. 1: Accessories and new pictures

Disclaimer

All product, product specifications and data are subject to change without notice.



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