

HF3A

Humidity and Temperature Transmitter

rotronic
MEASUREMENT SOLUTIONS
a DwyerOmega brand



Benefits

- Versatile design to meet diverse application needs
- Precise relative humidity and temperature measurement with additional psychrometric calculations
- Freely programmable outputs and scaling via NFC-Interface, including NFC powerless support

Applications

- HVAC systems for office buildings and storage rooms
- Museums and libraries where aesthetics matter
- Climate monitoring for greenhouses and swimming pools
- Light industrial manufacturing including electronics manufacturing, packaging, and small-scale assembly lines

New housing

- Robust, PC-ABS industrial-quality housing (IP65)
- Wall, Duct and Cable mount version
- Display with trend indicator, LED status and backlighting¹

Outputs

- The 2 analog outputs are freely selectable and scalable
- 2-wire (HF3A-2), 3- /4-wire analog (HF3A-3) and 3- /4- wire digital (HF3A-D) available
- RS485 signal on screw terminal for HF3A-D

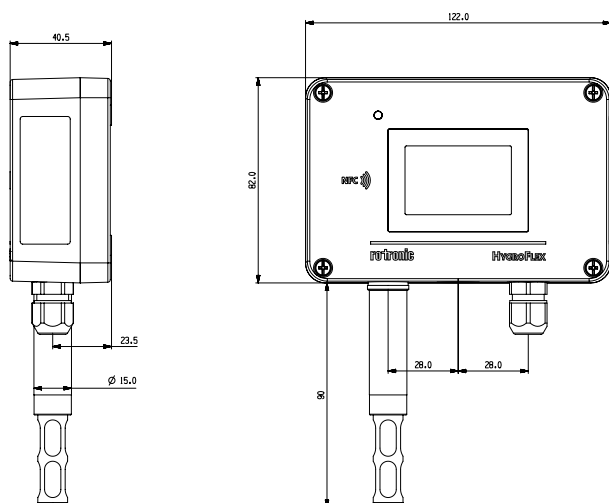
Power supply

- 2-wire: 10 VDC to 28 VDC
- 3- /4- wire: 18 VDC to 36VDC

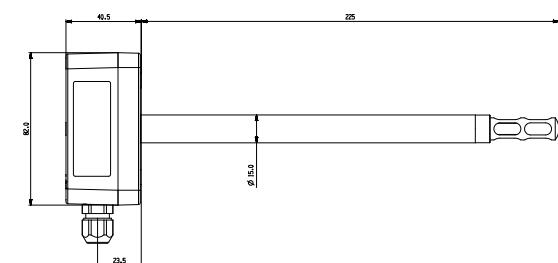
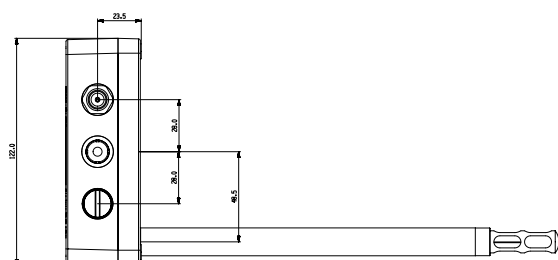


Technical information

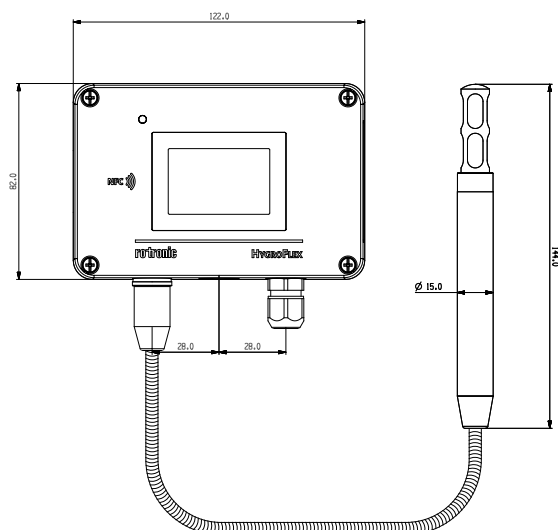
HF3A-2, HF3A-3 and HF3A-D
Wall version



Duct version



Cable version



	HF3A-2 2-wire	HF3A-3/ HF3A-D 3- /4-wire
Probe	Humidity and Temperature fix mounted	
Accuracy at 23 °C	±1.2 %rh, ±0.1 °C	
Initialization time	Typically 5 seconds.	
Measurement interval	1 s	
Measurement range	0 %rh to 100 %rh Wall ¹ : -40 °C to 85 °C/-10 °C to 60 °C Duct ² /Cable: -50 °C to 100 °C	
Range of applications	0 %rh to 100 %rh (non-condensing) -10 °C to 60 °C with display -40 °C to 85 °C without display	
Trend indicator	Yes	
Display	Resolution up to 2 decimal places without backlighting with backlighting and LED-Status	
Output signals analog	4 mA to 20 mA	Freely scalable: 0 V to 1V, V to 5V, 0 V to 10 V, 0 mA to 20, 4 mA to 20 mA
Resolution analog output	>15 Bit	
Output signal digital	–	RS-485 signals on screw terminal
Cable connections	1 x M12 screw terminals (2 x M12 for HF3A-D)	
Psychometric calculations	All	
Power supply	10 VDC to 28 VDC	18 VDC to 36 VDC
Circuit type	2-wire	3- /4-wire
Current Consumption	2x23 mA	< 50 mA
Load per analog output	Max. 500 Ω	
Humidity Sensor	ROTRONIC Hygromer® HT-1	
Temperature Sensor	Pt100 1/3 Class B	
Interface	UART, NFC and USB	
Software	HygroSoft	
Housing material	PC-ABS	
Dimensions	Wall: 122 x 172 x 40.5 mm Duct: 122 x 82 x 265.5 mm Cable: 122 x 82 x 40.5 mm (Housing only) 144 x 15 mm (Probe only)	
Weight	Wall: 204 g Duct: 226 g Cable: 332 g	
IP-Protection	IP65	
Soldering material	Lead free (RoHS-Directive 2011/65/EU)	
Standards	CE Conformity 2014/30/EU	
Conformity	GAMP5	

¹ The measurement range for the wall-mount unit is limited due to the proximity of the probe to the transmitter electronics.

² The full measurement range of the duct mount unit can only be utilized if the transmitter electronics operate within the given application range.

Versions

Wall



Use in cleanrooms

Duct



Use in HVAC systems

Cable



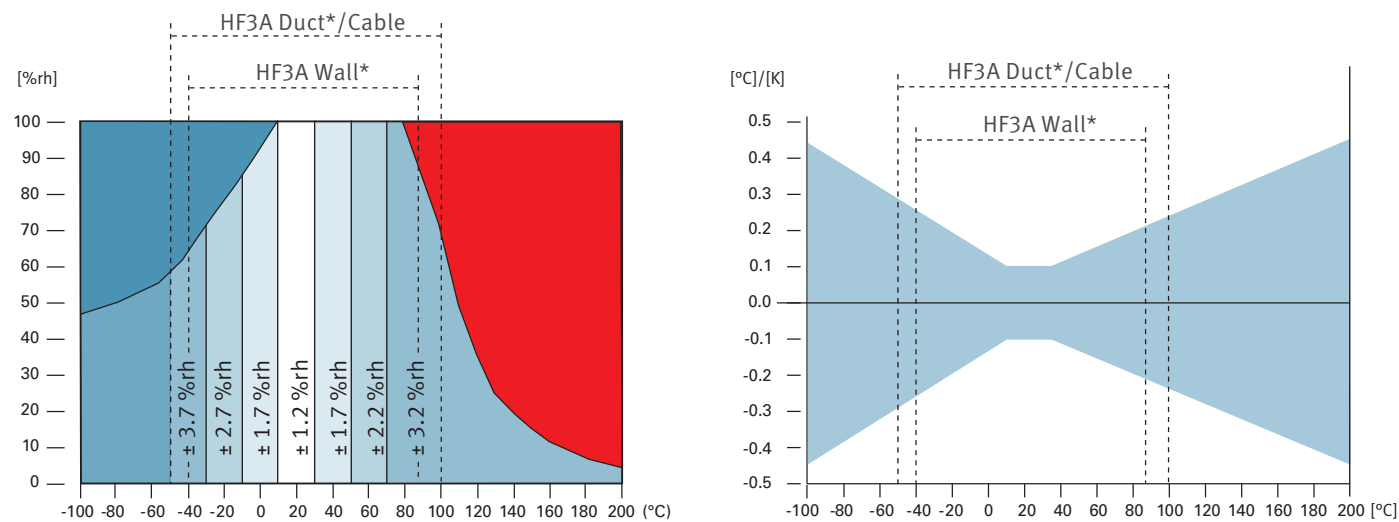
Use in Climatic chambers

Accessories for Hygroflex Advanced Transmitters

Order Code NFC-USB-READER		The Hygroflex Advanced HF3A devices are equipped with an NFC-interface ¹ through which the device can be configured. The NFC-interface can be accessed by means of a mobile phone or a computer equipped with an NFC reader. The NFC-USB-READER has an USB plug to connect the Reader with a Computer and requires no further configuration. The Hygroflex Advanced Transmitter is compatible with HygroSoft software only.
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¹ Rotronic AG only support the NFC-USB-READER, which can be purchased through Rotronic. Devices from third party suppliers cannot be considered.

Humidity and Temperature window



* Both the electronics and the sensor operate under identical environmental conditions.

