

TRANSMITTERS



HYGROFLEX6 SERIES

HygroFlex6 series provides the highest specification and widest range of configurations for industrial applications. The transmitters come in wall, cable and duct versions. Many useful functions can be activated with the optional HW4 software. The measuring circuits of the HF6x series are galvanically isolated.

This new instrument generation not only boasts a unique calibration and adjustment process, but also allows every transmitter to be used as a simulator with fixed values. This is a big advantage for system validation. In the case of networked transmitters this can even be done online from a PC running ROTRONIC HW4 software.

Applications

HVAC applications, building management systems, museums, libraries, etc.

Highlights

- Unique calibration and adjustment process
- Highest reproducibility
- Wall, duct and cable versions
- Many useful functions can be activated with the optional HW4 software

HF6 WALL/CABLE MOUNT

Applications

HVAC applications, building management systems, museums, libraries, etc.

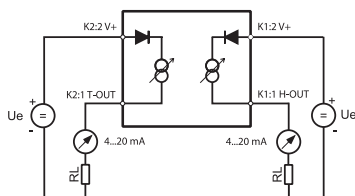
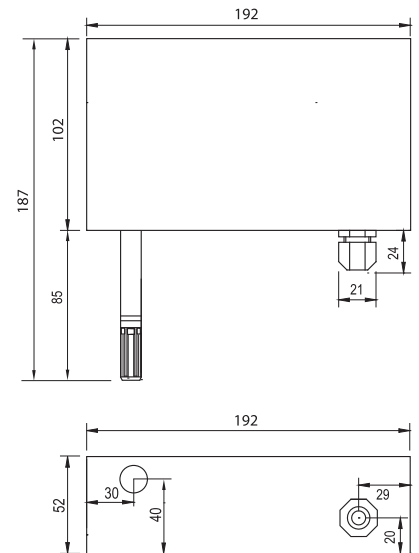
Highlights and common features

- Measures relative humidity, temperature and dew/frost point
- Electronics operating range -40...60 °C; -10...60 °C with LCD, 0...100 %rh
- Automatic sensor test & drift compensation *
- Saves up to 2,000 measurement pairs *
- Use as a simulator for system validation *
- UART service interface
- Integrated probe
- Adjustment profile «Standard», factory certificate
- Adjusted at 23 °C and 10, 35, 80 %rh
- Accuracy: ± 1 %rh / ± 0.2 K
- Mains or low voltage power supply

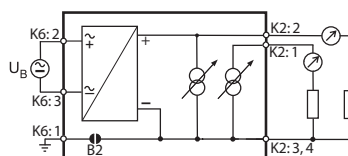
Wall mount	HF624-W series	HF63x-W series
Type	2- or 2 x 2-wire, galvanically isolated	3/4-wire
Signals	Signals freely scalable*	Signals freely selectable and scalable*
Features	Alarm indicators, display and keypad (optional)	
Filter	Polyethylene filter	

Cable mount	HF624-2 series	HF63x-2 series
Type	2- or 2 x 2-wire, galvanically isolated	3/4-wire
Signals	Signals freely scalable*	Signals freely selectable and scalable*
Features	Alarm indicators, display and keypad (optional) PPS probe with 2 m cable	
Filter	Polyethylene filter	

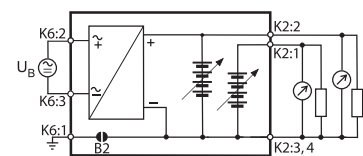
* Optional, requires HW4 software



Schematic 2-wire types



Schematic 3-wire current signal
Low voltage



Schematic 3-wire voltage signal
Low voltage

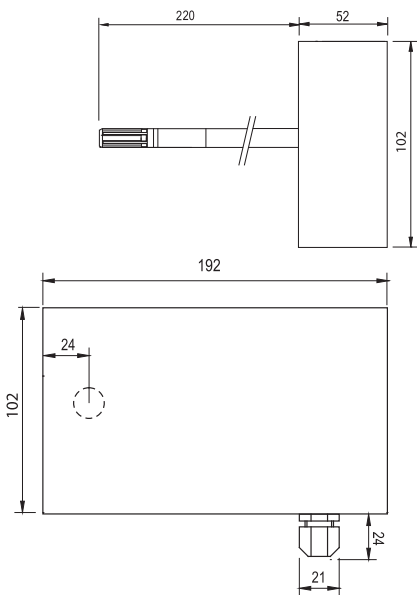
HF6 DUCT MOUNT



Duct version
Type D



Duct version
Type D



Applications

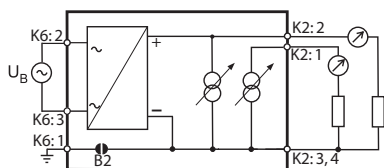
HVAC applications, building management systems etc.

Highlights and common features

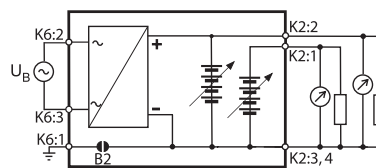
- Measures relative humidity, temperature and dew/frost point
- Range of application -40...60 °C, 0...100 %rh
- Automatic sensor test & drift compensation *
- Saves up to 2,000 measurement pairs *
- Use as a simulator for system validation *
- UART service interface
- Integrated probe
- Adjustment profile «Standard», factory adjustment certificate
- Adjusted at 23 °C and 10, 35, 80 %rh
- Accuracy: ± 1 %rh / ± 0.2 K
- Mains or low voltage power supply

Duct version	HF624-D series	HF63xD series
Type	2- or 2 x 2-wire, galvanically isolated	3/4-wire
Signals	Signals freely scalable*	Signals freely selectable and scalable*
Features	Alarm indicators, display and keypad (optional)	
Filter	Polyethylene filter	

* Optional, requires HW4 software



Schematic 3-wire current signal
Mains voltage power supply



Schematic 3-wire voltage signal
Mains voltage power supply

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Order information (for accessories see pages 99-102)										
Transmitters with analog output signals										
Power supply and output signal type										
HF624-										2 x 2-wire, <10...28 VDC, galvanically isolated
HF631-										3/4-wire, 15...40 VDC / 12...28 VAC, 0...20 mA
HF632-										3/4-wire, 15...40 VDC / 12...28 VAC, 4...20 mA
HF633-										3/4-wire, 5...40 VDC / 5...28 VAC, 0...1 V
HF634-										3/4-wire, 10...40 VDC / 8...28 VAC, 0...5 V
HF635-										3/4-wire, 15...40 VDC / 12...28 VAC, 0...10 V
HF636-										3/4-wire, 85...265 VAC, 0...20 mA
HF637-										3/4-wire, 85...265 VAC, 4...20 mA
HF638-										3/4-wire, 85...265 VAC, 0...1 V
HF639-										3/4-wire, 85...265 VAC, 0...5 V
HF63A-										3/4-wire, 85...265 VAC, 0...10 V
Instrument type										
									2	PPS cable probe 2 m, Ø 15 x 100 mm
									D	Duct version, Ø 15 x 220 mm
									W	Wall version, Ø 15 x 85 mm
Output parameters										
									P	X X Humidity and passive Pt100
									B	X X Humidity & temperature
									H X X	X X Only humidity
									T	X X Only temperature
									1 X X	Humidity & dew point
									A	Temperature & dew point
Scaling of the output signals (humidity: always 0...100 %rh)										
									X X	No temperature output signal
									1 X	0...50 °C
									2 X	10...40 °C
									3 X	-40...60 °C
									4 X	-30...70 °C
									5 X	-40...85 °C
									6 X	0...100 °F
									7 X	0...200 °F
									9 X	-50...200 °F
									P P 3	With passive Pt100 1/3 Class B
									P P 5	With passive Pt100 1/5 Class B
									P P A	With passive Pt100 1/10 Class B
Optional display										
									D	Display (only display without backlight possible for HF624)
									X	No display
Probe extension										
									S	Standard length (D = 220 mm, W = 85 mm)
									1	Standard length (S) + 150 mm
									2	Standard length (S) + 300 mm
									3	Standard length (S) + 450 mm
									4	Standard length (S) + 600 mm
Electrical connections (analog signals to terminals) *										
									1	M16 x 1.5 cable gland (horizontal, type D with display and type W)
									3	x 1/2" conduit adapter (horizontal, type D with display and type W)
Standard scaling dew point / frost point										
									X X	No calculation
									B X	-50...50
									C X	-50...100
									D X	-50...200

*Types with mains voltage have 2 M16 cable glands or conduit adapters

TRANSMITTERS

Detailed specifications		
Power supply / Connections	HF62	HF63
Supply voltage	15...40 VDC / 12...28 VAC at 500 Ω	
	10...28 VDC, 4...20 mA current loop V min = 10 V + (0.02 x load*) * = resistance in Ω	85...265 VAC
Current consumption	2 x 20 mA, 4...20 mA current loop	<50 mA
Electrical connections	Screw terminals and M16 cable gland or 1/2" conduit adapter	
Humidity measurement	HF62	HF63
Sensor	ROTRONIC Hygromer® IN-1	
Measurement range	0...100 %rh	
Accuracy at 23 °C	±1 %rh	
Repeatability	0.3 %rh	
Long term stability	<1 %rh/year	
Response time	Typically 10 s for 63 % of a change 35 → 80 %rh (1 m/sec air flow at sensor)	
Temperature measurement	HF62	HF63
Sensor	Pt100 1/3 Class B	
Measurement range	-100...150 °C / -148...302 °F	
Accuracy at 23 °C	±0.2 K	
Repeatability	0.05 K	
Long term stability	<0.1 °C/year	
Response time	Typically 4 s for 63 % of a change from 23 to 80 °C (1 m/sec air flow at sensor)	
Calculated parameters	HF62	HF63
Psychrometric calculations	Dew point or frost point	
Start-up time and refresh rate	HF62	HF63
Start-up time	Typically 3.4 s	Typically 1.9 s
Signal type	4...20 mA	0...20 mA, 4...20 mA / 0...1 V, 0...5 V, 0...10 V
Scale limits	-999.99 ... +9999.99 units, user programmable	
* Maximum load (in Ω)	0/500 Ω	0/500 Ω (current signal), min. 1000 Ω (voltage signal)
Service interface	UART (universal asynchronous receiver transmitter)	
Service cable maximum length	5 m (16.4 ft)	
General specifications	HF62	HF63
Optional display	LCD, 1 or 2 decimals, without backlight	LCD, 1 or 2 decimals, with backlight and trend indicator
Probe material	Polycarbonate	
Filter material	Polyethylene depending on filter, order separately, see pages 99/100	
Housing material / Protection	ABS / IP 65	
Weight	Approx. 300 g	
CE/EMC compatibility	EMC Directive 2004/108/EC: EN 61000-6-1: 2001, EN 61000-6-2: 2005 EN 61000-6-3: 2005, EN 61000-6-4: 2001 + A11	
Solder	Lead free (RoHS compliant)	
Fire resistance	Conforms to UL94-HB	
FDA/GAMP compatibility	Conforms to 21 CFR Part 11 and GAMP4	
Electronics operating range	-40...60 °C / -10...60 °C (models with display); 0...100 %rh, non-condensing	
Temperature limits at probe	-100...150 °C (applies to cable and duct models)	
Maximum air velocity at probe	40 m/s (7,870 ft /min)	