TRANSMITTERS

HygroFlex7 series

The HygroFlex7 series is equipped with sturdy metal housings and stainless steel probes for harsh industrial conditions. In common with other HygroFlex transmitters, the HF7 provides superb accuracy and reproducibity and comes in wall, cable and duct mount versions. Many useful features can be activated with the optional HW4 software, including in-transmitter logging, output scaling and self-diagnostics.

The HF7 series not only has a unique calibration and adjustment process, but also allows every transmitter to be used as a simulator with fixed values. This is a major advantage in system configuration and validation.

Applications

Industrial applications, building management systems, underground railways, tunnelling, etc.

Highlights

- Unique calibration and adjustment process
- Highest reproducibility
- All metal construction of wall, cable and duct versions
- Highly configurable via HW4 software

HF7 WALL/CABLE VERSION

Wall version
Type W

Applications

Industrial processes in harsh environments

Highlights and common features

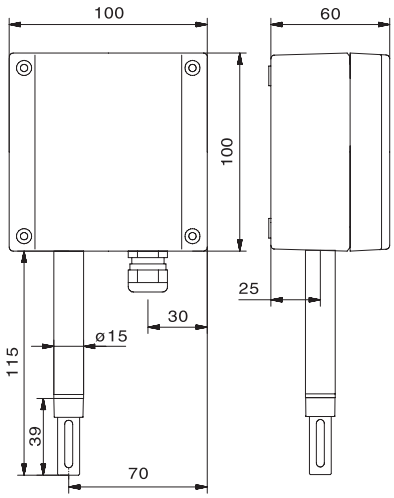
- Measures relative humidity, temperature and dew/frost point
- Application range -100...150 °C / 0...100 %rh (depending on model)
- Automatic sensor test & drift compensation *
- Integral 2,000 measurement pair logging *
- Use as a simulator for system validation *
- UART service interface
- Fixed probe/cable probe
- Adjustment profile «Standard», factory certificate
- All metal construction
- Accuracy: ±1 %rh / ±0.2 K

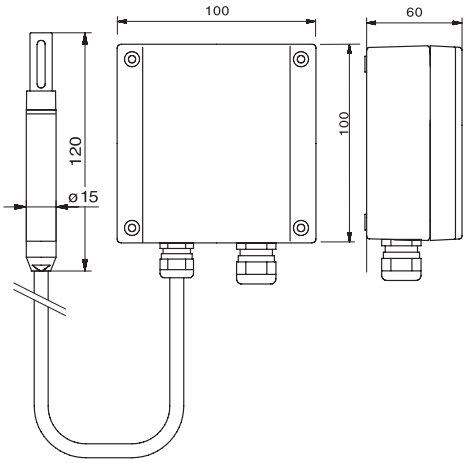
Cable version
Type C

Wall version	HF720-W series	HF73x-W series
Type	2- or 2 x 2-wire, 4...20 mA	3/4-wire
Signals	Signals freely scalable*	Signals freely selectable and scalable*
Features	Without display	Without display
Filter carrier	Slotted sleeve (order filter separately)	

Cable version	HF720-C series	HF73x-C series
Type	2- or 2 x 2-wire, 4...20 mA	3/4-wire
Signals	Signals freely scalable*	Signals freely selectable and scalable*
Features	Without display	
Filter carrier	Slotted sleeve (order filter separately)	

* Optional, requires HW4 software





HF7 DUCT VERSION

Applications

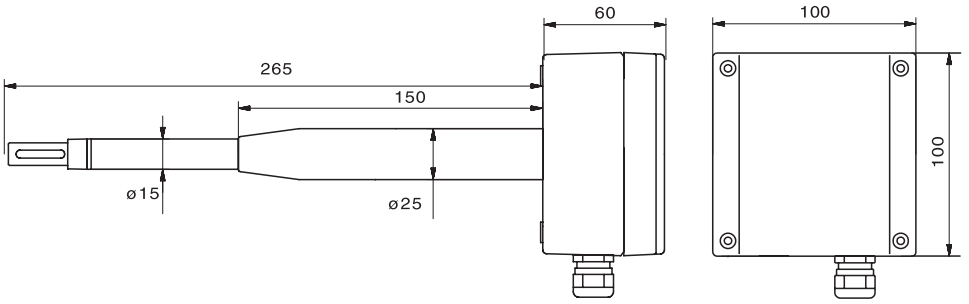
Industrial processes in harsh environments

Highlights and common features

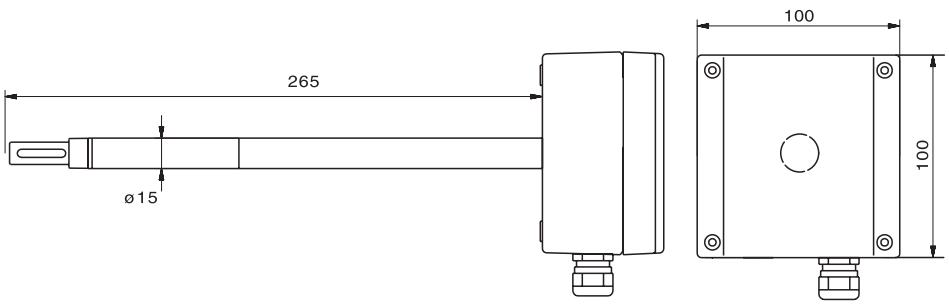
- Measures relative humidity, temperature and dew/frost point
- Application range -100...100 °C, 0...100 %rh
- Automatic sensor test & drift compensation *
- Integral 2,000 measurement pair logging *
- Use as a simulator for system validation *
- UART service interface
- Integrated probe Ø 15 x 200 mm
- Adjustment profile «Standard», factory adjustment certificate
- All metal construction
- Accuracy: ±1 %rh / ±0.2 K

Duct version	HF720-D series	HF73x-D series
Type	2- or 2 x 2-wire, 4...20 mA	3/4-wire
Signals	Signals freely scalable*	Signals freely selectable and scalable*
Filter carrier	Slotted sleeve (order filter separately)	

* Requires HW4 software

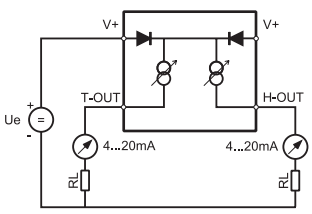


Duct version
Type A

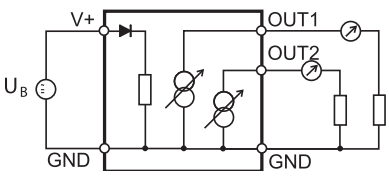


Duct version
Type D

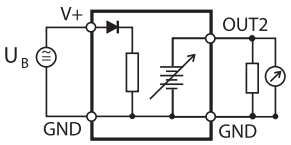
Order information (for accessories see pages 99-102)											
Transmitters with analogue output signals											
Power supply and output signal type											
HF720-											2 x 2-wire, ‹10...28 VDC, 4...20 mA
HF731-											3/4-wire, 15...40 VDC / 12...28 VAC, 0...20 mA
HF732-											3/4-wire, 15...40 VDC / 12...28 VAC, 4...20 mA
HF733-											3/4-wire, 5...40 VDC / 5...28 VAC, 0...1 V
HF734-											3/4-wire, 10...40 VDC / 8...28 VAC, 0...5 V
HF735-											3/4-wire, 15...40 VDC / 12...28 VAC, 0...10 V
Instrument type											
	N										Steel cable probe Ø 15 x 120 mm, 2 m
	D										Steel duct probe Ø 15 x 265 mm (standard)
	A										Steel duct probe, Ø 25/15 x 265 mm (standard)
	W										Steel wall probe Ø 15 x 115 mm (standard)
Output parameters											
		B									Humidity & temperature
		H									Only humidity
		T									Only temperature
		1									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
Optional display											
					X						No display
Probe extension (duct and cable probes)											
						S					Standard length (N = 120 mm, D/A 265 mm, W = 115 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 (analogue signals to terminals)											
							1				M16 x 1.5 cable gland
							3				½" conduit adapter
Standard scaling dew point / frost point											
								X	**X**		No calculation
								B	**X**		-50...50
								C	**X**		-50...100
								D	**X**		-50...200



Schematic 2-wire types



Schematic 3-wire current signal



Schematic 3-wire voltage signal

Detailed specifications		
Power supply / Connections	HF72	HF73
Supply voltage		
	10...28 VDC , 4...20 mA current loop V min = 10 V + (0.02 x load*)	5, 10, 15...40 VDC / 5, 8, 12...28 VAC
Current consumption	2 x 20 mA, 4...20 mA current loop	‹50 mA
Electrical connections	Screw terminals and M16 cable gland or ½" conduit adapter	
Humidity measurement	HF72	HF73
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 from 35 → 80 %rh (1 m/sec air flow at sensor)	
Temperature measurement	HF72	HF73
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 jump from 23 to 80 °C (1 m/sec air flow at sensor)	
Calculated parameters	HF72	HF73
Psychrometric calculations	Dew point or frost point	
Start-up time and refresh rate	HF72	HF73
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 user scaleable units	
*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	HF72	HF73
Probe material	Stainless steel V2A / 1.4305 / AISI 302	
Filter material	Depending on filter, order separately, see pages 99/100	
Housing material / Protection	IP 65 aluminium diecast	
Weight	Approx. 800 g + 140 g per probe extension unit	
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	Incombustible	
FDA/GAMP compatibility	Conforms to FDA 21 CFR Part 11 and GAMP4	
Electronics operating range	-50...100 °C / 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)	