HTS Series

Applications

Humidity measurement in industrial processes in EX zones

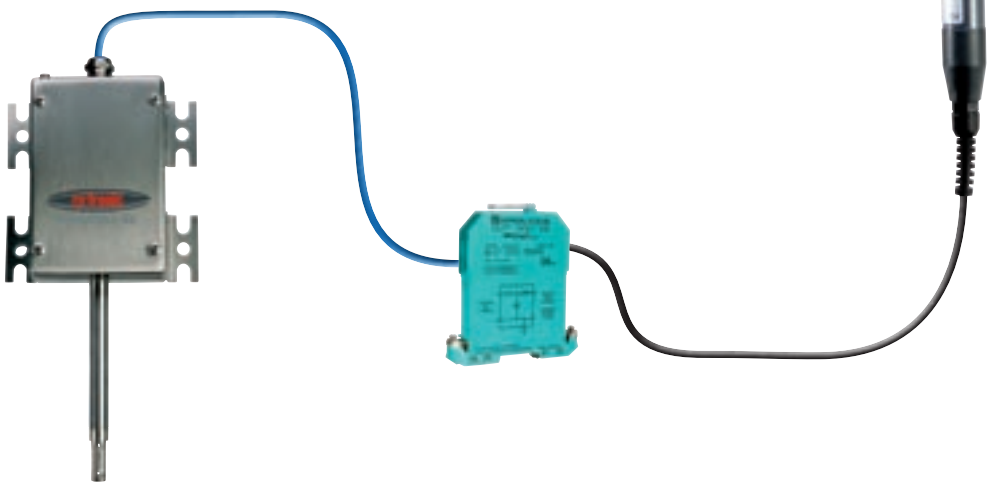
Highlights and common features

- Interchangeable probe
- Measures relative humidity & temperature
- Electronics operating range -40...60 °C; -10...60 °C with LCD, 0...100 %rh
- Service interface
- Accuracy: ±1 %rh / ±0.3 K
- Suitable probes: all HygroClip Ix-EX with Tuchel connector plug

Wall version	HTS1	HTS3
Voltage	Low voltage or mains voltage power supply (see order information)	
Outputs	2 signals freely selectable and scalable*	3 signals freely selectable and scalable*
Features	Alarm indicators, display and keypad (optional)	

* Optional, requires HW4 software

For detailed information visit www.rotronic-humidity.com



Order information						
HTS						Transmitter with ABS housing
HTM						Transmitter with metal housing
	1					Type 1, 2 x 4...20 mA analog signals
	3					Type 3, 3 x 4...20 mA analog signals & digital interface
		1				12...35 VDC / 12...24 VAC power supply
		2				90...230 VAC power supply
			D			With display
			X			Without display
				E		With Ethernet interface (only HTS3x)
					/9	Customised version

HygroClip-EX probes

HygroClip IC-EX

HygroClip IE-1-EX

HygroClip ID-EX

HygroClip IW-EX

Applications

Humidity measurement in industrial processes in ATEX rated (EX) zones, compatible with HygroFlex HTS transmitters

Highlights and common features

- Intrinsically safe probe ATEX 100
- Power supply via HygroFlex transmitter (15 VDC), or from 2 wire 4...20mA loop (RH or °C only)
- Measures relative humidity and temperature
- Electronics operating range -40...40 °C. Temperature measurement range -50...200 °C (at probe)
- Accuracy: ± 1% rh / ±0.3 K

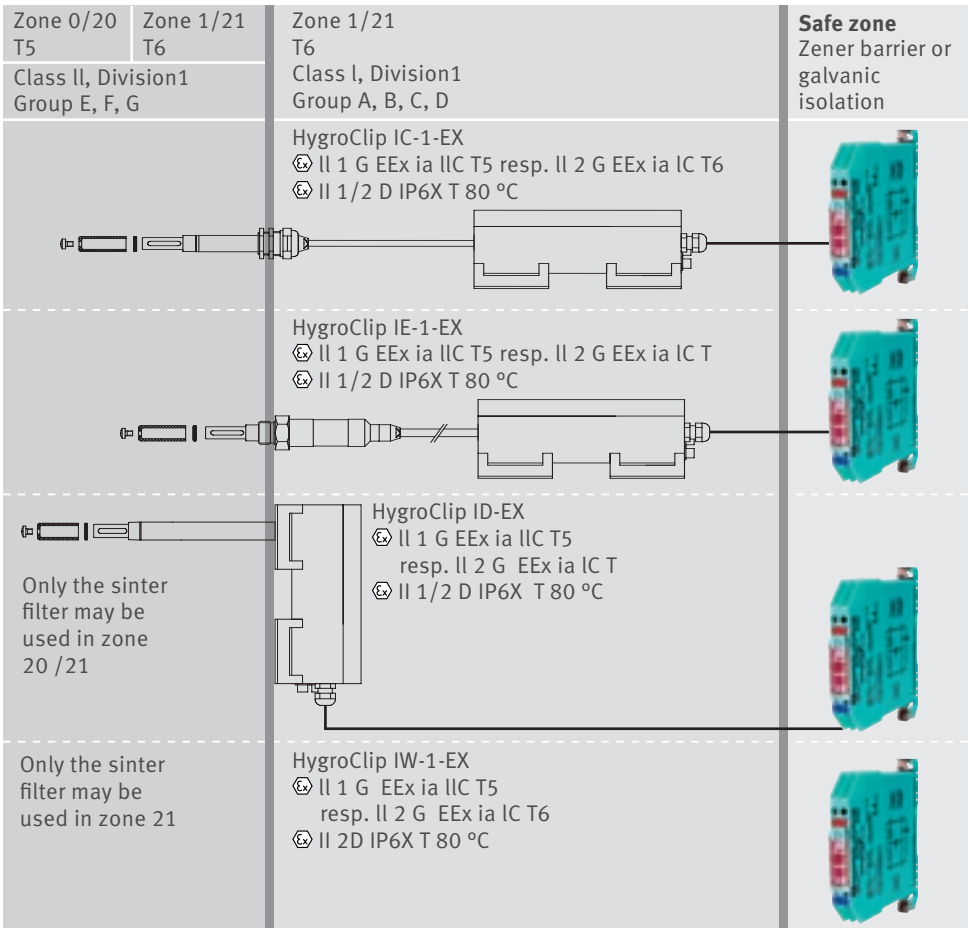
Order code	HygroClip IC1-EX	HygroClip IC3-EX
Type	Cable probe	
Probe length	120 mm	270 mm
Cable length	2 m	
Housing	Chrome nickel steel, V4A/AISI 316/1.4401	

Order code	HygroClip IE1-EX	HygroClip IE3-EX
Type	Screw-in probe	
Thread	½" G	½" NPT
Cable length	2 m	
Housing	Chrome nickel steel, V4A/AISI 316/1.4401	

Order code	HygroClip IW-EX	HygroClip ID-EX
Type	Wall probe	Duct probe
Probe length	150 mm	250 mm
Housing	Chrome nickel steel, V4A/AISI 316/1.4401	

Order information for accessories	
AC1617-ZB/nn	Connection cable HygroFlex ‹› Zener barrier nn = cable length in m. For nn = 02, 05, 10, 15, in 5 m steps, max. 200 m
ZB1	Zener barrier Z722, use with HygroFlex
ZB1-420	Zener barrier Z788, use without HygroFlex, 4...20 mA, 2-wire
ZB2	Zener barrier Z722 in IP 67 housing, with space for 4 Zener barriers

Applications



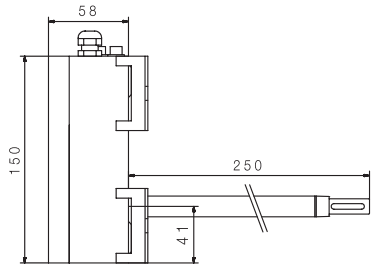
ATEX 2180

Note: The total cable length between HygroClip-EX probe and HygroFlex transmitter may not exceed 200 m.

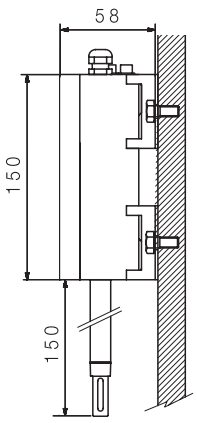
HygroClip-EX probes may NOT be calibrated in the EX zone because the accessories are not EX-compliant.

Specifications HygroClip-EX probes				
Feature	Type ID-EX	Type IW-EX	Type IC-x-EX	Type IE-x-EX
Humidity measurement range	0...100 %rh			
Range of application	Electronics: -40...40 °C; 0...100 %rh, temperature at probe: max. -50...200 °C			
Accuracy at 23°C	±1 %rh, ±0.2 K			
Reproducibility	‹0.5 %rh, 0.1 °C			
Response time	‹15 s at 1 m/s air velocity at 23 °C			
Long term stability	‹1 %rh, 0.1 °C per year			
Sensors	Humidity: Hygromer® IN-1; temperature: Pt100 1/3 DIN			
Adjustment points	Digital adjustment, 1...4 points humidity, 2 points temperature			
Output signals & load	Digital, analog 4...20 mA / Max. 800 Ω at 26 VDC			
Power supply	4...20 mA in two-wire circuit, via Zener barrier			
Housing / Protection	Stainless steel V4A/AISI 316/1.4401, 150 x 100 x 58 mm / IP 66			
Probe dimensions in mm (other lengths possible)	Ø 15 x 250	Ø 15 x 150	IC-1-EX: Ø 15 x 120 IC-3-EX: Ø 15 x 270	142 x 25 mm x 1/2" Wrench size 27 mm
Electrical connection	Cable gland / Terminal block			
EC approval & marking	PTB 01 ATEX 2180			
FM approval & marking	3015571 / IS / I, II, III / 1 / ABCDEFG / T6 – 12.0724.0006 IP66			

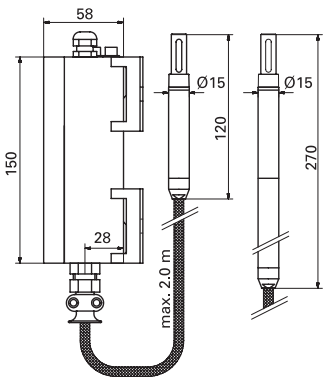
Specifications HTS series		
Feature	HTS1	HTS3
Probe connections	1	1 (+1 optional), order number /9
Signal inputs	Digital or ROTRONIC analog: 0...2.5 V, 10 Bit A/D, power supply: 15 V DC, max. 10 mA	
Input for third-party probe (1 analog)	No	Yes. Input impedance third-party probe ›1 MΩ
Analog outputs	2 scalable	3 scalable
Output configuration	Out 1 = %rh / Out 2 = °C	Out 1 = %rh / Out 2 = °C / Out 3 = calculation
Output signals (selectable by jumper)	0...1 V, 0...5 V, 0...10 V, 0...20 mA, 4...20 mA	
RS232 interface internally configurable	No	Yes
RS485-networkable (up to 32 devices)	No	Yes
Scalable input/output	-999...9999 user scaleable	-999...9999 user scaleable
Probe adjustment:		
4 points %rh, 1 point (°C)	Yes, with optional display/keypad fitted	
4 points %rh, 2 points (°C), via PC	No	Yes
Psychrometric calculations	None	All available
Pressure compensation calculated values	None	Manually or automatically with pressure probe (option)
Measurement range	Probe-dependent, max. 0...100 %rh, -50...200 °C, 0...2000 hPa	
Electronics operating range	0...100 %rh (non-condensing), -40...60 °C, with display -30...60 °C	
Display/Keypad (option)	LCD display with 3 lines, foil keypad	
Display resolution (option)	0.1 %rh, 0.1 °C, 0.01 for calculated values	
Housing material, dimensions	ABS, 207 x 150 x 58, 3 mm (metal housing: optional)	
Protection	IP 65/NEMA4	
Weight	Approx. 310 g	
Supply voltage	12...35 V DC (140 mA), 12...24 V AC or 90...250 V AC, 3.5 VA	
Cable connection / Connection terminals	M16 cable gland (7 mm cable) / 18 AWG	
Analog outputs (factory setting 4...20 mA)	Current outputs (0/4...20 mA), max. load 500 Ω, other output ranges selectable by jumper; voltage outputs (0...1, 5, 10 V), min. load 1000 Ω Automatic load compensation	
CE conformity	Conforms to EN61000-6-2:2001, EN61000-6-4: 2001	



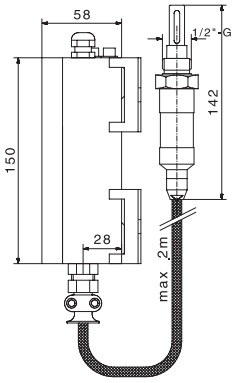
Duct probe



Wall probe



Cable probe



Screw-in probes