HygroFlex5-EX series

The HygroFlex5-EX series is the latest development in two-channel transmitters for precise measurement of humidity and temperature in dust and gas potentially explosive atmospheres. The interchangeable probes are cast into a stainless-steel tube and certified for operation in Zone 0/20. The transmitter itself is certified for Zone 1/21. The intelligent design of the circuitry with electrical isolation permits the measuring system to be operated without an intrinsically safe power supply for many applications.

FEATURES

- Measurement of relative humidity and temperature
- Optional output of dew point and other psychrometric calculations
- Safe operation in potentially explosive environments
- Electrically isolated analog outputs
- No intrinsically safe power supply required
- Interchangeable stainless steel probes
- Certified for two temperature classes (T4 / T5)

Power supply

- Low-voltage: 2-wire

Signal output

- Current output

Versions

- Wall mount (W)
- Duct mount (D)

Measured parameters

- Relative humidity and temperature

Measurement ranges

- 0...100 %rh
- -40...60 °C / -40...85 °C

Display

- Display with trend indicators and keypad
- Without display

HF5-EX duct / wall version

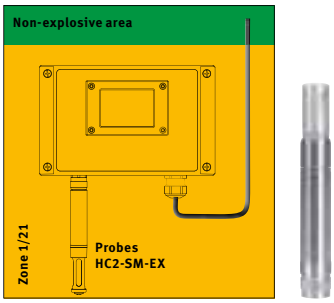
APPLICATIONS

Storerooms, pharmaceutical / biotechnology industry, sugar and flour mills, power stations, oil industry.

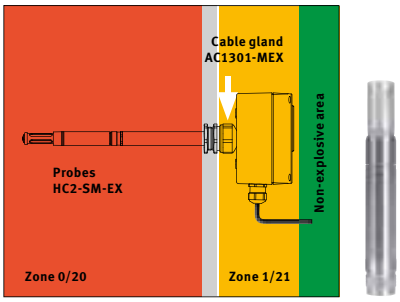
Order code	HF520-EX-x
Output parameters	Relative humidity / Temperature / Psychrometric calculation
Display	Optional (without backlight)
Humidity probe	Interchangeable HygroClip2-EX probes

HF5-EX probes

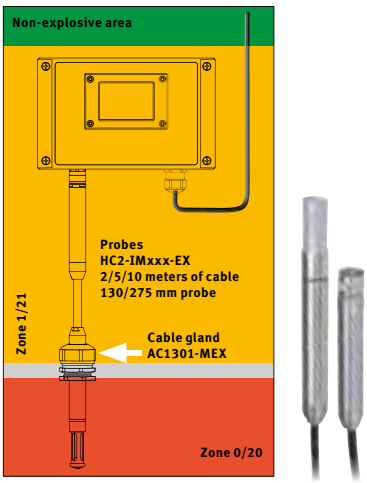
HC2-SM-EX
Wall mounting



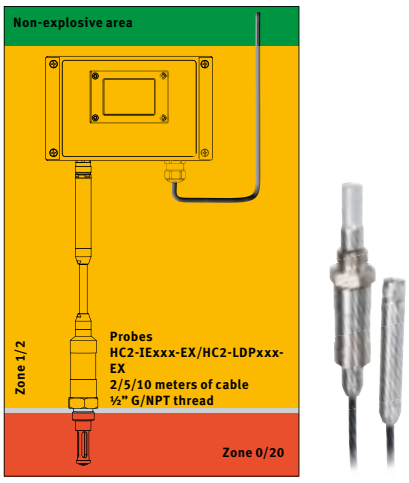
HC2-SM-EX
Duct mounting



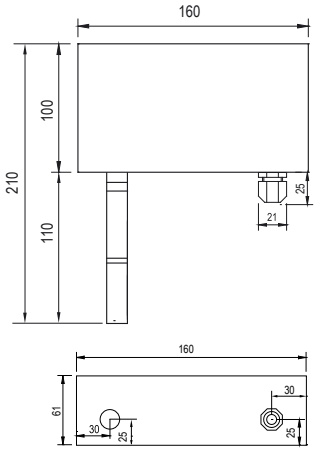
HC2-IMxxx-EX
Cable probe for flexible installations



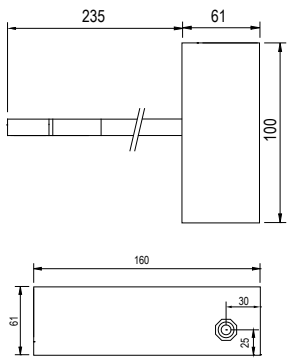
HC2-IExxx-EX / HC2-LDPxxx-EX
Screw-in cable probe for pressure lines or low dew point



Wall version (W)



Duct version (D)



Compatible

- HygroSoft software

Delivery package

- Factory adjustment certificate, short instruction manual
- Screws for mounting

Recommended accessories

- Service cable AC3006*
- Calibration accessories
- Replacement filters
- Cable gland AC1301-MEX for mounting in ducts

* Requires HygroSoft software and service cable.

Technical data	**HF520-EX**
General	
Parameters	Humidity and temperature
Calculated parameters	All psychrometric parameters
Housing material	Aluminum (DIN EN 1706 EN AC-AlSi 12 (Fe))
IP protection	IP66
Weight	Wall version: 1,030 g Duct version: 1,140 g
Startup time	Standard cold <60 s / warm <30 s
Measurement interval	20…240 s
Display	Optional, LCD without backlight
Electrical connections	Connections: Ex-e terminals (0.2…2.5 mm2) Cable gland: M16 x 1.5 (Ø cable 4.5…7 mm)
Power supply	10…28 VDC
Current consumption	2x24 mA startup / 2x20 mA operation
Application temperature housing / electronics	-40…60 °C without display -10…60 °C with display
Service interface	UART internal service interface (only outside the explosive zone)
CE / EMC compatibility	EMC Directive 2014/30/EU
ATEX directives	2014/34/EU (ATEX)
UKCA compatibility	Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016
EX identification	II 2(1) G Ex eb mb [ia Ga] IIC T5 Gb II 2(1) D Ex tb [ia Da] IIIC T80°C Db
Analog output	
Number	2
Current	4…20 mA, two-core
Galvanic isolation	Yes
Maximum load	500 Ω
Accuracy at 23 °C	<20 µA

Technical data	**HC2-SM-EX / HC2-IM-EX / HC2-IE-EX / HC2-LDP-EX**
General	
Parameters	Humidity and temperature
Housing material / IP protection	Stainless steel (1.4301) / IP66
Cable probes	2/5/10 meters
EX identification	II 1/2 G Ex ia IIC T5…T4 Ga/Gb II 1/2 D Ex ia IIIC T80 °C …T110 °C Da/Db
Humidity measurement	
Sensor	HC2-SM/IM/IE-EX: ROTRONIC HYGROMER® IN-1 HC2-LDP-EX: ROTRONIC HYGROMER® LDP-1
Adjustment	Not via device menu (only outside the explosive zone with HW5 + AC3001)
Measurement range	0…100 %rh
Accuracy at 23 °C	0.8 %rh
Temperature measurement	
Sensor	HC2-SM/IM/IE-EX: PT100 1/3 Class B HC2-LDP-EX: PT1000 1/3 Class B
Measurement range	-40…60 °C / -40…85 °C
Accuracy at 23 °C	0.1 K
Accessories	
Filter	SP-FN15, sintered steel filter (1.4401)
Cable gland	AC1301-MEX for duct mounting and cable probes (IM)