Intrinsically safe Humidity and Temperature Transmitters

AIR CHIP TECHNOLOGY

RELIABLE MEASUREMENTS UNDER EXTREME CONDITIONS.

- Measurement of relative humidity and temperature, optional output of dew point and other calculated parameters
- Safe operation in areas with explosion risk
- Intrinsically safe electrical construction
- No intrinsically safe power supply required
- Interchangeable stainless steel probes
- Robust aluminium housing

IEC IECEx

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TAKE A CLOSE LOOK:
THE MAIN ADVANTAGES AT A GLANCE.

The new HygroFlex5-EX series is the latest development in two-channel transmitters for the exact measurement of humidity and temperature in explosive atmospheres. This device conforms to the latest international standards.
The HF5-EX series consists of a robust aluminium transmitter with or without display. The attached probes are cast into a stainless steel tube, and are 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.

Functional display
- Measurement values with trend indicators
- Configuration via keypad possible

Proven housing
- Robust, reliable aluminium housing
- Protection class IP66
- Wall or duct mount possible

Power supply
- 10...28 VDC
- No intrinsically safe power supply required

Outputs
- The two analogue outputs can be freely selected and scaled
- 2-wire (2 x 4...20 mA)

Interchangeable probes
- Different probes can be connected to suit the application
- Easy calibration of the probes outside the explosive zone

Explosion protection classes (gas and dust)

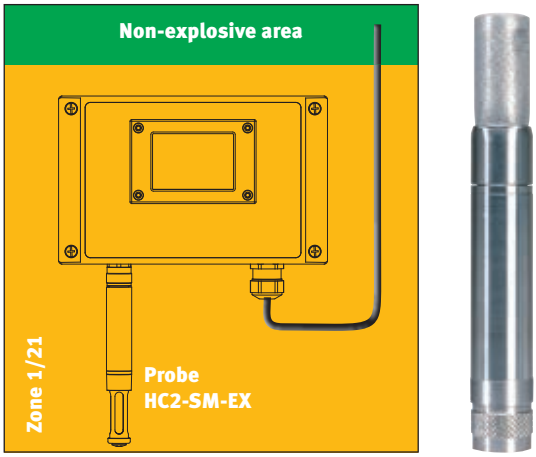
- **Transmitter:**
  Ex II 2(1) G Ex eb mb [ia Ga] IIC T5 Gb
  Ex II 2(1) D Ex tb [ia Ga] IIIC T80°C Db

- **Probes:**
  Ex II 1/2 G Ex ia IIC T5 Ga/Gb
  Ex II 1/2 D Ex ia IIIC T80°C Da/Db

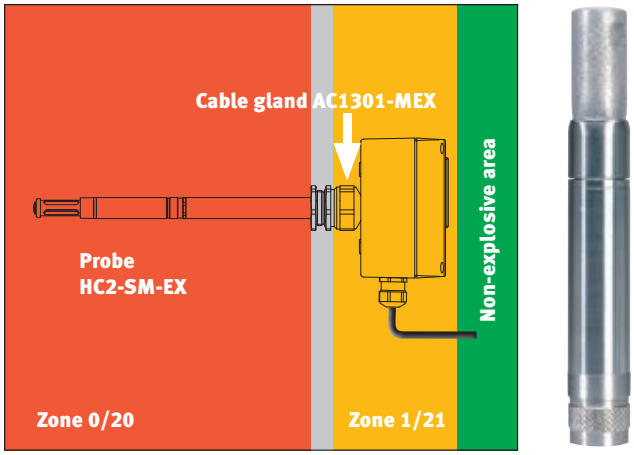
Easy configuration
- The configuration can be specified directly when ordering
- Configuration on site is also possible, using the HW4 software

INTERCHANGEABLE STAINLESS STEEL PROBES.

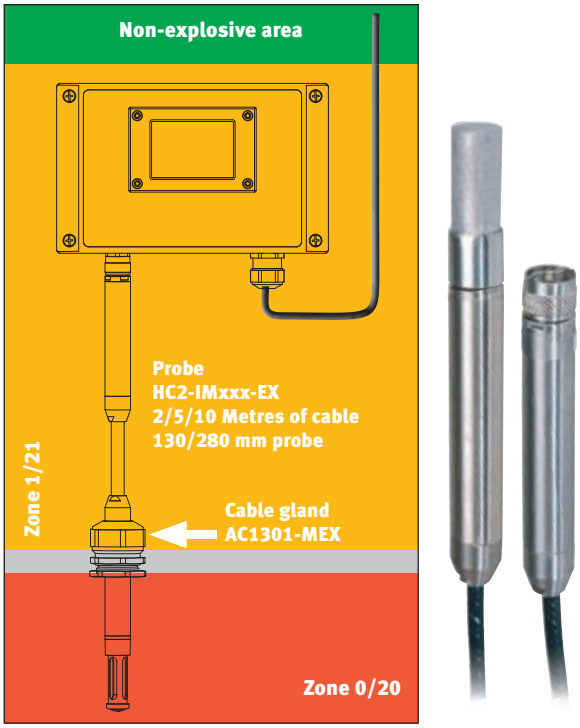
Wall mounting



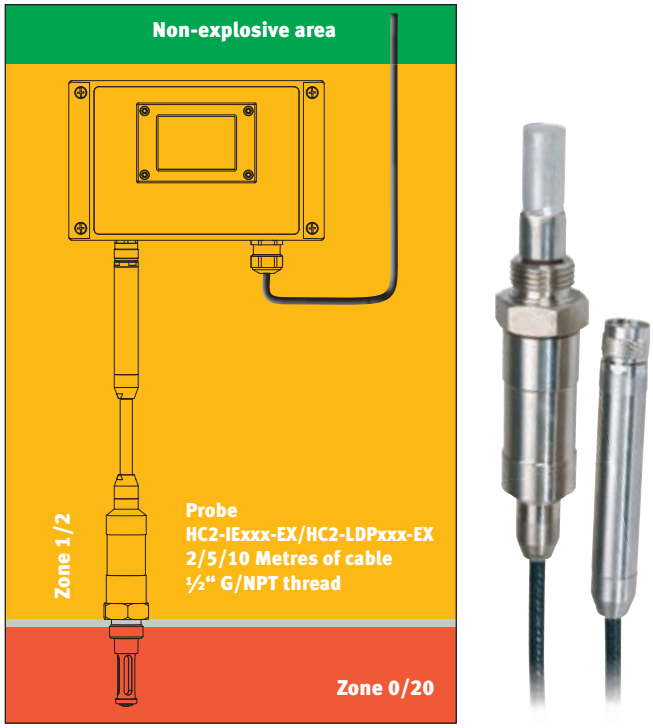
Duct mounting



Cable probe for flexible installation



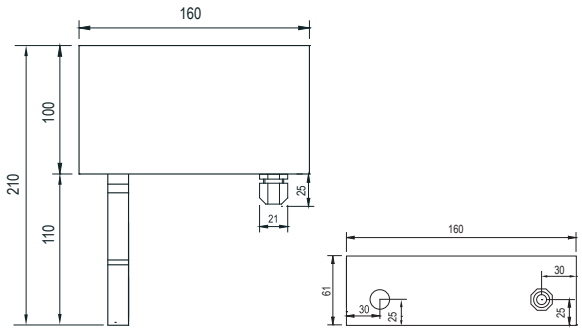
Screw-in cable probe for pressure pipe or low dew point



TECHNICAL INFORMATION.

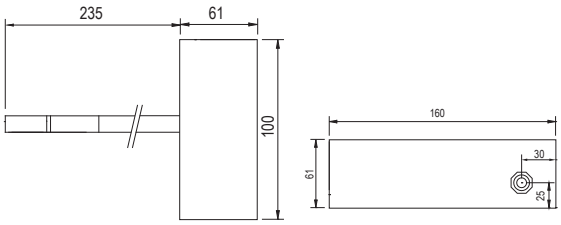
HF520-EX-W

Wall mounted version (W)



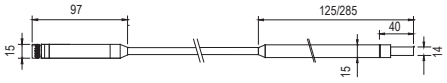
HF520-EX-D

Duct mounted version (D)

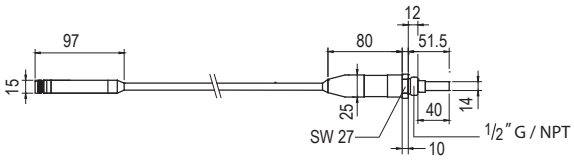


HC2-SM-EX

HC2-IMxxx-EX



HC2-IExxx-EX / HC2-LDPxxx-EX



HF520-EX

General	
Parameters	Humidity and temperature
Calculated parameters	All psychrometric parameters available
Housing material / Protection	Aluminium (DIN EN 1706 EN AC-AlSi 12 (Fe)) / IP66
Weight	Wall mounted version: 1030 g Duct mounted version: 1140 g
Start-up 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 mm^2) Cable gland: 16 x 1.5 (Ø cable 4.5…7 mm)
Power supply	10…28 VDC
Current Consumption	2x24 mA start up / 2x20 mA operation
Application temperature Housing / electronics	-40…60 °C without display -10…60 °C with display
Service interface	UART internal service interface (only to be used outside the explosive zone)
CE / EMC compatibility	EMC Directive 2004/108/EC
ATEX directives	EU94/9/EC (ATEX)
EX identification	Ex II 2(1) G Ex eb mb [ia Ga] IIC T5 Gb Ex II 2(1) D Ex tb [ia Ga] IIIC T80°C Db
Analogue output	
Number	2
Current	4…20 mA, two-wire
Galvanic isolation	Yes
Maximum load	500 Ohms
Accuracy at 23 °C	‹20 uA

HC2-SM-EX / HC2-IM-EX / HC2-IE-EX / HC2-LDP-EX

General	
Parameters	Humidity and temperature
Housing material / Protection	Stainless steel / IP66
Cable lengths	2/5/10 metres
EX identification	Ex II 1/2 G Ex ia IIC T5 Ga/Gb Ex II 1/2 D Ex ia IIIC T80°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 HW4 + AC3001)
Measurement range	0…100 %RH
Accuracy at 23 °C	0.8 %RH
Temperature measurement	
Sensor	HC2-SM/IM/IE-EX: Pt100 Class A HC2-LDP-EX: Pt1000 1/3 Class B
Measurement range	-40…60 °C
Accuracy at 23 °C	0.1 K

Accessories

Filters	Steel sinter filter, SP-FN15
Cable gland	AC1301-MEX for duct mounting and cable probes (IM)

Subject to technical change without notice. Errors and omissions excepted.

For pricing or any further information, please contact Omni Instruments Ltd.

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