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



Ex 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

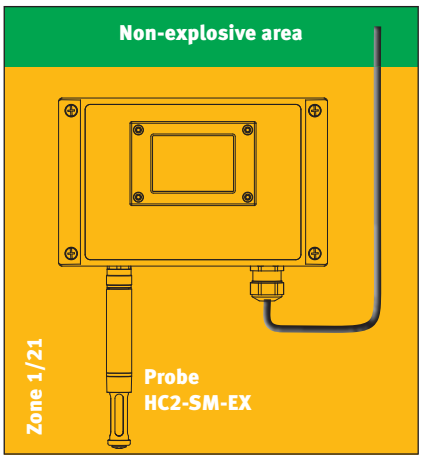
- **Probes:**
  Ex II 1/2 G Ex ia IIC T5 Ga/Gb
  Ex II 1/2 D Ex ia IIIC T80°C Da/Db

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



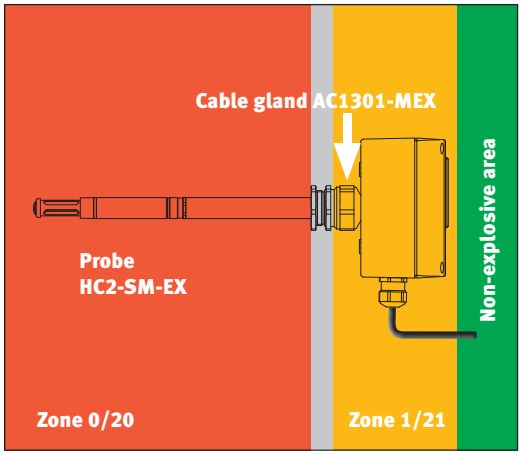
INTERCHANGEABLE STAINLESS STEEL PROBES.

Wall mounting



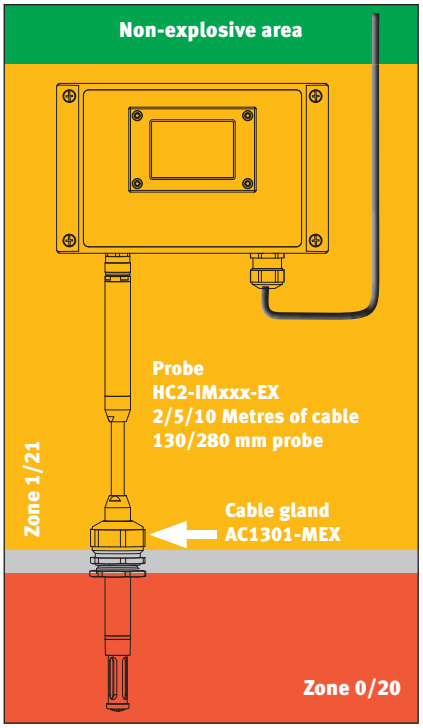


Duct mounting



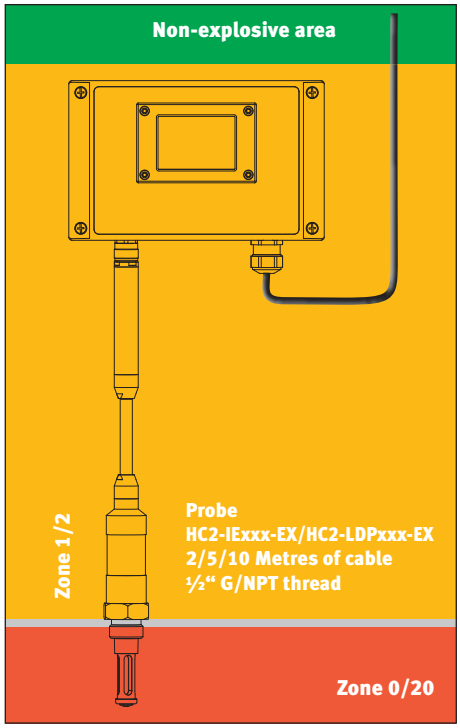


Cable probe for flexible installation





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

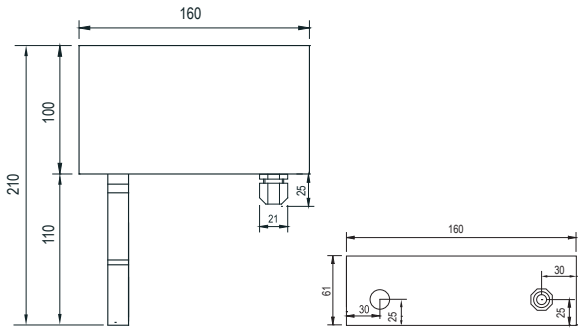




TECHNICAL INFORMATION.

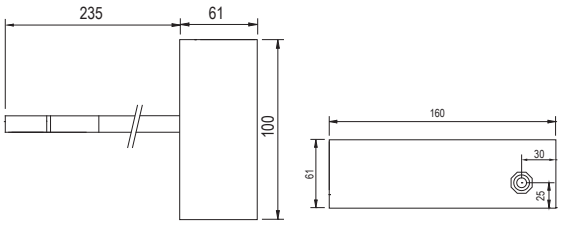
HF520-EX-W

Wall mounted version (W)



HF520-EX-D

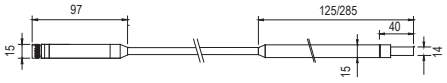
Duct mounted version (D)



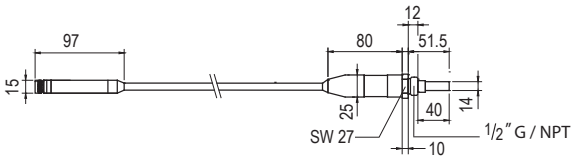
HC2-SM-EX



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 mm²) 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.

Whilst every effort has been made to ensure the accuracy of this specification, we cannot accept responsibility for damage, injury, loss or expense from errors or omissions. In the interest of technical improvement, this specification may be altered without notice.

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

omni INSTRUMENTS
Measurement and data acquisition solutions

Contact Details:
Tel: +44 1382 443000
Email: info@omni.uk.com

Website: www.omniinstruments.co.uk

Mailing Address: Unit 1, 14 Nobel Road,
Wester Gourdie Industrial Estate,
Dundee, DD2 4UH.

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