MEASUREMENT SOLUTIONS

INTRINSICALLY SAFE HUMIDITY AND TEMPERATURE TRANSMITTERS

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
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:**
  - II 2(1) G Ex eb mb [ia Ga] IIC T5 Gb
  - II 2(1) D Ex tb [ia Ga] IIIC T80°C Db
- **Probes:**
  - II 1/2 G Ex ia IIC T5 Ga/Gb
  - 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
- Non-explosive area
- Probe HC2-SM-EX
- Zone 1/21

Duct mounting
- Cable gland AC1301-MEX
- Probe HC2-SM-EX
- Zone 0/20
- Zone 1/21

Cable probe for flexible installation
- Non-explosive area
- Cable gland AC1301-MEX
- Probe HC2-IMxxx-EX
- 2/5/10 Metres of cable
- 130/280 mm probe
- Zone 1/21
- Zone 0/20

Screw-in cable probe for pressure pipe or low dew point
- Non-explosive area
- Probe HC2-IExxx-EX/HC2-LDPxxx-EX
- 2/5/10 Metres of cable
- ½” G/NPT thread
- Zone 0/20
TECHNICAL INFORMATION.

**HF520-EX-W**

- **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**: -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**: II 2(1) G Ex eb mb [ia Ga] IIC T5 Gb
  - **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

**HF520-EX-D**

**HC2-SM-EX**

- **General**
  - **Parameters**: Humidity and temperature
  - **Housing material / Protection**: Stainless steel / IP66
  - **Cable lengths**: 2/5/10 metres
  - **EX identification**: II 1/2 G Ex ia IIC T5 Ga/Gb
  - **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)

Would you like more information (special applications, ordering codes, etc.)? You will always find and up-to-date overview of the HygroFlex5-EX series on our Internet site at [www.rotronic.com](http://www.rotronic.com).