ExPro-C Temperature/humidity sensor
connectable exclusively to transmitters ExCos-D and RedCos-D for measuring of temperature and/or humidity

<table>
<thead>
<tr>
<th>Type</th>
<th>Function</th>
<th>Range</th>
<th>Sensor length</th>
<th>Connection</th>
<th>Installation area sensor</th>
</tr>
</thead>
<tbody>
<tr>
<td>ExPro-CT-...</td>
<td>Temperature sensor</td>
<td>−40...+125 °C*</td>
<td>50 / 100 / 150 / 200 mm</td>
<td>Plug and socket to ExCos-D..., RedCos-D...</td>
<td>Zone 1, 2, 21, 22</td>
</tr>
<tr>
<td>ExPro-CF-...</td>
<td>Humidity sensor</td>
<td>0...100 % rH</td>
<td>50 / 100 / 150 / 200 mm</td>
<td>Plug and socket to ExCos-D..., RedCos-D...</td>
<td>Zone 1, 2, 21, 22</td>
</tr>
<tr>
<td>ExPro-CTF-...</td>
<td>Combination sensor</td>
<td>−40...+125 °C* / 0...100 % rH</td>
<td>50 / 100 / 150 / 200 mm</td>
<td>Plug and socket to ExCos-D..., RedCos-D...</td>
<td>Zone 1, 2, 21, 22</td>
</tr>
</tbody>
</table>

Sensor length * at 50 mm length −40...+80 °C

Product views and applications

ExPro-C...

Sensor for room application
Sensor for duct application

Technical data

<table>
<thead>
<tr>
<th>Application as</th>
<th>ExPro- CT -...</th>
<th>ExPro- CF -...</th>
<th>ExPro- CTF -...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>−40...+125 °C*</td>
<td>0...100 % rH</td>
<td>−40...+125 °C* / 0...100 % rH</td>
</tr>
<tr>
<td>Sensor length</td>
<td>ExPro-CT- 50 = 50 mm</td>
<td>ExPro-CF- 50 = 50 mm</td>
<td>ExPro-CTF- 50 = 50 mm</td>
</tr>
<tr>
<td>Response time sensor</td>
<td>T90 / 20 s</td>
<td>T90 / 4 s</td>
<td>T90 / 20 s, T90 / 4 s</td>
</tr>
<tr>
<td>Accuracy temperature</td>
<td>±0,4 °C at 25 °C ±0,02 °C/°C</td>
<td>±3 % at 10...90 % rH / ±5 % at &lt; 10 % rH and &gt; 90 % rH</td>
<td></td>
</tr>
<tr>
<td>Accuracy humidity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing protection</td>
<td>IP66 acc. to EN 60529</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material thermowell</td>
<td>Stainless steel 1.4305, at length 50 mm in plastic (max. room temperature +80 °C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filter element</td>
<td>at humidity sensors with mesh size 100 µm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient temperature / humidity</td>
<td>−40...+125 °C (~−40...+80 °C at 50 mm length) / 0...100 % rH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage temperature</td>
<td>−40...+125 °C (~−40...+80 °C at 50 mm length)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation area sensor</td>
<td>in Ex areas zone 1, 2, 21, 22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scope of delivery</td>
<td>ExPro-C... sensor with plug connector and gasket (EPDM) for duct installation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Description

ExPro-C... sensor is a measuring element which is in combination with an ...Cos-D... transmitter for temperature, humidity or combination of temperature and humidity measuring. ExPro-C... sensors are only for use with ExCos-D.../RedCos-D... transmitters.

The electromechanical connection is done with a socket on the front resp. on the back side of the transmitter, but only 1 ExPro-C... per module is allowed and can be used.

Warning: Aggressive gases can destroy the sensor element.

Accessories

- MFK: Mounting flange for duct mounting for variable immersion depth in ducts
- MKR: Mounting bracket for round ducts up to Ø 600 mm
- TH-VA: Immersion sleeve in stainless steel V4A / DIN EN 1.4571, length 120 mm.

Note: Other length on request.

Kit-FA-VA: Sinter filter cap for humidity sensors in stainless steel, mesh size 100 µm. Not for high humidity measurements!

VL3: Sensor extension cable, 3 m, PVC

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www.schischek.com
**Intrinsically safe parameters**

A. **ExPro-C... sensor**
The power for ExPro-C... sensor is supplied via an intrinsically safe (IS) circuit from the transmitter. Unused sensor entries have to be closed with the black caps.

B. **Temperature flow**
When measuring temperature over the max. allowed environmental temperature of the transmitter of +50 °C regard that no temperature flow over the sensor takes place. The mounting of the sensor has to ensure that errors due to heat dissipation are within the tolerance limits and the max. allowed environmental temperature is not exceeded.

C. **Mounting**
Screw the sensor into the socket of the transmitter. The sensor cannot be opened as parts of the element are moulded. A small distance tolerance between transmitter and sensor has to be accepted due to production conditions.

**Max. Medium temperature – Temperature class (surface temp.)**

<table>
<thead>
<tr>
<th>Temperature class</th>
<th>T6</th>
<th>T5</th>
<th>T4</th>
<th>T3</th>
<th>T2</th>
<th>T1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. medium temperature [°C]</td>
<td>60</td>
<td>75</td>
<td>110</td>
<td>125</td>
<td>125</td>
<td>125</td>
</tr>
</tbody>
</table>

**Accuracy temperature and humidity incl. hysteresis**

- Accuracy temperature
- Accuracy humidity + hysteresis

**ExPro-C... sensor**
The power for ExPro-C... sensor is supplied via an intrinsically safe (IS) circuit from the transmitter. Unused sensor entries have to be closed with the black caps.

**Mounting room sensor (at terminal box side)**

For mounting the sensor must be plugged into the socket and screwed on the sensor by turning the lower knurled screw clockwise. Tighten hand-screwed only. A small clearance between transmitter and sensor has to be accepted due to production conditions.

**Mounting duct sensor (back side)**

For mounting the sensor must be plugged into the socket and screwed on the sensor by turning the lower knurled screw clockwise. Tighten hand-screwed only. A small clearance between transmitter and sensor has to be accepted due to production conditions.

**MFK mounting flange for duct installation**
The flange is to be moved over the sensor and fixed with the adjusting screw on the side. The flange can be mounted with 4 screws directly to the duct.

**Dimensions [mm]**

<table>
<thead>
<tr>
<th>Height</th>
<th>Variably adjustable</th>
<th>Ø 12</th>
<th>Ø 23</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td></td>
<td>150</td>
<td>100</td>
</tr>
<tr>
<td>150</td>
<td></td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>50</td>
<td></td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

**Accuracy temperature and humidity incl. hysteresis**

<table>
<thead>
<tr>
<th>°C</th>
<th>±2.0</th>
<th>±1.5</th>
<th>±1.0</th>
<th>±0.5</th>
<th>±0.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>±5.0</td>
<td>±3.0</td>
<td>±2.0</td>
<td>±1.5</td>
<td>±1.0</td>
</tr>
<tr>
<td>20</td>
<td>±1.0</td>
<td>±0.5</td>
<td>±0.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>±0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>±0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>±0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>±0.0</td>
<td></td>
<td></td>
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</tbody>
</table>

**Temperature flow**

- When measuring temperature over the max. allowed environmental temperature of the transmitter of +50 °C regard that no temperature flow over the sensor takes place.
- The mounting of the sensor has to ensure that errors due to heat dissipation are within the tolerance limits and the max. allowed environmental temperature is not exceeded.

**Mounting**

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