ATEX Zone 2 and 22
Installation Drawings and Instructions

For ATEX-approved Zone 2 and 22 installations
Note: For hazardous installations in Europe, refer to standard EN 60079-14 if national standards do not apply.

Information affixed to equipment that complies with the Pressure Equipment Directive can be found on the internet at www.micromotion.com/documentation.

If you require the information given in this manual in a different language, please contact Micro Motion Customer Service.
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Model 2400 Transmitters
ATEX Installation Instructions

• For installing a Micro Motion Model 2400 transmitter

Subject: Equipment type
Transmitter type 24********L****

Manufactured and submitted for examination
Micro Motion, Inc.

Address
Boulder, Co. 80301, USA

Standard basis
IEC 60079-15:2005 Nonsparking ’n´
EN 61241-0:2006 Dust, general requirements ’D´
EN 61241-1:2004 Dust by enclosure ’tD´

Code for type of protection
II 3G Ex nAC II T5 (24**S*A***L****) Analog
or
II 3G Ex nAC II T5 (24**S*D***L****) Profibus-DP
or
II 3G Ex nA II T5 (24**S*C****L****) DeviceNet
II 3D Ex tD A22 IP66/67 T70 °C

Type Examination Certificate
BVS 05 E 116 X
1) **Subject and type**

Transmitter type 24******L****

Instead of the *** letters and numerals will be inserted which characterize the following modifications:

- **2 4 **S ***** *****
  - Letter for factory options
  - Letters for software options
  - Letter for language
  - Approval
    - L = ATEX Equipment Category II 3G/D (Zone 2/Zone 22)
  - Letter for conduit connections
  - Numeral for display
    - 1 = Dual line display
    - 3 = No display
    - 6 = Four line display
  - Numeral for I/O terminations
  - Output options
    - A = One mA, one frequency configurable Ex nAC
    - C = DeviceNet (bus powered) Ex nA
    - D = Profibus-DP Ex nAC
  - Letter for mounting configuration / housing material
    - I = Aluminum enclosure
    - J = Stainless steel enclosure
  - Numerals for type
2) Description

The Micro Motion 24****(A, C, or D) Transmitter is integrally mounted to a Micro Motion Coriolis Meter.

The 24****(A, C, or D) integral mount transmitter system architecture consists of the following system: two circuit boards, PowerIO and BFCore, are encapsulated into a potting shell. The encapsulated device makes a 9-wire connection to the Micro Motion Coriolis Meter via a fixed 9-wire cable. Attached to the encapsulated assembly, by two mounting screws, is a User Interface (UI) that contains an optional LCD display, infrared (IR) buttons and communication, temporary service connections, and configuration switches. The configuration switches may only be operated when there is no explosive atmosphere present or when the power is switched off from the device.

The 24****A****** has two sets of screw terminals: universal power input and I/O signaling. The terminals are separated by a plastic wall. Further, the power supply terminals are under a protective cover. The I/O consists of four terminals: two are dedicated 4–20mA and two are configurable as Frequency/Pulse Output, Discrete Output, or Discrete Input.

The 24****A****** is a non-sparking device (Ex n A) containing within the encapsulation a sealed relay (Ex n C). This relay is used to software select active or passive operation of the mA output.

The 24****A****** was originally assessed using EN-60079-15:2003 and obtained the classification code EEx nA C II T5. From Supplement 2 of BVS 05 E 116 X, the assessment is based on IEC 60079-15:2005 and the classification code Ex nA C II T5.

The 24****C****** integral mount transmitter system architecture consists of the following system: two circuit boards, Power and BFCore, are encapsulated into a potting shell using Dow Corning 567. The encapsulated device makes a 9-wire connection to the Micro Motion Coriolis Meter via a fixed 9-wire cable. Attached to the encapsulated assembly, by two mounting screws, is a User Interface (UI) that contains an optional LCD display, infrared (IR) buttons and communication, temporary service connections and configuration switches. The configuration switches may only be operated when there is no explosive atmosphere present or when the power is switched off from the device.

The 24****C****** has four screw terminals: two DC Input Power (11–25 VDC) and two CAN Communications. Optionally the transmitter can be supplied with a Eurofast™ DeviceNet™ connector installed in one of the conduit openings and factory wired to the four screw terminals.

The 24****D****** integral mount transmitter system architecture consists of the following system components: two circuit boards, PowerIO and BFCore, are encapsulated into a potting shell using Dow Corning 567. The encapsulated “puck” makes a 9-wire connection to the Micro Motion Coriolis Meter via a fixed 9-wire cable. Attached to the encapsulated assembly, by two mounting screws, is a User Interface (UI) that contains an optional LCD display, infrared (IR) buttons and communication, and temporary service connections and configuration switches. The configuration switches may only be operated when there is no explosive atmosphere present or when the power is switched off from the device.

The 24****D****** has two sets of screw terminals: universal power input and I/O signaling. A plastic wall separates the terminals. Further, the power supply terminals are under a protective cover. The I/O consists of two Profibus comm. terminals. Optionally the transmitter can be supplied with a Eurofast™ Profibus™ connector installed in one of the conduit openings and factory wired to the two screw terminals.

The 24****D****** is a non-sparking device (Ex n A) containing within the encapsulation a sealed relay (Ex n C). This relay is used to software select the internal termination impedance for the Profibus-DP communication.
The housing (painted aluminum or stainless steel) has two conduit openings (M20 or 1/2” NPT) for customer wiring to power terminals and I/O signaling. A chassis ground terminal is located both inside the power terminal compartment and also external on the housing.

The 24************ was original assessed for dust using EN-50281-1-1 and obtained the classification code II 3 D IP66/IP67 T70°C. From Supplement 4 of BVS 05 E 116 X, the assessment is based on EN 61241-0 and EN 61241-1 with the classification code II 3D Ex tD A22 IP66/IP67 T70°C for the stainless steel enclosure and II 3D Ex tD A22 IP66/IP67 T70°C for the aluminum enclosure.

3) Parameters

3.1) Power supply (24****A and 24****D********)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>DC</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated voltage (terminals 1-2 (J1))</td>
<td>18–100 V</td>
<td>85–250 V</td>
</tr>
</tbody>
</table>

3.2) Input/output circuits (24****A********)

3.2.1) mA output (active or passive) (terminals 1–2 (J2))

<table>
<thead>
<tr>
<th>Parameter</th>
<th>DC</th>
<th>mA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>30 V</td>
<td>4–20 mA</td>
</tr>
<tr>
<td>Current</td>
<td>30 V</td>
<td></td>
</tr>
</tbody>
</table>

3.2.2) Frequency/pulse (active or passive) frequency/pulse (terminals 1–2 (J3))

<table>
<thead>
<tr>
<th>Parameter</th>
<th>DC</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>30 V</td>
<td></td>
</tr>
</tbody>
</table>

3.2.3) Discrete output (active or passive) voltage (terminals 1–2 (J3))

<table>
<thead>
<tr>
<th>Parameter</th>
<th>DC</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>30 V</td>
<td></td>
</tr>
<tr>
<td>Current</td>
<td>max 500 mA</td>
<td></td>
</tr>
</tbody>
</table>

3.2.4) Discrete input (active or passive) voltage (terminals 1–2 (J3))

<table>
<thead>
<tr>
<th>Parameter</th>
<th>DC</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>30 V</td>
<td></td>
</tr>
</tbody>
</table>

3.3) DeviceNet Supply (24****C********)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>DC</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated voltage (terminals 1-2 (J1))</td>
<td>11–25 V</td>
<td></td>
</tr>
<tr>
<td>(or pin 2–3 of Eurofast™ DeviceNet™ connector)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.4) DeviceNet input/output circuits (24****C********)

3.4.1) DeviceNet communications (terminals 1-2 (J2))

<table>
<thead>
<tr>
<th>Parameter</th>
<th>DC</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>30 V</td>
<td></td>
</tr>
<tr>
<td>(or pin 4–5 of Eurofast™ DeviceNet™ connector)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.5) Profibus-DP input/output circuits (24****D*******)
(or pin 1–2 of Eurofast™ Profibus™ connector)
Voltage DC 30 V

3.6) Output circuits fixed 9-wire cable to sensor (24****(A, C, or D)*******):

3.6.1) Drive circuit, receptacle 7–8
Voltage DC 12.36 V
Current 0.075 A

3.6.2) Pick-off circuit, receptacle 3–4 and 5–6
Voltage DC 3.3 V
Current 27 μA

3.6.3) Temperature circuit, receptacle 1, 2, and 9
Voltage DC 2.5 V
Current 370 μA

3.7) Ambient temperature range

24****(A or C)******* Ta –40 °C up to +60 °C
24****D*******
Without Eurofast™ Profibus™ connector Ta –40 °C up to +60 °C
With Eurofast™ Profibus™ connector Ta –30 °C up to +60 °C

4) Marking

−40 °C ≤ Ta ≤ +60 °C or −30 °C ≤ Ta ≤ +60 °C

<table>
<thead>
<tr>
<th>- type</th>
<th>- type of protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>24<em><strong>IA</strong></em>L****</td>
<td>CE II 3 G Ex nAC II T5</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>24<em><strong>IC</strong></em>L****</td>
<td>CE II 3 G Ex nA II T5</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>24<em><strong>ID</strong></em>L****</td>
<td>CE II 3 G Ex nAC II T5</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>24<em><strong>JA</strong></em>L****</td>
<td>CE II 3 G Ex nAC II T5</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>24<em><strong>JC</strong></em>L****</td>
<td>CE II 3 G Ex nA II T5</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>24<em><strong>JD</strong></em>L****</td>
<td>CE II 3 G Ex nAC II T5</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5) Special conditions for safe use / Installation instructions

5.1) The permissible ambient temperature range for the transmitter is –40 °C up to +60 °C. The use of the transmitter at an ambient temperature under –20 °C is only admissible if the cables and cable entries or conduit entries are suitable for that temperature and use.

5.2) The cable entries or conduit entries shall have a degree of protection of at least IP54 for use in category 3G, a degree of protection of at least IP6X for use in category 3D.

5.3) The user interface module must not be disconnected from the encapsulated assembly unless the unit has been de-energized or the area is known to be safe.

5.4) The DIP-switch SW1 and rotary switches SW 3, 4, and 5 must not be switched unless the unit has been de-energized or the area is known to be safe.

5.5) Special conditions for safe use for transmitters with plug sockets:

5.5.1) Type 24**S*C***L****:

The plug must be suitable for the plug socket type Turck FSV57-*M/M20/CS or FSV57-*M/14.5/CS. The plug must fulfill the requirements of Category 3G respectably 3D independent of the use in Zone 2 or Zone 22.

5.5.2) Type 24**S*D***L****:

The plug must be suitable for the plug socket type Turck FKW 4.5-*M/M20/CS or FKW 4.5-*M/14.5/NPT/CS. The plug must fulfill the requirements of Category 3G respectably 3D independent of the use in Zone 2 or Zone 22.

5.6) Type 24**S*C***L**** and Type 24**S*D***L****:

The plugs must be equipped with a connecting nut which assures a safe fixing of the plug at the plug socket.

5.6.1) The plugs must assure in the plugged and screwed status the type of protection IP 67 in accordance to EN 60529 for the contacts.

5.6.2) The plug must be equipped with a securing element in accordance to EN 61241-0, clause 19.1.b), which can only be removed with a tool, to prevent an unintentional disconnection.

5.6.3) If the plug socket is not connected with a plug, the plug socket is to be protected against water and dust in minimum IP 67 in accordance to EN 60529. Before the plug socket will be connected to a plug it must be guaranteed that there is no dust or water in the plug and the plug socket.

5.6.4) The operator shall provide external protection to prevent transient disturbances of more than 40% of the rated voltage of the plug sockets.
# Model 2200 Transmitters

**ATEX Installation Instructions**

- For installing a Micro Motion Model 2200 transmitter

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<table>
<thead>
<tr>
<th>Subject: Equipment type</th>
<th>Transmitter type 2200S*****L****</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufactured and submitted for examination</td>
<td>Micro Motion, Inc.</td>
</tr>
<tr>
<td>Address</td>
<td>Boulder, Co. 80301, USA</td>
</tr>
<tr>
<td>Standard basis</td>
<td>EN 60079-15:2005 Nonsparking ‘n’</td>
</tr>
<tr>
<td></td>
<td>EN 61241-0:2006 Dust, general requirements ‘D’</td>
</tr>
<tr>
<td></td>
<td>EN 61241-1:2004 Dust by enclosure ‘tD’</td>
</tr>
<tr>
<td>Code for type of protection</td>
<td>II 3G Ex nA II T4</td>
</tr>
<tr>
<td></td>
<td>II 3D Ex tD A22 IP66/67 T70 °C</td>
</tr>
<tr>
<td>Type Examination Certificate</td>
<td>BVS 08 ATEX E 112 X</td>
</tr>
</tbody>
</table>
1) **Subject and type**

Transmitter type 2200S*****L****

Instead of the *** letters and numerals will be inserted which characterize the following modifications:

- **Marking without influence to the type of protection**

- **Approval**
  - **L** = ATEX Equipment Category II 3G/D (Zone 2/Zone 22)

- **Letter for conduits**

- **Display options**
  - **1** = Dual-line display

- **I/O terminations**

- **Output options**
  - **H** = One 12-20mA with HART [Loop Power]
  - **K** = One 4-20mA with HART [Loop Power], supplied with adapter-barrier (Model 505)

- **Letter for mounting**
  - **I** = Integral mount transmitter with aluminum enclosure
  - **J** = Integral mount transmitter with stainless steel enclosure
2) **Description**

The Micro Motion model 22**S*H/K***L**** Transmitter is integrally mounted to a Micro Motion Coriolis Meter.

The model 22**S*H/K***L**** integral mount transmitter system architecture consists of two circuit boards, which are encapsulated into a potting shell. The encapsulated assembly makes a 9-wire connection to the Micro Motion Coriolis Meter via a fixed 9-wire cable. Attached to the encapsulated assembly, by two mounting screws, is a User Interface (UI) that contains an optional LCD display and temporary service connections.

The model 22**S*H/K***L**** has one sets of two screw terminals for connecting multifunctional wires providing both I/O communication and power input.

The enclosure material is either aluminum with blue paint or stainless steel.

The enclosure has two conduit openings for customer wiring to power terminals and I/O signaling however, only one conduit opening will be used and one conduit opening will be provided with an approved blanking plug. A chassis ground terminal is located both inside the power terminal compartment and also external on the housing.

3) **Parameters**

3.1) Input circuit (terminals 1–2)

| Voltage DC | 28 V |
| Power in rated operation | 0,56 W |

3.2) Output circuits to sensor:

3.2.1) Drive circuit (J4 pins 7–8)

| Voltage DC | 10,5 V |
| Current | 80 mA |

3.2.2) Pickoff circuit (J4 pins 3–6)

| Voltage DC | 12,6 V |
| Current | 4,29 mA |

3.2.3) Temperature circuit, receptacle 1, 2, and 9

| Voltage DC | 12,6 V |
| Current | 3,31 mA |

3.3) Ambient temperature range

22**S*H/K***L**** Ta −40 °C up to +60 °C
4) **Marking**

\[-40 \, ^\circ\text{C} \leq T_{a} \leq +60 \, ^\circ\text{C}\]

<table>
<thead>
<tr>
<th>- type</th>
<th>- type of protection</th>
</tr>
</thead>
</table>
| 2200SI(H or K)*1*L**** with aluminum housing | II 3 G Ex nA II T4  
II 3 D Ex tD A22 IP66/IP67 T70 °C |
| 2200SJ(H or K)*1*L**** with stainless steel housing | II 3 G Ex nA II T4  
II 3 D Ex tD A22 IP66/IP67 T70 °C |

5) **Special conditions for safe use / Installation instructions**

5.1) The permissible ambient temperature range for the transmitter is \(-40 \, ^\circ\text{C}\) up to \(+60 \, ^\circ\text{C}\). The use of the transmitter at an ambient temperature under \(-20 \, ^\circ\text{C}\) is only admissible if the cables and cable entries or conduit entries are suitable for that temperature and use.

5.2) The cable entries or conduit entries shall have a degree of protection of at least IP54 for use in category 3G, a degree of protection of at least IP6X for use in category 3D.

5.3) The user interface module must not be disconnected from the encapsulated assembly unless the unit has been de-energized or the area is known to be safe.

5.4) The HART and Temporary Service Port connections are not available for customer use. The terminals are covered by a plug and labeled “Factory Use Only”. When the service port is utilized by service personnel for upgrade purposes, the circuits are protected from incidental damage potentially caused by non-I.S. devices temporarily connected to the port.
Micro Motion Sensors
ATEX (Zone 2 and 22) Installation Instructions

- For installing the following Micro Motion sensors with Model 2400S or Model 2200S transmitter:
  - ELITE
  - ELITE CMFS-Series
  - F-Series
  - H-Series
  - T-Series
  - R-Series
  - Model CNG050
Subject:  Equipment type

Sensor type:  CMF********(0, 1, J, or U)*V****  
CMFS********(0, 1, J, or U)*V****  
F*** *****(0, 1, J, or U)*V****  
H*********(0, 1, J, or U)*V****  
R*** ******(0, 1, J, or U)*V****  
T*** ******(0, 1, J, or U)*V****  
CNG050 ******(0, 1, J, or U)*V****

Manufactured and submitted for examination

Micro Motion, Inc.

Address

Boulder, Co. 80301, USA

Basis for examination:

Annex II of Directive 94/9/EC

Standard basis

EN 60079-0:2006 General requirements
EN 60079-15:2005 Non-sparking/limited energy ‘n’
EN 61241-0:2006 and EN 61241-1:2004 Dust evaluation ‘tD A’

Code for type of protection

II 3G Ex nA II T1–T4/T5
II 3D Ex tD A22 IP65 T* °C

Type Examination Certificate

BVS 06 ATEX E 093 X
1) **Subject and type**

Sensor type (CMF, CMFS, F, H, R, T) or CNG050

Instead of the asterisks (*), letters and numerals will be inserted which indicate the following modifications:

- **C M F**
- **C M F S**
- **F**
- **H**
- **R**
- **T**
- **C N G 0 5 0**

Marking without influence to the type of protection

Approval
- **V** = ATEX Equipment Category II 3 G/D (Zone 2/Zone 22)

Letter for conduit connections

Letter for electronics interface
- **0** = Integral 2400S
- **1** = Integral extended 2400S
- **J** = Integral 2200S
- **U** = Integral extended 2200S

Marking without influence to the type of protection

Other marking without influence to the type of protection

3 numerals for type of sensor

2) **Description**

The flow sensor in combination with a transmitter is used for flow measurement.

The flow sensor, which consists of magnetically excited oscillating tubes, contains as electrical components coils, resistors, temperature sensors and terminals and connectors.
The sensor is designed for use in connection with a suitable transmitter, e.g. 24********L**** in accordance with BVS 05 E 116 X; only the assembly of the sensor and the transmitter guarantees the necessary degrees of protection.

Alternatively a transmitter type 22********L**** in accordance with BVS 08 ATEX E 112 X can be used; only the assembly of the sensor and the transmitter guarantees the necessary degrees of protection.

- When used with an integral transmitter type 2400S********, the variation gets the denomination type *** *** ******(0 or 1)***.

- When used with an integral transmitter type 2200S********, the variation gets the denomination type *** *** ******(J or U)***.

Supplement 1 covers:
- CMF800 and CMFHC3.
- Use of new Dust standards EN 61241-**.

Supplement 2 covers:
- Electronic Interface Codes “J” and “U” for 2200S transmitter.
- CMFHC2.
- Removed CMF800 and CMF800A, B, C and E sensors.

Supplement 3 covers:
- CMFS Sensors

3) Parameters

3.1) Type CMF********(0 or 1)*V****
Sensor with 2400S transmitter, excluding CMF*(A, B, C, or E)***(0,1)*V****

3.1.1) Drive circuit
Pin connections 7–8

| Voltage  | 30   | VDC |
| Current  | 84   | mA  |

3.1.2) Pick-off circuit (pin connections 3–4 and 5–6)

| Voltage  | 30   | VDC |
| Current  | 25   | mA  |
3.1.3) Temperature circuit (pin connections 1, 2, and 9)

<table>
<thead>
<tr>
<th>Voltage</th>
<th>30</th>
<th>VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>25</td>
<td>mA</td>
</tr>
</tbody>
</table>

3.1.4) Temperature class/maximum surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graphs.

3.1.4.1)

<table>
<thead>
<tr>
<th>Sensor type</th>
<th>CMF010**(0,1)<em>V</em>***</th>
<th>CMF025**(0,1)<em>V</em>***</th>
<th>CMF200**(0,1)<em>V</em>***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CMF050**(0,1)<em>V</em>***</td>
<td>CMF300**(0,1)<em>V</em>***</td>
<td>CMF100**(0,1)<em>V</em>***</td>
</tr>
</tbody>
</table>

Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T5: T 95°C, T4: T 130°C, T3: T 195°C, T2 to T1: T 254°C.

Ambient temperature range

<table>
<thead>
<tr>
<th>Sensor type</th>
<th>CMF400**(0,1)<em>V</em>***</th>
</tr>
</thead>
</table>

Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T5: T 95°C, T4: T 130°C, T3: T 195°C, T2 to T1: T 254°C.
Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
Note 2: The maximum surface temperature for dust is as follows: T5: T 95°C, T4: T 130°C, T3: T 195°C, T2 to T1: T 234°C.

Ambient temperature range \( Ta \): \(-40 \) °C to \(+60 \) °C

3.1.4.3)

Sensor type

| CMFHC2*****(0,1)**V****
| CMFHC3*****(0,1)**V****

Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
Note 2: The maximum surface temperature for dust is as follows: T5: T 95°C, T4: T 130°C, T3: T 195°C, T2 to T1: T 207°C.
3.2) **Type CMF**(A, B, C, or E)***(0 or 1)*V****
High-temperature sensor with 2400S transmitter

3.2.1) Drive circuit: See Section 3.1.1.

3.2.2) Pick-off circuit: See Section 3.1.2.

3.2.3) Temperature circuit: See Section 3.1.3.

3.2.4) Temperature class/maximum surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graphs.

3.2.4.1) Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T5:T 95°C, T4:T 130°C, T3:T 195°C, T2:T 290°C, T1:T 363°C.

Note 3: The minimum ambient and process fluid temperature allowed for dust is –40°C.

Ambient temperature range

<table>
<thead>
<tr>
<th>Sensor type</th>
<th>CMF200(A or B)<em><strong>(0,1)<em>V</em></strong></em></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CMF300(A or B)<em><strong>(0,1)<em>V</em></strong></em></td>
</tr>
<tr>
<td></td>
<td>CMF400(A or B)<em><strong>(0,1)<em>V</em></strong></em></td>
</tr>
<tr>
<td></td>
<td>CMFHC2(A or B)<em><strong>(0,1)<em>V</em></strong></em></td>
</tr>
<tr>
<td></td>
<td>CMFHC3(A or B)<em><strong>(0,1)<em>V</em></strong></em></td>
</tr>
</tbody>
</table>

Ambient temperature range

<table>
<thead>
<tr>
<th>Ta</th>
</tr>
</thead>
<tbody>
<tr>
<td>–40 °C to +55 °C</td>
</tr>
</tbody>
</table>

**MAX. AMBIENT TEMP (°C)**

**SENSOR FLUID TEMP (°C)**
Since the electronics are mounted approx. 1 meter away from the sensor by means of a flexible stainless steel hose, the use of the sensor at an ambient temperature higher than +55°C is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

3.2.4.2)

Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
Note 2: The maximum surface temperature for dust is as follows: T5: T 95°C, T4: T 130°C, T3: T 195°C, T2: T 290°C, T1: T 440°C.
Note 3: The minimum ambient and process fluid temperature allowed for dust is –40°C.

Ambient temperature range

Ta

–50°C to +55°C

Since the electronics are mounted approx. 1 meter away from the sensor by means of a flexible stainless steel hose, the use of the sensor at an ambient temperature higher than +55°C is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.
3.3) **Type CMF********(J or U)*V****
Sensor with 2200S transmitter, excluding CMF**(A, B, C, or E)**(J or U)*V****

3.3.1) Drive circuit: See Section 3.1.1.

3.3.2) Pick-off circuit: See Section 3.1.2.

3.3.3) Temperature circuit: See Section 3.1.3.

3.3.4) Temperature class/maximum surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graphs.

3.3.4.1)
Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T4: T 130°C, T3: T 195°C, T2 to T1: T 234°C.

Sensor type CMF400*****(J,U)*V****

Sensor type CMFHC2*****(J,U)*V****

Sensor type CMFHC3*****(J,U)*V****
3.4) **Type CMF***\((A, B, C, \text{ or } E)\)***\((J \text{ or } U)\)*\(V****

High-temperature sensor with 2200S transmitter

3.4.1) Drive circuit: See Section 3.1.1.

3.4.2) Pick-off circuit: See Section 3.1.2.

3.4.3) Temperature circuit: See Section 3.1.3.

3.4.4) Temperature class/maximum surface temperature \(T\)

The classification into a temperature class/determination of the maximum surface temperature \(T\) depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graphs.

---

**Note 1:** Use the above graph to determine the temperature class for a given fluid and ambient temperature.

**Note 2:** The maximum surface temperature \(T\) for dust is as follows: \(T4: T 130°C\), \(T3: T 195°C\), \(T2\) to \(T1: T 207°C\).

Ambient temperature range \(T_a\) \(-40°C\) to \(+60°C\)
3.4.4.1) Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature $T$ for dust is as follows: $T_4$: $T$ 130°C, $T_3$: $T$ 195°C, $T_2$: $T$ 290°C, $T_1$: $T$ 363°C.

Note 3: The minimum ambient and process fluid temperature allowed for dust is −40°C.

Ambient temperature range $T_a$ −50°C to +60°C

Since the electronics are mounted approx. 1 meter away from the sensor by means of a flexible stainless steel hose, the use of the sensor at an ambient temperature higher than +55°C is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.
3.4.4.2) Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
Note 2: The maximum surface temperature $T$ for dust is as follows: $T_4: T \leq 130°C$, $T_3: T \leq 195°C$, $T_2: T \leq 290°C$, $T_1: T \leq 440°C$.
Note 3: The minimum ambient and process fluid temperature allowed for dust is $–40°C$.

Since the electronics are mounted approx. 1 meter away from the sensor by means of a flexible stainless steel hose, the use of the sensor at an ambient temperature higher than $+55°C$ is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

3.5) **Type CMFS********(0 or 1)*V****
Sensor with 2400S transmitter

3.5.1) Drive circuit: See Section 3.1.1.

3.5.2) Pick-off circuit: See Section 3.1.2.

3.5.3) Temperature circuit: See Section 3.1.3.

3.5.4) Temperature class/maximum surface temperature $T$

The classification into a temperature class/determination of the maximum surface temperature $T$ depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graphs.
3.5.4.1)

<table>
<thead>
<tr>
<th>Sensor type</th>
<th>CMFS010****(0 or 1)<em>V</em>***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CMFS015****(0 or 1)<em>V</em>***</td>
</tr>
</tbody>
</table>

Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T5:T 95°C, T4:T 130°C, T3:T 195°C, T2 to T1:T 207°C.

Note 3: The minimum ambient and process fluid temperature allowed for dust is –40°C.

Ambient temperature range

\[ Ta = -40°C \text{ to } +55°C \]
3.5.4.2) Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T4: T 130°C, T3: T 195°C, T2 to T1: T 207°C.

Note 3: The minimum ambient and process fluid temperature allowed for dust is –40°C.

3.6) Type F*** *V*****, H*** *V*****, R*** *V*****, and CNG050 *V*****
Sensor with 2400S transmitter, excluding F****(A, B, C or E)*V*****

3.6.1) Drive circuit: See Section 3.1.1.

3.6.2) Pick-off circuit: See Section 3.1.2.

3.6.3) Temperature circuit: See Section 3.1.3.

3.6.4) Temperature class/maximum surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graphs.
3.6.4.1) Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature. Note 2: The maximum surface temperature for dust is as follows: T5: T 95°C, T4: T 130°C, T3: T 195°C, T2 to T1: T 207°C.

Sensor type | F025*(0,1)*V**** | CNG050**(0,1)*V**** |
---|---|---|
| F050**(0,1)*V**** | |
| H025**(0,1)*V**** | |
| H050**(0,1)*V**** | |
| R025**(0,1)*V**** | |
| R050**(0,1)*V**** | |

Ambient temperature range Ta –40°C to +55°C

De-rate at slope = –0,25 °C ambient per °C fluid
3.6.4.2)  

| Sensor type | F100*****(0,1)***V***** | H100*******(0,1)***V***** | R100*******(0,1)***V***** |

Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T5: T 95°C, T4: T 130°C, T3: T 195°C, T2 to T1: T 240°C.

Ambient temperature range  
Ta  
−40°C to +55°C
3.6.4.3) 

Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T5: T 95°C, T4: T 130°C, T3: T 195°C, T2 to T1: T 230°C.

Ambient temperature range 

\[ Ta \in [-40°C, +55°C] \]
3.6.4.4)  

Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T5: T ≤ 95°C, T4: T ≤ 130°C, T3: T ≤ 195°C, T2 to T1: T ≤ 226°C.

Ambient temperature range  

\[ T_a \]  
-40°C to +55°C

3.7)  
Type F***(A, B, C, or E)******(0 or 1)*V******  
High-temperature sensor with 2400S transmitter

3.7.1)  
Drive circuit: See Section 3.1.1.

3.7.2)  
Pick-off circuit: See Section 3.1.2.

3.7.3)  
Temperature circuit: See Section 3.1.3.

3.7.4)  
Temperature class/maximum surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graphs.
3.7.4.1)  

**Note 1:** Use the above graph to determine the temperature class for a given fluid and ambient temperature.

**Note 2:** The maximum surface temperature for dust is as follows: T5: T 95°C, T4: T 130°C, T3: T 195°C, T2: T 290°C, T1: T 363°C.

**Note 3:** The minimum ambient and process fluid temperature allowed for dust is –40°C.

**Ambient temperature range**

\[ \text{Ta} \quad -50^\circ\text{C} \text{ to } +55^\circ\text{C} \]

Since the electronics are mounted approx. 1 meter away from the sensor by means of a flexible stainless steel hose, the use of the sensor at an ambient temperature higher than +55°C is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.
3.7.4.2) Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T5: T ≤ 95°C, T4: T ≤ 130°C, T3: T ≤ 195°C, T2: T ≤ 290°C, T1: T ≤ 440°C.

Note 3: The minimum ambient and process fluid temperature allowed for dust is ~40°C.

Ambient temperature range

Since the electronics are mounted approx. 1 meter away from the sensor by means of a flexible stainless steel hose, the use of the sensor at an ambient temperature higher than +55°C is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

3.8) Type F*** *********(J or U)*V******, H*** *********(J or U)*V******, R*** *********(J or U)*V******, and CN0G050 ****(J or U)*V******
Sensor with 2200S transmitter, excluding F****(A, B, C or E)*********(J or U)*V******

3.8.1) Drive circuit: See Section 3.1.1.

3.8.2) Pick-off circuit: See Section 3.1.2.

3.8.3) Temperature circuit: See Section 3.1.3.

3.8.4) Temperature class/maximum surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graphs.
3.8.4.1)

|-------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|

De-rate at slope = $-0.25 \, ^\circ\text{C}$ ambient per $^\circ\text{C}$ fluid

**Note 1:** Use the above graph to determine the temperature class for a given fluid and ambient temperature.

**Note 2:** The maximum surface temperature for dust is as follows: T4: $T\leq 130^\circ\text{C}$, T3: $T\leq 195^\circ\text{C}$, T2 to T1: $T\leq 207^\circ\text{C}$.

Ambient temperature range $\mathbf{T_a}$ $-40^\circ\text{C}$ to $+60^\circ\text{C}$
Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
Note 2: The maximum surface temperature for dust is as follows: T4: T 130°C, T3: T 195°C, T2 to T1: T 240°C.

Ambient temperature range $T_a$ $-40^\circ C$ to $+60^\circ C$
Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T4: T 130°C, T3: T 195°C, T2 to T1: T 230°C.

Ambient temperature range \( Ta \) \(-40°C to +60°C\)
3.8.4.4)  

**Note 1:** Use the above graph to determine the temperature class for a given fluid and ambient temperature.  
**Note 2:** The maximum surface temperature for dust is as follows: T4: T ≤ 130°C, T3: T ≤ 195°C, T2 to T1: T ≤ 226°C.

<table>
<thead>
<tr>
<th>Sensor type</th>
</tr>
</thead>
<tbody>
<tr>
<td>H300**(J,U)<em><strong>V</strong></em>**</td>
</tr>
</tbody>
</table>

Ambient temperature range  

\[ T_a \quad -40°C \text{ to } +60°C \]

3.9) **Type F**(A, B, C, or E)***(J or U)*V*****

High-temperature sensor with 2200S transmitter

3.9.1) Drive circuit: See Section 3.1.1.

3.9.2) Pick-off circuit: See Section 3.1.2.

3.9.3) Temperature circuit: See Section 3.1.3.

3.9.4) Temperature class/maximum surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graphs.
3.9.4.1)

Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T4: T ≤ 130°C, T3: T ≤ 195°C, T2: T ≤ 290°C, T1: T ≤ 363°C.

Note 3: The minimum ambient and process fluid temperature allowed for dust is −40°C.

Ambient temperature range

Since the electronics are mounted approx. 1 meter away from the sensor by means of a flexible stainless steel hose, the use of the sensor at an ambient temperature higher than +60°C is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.
3.9.4.2) Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T4: T ≤ 130°C, T3: T ≤ 195°C, T2: T ≤ 290°C, T1: T ≤ 440°C.

Note 3: The minimum ambient and process fluid temperature allowed for dust is –40°C.

Since the electronics are mounted approx. 1 meter away from the sensor by means of a flexible stainless steel hose, the use of the sensor at an ambient temperature higher than +60°C is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

3.10) **Type T*** ******(0 or 1)'V*****

Sensor with 2400S transmitter

3.10.1) Drive circuit: See Section 3.1.1.

3.10.2) Pick-off circuit: See Section 3.1.2.

3.10.3) Temperature circuit: See Section 3.1.3.

3.10.4) Temperature class/maximum surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graphs.
3.10.4.1) Sensor type

<table>
<thead>
<tr>
<th>Sensor type</th>
<th>T025****(0 or 1)<em>V</em>****</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T050****(0 or 1)<em>V</em>****</td>
</tr>
<tr>
<td></td>
<td>T100****(0 or 1)<em>V</em>****</td>
</tr>
<tr>
<td></td>
<td>T150****(0 or 1)<em>V</em>****</td>
</tr>
</tbody>
</table>

Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T5: T 95 °C, T4: T 130°C, T3 to T1: T 182°C.

3.11) **Type T*** *****{(J or U)}*V*****

Sensor with 2200S transmitter

3.11.1) Drive circuit: See Section 3.1.1.

3.11.2) Pick-off circuit: See Section 3.1.2.

3.11.3) Temperature circuit: See Section 3.1.3.

3.11.4) Temperature class/maximum surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graphs.
3.11.4.1)

Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Note 2: The maximum surface temperature for dust is as follows: T4: T 130°C, T3 to T1: T 182°C.

4) Marking

The marking of the equipment shall include the following:

**II 3G** with additional marking required by the standards mentioned in the following tables.

**II 3D Ex tD A22 IP65 T* °C**

* Maximum surface temperature T for dust see temperature graphs and manufacturer’s instructions. Minimum ambient and process temperature for dust is –40°C.

<table>
<thead>
<tr>
<th>Type</th>
<th>Type of protection</th>
<th>Ambient temperature range</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMF010***** (0 or 1)<em>V</em>****</td>
<td>Ex nA II T1–T5</td>
<td>–40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMF025***** (0 or 1)<em>V</em>****</td>
<td>Ex nA II T1–T5</td>
<td>–40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMF050***** (0 or 1)<em>V</em>****</td>
<td>Ex nA II T1–T5</td>
<td>–40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMF100***** (0 or 1)<em>V</em>****</td>
<td>Ex nA II T1–T5</td>
<td>–40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMF200***** (0 or 1)<em>V</em>****</td>
<td>Ex nA II T1–T5</td>
<td>–40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMF300***** (0 or 1)<em>V</em>****</td>
<td>Ex nA II T1–T5</td>
<td>–40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMFH020***** (0 or 1)<em>V</em>****</td>
<td>Ex nA II T1–T5</td>
<td>–40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMFH030***** (0 or 1)<em>V</em>****</td>
<td>Ex nA II T1–T5</td>
<td>–40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CNG050***** (0 or 1)<em>V</em>****</td>
<td>Ex nA II T1–T5</td>
<td>–40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>Type</td>
<td>Type of protection</td>
<td>Ambient temperature range</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>F025****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>F050****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>F100****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>F200****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>F300****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>H025****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>H050****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>H100****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>H200****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>H300****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>R025****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>R050****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>R100****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>R200****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>T025****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>T050****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>T075****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>T100****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>T150****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMF400****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +60 °C</td>
</tr>
<tr>
<td>CMFS010****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMFS015****(0 or 1)<em>V</em>***</td>
<td>Ex nA II T1–T5</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMF010****(J or U)<em>V</em>***</td>
<td>Ex nA II T1–T4</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMF025****(J or U)<em>V</em>***</td>
<td>Ex nA II T1–T4</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMF050****(J or U)<em>V</em>***</td>
<td>Ex nA II T1–T4</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMF100****(J or U)<em>V</em>***</td>
<td>Ex nA II T1–T4</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMF200****(J or U)<em>V</em>***</td>
<td>Ex nA II T1–T4</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMF300****(J or U)<em>V</em>***</td>
<td>Ex nA II T1–T4</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
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<tr>
<td>CMF400****(J or U)<em>V</em>***</td>
<td>Ex nA II T1–T4</td>
<td>-40°C ≤ Ta ≤ +55 °C</td>
</tr>
<tr>
<td>CMFHC2****(J or U)<em>V</em>***</td>
<td>Ex nA II T1–T4</td>
<td>-40°C ≤ Ta ≤ +60 °C</td>
</tr>
<tr>
<td>CMFHC3****(J or U)<em>V</em>***</td>
<td>Ex nA II T1–T4</td>
<td>-40°C ≤ Ta ≤ +60 °C</td>
</tr>
<tr>
<td>CNG050****(J or U)<em>V</em>***</td>
<td>Ex nA II T1–T4</td>
<td>-40°C ≤ Ta ≤ +60 °C</td>
</tr>
<tr>
<td>F025****(J or U)<em>V</em>***</td>
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<td>-40°C ≤ Ta ≤ +60 °C</td>
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<td>-40°C ≤ Ta ≤ +60 °C</td>
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</table>
5) Special conditions for safe use / Installation instructions

5.1) The sensor is designed for use in connection with a suitable transmitter, e.g., 24********L**** in accordance with BVS 05 E 116 X; only the assembly of the sensor and the transmitter guarantees the necessary degrees of protection.

5.2) The sensor is designed for use in connection with a suitable transmitter, e.g., 22********L**** in accordance with BVS 08 ATEX E 112 X; only the assembly of the sensor and the transmitter guarantees the necessary degrees of protection.