Selectable maximum working pressure
— Up to 41 MPa, 5945 psi

Base accuracy
— ± 0.075 % / ± 0.04 %

Span limits
— 1 ... 2000 kPa; 4 in H₂O ... 290 psi differential pressure
— 2 ... 41 MPa; 290 ... 5945 psi absolute pressure

Corrected mass flow measurement for gases, steam and fluids
— Dynamic correction of pressure and temperature changes

One transmitter replaces three separate transmitters

Fewer transmitters, less wiring and fewer shut-off valves
— Reduce installation costs

Greater reliability
— Due to fewer devices and less wiring

Multiple communications protocol availability
— Provides integration into HART®, PROFIBUS PA and FOUNDATION fieldbus and Modbus platforms
— Upgrade options through interchangeable electronics with automatic configuration

Full compliance with PED category III

Measurement made easy

2600T Series Pressure Transmitters

Engineered solutions for all applications

Power and productivity for a better world™
Introduction

Due to its multisensor technology, the 267C./269C. permits measurement of three separate process variables simultaneously and provides dynamic calculation of fully compensated mass flowrate for steam and liquids respectively and standard volume flow for gases. It measures differential pressure and absolute pressure from a single sensor and process temperature from a standard Pt 100 Resistance Temperature Detector (RTD).

The flow calculation of this transmitter includes compensation of pressure and/or temperature as well as more complex variables such as discharge coefficient, thermal expansion, Reynolds number and compressibility factor.

The 267C./269C. includes flow equations for superheated steam, saturated steam, gases and liquids so that one model is all you need in your system.

The enhanced compensation approach of 267C./269C. provides much better accuracy than the “old approach” in which three different transmitters, differential pressure, absolute pressure and temperature, report their values to a DCS, PLC or flow computer. The calculation considers changes in temperature and pressure according to the following formula:

\[ Q_m = \frac{\Delta p \cdot \beta \cdot Y_1 \cdot d^2}{4} \]

Discharge coefficient

This is defined as the true flowrate divided by the theoretical flowrate and corrects the theoretical equation for the influence of velocity profile (Reynolds number), the assumption of no energy loss between taps and pressure tap location. It is dependent on the primary flow element, the diameter ratio (Beta ratio) and the Reynolds number.

\[ \text{Re} = \frac{\nu \cdot D \cdot \rho}{u} \]

\[ \nu = \text{velocity} \]
\[ D = \text{interior pipe diameter} \]
\[ \rho = \text{medium density} \]
\[ u = \text{medium viscosity} \]

Dynamic compensation for discharge coefficient provides high accuracy for flow measurement with primary flow elements.

Gas expansion factor

This corrects for density differences between pressure taps due to expansion of compressible media. It does not apply for liquids which are essentially non-compressible.

The gas expansion factor is dependent on the diameter ratio, the Isentropic exponent, the differential pressure and the static pressure of the fluid according to the following equation:

For orifices:

\[ Y_1 = 1 - (0.41 + 0.35 \cdot \beta^4) \frac{\Delta p}{p} \]

For nozzles:

\[ Y_1 = \left[ \left( \frac{\Delta p}{p} \right)^k \right]^{\frac{2}{k-1}} \left( 1 - \beta^4 \left( \frac{\Delta p}{p} \right)^k \right)^{\frac{1}{2}} \left( 1 - \left( \frac{\Delta p}{p} \right)^k \right)^{\frac{1}{2}} \]

\[ \beta = \text{ratio of diameters (Beta ratio)} \]
\[ \Delta p = \text{differential pressure} \]
\[ p = \text{static pressure} \]
\[ k = \text{Isentropic exponent} \]

Velocity of approach factor

Is dependent on the Beta ratio as defined by the following equation:

\[ E_v = \frac{1}{\sqrt{1 - \beta^4}} \]

Beta ratio is dependent on bore diameter and pipe diameter which in turn are functions of temperature. The material of the process pipe and primary flow element expands or contracts with changes in temperature of the fluid being measured. The thermal expansion coefficients are dependent on the material of the pipe and flow element and are used for calculating the change in diameters.

This ensures high flowrate accuracy during low and high temperature applications.
Medium density

This directly affects the flowrate calculation. The 267C./269C. compensates for density of media resulting from changes in temperature and/or pressure as follows:

- Gases as a function of p and T per the gas law equations.
- Calculation of the compressibility factors for natural gas is described in the American AGA 8 standard.
- Super-heated steam as function of p and T based on steam tables
- Saturated steam as function of p based on steam tables
- Liquids as a function of T

Mass flow calculation with the 267C./269C. will be configured for the following differential flow sensors:

- Orifice corner taps, ISO
- Orifice flange taps, ISO
- Orifice D and D/2 taps, ISO
- Orifice corner taps, ASME
- Orifice flange taps, ASME
- Orifice D and D/2 taps, ASME
- Orifice flange taps, AGA3
- Orifice 2.5D and 8D taps
- Small bore orifice, flange taps
- Small bore orifice, corner taps
- Nozzle ISA 1932
- Nozzle, long radius wall tap, ISO
- Nozzle, long radius wall tap, ASME
- Venturi, rough cast inlet, ISO
- Venturi, machined inlet, ISO
- Venturi, welded inlet, ISO
- Venturi, rough cast inlet, ASME
- Venturi, machined inlet, ASME
- Venturi, welded inlet, ASME
- Venturi, nozzle, ISO
- Area Averaging Meter
- Pitot tube, ISO 3966
- V-cone
- Wedge element
- Integral Orifice Assembly
- Density correction (unknown primary element)

Configuration of full functionality of 267C./269C. including all data necessary for mass flow compensation will use the PC-based tool SMART VISION with DTM MV 2600T.

General Description

Models detailed in this data sheet apply to those transmitters which include one or two remote seal(s) connected via a capillary tube to the transmitter sensor.

Mass/standard volume flow measurements can be performed with Model 267C./269C. To accomplish this, either two remote seals of same type and size or one remote seal (on the positive or negative side) and a standard threaded connection ¼-18 NPT (flange) or ½-14 NPT (oval flange) can be used for the other side of the sensing element.

The following table indicates the standard remote seal types which may be combined with 267C./269C. transmitters.

All data and detailed information can be taken from remote seal data sheet SS/S265.

<table>
<thead>
<tr>
<th>Model</th>
<th>Remote seal type</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>S265W</td>
<td>Wafer</td>
<td>2 in / DN 50</td>
</tr>
<tr>
<td></td>
<td>Flush diaphragm</td>
<td>3 in / DN 80</td>
</tr>
<tr>
<td></td>
<td>Wafer</td>
<td>2 in / DN 50</td>
</tr>
<tr>
<td></td>
<td>extended diaphragm</td>
<td>3 in / DN 80</td>
</tr>
<tr>
<td>S265F</td>
<td>Flanged</td>
<td>2 in / DN 50</td>
</tr>
<tr>
<td></td>
<td>Flush diaphragm</td>
<td>3 in / DN 80</td>
</tr>
<tr>
<td></td>
<td>Flanged</td>
<td>2 in / DN 50</td>
</tr>
<tr>
<td></td>
<td>extended diaphragm</td>
<td>3 in / DN 80</td>
</tr>
</tbody>
</table>

The following technical data applies to equipment with identical remote seals on both sides.
Series 2600T Pressure Transmitters
Model 267CR/269CR Multivariable

Functional Specifications

Measuring range and span limits
Differential pressure sensors

<table>
<thead>
<tr>
<th>Sensor code</th>
<th>Upper range limit (URL)</th>
<th>Lower range limit (LRL)</th>
<th>Minimum span</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>6 kPa 60 mbar 24 in H₂O</td>
<td>0</td>
<td>20 kPa 20 mbar 24 in H₂O</td>
</tr>
<tr>
<td>F</td>
<td>40 kPa 400 mbar 160 in H₂O</td>
<td>0</td>
<td>3 kPa 30 mbar 12 in H₂O</td>
</tr>
<tr>
<td>L</td>
<td>250 kPa 2500 mbar 1000 in H₂O</td>
<td>0</td>
<td>3 kPa 30 mbar 12 in H₂O</td>
</tr>
<tr>
<td>N</td>
<td>2000 kPa 20 bar 290 psi</td>
<td>0</td>
<td>3 kPa 30 mbar 12 in H₂O</td>
</tr>
</tbody>
</table>

Absolute pressure sensors

<table>
<thead>
<tr>
<th>Sensor code</th>
<th>Upper range limit (URL)</th>
<th>Lower range limit (LRL)</th>
<th>Minimum span</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2000 kPa 20 bar 290 psi</td>
<td>0 abs</td>
<td>20 kPa 20 mbar 290 psi</td>
</tr>
<tr>
<td>3</td>
<td>10000 kPa 100 bar 1450 psi</td>
<td>0 abs</td>
<td>100 kPa 1 bar 1450 psi</td>
</tr>
<tr>
<td>4</td>
<td>41000 kPa 410 bar 5945 psi</td>
<td>0 abs</td>
<td>410 kPa 410 bar 5945 psi</td>
</tr>
</tbody>
</table>

Span limits
Maximum span = URL = upper range limit
(with the flow measurement shut off, can be adjusted up to ± URL within the measurement span.
Example: -400 ... +400 mbar)
In order to optimize performance characteristics, it is recommended to select the transmitter sensor providing the lowest turndown ratio.

Zero suppression and elevation
No suppression or elevation, but zero-based range if:
– calibrated span ≥ minimum span

Process temperature range
-50 °C to +650 °C (-58 °F to 1200 °F) with external four-wire RTD.

Damping
Adjustable time constant: 0 to 60 sec
This is in addition to sensor response time.

Warm-up period
Operation within specifications: ≤ 2.5 sec with minimal damping

Insulation resistance
> 100 MΩ at 1000 V DC (between terminals and ground)
Operating limits

Temperature limits °C (°F):

**Ambient (operating temperature)**
- Transmitter: -40 °C to +85 °C (-40 °F and +185 °F)
- LCD display: -20 °C to +70 °C (-4 °F and +158 °F)

Lower operating temperature for Viton and PTFE gaskets: -20 °C (-4 °F)

**Note:**
For hazardous atmosphere applications, see the temperature range specified on the relevant certificate/approval.

**Process**
Identification, density and process temperature application ranges for the various fill liquids in the capillary tube/remote seal.

**Storage**
- Lower limit: -50 °C (-58 °F), -40 °C (-40 °F) for LCD displays
- -6 °C (+21) with white oil
- Upper limit: +85 °C (+185 °F)

**Pressure limits**
Data relating to maximum working pressure for the relevant remote seal can be found in the remote seal data sheet.

**Overpressure limits (without damage to the transmitter)**
The smaller value shall apply, depending upon the static pressure range of the transmitter or flange pressure level of the remote seal (refer to the remote seal data sheet).

**Test pressure**
The transmitter can withstand a pressure test applied simultaneously from both sides of up to 1.5 times the static pressure range of the transmitter, or up to 1.5 times the flange pressure level, depending upon which value is lower.

**Environmental limits**

**Electromagnetic compatibility (EMC)**
- Definition: Class 3
- RFI suppression: Limit Class B
  (according to EN 550011)
- Meets NAMUR recommendations

**Low voltage directive:**
Meets 73/23/EC

**Pressure equipment directive (PED)**
Instruments with maximum working pressure 41 MPa, 410 bar, 5945 psi comply with 97/23/EC Category III module H.

**Humidity**
- Relative humidity: up to 100 %
- Condensation, icing: permitted

**Vibration resistance**
- Acceleration up to 2 g at frequencies up to 1000 Hz
  (according to IEC 60068-2-26)
- Shock resistance (according to IEC 60068-2-27)
  - Acceleration: 50 g
  - Duration: 11 ms

**Wet and dust-laden atmospheres (protection type)**
The transmitter is dust and sand-tight and protected against immersion effects as defined by IEC EN60529 (1989) to IP 67 (IP 68 on request) or by NEMA to 4X or by JIS to C0920.

**Hazardous atmospheres**
Transmitter of protection type "Intrinsically safe EEx ia" according to Directive 94/9/EC (ATEX)
- For applications in explosive areas, the connected RTD must also have the respective Ex protection class as the transmitter.
  - Transmitters with 4 to 20 mA output signal and HART communication
    - Identification: II 1/2 GD T 50 °C EEx ia IIC T6
    - II 1/2 GD T 95 °C EEx ia IIC T4
  - Power supply and signal circuit with protection type Intrinsic Safety EEx ib IIb/IIC or EEx ia IIb/IIC for connection to supply units with maximum values:
    - II 1/2 GD T 50 °C EEx ia or ib IIC T6
    - II 1/2 GD T 95 °C EEx ia or ib IIC T4
  - For temperature class T4:
    - \( U_I = 30 \text{ V} \)
    - \( I_I = 200 \text{ mA} \)
    - \( P_I = 0.8 \text{ W} \) for T4 where \( Ta = -40 °C \text{ to } +85 °C (-40 °F \text{ to } +185 °F) \)
    - \( P_I = 1.0 \text{ W} \) for T4 where \( Ta = -40 °C \text{ to } +70 °C (-40 °F \text{ to } +158 °F) \)
  - For temperature class T6:
    - \( P_I = 0.7 \text{ W} \) for T4 where \( Ta = -40 °C \text{ to } +40 °C (-40 °F \text{ to } +104 °F) \)
  - Effective internal capacitance: \( C_i \leq 10 \text{ nF} \)
  - Effective internal inductance: \( L_i = 0 \)

**Fill liquid (applications)**

<table>
<thead>
<tr>
<th>ID</th>
<th>Density at 20 °C (68 °F) in kg/m³</th>
<th>Process temperature °C (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicone oil IB 924</td>
<td>-30…+250 (-22…+482)</td>
<td></td>
</tr>
<tr>
<td>Carbon fluoride L 1860</td>
<td>-30…+150 (-22…+302)</td>
<td></td>
</tr>
<tr>
<td>High-temperature oil SH 1070</td>
<td>-10…+375 (+14…+707)</td>
<td></td>
</tr>
<tr>
<td>White oil WB 849</td>
<td>-6…+200 (+21…+392)</td>
<td></td>
</tr>
<tr>
<td>Vacuum-proof IC-V 1055</td>
<td>-30…+200 (-22…+392)</td>
<td></td>
</tr>
</tbody>
</table>

**Pressures in mbar abs**

<table>
<thead>
<tr>
<th>Fill liquid (applications)</th>
<th>ID</th>
<th>20 °C (68 °F)</th>
<th>100 °C (212 °F)</th>
<th>150 °C (302 °F)</th>
<th>200 °C (392 °F)</th>
<th>250 °C (482 °F)</th>
<th>275 °C (707 °F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicone oil IB &gt; 500 &gt; 500 &gt; 500 &gt; 750 &gt; 1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon fluoride L &gt; 1000 &gt; 1000 &gt; 1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High-temp. oil SH &gt; 500 &gt; 500 &gt; 500 &gt; 750 &gt; 1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White oil WB &gt; 500 &gt; 1000 &gt; 1000 &gt; 1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacuum-proof IC-V &gt; 5 &gt; 25 &gt; 38 &gt; 50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overpressure limits**

\[ P_I = 0.8 \text{ W} \] for T4 where \( Ta = -40 °C \text{ to } +85 °C (-40 °F \text{ to } +185 °F) \)

\[ P_I = 1.0 \text{ W} \] for T4 where \( Ta = -40 °C \text{ to } +70 °C (-40 °F \text{ to } +158 °F) \)
Fieldbus transmitters (PROFIBUS PA/FOUNDATION fieldbus)
Identification: II 1/2 GD T 50 °C EEx ia IIC T6
II 1/2 GD T 95 °C EEx ia IIC T4

Power supply and signal circuit with protection type Intrinsic Safety
EEx ib IIB/IIC or EEx ia IIB/IIC for connection to supply units with
maximum values:
II 1/2 GD T 50 °C EEx ia or ib IIC T6
U_i = 17.5 V
I_i = 360 mA
P_i = 2.52 W
II 1/2 GD T 95 °C EEx ia or ib IIC T4
U_i = 17.5 V
I_i = 380 mA
P_i = 5.32 W

or connection to supply units or barriers with linear characteristics:
Maximum values:
II 1/2 GD T 50 °C EEx ia or ib IIC T6
U_i = 24 V
I_i = 250 mA
P_i = 1.2 W

Effective internal capacitance: C_i \approx 0
Effective internal inductance: L_i \leq 10 \mu H

Maximum permissible ambient temperatures depending on the
temperature class:
T4: -40 °C to +85 °C (-40 °F to +185 °F)
T5, T6: -40 °C to +40 °C (-40 °F to +104 °F)

Power supply and signal circuit with protection type Intrinsic Safety
EEx ia IIC T6
Identification: II 1/2 GD T 50 °C EEx ia IIC T6
II 1/2 GD T 95 °C EEx ia IIC T4;
(refer to “EEx ia” for additional data)

or identification:
II 1/2 GD T 85 °C EEx d IIC T6
Ambient temperature range:
-40 °C to +75 °C (-40 °F to +167 °F)

or identification:
II 3 GD T 50 °C EEx nL IIC T6
II 3 GD T 95 °C EEx nL IIC T4
(refer to “EEx nL” for additional data)

Factory Mutual (FM)
Transmitter with 4 to 20 mA output signal and HART communication
Intrinsically Safe: Class I; Division 1; Groups A, B, C, D;
Class I; Zone 0; Group IIC; AEx ia IIC
Degree of protection: NEMA Type 4X (indoor or outdoor)

Maximum permissible ambient temperatures depending on the
temperature class:

<table>
<thead>
<tr>
<th>Ambient temperature</th>
<th>Temperature class</th>
<th>I_max</th>
<th>P_i</th>
</tr>
</thead>
<tbody>
<tr>
<td>-40 °C to +85 °C (-40 °F to +185 °F)</td>
<td>T4</td>
<td>200 mA</td>
<td>0.8 W</td>
</tr>
<tr>
<td>-40 °C to +70 °C (-40 °F to +158 °F)</td>
<td>T5</td>
<td>25 mA</td>
<td>0.75 W</td>
</tr>
<tr>
<td>-40 °C to +40 °C (-40 °F to +104 °F)</td>
<td>T6</td>
<td>1 mA</td>
<td>0.5 W</td>
</tr>
</tbody>
</table>

Fieldbus transmitters
(PROFIBUS PA / FOUNDATION fieldbus)
Intrinsically Safe: Class I, II, and III; Division 1;
Groups A, B, C, D, E, F, G;
Class I; Zone 0; AEx ia Group IIC T6, T4;
Non-incentive Class I, II, and III; Division 2;
Groups A, B, C, D, F, G

Canadian standard (CSA)
Transmitter with 4 to 20 mA output signal and HART communication
and fieldbus transmitter (PROFIBUS PA/FOUNDATION fieldbus)
Identification: II 1/2 G EEx d IIC T6

Operating conditions:
Ambient temperature range: -40 °C to +75 °C (-40 °F to +167 °F)
Series 2600T Pressure Transmitters  
Model 267CR/269CR Multivariable  
SS/267CR/269CR

**Standards Association of Australia (SAA)**

Transmitter of protection type "Intrinsically safe Ex ia" and "Non-sparking material" Ex n

Transmitter with 4 to 20 mA output signal and HART communication

Identification:
Ex ia IIC T4 (P1 0.8 W Ta = 85 °C / T6 (P1 0.7 W Ta = 40 °C)
Ex n IIC T4 (Ta = 85 °C / T6 (Ta = 40 °C)

IP 66

Intrinsically safe installation input parameters:

$U_i = 30 \text{ V}$  
$I_i = 200 \text{ mA}$  
$P_i = 0.8 \text{ W for T4 where Ta = +85 °C (+185 °F)}$ or  
$P_i = 0.7 \text{ W for T4 where Ta = +40 °C (+104 °F)}$

Effective internal capacitance: $C_i = 52 \text{ nF}$  
Effective internal inductance: $L_i \approx 0 \text{ mH}$

Ex n installation input parameters:

$U_i = 30 \text{ V}$

Transmitter with protection type "flameproof enclosure EEx d"

Transmitter with 4 to 20 mA output signal and HART communication and fieldbus transmitter (PROFIBUS PA/FOUNDATION fieldbus, Modbus)

Identification:

- Zone 1: Ex d IIC T6 (Tamb +75 °C) IP66/IP67  
- Zone A21: Ex tD A21 T85 (Tamb +75 °C) IP66/IP67

**Electrical Data and Options**

**HART digital communication and 4 to 20 mA output**

**Power supply**

The transmitter operates from 10.5 to 45 V DC with no load and is protected against reverse polarity connection (additional load allows operations over 45 V DC).

Minimum power supply is 14 V DC with backlit display. For EEx ia and other intrinsically safe approval power supply must not exceed 30 V DC.

**Ripple**

Maximum permissible voltage ripple of power supply during communication:

- 7 Vss at f = 50 to 100 Hz  
- 1 Vss at f = 100 to 200 Hz  
- 0.2 Vss at f = 200 to 300 Hz

**Load limitations**

Total loop resistance at 4 to 20 mA and HART:

$$R_{(\Omega)} = \frac{\text{Supply voltage} - \text{minimum operating voltage (V DC)}}{22.5 \text{ mA}}$$

A minimum of 250 Ω is required for HART communication.

**Output signal**

Two-wire 4 to 20 mA, related to mass / standard volume flow, full compensation of all pressure (p) and temperature (T) effects.

HART® communication provides digital process variables (% mA or engineering units) superimposed on the 4 to 20 mA signal (protocol based on Bell 202 FSK standard).

**Output function**

Mass / standard volume flow calculations are performed according to the following:

$$Q_m = C \cdot E_v \cdot Y_1 \cdot \frac{d^2}{dp} \cdot \rho$$  
For steam/liquid

$$Q_n = C \cdot E_v \cdot Y_1 \cdot \frac{d^2}{dp} \cdot \rho - \frac{1}{\rho_n}$$  
For gas

where:

- $Q_m$ = mass flowrate  
- $Q_n$ = standard flowrate  
- $C$ = discharge coefficient  
- $E_v$ = velocity of approach factor  
- $Y_1$ = gas expansion factor  
- $d$ = bore diameter  
- $dp$ = differential pressure  
- $\rho$ = fluid density  
- $\rho_n$ = standard density

**Output current limits (according to NAMUR standard)**

- **Overload condition**  
  - Lower limit: 3.8 mA (configurable down to 3.6 mA)  
  - Upper limit: 20.5 mA (configurable up to 22.5 mA)

**Alarm current**

Minimum alarm current: configurable from 3.6 to 4 mA.  
Standard setting: 3.6 mA

Maximum alarm current: configurable from 20 to 22.5 mA  
Standard setting: maximum alarm current

**SIL - functional safety (optional) according to IEC 61508/61511**

Device with certificate of conformity for use in safety-relevant applications, including SIL 2.
**PROFIBUS PA output**

**Type of appliance**
- Pressure transmitter in conformance with Profile 3.0, Class A and B; ID number 062D HEX

**Power supply**
- The transmitter is driven with 10.2 to 32 V DC (no polarity).
- The power supply must not exceed 17.5 V DC when used in EEx ia zones.
- Intrinsic safety installation according to FISCO model.

**Current consumption**
- Operating (quiescent): 11.7 mA
- Fault current limiting: 17.3 mA max.

**Output signal**

**Output interface**
- PROFIBUS PA communication according to PROFIBUS DP50170 Part 2/DIN 19245 Part 1-3

**Output cycle time**
- 100 ms

**Function blocks**
- 3 standard analog input function blocks,
- 2 transducer blocks
- 1 multi variable function block,
- 1 physical block

**LCD display (optional)**
- 19-segment alphanumeric display (2-line, 6-character) with additional bar chart display, optionally with back illumination.
- Output value in percent or OUT (input flow)
- Diagnostic messages, alarms, measuring range infringements and changes to the configuration are also displayed.

**Transmitter failure mode**
- Permanent self-diagnostic; possible errors indicated in diagnostic parameters and in the status of process values.

**FOUNDATION fieldbus output**

**Power supply**
- The transmitter is driven with 10.2 to 32 V DC (no polarity).
- The power supply must not exceed 17.5 V DC when used in EEx ia zones.
- Intrinsic safety installation according to FISCO model.

**Current consumption**
- Operating (quiescent): 11.7 mA
- Fault current limiting: 17.3 mA max.

**Output signal**

**Function blocks/execution time**
- 3 standard analog input function blocks (each 80 ms)
- 1 multi variable function block (100 ms),
- 1 standard PID function block (100 ms)

**Additional blocks**
- 1 custom pressure with calibration transducer block
- 1 standard resource block
- 1 custom temperature with calibration transducer block

**Number of link objects**
- 10

**Number of VCRs**
- 16

**Output interface**
- FOUNDATION fieldbus digital communication protocol to standard H1, compliant with specification V. 1.5; FF registration No. IT023700

**LCD display (optional)**
- 19-segment alphanumeric display (2-line, 6-character) with additional bar chart display, optionally with back illumination.
- User-specific display:
  - Output value in percent or OUT (input flow)
  - Diagnostic messages, alarms, measuring range infringements and changes to the configuration are also displayed.

**Transmitter failure mode**
- Permanent self-diagnostic; possible errors indicated in diagnostic parameters and in the status of process values.
Measuring accuracy

Reference conditions according to IEC 60770 apply: ambient temperature of 20 °C (68 °F), relative humidity of 65 %, atmospheric pressure of 1013 hPa (1013 mbar), mounting position with vertical diaphragm and zero-based range for transmitter with isolating diaphragms in Hastelloy and silicone oil fill. Measurement range with HART digital trim values equal to 4 to 20 mA span end points.

Unless otherwise specified, errors are quoted as % of span.

The accuracy related to the Upper Range Limits (URL) is affected by the actual turndown (TD) as a ratio between Upper Range Limit (URL) and calibrated span (URL/span).

In order to optimize performance characteristics, it is recommended to select the transmitter sensor providing the lowest turndown ratio.

The threshold values and response times are dependent upon the type of remote seal and measuring point.

Refer also to the remote seal data sheet.

When using devices with two remote seals, symmetrical arrangement should be selected (nominal size, capillary tube length, diaphragm material).

Accuracy rating

Percentage of calibrated span including combined effects of linearity, hysteresis and reproducibility.

For fieldbus versions SPAN refers to analog input function block oulscale range.

Differential pressure sensor

267CR

- ± 0.075 % for turndown from 1:1 to 10:1
- ± \left(0.075 + 0.005 \times \text{URL} \div \text{Span} - 0.05\right) \% \quad \text{For turndown greater than 10:1}

269CR

- ± 0.04 % for turndown from 1:1 to 10:1
- ± \left(0.04 + 0.005 \times \text{URL} \div \text{Span} - 0.05\right) \% \quad \text{For turndown greater than 10:1}

Absolute pressure sensor

0.1 % of the URL of the absolute pressure sensor

Process temperature measurement (Pt 100)

± 0.3 °C (0.54 °F)

The accuracy of the mass or standard volume flow is not only influenced by the accuracy of the dp, p and T measurement; rather it depends upon the primary device used (discharge coefficient), the pressure and temperature range to be compensated, as well as other parameters.

Typical applications reflect an accuracy of 0.7 % to 0.9 %.

Operating influences

Ambient temperature

(turndown to 15:1)

Per 20 K change between the limits of

-20 °C to +65 °C (-4 °F to +149 °F)

Differential pressure sensor

267CR

± (0.04 % URL + 0.065 % span)

269CR

± (0.03 % URL + 0.05 % span)

Absolute pressure sensor

± (0.08 % URL + 0.08 % span)

Limited to ± (0.1 % URL + 0.1 % span) per the complete temperature range of 120 K (216 °F)

The entire temperature error results from the combination of the above influences on the transmitter with remote seal influences, in combination with the operating temperature. For detailed information on additional influences on the remote seal: refer to the remote seal data sheet.

Power supply

Within the specified limits for the voltage/load the total influence is less than 0.001 % of URL per volt.

Load

Within the specified load/voltage limits, the total effect is negligible.

Electromagnetic fields

Total effect: less than 0.05 % of span from 80 to 1000 MHz and for field strengths up to 10 V/m when tested with unshielded conduit, with or without meter.

Common-mode interference

No effect from 250 Veff (50 Hz) or 50 V DC

Installation position

Capillary tube influences resulting from different installation heights are not included in the following information.

Rotations in the plane of the transmitter diaphragm have negligible effect. A tilt from vertical causes a zero shift of \(\sin \alpha \times 0.35 \text{kPa} = 3.5 \text{mbar, 1.4 in H}_2\text{O} \) of URL which can be corrected with the zero adjustment. No effect on the span.
Technical Specification
(Refer to ordering information sheets for variant availability related to the specific model)

Materials (without remote seal)

Process isolating diaphragms1)
- Hastelloy C276™ stainless steel (1.4435); Monel 400™, Tantalum

Process flange, adapter, plugs and drain/vent valves for the minus-side (without remote seal)1)
- Hastelloy C276™ stainless steel (1.4404); Monel 400™; Kynar (PVDF)

Blind flange (remote seal side)
- Stainless steel

Sensor fill fluid
- Silicone oil, inert fill (carbon fluoride)

Sensor housing
- Stainless steel

Mounting bracket
- Stainless steel

Gaskets1)
- Viton™ (FPM), Perbunan (NBR), EPDM, PTFE

Bolts and nuts
- Stainless steel, bolts and nuts Class A4-70 according to ISO 3506, conforming to NACE MR0175 Class II

Electronics housing and cover
- Barrel version
  - Aluminum alloy with low copper content, baked epoxy finish
  - Stainless steel
- DIN version
  - Aluminum alloy with low copper content, baked epoxy finish

Covers O-ring
- Viton™

Local control keys
- Fiberglass-reinforced polycarbonate plastic (removable), no local control keys for stainless steel housings.

Type plate
- Stainless steel (316) or plastic data plate attached to the electronics housing

Calibration
- Standard: at maximum span, zero-based range, ambient temperature and pressure
- Optional: at specified range and ambient conditions

Optional accessories

Mounting bracket
- For vertical and horizontal 60 mm (2 in) pipes or wall mounting

LCD display
- Plug-in and rotatable

Additional tag plate
- Tag with wire (both stainless steel) attached to the transmitter, with a maximum of 30 characters including spaces.

Certificates (test, model, calibration, material traceability)

Process connections
- Flange on compensating side: ¼-18 NPT on process axis,
  With adapter: ½-14 NPT on process axis;
  fixing threads 7/16-20 UNF

- Refer to the remote seal data sheet for the process connection variants.

Electrical connections

Two ½-14 NPT or M20 x 1.5 threaded bores for cable glands, direct on housing, or plug connector
- HART: straight or angle Harting Han connector and one plug
- FOUNDATION fieldbus/PROFIBUS PA: plug 7/8 in / M12 x 1

Terminal blocks
- HART version: four terminals for signal/external display plus four terminals for RTD connection wiring up to 2.5 mm² (14 AWG) and four connection points for test and communication purposes.
- Fieldbus versions: two terminals for signal (bus connection) plus four terminals for RTD connection wiring up to 2.5 mm² (14 AWG)

Ground
- Internal and external 4 mm² (12 AWG) ground termination points are provided.

Installation position
- The transmitter can be mounted in any position.
- The electronics housing may be rotated 360°. A positive stop prevents over-travel.

Weight (without options and remote seals)
- Approximately 3.5 kg (8lb), add 1.5 kg (3.4lb) for stainless steel housing. Packaging adds 650 g

Packaging
- Carton

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1) Wetted transmitter parts

™ Hastelloy is a Cabot Corporation trademark
™ Monel is an International Nickel Co. trademark
™ Viton is a DuPont de Nemours trademark
**Configuration**

**Transmitter with HART communication and 4 to 20 mA output current**

**Standard configuration**

Transmitters are factory calibrated to the customer’s specified range. Calibrated range and measuring point number are stamped on the type plate. If this data has not been specified, the transmitter will be delivered configured as follows:

- 4 mA Zero point
- 20 mA Upper range limit (URL)
- Output Square root
- Damping 0.125 sec
- Transmitter failure mode 21 mA
- Optional LCD display Specified flow

Any or all the above configurable parameters, including lower range value and upper range value can be easily changed by a PC running the configuration software SMART VISION with DTM MV2600. Data regarding flange type and material, O-rings and filling liquid is stored in the device.

**Transmitter with FOUNDATION fieldbus communication**

Transmitters are factory calibrated to the customer’s specified range. Calibrated range and measuring point number are stamped on the type plate. If this data has not been specified, the transmitter will be delivered configured as follows:

- Measure profile Pressure
- Engineering unit mbar/bar
- Output scale 0 % Lower range limit (LRL)
- Output scale 100 % Upper range limit (URL)
- Output Square root
- Upper alarm limit Upper range limit (URL)
- Upper warning limit Upper range limit (URL)
- Lower warning limit Lower range limit (LRL)
- Lower alarm limit Lower range limit (LRL)
- Limit hysteresis 0.5 % of output scale
- PV filter 0.125 sec
- Address not required

Any or all the above configurable parameters, including lower range value and upper range-value can be changed by any FOUNDATION fieldbus-compatible configurator. The device-specific DMA is required for changing the flow measurement. Data regarding flange type and material, O-rings and filling liquid is stored in the device.

**Transmitter with PROFIBUS PA communication**

Transmitters are factory calibrated to the customer’s specified range. Calibrated range and measuring point number are stamped on the type plate. If this data has not been specified, the transmitter will be delivered configured as follows:

- Measure profile Pressure
- Engineering unit mbar/bar
- Output scale 0 % Lower range limit (LRL)
- Output scale 100 % Upper range limit (URL)
- Output Square root
- Upper alarm limit Upper range limit (URL)
- Upper warning limit Upper range limit (URL)
- Lower warning limit Lower range limit (LRL)
- Lower alarm limit Lower range limit (LRL)
- Limit hysteresis 0.5 % of output scale
- PV filter 0.125 sec
- Address 126

Any or all the above configurable parameters, including lower range value and upper range value can be easily changed by a PC running the configuration software SMART VISION with DTM MV2600. Data regarding flange type and material, O-rings and filling liquid is stored in the device.
Mounting Dimensions (not design data)

Transmitter with barrel housing – without remote seal

 DeViations in the drawing are possible. Measurements in mm (inches)
Transmitter with DIN housing – without remote seal
Mounting options with bracket

Vertical pipe mounting

Horizontal pipe mounting

Vertical pipe mounting and transmitter above the mounting bracket

Horizontal pipe mounting and transmitter above the mounting bracket
Electrical connections

Standard terminal block

Fieldbus plug connector

Harting Han 8D (8U) connector
### Ordering Information

<table>
<thead>
<tr>
<th>Multivariable transmitter, for mass flow</th>
<th>Variant digit No.</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>267CR</strong></td>
<td><strong>267CR-</strong></td>
<td></td>
</tr>
<tr>
<td><strong>269CR</strong></td>
<td><strong>269CR-</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Sensor - Span limits**

<table>
<thead>
<tr>
<th>Span limits</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 kPa</td>
<td>C</td>
</tr>
<tr>
<td>40 kPa</td>
<td>F</td>
</tr>
<tr>
<td>250 kPa</td>
<td>L</td>
</tr>
<tr>
<td>2000 kPa</td>
<td>N</td>
</tr>
<tr>
<td>100 kPa</td>
<td>Y</td>
</tr>
</tbody>
</table>

**Static pressure**

<table>
<thead>
<tr>
<th>Static pressure</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 ... 2 MPa</td>
<td>2</td>
</tr>
<tr>
<td>0 ... 10 MPa</td>
<td>3</td>
</tr>
<tr>
<td>0 ... 41 MPa</td>
<td>4</td>
</tr>
</tbody>
</table>

**Diaphragm material / Fill fluid**

<table>
<thead>
<tr>
<th>Diaphragm material / Fill fluid</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AISI 316L SST (1.4435) Silicone oil</td>
<td>S</td>
</tr>
<tr>
<td>Hastelloy C-276 Silicone oil</td>
<td>K</td>
</tr>
<tr>
<td>Monel 400 Silicon oil</td>
<td>M</td>
</tr>
<tr>
<td>Monel 400 gold plated Silicone oil</td>
<td>V</td>
</tr>
<tr>
<td>Tantalum Silicone oil</td>
<td>T</td>
</tr>
<tr>
<td>AISI 316L SST (1.4435) Inert fluid</td>
<td>A</td>
</tr>
<tr>
<td>Hastelloy C-276 Inert fluid</td>
<td>F</td>
</tr>
<tr>
<td>Monel 400 Inert fluid</td>
<td>C</td>
</tr>
<tr>
<td>Monel 400 gold plated Inert fluid</td>
<td>Y</td>
</tr>
<tr>
<td>Tantalum Inert fluid</td>
<td>D</td>
</tr>
<tr>
<td>With remote seal Silicone oil</td>
<td>R</td>
</tr>
<tr>
<td>With remote seal Inert fluid</td>
<td>2</td>
</tr>
</tbody>
</table>

**Process connection material / Process connection**

<table>
<thead>
<tr>
<th>Process connection</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AISI 316L SST (1.4404 / 1.4408) 1/4-18 NPT-f direct</td>
<td>1) A</td>
</tr>
<tr>
<td>AISI 316L SST (1.4404 / 1.4408) 1/2-14 NPT-f through adapter</td>
<td>1) B</td>
</tr>
<tr>
<td>Hastelloy C-276 1/4-18 NPT-f direct</td>
<td>1) D</td>
</tr>
<tr>
<td>Hastelloy C-276 1/2-14 NPT-f through adapter</td>
<td>1) E</td>
</tr>
<tr>
<td>Monel 400 1/4-18 NPT-f direct</td>
<td>1) G</td>
</tr>
<tr>
<td>Monel 400 1/2-14 NPT-f through adapter</td>
<td>1) H</td>
</tr>
<tr>
<td>AISI 316L SST (1.4404 / 1.4408) With two remote Seals</td>
<td>2) R</td>
</tr>
</tbody>
</table>

**Bolts / Gaskets**

<table>
<thead>
<tr>
<th>Bolts / Gaskets</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AISI 316L SST (NACE - non exposed) Viton</td>
<td>3</td>
</tr>
<tr>
<td>AISI 316L SST (NACE - non exposed) PTFE (Max. 10 MPa)</td>
<td>4</td>
</tr>
<tr>
<td>AISI 316L SST (NACE - non exposed) EPDM</td>
<td>5</td>
</tr>
<tr>
<td>AISI 316L SST (NACE - non exposed) Perbunan</td>
<td>6</td>
</tr>
<tr>
<td>AISI 316L SST (NACE - non exposed) With two remote seals</td>
<td>R</td>
</tr>
</tbody>
</table>

1) Only available with Diaphragm material / Fill fluid code R, 2
2) Not available with Diaphragm material / Fill fluid code R, 2
## Ordering Information, continued

<table>
<thead>
<tr>
<th>Multivariable transmitter, for mass flow</th>
<th>Variant digit No.</th>
<th>1-6</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>267CR</td>
<td>Base accuracy: 0.075 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>267CR-</td>
</tr>
<tr>
<td>269CR</td>
<td>Base accuracy: 0.04 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>269CR-</td>
</tr>
</tbody>
</table>

### Electronic housing material

<table>
<thead>
<tr>
<th>Material</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium Alloy (Barrel type)</td>
<td>1/2-14 NPT</td>
</tr>
<tr>
<td>Aluminium Alloy (Barrel type)</td>
<td>M20 x 1.5</td>
</tr>
<tr>
<td>Aluminium Alloy (Barrel type)</td>
<td>Harting Han connector</td>
</tr>
<tr>
<td>AISI 316L SST (Barrel type)</td>
<td>1/2-14 NPT</td>
</tr>
<tr>
<td>AISI 316L SST (Barrel type)</td>
<td>M20 x 1.5</td>
</tr>
<tr>
<td>Aluminium Alloy (DIN type)</td>
<td>M20 x 1.5</td>
</tr>
<tr>
<td>Aluminium Alloy (DIN type)</td>
<td>Harting Han connector</td>
</tr>
<tr>
<td>Aluminium Alloy (DIN type)</td>
<td>Fieldbus connector</td>
</tr>
</tbody>
</table>

### Output Additional options

<table>
<thead>
<tr>
<th>Output</th>
<th>Additional options</th>
</tr>
</thead>
<tbody>
<tr>
<td>HART digital communication and 4 ... 20 mA</td>
<td>(Additional options not requested)</td>
</tr>
<tr>
<td>HART digital communication and 4 ... 20 mA</td>
<td>(Additional options to be ordered by additional ordering code)</td>
</tr>
<tr>
<td>PROFIBUS PA</td>
<td>(Additional options not requested)</td>
</tr>
<tr>
<td>PROFIBUS PA</td>
<td>(Additional options to be ordered by additional ordering code)</td>
</tr>
<tr>
<td>FOUNDATION fieldbus</td>
<td>(Additional options not requested)</td>
</tr>
<tr>
<td>FOUNDATION fieldbus</td>
<td>(Additional options to be ordered by additional ordering code)</td>
</tr>
<tr>
<td>Modbus RS 485</td>
<td>(Additional options not requested)</td>
</tr>
<tr>
<td>Modbus RS 485</td>
<td>(Additional options to be ordered by additional ordering code)</td>
</tr>
<tr>
<td>Modbus RS 232</td>
<td>(Additional options not requested)</td>
</tr>
<tr>
<td>Modbus RS 232</td>
<td>(Additional options to be ordered by additional ordering code)</td>
</tr>
</tbody>
</table>

To select the obligatory Remote Seals, add their ordering codes acc. to Data Sheet SS/S265 to the Catalog No. after the optional ordering codes.

## Additional ordering information

<table>
<thead>
<tr>
<th>267CR, 269CR</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vent valve material / Position</td>
<td></td>
</tr>
<tr>
<td>AISI 316L SST (1.4404)</td>
<td>On process axis</td>
</tr>
<tr>
<td>AISI 316L SST (1.4404)</td>
<td>On flanges side top</td>
</tr>
<tr>
<td>AISI 316L SST (1.4404)</td>
<td>On flanges side bottom</td>
</tr>
<tr>
<td>Hastelloy C-276</td>
<td>On process axis</td>
</tr>
<tr>
<td>Hastelloy C-276</td>
<td>On flanges side top</td>
</tr>
<tr>
<td>Hastelloy C-276</td>
<td>On flanges side bottom</td>
</tr>
<tr>
<td>Monel 400</td>
<td>On process axis</td>
</tr>
<tr>
<td>Monel 400</td>
<td>On flanges side top</td>
</tr>
<tr>
<td>Monel 400</td>
<td>On flanges side bottom</td>
</tr>
</tbody>
</table>

3) Not available with FM, CSA
4) Not available with EEx nL, EEx d, FM, CSA (select connector type with additional ordering code)
5) Not available with EEx nL, EEx d, FM-, / CSA- / NEPSI-Explosion Proof (select connector type with additional ordering code)
6) Additional options to be ordered by additional ordering code
7) Additional options not requested / Not available for electrical connection with connector

Continued on next page
### Additional ordering information

<table>
<thead>
<tr>
<th>267CR, 269CR</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explosion protection</strong></td>
<td></td>
</tr>
<tr>
<td>ATEX Group II Category 1/2 GD - Intrinsic Safety EEx ia</td>
<td>E1</td>
</tr>
<tr>
<td>ATEX Group II Category 1/2 G - Flameproof EEx d</td>
<td>E2</td>
</tr>
<tr>
<td>ATEX Group II Category 3 GD - Type of Protection N EEx nL Energy Limited</td>
<td>E3</td>
</tr>
<tr>
<td>IECEx ia Ga / Gb, IECEx iaD 20</td>
<td>E8</td>
</tr>
<tr>
<td>IECEx d</td>
<td>E9</td>
</tr>
<tr>
<td>ATEX II 1/2 GD EEx ia + ATEX II 1/2 GD EEx d + ATEX EEx nL</td>
<td>EW</td>
</tr>
<tr>
<td>Factory Mutual (FM) - Intrinsically Safe</td>
<td>EA</td>
</tr>
<tr>
<td>Factory Mutual (FM) - Explosion-proof</td>
<td>EB</td>
</tr>
<tr>
<td>Canadian Standard Association - Explosion Proof</td>
<td>EE</td>
</tr>
<tr>
<td>Canadian Standard Association - Explosion Proof (Canada &amp; USA)</td>
<td>EM</td>
</tr>
<tr>
<td>NEPSI Ex ia II C T4/T6</td>
<td>EY</td>
</tr>
<tr>
<td>NEPSI Ex d II C T6</td>
<td>EZ</td>
</tr>
<tr>
<td>GOST Russia - EEx ia</td>
<td>W1</td>
</tr>
<tr>
<td>GOST Russia - EEx d</td>
<td>W2</td>
</tr>
<tr>
<td>GOST Kazakhstan - EEx ia</td>
<td>W3</td>
</tr>
<tr>
<td>GOST Kazakhstan - EEx d</td>
<td>W4</td>
</tr>
<tr>
<td>GOST Ukraine - EEx ia</td>
<td>WA</td>
</tr>
<tr>
<td>GOST Ukraine - EEx d</td>
<td>WB</td>
</tr>
<tr>
<td>GOST Belarus - EEx ia</td>
<td>WG</td>
</tr>
<tr>
<td>GOST Belarus - EEx d</td>
<td>WL</td>
</tr>
<tr>
<td>SAA Ex d IIC T6 and Ex td A21 IP 66 T85 °C</td>
<td>X1</td>
</tr>
</tbody>
</table>

### Integrated digital display (LCD)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>With integrated LCD display</td>
<td>L1</td>
</tr>
<tr>
<td>With integrated LCD display (backlit)</td>
<td>L2</td>
</tr>
</tbody>
</table>

### Mounting bracket shape / Material

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>For pipe mounting</td>
<td>AISI 304 SST (1.4301)</td>
</tr>
<tr>
<td>For wall mounting</td>
<td>AISI 304 SST (1.4301)</td>
</tr>
</tbody>
</table>

### Operating manual

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>German</td>
<td>M1</td>
</tr>
<tr>
<td>French</td>
<td>M4</td>
</tr>
<tr>
<td>English</td>
<td>M5</td>
</tr>
<tr>
<td>Russian</td>
<td>MB</td>
</tr>
</tbody>
</table>

### Label and Tag Language

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>German (stainless steel)</td>
<td>9) T1</td>
</tr>
<tr>
<td>German and English (plastic)</td>
<td>10) TA</td>
</tr>
</tbody>
</table>

### Additional tag plate

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless steel</td>
<td>I1</td>
</tr>
</tbody>
</table>

### Housing Accessories

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Four-wire add-on unit: Power supply 24 V UC</td>
<td>Output signal 0 ... 20 mA</td>
</tr>
<tr>
<td>Four-wire add-on unit: Power supply 24 V UC</td>
<td>A4</td>
</tr>
<tr>
<td>Four-wire add-on unit: Power supply 24 V UC</td>
<td>Output signal 4 ... 20 mA</td>
</tr>
<tr>
<td>Four-wire add-on unit: Power supply 230 V AC</td>
<td>Output signal 0 ... 20 mA</td>
</tr>
<tr>
<td>Four-wire add-on unit: Power supply 230 V AC</td>
<td>A5</td>
</tr>
<tr>
<td>Four-wire add-on unit: Power supply 230 V AC</td>
<td>Output signal 4 ... 20 mA</td>
</tr>
<tr>
<td>Four-wire add-on unit: Power supply 230 V AC</td>
<td>A7</td>
</tr>
</tbody>
</table>

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8) Only with Electrical Connection 1/2-14 NPT and Stainless Steel Tag Plate
9) Not available with DIN Electronic Housing code J, K, W
10) Not available with Factory Mutual - Explosion Proof
Series 2600T Pressure Transmitters
Model 267CR/269CR Multivariable

Additional ordering information

<table>
<thead>
<tr>
<th>Code</th>
<th>Connector Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>U1</td>
<td>Fieldbus 7/8 in. (without mating plug, recommended for FOUNDATION fieldbus)</td>
</tr>
<tr>
<td>U2</td>
<td>Fieldbus M12 x 1 (without mating plug, recommended for PROFIBUS PA)</td>
</tr>
<tr>
<td>U3</td>
<td>Harting Han 8D (8U) - Straight entry</td>
</tr>
<tr>
<td>U4</td>
<td>Harting Han 8D (8U) - Angle entry</td>
</tr>
<tr>
<td>U5</td>
<td>Harting Han 7D</td>
</tr>
<tr>
<td>U6</td>
<td>Harting Han 8D (8U) - For four-wire add-on unit</td>
</tr>
<tr>
<td>U7</td>
<td>Harting Han 7D - For four-wire add-on Unit</td>
</tr>
</tbody>
</table>

Material traceability

Certificate of compliance with the order 2.1 acc. EN 10204 for process wetted parts  
Inspection certificate 3.1 acc. EN 10204 of process wetted parts  
with analysis certificates as material verification  
Test report 2.2 acc. EN 10204 of the pressure bearing and process wetted parts

11) Minor parts with factory certificate acc. EN 10204

Standard delivery items (changes possible by an additional ordering code)

- Adapters supplied singly
- Plugs for the connection flange with one-side remote seal connection (no drain/vent valve)
- General purpose (no Ex application)
- No display, no mounting bracket
- English-language manual and labels
- Type plate material: barrel electronics housing code A, B, E, G, S, T – stainless steel  
DIN electronics housing code J, K, W – plastic
- Configuration with kPa and °C units
- No test, inspection or material certificates

Important remark for all models

The selection of suitable wetted parts and filling fluid for compatibility with the process media is a customer’s responsibility, if not otherwise notified before manufacturing.

NACE compliance information

1. The materials of constructions comply with metallurgical recommendations of NACE MR0175/ISO 15156 for sour oil field production environments. As specific environmental limits may apply to certain materials, please consult latest standard for further details. Materials AISI 316 / AISI 316L, Hastelloy C-276, Monel 400 also conform to NACE MR0103 for sour refining environments.

2. NACE MR0175 addresses bolting requirements in two classes:
   - Exposed bolts: bolts directly exposed to the sour environment or buried, encapsulated or anyway not exposed to atmosphere
   - Non exposed bolts: the bolting must not be directly exposed to sour environments, and must be directly exposed to the atmosphere at all times.

267CR, 269CR bolting identified by “NACE” are in compliance to the requirements of NACE MR0175 when considered “non exposed bolting”

Trademarks

TM Hastelloy is a trademark of Cabot Corporation
TM Monel is a trademark of International Nickel Corporation
TM Viton is a trademark of DuPont Dow Elastomers
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