

ABB MEASUREMENT & ANALYTICS | DATA SHEET

## **266GST and 266AST**

Gauge and absolute pressure transmitters



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## Measurement made easy

Engineered solutions for all applications

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### Base accuracy

- 0.04 % of calibrated span (optional 0.025 %)

### Proven sensor technology together with state-of-the-art digital technology

- Large turn down ratio of up to 100:1

### Comprehensive selection of sensors

- Optimized performance and stability

### 10-year stability

- 0.15 % of URL

### Flexible configuration options

- Local configuration via keys on LCD indicator

### TTG (Through-The-Glass) key technology

- Enables quick and easy local configuration without the need to open the cover - even in environments with explosion protection

### IEC 61508 certification

- For SIL2 (1001) and SIL3 (1002) applications

### Full compliance with Pressure Equipment Directive (PED) category III

### Product in compliance with Directive 2011/65/UE (RoHS II)

### In-built advanced diagnostics

## Specification – functional

### Range and span limits

Sensor Code	Upper Range	Lower Range	Minimum measuring span	
	Limit (UR/L)	Limit (LR/L)	25/25/25	25/25/25
C	0 vPa	-0 vPa	0.0 vPa	0.0 vPa
	50 mPa	-50 mPa	0.1 mPa	0.1 mPa
	25 mPaDC	-25 mPaDC	0.0 mPaDC	0.01 mPaDC
D	40 vPa	-40 vPa	0.4 vPa	0.4 vPa
	400 mPa	-400 mPa	4 mPa	40 mPa
	180 mPaDC	-180 mPaDC	1.8 mPaDC	18 mPaDC
L	200 vPa	-200 vPa	2.0 vPa	20.0 vPa
	2000 mPa	-2000 mPa	20 mPa	200 mPa
	50.0 vPa	-50.0 vPa	0.50 vPa	5.0 vPa
E	1000 vPa	-1000 vPa	10 vPa	100 vPa
	10000 mPa	-10000 mPa	100 mPa	1000 mPa
	140 vPa	-140 vPa	1.40 vPa	14.0 vPa
A	2000 vPa	-2000 vPa	20 vPa	200 vPa
	20000 mPa	-20000 mPa	200 mPa	2000 mPa
	400 vPa	-400 vPa	4.00 vPa	40.0 vPa
B	10000 vPa	-10000 vPa	100 vPa	1000 vPa
	100000 mPa	-100000 mPa	1000 mPa	10000 mPa
	1400 vPa	-1400 vPa	14.0 vPa	140.0 vPa
H	100000 vPa	-100000 vPa	1000 vPa	10000 vPa
	1000000 mPa	-1000000 mPa	10000 mPa	100000 mPa
	10000 vPa	-10000 vPa	100 vPa	1000 vPa
I	1000000 vPa	-1000000 vPa	10000 vPa	100000 vPa
	10000000 mPa	-10000000 mPa	100000 mPa	1000000 mPa

\*Measuring range does not include UR/L for 25/25/25, is 0.000 for all measuring ranges

### Span limits

Maximum span = UR/L

For optimum measuring accuracy, it is recommended that you select the sensor code which will provide the lowest **TORQUE**.

### Zero position suppression and elevation

The zero position and span can be set to any value within the measuring range limits listed in the table (L).

= adjusted span & smallest span

### Damping

Configurable time constant between 0 and 60 s.

This is in addition to the sensor response time.

### Turn On time

Ready for operation as per specifications in less than 10 s with minimum damping.

For 025 the turn on time is 12 s and the Output current during this time is 24 mA.

### Insulation resistance

>100 MΩ at 500 V DC (between terminals and ground)

## Specification – operative limits:

### Pressure limits:

#### Overpressure limits

without damage to the transmitter

Series	Overpressure limits
Series C-4	1 absolute and 1 MPa (10 bar) 145 psf
Series L	1 absolute and 1 MPa (10 bar) 145 psf
Series S	1 absolute and 1 MPa (10 bar) 145 psf
Series G	1 absolute and 1 MPa (10 bar) 145 psf
Series B	1 absolute and 20 MPa (200 bar) 4000 psf
Series V	1 absolute and 20 MPa (200 bar) 4000 psf

### Proof pressure:

The transmitter can be subjected to a 1/3 pressure up to the following values without leakage

Series	Overpressure limits
Series C-4	1 absolute and 1 MPa (10 bar) 145 psf
Series L	1 absolute and 1 MPa (10 bar) 145 psf
Series S	1 absolute and 1 MPa (10 bar) 145 psf
Series G	1 absolute and 1 MPa (10 bar) 145 psf
Series B	1 absolute and 20 MPa (200 bar) 4000 psf
Series V	1 absolute and 20 MPa (200 bar) 4000 psf

(Note: multipoint test requirements of 400 MPa – 6000 psf)

### Temperature limits °C (°F)

#### Environment

This is the operating temperature

Models 300027, 000407	Environment temperature limits
Standard	-40 to 85 °C (-40 to 185 °F)
Fluoropolymer (Garden)	-40 to 85 °C (-40 to 185 °F)
Wired G	-4 to 85 °C (23 to 185 °F)
Integral LCD display	-40 to 85 °C (-40 to 185 °F)

600 model may be affected if subjected to 2000 (4000) and 3000 (6000) °C (3600 °F)

Transmitters with ambient temperature from 0° (-32°) to 40° (104°) are available through special order.

#### IMPORTANT

For applications in explosive environments, the temperature range specified on the certificate (if applicable) applies dependent upon the degree of protection sought.

#### Process

Models 300027, 000407	Process temperature limits
Standard	-40 to 120 °C (-40 to 250 °F)
Fluoropolymer (Garden)	-40 to 120 °C (-40 to 250 °F)
Wired G	-4 to 120 °C (23 to 250 °F)

± 0.1% (0.05%) for operating pressures below the atmospheric pressure

#### Storage

Models 300027, 000407	Storage temperature range
Storage temperature	-50 to 85 °C (-58 to 185 °F)
Integral LCD display	-40 to 85 °C (-40 to 185 °F)
Wired G	-5 to 85 °C (23 to 185 °F)

**Limits for environmental effects**

**Electromagnetic compatibility (EMC)**

- Meets requirements of EN 61326 and IEC 61010-2-010 (optional)
- Overvoltage strength (with surge protector): 4 kV (in acc. with IEC 60064-5 EN 60300-4-5)

**Pressure Equipment Directive (PED)**

- Meets requirements of Directive 2014/68/EU category III module H.

**Humidity**

- Relative humidity: up to 100 %
- Condensation, fogging: Permissible

**Vibration resistance**

- Acceleration up to 2g at frequencies of up to 1000 Hz (according to IEC 60068-2-6)
- Acceleration limited to 1g for housing out of stainless steel

**Shock resistance**

- Acceleration: 50 g
- Duration: 11 ms
- (according to IEC 60068-2-27)

**IP rating**

- In accordance with EN 60529, IEC 60529
- The transmitter is dust and sand proof and protected against immersion effects.
- IP 67, IP 68 on request, NEMA 4X
- IP 68 devices with Harting Han plug connector
- IP 68 devices with panel housing made from aluminum or stainless steel housing

**Hazardous atmospheres**

- With or without integral display

**INTRINSIC SAFETY Ex i:**

- ATEX Europe (code EEx) approve:
  - II 1 G Ex ia IIC T5...T4 Ga, II 1 Z G Ex ia IIC T5...T4 Ga/Gb,
  - II 1 D Ex ia IIC T55 °C Da, II 1 G D Ex ia IIC T55 °C Da; IP66, IP67
- IECEx (code EEx) approve:
  - Ex ia IIC T5...T4 Ga/Gb, Ex ia IIC T55 °C Da; IP66, IP67
- NEPSI China (code EEx)
  - Ex ia IIC T4/T3/T5 Ga, Ex ia IIC T4/T5/T6 Ga/Gb,
  - Ex ia D T55-T50/T55, Ex ia D T5/T6/T55/T50/T55

**EXPLOSION PROOF:**

- ATEX Europe (code EEx) approve:
  - II 1 Z G Ex d IIC T5...T4 Ga/Gb, T55-T50 °C to +75 °C,
  - II 1 Z D Ex d IIC T55 °C Da, T5...T4 Ga/Gb, +50 °C to +75 °C; IP66, IP67
- IECEx (code EEx) approve:
  - Ex d IIC T5...T4 Ga/Gb, T55-T50 °C to +75 °C,
  - Ex d IIC T55 °C Da, T5...T4 Ga/Gb, +50 °C to +75 °C; IP66, IP67
- NEPSI China (code EEx)
  - Ex d IIC T5/Gb, Ex d A23/IP67/T55 °C

**INTRINSIC SAFETY Ex ic:**

- ATEX Europe (code EEx) type examination:
  - III G Ex ic IIC T5...T4 Ga, I 1 D Ex ic IIC T55 °C Da; IP66, IP67
- IECEx (code EEx) type examination:
  - Ex ic IIC T5...T4 Ga, Ex ic IIC T55 °C Da; IP66, IP67
- NEPSI China (code EEx) type examination:
  - Ex ic IIC T4-T6 Ga, Ex ic D A22/IP67/T55 °C

**FM Approvals US (code EEx) and**

**FM Approvals Canada (code EEx):**

- Explosionproof (US): Class I, Division 1, Groups A, B, C, D; T5
- Explosionproof (Canada): Class I, Division 1, Groups B, C, D; T5
- Dust-Ignitionproof: Class II, Division 1, Groups E, F, G, Class II, Division 2, T5
- Flameproof (US): Class I, Zone 1 AEx d IIC T4 Gb
- Flameproof (Canada): Class I, Zone 1 Ex d IIC T4 Gb
- Nonincendive: Class I, Division 2, Groups A, B, C, D; T5, T4
- Energy limited (US): Class I, Zone 2 AEx ic IIC T5...T4
- Energy limited (Canada): Class I, Zone 2 Ex ic IIC T5...T4
- Intrinsically safe: Class I, II, III; Division 1, Groups A, B, C, D, E, F, G; T5, T4; Class I, Zone 0 AEx ia IIC T5...T4 (US); Class I, Zone 0 Ex ia IIC T5...T4 (Canada)

Type AX, IP66, IP67 for all above markings.

**COMBINED FM Approvals US and Canada:**

- Intrinsically safe (code Ex)
- FM Approvals Canada (code EEx):**
  - Explosionproof (US): Class I, Division 1, Groups A, B, C, D; T5
  - Explosionproof (Canada): Class I, Division 1, Groups B, C, D; T5
  - Dust-Ignitionproof: Class II, Division 1, Groups E, F, G, Class II, Div 2, T5
  - Flameproof (US): Class I, Zone 1 AEx d IIC T4 Gb
  - Flameproof (Canada): Class I, Zone 1 Ex d IIC T4 Gb

**COMBINED ATEX, FM and IECEx Approvals (code EEx)**

Technical Regulations Customs Union EAC (Russia, Kazakhstan, Belarus), Inmetro (Brazil)

The permissible ambient temperature ranges (within the limits of -50 to 85 °C) are specified in the type examination certificates dependent upon the temperature class.



## FOUNDATION Fieldbus™ output

### Model:

- Line Active Scheduler (LAS) capability implemented.
- Manufacturer code: 000300 (hex)
- Device type code: 0007 (hex)

### Power supply

- The transmitter operates from 5 to 30 V DC, regardless of polarity, with or without surge protection.
- During use in EEx ia zones, the power supply must not exceed 24 V DC (entity certification) or 27.5 V DC (FISCO certification) according to FF-31E.

### Current consumption

- Operating quiescent: 15 mA
- Fault current limit value: 20 mA max.

### Output signal

- Physical layer in accordance with IEC 61552 / EN 61552.
- Transmission using Manchester II modulation at 12.5 kbit/s.

### Function blocks / execution period

- 3 enhanced analog input blocks / 25 ms max. (each)
- 1 enhanced PID block / 40 ms max.
- 1 standard arithmetic block / 25 ms
- 1 standard input selector block / 25 ms
- 1 standard control selector block / 25 ms
- 1 standard signal characterization block / 25 ms
- 1 standard integrator / totalizer block / 25 ms

### Additional blocks

- 1 enhanced resource block
- 1 manufacturer-specific pressure with calibration transducer block
- 1 manufacturer-specific advanced diagnostics transducer block
- 1 manufacturer-specific local display transducer block

### Number of I/O objects

3E

### Number of VCBs

3E

### Output interface

- FOUNDATION Fieldbus digital communication protocol in accordance with standard H1, fulfils the specification V1.17

### Operating mode during transmitter malfunction

- The output signal will be "frozen" to the last value in case of significant transmitter interference, once this interference is detected by the self-diagnostics function (which also displays error codes).
- In the event of electronics failures or short circuits, the transmitter consumption is electronically limited to a defined value (approx. 20 mA) in order to ensure inherent safety.

## ...Specification - electrical data and options

### PROFIBUS PA output

#### Device type

Pressure transmitter conform with profile 1.0.1  
 Ident number: 3430 (red)

#### Power supply

The transmitter operates from 9 to 32 V DC (independent of the polarity with or without overvoltage protection).  
 During use in EMI zones, the operating voltage must not exceed 17.5 V DC.  
 Intrinsically safe installation in accordance with the PISCO model.

#### Input Current

Operation (quiescent current): 1.5 mA  
 Residual current limit value: 30 mA maximum

#### Output signal

Physical layer in accordance with IEC 61508-2 / EN 61508-2, transmission with Manchester II modulation with 31.25 kBit/s.

#### Output interface

PROFIBUS PA communication in accordance with:  
 PROFIBUS DP 30776 part 2 / DIN 15045 part 2-3

#### Output cycle time

25 ms

#### Data blocks

- 1 "Physical Block"
- 3 "Analog Input" blocks
- 1 "Pressure Transducer Block" with calibration
- 1 "Transducer Block" local display

#### Operating mode during transmitter malfunction

In case of heavy transmitter errors, which are recognized by self-diagnostics, the output signal can be put into defined states, which can be chosen by the operator: safe, most recent or calculated value.  
 In case of electronic errors or short-circuits, the current consumption is electronically limited to a set value (approx. 30 mA) for the safety of the network.

### Digital Diaphragm Seal (DDS)



FIGURE 1. DIGITAL DIAPHRAGM SEAL

DDS is the next-gen in differential pressure measurement for ambient-temperature affected installations.

By replacing the oil-filled capillary with electronic cables, DDS leverages data from two independent gauge devices to calculate DP. This technical solution not only zeroes the so-called "head-effect" error, but it also takes away the delays in signals driven by traditional measures.

With up to 95% (versus a traditional solution) faster response time, DDS provides advantages in costs of installation (i.e., simpler mounting) and maintenance (i.e., lower cost due to modular replacements).

#### Main Features

- No oil-filled capillary
- Contemporary single-device and combined devices sets
- Independent Primary & Secondary devices
- Modular components structure
- Single 2-wire 4-20mA loop with single bonding and calibration
- Opportunity for extra long cabling (up to 150 mt)



## LCD display



Model 48

Model 48 (code 48) (not with DDB)

### Integral LCD display (code L1)

- Wide screen LCD display, 128 x 64 pixels, 52.3 x 27.2 mm, (2.05 x 1.07 in), dot matrix, multilingual.
- Four buttons for device configuration and management.
- Easy setup for quick commissioning.
- Customized initializations which the user can select.
- Total valve and actual valve flow indication.
- The display can also be used to show static pressure, sensor temperature, and diagnostic notice, as well as mass configuration settings.

### Integral LCD display with TTG (Through-The-Glass) operation (code L5; not with DDB)

- As with the Integral LCD display above, but featuring an innovative TTG (Through-The-Glass) button technology which can be used to activate the device's configuration and management menus without having to remove the transmitter housing cover.
- The TTG (Through-The-Glass) buttons are protected against accidental activation.

## Specification - measuring accuracy

Reference conditions according to IEC 60770:  
 Ambient temperature 20 °C (68 °F), (rel. humidity) 65 %, atmospheric pressure 1013 hPa (30.3 mmHg), measuring span based on zero, separating diaphragm made from stainless steel A2, 316 L, or Hastelloy, silicone oil filling fluid, HART digital trim values equal to 4 and 20 mA span end points, linear characteristic.  
 Unless otherwise stated, errors are specified as a % of the span value.

Some measuring accuracy levels relating to the upper measuring range limit (URL) are affected by the current turn-down (TD), i.e. the ratio of the upper measuring range limit to the set span.

FOR OPTIMAL MEASURING ACCURACY IT IS RECOMMENDED THAT YOU SELECT THE SENSOR CODE WHICH WILL PROVIDE THE LOWEST % VALUE.  
 All specification performance data for DDC version refers to two transmitters (primary and secondary) with identical sensor ranges.  
 All other performance specifications can be taken as reference of each DDC pressure sensor without correlation to differential pressure compute.

### Dynamic performance (according to IEC 61298-1)

Version	Time constant (80.2% of total step response)
Device DDC (all)	± 250 ms
Excitation time for all sensors	± 10 ms
Response time (total) = reaction time + time constant	

### For DDC with coil

Sensors	Time constant (80.2% of total step response)
Device DDC (all)	± 250 ms
Excitation time for all sensors	± 10 ms
Response time (total) = reaction time + time constant	

### Accuracy rating (E<sub>lin</sub>)

% of calibrated span, consisting of terminal-based non-linearity, hysteresis, and non repeatability.  
 In the case of flange devices, SPAN refers to the analog input function block output scaling.

Model	Sensors	for TD range	Accuracy
DDC027	C and F	from 1.0 to 100.0	± 0.04 %
	C	from 10.0 to 500	± 0.04 % (URL) + 0.005 % TD + 0.001 %
	F and F	from 10.0 to 3000	± 0.04 % (URL) + 0.005 % TD + 0.001 %
	L and F	from 1.0 to 100.0	± 0.04 % (secondary)
DDC028	C and F	from 1.0 to 100.0	± 0.04 %
	C and F	from 10.0 to 300.0	± 0.04 % (URL) + 0.005 % TD + 0.001 %

### Accuracy rating for DDC version (E<sub>lin</sub>)

Accuracy DR rating for DDC version refers to two transmitters with identical sensor range

Model	Sensors	for TD up to	Accuracy
DDC027	C and F	from 1.0 to 100.0	± 0.04 %

### Ambient Temperature (E<sub>A</sub>T<sub>z</sub> + E<sub>A</sub>T<sub>s</sub>)

Per 20 K change within the limits of -40 to 65 °C (per 36 °F change within the limits of -40 to 185 °F)

Model	Sensors	for TD up to	Accuracy
DDC027	C and F	10.0	± 0.08 % (URL) + 0.08 % (span)
	L and F	10.0	± 0.08 % (URL) + 0.045 % (span)
DDC028	C and F	10.0	± 0.08 % (URL) + 0.08 % (span)
	L and F	10.0	± 0.08 % (URL) + 0.045 % (span)

In the case of an ambient temperature change between -40 and 60 °C (0A and 140 °F)

Model	Sensors	for TD up to	Accuracy
DDC027	C and F	10.0	± 0.08 % (URL) + 0.08 % (span)
	L and F	10.0	± 0.08 % (URL) + 0.045 % (span)
DDC028	C and F	10.0	± 0.08 % (URL) + 0.08 % (span)
	L and F	10.0	± 0.08 % (URL) + 0.045 % (span)

Per 10 K change within the limits of -40 to -10 °C or 60 to 95 °C (per 18 °F change within the limits of -40 to 34 °F or 140 to 185 °F)

Model	Sensors	for TD up to	Accuracy
DDC027	C and F	10.0	± 0.04 % (URL) + 0.08 % (span)
	L and F	10.0	± 0.08 % (URL) + 0.045 % (span)
DDC028	C and F	10.0	± 0.04 % (URL) + 0.08 % (span)
	L and F	10.0	± 0.08 % (URL) + 0.045 % (span)

### Ambient temperature for DDC version (E<sub>T</sub>)

for an ambient temperature change from -40 °C to +50 °C (+14 to +140 °F)

Model	Sensors	for TD up to	Accuracy
DDC027	C and F	10.0	± 0.08 % (URL)
	L and F	10.0	± 0.08 % (URL)

per 50K change between the limits of -40 °C to -40 °C or +50 °C to +55 °C (per 18 °F change between the limits of -40 to +14 °F or +140 °F to +185 °F)

Model	Sensors	for TD up to	Accuracy
DDC027	C and F	10.0	± 0.080 % (URL)
	L and F	10.0	± 0.045 % (URL)

$$E_{Tz} = N (E_T + URL/100K) + E_T * URL/100K$$

E<sub>Tz</sub> = Temperature Performance Primary device  
 E<sub>Ts</sub> = Temperature Performance Secondary device

**Supply voltage:**

Within the limit values for the voltage / load, the total influence is less than 0.005 % of the upper measuring range limit per volt.

**Load**

Within the load /voltage limits, the total influence is negligible.

**Electromagnetic field**

Meets all requirements of EN 61325 and IEC61000-4-2.

**Common-mode interference**

No influence from 300 V rms @ 50 Hz, or 50 V DC.

**Mounting position**

Rotations in the plane of the diaphragm have a negligible effect. A tilt from the vertical of up to 90° causes a zero point shift of up to 0.25 mPa (3.5 mbar, 2.4 mmH<sub>2</sub>O), which can be corrected by making an appropriate zero position adjustment. There is no effect on the measuring span.

In applications where a dynamic inclined installation is required (e.g. naval applications with maximum vessel inclination of +/- 22.5°), the maximum error can be up to 0.5 mbar for 255G5T and 2 mbar for 255A5T.

Such error might be resulting in a deviation from the standard accuracy with percentage magnitude depending on the range of the selected device.

In case of non-dynamic inclined installations, this effect can be eliminated by performing a zero calibration in the field.

Please contact ABB to assess more in details on the installation effects.

**Long-term stability**

± 0.15 % (± 0.25 % for DCS) of URL over a 10 years period (± 0.05 % (± 0.1 % for DCS) 1/R<sub>1</sub>/year)

**Total performance :**

Temperature change of 20 °C (30 °F), only 255G5T with base accuracy option D5 (0.025 %)

Model	Device	for FE	Total performance
255G5T	1 to 8	1:1	± 0.125 % of span (rated span)
255A5T	1 to 8	1:1	± 0.125 % of span (rated span)

With a temperature change range of -10 to 60 °C (14 to 140 °F) (D5/255G5),

only 255G5T with base accuracy option D5 (0.025 %)

Model	Device	for FE	Total performance
255G5T	1 to 8	1:1	± 0.125 % of span (rated span)
255A5T	1 to 8	1:1	± 0.125 % of span (rated span)

The total performance accuracy includes the measuring error (non-linearity) including hysteresis and non-repeatability, as well as the thermal change in the ambient temperature as regards the zero signal and span.

$$E_{tot} = \sqrt{(E_A + E_S)^2 + E_{acc}^2}$$

- E<sub>tot</sub> = Total performance
- E<sub>A</sub> = Effect of the ambient temperature on zero
- E<sub>S</sub> = Effect of the ambient temperature on span
- E<sub>acc</sub> = Accuracy rating (for terminal-based mainly 0.24 %)

**Total performance for DDC version**

$$E_{tot} = \sqrt{(E_{acc} + E_{T_{amb}})}$$

- E<sub>tot</sub> = Total Performance
- E<sub>acc</sub> = Accuracy rating
- E<sub>T<sub>amb</sub></sub> = Effect of the ambient temperature

## Specification – physical

(Please refer to the order information to check the availability of different versions of the relevant model)

### Materials

#### Process isolating diaphragms

Hastelloy C276, Hastelloy C276, gold plated, stainless steel  
 AISI 316, (1.4435)

#### Process connection

Stainless steel AISI 306, (1.4404), Hastelloy C276

#### Sensor filling fluid

Silicone oil, Fluorocarbon (Galden), orme oil (FDA)

#### Mounting bracket

Barrel version:

Galvanized C steel with chromium passivation,  
 Stainless steel AISI 306, (1.4404)

DIN version:

AISI 304 (1.4301)

#### Pressure sensor housing

Stainless steel AISI 306, (1.4404)

#### Electronics housing and cover

Aluminum alloy (copper content <0.3%) with baked epoxy  
 finish (color RAL 9002), stainless steel AISI 316

#### G-ring cover

316LH

#### Operating element for local zero point, measuring span, and write protection settings

Non-intrusive design (removable) made of glass fiber  
 reinforced polypropylene oxide

### Plates

- Transmitter name plate: stainless steel AISI 316 fastened to the electronics housing.
- Certification plate and optional measuring point tag plate / settings plate: Adhesive, fastened to the electronics housing or stainless steel AISI 304L, fastened to the electronics housing with rivets or screws.
- Optional tag plate with customer data: stainless steel AISI 304L

For D06:

wired on AISI 316 as plates for cross identification of Primary-Secondary on both devices.

The metal plates are laser engraved, the adhesive strips thermo-printed.

For stainless steel housings AISI 306, the order option 12 or 13 must be selected for plates made from stainless steel AISI 316

### Calibration

Standard: 0 to measuring range upper limit, for ambient temperature and atmospheric pressure;  
 Optional: To specified measuring span

### Optional extras

#### Mounting bracket

For 60 mm (2 in) pipes or wall mounting

#### LCD display

Can be rotated in 90° increments into 4 positions

#### Additional tag plates

Code 12: For for tag and/or calibration details (up to 30 characters), in stainless steel, fastened to the transmitter housing.

Code 13: For customer data (4 lines of 30 characters each), in stainless steel, wired to the transmitter housing.

#### Overvoltage protection

- Code 32

#### Cleaning stage for oxygen application (O2)

Code P1

#### Certificates (inspection, implementation, characteristics, material certificate)

Code Q1 and H1

#### Name plate and operating instruction language

Code T1 and M1

#### Communication plug connector

Code U1

#### Weld manifold installation

Code A1: Factory installation and pressure test of the ABE AGT valve manifold.

\*Transmitter parts that come into contact with H<sub>2</sub>O:  
 H<sub>2</sub>O-wet material: stainless steel AISI 400

• screw material: high strength alloy steel or stainless steel AISI 316

**Process connections**

1/2–14 (NPT) Internal or external thread  
 DIN EN 8374 G 1/2 B or G 1/2 B (HP) for convex seals; flush design for oil valve

**Electrical connections**

Two 1/2–14 NPT or M20 x 1.5 threaded bores for cable glands, directly on housing.  
 Serial communication connector (on request):  
 — HART: Straight or angled Harting Hart 80 connector and one mating plug.  
 — FOUNDATION Fieldbus, PROFIBUS PA: M12, 5x1 or 7x8 m plug

**Terminal block**

HART version: Three connections for signal / external display, for wire cross sections of up to 2.5 mm<sup>2</sup> (14 AWG), and connection points for testing and communication purposes.  
 Fieldbus version: Two signal connections (bus connection) for wire cross sections of up to 2.5 mm<sup>2</sup> (14 AWG).  
 DDE version: three terminals for signal/external meter wiring up to 2.5 mm<sup>2</sup> (14 AWG), also connection points for test and communication purposes. Additional four terminals to connect Primary to Secondary and vice versa.

**Grounding**

Internal and external ground terminals are provided for 8 mm<sup>2</sup> (10 AWG) wire cross sections.

**Mounting position**

The transformers can be installed in any position. The electronic housing can be rotated into any position. A stop is provided to prevent overturning.

**Weight**

Approx. 2 kg (4.4 lb); additional 1.5 kg (3.3 lb) for stainless steel housing.  
 Add 650 g (1.3 lb) for packaging.

**Packaging**

Carton with dimensions of 65 x 20 x 14 cm, approx. 10 x 6 x 5 in.

## Specification – configuration

### Transmitter with HART communication and 4 to 20 mA

#### Standard configuration

Transmitters are calibrated at the factory to the customer's specified measuring range. The calibrated range and measuring point number are provided on the name plate. If this data has not been specified, the transmitter will be delivered with the plate left blank and the following configuration:

Physical Unit	kPa
4 mA	Zero
20 mA	Measuring range upper limit (URL)
Output	Linear
Damping	1 s
Transmitter interference mode	High alarm
Software tag (max. 3 characters)	Blank
Optional LCD display	PV in kPa, output in mA and In percent or bargraph

Any detail of the configurable parameters listed above - (including the lower and upper range values (with the same unit of measurement) - can easily be changed using a portable HART handheld communicator or a PC running the configuration software with the DTH for 256 models. Specifications concerning the flange type and materials, O-ring and vent / draft valve materials, and additional device options are stored in the transmitter database.

#### Tag and Certification

Tag and/or specific calibrated span can be requested when configuring the device.

Two tag types are available: Short tag and Long tag.

See below table for details about tag type applicability / presence:

Type	Max Length	On Display	On Certification	On Device Label
Short Tag	8 digits	YES	YES	NO
Long Tag	16 digits	NO	YES	YES

In case no specific indication will be given about the tag type, data will be considered as Long Tag by default.

In case tag is required on the optional wired-on customer data plate (optional digits 1, 2) specific indication needs to be given.

On DCS version the Long Tag is used to interconnect the primary and secondary devices and it is not changeable by the User.

#### Customer-specific configuration (option M1)

The following information can be specified in addition to the standard configuration parameters:

Description	18 alphanumeric characters
Supplementary information	30 alphanumeric characters
Date	Day, month, year

For the HART protocol, the following physical units are available for pressure measurements:

Pg, kPa, MPa  
 mmHg @ 4 °C, mmHg @ 4 °C, psi  
 mmHg @ 20 °C, mmHg @ 20 °C, mmHg @ 20 °C  
 mmHg, mmHg, Torr  
 g/cm<sup>2</sup>, kg/cm<sup>2</sup>, atm  
 mpa, bar

These and others are available for PROFIBUS and FOUNDATION fields.

**Transmitter with PROFIBUS PA communication**  
**Standard configuration**

Transmitters are calibrated at the factory to the customer's specified measuring range. The calibrated range and measuring point number are provided on the name plate. If this data has not been specified, the transmitter will be delivered with the plate left blank and the following configuration:

Measuring profile	Pressure
Physical unit	kPa
Output scale 0 %	Measuring range lower limit (LR <sub>L</sub> )
Output scale 100 %	Measuring range upper limit (LR <sub>H</sub> )
Output	Linear
Upper alarm limit	Measuring range upper limit (LR <sub>H</sub> )
Upper warning limit	Measuring range upper limit (LR <sub>H</sub> )
Lower warning limit	Measuring range lower limit (LR <sub>L</sub> )
Lower alarm limit	Measuring range lower limit (LR <sub>L</sub> )
Hysteresis limit value	0.5 % of output scaling
PV filter time	0 s
Address (set using local control buttons)	128
Measuring point tag	30 alphanumeric characters
Optional LCD display	PV in kPa, output in percent as bargraph display

Any or all of the configurable parameters listed above - including the measuring range values (with the same unit of measurement) - can easily be changed using a PC running the configuration software with the DTM for 800 models. Specifications concerning the flange type and material, O-ring and vent / drain valve materials, and additional device options are stored in the transmitter database.

**Customer-specific configuration (option M6)**

The following information can be specified in addition to the standard configuration parameters:

Description	32 alphanumeric characters
Supplementary information	32 alphanumeric characters
Date	Day, month, year

**Transmitter with FOUNDATION fieldbus communication**  
**Standard configuration**

Transmitters are calibrated at the factory to the customer's specified measuring range. The calibrated range and measuring point number are provided on the name plate. If this data has not been specified, the transmitter will be delivered with the plate left blank and the analog input function block FB1 will be configured as follows:

Measuring profile	Pressure
Physical unit	kPa
Output scale 0 %	Measuring range lower limit (LR <sub>L</sub> )
Output scale 100 %	Measuring range upper limit (LR <sub>H</sub> )
Output	Linear
Upper alarm limit	Measuring range upper limit (LR <sub>H</sub> )
Upper warning limit	Measuring range upper limit (LR <sub>H</sub> )
Lower warning limit	Measuring range lower limit (LR <sub>L</sub> )
Lower alarm limit	Measuring range lower limit (LR <sub>L</sub> )
Hysteresis limit value	0.5 % of output scaling
PV filter time	0 s
Measuring point tag	30 alphanumeric characters
Optional LCD display	PV in kPa, output in percent as bargraph display

The analog input function blocks FB2 and FB3 are each configured for the sensor temperature measured in °C and the static pressure measured in MPa. Any or all of the configurable parameters listed above - including the measuring range values - can easily be changed using a FOUNDATION fieldbus-compatible configuration tool. Specifications concerning the flange type and material, O-ring and vent / drain valve materials, and additional device options are stored in the transmitter database.

**Customer-specific configuration (option M6)**

The following information can be specified in addition to the standard configuration parameters:

Description	32 alphanumeric characters
Supplementary information	32 alphanumeric characters
Date	Day, month, year

## Dimensions

(All design data & dimensions in mm (inch))

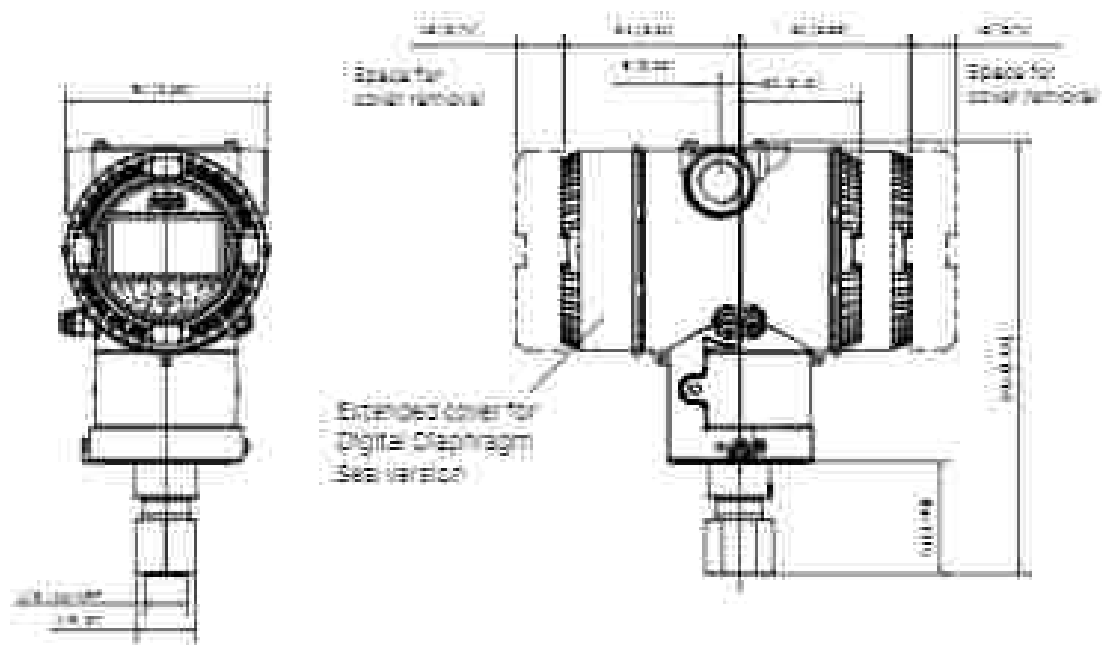
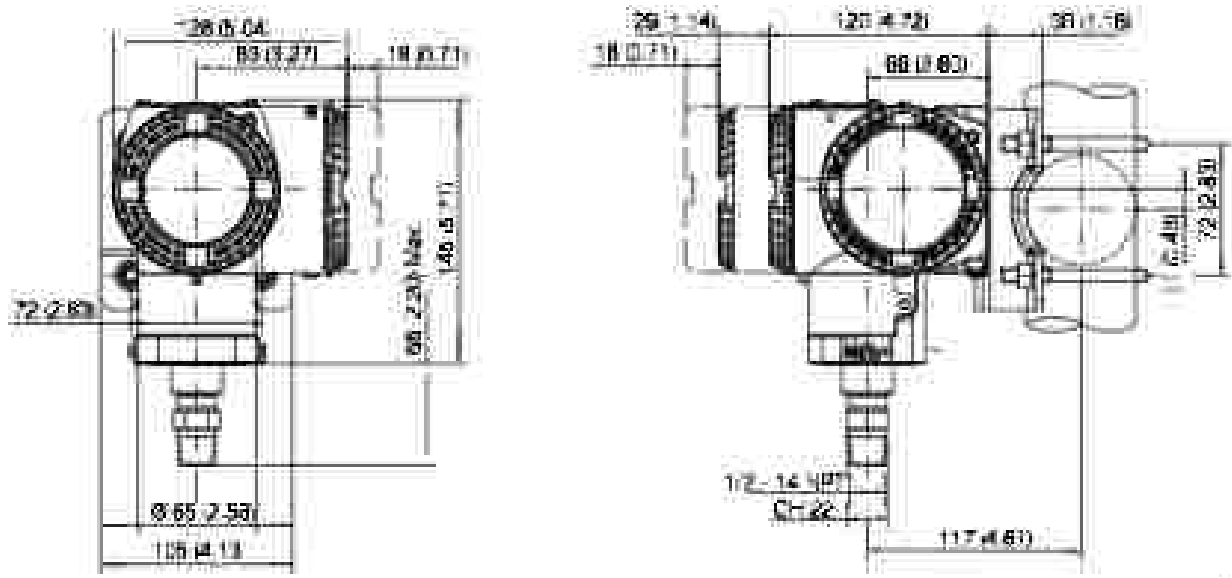


Figure 10.10 Breast and Breath Gauge and Associate Reserve Transmitter (2010) (PART 1) (REV. 0)





M1008

Figure 8. BRASS GAUGE - 20150227 (TYPE 2) - 1/2" NPT SUPPLEMENTAL

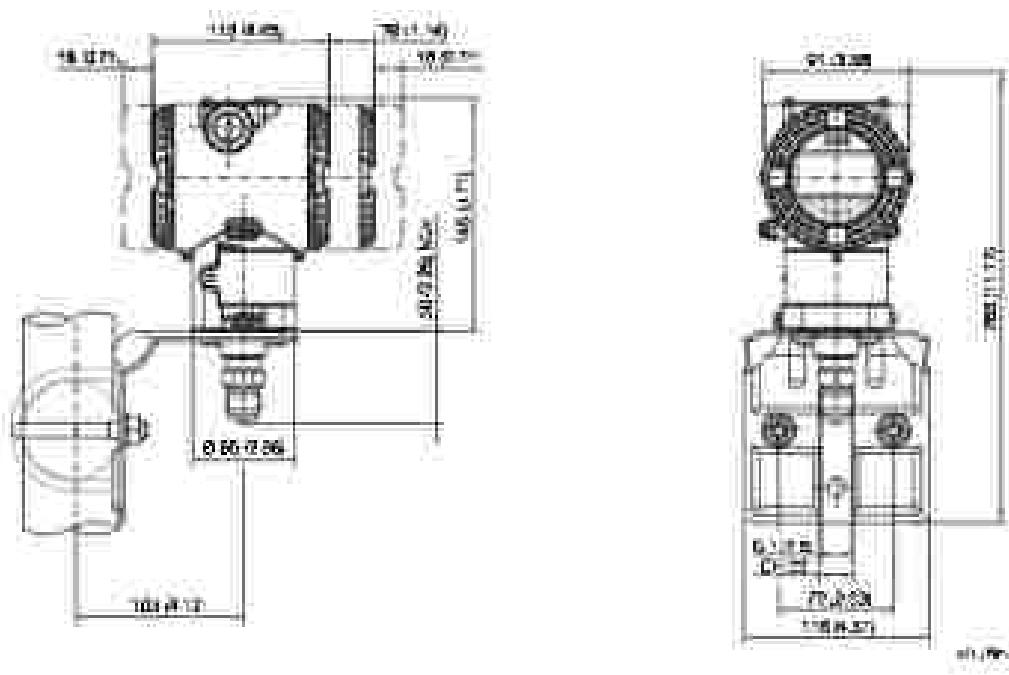


Figure 9. BRASS GAUGE - 20150227 (TYPE 2) - 1/2" NPT SUPPLEMENTAL

## Electrical connections:

### HART version

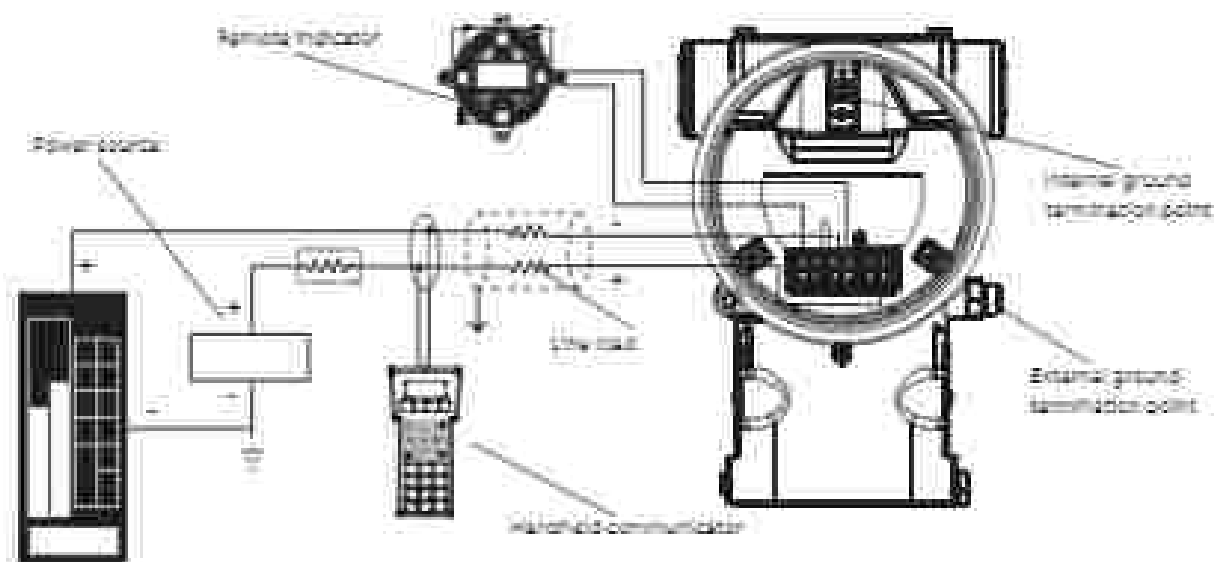


Figure 6. Electrical connections HART version.

The HART enabled terminal can be connected to any wiring termination point in the loop as long as a minimum resistance of 250  $\Omega$  is present between the HART terminal and transmitter power supply. If it is less than 250  $\Omega$ , additional resistance wires must be installed to enable a communication.

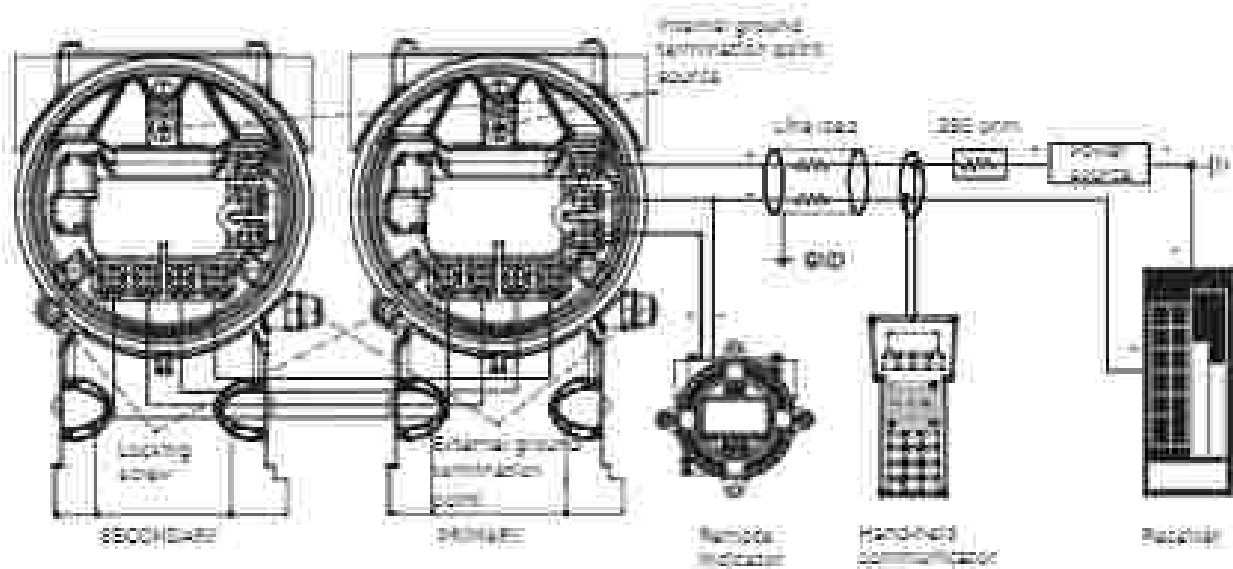


Figure 30: Details

**DDS Entry Parameters**

Here below the cable parameters to be respected when selecting a connection cable to connect primary and the secondary units.

Shielded cable with 4 conductors (1/2 twisted pair).

Temperature range suitable for the application ambient temperature.

Compliant with the hazardous area specifications for Intrinsic Safety and Explosion Proof versions.

**CABLE PARAMETERS (Maximum allowed)**

	Intrinsic Safety	Explosion Proof	General Purpose
CC/C (pF)	10	10	20
CC/S (pF)	20	20	20
LC (nH)	100	200	100
L (m)	30	10	100

CC/C = Total cable to cable capacitance.

CC/S = Total cable to shield capacitance.

LC = Total cable inductance.

L = cable length.

...Electrical connections

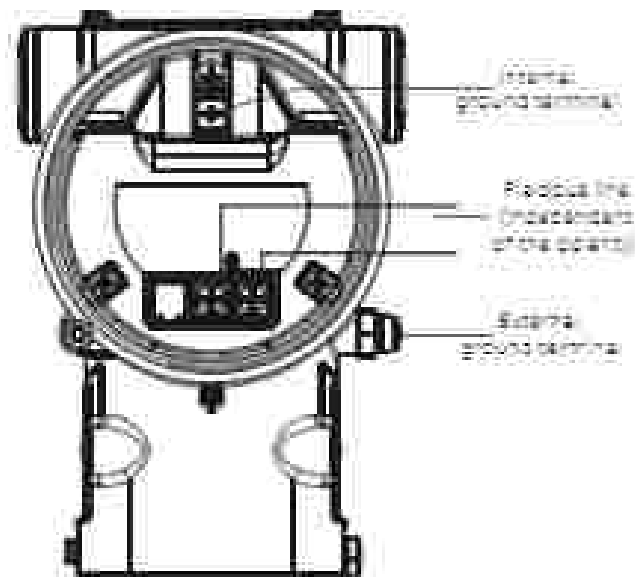
Fieldbus version



Figure 8 Plug connectors - Fieldbus version

Pin assignment (2014)		
Pin number	Fieldbus pin	Module pin
1	DATA -	DATA -
2	DATA +	DATA +
3	SHIELD	SHIELD
4	GROUND	GROUND
5	SHIELD	DATA -
6	GROUND	SHIELD

Delivery scope: plug connector without mating plug (female connector) supplied loose



M12 50

Figure 9 Ground terminals (2014)

HART version

Mounting indicators for connectors (supplied loose)

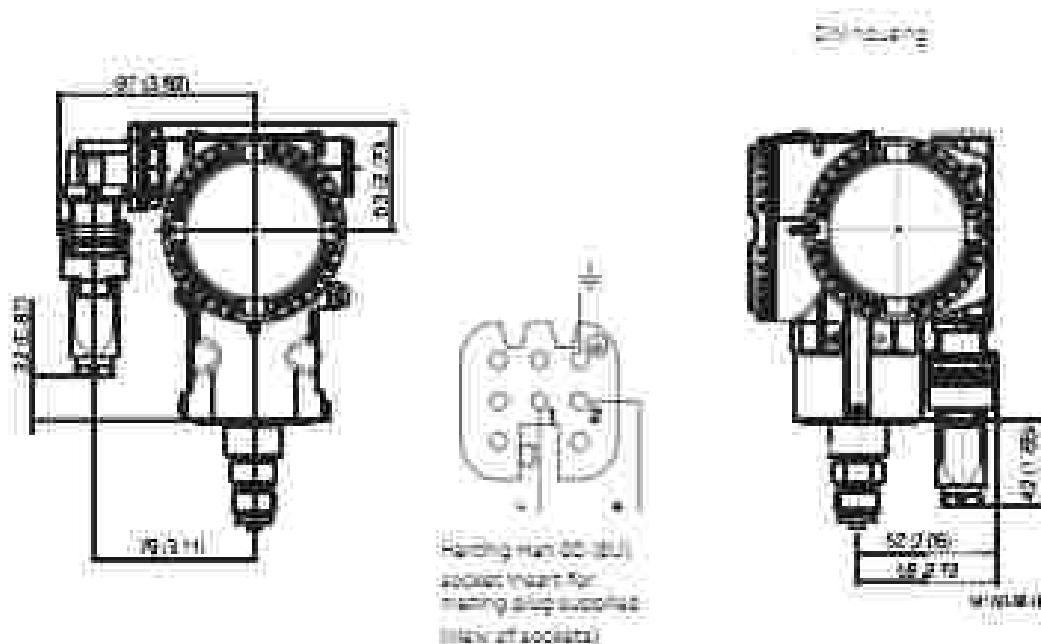


Figure 10 Mating connector - HART version

Harting Han 50 (50) socket insert for mating plug socket (view of sockets)

## Ordering information

Main ordering information for model 286G5T gauge pressure transmitter

Select one or more characters from each category and enter the complete catalog number.

Enter one or more codes for additional order information if you are purchasing optional extras for each transmitter.

Base model - 1st to 8th characters			286G5T	E	B	R	F	X	S
Gauge pressure transmitter - Base accuracy 0.04 %									
Sensor Span Limits / Ingress Pressure (Inch) - 7th character									
0.1 and 0.1Pa	(0.1 and 0.1 mbar; 0.1 and 24 mmHg)	0.1Pa (0.1 bar; 0.40 psi)							
0.1 and 40 Pa	(0.1 and 40 mbar; 1.6 and 160 mmHg)	0.1Pa (0.1 bar; 0.40 psi)							
0.1 and 100 Pa	(0.1 and 100 mbar; 0.39 and 1000 psi)	0.1Pa (0.1 bar; 0.40 psi)							
0.1 and 1000 Pa	(0.1 and 1000 mbar; 1.43 and 143 psi)	0.1Pa (0.1 bar; 0.70 psi)							
0.1 and 10000 Pa	(0.1 and 10000 mbar; 4.33 and 433 psi)	0.1Pa (0.1 bar; 0.70 psi)							
100 and 10000 Pa	(0.1 and 100 bar; 14.3 and 143 psi)	10 Pa (100 bar; 1000 psi)							
100 and 10000 Pa	(0.1 and 100 bar; 0.17 and 1700 psi)	10 Pa (100 bar; 1000 psi)							
Diaphragm material / Housing fluid - 8th character									
Material: 316L (1.4404)	Stainless steel	316L							
Material: 304 (1.4308)	Stainless steel	316L							
Material: 316L (1.4404)	Fluoropolymer - Gasket (included in gasket accommodations)	316L							
Material: 304 (1.4308)	Fluoropolymer - Gasket (included in gasket accommodations)	316L							
Material: 304 (1.4308)	Stainless steel	316L (note 1)							
Material: 304 (1.4308)	Fluoropolymer - Gasket (included in gasket accommodations)	316L (note 1)							
Material: 316L (1.4404)	None (PTFE)	316L							
Material: 304 (1.4308)	None (PTFE)	316L							
Process connection material / Type - 9th character									
Material: 316L (1.4404)	1/2 in - 14 NPT female	316L							
Material: 316L (1.4404)	3/8 in NPT 1 G 1/2 in B	316L							
Material: 316L (1.4404)	1/2 in - 14 (non-coded) machined	316L (note 1)							
Material: 316L (1.4404)	1/2 in - 14 NPT male	316L							
Material: 316L (1.4404)	3/8 in NPT 1 G 1/2 in B	316L (note 1)							
Material: 316L (1.4404)	Female flange connection	316L (note 1)							
Material: 304 (1.4308)	1/2 in - 14 NPT female	316L							
Material: 304 (1.4308)	3/8 in NPT 1 G 1/2 in B	316L							
Material: 304 (1.4308)	1/2 in - 14 NPT male	316L							
Output format - 10th character									
None									
Mounting Hardware / Electrical Connection - 11th character									
Aluminum alloy (bare type)	1/2 in - 14 NPT								
Aluminum alloy (bare type)	HDD 1.1								
Aluminum alloy (bare type)	Flaring nut connector	(General purpose only)							
Aluminum alloy (bare type)	Flareless connector	(General purpose only)							
Aluminum alloy (bare type)	1/2 in - 14 NPT (0 or 3 required)								
Aluminum alloy (bare type)	HDD 1.1 (0 or 3 required)								
Aluminum alloy (DIN type)	HDD 1.1								
Aluminum alloy (DIN type)	Flaring nut connector	(General purpose only)							
Aluminum alloy (DIN type)	Flareless connector	(General purpose only)							
Aluminum alloy (bare type)	Flareless connector	(General purpose only)							
Output - 12th character									
HART digital communication and 4 to 20 mA									
RS485 A									
FOUNDATION fieldbus									
HART digital communication and 4 to 20 mA, ILS and ILS- certified in acc. with IEC 61508									
Digital Diagnostic Bus, 4-20 mA, HART Modbus, to select one Primary or Secondary device									

## Ordering information

Additional ordering information for model 200GST gauge pressure transmitter

Add one or more 3-digit codes after the basic ordering information to select all required options

	00	01	02	03
<b>Accuracy</b>				
Basic accuracy 0.25%	None 4, 0%	01		
<b>European Protection Certification</b>				
ATEX intrinsic Safety Ex ia	None 0	01		
ATEX Extrinsic Proof Ex d, Ex e	None 00, 10	02		
ATEX Intrinsic Safety Ex ia, Ex ic	None 0	02		
FM Approvals (Canada) approval (CMA, CFC, CEM)	None 00	04		
FM Approvals (USA) approval (FM, DCS, B, SIL)	None 00	04		
FM Approvals (USA and Canada) (Intrinsically safe)	None 0	04		
FM Approvals (USA and Canada) (Extrinsic)	None 00, 10	05		
FM Approvals (USA and Canada) (Intrinsically safe)	None 0	05		
Combined ATEX, IECEx and FM Approvals (USA and Canada)	None 00	01		
Combined ATEX Ex ia, Ex ic, Ex d, Ex e and Ex ic, Ex ia	None 00	06		
IECEx intrinsic Safety Ex ia	None 0	03		
IECEx Extrinsic Proof Ex d, Ex e	None 00, 10	04		
IECEx intrinsic Safety Ex ia, Ex ic	None 0	05		
Combined IEC Extrinsic Ex ia and Ex ic, Ex ia, Ex ic	None 00	04		
Combined IEC Approval Ex ia, Ex ic, Ex d, Ex e and Ex ia, Ex ic, Ex d, Ex e	None 00	01		
AEP intrinsic Safety Ex ia, Ex ic	None 0	07		
AEP Extrinsic Proof Ex d, Ex e	None 00	02		
AEP intrinsic Safety Ex ia, Ex ic, Ex d, Ex e	None 0	03		
Combined AEP Ex ia, Ex ic and Ex ia, Ex ic, Ex d, Ex e	None 00	01		
Combined FM Ex ia, Ex ic, Ex d, Ex e and Ex ia, Ex ic, Ex d, Ex e	None 00	01		
<b>Other European Protection Certifications</b>				
Ex ia Ex ia IAC Ex ia for Russia (incl. GOST Hazardous Approval)	None 0, 10		01	
Ex ia Ex ia IAC Ex ia for Russia (incl. GOST Hazardous Approval)	None 00, 10		01	01
Ex ia Ex ia IAC Ex ia for Kazakhstan (incl. GOST Hazardous Approval)	None 0, 10		01	01
Ex ia Ex ia IAC Ex ia for Kazakhstan (incl. GOST Hazardous Approval)	None 00, 10		01	01
Ex ia Ex ia IAC Ex ia for Belarus (incl. GOST Hazardous Approval)	None 0, 10		01	01
Ex ia Ex ia IAC Ex ia for Belarus (incl. GOST Hazardous Approval)	None 00, 10		01	01
Intrinsic Safety Ex ia	None 00, 01, 02		01	01
Intrinsic Safety Ex ia	None 00, 01, 02		01	01
Intrinsic Safety Ex ia	None 00, 01, 02		01	01
<b>Integral CRT display</b>				
With integral CRT display				
With integral (touch screen) CRT display (TTC)	None 0			01



## ...Ordering information

### ...Additional ordering information for model 266GST gauge pressure transmitter

	XX	XX	XX
<b>Material Traceability</b>			
Injection-molded Di (1024-2) or process-welded parts (not for gauge)	Code 61	62	
Cast resin Di (1024-2) or process-bearing and process-welded parts (not for gauge)		74	
<b>Plug connector</b>			
Process 7-8 (Recommended for FOUNDATION Fieldbus, supplied code, without mating plug)	Code 271		63
Process M2 x 3 (Recommended for PROFIBUS DP, supplied code, without mating plug)	Code 271		64
Mating part 80 (Butt, straight) any / supplied code	Code 271		65
Mating part 80 (Butt, single arm) / supplied code	Code 271		66
Mating part 70 / supplied code	Code 271		67
Injection part M2 x 3 / Plastic, black, supplied code	Code 271		68
<b>Coupling accessories</b>			
Interface coupling and pressure test / NOT AVAILABLE WITH FOUNDATION FIELDBUS / PROFIBUS DP CODE 271			43

Note 1: Not available with sensor assemblies / overpressure limit Code C, F

Note 2: Not available with sensor assemblies / overpressure limit Code C, F, I

Note 3: Select connector with additional order code

Note 4: Only available with sensor apart limits / overpressure limit Code C, D, G, H

Note 5: Not available with Output code 2, 3

Note 6: Minor parts with factory certificate according to EN 10204

Note 7: Not available with housing material / electrical connection code C, K, L

Note 8: Not available with housing material / electrical connection code E, H

Note 9: Not available with housing material / electrical connection code E, G, K, K2

Note 10: Not available with housing material / electrical connection code E, G, K, K2

Note 11: Not available with hazardous area certification code EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ

Note 12: The ambient temperature lower limit is -33 degrees C

Note 13: The ambient temperature lower limit is -33 degrees C

Note 14: Not available with output code E

Note 15: Not available with housing code 2. Not available with hazardous area certifications except EA, EB, and EC. Not available with other hazardous area certification codes and Approvals

Note 16: Available with Output codes D any if combined with housing codes E, F

Note 17: Not available with Output code 2

Note 18: Only available with Output code 2

Note 19: Not available with Configuration codes HX, HJ, HK, HL

Note 20: Not available with Configuration codes HX, HJ, HK, HL

Note 21: Not available with Configuration codes HX, HJ, HX, HJ, HX, HJ, HX, HJ

Note 22: Not available with Configuration codes HX, HJ, HX, HJ, HX, HJ, HX, HJ

Note 23: Not available with Display code LE

Note 24: Not available with any Display codes

Note 25: Not available with Configuration codes HJ, HJ

Note 26: Not available with Auxiliary code G1

Note 27: Not available with any hazardous area certification codes EA or EH

#### Standard delivery scope (changes possible with additional ordering code)

- For standard applications (without explosion protection)
- No display, no mounting bracket, no surge protection
- Multilingual short-form operating instruction and English labeling
- Configuration with kPa and °C units
- No test, inspection, or material certificates

Unless otherwise specified prior to manufacture, the customer shall be responsible for selecting suitable gasket parts and an appropriate filling fluid in order to ensure compatibility with the measuring fluid.

Compliance with the ATEX regulation is based on recommendations MROATE / ISO 12095. Additionally, stainless steel A/D 316, A/D 316L and Hasteloy C-276 automatically meet the criteria of MROATE, provided that they also meet the criteria of MROATE.



## Ordering information

Main ordering information for model 28687 absolute pressure transmitter

Select one or more characters from each category and enter the complete catalog number.

Enter one or more codes for additional order information (if you are purchasing optional extras for each transmitter).

Base model - 1st to 5th character				28687	0	1	2	3	4	5
Absolute pressure transmitter - Base accuracy 0.04 %										
Sensor Span Limits / overpressure limit - 7th character										
03 and 04 Pa	(3 and 40 mbar, 0.03 and 40 mmHg)		0.1 Pa (0.001 bar, 0.001 psi)							
04 and 40 Pa	(40 and 400 mbar, 0.4 and 400 mmHg)		1 Pa (0.01 bar, 0.01 psi)							
003 and 004 Pa	(0.03 and 0.04 mbar, 0.3 and 0.4 mmHg)		0.01 Pa (0.0001 bar, 0.0001 psi)							
004 and 000 Pa	(0.4 and 0.04 mbar, 4.0 and 0.4 mmHg)		0.01 Pa (0.0001 bar, 0.0001 psi)							
000 and 0000 Pa	(0.0 and 0.00 mbar, 0.0 and 0.0 mmHg)		0.001 Pa (0.00001 bar, 0.00001 psi)							
000 and 00000 Pa	(0.0 and 0.000 mbar, 0.0 and 0.000 mmHg)		0.0001 Pa (0.000001 bar, 0.000001 psi)							
Diaphragm material / Filling fluid - 8th character										
Diaphragm steel (AISI 316L (1.4404))	Diaphragm (F)		0 Pa (0 bar, 0 psi)							
Diaphragm 316L (1.4404)	Diaphragm (F)		0 Pa (0 bar, 0 psi)							
Diaphragm steel (AISI 316L (1.4404))	Diaphragm + Glycerol (suited for rugged applications)		0 Pa (0 bar, 0 psi)							
Diaphragm 316L (1.4404)	Diaphragm + Glycerol (suited for rugged applications)		0 Pa (0 bar, 0 psi)							
Diaphragm 316L (1.4404) gold-plated	Diaphragm (F)		0 Pa (0 bar, 0 psi)	Code 2						
Diaphragm 316L (1.4404) gold-plated	Diaphragm + Glycerol (suited for rugged applications)		0 Pa (0 bar, 0 psi)	Code 2						
Diaphragm steel (AISI 316L (1.4404))	Diaphragm (FPC)		0 Pa (0 bar, 0 psi)							
Diaphragm 316L (1.4404)	Diaphragm (FPC)		0 Pa (0 bar, 0 psi)							
Process connection material / type - 9th character										
Diaphragm steel (AISI 316L (1.4404))	1/2 in GxRT female		0 Pa (0 bar, 0 psi)							
Diaphragm steel (AISI 316L (1.4404))	0.75 in RT/0.75 in RT		0 Pa (0 bar, 0 psi)							
Diaphragm steel (AISI 316L (1.4404))	3/4 in in front connection		0 Pa (0 bar, 0 psi)	Code 2						
Diaphragm steel (AISI 316L (1.4404))	1/2 in GxRT male		0 Pa (0 bar, 0 psi)							
Diaphragm 316L (1.4404)	1/2 in GxRT female		0 Pa (0 bar, 0 psi)							
Diaphragm 316L (1.4404)	0.75 in RT/0.75 in RT		0 Pa (0 bar, 0 psi)							
Diaphragm 316L (1.4404)	1/2 in GxRT male		0 Pa (0 bar, 0 psi)							
Output - 10th character										
None										
Housing Material / Electrical Connection - 11th character										
Aluminum alloy (DIN 17460)	1/2 in GxRT									4
Aluminum alloy (DIN 17460)	W21 x 1.5									5
Aluminum alloy (DIN 17460)	Flaring hex connector	(General purpose only)		Code 2						6
Aluminum alloy (DIN 17460)	Flareless connector	(General purpose only)		Code 2						7
Diaphragm steel (DIN 17460)	1/2 in GxRT (2nd RT required)									1
Diaphragm steel (DIN 17460)	W21 x 1.5 (2nd RT required)									2
Aluminum alloy (DIN 17460)	W21 x 1.5									3
Aluminum alloy (DIN 17460)	Flaring hex connector	(General purpose only)		Code 2						4
Aluminum alloy (DIN 17460)	Flareless connector	(General purpose only)		Code 2						5
Diaphragm steel (DIN 17460)	Flareless connector	(General purpose only)		Code 2						6
Output - 12th character										
HART digital communication and 4 to 20 mA				Code 2						1
PROBUS 16				Code 6						2
FOUNDATION Fieldbus				Code 8						3
HART digital communication and 4 to 20 mA and 0.1 to 10 Vdc with IEC 61131				Code 2						4

## ...Ordering information

Additional ordering information for model 2004ET absolute pressure transducer:

	XX	XX	XX
<b>Explosion Protection Certifications</b>			
ATEX Intrinsic Safety Ex ia	0004 71	01	
ATEX Explosion Proof Ex dG/Ex r	0004 00	02	
ATEX Intrinsic Safety Ex ic, Ex ic, Ex ic	0004 71	03	
FM Approvals (Canada) approval (M.C.A. 4.16)	0004 00	04	
FM Approvals (USA) approval (UL/CSA 4.16)	0004 00	05	
FM Approvals (USA and Canada) Intrinsic safe	0004 71	06	
FM Approvals (USA and Canada) Explosion proof	0004 00	07	
FM Approvals (USA and Canada) Non-flammable	0004 71	08	
Combined ATEX (ICEx and I) Approvals (USA and Canada)	0004 00	09	
Combined ATEX Ex ia, Ex ic, Ex ic and Ex ic, Ex ic	0004 00	10	
CCS (Intrinsic Safety) Ex ia	0004 71	11	
CCS (Explosion Proof) Ex dG/Ex r	0004 00	12	
CCS (Intrinsic Safety) Ex ic, Ex ic	0004 71	13	
Combined IEC Approvals Ex ia and Ex ic, Ex ic	0004 00	14	
Combined IEC Approvals Ex ia, Ex ic, Ex ic and Ex ic, Ex ic	0004 00	15	
IECEx (Intrinsic Safety) Ex ia, Ex ic	0004 71	16	
IECEx (Explosion Proof) Ex dG/Ex r	0004 00	17	
IECEx (Intrinsic Safety) Ex ic, Ex ic, Ex ic	0004 71	18	
Combined IECEx Ex ia, Ex ic and Ex ic, Ex ic	0004 00	19	
Combined IECEx Ex ia, Ex ic, Ex ic and Ex ic, Ex ic	0004 00	20	
<b>Other Explosion Protection Certifications</b>			
RoTR CU EAC Ex ia for Russia (incl. GOST Homologation Approval)	0004 71 10	01	
RoTR CU EAC Ex ia for Russia (incl. GOST Homologation Approval)	0004 00 10	02	
RoTR CU EAC Ex ia for Kazakhstan (incl. GOST Homologation Approval)	0004 71 11	03	
RoTR CU EAC Ex ia for Kazakhstan (incl. GOST Homologation Approval)	0004 00 11	04	
RoTR CU EAC Ex ia for Belarus (incl. GOST Homologation Approval)	0004 71 12	05	
RoTR CU EAC Ex ia for Belarus (incl. GOST Homologation Approval)	0004 00 12	06	
Integrals (Ex ia) Ex ia	0004 01 14	07	
Integrals (Ex ia) Ex ia	0004 01 14	08	
Integrals (Ex ia) Ex ia	0004 01 14	09	
Integrals (Ex ia) Ex ia	0004 01 14	10	
Integrals (Ex ia) Ex ia	0004 01 14	11	
Integrals (Ex ia) Ex ia	0004 01 14	12	
Integrals (Ex ia) Ex ia	0004 01 14	13	
Integrals (Ex ia) Ex ia	0004 01 14	14	
Integrals (Ex ia) Ex ia	0004 01 14	15	
Integrals (Ex ia) Ex ia	0004 01 14	16	
Integrals (Ex ia) Ex ia	0004 01 14	17	
Integrals (Ex ia) Ex ia	0004 01 14	18	
Integrals (Ex ia) Ex ia	0004 01 14	19	
Integrals (Ex ia) Ex ia	0004 01 14	20	
Integrals (Ex ia) Ex ia	0004 01 14	21	
Integrals (Ex ia) Ex ia	0004 01 14	22	
Integrals (Ex ia) Ex ia	0004 01 14	23	
Integrals (Ex ia) Ex ia	0004 01 14	24	
Integrals (Ex ia) Ex ia	0004 01 14	25	
Integrals (Ex ia) Ex ia	0004 01 14	26	
Integrals (Ex ia) Ex ia	0004 01 14	27	
Integrals (Ex ia) Ex ia	0004 01 14	28	
Integrals (Ex ia) Ex ia	0004 01 14	29	
Integrals (Ex ia) Ex ia	0004 01 14	30	
Integrals (Ex ia) Ex ia	0004 01 14	31	
Integrals (Ex ia) Ex ia	0004 01 14	32	
Integrals (Ex ia) Ex ia	0004 01 14	33	
Integrals (Ex ia) Ex ia	0004 01 14	34	
Integrals (Ex ia) Ex ia	0004 01 14	35	
Integrals (Ex ia) Ex ia	0004 01 14	36	
Integrals (Ex ia) Ex ia	0004 01 14	37	
Integrals (Ex ia) Ex ia	0004 01 14	38	
Integrals (Ex ia) Ex ia	0004 01 14	39	
Integrals (Ex ia) Ex ia	0004 01 14	40	
Integrals (Ex ia) Ex ia	0004 01 14	41	
Integrals (Ex ia) Ex ia	0004 01 14	42	
Integrals (Ex ia) Ex ia	0004 01 14	43	
Integrals (Ex ia) Ex ia	0004 01 14	44	
Integrals (Ex ia) Ex ia	0004 01 14	45	
Integrals (Ex ia) Ex ia	0004 01 14	46	
Integrals (Ex ia) Ex ia	0004 01 14	47	
Integrals (Ex ia) Ex ia	0004 01 14	48	
Integrals (Ex ia) Ex ia	0004 01 14	49	
Integrals (Ex ia) Ex ia	0004 01 14	50	
Integrals (Ex ia) Ex ia	0004 01 14	51	
Integrals (Ex ia) Ex ia	0004 01 14	52	
Integrals (Ex ia) Ex ia	0004 01 14	53	
Integrals (Ex ia) Ex ia	0004 01 14	54	
Integrals (Ex ia) Ex ia	0004 01 14	55	
Integrals (Ex ia) Ex ia	0004 01 14	56	
Integrals (Ex ia) Ex ia	0004 01 14	57	
Integrals (Ex ia) Ex ia	0004 01 14	58	
Integrals (Ex ia) Ex ia	0004 01 14	59	
Integrals (Ex ia) Ex ia	0004 01 14	60	
Integrals (Ex ia) Ex ia	0004 01 14	61	
Integrals (Ex ia) Ex ia	0004 01 14	62	
Integrals (Ex ia) Ex ia	0004 01 14	63	
Integrals (Ex ia) Ex ia	0004 01 14	64	
Integrals (Ex ia) Ex ia	0004 01 14	65	
Integrals (Ex ia) Ex ia	0004 01 14	66	
Integrals (Ex ia) Ex ia	0004 01 14	67	
Integrals (Ex ia) Ex ia	0004 01 14	68	
Integrals (Ex ia) Ex ia	0004 01 14	69	
Integrals (Ex ia) Ex ia	0004 01 14	70	
Integrals (Ex ia) Ex ia	0004 01 14	71	
Integrals (Ex ia) Ex ia	0004 01 14	72	
Integrals (Ex ia) Ex ia	0004 01 14	73	
Integrals (Ex ia) Ex ia	0004 01 14	74	
Integrals (Ex ia) Ex ia	0004 01 14	75	
Integrals (Ex ia) Ex ia	0004 01 14	76	
Integrals (Ex ia) Ex ia	0004 01 14	77	
Integrals (Ex ia) Ex ia	0004 01 14	78	
Integrals (Ex ia) Ex ia	0004 01 14	79	
Integrals (Ex ia) Ex ia	0004 01 14	80	
Integrals (Ex ia) Ex ia	0004 01 14	81	
Integrals (Ex ia) Ex ia	0004 01 14	82	
Integrals (Ex ia) Ex ia	0004 01 14	83	
Integrals (Ex ia) Ex ia	0004 01 14	84	
Integrals (Ex ia) Ex ia	0004 01 14	85	
Integrals (Ex ia) Ex ia	0004 01 14	86	
Integrals (Ex ia) Ex ia	0004 01 14	87	
Integrals (Ex ia) Ex ia	0004 01 14	88	
Integrals (Ex ia) Ex ia	0004 01 14	89	
Integrals (Ex ia) Ex ia	0004 01 14	90	
Integrals (Ex ia) Ex ia	0004 01 14	91	
Integrals (Ex ia) Ex ia	0004 01 14	92	
Integrals (Ex ia) Ex ia	0004 01 14	93	
Integrals (Ex ia) Ex ia	0004 01 14	94	
Integrals (Ex ia) Ex ia	0004 01 14	95	
Integrals (Ex ia) Ex ia	0004 01 14	96	
Integrals (Ex ia) Ex ia	0004 01 14	97	
Integrals (Ex ia) Ex ia	0004 01 14	98	
Integrals (Ex ia) Ex ia	0004 01 14	99	
Integrals (Ex ia) Ex ia	0004 01 14	100	



## ...Ordering information

...Additional ordering information for model 265AST absolute pressure transmitter

	03	03	03	03
<b>Accessories</b>				
Hazardous Pattern for Future	NOT AFFORDABLE WITH ANY HAZARDOUS AREA CERTIFICATION		13	
Hazardous Pattern for Hazardous	NOT AFFORDABLE WITH ANY HAZARDOUS AREA CERTIFICATION		13	
Hazardous Pattern for Exposed	NOT AFFORDABLE WITH ANY HAZARDOUS AREA CERTIFICATION		14	
CEI (Canadian Registration Number: 2544895-00)			15	
CEI (Canada)		Note 3, 12	16	
Compliance with IEC 60076-3 (2004)	NOT AFFORDABLE WITH QUARTZ REFERENCE CODE (20)	Note 3, 6	16	
American Bureau of Shipping (ABS)		Note 3, 13	16	
Vacua Regular (DIN code: 1.7) approval		Note 3, 13	16	
Common Law Approvals (DIN / ABS / UL)		Note 3, 13	16	
<b>Material Traceability</b>				
Material Certificate EN 10204-2.1 on process welded parts (not for gas rate)		Note 4		17
Test Report EN 10204-2.2 procedure drawing and process validation data (not for gas rate)				18
<b>Plug connector</b>				
Process 7-8 (Recommended for FOUNDATION Fieldbus, supplied loose, without mating plug)		Note 24		19
Process H12 (Recommended for PROFIBUS DP, supplied loose, without mating plug)		Note 24		19
Mating Mat 80 (2x), straight arm, supplied loose		Note 24		19
Mating Mat 80 (2x), angle arm, supplied loose		Note 24		19
Mating Mat 70 (supplied loose)		Note 24		19
With cable gland (20 x 1.1 threaded, cable gland, supplied loose)		Note 24		19
<b>Mounting accessories</b>				
Mounting bracket and process seal (NOT AVAILABLE WITH CEI/CSA/UL APPROVALS) (reference code 21)				21

Note 3: Not available with measuring range limits Code C, P

Note 4: Select connector with additional order code

Note 5: Not available with Order code B, E

Note 6: Minor parts with factory certificates according to EN 10204

Note 7: Not available with housing material / electrical connection code C, K, Z

Note 8: Not available with housing material / electrical connection code E, K

Note 9: Not available with housing material / electrical connection code E, C, A, K, Z

Note 10: Not available with housing material / electrical connection code E, C, Z, K, K, Z

Note 11: Not available with Hazardous Area certification code EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ

Note 12: Not available with sensor C, if calibrated at T0 higher than 2

Note 13: The ambient temperature lower limits: -55 degrees C

Note 14: The ambient temperature lower limits: -42 degrees C

Note 15: Not available with option code TE

Note 16: Not available with any Hazardous Area certification codes Ex or IIS

Standard delivery scope (changes possible with additional ordering code)

- For standard applications (without explosion protection)
- No display, no mounting bracket, no surge protection
- Multilingual short-form operating instruction and English labeling
- Configuration with kPa and °C units
- No test, inspection, or material certificates

Unless otherwise specified prior to manufacture, the customer shall be responsible for selecting suitable welded parts and an appropriate filling fluid in order to ensure compatibility with the measuring fluid.

Compliance with the IEC regulation is based on recommendations IEC 60775 / ISO 15558. Additionally, stainless steel A193 B8.7, A193 B9.1, and Hastelloy C-276 automatically meet the criteria of IEC 60775, provided that they also meet the criteria of IEC 60775.

**Trademarks**

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Notes



Notes



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