

Model 266MST Differential Model 266RST Absolute

2600T series pressure transmitters

Engineered solutions for all applications



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 control buttons on LCD indicator

New 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 (1oo1) and SIL3 (1oo2) applications

Full compliance with Pressure Equipment Directive (PED) category III

Model 266MST Differential Model 266RST Absolute

Functional specification

Measuring range limits and span limits

Sensor code	Upper measuring range limit (URL)	Measuring range lower limit (LRL)		Minimum measuring span	
		Model 266MST Differential pressure	Model 266RST Absolute pressure	Model 266MST Differential pressure	Model 266RST Absolute pressure
A	1 kPa 10 mbar 4 inH ₂ O	-1 kPa -10 mbar -4 inH ₂ O	–	0.05 kPa 0.5 mbar 0.2 inH ₂ O	–
C	6 kPa 60 mbar 24 inH ₂ O	-6 kPa -60 mbar -24 inH ₂ O	–	0.2 kPa 2 mbar 0.8 inH ₂ O	–
F	40 kPa 400 mbar 160 inH ₂ O	-40 kPa -400 mbar -160 inH ₂ O	0 abs	0.4 kPa 4 mbar 1.6 inH ₂ O	2 kPa 20 mbar 15 mm Hg
L	250 kPa 2500 mbar 1000 inH ₂ O	-250 kPa -2500 mbar -1000 inH ₂ O	0 abs	2.5 kPa 25 mbar 10 inH ₂ O	12.5 kPa 125 mbar 93.76 mm Hg
N	2000 kPa 20 bar 290 psi	-2000 kPa -20 bar -290 psi	0 abs	20 kPa 0.2 bar 2.9 psi	100 kPa 1 bar 14.5 psi
R	10000 kPa 100 bar 1450 psi	-10000 kPa -100 bar -1450 psi	–	100 kPa 1 bar 14.5 psi	–

Second sensor of 266MST differential pressure transmitter for absolute pressure measurement

Measuring range: 41 MPa, 410 bar, 5945 psi
(2 MPa, 20 bar, 290 psi for sensor code A)

Span limits

Maximum span = URL
(for differential pressure transmitter, can be adjusted up to \pm URL (TD = 0.5) within the measuring range limits)

Important

To optimize performance characteristics, it is recommended that you select the transmitter sensor code with the lowest turn down ratio.

Recommendation for square root function

At least 10 % of upper measuring range limit (URL)

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 if:

- Set span \geq minimum span

Damping

Configurable time constant between 0 and 60 s.
This is in addition to the sensor response time.

Warm-up time

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

Insulation resistance

>100 M Ω at 500 V DC (between terminals and ground).

Operating limits

Pressure limits

Gauge pressure limits

Transmitters for differential pressure, models 266MST, can operate without damage within the following gauge pressure limits:

Sensors	Filling fluid	Gauge pressure limits
Sensor A	Silicone oil	0.5 kPa abs., 5 mbar abs., 0.07 psia and 2 MPa, 20 bar, 290 psi
Sensor A	Inert (Galden)	17.5 kPa abs., 175 mbar abs., 2.5 psia and 2 MPa, 20 bar, 290 psi
Sensors C to R	Silicone oil	0.5 kPa abs., 5 mbar abs., 0.07 psia and 16 MPa, 160 bar, 2320 psi, or 25 MPa, 250 bar, 3625 psi, or 41 MPa, 410 bar, 5945 psi or 60 MPa, 600 bar, 8700 psi depending on code variant selected ¹
Sensors C to R	Inert (Galden)	17.5 kPa abs., 175 mbar abs., 2.5 psia and 16 MPa, 160 bar, 2320 psi, or 25 MPa, 250 bar, 3625 psi, or 41 MPa, 410 bar, 5945 psi or 60 MPa, 600 bar, 8700 psi depending on code variant selected ¹

¹ 1 MPa, 10 bar, 145 psi for Kynar PVDF

Transmitters for absolute pressure, models 266RST, can operate without damage within the following gauge pressure limits:

Sensors	Filling fluid	Gauge pressure limits
Sensors F to N	Silicone oil	0 abs. and 16 MPa, 160 bar, 2320 psi, or 25 MPa, 250 bar, 3625 psi, or 41 MPa, 410 bar, 5945 psi

Static pressure limits

Transmitters for differential pressure, models 266MST, can operate within the specifications with the following limit values:

Sensors	Filling fluid	Static pressure limits
Sensor A	Silicone oil	3.5 kPa abs., 35 mbar abs., 0.5 psia and 2 MPa, 20 bar, 290 psi
Sensor A	Inert (Galden)	17.5 kPa abs., 175 mbar abs., 2.5 psia and 2 MPa, 20 bar, 290 psi
Sensors C to R	Silicone oil	3.5 kPa abs., 35 mbar abs., 0.5 psia and 16 MPa, 160 bar, 2320 psi, or 25 MPa, 250 bar, 3625 psi, or 41 MPa, 410 bar, 5945 psi or 60 MPa, 600 bar, 8700 psi depending on code variant selected ¹
Sensors C to R	Inert (Galden)	17.5 kPa abs., 175 mbar abs., 2.5 psia and 16 MPa, 160 bar, 2320 psi, or 25 MPa, 250 bar, 3625 psi, or 41 MPa, 410 bar, 5945 psi or 60 MPa, 600 bar, 8700 psi depending on code variant selected ¹

¹ 1 MPa, 10 bar, 145 psi for Kynar PVDF

Transmitters for absolute pressure, models 266RST, can operate within the specifications with the following limit values:

Sensors	Filling fluid	Static pressure limits
Sensors F to N	Silicone oil	0 abs. and 16 MPa, 160 bar, 2320 psi, or 25 MPa, 250 bar, 3625 psi, or 41 MPa, 410 bar, 5945 psi

Test pressure

The transmitters can withstand a pressure test with the following line pressure without leaking:
 266MST, up to 1.5 x nominal pressure (static pressure limit) at both sides simultaneously.
 266RST, up to 1 x nominal pressure (static pressure limit)
 Meets hydrostatic test requirements of ANSI/ISA-S 82.03.

Model 266MST Differential

Model 266RST Absolute

Temperature limits °C (°F)

Environment

This is the operating temperature.

Model 266MST, 266RST	Ambient temperature limits
Silicone oil	-40 ... 85 °C (-40 ... 185 °F)
Inert (Galden)	-40 ... 85 °C (-40 ... 185 °F)
Maximum working pressure 60 MPa / 600 bar / 8700 psi	-20 ... 85 °C (-4 ... 185 °F)

Important

For applications in explosive environments, the temperature range specified on the certificate / approval applies dependent upon the degree of protection sought.

Model 266MST, 266RST	Ambient temperature limits
Integrated LCD display	-40 ... 85 °C (-40 ... 185 °F)
Viton gasket	-20 ... 85 °C (-4 ... 185 °F)
PTFE gaskets	-20 ... 85 °C (-4 ... 185 °F)

Below -20 °C (-4 °F) and above 70 °C (158 °F), it may no longer be possible to read the LCD display clearly.

Process

Model 266MST	Process temperature limits
Silicone oil	-40 ... 121 °C (-40 ... 250 °F) ¹
Inert (Galden)	-40 ... 121 °C (-40 ... 250 °F) ²
Viton gaskets	-20 ... 121 °C (-4 ... 250 °F)
PTFE gaskets	-20 ... 85 °C (-4 ... 185 °F)
Maximum working pressure 60 MPa / 600 bar / 8700 psi	-20 ... 85 °C (-4 ... 185 °F)

- 1 85 °C (185 °F) for applications under 10 kPa, 100 mbar abs., 1.45 psia up to 3.5 kPa abs., 35 mbar abs., 0.5 psia
- 2 85 °C (185 °F) for applications below atmospheric pressure up to 17.5 kPa abs., 175 mbar abs., 2.5 psia

Model 266RST	Process temperature limits
Silicone oil	-40 ... 121 °C (-40 ... 250 °F) ¹
Viton gaskets	-20 ... 121 °C (-4 ... 250 °F)
PTFE gaskets	-20 ... 85 °C (-4 ... 185 °F)

- 1 85 °C (185 °F) for applications below 10 kPa, 100 mbar abs., 1.45 psia

Storage

Model 266MST, 266RST	Storage temperature range
Storage temperature	-50 ... 85 °C (-58 ... 185 °F)
Integrated LCD display	-40 ... 85 °C (-40 ... 185 °F)

	Humidity during storage
Relative humidity	Up to 75 %

Limits for environmental effects

Electromagnetic compatibility (EMC)

Meets requirements of EN 61326 and Namur NE-21

Oversvoltage strength (with surge protection):

4 kV (in acc. with IEC 1000-4-5 EN 61000-4-5)

Pressure Equipment Directive (PED)

Instruments with a maximum operating pressure of 25 MPa, 250 bar, 3,625 psi, or 41 MPa, 410 bar, 5,945 psi or 60 MPa, 600 bar, 8700 psi, comply with Directive 97/23/EC Category III, module H.

Humidity

Relative humidity: Up to 100 %.

Condensation, icing: Permissible.

Vibration resistance

Acceleration up to 2 g at frequencies of up to 1,000 Hz (according to IEC 60068-2-6).

Shock resistance

Acceleration: 50 g

Duration: 11 ms

(according to IEC 60068-2-27).

Humid and dusty atmospheres (degree of protection)

The transmitter is dust and sand-proof and protected against immersion effects as defined by EN 60529 (1989) to IP 67 (IP 68 on request), by NEMA to 4X, or by JIS C0920. IP 65 with Harting Han plug connector.

Hazardous atmospheres

With or without integral LCD display

"Intrinsic Safety" type of protection:

Approval acc. to ATEX Europa (code E1) and IEC Ex (code E8)

II 1 G Ex ia IIC T6/T5/T4 and

II 1/2 G Ex ia IIC T6/T5/T4; IP67.

II 1 D Ex iaD 20 T85 °C and

II 1/2 D Ex iaD 21 T85 °C; IP67.

NEPSI China (Code EY)

Ex ia IIC T4~ T6, DIP A20TA, T4~T6.

"Flameproof Enclosure" type of protection:

Approval acc. to ATEX Europa (code E2) and IEC Ex (code E9)

II 1/2 G Ex d IIC T6 and

II 1/2 D Ex tD A21 T85 °C (-50 °C ≤ Ta ≤ +75 °C); IP67.

NEPSI China (Code EZ)

Ex d IIC T6, DIP A21TA, T6.

"nL" type of protection:

ATEX Europa (code E3) and IEC Ex (code ER)

Declaration of conformity

II 3 G Ex nL IIC T6/T5/T4 and

II 3 D Ex tD A22 T85 °C; IP67.

NEPSI China (code EY) declaration of conformity

Ex nL IIC T4~ T6, DIP A22TA, T6.

FM approvals for USA (code E6) and

FM approvals for Canada (code E4):

- Explosionproof (US): Class I, Div. 1, Groups A, B, C, D
 - Explosionproof (Canada): Class I, Div. 1, Groups B, C, D
 - Dust ignitionproof : Class II, Div. 1, Groups E, F, G
 - Suitable for: Class II, Div. 2, Groups F, G; Class III, Div. 1, 2
 - Nonincendive: Class I, Div. 2, Groups A, B, C, D
 - Intrinsically safe: Class I, II, III, Div. 1, Groups A, B, C, D, E, F, G
Class I, Zone 0 AEx ia IIC T6/T4, Zone 0 (FM US)
Class I, Zone 0 Ex ia IIC T6/T4, Zone 0 (FM Canada)
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ATEX combined (code EW = E1 + E2 + E3), (code E7 = E1 + E2)

ATEX combined and FM approvals (code EN = EW + E4 + E6)

Combined FM approvals for USA and Canada

- Intrinsic safety (code EA)
 - Flameproof enclosure (code EB)
 - Non-incendive (code EC)
-

IEC combined (code EH = E8 + E9), (code EI = E8 + E9 + ER)

NEPSI combined (code EP = EY + EZ), (code EQ = EY + EZ + ES)

– GOST (Russia), GOST (Kazakhstan), Inmetro (Brazil) based on ATEX

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

Model 266MST Differential Model 266RST Absolute

Electrical data and options

HART digital communication and 4 ... 20 mA output

Power supply

The transmitter operates from 10.5 ... 42 V DC with no load and is protected against reversed polarity (additional loads enable operation above 42 V DC).

During use in Ex ia zones and in other intrinsically safe applications, the power supply must not exceed 30 V DC.

Minimum operating voltage with "surge protection" option:
12.3 V DC

Ripple

Max. 20 mV over a 250 Ω load as per HART specifications.

Load limitations

Total loop resistance at 4 ... 20 mA and HART:

$$R \text{ (k}\Omega\text{)} = \frac{\text{Voltage supply} - \text{Minimum operating voltage (V DC)}}{22 \text{ mA}}$$

A minimum resistance of 250 Ω is required for HART communication.

Displays (optional)

Integrated LCD display (code L1)

Widescreen LCD display, 128 x 64 pixels, 52.5 x 27.2 mm (2.06 x 1.07 in.) dot matrix. Multilanguage.

Four keys for device configuration and management.

Easy setup for quick commissioning.

Customized visualizations which the user can select.

Totalized and actual value flow indication.

The display can also be used to show static pressure, sensor temperature, and diagnostics messages, as well as make configuration settings.

Integrated LCD display with TTG operation (code L5)

As with the integrated LCD display above, but featuring an innovative TTG (through-the-glass) keypad which can be used to activate the device's configuration and management menus without having to remove the transmitter housing cover. The TTG keys are protected against accidental activation.



M10142

Fig. 1: Integrated LCD display with TTG operation

Surge protection (optional)

Up to 4 kV

- Voltage: 1.2 μs rise time / 50 μs delay time at half value
- Current: 8 μs rise time / 20 μs delay time at half value

Output signal

Two-wire output 4 ... 20 mA, can be selected by user: linear or square root output signal, characteristic with exponents 3/2 or 5/2, square root for bidirectional flow, linearization table with 22 points (i.e., for level measurements in horizontal, cylindrical containers and spherical vessels).

HART communication provides digital process variables superimposed on the 4 ... 20 mA signal (protocol according to Bell 202 FSK standard).

Output current limits (according to NAMUR standard)

Overload condition

- Lower limit: 3.8 mA (configurable from 3.8 ... 4 mA)
- Upper limit: 20.5 mA (configurable from 20 ... 21 mA)

Alarm current

- Minimum alarm current: 3.6 mA (configurable from 3.6 ... 4 mA)
- Maximum alarm current: 21 mA (configurable from 20 ... 22 mA)

Default setting: High Alarm Current

Process diagnostics (PILD)

Plugged impulse line detection (PILD) generates a warning via HART communication. The device can also be configured to drive the analog output signal to the "alarm current".

FOUNDATION fieldbus output

Model

LINK MASTER

Link Active Scheduler (LAS) capability implemented.

Manufacturer code: 000320 (hex)

Device type code: 0007 (hex)

Power supply

The transmitter operates from 9 ... 32 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 17.5 V DC (FISCO certification) according to FF-816.

Current consumption

Operating (quiescent): 15 mA

Fault current limit value: 20 mA max.

Output signal

Physical layer in accordance with IEC 11582 / EN 611582; transmission using Manchester II modulation at 31.25 kbit/s.

Function blocks / cycle time

- 3 enhanced analog input blocks / 25 ms max. (each)
- 1 extended 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 with plugged impulse line detection
- 1 manufacturer-specific local display transducer block

Number of link objects

35

Number of VCRs

35

Output interface

FOUNDATION fieldbus digital communication protocol in accordance with standard H1; complies with specification V. 1.7.

FF registration in progress.

Integrated LCD display

Widescreen LCD display, 128 x 64 pixels, 52.5 x 27.2 mm (2.06 x 1.07 in.) dot matrix. Multilanguage. Four keys for device configuration and management.

Easy setup for quick commissioning.

Customized visualizations which the user can select.

Totalized and actual value flow indication.

The display can also be used to show static pressure, sensor temperature, and diagnostics messages, as well as make configuration settings.

Transmitter interference mode

The output signal is "frozen" at the last valid value in the event of significant transmitter interference, once this interference is detected by the self-diagnostics function (which also displays error states).

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 network safety.

Model 266MST Differential

Model 266RST Absolute

PROFIBUS PA output

Model

Pressure transmitter, compliant with Profile 3.0.1
ID number: 3450 (hex)

Power supply

The transmitter operates from 9 ... 32 V DC, regardless of polarity, with or without surge protection.
The power supply must not exceed 17.5 V DC when used in EEx ia zones.
Intrinsically safe installation in accordance with FISCO model.

Current consumption

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

Output signal

Physical layer in accordance with IEC 1158-2 / EN 61158-2;
transmission using Manchester II modulation at 31.25 kbit/s.

Output interface

PROFIBUS PA communication according to PROFIBUS DP
50170 Part 2 / DIN 19245 Parts 1-3

Output cycle time

25 ms

Data blocks

266MST:

- 1 "physical block"
- 3 "analog input" blocks
- 1 "pressure transducer block" with calibration
- 1 "advanced diagnostics transducer block" with plugged impulse line detection
- 1 "transducer block" for local display

266RST:

- 1 "physical block"
- 3 "analog input" blocks
- 1 "pressure transducer block" with calibration
- 1 "transducer block" for local display

Integrated LCD display

Widescreen LCD display, 128 x 64 pixels,
52.5 x 27.2 mm (2.06 x 1.07 in.) dot matrix. Multilanguage.
Four keys for device configuration and management.
Easy setup for quick commissioning.
Customized visualizations which the user can select.
Actual value flow indication.
The display can also be used to show static pressure, sensor temperature, and diagnostics messages, as well as make configuration settings.

Transmitter interference mode

In the event of significant transmitter interference that is detected by the self-diagnostics function, the output signal can be put into defined states that the user is able to select: safe value, last valid value, or calculated value.
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 network safety.

Measuring accuracy

Reference conditions according to IEC 60770.

Ambient temperature 20 °C (68 °F), rel. humidity 65 %, atmospheric pressure 1,013 hPa (1,013 mbar), position of measuring cell (separation diaphragm areas) vertical, measuring span based on zero position, separation diaphragms made from stainless steel AISI 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 OPTIMUM MEASURING ACCURACY, IT IS RECOMMENDED THAT YOU SELECT THE SENSOR CODE WHICH WILL PROVIDE THE LOWEST TD VALUE.

Dynamic response (according to IEC 61298-1)

Sensors	Time constant (63.2 % of total step response)
Sensors F to R	150 ms
Sensor C	400 ms
Sensor A	1000 ms
Reaction time for all sensors	40 ms

Response time (total) = reaction time + time constant

Measuring error

% of calibrated span, consisting of terminal-based non-linearity, hysteresis, and non-repeatability.

In the case of fieldbus devices, SPAN refers to the analog input function block output scale range.

Model	Sensor	For TD range	
266MST	A to R	From 1:1 to 10:1	± 0.04 %
	A	From 10:1 to 20:1	±(0.04 + 0.005 x TD - 0.05) %
	C	From 10:1 to 30:1	±(0.04 + 0.005 x TD - 0.05) %
	F to R	From 10:1 to 100:1	±(0.04 + 0.005 x TD - 0.05) %
266MST	F to N	From 1:1 to 10:1	±0.025 % (optional)
266RST	F to N	From 1:1 to 10:1	± 0.04 %
	F to N	From 10:1 to 20:1	±(0.04 + 0.005 x TD - 0.05) %

Model	Pabs sensor (second sensor for 266MST) Range 41 MPa, 410 bar, 5,945 psi, (2 MPa, 20 bar, 290 psi for dp sensor code A)		
266MST	C to R		80 kPa, 800 mbar, 321 inH ₂ O
	A		1,2 kPa, 12 mbar, 4,8 inH ₂ O

Ambient temperature

Per 20 K change within the limits of -40 to 85 °C (per 36 °F change within the limits of -40 to 185 °F):

Model	Sensor	For TD range	
266MST	A	10:1	± (0.06 % URL + 0.045 % span)
	C to R	10:1	± (0.03 % URL + 0.045 % span)
266RST	F to N	10:1	± (0.05 % URL + 0.08 % span)

In the event of a change to the ambient temperature of -10 °C to 60 °C (14 to 140 °F):

Model	Sensor	For TD range	
266MST	A	10:1	± (0.12 % URL + 0.05 % span)
	C to R	10:1	± (0.06 % URL + 0.05 % span)
266RST	F to N	10:1	± (0.1 % URL + 0.1 % span)

Per 10 K change within the limits of -40 to -10 °C or 60 to 85 °C

(per 18 °F change within the limits of -40 to 14 °F or 140° to 185 °F):

Model	Sensor	For TD range	
266MST	A	10:1	± (0.05 % URL + 0.03 % span)
	C to R	10:1	± (0.025 % URL + 0.03 % span)
266RST	F to N	10:1	± (0.05 % URL + 0.05 % span)

Model 266MST Differential

Model 266RST Absolute

Model 266MST / Absolute pressure sensor

For the entire temperature range of 125 K, within the limits of -40 °C to 85 °C:

— zero signal

For sensors C to R:

40 kPa, 400 mbar, 160 inH₂O

(absolute pressure sensor 41 MPa, 410 bar, 5,945 psi)

For sensor A:

2 kPa, 20 mbar, 8 inH₂O

(absolute pressure sensor 2 MPa, 20 bar, 290 psi)

— measuring span

For sensors C to R:

0.3 MPa, 3 bar, 43.5 psi

(absolute pressure sensor 41 MPa, 410 bar, 5,945 psi)

For sensor A:

15 kPa, 150 mbar, 60 inH₂O

(absolute pressure sensor 2 MPa, 20 bar, 290 psi)

Static pressure

(zero signal errors may be calibrated out at operating pressure)

for operating pressure up to 41 MPa, 410 bar, 5,945 psi

Measuring range	Sensor A	Sensors C, F, L, N	Sensor R
Zero signal error	Up to 2 bar: 0.05 % URL	Up to 100 bar: 0.05 % URL	Up to 100 bar: 0.1 % URL
	> 2 bar: 0.05 % URL/bar	> 100 bar: 0.05 % URL/100 bar	> 100 bar: 0.1 % URL/100 bar
Span error	Up to 2 bar: 0.05 % span	Up to 100 bar: 0.05 % span	Up to 100 bar: 0.1 % span
	> 2 bar: 0.05 % span/bar	> 100 bar: 0.05 % span/100 bar	> 100 bar: 0.1 % span/100 bar

Power supply

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

Load

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

Electromagnetic field

Meets all requirements of EN 61326 and NAMUR NE-21.

Common-mode interference

No influence from 100 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 position shift of up to 0.35 kPa (3.5 mbar, 1.4 in H₂O), which can be corrected by making an appropriate zero position adjustment. There is no effect on the measuring span.

Long-term stability

Sensors C to R:

± 0.15 % of URL over a period of 10 years

(± 0.05 % URL/year)

Sensor A:

± 0.3 % of URL over a period of 10 years (± 0.2 % URL/year)

Total performance

Similar to DIN 16086

Temperature change in the range -10 to 60 °C (14 to 140 °F), only 266MST: up to 10 MPa, 100 bar, 1,450 psi static pressure

Model	Sensor	For TD range	Total performance (with 0.04 % measuring error)
266MST	C to R	1:1	± 0.137 % of calibrated span
266RST	F to N	1:1	± 0.2 % of calibrated span

The total performance includes the measuring error (non-linearity including hysteresis and non-repeatability), the thermal change in the ambient temperature as regards the zero signal and measuring span, as well as (in the case of 266MST only) the effect of the static pressure on the zero signal and measuring span.

$$E_{perf} = \sqrt{(E_{\Delta TZ} + E_{\Delta TS})^2 + E_{\Delta PZ}^2 + E_{\Delta PS}^2 + E_{lin}^2}$$

E_{perf} = Total performance

$E_{\Delta TZ}$ = Effect of the ambient temperature on the zero signal

$E_{\Delta TS}$ = Effect of the ambient temperature on the measuring span

$E_{\Delta PZ}$ = Effect of the static pressure on the zero signal
(only 266MST)

$E_{\Delta PS}$ = Effect of the static pressure on the measuring span
(only 266MST)

E_{lin} = Measuring error

Technical specification

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

Materials

Process separation diaphragms¹

Stainless steel 1.4435 (AISI 316L)
Hastelloy C276; Monel 400; Monel 400, gold-plated; tantalum

Process flanges, adapters, screw plugs, and vent / drain valves¹

Stainless steel 1.4404 / 1.4408 (AISI 316L)
Hastelloy C276; Monel 400; Kynar
(flange made from stainless steel AISI 316L with PVDF insert)

Blind flange (reference side of 266RST)

Stainless steel 1.4404 (AISI 316L)

Sensor filling fluid

Silicone oil, inert fill (Galden)

Mounting bracket²

Galvanized C steel with chromium passivation; stainless steel AISI 316L.

Gaskets¹

Viton (FPM); Buna (NBR); EPDM; PTFE or FEP-coated Viton (only for PVDF Kynar process connection); graphite

Sensor housing

Stainless steel 1.4404 (AISI 316L)

Screws and nuts

Screws and nuts made from stainless steel AISI 316, class A4-70 resp. class A2-70 as per UNI 7323 (ISO 3506) in compliance with NACE MR0175 Class II.

Electronics housing and cover

Aluminum alloy (copper content ≤ 0.3 %) with baked epoxy finish (color: RAL 9002); stainless steel AISI 316L.

O-ring cover

Buna N (Perbunan)

Local zero position, measuring span, and write protection settings

Fiber glass-reinforced polyphenylene oxide (removable)

Plates

Stainless steel AISI 316 for transmitter name plate, certification plate, optional measuring point tag plate / settings plate attached to electronics housing, and optional tag plate with customer data. All plates laser-labeled.

¹ Transmitter parts that come into contact with fluid

² U-bolt material: stainless steel AISI 400;
screw material: high-strength alloy steel or stainless steel AISI 316

Model 266MST Differential

Model 266RST Absolute

Calibration

Standard:

- 0 to measuring range upper limit, for ambient temperature and atmospheric pressure

Optional:

- To specified measuring span

Optional extras

Mounting bracket

For vertical and horizontal 60 mm (2 in.) pipes or wall mounting

LCD display

Can be rotated in 90° increments into 4 positions

Additional tag plates

Code I2: For measuring point tag (up to 30 characters) and calibration specifications (up to 30 characters: lower and upper value plus unit), attached to transmitter housing.
Code I1: For customer data (4 lines with 30 characters each), wired to transmitter housing.

Surge protector

Cleaning stage for oxygen applications (O2)

Certificates (test, design, characteristics, material traceability)

Name plate and operating instruction language

Communication plug connectors

Process connections

Flanges: 1/4-18 NPT on the process axis

Adapters: 1/2-14 NPT on the process axis

Center distance (266MST):

54 mm (2.13 in.) between flanges; 51 mm, 54 mm, or 57 mm (2.01 in., 2.13 in., or 2.24 in.) between adapters

Fastening screw threads:

7/16-20 UNF with 41.3 mm center distance

or with process flange code C:

M10 with operating pressures of up to 16 MPa, 160 bar, 2,320 psi

M12 with higher operating pressures of up to 41 MPa, 410 bar, 6,000 psi

Electrical connections

Two 1/2-14 NPT or M20 x 1.5 threaded bores for cable glands, directly on housing.

Special communication connector (on request)

- HART: Straight or angled Harting Han 8D connector and one mating plug.
- FOUNDATION fieldbus, PROFIBUS PA: M12 x 1 or 7/8 in. plug

Terminals

HART version: Three connections for signal / external display, for wire cross sections of up to 2.5 mm² (14 AWG), and connection points for testing and communication purposes
Fieldbus versions: Two signal connections (bus connection) for wire cross sections of up to 2.5 mm² (14 AWG)

Grounding

Internal and external ground terminals are provided for 6 mm² (10 AWG) wire cross sections.

Mounting position

The transmitters can be installed in any position.

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

Weight

(without options)

Approximately 3.7 kg (8.2 lb); add 1.5 kg (3.3 lb) for stainless steel housing.

Add 650 g (1.5 lb) for packaging

Packaging

Carton with dimensions of approx.

28 x 23 x 24 cm (11 x 9 x 9 in.)

Configuration

Transmitter with HART communication and 4 ... 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. 8 characters)	Blank
Optional LCD display	PV in kPa; output in mA and in percent as bargraph

Any or all 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 DTM for 266 models. Specifications concerning the flange type and materials, O-ring and vent / drain valve materials, and additional device options are stored in the transmitter database.

Customer-specific configuration (option N6)

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

Description	16 alphanumeric characters
Supplementary information	32 alphanumeric characters
Date	Day, month, year

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

Pa, kPa, MPa
inH₂O @ 4 °C, mmH₂O @ 4 °C, psi
inH₂O @ 20 °C, ftH₂O @ 20 °C, mmH₂O @ 20 °C
inHg, mmHg, Torr
g/cm², kg/cm², atm
mbar, bar

These and others are available for PROFIBUS and FOUNDATION fieldbus.

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 (LRL)
Output scale 100 %	Measuring range upper limit (URL)
Output	Linear
Upper alarm limit	Measuring range upper limit (URL)
Upper warning limit	Measuring range upper limit (URL)
Lower warning limit	Measuring range lower limit (LRL)
Lower alarm limit	Measuring range lower limit (LRL)
Hysteresis limit value	0.5 % of output scaling
PV filter time	0 s
Address (set using local control buttons)	126
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 266 models. Specifications concerning the flange type and materials, O-ring and vent / drain valve materials, and additional device options are stored in the transmitter database.

Customer-specific configuration (option N6)

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

Model 266MST Differential

Model 266RST Absolute

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 (LRL)
Output scale 100 %	Measuring range upper limit (URL)
Output	Linear
Upper alarm limit	Measuring range upper limit (URL)
Upper warning limit	Measuring range upper limit (URL)
Lower warning limit	Measuring range lower limit (LRL)
Lower alarm limit	Measuring range lower limit (LRL)
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 materials, O-ring and vent / drain valve materials, and additional device options are stored in the transmitter database.

Customer-specific configuration (option N6)

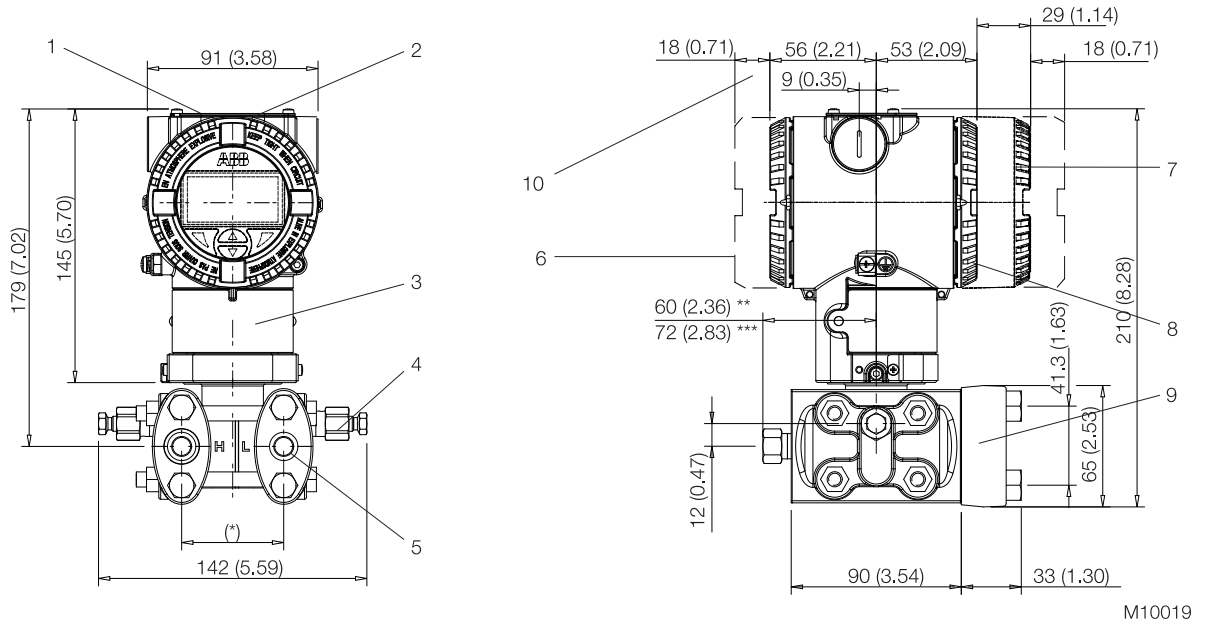
The following information can be specified in addition to the standard configuration parameters:

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

Mounting dimensions

(not design data) - dimensions in mm (inch)

Transmitter with barrel housing - Horizontal flanges



M10019

Fig. 2: Dimensions - Barrel housing

1 Settings | 2 Name plate | 3 Certification plate | 4 Vent / drain valve | 5 Process connection |
6 Terminal side | 7 LCD display housing cover | 8 Electronics side | 9 Process flange adapter | 10 Space for removing the cover

* 54 (2.13) mm (inch) via 1/4 - 18 NPT process flanges

51 (2.01), 54 (2.13), or 57 (2.24) mm (inch) via 1/2 - 14 NPT adapter flanges;

Note: Process connection and gasket groove comply with IEC 61518. Thread for attaching adapter flanges or other components (e.g., manifold) to process flange: 7/16 - 20 UNF

** With screw plug

*** With vent / drain valve

Model 266MST Differential Model 266RST Absolute

Transmitter with mounting bracket, for vertical or horizontal mounting on 60 mm (2 in.) pipe

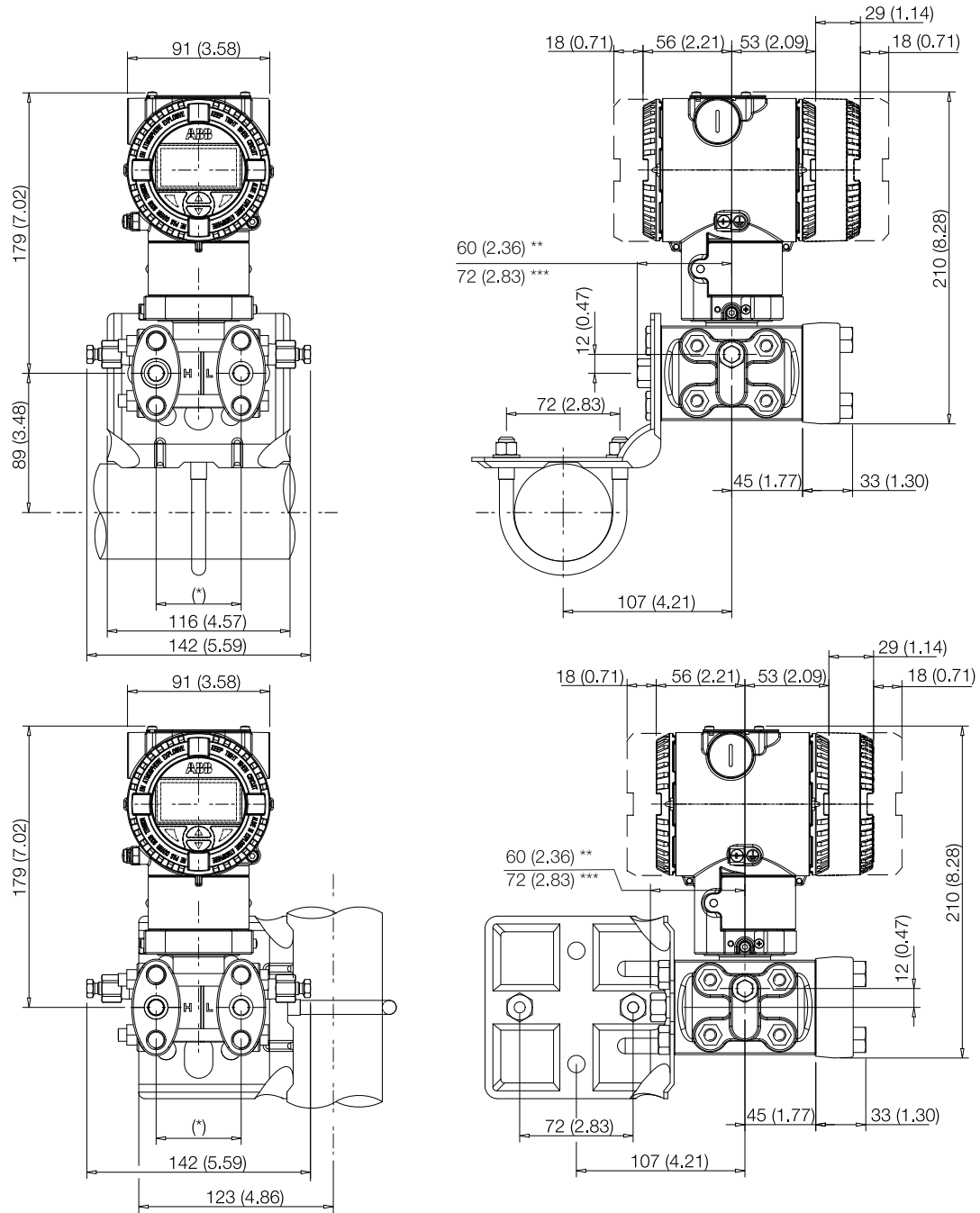


Fig. 3: Pipe mounting - Barrel housing

* 54 (2.13) mm (in.) via 1/4 - 18 NPT process flanges

51 (2.01), 54 (2.13), or 57 (2.24) mm (in.) via 1/2 - 14 NPT adapter flanges.

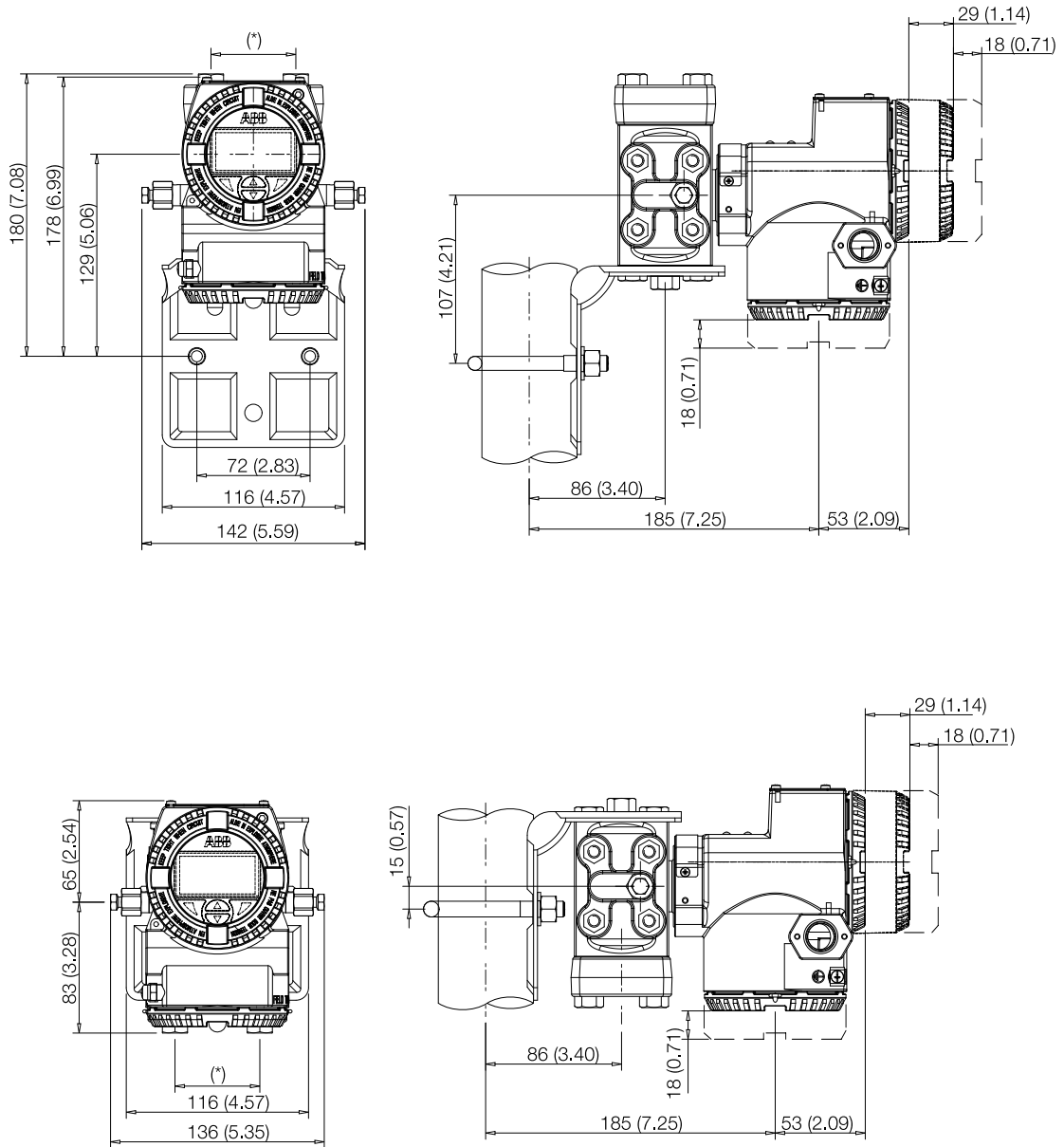
Note: Process connection and gasket groove comply with IEC 61518. Thread for attaching adapter flanges or other components (e.g., manifold) to process flange: 7/16 -20 UNF.

** With screw plug

*** With vent / drain valve

M10020

Transmitter with DIN aluminum housing - horizontal flanges with mounting bracket for vertical or horizontal mounting on 60 mm (2 in.) pipe



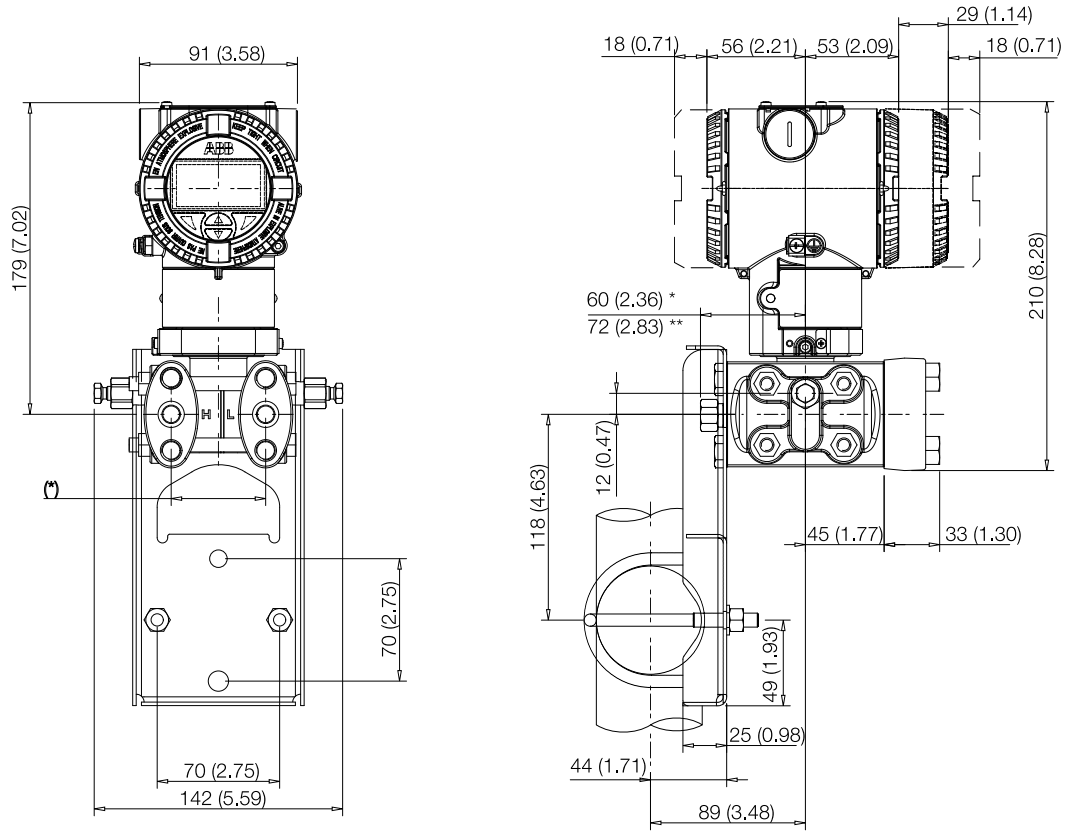
M10021

Fig. 4: Pipe mounting - DIN housing

* 54 (2.13) mm (in.) via 1/4 - 18 NPT process flanges
 51 (2.01), 54 (2.13), or 57 (2.24) mm (in) via 1/2 - 14 NPT adapter flanges.
 Note: Process connection and gasket groove comply with IEC 61518. Thread for attaching adapter flanges or other components (e.g., manifold) to process flange: 7/16 -20 UNF.

Model 266MST Differential Model 266RST Absolute

Transmitter with flat bracket, for vertical or horizontal mounting on 60 mm (2 in.) pipe



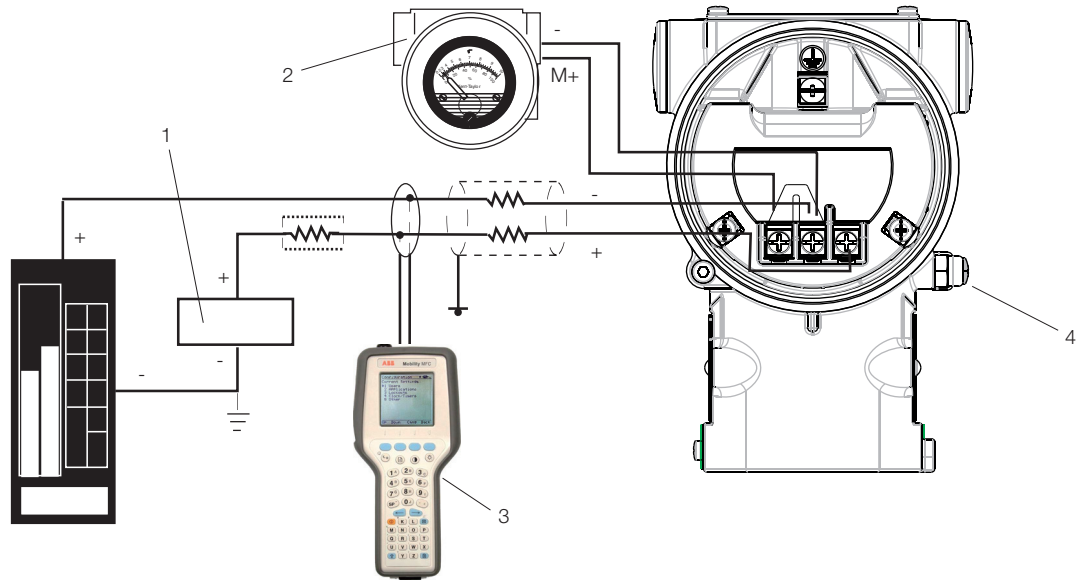
M10022

Fig. 5: Flat bracket for pipe mounting - Barrel housing

- * With screw plug
- ** With vent / drain valve

Electrical connections

HART version



M10023

Fig. 6: Electrical connections - HART version

1 Power supply | 2 Remote display | 3 Handheld terminal | 4 External ground connection

The HART handheld terminal can be connected to any wiring termination point in the loop, provided there is a minimum resistance of $250\ \Omega$ between the handheld terminal and transmitter power supply. If this is less than $250\ \Omega$, additional resistance needs to be incorporated in order to enable communication.

Model 266MST Differential Model 266RST Absolute

Fieldbus versions



Fig. 7: Plug connector - fieldbus versions

Pin assignment (plug)		
Pin number	FOUNDATION fieldbus	PROFIBUS PA
1	DATA -	DATA +
2	DATA +	GROUND
3	SHIELD	DATA -
4	GROUND	SHIELD

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

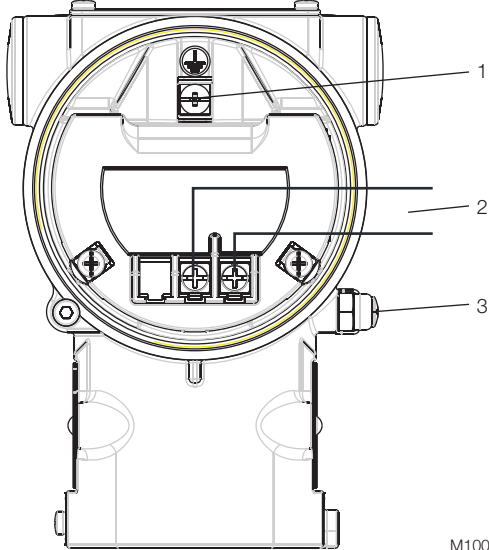
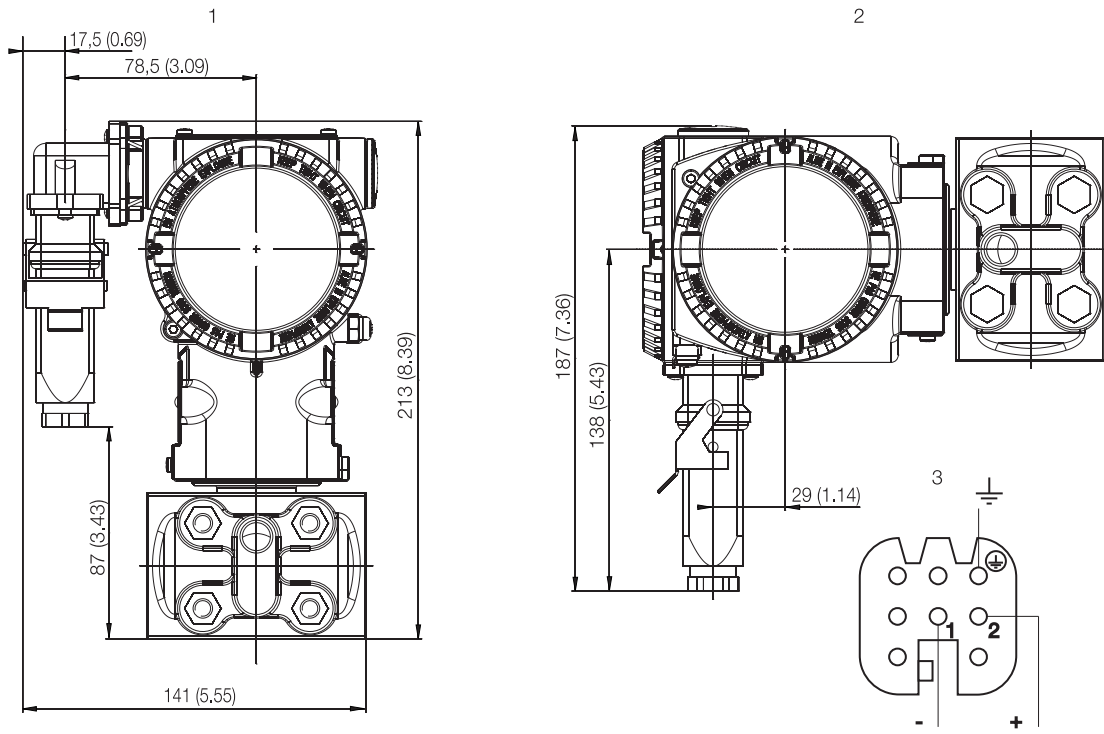


Fig. 8: Standard terminal strip
1 Internal ground terminal | 2 Fieldbus line (regardless of polarity) | 3 External ground terminal

M10024

HART version



M10008

Fig. 9: Harting Han connection – HART version

1 Barrel housing | 2 DIN housing | 3 Harting Han 8D (8U) socket insert for mating plug supplied (view of sockets)

Model 266MST Differential Model 266RST Absolute

Ordering information

Basic ordering information model 266MST Differential Pressure Transmitter

Select one character or set of characters from each category and specify complete catalog number.

Refer to additional ordering information and specify one or more codes for each transmitter if additional options are required.

Base model – 1 st to 6 th characters				266MST	X	X	X	X	X	X	X
Differential pressure transmitter, base accuracy 0.04 %											
Sensor Span Limits – 7th character											Continued see next page
0.05 and 1 kPa	0.5 and 10 mbar	0.2 and 4 in. H2O	(Note: 1)	A							
0.2 and 6 kPa	2 and 60 mbar	0.8 and 24 in. H2O		C							
0.4 and 40 kPa	4 and 400 mbar	1.6 and 160 in. H2O		F							
2.5 and 250 kPa	25 and 2500 mbar	10 and 1000 in. H2O		L							
20 and 2000 kPa	0.2 and 20 bar	2.9 and 290 psi		N							
100 and 10000 kPa	1 and 100 bar	14.5 and 1450 psi		R							
Maximum Working Pressure – 8th character											
1 MPa	10 bar	145 psi	(Only available with Process Flanges code P)		Y						
2 MPa	20 bar	290 psi	(Only available with Sensor Span Limits code A)		W						
16 MPa	160 bar	2320 psi	(Not available with Sensor Span Limits code A)		C						
25 MPa	250 bar	3625 psi	(Not available with Sensor Span Limits code A)		Z						
41 MPa	410 bar	5945 psi	(Not available with Sensor Span Limits code A)		T						
60 MPa	600 bar	8700 psi	(Not available with Sensor Span Limits code A)		A						
Diaphragm Material / Fill Fluid – 9th character											
AISI 316L SST (1.4435)		Silicone oil		NACE	S						
Hastelloy C-276		Silicone oil		NACE	K						
Monel 400		Silicone oil		NACE	M						
Monel 400, gold-plated		Silicone oil		NACE	V						
Tantalum		Silicone oil		NACE	T						
AISI 316L SST (1.4435)		Inert fluid – Galden	(Suitable for oxygen applications)	NACE	A						
Hastelloy C-276		Inert fluid – Galden	(Suitable for oxygen applications)	NACE	F						
Monel 400		Inert fluid – Galden	(Suitable for oxygen applications)	NACE	C						
Monel 400 gold-plated		Inert fluid – Galden	(Suitable for oxygen applications)	NACE	Y						
Tantalum		Inert fluid – Galden	(Suitable for oxygen applications)	NACE	D						
Process Flanges and Adapters Material / Connection – 10th character											
AISI 316L SST (1.4404 / 1.4408)		1/4-18 NPT female direct	(horizontal connection)	NACE	A						
AISI 316L SST (1.4404 / 1.4408)		1/2-14 NPT female through adapter	(horizontal connection)	NACE	B						
AISI 316L SST (1.4404 / 1.4408)		1/4-18 NPT female direct (DIN 19213)	(horizontal connection)	NACE	C						
Hastelloy C-276		1/4-18 NPT female direct	(horizontal connection)	NACE	D						
Hastelloy C-276		1/2-14 NPT female through adapter	(horizontal connection)	NACE	E						
Monel 400		1/4-18 NPT female direct	(horizontal connection)	NACE	G						
Monel 400		1/2-14 NPT female through adapter	(horizontal connection)	NACE	H						
Kynar (PVDF)		1/4-18 NPT female direct (MWP = 1 MPa)	(insert on side of flange)		P						
AISI 316L SST (1.4404 / 1.4408)		1/4-18 NPT female direct	(vertical connection)	NACE	Q						

Basic ordering information model 266MST Differential Pressure Transmitter				X	X	X
Bolts Material / Gaskets Material – 11 th character						
AISI 316L SST / Viton	(Suitable for oxygen applications)	NACE	3			
AISI 316L SST / PTFE (Max. 25 MPa / 250 bar / 3626 psi)		NACE	4			
AISI 316L SST / EPDM		NACE	5			
AISI 316L SST / Perbunan		NACE	6			
AISI 316L SST / Graphite		NACE	7			
AISI 316L SST / FEP (Only available with Kynar [PVDF] process connection)			T			
Housing Material / Electrical Connection – 12 th character						
Aluminium alloy (Barrel type)	1/2-14 NPT					A
Aluminium alloy (Barrel type)	M20 x 1.5					B
Aluminium alloy (Barrel type)	Harting Han connector	(General purpose only)	(Note: 2)			E
Aluminium alloy (Barrel type)	Fieldbus connector	(General purpose only)	(Note: 2)			G
AISI 316L SST (Barrel type)	1/2-14 NPT					S
AISI 316L SST (Barrel type)	M20 x 1.5					T
Aluminium alloy (DIN type)	M20 x 1.5					J
Aluminium alloy (DIN type)	Harting Han connector	(General purpose only)	(Note: 2)			K
Aluminium alloy (DIN type)	Fieldbus connector	(General purpose only)	(Note: 2)			W
AISI 316L SST (Barrel type)	Fieldbus connector	(General purpose only)	(Note: 2)			Z
Output – 13 th character						
HART digital communication and 4 ... 20 mA (No additional options)						H
HART digital communication and 4 ... 20 mA (Options requested by "Additional ordering code")						1
PROFIBUS PA (No additional options)						P
PROFIBUS PA (Options requested by "Additional ordering code")						2
FOUNDATION Fieldbus (No additional options)						F
FOUNDATION Fieldbus (Options requested by "Additional ordering code")						3
HART digital communication and 4 ... 20 mA, SIL2 and SIL3-certified to IEC 61508 (No additional options)						T
HART digital communication and 4 ... 20 mA, SIL2 and SIL3-certified to IEC 61508 (Options requested by "Additional ordering code")						8

Model 266MST Differential

Model 266RST Absolute

Additional ordering information for model 266MST

Add one or more 2-digit code(s) after the basic ordering information to select all required options.

	XX	XX	XX
Accuracy			
Base accuracy 0.025 %			D1
Vent and Drain Valve Material / Position			
AISI 316L SST (1.4404)			V1
AISI 316L SST (1.4404)			V2
AISI 316L SST (1.4404)			V3
Hastelloy C-276			V4
Hastelloy C-276			V5
Hastelloy C-276			V6
Monel 400			V7
Monel 400			V8
Monel 400			V9
Explosion Protection Certification			
ATEX Group II Category 1 GD - Intrinsic Safety Ex ia			E1
ATEX Group II Category 1/2 GD - Flameproof Ex d			E2
ATEX Group II Category 3 GD - Type of protection "N" Ex nL design compliance			E3
FM approval (Canada, CSA) Class I, II, Div. 1, 2, Group A to F (XP, IS, NI)			
(Only available with 1/2-14 NPT or M20 electrical connections)			E4
FM approval (USA) Class I, II, Div. 1, 2, Group A to F (XP, IS, NI)			
(Only available with 1/2-14 NPT or M20 electrical connections)			E6
Combined ATEX Ex ia and Ex d			E7
Combined ATEX - Intrinsic Safety, Flameproof and Type „N“			EW
FM approvals (USA and Canada) Intrinsic Safety			EA
FM approvals (USA and Canada) Explosion-proof			EB
FM approvals (USA and Canada) Non-incendive			EC
Combined ATEX, FM and CSA (Only available with 1/2-14 NPT or M20 electrical connections)			EN
IEC Approval Group II Category 1 GD - Intrinsic Safety Ex ia			E8
IEC Approval Group II Category 1/2 GD - Flameproof Ex d			E9
IEC Approval Group II Category 3 GD - Type of protection "N" Ex nL design compliance			ER
Combined IEC Approval Ex ia and Ex d			EH
Combined IEC Approval Ex ia, Ex d and Ex nL			EI
NEPSI IIC Ex ia			EY
NEPSI IIC Ex d			EZ
NEPSI IIC Ex nL			ES
Combined NEPSI Ex ia and Ex d			EP
Combined NEPSI Ex ia, Ex d and Ex nL			EQ

Additional ordering information for model 266MST		XX	XX	XX	XX	XX	XX
Other Explosion Protection Certifications							
GOST Russia - Ex ia	(Note: 6)	W1					
GOST Russia - Ex d	(Note: 6)	W2					
GOST Kazakhstan - Ex ia	(Note: 6)	W3					
GOST Kazakhstan - Ex d	(Note: 6)	W4					
Inmetro Brazil - Ex ia	(Note: 6)	W5					
Inmetro Brazil - Ex d	(Note: 6)	W6					
Inmetro Brazil - Ex nL	(Note: 6)	W7					
Combined Inmetro (Brazil) - Intrinsic Safety, Flameproof and Type N	(Note: 6)	W8					
Integral LCD							
With integral LCD display						L1	
TTG (Through The Glass) integral digital LCD display						L5	
Mounting Bracket Shape / Material							
For pipe mounting / Carbon steel (Not suitable for AISI housing)							B1
For pipe mounting / AISI 316 SST (1.4401) (Not suitable for AISI housing)							B2
For wall mounting / Carbon steel (Not suitable for AISI housing)							B3
For wall mounting / AISI 316 SST (1.4401) (Not suitable for AISI housing)							B4
Flat type bracket / AISI 316 SST (1.4401) (Suitable for AISI housing)							B5
Surge / Transient Protector							
With integral surge / transient protector							S2
Operating Instruction Language							
German							M1
Italian							M2
Spanish							M3
French							M4
English							M5
Chinese							M6
Swedish							M7
Label and Tag Language							
German							T1
Italian							T2
Spanish							T3
French							T4

Model 266MST Differential

Model 266RST Absolute

Additional ordering information for model 266MST	XX	XX	XX	XX	XX
Additional Tag Plate					
Supplemental wired-on stainless steel plate (4 lines, 30 characters each)	I1				
Laser printing of tag on stainless steel plate	I2				
Configuration					
Standard pressure = in. H ₂ O / psi at 68 °F		N2			
Standard pressure = in. H ₂ O / psi at 39.2 °F		N3			
Standard pressure = in. H ₂ O / psi at 20 °C		N4			
Standard pressure = in. H ₂ O / psi at 4 °C		N5			
Custom		N6			
Preparation Procedure					
Oxygen service cleaning, P _{max} = 12 MPa (120 bar, 1740 psi) or maximum working pressure (lower value), T _{max} = 60 °C / 140 °F (Only available with inert fill / viton gasket)				P1	
Hydrogen service preparation				P2	
Certificates					
Inspection certificate 3.1 acc. EN 10204 of calibration					C1
Inspection certificate 3.1 acc. EN 10204 of cleanliness stage					C3
Inspection certificate 3.1 acc. EN 10204 of helium leakage test of the sensor module					C4
Inspection certificate 3.1 acc. EN 10204 of pressure test					C5
Declaration of compliance with the order 2.1 acc. EN 10204 for instrument design					C6
Overfill protection approval					C9
Separate calibration record					CC
Printed record of configured data of transmitter					CG
PMI test on wetted parts					CT
Approvals					
GOST Russia - Without Explosion Protection					Y1
GOST Kazakhstan - Without Explosion Protection					Y2
GOST Ukraine - Without Explosion Protection					Y3
GOST Belarus - Without Explosion Protection					Y4
DNV approval					YA
Lloyd approval					YB
Approval for Custody Transfer					YC
Bureau Veritas approval					YD

Additional ordering information for model 266MST		XX	XX	XX
Material Traceability				
Certificate of compliance with the order 2.1 acc. EN 10204 for process wetted parts		H1		
Inspection certificate 3.1 acc. EN 10204 of pressure-bearing and process wetted parts with analysis certificates as material verification (Note: 7)		H3		
Material certificate 2.2 acc. EN 10204 for the pressure bearing and process wetted parts		H4		
Connector				
Fieldbus 7/8 in. (Recommended for FOUNDATION Fieldbus, supplied loose without female plug)			U1	
Fieldbus M12 x 1 (Recommended for PROFIBUS PA, supplied loose without female plug)			U2	
Harting Han 8D (8U), straight entry			U3	
Harting Han 8D (8U), angle entry			U4	
Harting Han 7D			U5	
With cable gland M20 x 1.5			U8	
Housing Accessories				
Integral mount manifold				A1
With mounted integral orifice				A2
Valve manifold + integral orifice				A3
Four-wire add-on unit: Power supply 24 V UC / Output signal 0 ... 20 mA (Note: 8)				A4
Four-wire add-on unit: Power supply 24 V UC / Output signal 4 ... 20 mA (Note: 8)				A6
Four-wire add-on unit: Power supply 230 V AC / Output signal 0 ... 20 mA (Note: 8)				A5
Four-wire add-on unit: Power supply 230 V AC / Output signal 4 ... 20 mA (Note: 8)				A7
Plug upside welded				A8
Plug bottom welded				A9

Note 1: Not available with Diaphragm Material code M, V, T, C, Y, D

Note 2: Select connector with additional ordering code

Note 3: Only available with Sensor Span Limits code F, L, N

Note 4: Not available with Housing Material / Electrical Connection code E, G, K, W, Z

Note 5: Not available with Housing Material / Electrical Connection code E, G, J, K, W, Z

Note 6: Not available with Explosion Protection Certification code E1, E2, E3, E4, E6, E8, E9, EA, EB, EC, EN, ER, EW, E7, EH, EI, EY, EZ, ES, EP, EQ

Note 7: Minor parts with factory certificate acc. EN 10204

Note 8: Only available with Housing Material / Electrical Connection code J (DIN housing)

Standard delivery scope (changes possible with additional ordering code)

- Adapters supplied loose
- Sealing plugs for horizontal connection flanges on the process axis; not for PVDF Kynar insert or for vertical connection flanges (no vent / drain valves)
- For standard applications (without explosion protection)
- No display, no mounting bracket, no surge protection
- Multilanguage 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 parts that make contact with the medium and appropriate filling liquids in order to ensure compatibility with the relevant measuring medium. Compliance with the NACE regulation is based on recommendations MR0175 / ISO 15156. Additionally, stainless steel AISI 316 / AISI 316L and Hastelloy C-276 automatically meet the criteria of MR0103, provided that they also meet the criteria of MR0175.

Model 266MST Differential

Model 266RST Absolute

Basic ordering information model 266RST Absolute Pressure Transmitter

Select one character or set of characters from each category and specify complete catalog number.

Refer to additional ordering information and specify one or more codes for each transmitter if additional options are required.

Base model – 1 st to 6 th characters	266RST	X	X	X	X	X	X	X
Absolute pressure transmitter, base accuracy 0.04 %								
Sensor Span Limits – 7th character								Continued on next Page
2 and 40 kPa 20 and 400 mbar 8 and 160 in. H2O 15 and 300 mm Hg							F	
12.5 and 250 kPa 125 and 2500 mbar 50 and 1000 in. H2O 95 and 1875 mm Hg							L	
100 and 2000 kPa 1 and 20 bar 15 and 290 psi							N	
Maximum Working Pressure – 8th character								
16 MPa 160 bar 2320 psi							C	
25 MPa 250 bar 3625 psi							Z	
41 MPa 410 bar 5945 psi							T	
Diaphragm Material / Fill Fluid – 9th character								
Hastelloy C-276 / Inert fluid - Galden (Suitable for oxygen applications)							NACE	
Hastelloy C-276 / Silicone oil							NACE	K
Process Flanges and Adapters Material / Connection – 10th character								
AISI 316L SST (1.4404 / 1.4408) 1/4-18 NPT female direct (horizontal connection)							NACE	A
AISI 316L SST (1.4404 / 1.4408) 1/2-14 NPT female through adapter (horizontal connection)							NACE	B
AISI 316L SST (1.4404 / 1.4408) 1/4-18 NPT female direct (vertical connection)							NACE	Q
Bolts Material / Gaskets Material – 11th character								
AISI 316L SST / Viton (Suitable for oxygen applications)							NACE	3
AISI 316L SST / PTFE (Max. 25 MPa / 250 bar / 3625 psi)							NACE	4
AISI 316L SST / EPDM							NACE	5
AISI 316L SST / Perbunan							NACE	6
AISI 316L SST / Graphite							NACE	7

Basic ordering information model 266RST Absolute Pressure Transmitter				X	X
Housing material / Electrical connection – 12th character					
Aluminium alloy (Barrel type)	1/2-14 NPT			A	
Aluminium alloy (Barrel type)	M20 x 1.5			B	
Aluminium alloy (Barrel type)	Harting Han connector	(General purpose only)	(Note: 1)	E	
Aluminium alloy (Barrel type)	Fieldbus connector	(General purpose only)	(Note: 1)	G	
AISI 316L SST (Barrel type)	1/2-14 NPT			S	
AISI 316L SST (Barrel type)	M20 x 1.5			T	
Aluminium alloy (DIN type)	M20 x 1.5			J	
Aluminium alloy (DIN type)	Harting Han connector	(General purpose only)	(Note: 1)	K	
Aluminium alloy (DIN type)	Fieldbus connector	(General purpose only)	(Note: 1)	W	
AISI 316L SST (Barrel type)	Fieldbus connector	(General purpose only)	(Note: 1)	Z	
Output – 13th character					
HART digital communication and 4 ... 20 mA (No additional options)				H	
HART digital communication and 4 ... 20 mA (Options requested by "Additional ordering code")				1	
PROFIBUS PA (No additional options)				P	
PROFIBUS PA (Options requested by "Additional ordering code")				2	
FOUNDATION Fieldbus (No additional options)				F	
FOUNDATION Fieldbus (Options requested by "Additional ordering code")				3	
HART digital communication and 4 ... 20 mA, SIL2 and SIL3-certified in acc. with IEC 61508 (No additional options)				T	
HART digital communication and 4 ... 20 mA, SIL2 and SIL3-certified in acc. with IEC 61508 (Options requested by "Additional ordering code")				8	

Model 266MST Differential

Model 266RST Absolute

Additional ordering information for model 266RST

Add one or more 2-digit code(s) after the basic ordering information to select all required options.

	XX	XX	XX
Vent and Drain Valve Material / Position			
AISI 316L SST (1.4404) On process axis NACE	V1		
AISI 316L SST (1.4404) On flanges side top NACE	V2		
AISI 316L SST (1.4404) On flanges side bottom NACE	V3		
Explosion Protection Certification			
ATEX Group II Category 1 GD - Intrinsic Safety Ex ia (Note: 2)			E1
ATEX Group II Category 1/2 GD - Flameproof Ex d (Note: 3)			E2
ATEX Group II Category 3 GD - Type of protection "N" Ex nL design compliance (Note: 2)			E3
FM approval (Canada, CSA) Class I, II, Div. 1, 2, Group A to F (XP, IS, NI) (Only available with 1/2-14 NPT or M20 electrical connections) (Note: 3)			E4
FM approval (USA) Class I, II, Div. 1, 2, Group A to F (XP, IS, NI) (Only available with 1/2-14 NPT or M20 electrical connections) (Note: 3)			E6
Combined ATEX Ex ia and Ex d (Note: 3)			E7
Combined ATEX - Intrinsic Safety, Flameproof and Type „N“ (Note: 3)			EW
FM approvals (USA and Canada) Intrinsic Safety (Only available with 1/2-14 NPT or M20 electrical connections) (Note: 2)			EA
FM approvals (USA and Canada) Explosion-proof (Only available with 1/2-14 NPT or M20 electrical connections) (Note: 3)			EB
FM approvals (USA and Canada) Non-incendive (Only available with 1/2-14 NPT or M20 electrical connections) (Note: 2)			EC
Combined ATEX, FM and CSA (Only available with 1/2-14 NPT or M20 electrical connections) (Note: 3)			EN
IEC Approval Group II Category 1 GD - Intrinsic Safety Ex ia (Note: 2)			E8
IEC Approval Group II Category 1/2 GD - Flameproof Ex d (Note: 3)			E9
IEC Approval Group II Category 3 GD - Type of protection "N" Ex nL design compliance (Note: 2)			ER
Combined IEC Approval Ex ia and Ex d (Note: 3)			EH
Combined IEC Approval Ex ia, Ex d and Ex nL (Note: 3)			EI
NEPSI IIC Ex ia (Note: 2)			EY
NEPSI IIC Ex d (Note: 3)			EZ
NEPSI IIC Ex nL (Note: 2)			ES
Combined NEPSI Ex ia and Ex d (Note: 3)			EP
Combined NEPSI Ex ia, Ex d and Ex nL (Note: 3)			EQ
Other Explosion Protection Certifications			
GOST Russia - Ex ia (Note: 4)			W1
GOST Russia - Ex d (Note: 4)			W2
GOST Kazakhstan - Ex ia (Note: 4)			W3
GOST Kazakhstan - Ex d (Note: 4)			W4
Inmetro Brazil - Ex ia (Note: 4)			W5
Inmetro Brazil - Ex d (Note: 4)			W6
Inmetro Brazil - Ex nL (Note: 4)			W7
Combined Inmetro (Brazil) - Intrinsic Safety, Flameproof and Type N (Note: 4)			W8

Additional ordering information for model 266RST	XX	XX	XX	XX	XX	XX
Integral LCD						
With integral LCD display	L1					
TTG (Through The Glass) integral digital LCD display	L5					
Mounting Bracket Shape / Material						
For pipe mounting / Carbon steel (Not suitable for AISI housing)	B1					
For pipe mounting / AISI 316 SST (1.4401) (Not suitable for AISI housing)	B2					
For wall mounting / Carbon steel (Not suitable for AISI housing)	B3					
For wall mounting / AISI 316 SST (1.4401) (Not suitable for AISI housing)	B4					
Flat type bracket / AISI 316 SST (1.4401) (Not suitable for AISI housing)	B5					
Surge / Transient Protector						
With integral surge / transient protector			S2			
Operation Instruction Language						
German				M1		
Italian				M2		
Spanish				M3		
French				M4		
English				M5		
Chinese				M6		
Swedish				M7		
Label and Tag Language						
German						T1
Italian						T2
Spanish						T3
French						T4
Additional Tag Plate						
Supplemental wired-on stainless steel plate (4 lines, 30 characters each)						I1
Laser printing of tag on stainless steel plate						I2

Model 266MST Differential

Model 266RST Absolute

Additional ordering information for model 266RST	XX	XX	XX	XX	XX
Configuration					
Standard pressure = in. H ₂ O / psi at 68 °F	N2				
Standard pressure = in. H ₂ O / psi at 39.2 °F	N3				
Standard pressure = in. H ₂ O / psi at 20 °C	N4				
Standard pressure = in. H ₂ O / psi at 4 °C	N5				
Custom	N6				
Preparation Procedure					
Oxygen service cleaning, P _{max} = 12 MPa (120 bar, 1740 psi) or maximum working pressure (lower value), T _{max} = 60 °C / 140 °F (Only available with inert fill / viton gasket)					P2
Hydrogen measurement					P2
Certificates					
Inspection certificate 3.1 acc. EN 10204 of calibration					C1
Inspection certificate 3.1 acc. EN 10204 of cleanliness stage					C3
Inspection certificate 3.1 acc. EN 10204 of helium leakage test of the sensor module					C4
Inspection certificate 3.1 acc. EN 10204 of pressure test					C5
Declaration of compliance with the order 2.1 acc. EN 10204 for instrument design					C6
Separate calibration record					CC
Printed record of configured data of transmitter					CG
PMI test on wetted parts					CT
Approvals					
GOST Russia - Without Explosion Protection					Y1
GOST Kazakhstan - Without Explosion Protection					Y2
GOST Ukraine - Without Explosion Protection					Y3
GOST Belarus - Without Explosion Protection					Y4
DNV approval					YA
Lloyd approval					YB
Approval for Custody Transfer					YC
Bureau Veritas approval					YD
Material certification					
Certificate of compliance with the order 2.1 acc. EN 10204 for process wetted parts					H1
Inspection certificate 3.1 acc. EN 10204 of pressure-bearing and process wetted parts with analysis certificates as material verification (Note: 5)					H3
Material certificate 2.2 acc. EN 10204 for the pressure bearing and process wetted parts					H4

Additional ordering information for model 266RST	XX	XX
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Connector		
Fieldbus 7/8 in. (Recommended for FOUNDATION Fieldbus, supplied loose, without female plug)	U1	
Fieldbus M12 x 1 (Recommended for PROFIBUS PA, supplied loose, without female plug)	U2	
Harting Han 8D (8U), straight entry	U3	
Harting Han 8D (8U), angle entry	U4	
Harting Han 7D	U5	
With cable gland M20 x 1.5	U8	

Housing Accessories		
Integral mount manifold		A1
Four-wire accessory unit: Power supply 24 V UC / Output signal 0 ... 20 mA	(Note: 6)	A4
Four-wire accessory unit: Power supply 24 V UC / Output signal 4 ... 20 mA	(Note: 6)	A6
Four-wire accessory unit: Power supply 230 V AC / Output signal 0 ... 20 mA	(Note: 6)	A5
Four-wire accessory unit: Power supply 230 V AC / Output signal 4 ... 20 mA	(Note: 6)	A7
Plug upside welded		A8
Plug bottom welded		A9

- Note 1: Select connector with additional ordering code
- Note 2: Not available with Housing Material / Electrical Connection code E, G, K, W, Z
- Note 3: Not available with Housing Material / Electrical Connection code E, G, J, K, W, Z
- Note 4: Not available with Explosion Protection Certification code E1, E2, E3, E4, E6, E8, E9, EA, EB, EC, EN, ER, EW, E7, EH, EI, EY, EZ, ES, EP, EQ
- Note 5: Minor parts with factory certificate acc. EN 10204
- Note 6: Only available with Housing Material / Electrical Connection code J (DIN housing)

Standard delivery scope (changes possible with additional ordering code)

- Adapters supplied loose
- Sealing plug for horizontal connection flange on the process axis; no vent / drain valve
- For standard applications (without explosion protection)
- No display, no mounting bracket, no surge protection
- Multilanguage 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 parts that make contact with the medium and appropriate filling liquids in order to ensure compatibility with the relevant measuring medium. Compliance with the NACE regulation is based on recommendations MR0175 / ISO 15156. Additionally, stainless steel AISI 316 / AISI 316L and Hastelloy C-276 automatically meet the criteria of MR0103, provided that they also meet the criteria of MR0175.

Contact us

ABB Ltd.

Process Automation

Howard Road, St. Neots
Cambridgeshire, PE19 8EU
UK

Tel: +44 (0)1480 475321

Fax: +44 (0)1480 217948

ABB Inc.

Process Automation

125 E. County Line Road
Warminster PA 18974
USA

Tel: +1 215 674 6000

Fax: +1 215 674 7183

ABB Automation Products GmbH

Process Automation

Schillerstr. 72
32425 Minden
Germany

Tel: +49 551 905-534

Fax: +49 551 905-555

www.abb.com

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