

266 GSH/ 266 ASH DATASHEET

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Model 266GSH Gauge Model 266ASH Absolute

Measurement made easy

Engineered solutions for all applications



Base accuracy

- from 0.06 % of calibrated span

Reliable sensing system coupled with very latest digital technologies

- provides large turn down ratio up to 100:1

Comprehensive sensor choice

- optimize in-use total performance and stability

10-year stability

- 0.15 % of URL

Flexible configuration facilities

- provided locally via local LCD keypad

New TTG (Through-The-Glass) keypad technology

- allows quick and easy local configuration without opening the cover, even in explosion proof environments

IEC 61508 certification

- version for SIL2 (1oo1) and SIL3 (1oo2) applications

Full compliance with PED Category III

Model 266GSH Gauge

Model 266ASH Absolute

Functional Specifications

Range and span limits

Sensor Code	Upper Range	Lower Range Limit (LRL)	Minimum span	
	Limit (URL)	266GSH (Δ)	266GSH	266ASH
C	6 kPa	–6 kPa	0.2 kPa	0.3 kPa
	60 mbar	–60 mbar	2 mbar	3 mbar
	24 inH2O	–24 inH2O	0.8 inH2O	2.25 mmHg
F	40 kPa	–40 kPa	0.4 kPa	2 kPa
	400 mbar	–400 mbar	4 mbar	20 mbar
	160 inH2O	–160 inH2O	1.6 inH2O	15 mmHg
L	250 kPa	0 abs	2.5 kPa	12.5 kPa
	2500 mbar		25 mbar	125 mbar
	1000 inH2O		10 inH2O	93.8 mmHg
D	1000 kPa	0 abs	10 kPa	50 kPa
	10 bar		0.1 bar	0.5 bar
	145 psi		1.45 psi	7.25 psi
U	3000 kPa	0 abs	30 kPa	150 kPa
	30 bar		0.3 bar	1.5 bar
	435 psi		4.35 psi	21.7 psi
R	10000 kPa	0 abs	100 kPa	
	100 bar		1 bar	
	1450 psi		14.5 psi	
V	60000 kPa	0 abs	600 kPa	
	600 bar		6 bar	
	8700 psi		87 psi	
Z	105000 kPa	0.07 kPa abs (§)	10500 kPa	
	1050 bar	0.7 mbar abs (§)	105 bar	
	15225 psi	0.5 mmHg (§)	1522 psi	

(Δ) Lower Range Limit (LRL) for 266ASH is 0 abs for all ranges.

Span limits

Maximum span = URL

IT IS RECOMMENDED TO SELECT THE TRANSMITTER SENSOR CODE PROVIDING THE TURNDOWN VALUE AS LOWEST AS POSSIBLE TO OPTIMIZE PERFORMANCE CHARACTERISTICS.

Zero suppression and elevation

Zero and span can be adjusted to any value within the range limits detailed in the table as long as:

- calibrated span ≥ minimum span

Damping

Selectable time constant : between 0 and 60 s

This is in addition to sensor response time.

Turn on time

Operation within specification in less than 10 s with minimum damping.

Insulation resistance

> 100 MΩ at 500 V DC (terminals to earth)

Operative limits

Pressure limits:

Overpressure limits

Without damage to the transmitter

Sensors	Overpressure limits
Sensor C, F	0 absolute and 1 MPa, 10 bar, 145 psi
Sensor L	0 absolute and 0.5 MPa, 5 bar, 72.5 psi
Sensor D	0 absolute and 2 MPa, 20 bar, 290 psi
Sensor U	0 absolute and 6 MPa, 60 bar, 870 psi
Sensor R	0 absolute and 20 MPa, 200 bar, 2900 psi
Sensor V	0 absolute and 90 MPa, 900 bar, 13050 psi
Perfluoroelastomer gasket	0 absolute and 0.6 MPa abs, 6 bar abs, 87 psia @ $T \geq -15^\circ\text{C}$ (5°F); 0 absolute and 0.18 MPa abs, 1.8 bar abs, 26 psia @ $T \geq -25^\circ\text{C}$ (-13°F)

Sensors	Connection	Overpressure limits
Sensor Z	F250C	0.07 kPa abs, 0.7 mbar abs, 0.5 mmHg and 157.5 MPa, 1575 bar, 22837 psi
Sensor Z	1/4 - 18 NPT	0.07 kPa abs, 0.7 mbar abs, 0.5 mmHg and 135 MPa, 1350 bar, 19575 psi

Proof pressure

The transmitter can be exposed without leaking to line pressure of up to the following values:

Sensors	Overpressure limits
Sensor C, F	0 absolute and 1 MPa, 10 bar, 145 psi
Sensor L	0 absolute and 0.5 MPa, 5 bar, 72.5 psi
Sensor D	0 absolute and 2 MPa, 20 bar, 290 psi
Sensor U	0 absolute and 6 MPa, 60 bar, 870 psi
Sensor R	0 absolute and 20 MPa, 200 bar, 2900 psi
Sensor V	0 absolute and 90 MPa, 900 bar, 13050 psi
Sensor Z 1/4 NPT connection	210.5 MPa, 2105 bar, 30522 psi
Sensor Z F250C connection	239,7 MPa, 2397 bar, 34763 psi
Perfluoroelastomer gasket	0 absolute and 0.6 MPa abs, 6 bar abs, 87 psia @ $T \geq -15^\circ\text{C}$ (5°F); 0 absolute and 0.18 MPa abs, 1.8 bar abs, 26 psia @ $T \geq -25^\circ\text{C}$ (-13°F)

Meet ANSI/ISA-S 82.03 hydrostatic test requirements.

Temperature limits $^\circ\text{C}$ ($^\circ\text{F}$) :

Ambient

is the operating temperature

Models 266GSH - 266ASH	Ambient temperature limits
Silicone oil	-40 and 85°C (-40 and 185°F)
Inert (Galden)	-40 and 85°C (-40 and 185°F)
White oil	-6 and 85°C (21 and 185°F)
Sensor Z without filling	-40 and 85°C (-40 and 185°F)

For Hazardous Atmosphere applications see the temperature range specified on the certificate/approval relevant to the aimed type of protection

Models 266GSH - 266ASH	Ambient temperature limits
LCD integral display	-40 and 85°C (-40 and 185°F)
Viton gasket	-20 and 85°C (-4 and 185°F)
Perfluoroelastomer gasket (see also section Pressure limits)	-25 resp. -15 and 80°C (-13 resp. 5 and 176°F)

LCD display may not be clearly readable below -20°C (-4°F) or above $+70^\circ\text{C}$ ($+158^\circ\text{F}$)

Process

Models 266GSH - 266ASH	Process temperature limits
Silicone oil	-50 and 121°C (-58 and 250°F)
Inert (Galden)	-40 and 121°C (-40 and 250°F)
White oil	-6 and 121°C (21 and 250°F)
Sensor Z without filling	-40 and 121°C (-40 and 250°F)
Viton gasket	-20 and 121°C (-4 and 250°F)
Perfluoroelastomer gasket (see also section Pressure limits)	-25 resp. -15 and 80°C (-13 resp. 5 and 176°F)

Storage

Models 266GSH - 266ASH	Storage temperature limits
Storage limits	-50 and 85°C (-58 and 185°F)
White oil	-6 and 85°C (21 and 185°F)
LCD integral display	-40 and 85°C (-40 and 185°F)

Model 266GSH Gauge

Model 266ASH Absolute

Environmental limits

Electromagnetic compatibility (EMC)

Comply with EN 61326 and NAMUR NE 21 option.
Surge immunity level (with surge protector): 4 kV
(according to IEC 1000-4-5 EN 61000-4-5)

Pressure equipment directive (PED)

Comply with 97/23/EEC Category III Module H.

Humidity

Relative humidity: up to 100 %
Condensing, icing: admissible

Vibration resistance

Accelerations up to 2 g at frequency up to 1000 Hz
(according to IEC 60068-2-6)

Shock resistance

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

Wet and dust-laden atmospheres

The transmitter is dust and sand tight and protected against immersion effects as defined by EN 60529 (1989) to IP 67 (IP 68 on request) or by NEMA to 4X or by JIS to C0920. IP65 with Harting Han connector.

Hazardous atmospheres

With or without integral display

INTRINSIC SAFETY:

ATEX Europe (code E1) approval
II 1 G Ex ia IIC T6/T5/T4 and II 1/2 G Ex ia IIC T6/T5/T4 and
II 1 D Ex iaD 20 T85 °C and II 1/2 D Ex iaD 21 T85 °C; IP67.
IECEx (code E8) approval
Ex ia IIC T6/T5/T4 and Ex iaD 20 T85 °C and Ex iaD 21 T85 °C; IP67.
NEPSI China (code EY)
Ex ia IIC T4~T6, DIP A20TA, T4~T6.

EXPLOSION PROOF:

ATEX Europe (code E2) approval
II 1/2 G Ex d IIC T6 and II 1/2 D Ex tD A21 IP67 T85 °C (Ta = -50 to +75 °C).
IECEx (code E9) approval
Ex d IIC T6 and Ex tD A21 IP67 T85 °C (Ta = -50 to +75 °C).
NEPSI China (code EZ)
Ex d IIC T6, DIP A21TA, T6.

TYPE "N":

ATEX Europe (code E3) type examination
II 3 G Ex nL IIC T6/T5/T4 and II 3 D Ex tD A22 IP67 T85 °C; IP67.
IECEx (code ER) type examination
Ex nL IIC T6/T5/T4; IP67.
NEPSI China (code ES) type examination
Ex nL IIC T4~T6, DIP A22TA, T6.

FM Approvals US (code E6) and FM Approvals 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)

COMBINED ATEX (code EW = E1 + E2 + E3), (code E7 = E1 + E2)

COMBINED ATEX and FM Approvals (code EN = EW + E4 + E6)

COMBINED FM Approvals US and Canada

- Intrinsically safe (code EA)
- Explosionproof (code EB)
- Nonincendive (code EC)

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

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

GOST (Russia), GOST (Kazakhstan), GOST (Belarus), Inmetro (Brazil),
Kosha (Korea).

REFER TO CERTIFICATES FOR AMBIENT TEMPERATURE
RANGES (WITHIN THE LIMITS OF -50 TO 85°C) RELATED TO
THE DIFFERENT TEMPERATURE CLASSES

Electrical Characteristics and Options

Optional indicators

Integral display with integral keypad (code L1)

Wide screen LCD, 128 x 64 pixel,
52.5 x 27.2 mm (2.06 x 1.07 in.) dot matrix.

Multilanguage.

Four keys for configuration and
management of device.

Easy setup for quick commissioning.

User selectable application-specific visualizations.

Totalized and instantaneous flow indication.

Display may also indicate static pressure,
sensor temperature and diagnostic
messages and provides configuration facilities.



Integral display with Through-The-Glass (TTG) activated keypad (code L5)

As above integral display but equipped
with the innovative TTG keypad allowing
the activation of the configuration and
management menus of the device without
the need of removing the transmitter
housing cover.

TTG keypad is protected against
accidental activations.



Standard and Advanced HART digital communication and 4 to 20 mA output

Power supply

The transmitter operates from 10.5 to 42 V DC with no load
and is protected against reverse polarity connection
(additional load allows operations over 42 V DC).

For Ex ia and other intrinsically safe approval power supply
must not exceed 30 V DC. Minimum operating voltage
increase to 12.3 V DC with optional surge protector

Ripple

20 mV max on a 250 Ω load as per HART specifications.

Load limitations

4 to 20 mA and HART total loop resistance :

$$R \text{ (k}\Omega\text{)} = \frac{\text{Supply voltage} - \text{min. operating voltage (V DC)}}{22 \text{ mA}}$$

A minimum of 250 Ω is required for HART communication.

Optional surge protection

Up to 4kV

- voltage 1.2 μ s rise time / 50 μ s delay time to half value
- current 8 μ s rise time / 20 μ s delay time to half value

Output signal

Two-wire 4 to 20 mA, user-selectable for linear or 22 points
linearization table (i.e. for horizontal or spherical tank level
measurement).

HART® communication provides digital process variable
superimposed on 4 to 20 mA signal, with protocol based on
Bell 202 FSK standard.

Output current limits (to NAMUR NE 43 standard)

Overload condition

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

Alarm current

- Lower limit: 3.6 mA (configurable from 3.6 to 4 mA)
- Upper limit: 21 mA (configurable from 20 to 22 mA)

Factory 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".

Model 266GSH Gauge

Model 266ASH Absolute

FOUNDATION Fieldbus output

Device type

LINK MASTER DEVICE

Link Active Scheduler (LAS) capability implemented.

Manufacturer code: 000320 (hex)

Device type code: 0007 (hex)

Power supply

The transmitter operates from 9 to 32 V DC, polarity independent, with or without surge protector.

For Ex ia approval 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 limiting: 20 mA max.

Output signal

Physical layer in compliance to IEC 1158-2/EN 61158-2 with transmission to Manchester II modulation, at 31.25 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 custom Pressure with calibration transducer block

1 custom Advanced Diagnostics transducer block including
Plugged Input Line Detection

1 custom Local Display transducer block

Number of link objects

35

Number of VCRs

35

Output interface

FOUNDATION fieldbus digital communication protocol to standard H1, compliant to specification V. 1.7.

Transmitter failure mode

The output signal is “frozen” to the last valid value on gross transmitter failure condition, detected by self-diagnostics which also indicate a BAD conditions. If electronic failure or short circuit occur the transmitter consumption is electronically limited at a defined value (20 mA approx), for safety of the network.

PROFIBUS PA output

Device type

Pressure transmitter compliant to Profiles 3.0.1
Identification number: 3450 (hex)

Power supply

The transmitter operates from 9 to 32 V DC , polarity independent, with or without surge protector.
For Ex ia approval power supply must not exceed 17.5 V DC.
Intrinsic safety installation according to FISCO model.

Current consumption

operating (quiescent): 15 mA
fault current limiting: 20 mA max.

Output signal

Physical layer in compliance to IEC 1158–2/EN 61158–2 with transmission to Manchester II modulation, at 31.25 kbit/s.

Output interface

PROFIBUS PA communication according to Profibus DP50170 Part 2/DIN 19245 part 1–3.

Output update time

25 ms

Data blocks

3 analog input, 1 physical.

Additional blocks

- 1 Pressure with calibration transducer block
- 1 Advanced Diagnostics transducer block including Plugged Input Line Detection
- 1 Local Display transducer block

Transmitter failure mode

On gross transmitter failure condition, detected by self-diagnostics, the output signal can be driven to defined conditions, selectable by the user as safe, last valid or calculated value.
If electronic failure or short circuit occur the transmitter consumption is electronically limited at a defined value (20 mA approx), for safety of the network.

Performance specifications

Stated at reference condition to IEC 60770 ambient temperature of 20 °C (68 °F), relative humidity of 65 %, atmospheric pressure of 1013 hPa (1013 mbar), zero based range for transmitter with isolating diaphragms in ceramic, AISI 316 L ss or Hastelloy and silicone oil fill and HART digital trim values equal to 4 mA and to 20 mA span end points, in linear mode.

Unless otherwise specified, errors are quoted as % of span. Some performance referring to the Upper Range Limit are affected by the actual turndown (TD) as ratio between Upper Range Limit (URL) and calibrated span.

IT IS RECOMMENDED TO SELECT THE TRANSMITTER SENSOR CODE PROVIDING THE TURNDOWN VALUE AS LOWEST AS POSSIBLE TO OPTIMIZE PERFORMANCE CHARACTERISTICS.

Dynamic performance (according to IEC 61298–1 definition)

Sensors	Time constant (63.2 % of total step change)
Sensor C to V	150 ms
Sensor Z	200 ms
Dead time for all sensors	40 ms

Response time (total) = dead time + time constant

Accuracy rating

% of calibrated span, including combined effects of terminal based linearity, hysteresis and repeatability.

For fieldbus versions SPAN refer to analog input function block outscale range

Model	Sensor	for TD	
266GSH	L, D, U, R	from 1:1 to 10:1	± 0.06 %
	L, D, U, R	from 10:1 to 100:1	± (0.006 x TD) %
	F, V	from 1:1 to 10:1	± 0.075 %
	F, V	from 10:1 to 100:1	± (0.0075 x TD) %
	C	from 1:1 to 10:1	± 0.075 %
	C	from 10:1 to 30:1	± (0.0075 x TD) %
	Z	from 1:1 to 5:1	± 0.15 %
	Z	from 5:1 to 10:1	± (0.03 x TD) %
266GSH (option D2)	L, D, U, R	from 1:1 to 5:1	± 0.04 %
	L, D, U, R	from 5:1 to 100:1	± (0.0105 + 0.0059 x TD) %
266ASH	C to U	from 1:1 to 10:1	± 0.075 %
	C to U	from 10:1 to 20:1	± (0.0075 x TD) %

Model 266GSH Gauge Model 266ASH Absolute

Ambient temperature

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

Model	Sensor	for TD up to	
266GSH	C and F	10:1	± (0.06 % URL + 0.09 % span)
	L to R	10:1	± (0.03 % URL + 0.045 % span)
	V	10:1	± (0.04 % URL + 0.065 % span)
	Z	10:1	± (0.06 % URL + 0.10 % span)
266ASH	C and F	10:1	± (0.06 % URL + 0.09 % span)
	L to U	10:1	± (0.03 % URL + 0.045 % span)

for an ambient temperature change from -10 °C to +60 °C
(+14 to +140 °F):

Model	Sensor	for TD up to	
266GSH	C and F	10:1	± (0.08 % URL + 0.08 % span)
	L to R	10:1	± (0.06 % URL + 0.06 % span)
	V	10:1	± (0.075 % URL + 0.11 % span)
	Z	10:1	± (0.10 % URL + 0.15 % span)
266ASH	C and F	10:1	± (0.2 % URL + 0.1 % span)
	L to U	10:1	± (0.06 % URL + 0.06 % span)

per 10K change between the limits of -40 °C to -10 °C or
+60° to +85 °C (per 18 °F change between the limits of -40
to +14 °F or +140° to +185 °F):

Model	Sensor	for TD up to	
266GSH	C and F	10:1	± (0.04 % URL + 0.05 % span)
	L to R	10:1	± (0.03 % URL + 0.045 % span)
	V	10:1	± (0.04 % URL + 0.055 % span)
	Z	10:1	± (0.06 % URL + 0.10 % span)
266ASH	C and F	10:1	± (0.1 % URL + 0.05 % span)
	L to U	10:1	± (0.03 % URL + 0.045 % span)

Supply voltage

Within voltage/load specified limits the total effect is less than
0.005 % of URL per volt.

Load

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

Electromagnetic field

Meets all the requirements of EN 61326 and NAMUR NE 21
for surge immunity level.

Common mode interference

No effect from 100Vrms @ 50Hz, or 50 V DC

Mounting position

Standard recommended installation position is vertical with
process connection at the bottom.

A tilt from vertical causes a zero shift which can be corrected
with zero adjustment. For sensor C and F an additional
temperature effect on zero up to 0.02 mbar/10K should be
considered with a tilt up to 90° from vertical.

Stability

±0.15 % of URL over a ten years period for sensors C to V
±0.45 % of URL over a ten years period for sensor Z

Maximum total performance

For temperature change of 28 °C (50 °F) for model 266GSH with
accuracy option code D2 (± 0.04 %)

Sensor	Span	Maximum total performance
L	225 kPa, 2250 mbar, 900 inH2O	≤± 0.120 % of calibrated span
D	900 kPa, 9 bar, 130 psi	
U	2500 kPa, 25 bar, 360 psi	
R	9000 kPa, 90 bar, 1300 psi	

$$E_{\text{Mperf}} = \sqrt{(E_{\Delta Tz} + E_{\Delta Ts})^2 + E_{\text{lin}}^2}$$

E_{Mperf} = Maximum total performance

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

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

E_{lin} = Accuracy rating (for terminal-based linearity 0.04 %)

Total performance

similar to DIN 16086

Temperature change in the range from -10 to 60 °C (14 to 140 °F)

Model	Sensor	TD	Total performance
266GSH, D2 option	L to R	1:1	≤± 0.14 % of calibrated span
266ASH	L to R	1:1	≤± 0.14 % of calibrated span

$$E_{\text{perf}} = \sqrt{(E_{\Delta Tz} + E_{\Delta Ts})^2 + E_{\text{lin}}^2}$$

E_{perf} = Total Performance

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

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

E_{lin} = Accuracy rating (for terminal-based linearity 0.04 % or
0.075% as per model/sensor accuracy)

Maximum total performance and Total performance includes
the measuring errors of

- non-linearity including hysteresis and non-reproducibility,
- thermal change of the ambient temperature as regards the
zero signal and the calibrated span,

Physical Specification

(Refer to ordering information sheets for variant availability related to specific model or versions code)

Materials

Process isolating diaphragms (*)

Hastelloy C276™ (sensor C to V);
Hastelloy C276™ gold-plated (sensor L to V);
Inconel 718 (for sensor Z).

Process connection (*)

AISI 316 L ss; Hastelloy C-276™ (sensor C to V).
Inconel 718 (sensor Z) with cone in Inconel 625 for F250C connection only.

Sensor fill fluid

Silicone oil; Inert fill (Galden™);
white oil (FDA).

Mounting bracket (**)

Zinc plated carbon steel with chrome passivation; AISI 316 L ss.

Sensor housing

AISI 316 L ss.

Electronic housing and covers

Aluminium alloy (copper content ≤ 0.3 %) with baked epoxy finish (colour RAL9002);
AISI 316 L ss.

Covers O-ring

Buna N.

Local adjustments (zero, span and write protect)

Glass filled polyphenylene oxide (removable).

Plates

AISI 316ss for transmitter nameplate, certification plate, optional tag/calibration plate attached to the electronics housing and optional wired-on customer data plate. All printing by laser.

Calibration

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

(*) Wetted parts of the transmitter.

(**) U-bolt material: high-strength alloy steel or AISI 316 L ss;
bolts/nuts material: high-strength alloy steel or AISI 316 ss.

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Optional extras

Mounting brackets (code Bx)

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

Display (code Lx)

4-position (at 90°) user orientable.

Optional plates (code Ix)

Code I2: plate for tag (up to 31 characters) and calibration details (up to 31 characters: lower and upper range values and engineering unit) fixed onto transmitter housing.
Code I1: AISI 316 ss wired-on plate with laser printed customized data (4 lines of 32 characters with 4 mm/0.16 in. height).

Surge protection (code S2)

Cleaning procedure for oxygen service (code P1)

Test Certificates (test, design, calibration, material traceability) (codes Cx and Hx)

Tag and manual language (codes Tx and Mx)

Communication connectors (code Ux)

Manifold mounting (code A1)

Factory mounting and pressure test of ABB M26 manifolds.

Process connections

For sensors C to V

$\frac{1}{2}$ – 14 NPT male or female; DIN EN837-1 G $\frac{1}{2}$ B.

For sensor Z

$\frac{1}{4}$ – 18 NPT female; F250C (autoclave).

Electrical connections

Two $\frac{1}{2}$ – 14 NPT or M20x1.5 threaded conduit entries, direct on housing.

Special communication connector (on request)

- HART: straight or angle Harting Han 8D connector and one plug.
- FOUNDATION Fieldbus, PROFIBUS PA: M12x1 or 7/8 in.

Terminal block

HART version: three terminals for signal/external meter wiring up to 2.5 mm² (14 AWG), also connection points for test and communication purposes.

Fieldbus versions: two terminals for signal wiring (bus connection) up to 2.5 mm² (14 AWG)

Grounding

Internal and external 6 mm² (10 AWG) ground termination points are provided.

Mounting position

Transmitter can be mounted in any position.

Electronics housing may be rotated to any position. A positive stop prevents over travel.

Mass (without options)

2 kg approx (4.4 lb); add 1.5 kg (3.3 lb) for AISI housing.

Add 650 g (1.5 lb) for packing.

Packing

Carton 27 x 24 x 20 cm approx (11 x 10 x 8 in.).

Configuration

Transmitter with HART communication and 4 to 20 mA Standard configuration

Transmitters are factory calibrated to customer's specified range. Calibrated range and tag number are stamped on the tag plate. If a calibration range and tag data are not specified, the transmitter will be supplied with the plate left blank and configured as follows:

Engineering Unit	kPa
4 mA	Zero
20 mA	Upper Range Limit (URL)
Output	Linear
Damping	1 s
Transmitter failure mode	Upscale
Software tag (8 characters max)	Blank
Optional LCD display	PV in kPa; output in mA and in percentage on bargraph

Any or all the above configurable parameters, including Lower range-value and Upper range-value which must be the same unit of measure, can be easily changed using the HART hand-held communicator or by a PC running the configuration software with DTM for 266 models. The transmitter database is customized with specified flange type and material, O-ring and drain/vent materials and meter code option.

Custom configuration (option N6)

The following data may be specified in addition to the standard configuration parameters:

Descriptor	16 alphanumeric characters
Message	32 alphanumeric characters
Date	Day, month, year

For HART protocol available engineering units of pressure measure are :

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 factory calibrated to customer's specified range. Calibrated range and tag number are stamped on the tag plate. If a calibration range and tag data are not specified, the transmitter will be supplied with the plate left blank and configured as follows:

Measure Profile	Pressure
Engineering Unit	kPa
Output scale 0 %	Lower Range Limit (LRL)
Output scale 100 %	Upper Range Limit (URL)
Output	Linear
Hi-Hi Limit	Upper Range Limit (URL)
Hi Limit	Upper Range Limit (URL)
Low Limit	Lower Range Limit (LRL)
Low-Low Limit	Lower Range Limit (LRL)
Limits hysteresis	0.5 % of output scale
PV filter	0 s
Address (set by local key)	126
Tag	32 alphanumeric characters
Optional LCD display	PV in kPa; output in percentage on bargraph

Any or all the above configurable parameters, including the range values which must be the same unit of measure, can be easily changed by a PC running the configuration software with DTM for 266 models. The transmitter database is customized with specified flange type and material, O-ring and drain/vent materials and meter code option.

Custom configuration (option N6)

The following data may be specified in addition to the standard configuration parameters:

Descriptor	32 alphanumeric characters
Message	32 alphanumeric characters
Date	Day, month, year

Model 266GSH Gauge

Model 266ASH Absolute

Transmitter with FOUNDATION Fieldbus communication

Standard configuration

Transmitters are factory calibrated to customer's specified range. Calibrated range and tag number are stamped on the tag plate. If a calibration range and tag data are not specified, the transmitter will be supplied with the plate left blank and the analog input function block FB1 is configured as follows:

Measure Profile	Pressure
Engineering Unit	kPa
Output scale 0 %	Lower Range Limit (LRL)
Output scale 100 %	Upper Range Limit (URL)
Output	Linear
Hi-Hi Limit	Upper Range Limit (URL)
Hi Limit :	Upper Range Limit (URL)
Low Limit	Lower Range Limit (LRL)
Low-Low Limit	Lower Range Limit (LRL)
Limits hysteresis	0.5 % of output scale
PV filter time	0 s
Tag	32 alphanumeric characters
Optional LCD display	PV in kPa; output in percentage on bargraph

The analog input function block FB2 and FB3 are configured respectively for the sensor temperature measured in °C and for the static pressure measured in MPa.

Any or all the above configurable parameters, including the range values, can be changed using any host compliant to FOUNDATION fieldbus. The transmitter database is customized with specified flange type and material, O-ring and drain/vent materials and meter code option.

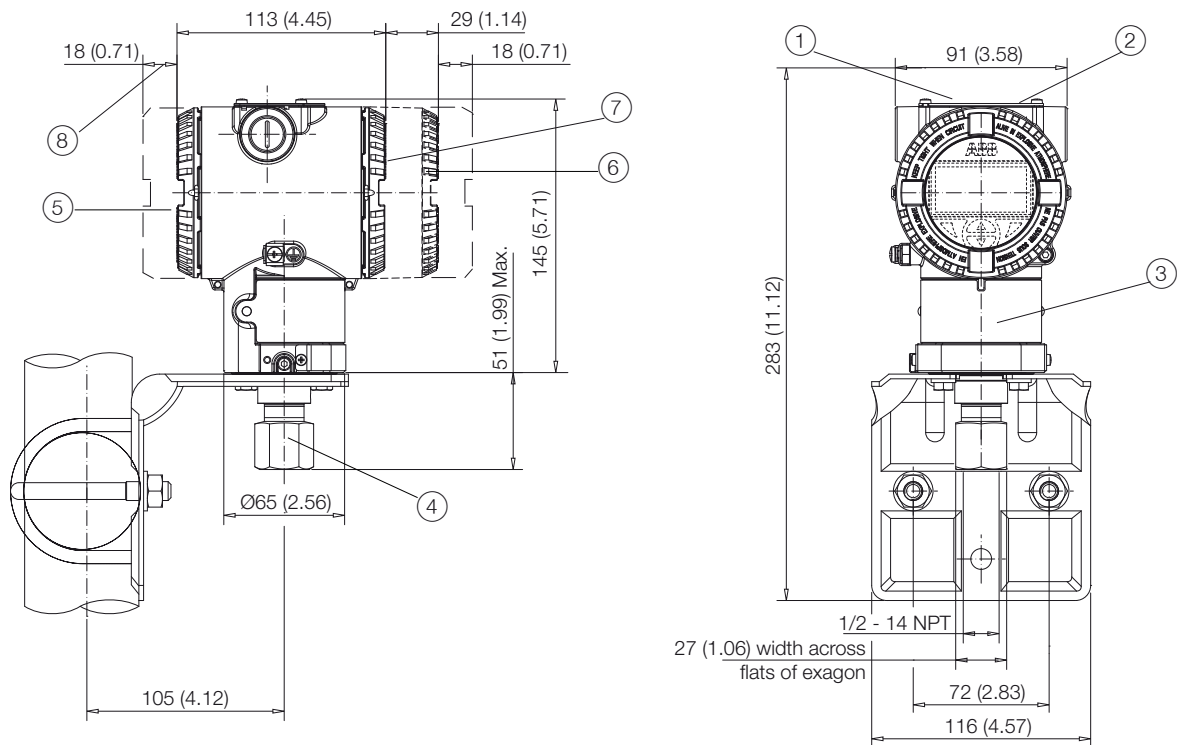
Custom configuration (option N6)

The following data may be specified in addition to the standard configuration parameters:

Descriptor	32 alphanumeric characters
Message	32 alphanumeric characters
Date	Day, month, year

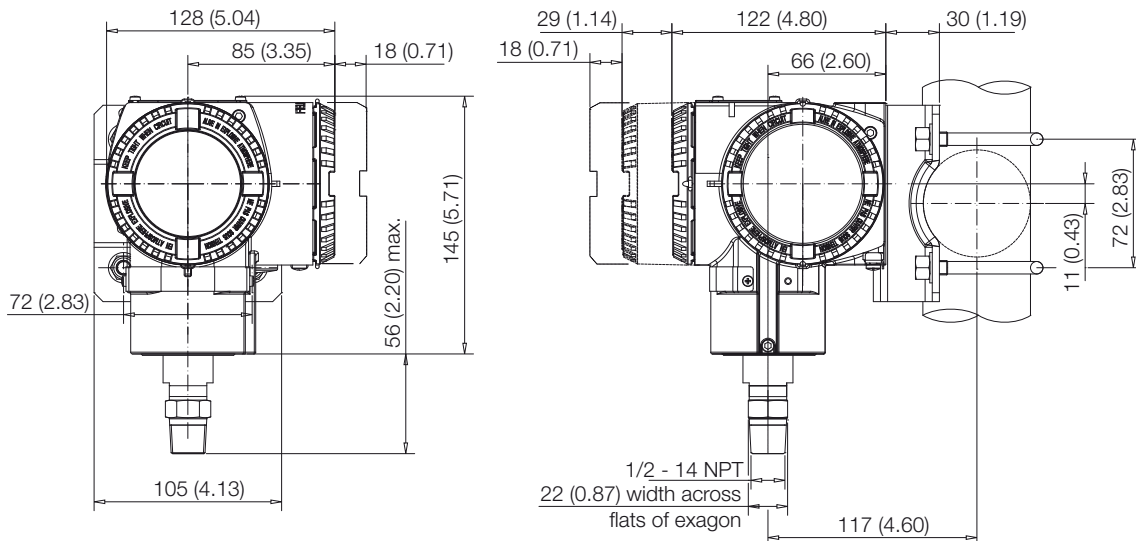
MOUNTING DIMENSIONS (not for construction unless certified) – dimensions in mm (in.)

Transmitter with barrel housing - 1/2 NPT female connection



- ① Adjustments | ② Identification plate | ③ Certification plate | ④ Process connection | ⑤ Terminal side | ⑥ Integral display housing | ⑦ Electronic side | ⑧ Space for cover removal

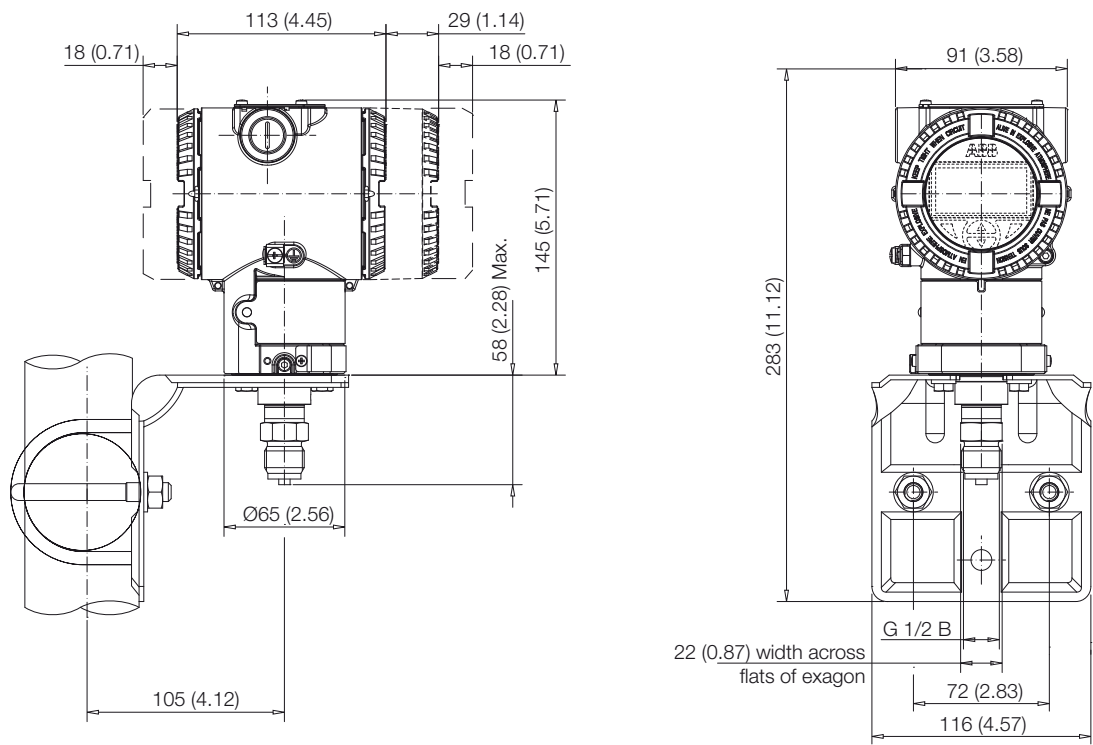
Transmitter with DIN aluminium housing - 1/2 NPT male connection



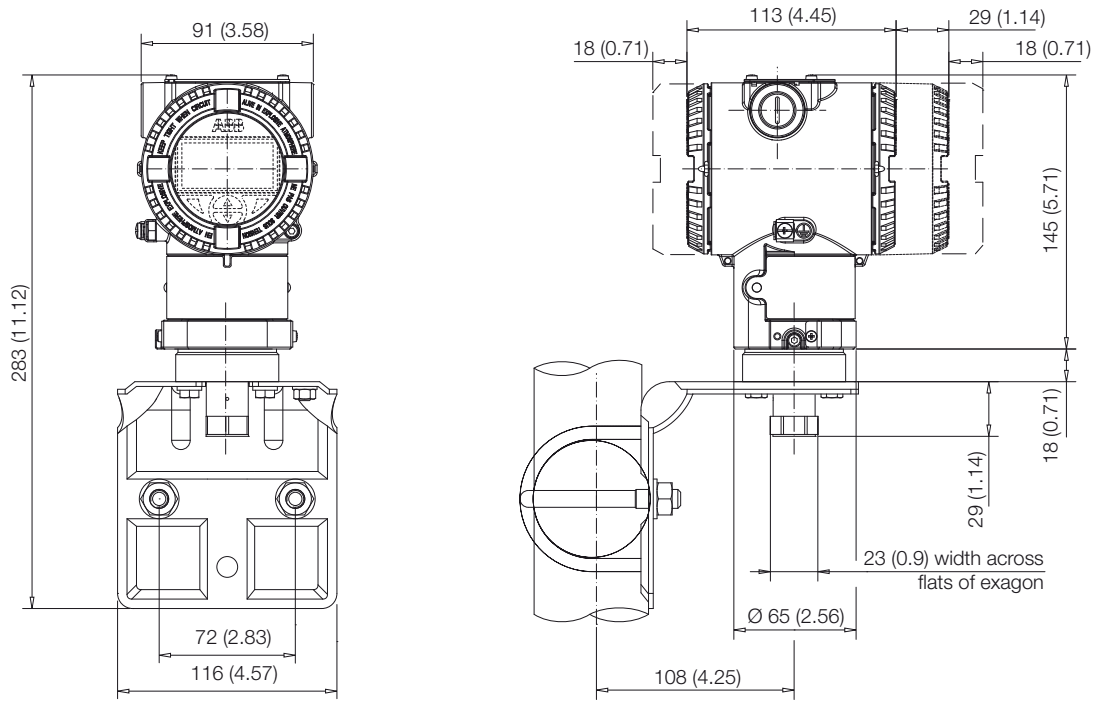
Model 266GSH Gauge

Model 266ASH Absolute

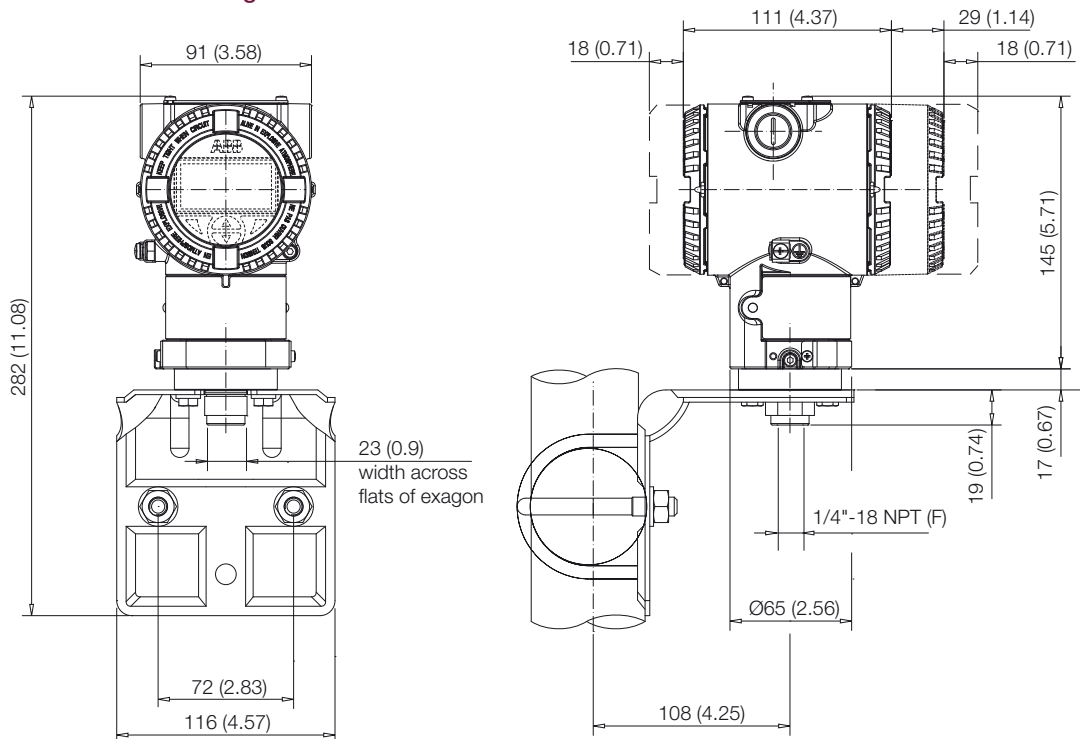
Transmitter with barrel housing - DIN-EN837-1 G 1/2 B connection



Transmitter with barrel housing - F250C female connection for sensor Z



Transmitter with barrel housing - 1/4 NPT female connection for sensor Z

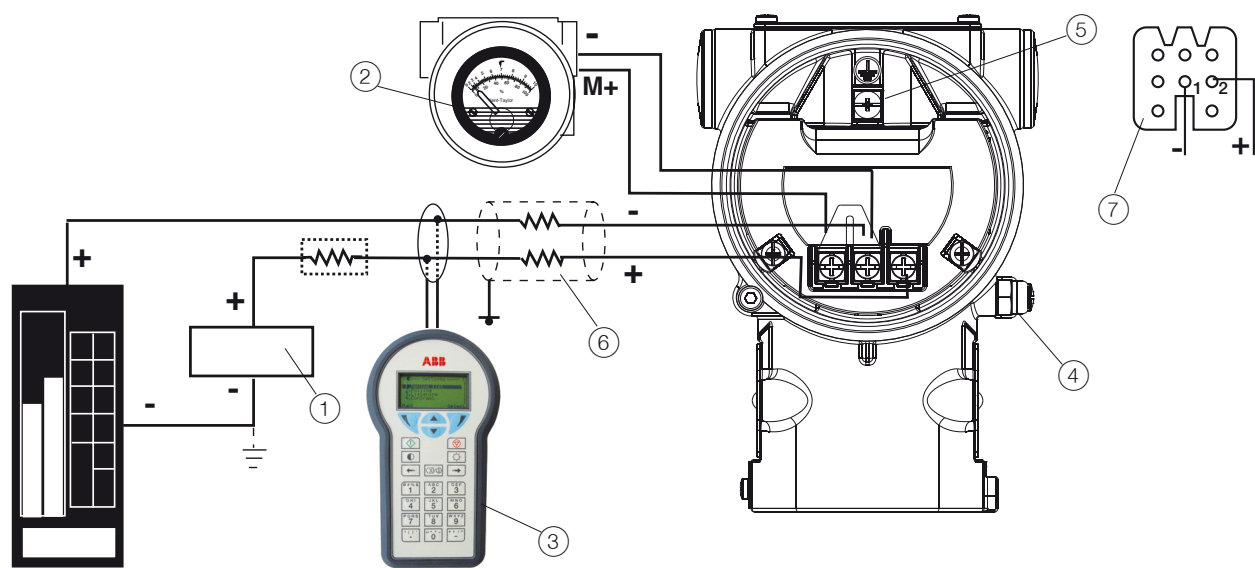


Model 266GSH Gauge

Model 266ASH Absolute

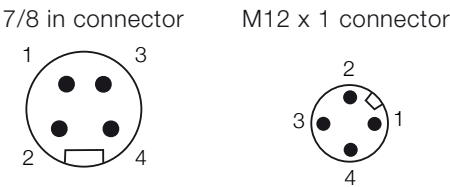
Electrical connections

HART Version



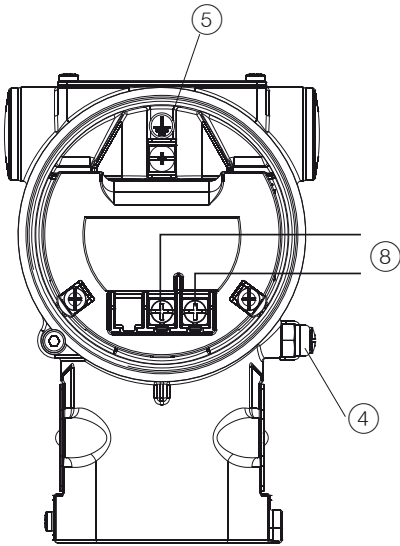
HART hand-held communicator may be connected at any wiring termination point in the loop, providing the minimum resistance is 250 ohm. If this is less than 250 ohm, additional resistance should be added to allow communications. Maximum voltage drop on external remote indicator is 0.7 Vdc

FIELDBUS Versions



PIN (male) IDENTIFICATION		
	FOUNDATION Fieldbus	PROFIBUS PA
1	DATA -	DATA +
2	DATA +	GROUND
3	SHIELD	DATA -
4	GROUND	SHIELD

CONNECTOR IS SUPPLIED LOOSE
WITHOUT MATING FEMALE PLUG



- (1) Power source | (2) Remote indicator | (3) Handheld communicator | (4) External ground termination point | (5) Internal ground termination point |
- (6) Line load | (7) Harting Han 8D socket insert for mating plug (supplied loose) | (8) Fieldbus line (polarity independent)

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