

# Model 264HF Gauge (fast) Model 264NF Absolute (fast)

ABB 2600T Series  
Engineered solutions  
for all applications



**Base accuracy :  $\pm 0.075\%$**

**Span limits**

- 0.65 to 160kPa; 6.4 to 642inH<sub>2</sub>O
- 1.1 to 160kPa abs; 8 to 1200mmHg

**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

**5-year stability**

**Flexible configuration facilities**

- provided locally via local keys combined with LCD indicator or via hand held terminal or PC configuration platform

**Multiple protocol availability**

- provides integration with HART®, PROFIBUS PA and FOUNDATION Fieldbus platforms offering interchangeability and transmitter upgrade capabilities

**Full compliance with PED Category IV**

- suitable for safety accessory application

## Functional Specifications

### Range and span limits

| Sensor Code | Upper Range Limit (URL)                     | Lower Range Limit (LRL) for 264HF                 | Minimum span                                |                               |
|-------------|---------------------------------------------|---------------------------------------------------|---------------------------------------------|-------------------------------|
|             |                                             |                                                   | 264HF gauge                                 | 264NF absolute                |
| <b>G</b>    | 65kPa<br>650mbar<br>260inH <sub>2</sub> O   | –65kPa<br>–650mbar<br>–260inH <sub>2</sub> O      | 0.65kPa<br>6.5mbar<br>2.6inH <sub>2</sub> O | 1.1kPa<br>11mbar<br>8mmHg     |
| <b>H</b>    | 160kPa<br>1600mbar<br>642inH <sub>2</sub> O | 0.07kPa abs (§)<br>0.7mbar abs (§)<br>0.5mmHg (§) | 1.6kPa<br>16mbar<br>6.4inH <sub>2</sub> O   | 2.67kPa<br>26.7mbar<br>20mmHg |

Lower Range Limit (LRL) for 264NF is 0.07kPa abs, 0.7mbar abs, 0.5mmHg for all ranges

(§) Lower Range Limit is 0.135kPa abs, 1.35mbar abs, 1mmHg for inert Galden or 0.4kPa abs, 4mbar abs, 3mmHg for inert Halocarbon.

### 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 : 0, 0.25, 0.5, 1, 2, 4, 8 or 16s.  
This is in addition to sensor response time

### Turn on time

Operation within specification in less than 1s with minimum damping.

### Insulation resistance

> 100MΩ at 1000VDC (terminals to earth)

## Operative limits

### Temperature limits °C (°F) :

#### Ambient (is the operating temperature)

| Filling          | Model 264HF                   | Model 264NF                   |
|------------------|-------------------------------|-------------------------------|
| Silicone oil     | –40 and +85<br>(–40 and +185) | –40 and +85<br>(–40 and +185) |
| Inert-Galden     | –20 and +85<br>(–4 and +185)  | –10 and +65<br>(+14 and +150) |
| Inert-Halocarbon | –20 and +85<br>(–4 and +185)  | –10 and +65<br>(+14 and +150) |

Lower ambient limit for LCD indicators: –20°C (–4°F)

Upper ambient limit for LCD indicators: +70°C (+158°F)

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

### Process

Lower limit

– refer to lower ambient limits

Upper limit

– Silicone oil: 121°C (250°F) (1)

– Inert fluid: 100°C (212°F) (2)

(1) 100°C (212°F) for application below atmospheric pressure

(2) 65°C (150°F) for application below atmospheric pressure

### Storage

Lower limit: –50°C (–58°F); –40°C (–40°F) for LCD indicators

Upper limit: +85°C (+185°F)

## Pressure limits

### Overpressure limits (without damage to the transmitter)

0.07kPa abs, 0.7mbar abs, 0.01psia (0.135kPa abs, 1.35mbar abs, 1mmHg for inert Galden or 0.4kPa abs, 4mbar abs, 3mmHg for inert Halocarbon) to 14MPa, 140bar, 2030psi

### Proof pressure

The transmitter can be exposed without leaking to line pressure of up to 28MPa, 280bar, 4060psi

Meet ANSI/ISA-S82.03 hydrostatic test requirements and SAMA PMC 27.1.

## Environmental limits

### Electromagnetic compatibility (EMC)

Comply with EN 61000-6-3 for emission and EN 61000-6-2 for immunity requirements and test;

Radiated electromagnetic immunity level: 30V/m  
(according to IEC 1000-4-3, EN61000-4-3)

Conducted electromagnetic immunity level : 30V  
(according to IEC 1000-4-6, EN 61000-4-6)

Surge immunity level (with surge protector): 4kV  
(according to IEC 1000-4-5 EN 61000-4-5)

Fast transient (Burst) immunity level: 4kV  
(according to IEC 1000-4-4 EN 61000-4-4)

### Pressure equipment directive (PED)

Comply with 97/23/EEC Category IV Modules D and B.

### Humidity

Relative humidity: up to 100% annual average

Condensing, icing: admissible

### Vibration resistance

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

### Shock resistance

Acceleration: 50g

Duration: 11ms

(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 output meter/integral display

– INTRINSIC SAFETY/EUROPE:

ATEX/ZELM approval

II 1 GD T50°C, EEx ia IIC T6 ( $-40^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$ )

T95°C, EEx ia IIC T4 ( $-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$ )

– TYPE "N"/EUROPE:

ATEX/ZELM type examination (for HART)

II 3 GD T50°C, EEx nL IIC T6 ( $-40^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$ )

T95°C, EEx nL IIC T4 ( $-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$ )

– CANADIAN STANDARDS ASSOCIATION and FACTORY MUTUAL:

– 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

AEx ia IIC T6/T4, Zone 0 (FM)

– STANDARDS AUSTRALIA (SAA): TS Approval

- Intrinsically safe Ex ia IIC T4/T5 ( $-20^{\circ}\text{C} \leq T_a \leq +80^{\circ}\text{C}$ ) only HART

- No sparking Ex n IIC T4/T6 ( $-20^{\circ}\text{C} \leq T_a \leq +80^{\circ}\text{C}$ ) only HART

- Dust ignitionproof DIP A21 Ta T6 ( $-20^{\circ}\text{C} \leq T_a \leq +80^{\circ}\text{C}$ )

– INTRINSIC SAFETY/CHINA

NEPSI approval Ex ia IIC T4-T6

– GOST (Russia), GOST (Kazakhstan), Inmetro (Brazil)

based on ATEX

## Electrical Characteristics and Options

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

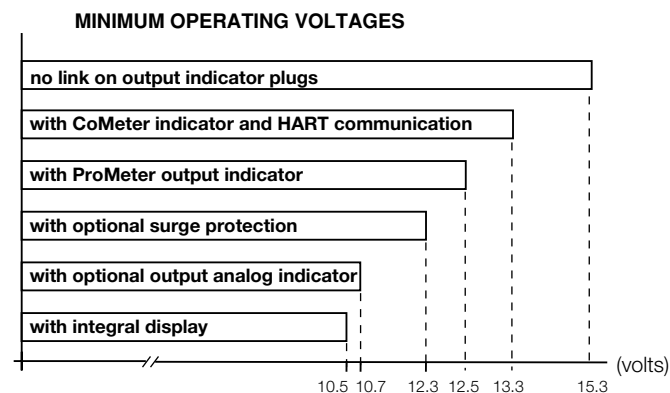
#### Power Supply

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

For EEx ia and other intrinsically safe approval power supply must not exceed 30VDC.

#### Ripple

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



#### Load limitations

4 to 20mA and HART total loop resistance :

$$R(k\Omega) = \frac{\text{Supply voltage} - \text{min. operating voltage (VDC)}}{22.5}$$

A minimum of 250Ω is required for HART communication.

### Optional indicators

#### Output meter

CoMeter and Prometer LCD :

5-digit (±99999 counts) programmable with 7.6mm. high (3in), 7-segment numeric characters plus sign and digital point for digital indication of output value in percentage, current or engineer unit;

10-segment bargraph display (10% per segment) for analog indication of output in percentage;

7-digit with 6mm. high (2.3in), 14-segment alphanumeric characters, for engineer units and configuration display

Analog : 36mm (1.4in) scale on 90°.

#### Integral display

LCD, 15 lines x 56 column dot matrix providing 2 lines indication as

– top: 5-digit (numeric) plus sign or 7-digit alphanumeric

– bottom: 7-digit alphanumeric

and additional 50-segment bargraph for indication of analog output in percentage.

User-definable matrix display mode with HART communication:

– process variable in pressure unit or

– output signal as percentage, current or engineering units

Display also indicates in/out transfer function, static pressure, sensor temperature and diagnostic messages and provides configuration facilities.

#### Optional surge protection

Up to 4kV

– voltage 1.2μs rise time / 50μs delay time to half value

– current 8μs rise time / 20μs delay time to half value

#### Output signal

Two-wire 4 to 20mA, user-selectable for linear or 5th order or two 2nd order switching point selectable programmable polynomial output.

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

#### Output current limits (to NAMUR standard)

Overload condition

– Lower limit: 3.8mA

– Upper limit: 20.5mA

#### Transmitter failure mode (to NAMUR standard)

The output signal can be user-selected to a value of 3.7 or 22mA on gross transmitter failure condition, detected by self-diagnostics.

In case of CPU failure the output is driven <3.7mA or >22mA.

## PROFIBUS PA output

### Device type

Pressure transmitter compliant to Profiles 3.0 Class A & B; ident. number 052B HEX.

### Power supply

The transmitter operates from 9 to 32VDC, polarity independent.

For EEx ia approval power supply must not exceed 17.5VDC. Intrinsic safety installation according to FISCO model.

### Current consumption

operating (quiescent): 10.5mA

fault current limiting: 20mA max.

### Output signal

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

### Output interface

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

### Output update time

25ms

### Function blocks

2 analog input, 1 transducer, 1 physical

### Integral display

LCD, 15 lines x 56 column dot matrix providing 2 lines indication as

– top: 5-digit (numeric) plus sign or 7-digit alphanumeric

– bottom: 7-digit alphanumeric

and additional 50-segment bargraph for indication of output in percentage of the analog input function block assigned to the primary variable.

User-definable matrix display mode:

– process variable in pressure units or

– primary variable in engineering units (output of transducer block) or

– output as percentage or engineering units of analog input function blocks

Display also indicates diagnostic messages and provides configuration facilities.

Secondary variable, static pressure and sensor temperature can be read.

### 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 (20mA approx), for safety of the network.

## FOUNDATION Fieldbus output

### Device type

LINK MASTER DEVICE

Link Active Scheduler (LAS) capability implemented.

### Power supply

The transmitter operates from 9 to 32VDC, polarity independent.

For EEx ia approval power supply must not exceed 24VDC (entity certification) or 17.5VDC (FISCO certification), according to FF-816.

### Current consumption

operating (quiescent): 10.5mA

fault current limiting: 20mA max.

### Output signal

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

### Function blocks/execution period

2 enhanced Analog Input blocks/25ms max (each)

1 enhanced PID block/40ms max.

1 standard ARithmetic block/25ms

1 standard Input Selector block/25ms

1 standard Control Selector block/25ms

1 standard Signal Characterization block/25ms

1 standard Integrator/Totalizer block/25ms

### 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. 1.6; FF registration in progress.

### Integral display

LCD, 15 lines x 56 column dot matrix providing 2 lines indication as

– top: 5-digit (numeric) plus sign or 7-digit alphanumeric

– bottom: 7-digit alphanumeric

and additional 50-segment bargraph for percentage indication of the analog input function block output, assigned to the primary variable.

User-definable matrix display mode:

– process variable in pressure units or

– primary variable in engineering units (output of transducer block) or

– output as percentage or engineering units of one or more selected function blocks

Display also indicates diagnostic messages. Secondary variable, static pressure and sensor temperature can be read.

### 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 (20mA 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 1013hPa (1013mbar), zero based range for transmitter with isolating diaphragms in AISI 316 L ss or Hastelloy and silicone oil fill and HART digital trim values equal to 4–20mA span end points, in linear mode.

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

Some performance data 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)

Dead time: 40ms

Time constant (63.2% of total step change):

– sensor H: ≤40ms

– sensor G: 50ms

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 264HF

– ±0.075% for TD from 1:1 to 15:1

–  $\pm 0.005\% \times \frac{\text{URL}}{\text{Span}}$  for TD from 15:1 to 60:1

Model 264NF

– ±0.075% for TD from 1:1 to 10:1

–  $\pm 0.0075\% \times \frac{\text{URL}}{\text{Span}}$  for TD from 10:1 to 20:1

## Operating influences

### Ambient temperature

per 20K (36°F) change between the limits of –20°C to +65°C (–4 to +150°F) :

| Model | for TD up to |                             |
|-------|--------------|-----------------------------|
| 264HF | 15:1         | ± (0.04% URL + 0.065% span) |
| 264NF | 10:1         | ± (0.04% URL + 0.065% span) |

### Optional CoMeter and ProMeter ambient temperature

Total reading error per 20K (36°F) change between the ambient limits of –20 and +70°C (–4 and +158°F) :

±0.15% of max span (16mA).

### 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

Total effect : less than 0.10% of span from 20 to 1000MHz and for field strengths up to 30V/m when tested with shielded conduit and grounding, with or without meter.

### Common mode interference

No effect from 100Vrms @ 50Hz, or 50VDC

### Mounting position

No effect

### Stability

±0.15% of URL over a five years period

### Vibration effect

±0.10% of URL (according to IEC 61298–3)

## Physical Specification

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

### Materials

#### Process isolating diaphragms (\*)

AISI 316 L ss; Monel 400™; Tantalum;

Hastelloy C276™; Hastelloy C276™ on AISI 316 L ss gasket seat.

#### Process connection (\*)

AISI 316 L ss; Hastelloy C276™; Monel 400™.

#### Sensor fill fluid

Silicone oil (DC200™); inert fill (Halocarbon™ 4.2 or Galden™).

#### Mounting bracket (\*\*)

Zinc plated carbon steel with chrome passivation;

AISI 316 L ss.

#### Sensor housing

AISI 316 L ss.

#### Electronic housing and covers

Barrel version

– Aluminium alloy with baked epoxy finish;

– Copper-free content aluminium alloy with baked epoxy finish;

– AISI 316 L ss.

#### Covers O-ring

Buna N.

#### Local zero and span adjustments:

Glass filled polycarbonate plastic (removable).

#### Tagging

AISI 316ss data plate attached to the electronics housing.

### Calibration

Standard: at maximum span, zero based range, ambient temperature and pressure;

Optional: at specified range and ambient conditions.

### Optional extras

#### Mounting brackets

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

#### Output indicator

plug-in rotatable type, LCD or analog.

#### Supplemental customer tag

AISI 316 ss tag screwed/fastened to the transmitter for customer's tag data up to a maximum of 20 characters and spaces on one line for tag number and tag name, and up to a maximum of 3 spaced strings of 10 characters each for calibration details (lower and upper values plus unit). Special typing evaluated on request for charges.

#### Surge protection (only as external unit for PROFIBUS PA and FF)

#### Cleaning procedure for oxygen service

#### Test Certificates (test, design, calibration, material traceability)

#### Tag and manual language

#### Communication connectors

### Process connections

1/2 – 14 NPT female or male; DIN EN837–1 G 1/2 B; adapter straight (180°) entry; adapter angle (90°) entry.

fixing threads on adapter entries: 7/16 – 20 UNF at 41.3mm centre distance.

### Electrical connections

Two 1/2 – 14 NPT or M20x1.5 or PG 13.5 or 1/2 GK threaded conduit entries, direct on housing.

Special communication connector (on request)

– HART : straight or angle Harting Han connector and one plug.

– FOUNDATION Fieldbus, PROFIBUS PA: M12x1 or 7/8.

#### Terminal block

HART version: three terminals for signal/external meter wiring up to 2.5mm<sup>2</sup> (14AWG) and three connection points for test and communication purposes.

Fieldbus versions: two terminals for signal wiring (bus connection) up to 2.5mm<sup>2</sup> (14AWG)

#### Grounding

Internal and external 6mm<sup>2</sup> (10AWG) 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)

1.7kg approx (4lb); add 1.5kg (3.4lb) for AISI housing.

Add 650g (1.5lb) for packing.

### Packing

Carton 26 x 26 x 18cm approx (10 x 10 x 7in).

™ Hastelloy is a Cabot Corporation trademark

™ Monel is an International Nickel Co. trademark

™ DC 200 is a Dow Corning Corporation trademark

™ Galden is a Montefluos trademark

™ Halocarbon is a Halocarbon Products Co. trademark

(\*) Wetted parts of the transmitter.

(\*\*) U-bolt material: AISI 400 ss; screws material: high-strength alloy steel or AISI 316 ss.

## 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 sec.                  |
| Transmitter failure mode        | Upscale                 |
| Software tag (8 characters max) | Blank                   |
| Optional LCD indicator/display  | 0 to 100.0% linear      |

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 SMART VISION with DTM for 2600T. The transmitter database is customized with specified flange type and material, O-ring and drain/vent materials and meter code option.

#### Custom configuration (option)

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           |

### Transmitter with PROFIBUS PA communication

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 sec.                     |
| Address (settable by local key) | 126                        |
| Tag                             | 32 alphanumeric characters |

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 by a PC running the configuration software SMART VISION with DTM for 2600T.

The transmitter database is customized with specified flange type and material, O-ring and drain/vent materials and meter code option.

#### Custom configuration (option)

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           |

### Transmitter with FOUNDATION Fieldbus communication

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 sec.                     |
| Tag               | 32 alphanumeric characters |

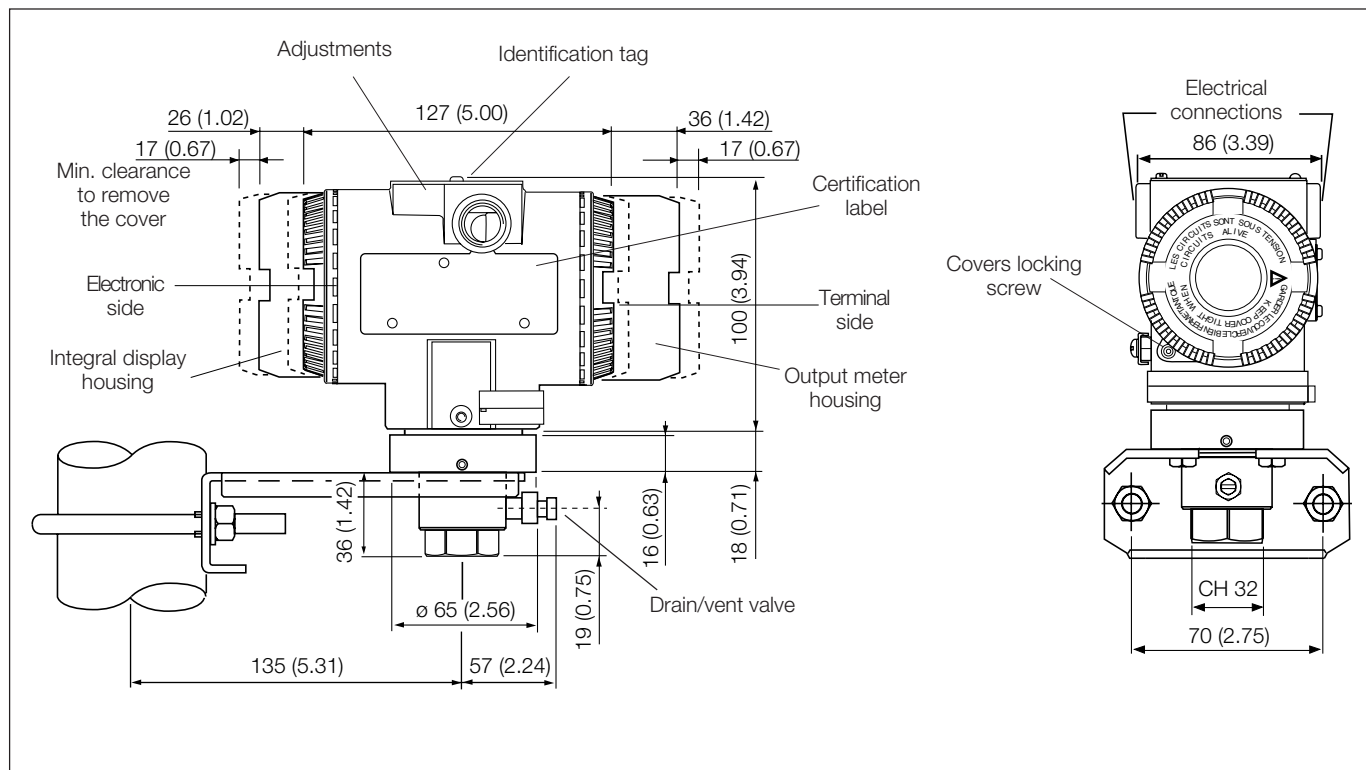
The analog input function block FB2 is configured for the sensor temperature measured in °C. Any or all the above configurable parameters, including the range values, can be changed using any host compliant to FOUNDATION fieldbus. The transmitter database is customized with specified flange type and material, O-ring and drain/vent materials and meter code option.

For any protocol available engineering units of pressure measure are :

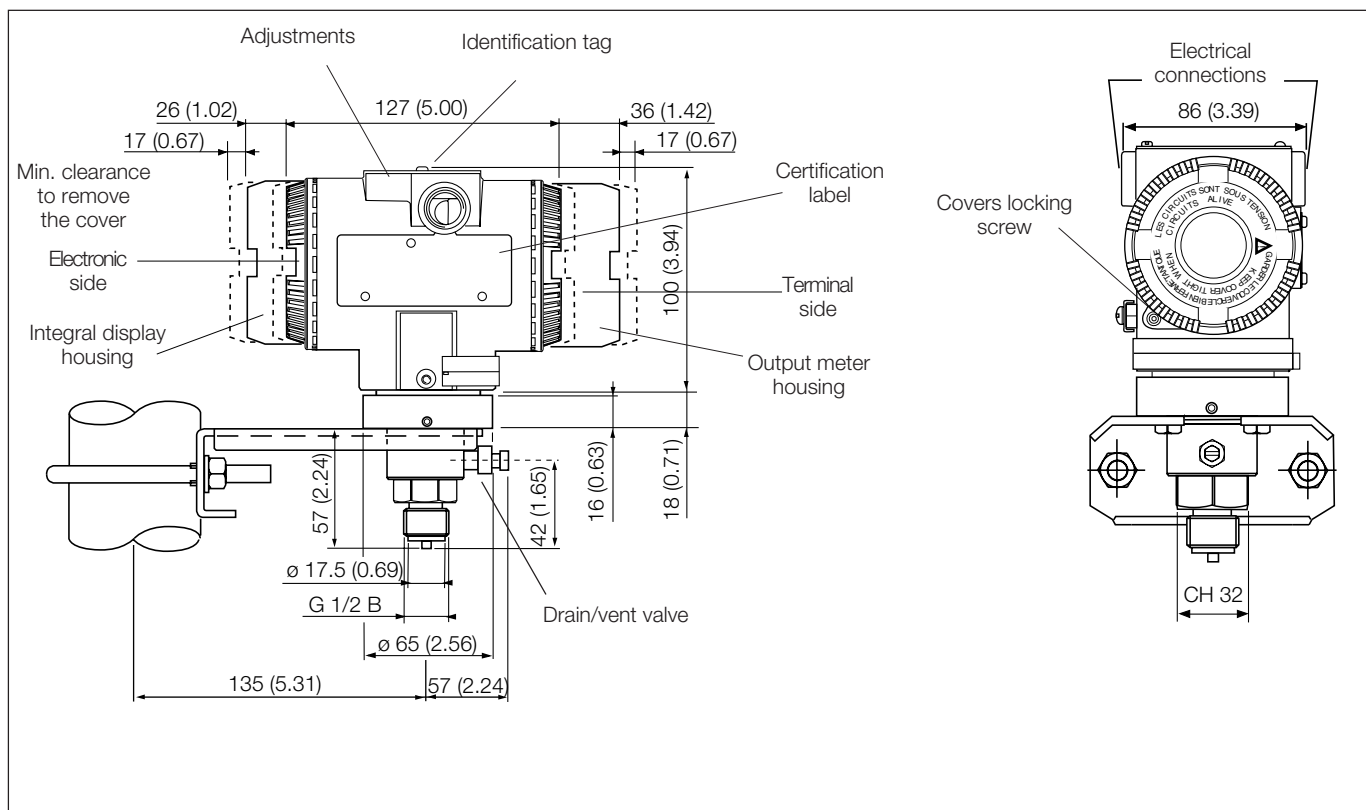
Pa, kPa, MPa  
 inH<sub>2</sub>O@4°C, mmH<sub>2</sub>O@4°C, psi  
 inH<sub>2</sub>O@20°C, ftH<sub>2</sub>O@20°C, mmH<sub>2</sub>O@20°C  
 inHg, mmHg, Torr  
 g/cm<sup>2</sup>, kg/cm<sup>2</sup>, atm  
 mbar, bar

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

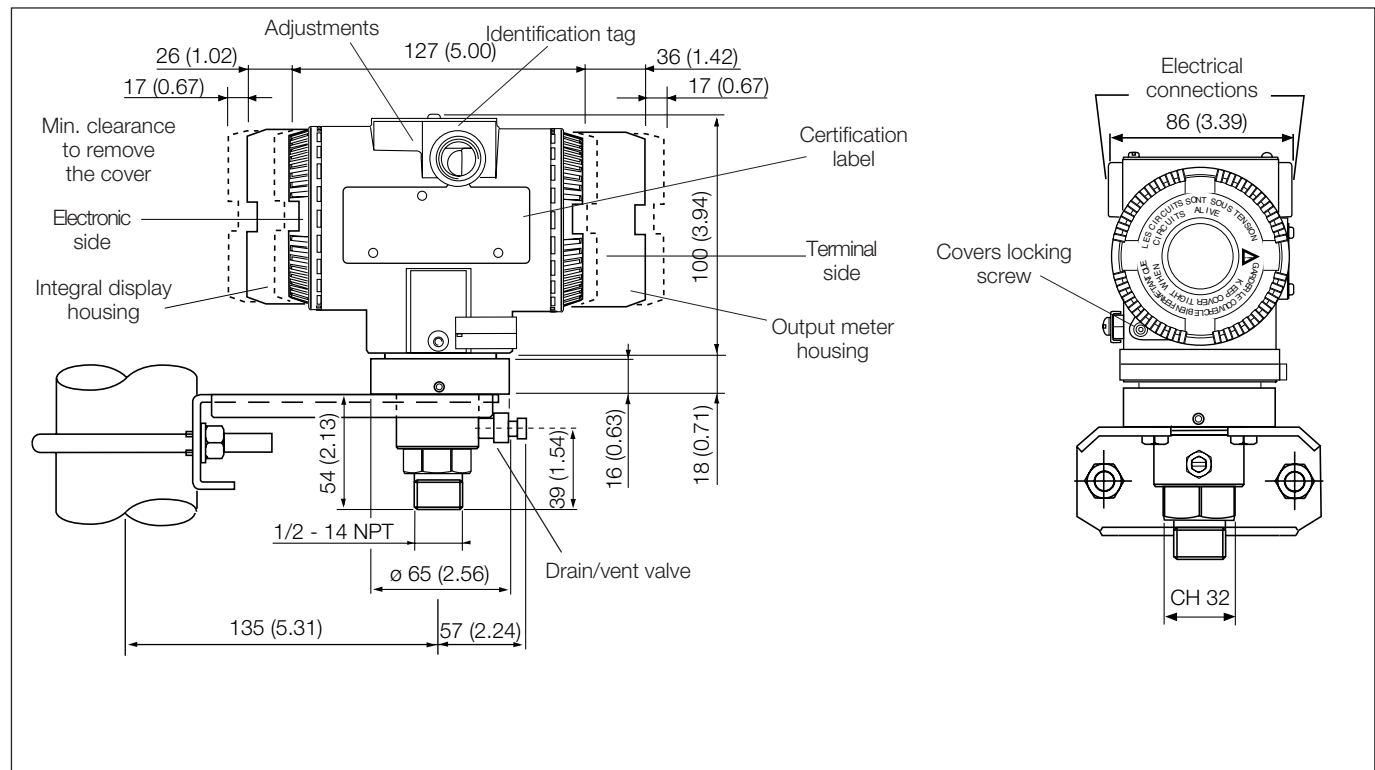
**Transmitter with barrel housing on bracket for 60mm (2in) pipe mounting**



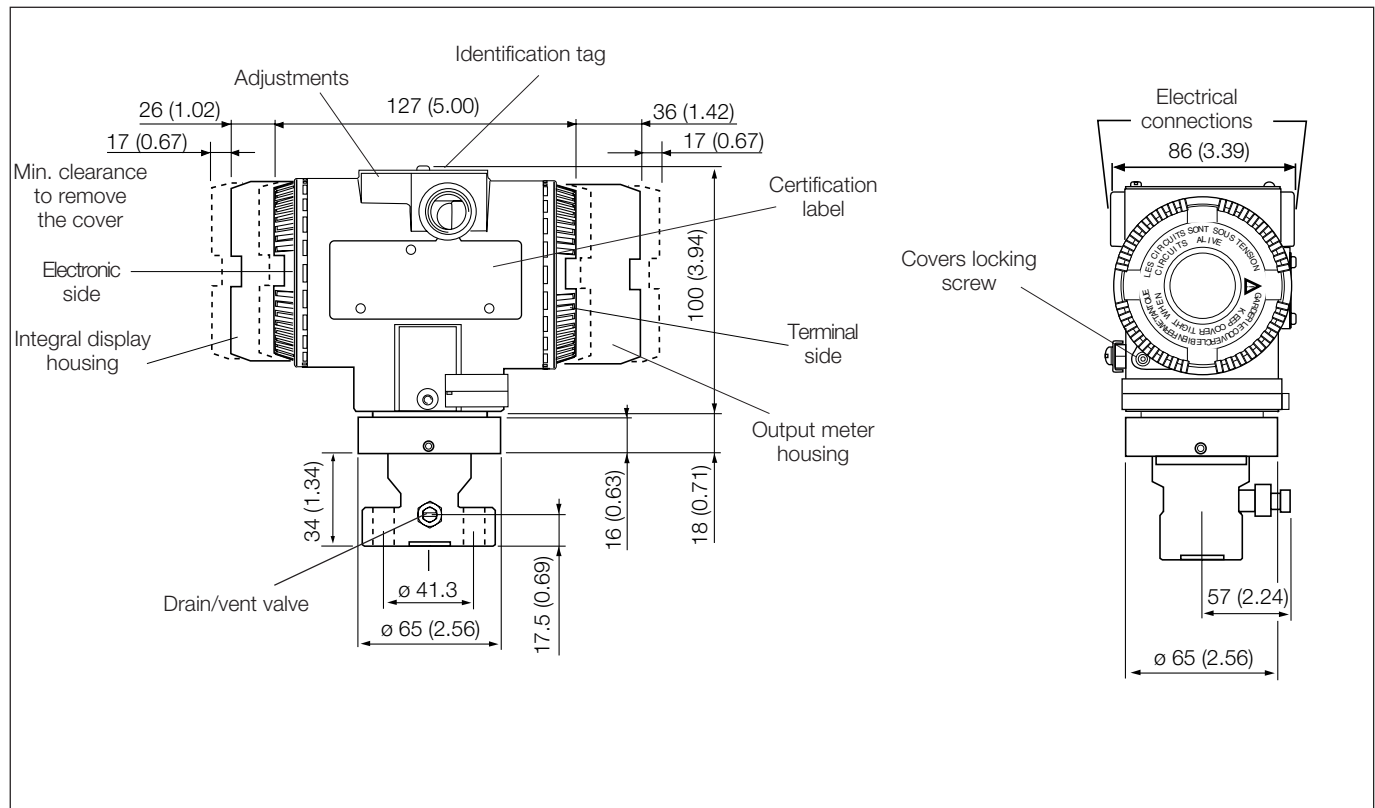
$\frac{1}{2}$  – 14 NPT female connection



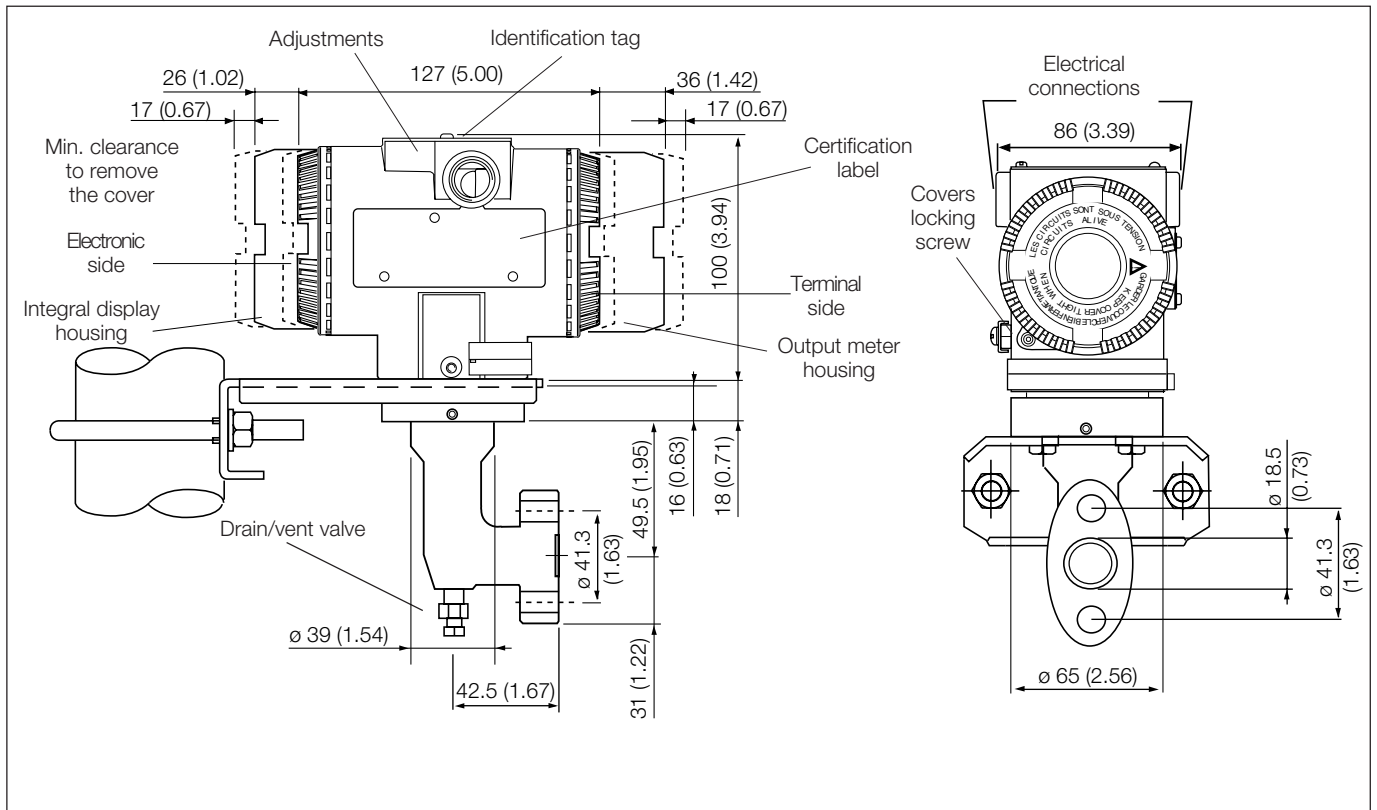
DIN-EN837-1 G 1/2 B connection



*1/2 - 14 NPT male connection*

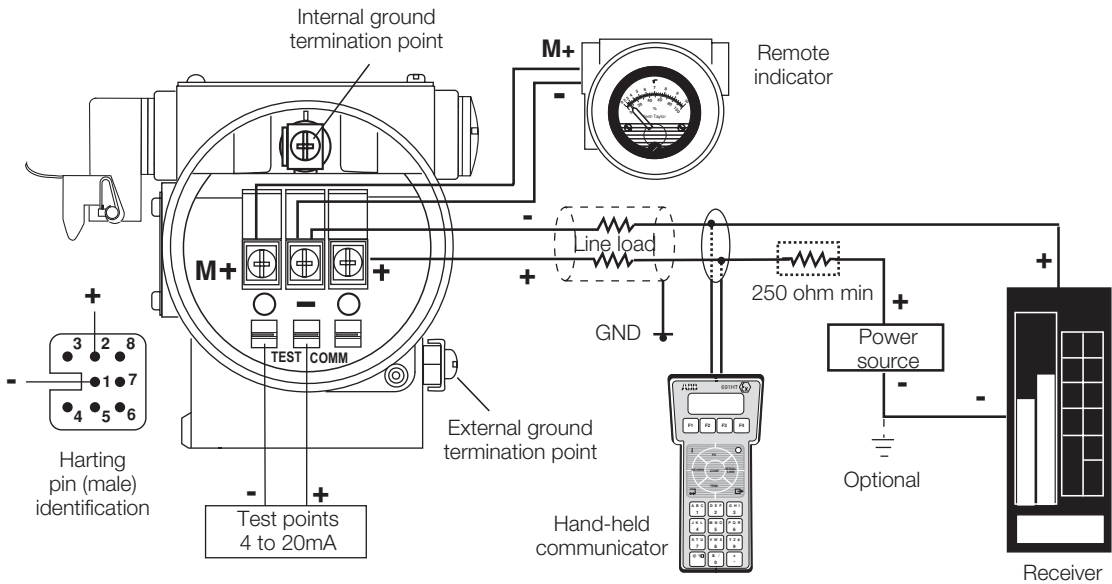


*Adapter straight (180°) entry connection (7/16 - 20 UNF drilling)*



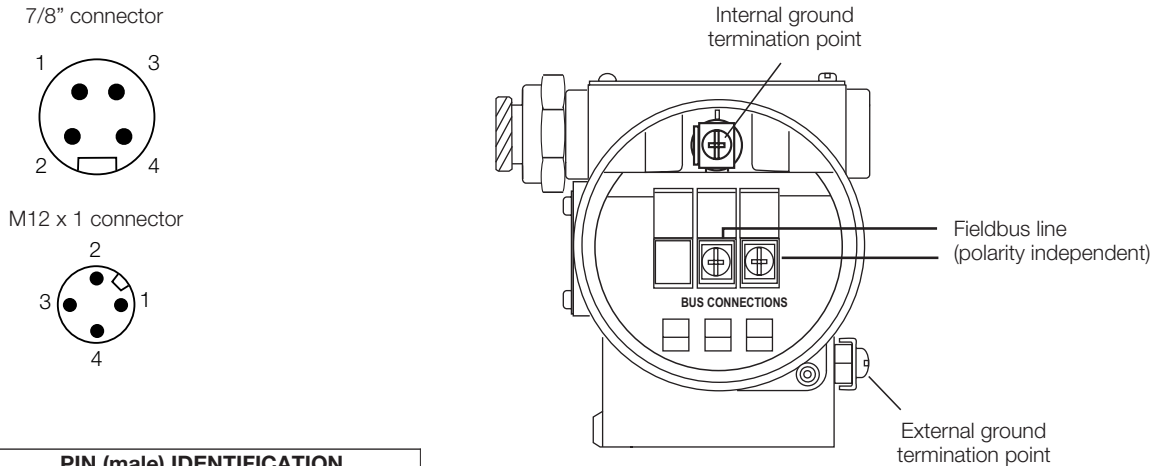
Adapter angle (90°) entry connection (7/16 – 20 UNF drilling)

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

FIELDBUS Versions



| PIN (male) IDENTIFICATION |                        |                |
|---------------------------|------------------------|----------------|
|                           | FOUNDATION<br>Fieldbus | PROFIBUS<br>PA |
| 1                         | FF-                    | PA+            |
| 2                         | FF+                    | GROUND         |
| 3                         | SHIELD                 | PA-            |
| 4                         | GROUND                 | SHIELD         |

CONNECTOR IS SUPPLIED LOOSE WITHOUT MATING FEMALE PLUG

**BASIC ORDERING INFORMATION model 264HF Gauge Pressure Transmitter (fast)**

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

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

| BASE MODEL – 1 <sup>st</sup> to 5 <sup>th</sup> characters                       |                 |                                                                 |                        | 2 | 6 | 4 | H | F | X        | X | X | X | X |
|----------------------------------------------------------------------------------|-----------------|-----------------------------------------------------------------|------------------------|---|---|---|---|---|----------|---|---|---|---|
| Gauge Pressure Transmitter (fast) – BASE ACCURACY 0.075%                         |                 |                                                                 |                        |   |   |   |   |   |          |   |   |   |   |
| <b>SENSOR - Span limits – 6<sup>th</sup> character</b>                           |                 |                                                                 |                        |   |   |   |   |   |          |   |   |   |   |
| 0.65 and 65kPa                                                                   | 6.5 and 650mbar | 2.6 and 260inH <sub>2</sub> O                                   |                        |   |   |   |   |   | G        |   |   |   |   |
| 1.6 and 160kPa                                                                   | 16 and 1600mbar | 6.4 and 642inH <sub>2</sub> O                                   |                        |   |   |   |   |   | H        |   |   |   |   |
| <b>Diaphragm material / Fill fluid (wetted parts) – 7<sup>th</sup> character</b> |                 |                                                                 |                        |   |   |   |   |   |          |   |   |   |   |
| AISI 316 L ss                                                                    |                 | Silicone oil                                                    |                        |   |   |   |   |   |          |   | S |   |   |
| Hastelloy C276™ (on AISI seat)                                                   |                 | Silicone oil                                                    |                        |   |   |   |   |   | NACE     |   | H |   |   |
| Hastelloy C276™                                                                  |                 | Silicone oil                                                    |                        |   |   |   |   |   | NACE     |   | K |   |   |
| Monel 400™                                                                       |                 | Silicone oil                                                    |                        |   |   |   |   |   | NACE     |   | M |   |   |
| Tantalum                                                                         |                 | Silicone oil                                                    |                        |   |   |   |   |   | NACE     |   | T |   |   |
| AISI 316 L ss                                                                    |                 | Inert fluid - Galden                                            |                        |   |   |   |   |   |          |   | A |   |   |
| Hastelloy C276™ (on AISI seat)                                                   |                 | Inert fluid - Galden                                            | (Note 1)               |   |   |   |   |   | NACE     |   | B |   |   |
| Hastelloy C276™                                                                  |                 | Inert fluid - Galden                                            | (Note 1)               |   |   |   |   |   | NACE     |   | F |   |   |
| Monel 400™                                                                       |                 | Inert fluid - Galden                                            | (Note 1)               |   |   |   |   |   | NACE     |   | C |   |   |
| Tantalum                                                                         |                 | Inert fluid - Galden                                            | (Note 1)               |   |   |   |   |   | NACE     |   | D |   |   |
| AISI 316 L ss                                                                    |                 | Inert fluid - Halocarbon                                        | (Note 1)               |   |   |   |   |   |          |   | L |   |   |
| Hastelloy C276™ (on AISI seat)                                                   |                 | Inert fluid - Halocarbon                                        | (Note 1)               |   |   |   |   |   | NACE     |   | Q |   |   |
| Hastelloy C276™                                                                  |                 | Inert fluid - Halocarbon                                        | (Note 1)               |   |   |   |   |   | NACE     |   | P |   |   |
| Monel 400™                                                                       |                 | Inert fluid - Halocarbon                                        | (Note 1)               |   |   |   |   |   | NACE     |   | 4 |   |   |
| Tantalum                                                                         |                 | Inert fluid - Halocarbon                                        | (Note 1)               |   |   |   |   |   | NACE     |   | 5 |   |   |
| <b>Process connection material (wetted parts) – 8<sup>th</sup> character</b>     |                 |                                                                 |                        |   |   |   |   |   |          |   |   |   |   |
| AISI 316 L ss                                                                    |                 | 1/2 – 14 NPT female                                             | (Note 2)               |   |   |   |   |   | NACE     |   | B |   |   |
| AISI 316 L ss                                                                    |                 | 1/2 – 14 NPT male                                               | (Note 2)               |   |   |   |   |   | NACE     |   | T |   |   |
| AISI 316 L ss                                                                    |                 | DIN EN837-1 G 1/2 B                                             | (Note 2)               |   |   |   |   |   | NACE     |   | P |   |   |
| AISI 316 L ss                                                                    |                 | Adapter straight (180°) entry (Not available with bracket)      | (Note 2)               |   |   |   |   |   | NACE     |   | A |   |   |
| AISI 316 L ss                                                                    |                 | Adapter angle (90°) entry                                       | (Note 2)               |   |   |   |   |   | NACE     |   | N |   |   |
| Hastelloy C276™                                                                  |                 | 1/2 – 14 NPT female                                             | (Note 3)               |   |   |   |   |   | NACE     |   | E |   |   |
| Hastelloy C276™                                                                  |                 | 1/2 – 14 NPT male                                               | (Note 3)               |   |   |   |   |   | NACE     |   | K |   |   |
| Hastelloy C276™                                                                  |                 | DIN EN837-1 G 1/2 B                                             | (Note 3)               |   |   |   |   |   | NACE     |   | D |   |   |
| Hastelloy C276™                                                                  |                 | Adapter straight (180°) entry (Not available with bracket)      | (Note 3)               |   |   |   |   |   | NACE     |   | F |   |   |
| Hastelloy C276™                                                                  |                 | Adapter angle (90°) entry                                       | (Note 3)               |   |   |   |   |   | NACE     |   | C |   |   |
| Monel 400™                                                                       |                 | 1/2 – 14 NPT female                                             | (Note 4)               |   |   |   |   |   | NACE     |   | 1 |   |   |
| Monel 400™                                                                       |                 | 1/2 – 14 NPT male                                               | (Note 4)               |   |   |   |   |   | NACE     |   | 2 |   |   |
| Monel 400™                                                                       |                 | DIN EN837-1 G 1/2 B                                             | (Note 4)               |   |   |   |   |   | NACE     |   | 3 |   |   |
| <b>Housing material and electrical connection – 9<sup>th</sup> character</b>     |                 |                                                                 |                        |   |   |   |   |   |          |   |   |   |   |
| Aluminium alloy (Barrel version)                                                 |                 | 1/2 – 14 NPT                                                    |                        |   |   |   |   |   |          |   |   | A |   |
| Aluminium alloy (Barrel version)                                                 |                 | M20 x 1.5 (CM 20)                                               |                        |   |   |   |   |   |          |   |   | B |   |
| Aluminium alloy (Barrel version)                                                 |                 | Pg 13.5                                                         |                        |   |   |   |   |   |          |   |   | D |   |
| Aluminium alloy (Barrel version)                                                 |                 | 1/2 GK                                                          |                        |   |   |   |   |   |          |   |   | C |   |
| Aluminium alloy (Barrel version)                                                 |                 | Harting Han connector                                           | (general purpose only) |   |   |   |   |   | (Note 5) |   |   | E |   |
| Aluminium alloy (Barrel version)                                                 |                 | Fieldbus connector                                              | (general purpose only) |   |   |   |   |   | (Note 5) |   |   | G |   |
| Aluminium alloy copper-free (Barrel version)                                     |                 | 1/2 – 14 NPT                                                    |                        |   |   |   |   |   |          |   |   | H |   |
| Aluminium alloy copper-free (Barrel version)                                     |                 | M20 x 1.5 (CM 20)                                               |                        |   |   |   |   |   |          |   |   | L |   |
| Aluminium alloy copper-free (Barrel version)                                     |                 | Pg 13.5                                                         |                        |   |   |   |   |   |          |   |   | N |   |
| Aluminium alloy copper-free (Barrel version)                                     |                 | 1/2 GK                                                          |                        |   |   |   |   |   |          |   |   | M |   |
| Aluminium alloy copper-free (Barrel version)                                     |                 | Harting Han connector                                           | (general purpose only) |   |   |   |   |   | (Note 5) |   |   | P |   |
| Aluminium alloy copper-free (Barrel version)                                     |                 | Fieldbus connector                                              | (general purpose only) |   |   |   |   |   | (Note 5) |   |   | R |   |
| AISI 316 L ss (Barrel version)                                                   |                 | 1/2 – 14 NPT                                                    |                        |   |   |   |   |   |          |   |   | S |   |
| AISI 316 L ss (Barrel version)                                                   |                 | M20 x 1.5 (CM20)                                                |                        |   |   |   |   |   |          |   |   | T |   |
| AISI 316 L ss (Barrel version)                                                   |                 | Pg 13.5                                                         |                        |   |   |   |   |   |          |   |   | V |   |
| AISI 316 L ss (Barrel version)                                                   |                 | 1/2 GK                                                          |                        |   |   |   |   |   |          |   |   | U |   |
| AISI 316 L ss (Barrel version)                                                   |                 | Fieldbus connector                                              | (general purpose only) |   |   |   |   |   | (Note 5) |   |   | Z |   |
| <b>Output/Additional options – 10<sup>th</sup> character</b>                     |                 |                                                                 |                        |   |   |   |   |   |          |   |   |   |   |
| HART digital communication and 4 to 20mA                                         |                 | No additional options                                           | (Notes 6, 7)           |   |   |   |   |   |          |   |   |   | H |
| HART digital communication and 4 to 20mA                                         |                 | Options requested (to be ordered by "Additional ordering code") | (Note 6)               |   |   |   |   |   |          |   |   |   | 1 |
| PROFIBUS PA                                                                      |                 | No additional options                                           | (Notes 6, 7)           |   |   |   |   |   |          |   |   |   | P |
| PROFIBUS PA                                                                      |                 | Options requested (to be ordered by "Additional ordering code") | (Note 7)               |   |   |   |   |   |          |   |   |   | 2 |
| FOUNDATION Fieldbus                                                              |                 | No additional options                                           | (Notes 6, 7)           |   |   |   |   |   |          |   |   |   | F |
| FOUNDATION Fieldbus                                                              |                 | Options requested (to be ordered by "Additional ordering code") | (Note 7)               |   |   |   |   |   |          |   |   |   | 3 |

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

[illegible]

- Note 1: Suitable for oxygen service
- Note 2: Not available with diaphragm code K, T, F, D, P, M, C, 4, 5
- Note 3: Not available with diaphragm code S, H, A, B, L, Q, M, C, 4
- Note 4: Not available with diaphragm code S, H, K, T, A, B, F, D, L, Q, P, 5
- Note 5: Select type in additional ordering code
- Note 6: Not available with Electronic Housing code Z, R, G
- Note 7: Not available with Electronic Housing code P, E
- Note 8: Not available with Process connection code E, K, D, F, C, 1, 2, 3
- Note 9: Not available with Process connection code B, T, A, P, N, 1, 2, 3
- Note 10: Not available with Process connection code E, K, D, F, C, B, T, A, P, N
- Note 11: Not available with PROFIBUS PA and FF output code 2 or 3
- Note 12: Not XP Explosion proof
- Note 13: Not available with Electronic housing code U, S, T, V, H, M, L, N, D, C, A, B

- ™ Hastelloy is a Cabot Corporation trademark
- ™ Monel is an International Nickel Co. trademark
- ™ Galden is a Montefluos trademark
- ™ Halocarbon is a Halocarbon Products Co. trademark

**Standard delivery items (can be differently specified by additional ordering code)**

- No drain/vent valve
- General purpose (no electrical certification)
- No meter/display, no mounting bracket, no surge protection
- English manual and labels
- Configuration with kPa and deg. C units
- No test, inspection or material traceability certificates

THE SELECTION OF SUITABLE WETTED PARTS AND FILLING FLUID FOR COMPATIBILITY WITH THE PROCESS MEDIA IS A CUSTOMER'S RESPONSIBILITY, IF NOT OTHERWISE NOTIFIED BEFORE MANUFACTURING.

**BASIC ORDERING INFORMATION model 264NF Absolute Pressure Transmitter (fast)**

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

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

| BASE MODEL – 1 <sup>st</sup> to 5 <sup>th</sup> characters                 |                                                                 |                        | 2 | 6 | 4 | N | F | X        | X | X | X | X |
|----------------------------------------------------------------------------|-----------------------------------------------------------------|------------------------|---|---|---|---|---|----------|---|---|---|---|
| Absolute Pressure Transmitter (fast) – BASE ACCURACY 0.075%                |                                                                 |                        |   |   |   |   |   |          |   |   |   |   |
| SENSOR - Span limits – 6 <sup>th</sup> character                           |                                                                 |                        |   |   |   |   |   |          |   |   |   |   |
| 1.1 and 65kPa                                                              | 11 and 650mbar                                                  | 8 and 480mmHg          |   |   |   |   |   | G        |   |   |   |   |
| 2.67 and 160kPa                                                            | 26.7 and 1600mbar                                               | 20 and 1200mmHg        |   |   |   |   |   | H        |   |   |   |   |
| Diaphragm material / Fill fluid (wetted parts) – 7 <sup>th</sup> character |                                                                 |                        |   |   |   |   |   |          |   |   |   |   |
| AISI 316 L ss                                                              | Silicone oil                                                    |                        |   |   |   |   |   |          | S |   |   |   |
| Hastelloy C276™ (on AISI seat)                                             | Silicone oil                                                    |                        |   |   |   |   |   | NACE     | H |   |   |   |
| Hastelloy C276™                                                            | Silicone oil                                                    |                        |   |   |   |   |   | NACE     | K |   |   |   |
| AISI 316 L ss                                                              | Inert fluid - Galden                                            | (Note 1)               |   |   |   |   |   |          | A |   |   |   |
| Hastelloy C276™ (on AISI seat)                                             | Inert fluid - Galden                                            | (Note 1)               |   |   |   |   |   | NACE     | B |   |   |   |
| Hastelloy C276™                                                            | Inert fluid - Galden                                            | (Note 1)               |   |   |   |   |   | NACE     | F |   |   |   |
| AISI 316 L ss                                                              | Inert fluid - Halocarbon                                        | (Note 1)               |   |   |   |   |   |          | L |   |   |   |
| Hastelloy C276™ (on AISI seat)                                             | Inert fluid - Halocarbon                                        | (Note 1)               |   |   |   |   |   | NACE     | Q |   |   |   |
| Hastelloy C276™                                                            | Inert fluid - Halocarbon                                        | (Note 1)               |   |   |   |   |   | NACE     | P |   |   |   |
| Process connection material (wetted parts) – 8 <sup>th</sup> character     |                                                                 |                        |   |   |   |   |   |          |   |   |   |   |
| AISI 316 L ss                                                              | 1/2 – 14 NPT female                                             | (Note 2)               |   |   |   |   |   | NACE     |   | B |   |   |
| AISI 316 L ss                                                              | 1/2 – 14 NPT male                                               | (Note 2)               |   |   |   |   |   | NACE     |   | T |   |   |
| AISI 316 L ss                                                              | DIN EN837–1 G 1/2 B                                             | (Note 2)               |   |   |   |   |   | NACE     |   | P |   |   |
| AISI 316 L ss                                                              | Adapter straight (180° ) entry (Not available with bracket)     | (Note 2)               |   |   |   |   |   | NACE     |   | A |   |   |
| AISI 316 L ss                                                              | Adapter angle (90° ) entry                                      | (Note 2)               |   |   |   |   |   | NACE     |   | N |   |   |
| Hastelloy C276™                                                            | 1/2 – 14 NPT female                                             | (Note 3)               |   |   |   |   |   | NACE     |   | E |   |   |
| Hastelloy C276™                                                            | 1/2 – 14 NPT male                                               | (Note 3)               |   |   |   |   |   | NACE     |   | K |   |   |
| Hastelloy C276™                                                            | DIN EN837–1 G 1/2 B                                             | (Note 3)               |   |   |   |   |   | NACE     |   | D |   |   |
| Hastelloy C276™                                                            | Adapter straight (180° ) entry (Not available with bracket)     | (Note 3)               |   |   |   |   |   | NACE     |   | F |   |   |
| Hastelloy C276™                                                            | Adapter angle (90° ) entry                                      | (Note 3)               |   |   |   |   |   | NACE     |   | C |   |   |
| Housing material and electrical connection – 9 <sup>th</sup> character     |                                                                 |                        |   |   |   |   |   |          |   |   |   |   |
| Aluminium alloy (Barrel version)                                           | 1/2 – 14 NPT                                                    |                        |   |   |   |   |   |          |   | A |   |   |
| Aluminium alloy (Barrel version)                                           | M20 x 1.5 (CM 20)                                               |                        |   |   |   |   |   |          |   | B |   |   |
| Aluminium alloy (Barrel version)                                           | Pg 13.5                                                         |                        |   |   |   |   |   |          |   | D |   |   |
| Aluminium alloy (Barrel version)                                           | 1/2 GK                                                          |                        |   |   |   |   |   |          |   | C |   |   |
| Aluminium alloy (Barrel version)                                           | Harting Han connector                                           | (general purpose only) |   |   |   |   |   | (Note 4) |   | E |   |   |
| Aluminium alloy (Barrel version)                                           | Fieldbus connector                                              | (general purpose only) |   |   |   |   |   | (Note 4) |   | G |   |   |
| Aluminium alloy copper-free (Barrel version)                               | 1/2 – 14 NPT                                                    |                        |   |   |   |   |   |          |   | H |   |   |
| Aluminium alloy copper-free (Barrel version)                               | M20 x 1.5 (CM 20)                                               |                        |   |   |   |   |   |          |   | L |   |   |
| Aluminium alloy copper-free (Barrel version)                               | Pg 13.5                                                         |                        |   |   |   |   |   |          |   | N |   |   |
| Aluminium alloy copper-free (Barrel version)                               | 1/2 GK                                                          |                        |   |   |   |   |   |          |   | M |   |   |
| Aluminium alloy copper-free (Barrel version)                               | Harting Han connector                                           | (general purpose only) |   |   |   |   |   | (Note 4) |   | P |   |   |
| Aluminium alloy copper-free (Barrel version)                               | Fieldbus connector                                              | (general purpose only) |   |   |   |   |   | (Note 4) |   | R |   |   |
| AISI 316 L ss (Barrel version)                                             | 1/2 – 14 NPT                                                    |                        |   |   |   |   |   |          |   | S |   |   |
| AISI 316 L ss (Barrel version)                                             | M20 x 1.5 (CM20)                                                |                        |   |   |   |   |   |          |   | T |   |   |
| AISI 316 L ss (Barrel version)                                             | Pg 13.5                                                         |                        |   |   |   |   |   |          |   | V |   |   |
| AISI 316 L ss (Barrel version)                                             | 1/2 GK                                                          |                        |   |   |   |   |   |          |   | U |   |   |
| AISI 316 L ss (Barrel version)                                             | Fieldbus connector                                              | (general purpose only) |   |   |   |   |   | (Note 4) |   | Z |   |   |
| Output/Additional options – 10 <sup>th</sup> character                     |                                                                 |                        |   |   |   |   |   |          |   |   |   |   |
| HART digital communication and 4 to 20mA                                   | No additional options                                           | (Notes 5, 6)           |   |   |   |   |   |          |   | H |   |   |
| HART digital communication and 4 to 20mA                                   | Options requested (to be ordered by "Additional ordering code") | (Note 5)               |   |   |   |   |   |          |   | 1 |   |   |
| PROFIBUS PA                                                                | No additional options                                           | (Notes 5, 6)           |   |   |   |   |   |          |   | P |   |   |
| PROFIBUS PA                                                                | Options requested (to be ordered by "Additional ordering code") | (Note 6)               |   |   |   |   |   |          |   | 2 |   |   |
| FOUNDATION Fieldbus                                                        | No additional options                                           | (Notes 5, 6)           |   |   |   |   |   |          |   | F |   |   |
| FOUNDATION Fieldbus                                                        | Options requested (to be ordered by "Additional ordering code") | (Note 6)               |   |   |   |   |   |          |   | 3 |   |   |

**ADDITIONAL ORDERING INFORMATION for model 264NF**

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

|                                                                                                                                                                                                          |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------|---------------|----------|----|----|----|----|----|----|----|----|----|---------------|----|----|
|                                                                                                                                                                                                          | XX       | XX                              | XX            | XX       | XX | XX | XX | XX | XX | XX | XX | XX | XX | XX            | XX | XX |
| <b>Drain/vent valve (wetted parts)</b>                                                                                                                                                                   |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| AISI 316 L ss                                                                                                                                                                                            | (Note 7) | NACE                            | VA            |          |    |    |    |    |    |    |    |    |    |               |    |    |
| Hastelloy C276™                                                                                                                                                                                          | (Note 8) | NACE                            | VB            |          |    |    |    |    |    |    |    |    |    |               |    |    |
| <b>Electrical certification</b>                                                                                                                                                                          |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| ATEX Group II Category 1 GD – Intrinsic Safety EEx ia                                                                                                                                                    |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | E1 |
| ATEX Group II Category 3 GD – Type of protection "N" EEx nL design compliance (Note 9)                                                                                                                   |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | E3 |
| Canadian Standard Association (CSA) (only 1/2–14NPT, M20 and Pg 13.5 elec.connection) (Note 10)                                                                                                          |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | E4 |
| Standards Australia SAA (Not Ex d; Not Ex ia, Ex n for PROFIBUS PA and FOUNDATION Fieldbus)                                                                                                              |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | E5 |
| Factory Mutual (FM) approval (only with 1/2–14NPT, M20 and Pg 13.5 elec. connection) (Note 10)                                                                                                           |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | E6 |
| NEPSI (China) - Intrinsic Safety Ex ia                                                                                                                                                                   |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | EY |
| GOST (Russia) EEx ia                                                                                                                                                                                     |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | W1 |
| GOST (Kazakhstan) EEx ia                                                                                                                                                                                 |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | W3 |
| Inmetro (Brazil) EEx ia (Note 9)                                                                                                                                                                         |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | W5 |
| Inmetro (Brazil) EEx nL (Note 9)                                                                                                                                                                         |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | W7 |
| <b>Output meter</b>                                                                                                                                                                                      |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| ProMeter, Standard calibration                                                                                                                                                                           |          |                                 |               | (Note 9) |    |    |    |    |    |    |    |    |    |               |    | D1 |
| ProMeter, Special calibration                                                                                                                                                                            |          |                                 |               | (Note 9) |    |    |    |    |    |    |    |    |    |               |    | D2 |
| Analog output indicator linear 0–100% scale                                                                                                                                                              |          |                                 |               | (Note 9) |    |    |    |    |    |    |    |    |    |               |    | D3 |
| Analog output indicator, special graduation (to be specified for linear scale)                                                                                                                           |          |                                 |               | (Note 9) |    |    |    |    |    |    |    |    |    |               |    | D5 |
| Programmable signal meter and HART configurator (CoMeter)                                                                                                                                                |          |                                 |               | (Note 9) |    |    |    |    |    |    |    |    |    |               |    | D7 |
| Programmable signal meter and HART configurator (CoMeter – customer configuration)                                                                                                                       |          |                                 |               | (Note 9) |    |    |    |    |    |    |    |    |    |               |    | D8 |
| <b>Integral LCD</b>                                                                                                                                                                                      |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| Digital LCD integral display                                                                                                                                                                             |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | L1 |
| <b>Mounting bracket (shape and material)</b>                                                                                                                                                             |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| For pipe mounting                                                                                                                                                                                        |          | (Not suitable for AISI housing) | Carbon steel  |          |    |    |    |    |    |    |    |    |    |               |    | B1 |
| For pipe mounting                                                                                                                                                                                        |          |                                 | AISI 316 L ss |          |    |    |    |    |    |    |    |    |    |               |    | B2 |
| <b>Surge</b>                                                                                                                                                                                             |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| Surge/Transient Protector (Internal for HART / 4–20mA)                                                                                                                                                   |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| Surge/Transient Protector (External supplied loose for PROFIBUS PA and FOUNDATION Fieldbus only suitable with 1/2–14NPT and M20 electrical connection and with ATEX, FM and CSA certifications, no DUST) |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | S1 |
| <b>Operating manual</b>                                                                                                                                                                                  |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| German                                                                                                                                                                                                   |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | M1 |
| Italian                                                                                                                                                                                                  |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | M2 |
| Spanish                                                                                                                                                                                                  |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | M3 |
| French                                                                                                                                                                                                   |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | M4 |
| <b>Labels &amp; tag language</b>                                                                                                                                                                         |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| German                                                                                                                                                                                                   |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | T1 |
| Italian                                                                                                                                                                                                  |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | T2 |
| Spanish                                                                                                                                                                                                  |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | T3 |
| French                                                                                                                                                                                                   |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | T4 |
| <b>Additional tag plate</b>                                                                                                                                                                              |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| Laser printing of tag on stainless steel plate                                                                                                                                                           |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | I2 |
| <b>Configuration</b>                                                                                                                                                                                     |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| Standard – Pressure = inH <sub>2</sub> O/psi at 20° C; Temperature = deg. F                                                                                                                              |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | N2 |
| Standard – Pressure = inH <sub>2</sub> O/psi at 4° C; Temperature = deg. F                                                                                                                               |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | N3 |
| Standard – Pressure = inH <sub>2</sub> O/psi at 20° C; Temperature = deg.C                                                                                                                               |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | N4 |
| Standard – Pressure = inH <sub>2</sub> O/psi at 4° C; Temperature = deg. C                                                                                                                               |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | N5 |
| Custom                                                                                                                                                                                                   |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | N6 |
| <b>Preparation procedure</b>                                                                                                                                                                             |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| Oxygen service cleaning (only available with inert fill) – P <sub>max</sub> = 12MPa for Galden or 9MPa for Halocarbon; T <sub>max</sub> = 60° C/140° F                                                   |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | P1 |
| <b>Certificates</b>                                                                                                                                                                                      |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| Inspection certificate EN 10204–3.1 of calibration (9-point)                                                                                                                                             |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | C1 |
| Certificate of compliance with the order EN 10204–2.1 of instrument design                                                                                                                               |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | C6 |
| <b>Material traceability</b>                                                                                                                                                                             |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| Certificate of compliance with the order EN 10204–2.1 of process wetted parts                                                                                                                            |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | H1 |
| Inspection certificate EN 10204–3.1 of process wetted parts                                                                                                                                              |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    | H3 |
| <b>Connector</b>                                                                                                                                                                                         |          |                                 |               |          |    |    |    |    |    |    |    |    |    |               |    |    |
| Fieldbus 7/8 (Recommended for FOUNDATION Fieldbus) - (supplied loose without mating female plug)                                                                                                         |          |                                 |               |          |    |    |    |    |    |    |    |    |    | (Notes 6, 11) |    | U1 |
| Fieldbus M12x1 (Recommended for PROFIBUS PA) - (supplied loose without mating female plug)                                                                                                               |          |                                 |               |          |    |    |    |    |    |    |    |    |    | (Notes 6, 11) |    | U2 |
| Harting Han – straight entry                                                                                                                                                                             |          |                                 |               |          |    |    |    |    |    |    |    |    |    | (Notes 5, 11) |    | U3 |
| Harting Han – angle entry                                                                                                                                                                                |          |                                 |               |          |    |    |    |    |    |    |    |    |    | (Notes 5, 11) |    | U4 |

- Note 1: Suitable for oxygen service
- Note 2: Not available with diaphragm code K, F, P
- Note 3: Not available with diaphragm code S, H, A, B, L, Q
- Note 4: Select type in additional ordering code
- Note 5: Not available with Electronic Housing code Z, R, G
- Note 6: Not available with Electronic Housing code P, E
- Note 7: Not available with Process connection code E, K, D, F, C
- Note 8: Not available with Process connection code B, T, A, P, N
- Note 9: Not available with PROFIBUS PA and FF output code 2 or 3
- Note 10: Not XP Explosion proof
- Note 11: Not available with Electronic housing code U, S, T, V, H, M, L, N, D, C, A, B

™ Hastelloy is a Cabot Corporation trademark

™ Galden is a Montefluos trademark

™ Halocarbon is a Halocarbon Products Co. trademark

**Standard delivery items (can be differently specified by additional ordering code)**

- No drain/vent valve
- General purpose (no electrical certification)
- No meter/display, no mounting bracket, no surge protection
- English manual and labels
- Configuration with kPa and deg. C units
- No test, inspection or material traceability certificates

THE SELECTION OF SUITABLE WETTED PARTS AND FILLING FLUID FOR COMPATIBILITY WITH THE PROCESS MEDIA IS A CUSTOMER'S RESPONSIBILITY, IF NOT OTHERWISE NOTIFIED BEFORE MANUFACTURING.



# 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

## **ABB S.p.A.**

### **Process Automation**

Via Statale 113  
22016 Lenno (CO)  
Italy

Tel: +39 0344 58111

Fax: +39 0344 56278

**[www.abb.com](http://www.abb.com)**

## **Note**

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents - in whole or in parts - is forbidden without prior written consent of ABB.

Copyright© 2010 ABB

All rights reserved

<sup>TM</sup> Hastelloy is a Cabot Corporation trademark

<sup>TM</sup> Monel is an International Nickel Co. trademark

<sup>TM</sup> DC200 is a Dow Corning Corporation trademark

<sup>TM</sup> Galden is a Montefluos trademark

<sup>TM</sup> Halocarbon is a Halocarbon Products Co. trademark

DS/264HF/NF-EN Rev. F 12.2010