

Model 264GS Gauge Model 264AS Absolute

ABB 2600T Series
Engineered solutions
for all applications



Base accuracy : $\pm 0.075\%$

Span limits

- 0.2 to 60000kPa; 0.8inH₂O to 8700psi
- 0.3 to 3000kPa abs; 2.25mmHg to 435psia

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 III

Functional Specifications

Range and span limits

Sensor Code	Upper Range Limit (URL)	Lower Range Limit (LRL) for 264GS	Minimum span	
			264GS gauge	264AS absolute
C	6kPa 60mbar 24inH ₂ O	-6kPa -60mbar -24inH ₂ O	0.2kPa 2mbar 0.8inH ₂ O	0.3kPa 3mbar 2.25mmHg
F	40kPa 400mbar 160inH ₂ O	-40kPa -400mbar -160inH ₂ O	0.4kPa 4mbar 1.6inH ₂ O	2kPa 20mbar 15mmHg
L	250kPa 2500mbar 1000inH ₂ O	0 abs	2.5kPa 25mbar 10inH ₂ O	12.5kPa 125mbar 93.8mmHg
U	3000kPa 30bar 435psi	0 abs	30kPa 0.3bar 4.35psi	150kPa 1.5bar 21.7psi
R	10000kPa 100bar 1450psi	0 abs	100kPa 1bar 14.5psi	
V	60000kPa 600bar 8700psi	0 abs	600kPa 6bar 87psi	

Note : Lower Range Limit (LRL) for 264AS 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 \geq 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

> 100M Ω at 1000VDC (terminals to earth)

Operative limits

Temperature limits °C (°F) :

Ambient (is the operating temperature)

Silicone oil filling: -40°C and +85°C (-40°F and +185°F)

Inert filling and white oil: -20°C and +85°C (-4°F and +185°F)

Lower limit for LCD indicators and Viton gasket: -20°C (-4°F)

Lower limit for perfluoroelastomer gasket: -15°C (+5°F)

Upper 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

– -50°C (-58°F); -20°C (-4°F) for Viton gasket.

– -15°C (+5°F) for perfluoroelastomer gasket

Upper limit

– Silicone oil, inert fluid and white oil: 121°C (250°F)

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 absolute to
- 1MPa, 10bar, 145psi for sensor codes C, F
- 0.5MPa, 5bar, 72.5psi for sensor code L
- 6MPa, 60bar, 870psi for sensor code U
- 20MPa, 200bar, 2900psi for sensor code R
- 90MPa, 900bar, 13050psi for sensor code V
- 0.6MPa, 6bar, 87psi for perfluoroelastomer gasket

Proof pressure

The transmitter can be exposed without leaking to line pressure of up to

- 1MPa, 10bar, 145psi for sensor codes C, F
- 0.5MPa, 5bar, 72.5psi for sensor code L
- 6MPa, 60bar, 870psi for sensor code U
- 20MPa, 200bar, 2900psi for sensor code R
- 90MPa, 900bar, 13050psi for sensor code V
- 0.6MPa, 6bar, 87psi for perfluoroelastomer gasket

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 III Module H.

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 EN60529 (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

- COMBINED ATEX (Intrinsic safety and flameproof), FM and CSA ZELM approval. See below detailed classifications.
- COMBINED INTRINSIC SAFETY and FLAMEPROOF/EUROPE: ATEX/ZELM approval
 - II 1 GD T50°C, EEx ia IIC T6 (–40°C ≤ Ta ≤ +40°C)
 - T95°C, EEx ia IIC T4 (–40°C ≤ Ta ≤ +85°C)
 - II 1/2 GD T85°C, EEx d IIC T6 (–40°C ≤ Ta ≤ +75°C)
- INTRINSIC SAFETY/EUROPE: ATEX/ZELM approval
 - II 1 GD T50°C, EEx ia IIC T6 (–40°C ≤ Ta ≤ +40°C)
 - T95°C, EEx ia IIC T4 (–40°C ≤ Ta ≤ +85°C)
- TYPE "N"/EUROPE: ATEX/ZELM type examination (for HART)
 - II 3 GD T50°C, EEx nL IIC T6 (–40°C ≤ Ta ≤ +40°C)
 - T95°C, EEx nL IIC T4 (–40°C ≤ Ta ≤ +85°C)
- FLAMEPROOF/EUROPE: ATEX/CESI approval
 - II 1/2 GD T85°C, EEx d IIC T6 (–40°C ≤ Ta ≤ +75°C)
- CANADIAN STANDARDS ASSOCIATION and FACTORY MUTUAL:
 - Explosionproof: Class I, Div. 1, Groups A, 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
 - AEx ia IIC T6/T4, Zone 0 (FM)
- STANDARDS AUSTRALIA (SAA): TS Approval
 - Intrinsically safe Ex ia IIC T4/T5 (–20°C ≤ Ta ≤ +80°C) only HART
 - No sparking Ex n IIC T4/T6 (–20°C ≤ Ta ≤ +80°C) only HART
 - Flameproof Ex d IIC T4/T6 (–20°C ≤ Ta ≤ +80°C)
 - Dust ignitionproof DIP A21 Ta T6 (–20°C ≤ Ta ≤ +80°C)
- INTRINSIC SAFETY/CHINA NEPSI approval Ex ia IIC T4-T6
- FLAMEPROOF/CHINA NEPSI approval Ex d IIC T6
- GOST (Russia), GOST (Kazakhstan), Inmetro (Brazil) based on ATEX

Electrical Characteristics and Options

HART digital communication and 4 to 20mA output

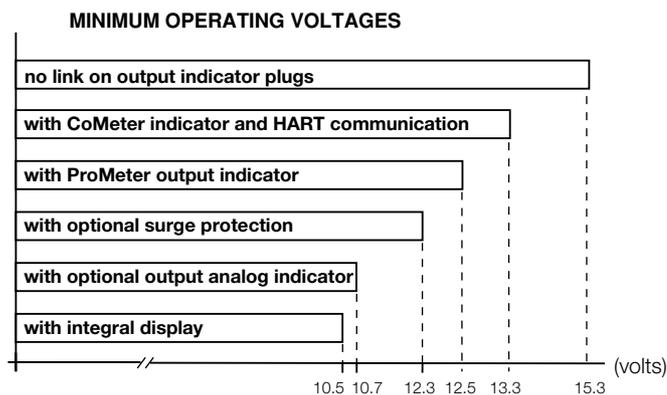
Power Supply

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

– current 8 μs rise time / 20 μs 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 ceramic 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):

– 150 ms for all sensors

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 264GS

– ±0.075% for TD from 1:1 to 15:1 (10:1 for sensor C)

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

– ±0.0075% x $\frac{\text{URL}}{\text{Span}}$ for TD from 10:1 to 30:1 for sensor C

Model 264AS

– ±0.075% for TD from 1:1 to 10:1

– ±0.0075% x $\frac{\text{URL}}{\text{Span}}$ 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	Sensor Code	for TD up to	
264GS	F to V	15:1	± (0.04% URL + 0.065% span)
	C	10:1	± (0.06% URL + 0.10% span)
264AS	F to U	10:1	± (0.04% URL + 0.065% span)
	C	10:1	± (0.065% URL + 0.10% 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 (*)

Ceramic (Al₂O₃) gold-plated; Hastelloy C276™;

Hastelloy C276™ gold-plated.

Process connection (*)

AISI 316 L ss; Hastelloy C276™.

Gasket (only for sensor codes C, F) (*)

Viton™, Perfluoroelastomer, Perbunan (NBR).

Sensor fill fluid

Silicone oil; inert fill (Carbon fluoride); 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

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; or at operating temperature.

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 (not for sensor V)

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.

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 2.5mm² (14AWG) and three connection points for test and communication purposes.

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

Grounding

Internal and external 6mm² (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)

1.2kg approx (3lb); 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

(*) 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:

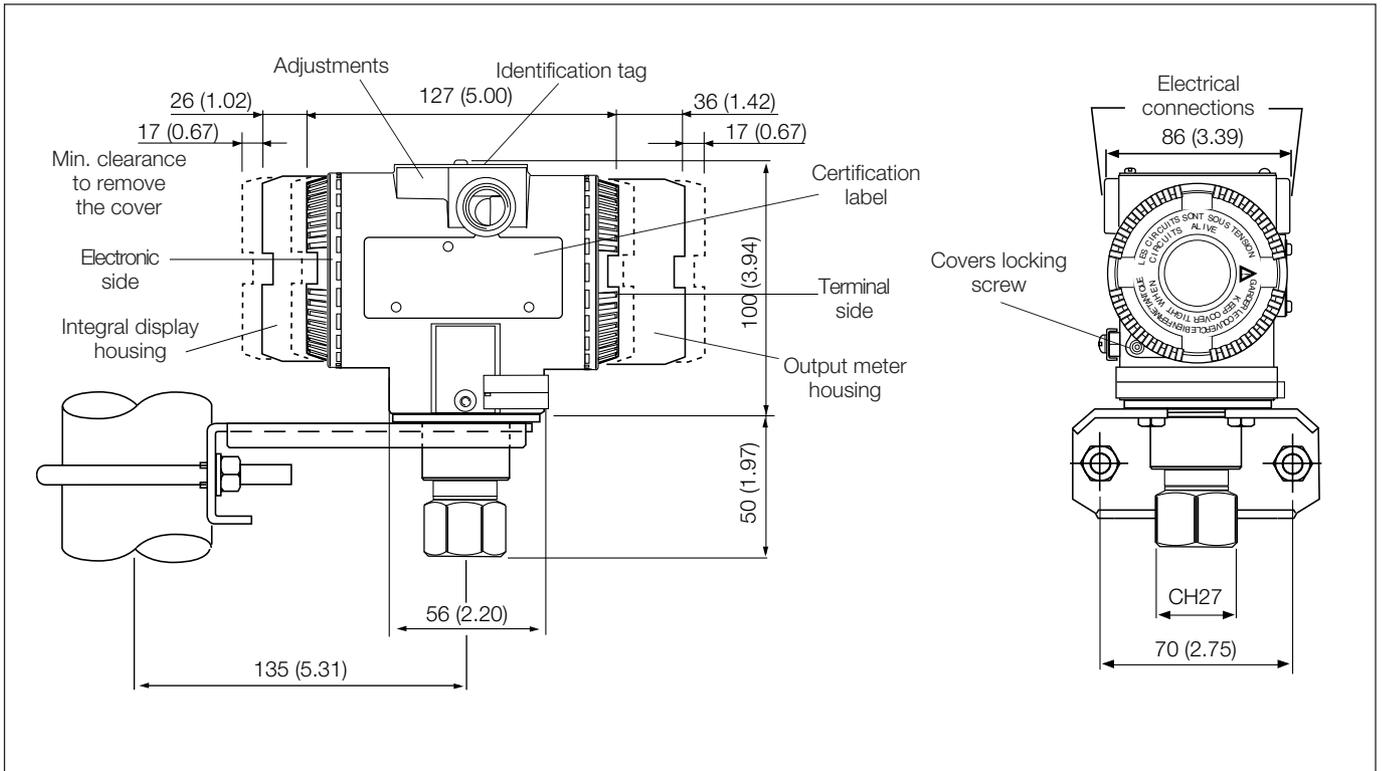
Measure Profile	Pressure
Engineering Unit	kPa
Output scale 0%	Lower Range Limit (LRL)
Output scale 100%	Upper Range Limit (URL)
Output	Linear
Hi-Hi Limit	Upper Range Limit (URL)
Hi Limit :	Upper Range Limit (URL)
Low Limit	Lower Range Limit (LRL)
Low-Low Limit	Lower Range Limit (LRL)
Limits hysteresis	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.

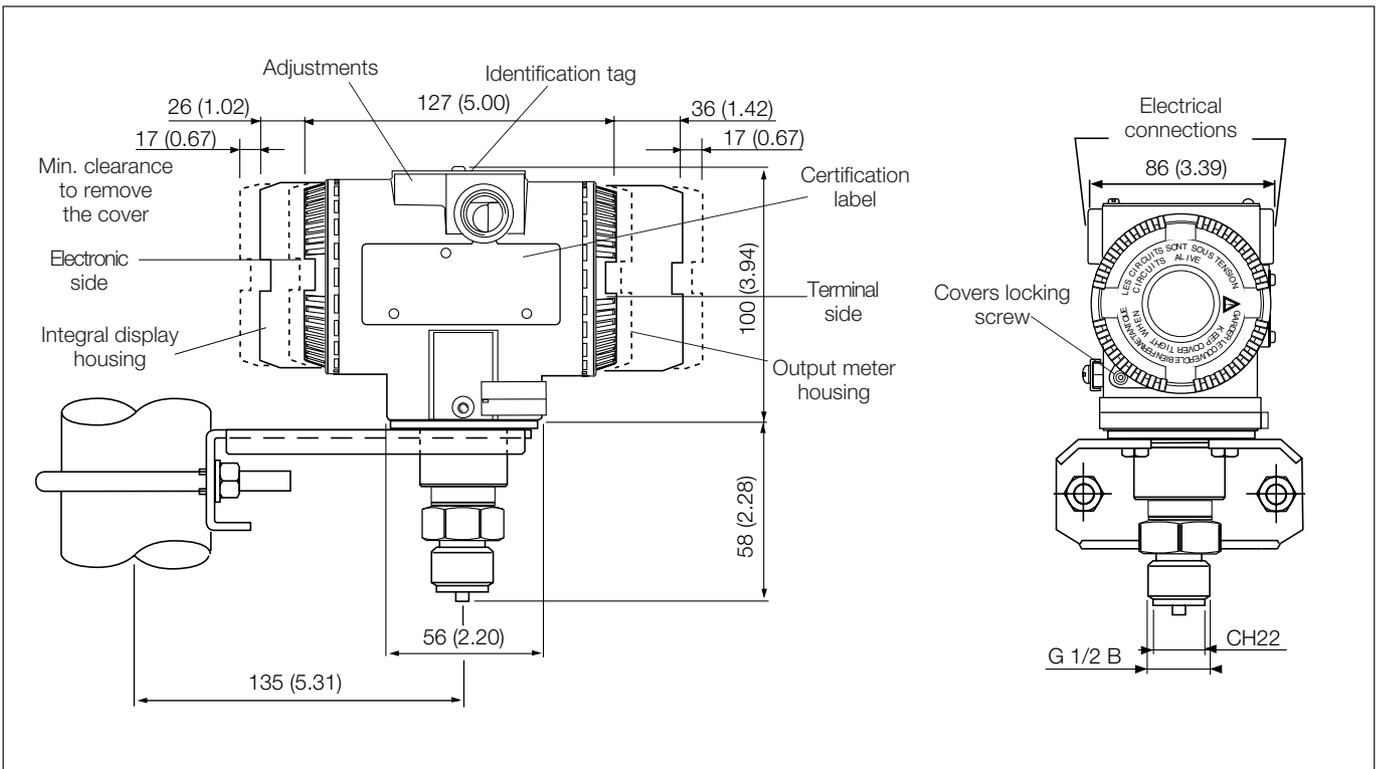
For any protocol available engineering units of pressure measure are :

Pa, kPa, MPa
 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

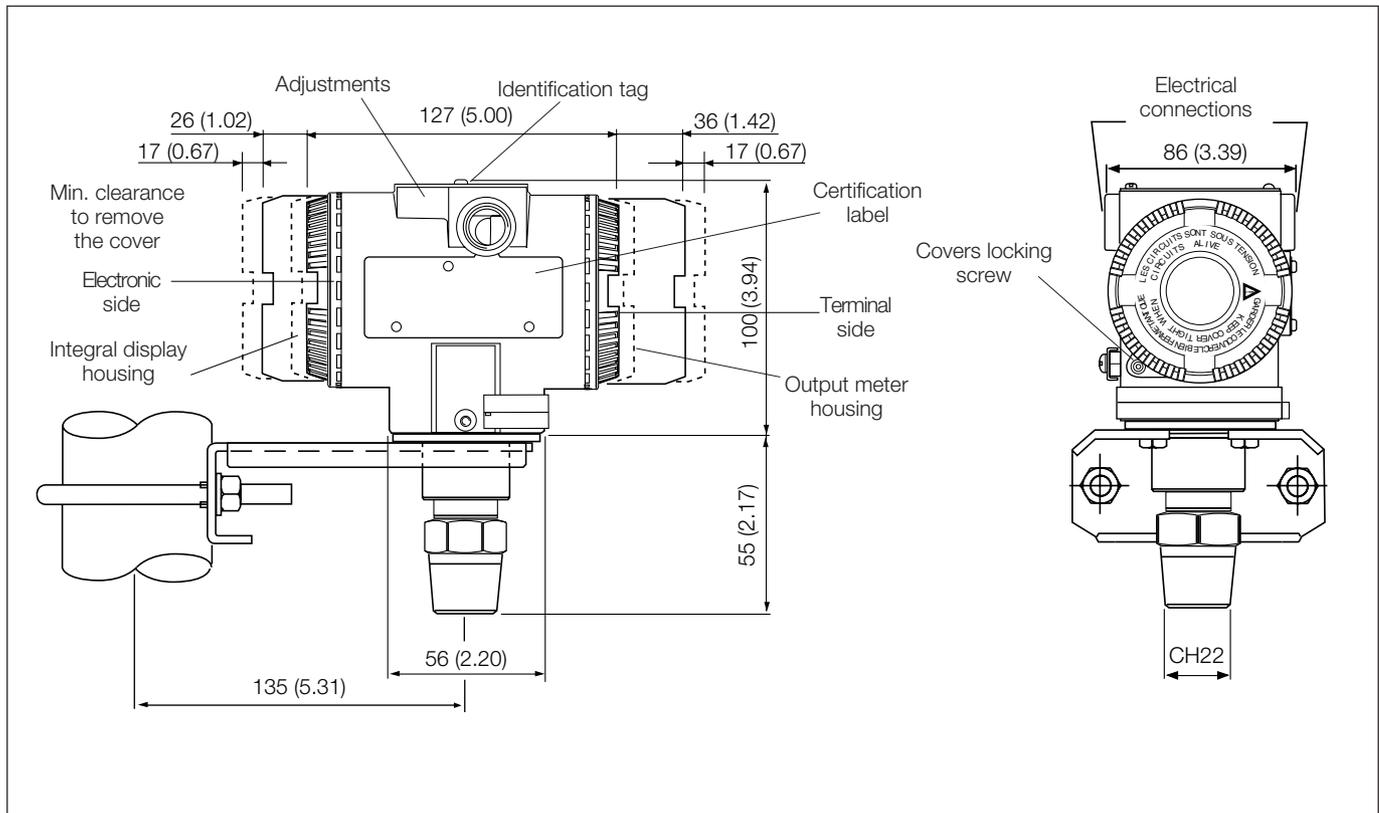
MOUNTING DIMENSIONS (not for construction unless certified) - dimensions in mm (in)
Transmitter with barrel housing on bracket for 60mm (2in) pipe mounting



1/2 – 14 NPT female connection



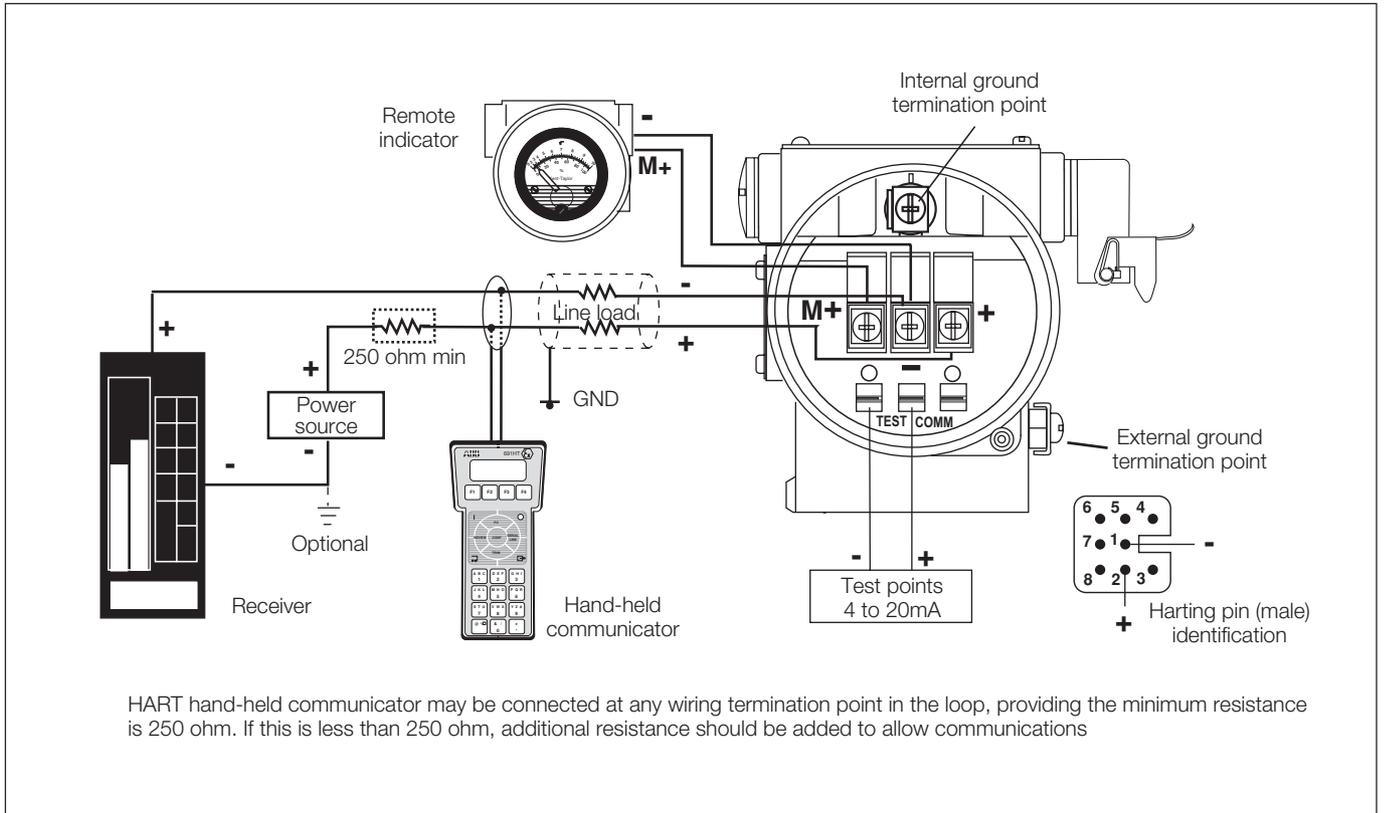
DIN-EN837-1 G 1/2 B connection



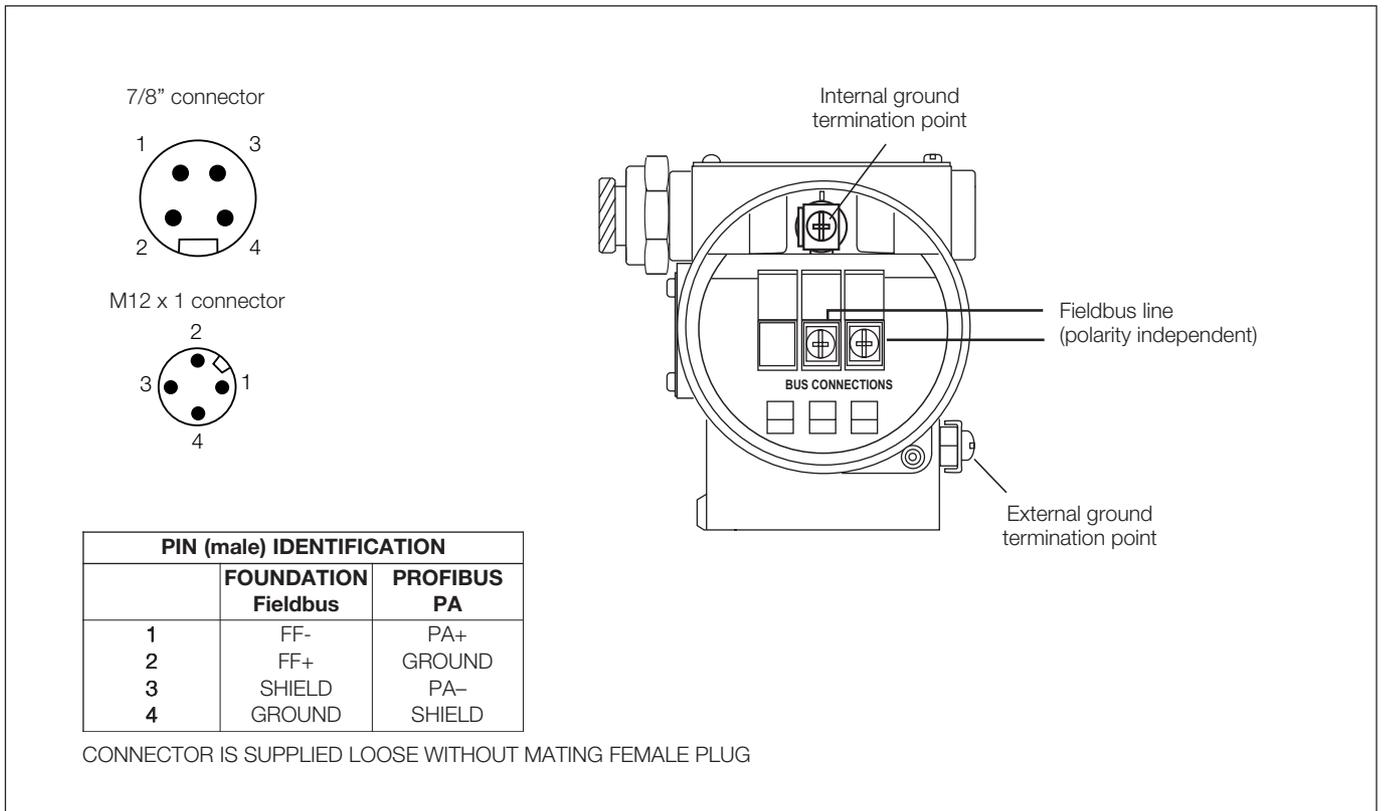
1/2 - 14 NPT male connection

Electrical connections

HART Version



FIELDBUS Versions



BASIC ORDERING INFORMATION model 264GS Gauge Pressure Transmitter

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 st to 5 th characters				2	6	4	G	S	X	X	X	X	X	X
Gauge Pressure Transmitter – BASE ACCURACY 0.075%														
SENSOR - Span limits – 6th character														
0.2 and 6kPa	2 and 60mbar	0.8 and 24inH ₂ O							C					
0.4 and 40kPa	4 and 400mbar	1.6 and 160inH ₂ O							F					
2.5 and 250kPa	25 and 2500mbar	10 and 1000inH ₂ O							L					
30 and 3000kPa	0.3 and 30bar	4.35 and 435psi							U					
100 and 10000kPa	1 and 100bar	14.5 and 1450psi							R					
600 and 60000 kPa	6 and 600bar	87 and 8700psi							V					
Diaphragm material / Fill fluid (wetted parts) – 7th character														
Hastelloy C276™		Silicone oil	(Note 2)						NACE	K				
Hastelloy C276™ gold-plated		Silicone oil	(Note 2)						NACE	G				
Hastelloy C276™		Inert fluid	(Notes 1, 2)						NACE	F				
Hastelloy C276™ gold-plated		Inert fluid	(Notes 1, 2)						NACE	E				
Hastelloy C276™		White oil (FDA)	(Note 2)						NACE	Z				
Hastelloy C276™ gold-plated		White oil (FDA)	(Note 2)						NACE	1				
Ceramic		No filling	(Note 3)						NACE	J				
Process connection material (wetted parts) – 8th character														
AISI 316 L ss		1/2 – 14 NPT female							NACE	B				
AISI 316 L ss		1/2 – 14 NPT male							NACE	T				
AISI 316 L ss		DIN EN837-1 G 1/2 B							NACE	P				
Hastelloy C276™		1/2 – 14 NPT female							NACE	E				
Hastelloy C276™		1/2 – 14 NPT male							NACE	K				
Hastelloy C276™		DIN EN837-1 G 1/2 B							NACE	D				
Gasket – 9th character														
Viton™			(Notes 1, 3)						NACE				5	
Perfluoroelastomer (MWP=0.6MPa)			(Note 3)						NACE				6	
Perbunan			(Note 3)						NACE				8	
None			(Note 2)						NACE				N	
Housing material and electrical connection – 10th 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 – 11th character														
HART digital communication and 4 to 20mA		No additional options							(Note 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							(Note 5, 6)					P
PROFIBUS PA		Options requested (to be ordered by "Additional ordering code")							(Note 6)					2
FOUNDATION Fieldbus		No additional options							(Note 5, 6)					F
FOUNDATION Fieldbus		Options requested (to be ordered by "Additional ordering code")							(Note 6)					3

ADDITIONAL ORDERING INFORMATION for model 264GS

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
Electrical certification													
ATEX Group II Category 1 GD – Intrinsic Safety EEx ia	E1												
ATEX Group II Category 1/2 GD – Flameproof EEx d (Note 2)	E2												
ATEX Group II Category 3 GD – Type of protection "N" EEx nL design compliance (Note 7)	E3												
Canadian Standard Association (CSA) (only 1/2–14NPT, M20 and Pg 13.5 electrical connection) - (Note 8)	E4												
Standards Australia SAA (Not Ex d; Not Ex ia and Ex n for PROFIBUS PA and FOUNDATION Fieldbus)	E5												
Factory Mutual (FM) approval (only with 1/2–14NPT, M20 and Pg 13.5 electrical connection) - (Note 8)	E6												
Combined ATEX - Intrinsic Safety and Flameproof (Note 2)	E7												
Combined ATEX, FM and CSA (only with 1/2–14NPT, M20 and Pg 13.5 electrical connection) (Notes 7,8)	EN												
NEPSI (China) - Intrinsic Safety Ex ia	EY												
NEPSI (China) - Flameproof Ex d (Note 2)	EZ												
GOST (Russia) EEx ia	W1												
GOST (Russia) EEx d (Note 2)	W2												
GOST (Kazakhstan) EEx ia	W3												
GOST (Kazakhstan) EEx d (Note 2)	W4												
Inmetro (Brazil) EEx ia	W5												
Inmetro (Brazil) EEx d (Note 2)	W6												
Inmetro (Brazil) EEx nL	W7												
Metrologic (Russia)	WC												
Metrologic (Kazakhstan)	WD												
Output meter													
ProMeter, Standard calibration (Note 7)	D1												
ProMeter, Special calibration (Note 7)	D2												
Analog output indicator linear 0–100% scale (Note 7)	D3												
Analog output indicator, special graduation (to be specified for linear scale) (Note 7)	D5												
Programmable signal meter and HART configurator (CoMeter) (Note 7)	D7												
Programmable signal meter and HART configurator (CoMeter – customer configuration) (Note 7)	D8												
Integral LCD													
Digital LCD integral display												L1	
Mounting bracket (shape and material)													
For pipe mounting (Not suitable for AISI housing) Carbon steel													B1
For pipe mounting AISI 316 L ss													B2
Surge													
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
Operating manual													
German													M1
Italian													M2
Spanish													M3
French													M4
Labels & tag language													
German													T1
Italian													T2
Spanish													T3
French													T4
Additional tag plate													
Laser printing of tag on stainless steel plate													I2
Configuration													
Standard – Pressure = inH ₂ O/psi at 20° C; Temperature = deg. F													N2
Standard – Pressure = inH ₂ O/psi at 4° C; Temperature = deg. F													N3
Standard – Pressure = inH ₂ O/psi at 20° C; Temperature = deg. C													N4
Standard – Pressure = inH ₂ O/psi at 4° C; Temperature = deg. C													N5
Custom													N6
Preparation procedure													
Oxygen service cleaning (only available with inert fill and Viton gasket) – P _{max} = 21MPa/210bar/3045psi; T _{max} = 60° C/140° F													P1
Certificates													
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
Material traceability													
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
Connector													
Fieldbus 7/8 (Recommended for FOUNDATION Fieldbus) - (supplied loose without mating female plug)													U1
Fieldbus M12x1 (Recommended for PROFIBUS PA) - (supplied loose without mating female plug)													U2
Harting Han – straight entry													U3
Harting Han – angle entry													U4

- Note 1: Suitable for oxygen service
- Note 2: Not available with Sensor code C, F
- Note 3: Not available with Sensor code L, U, R, V
- 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 PROFIBUS PA and FF output code 2 or 3
- Note 8: Not Ex d for sensor code C, F
- Note 9: Not available with Electronic housing code U, S, T, V, H, M, L, N, D, C, A, B

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

- 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 264AS Absolute Pressure Transmitter

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 st to 5 th characters			2	6	4	A	S	X	X	X	X	X
Absolute Pressure Transmitter – BASE ACCURACY 0.075%												
SENSOR - Span limits – 6th character												
0.3 and 6kPa	3 and 60mbar	2.25 and 45mmHg						C				
2 and 40kPa	20 and 400mbar	15 and 300mmHg						F				
12.5 and 250kPa	125 and 2500mbar	93.8 and 1875mmHg						L				
150 and 3000kPa	1.5 and 30bar	21.7 and 435psi						U				
Diaphragm material / Fill fluid (wetted parts) – 7th character												
Hastelloy C276™		Silicone oil (Note 2)						NACE	K			
Hastelloy C276™ gold-plated		Silicone oil (Note 2)						NACE	G			
Hastelloy C276™		Inert fluid (Notes 1, 2)						NACE	F			
Hastelloy C276™ gold-plated		Inert fluid (Notes 1, 2)						NACE	E			
Hastelloy C276™		White oil (FDA) (Note 2)						NACE	Z			
Hastelloy C276™ gold-plated		White oil (FDA) (Note 2)						NACE	1			
Ceramic		No filling (Note 3)						NACE	J			
Process connection material (wetted parts) – 8th character												
AISI 316 L ss		1/2 – 14 NPT female						NACE	B			
AISI 316 L ss		1/2 – 14 NPT male						NACE	T			
AISI 316 L ss		DIN EN837-1 G 1/2 B						NACE	P			
Hastelloy C276™		1/2 – 14 NPT female						NACE	E			
Hastelloy C276™		1/2 – 14 NPT male						NACE	K			
Hastelloy C276™		DIN EN837-1 G 1/2 B						NACE	D			
Gasket – 9th character												
Viton™		(Notes 1, 3)						NACE		5		
Perfluoroelastomer (MWP=0.6MPa)		(Note 3)						NACE		6		
Perbunan		(Note 3)						NACE		8		
None		(Note 2)						NACE		N		
Housing material and electrical connection – 10th 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 – 11th 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 264AS

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
Electrical certification														
ATEX Group II Category 1 GD – Intrinsic Safety EEx ia	E1													
ATEX Group II Category 1/2 GD – Flameproof EEx d (Note 2)	E2													
ATEX Group II Category 3 GD – Type of protection "N" EEx nL design compliance (Note 7)	E3													
Canadian Standard Association (CSA) (only 1/2–14NPT, M20 and Pg 13.5 electrical connection) - (Note 8)	E4													
Standards Australia SAA (Not Ex d; Not Ex ia and Ex n for PROFIBUS PA and FOUNDATION Fieldbus)	E5													
Factory Mutual (FM) approval (only with 1/2–14NPT, M20 and Pg 13.5 electrical connection) - (Note 8)	E6													
Combined ATEX - Intrinsic Safety and Flameproof (Note 2)	E7													
Combined ATEX, FM and CSA (only with 1/2–14NPT, M20 and Pg 13.5 electrical connection) (Notes 7,8)	EN													
NEPSI (China) - Intrinsic Safety Ex ia	EY													
NEPSI (China) - Flameproof Ex d (Note 2)	EZ													
GOST (Russia) EEx ia	W1													
GOST (Russia) EEx d (Note 2)	W2													
GOST (Kazakhstan) EEx ia	W3													
GOST (Kazakhstan) EEx d (Note 2)	W4													
Inmetro (Brazil) EEx ia	W5													
Inmetro (Brazil) EEx d (Note 2)	W6													
Inmetro (Brazil) EEx nL	W7													
Metrologic (Russia)	WC													
Metrologic (Kazakhstan)	WD													
Output meter														
ProMeter, Standard calibration (Note 7)	D1													
ProMeter, Special calibration (Note 7)	D2													
Analog output indicator linear 0–100% scale (Note 7)	D3													
Analog output indicator, special graduation (to be specified for linear scale) (Note 7)	D5													
Programmable signal meter and HART configurator (CoMeter) (Note 7)	D7													
Programmable signal meter and HART configurator (CoMeter – customer configuration) (Note 7)	D8													
Integral LCD														
Digital LCD integral display													L1	
Mounting bracket (shape and material)														
For pipe mounting (Not suitable for AISI housing) Carbon steel	B1													
For pipe mounting AISI 316 L ss	B2													
Surge														
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	
Operating manual														
German														M1
Italian														M2
Spanish														M3
French														M4
Labels & tag language														
German														T1
Italian														T2
Spanish														T3
French														T4
Additional tag plate														
Laser printing of tag on stainless steel plate														I2
Configuration														
Standard – Pressure = inH ₂ O/psi at 20° C; Temperature = deg. F														N2
Standard – Pressure = inH ₂ O/psi at 4° C; Temperature = deg. F														N3
Standard – Pressure = inH ₂ O/psi at 20° C; Temperature = deg. C														N4
Standard – Pressure = inH ₂ O/psi at 4° C; Temperature = deg. C														N5
Custom														N6
Preparation procedure														
Oxygen service cleaning (only available with inert fill and Viton gasket) – P _{max} = 21MPa/210bar/3045psi; T _{max} = 60° C/140° F														P1
Certificates														
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
Material traceability														
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
Connector														
Fieldbus 7/8 (Recommended for FOUNDATION Fieldbus) - (supplied loose without mating female plug)														U1
Fieldbus M12x1 (Recommended for PROFIBUS PA) - (supplied loose without mating female plug)														U2
Harting Han – straight entry														U3
Harting Han – angle entry														U4

- Note 1: Suitable for oxygen service
- Note 2: Not available with Sensor code C, F
- Note 3: Not available with Sensor code L, U
- 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 PROFIBUS PA and FF output code 2 or 3
- Note 8: Not Ex d for sensor code C, F
- Note 9: Not available with Electronic housing code U, S, T, V, H, M, L, N, D, C, A, B

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- English manual and labels
- Configuration with kPa and deg. C units
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