

## 2600T Series Pressure Transmitters

Model 265DR Differential  
with remote seal(s)



- **Base accuracy :  $\pm 0.04\%$**
- **Span limits**
  - 1 to 10000kPa; 4inH<sub>2</sub>O to 1450psi
- **Reliable sensing system coupled with very latest digital technologies**
- **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
- **Broad selection of variants, options fill fluids and wetted materials**
  - allows total flexibility maximizing cost-effective aspect, also providing applications with critical process media at extended temperature range
- **Full compliance with PED Category III**



**ABB 2600T Series  
Engineered solutions  
for all applications**

## General Description

Models detailed in this data sheet apply for those transmitters which include one or two remote seal(s) connected via a capillary to the transmitter sensor.

Model 265DR which allows a differential measurement using either two remote seals of same type and size or one remote seal (on positive or negative side) and a standard threaded connection 1/4 – 18 NPT on flange or 1/2 – 14 NPT through adapter, for the wet or dry leg on the side opposite to seal.

The following table list the types of standard seal which can be combined with 265DR transmitters.

Model	Seal type	Size
S265W	Wafer flush diaphragm	2in / DN50 3in / DN80
	Wafer extended diaphragm	2in / DN50 3in / DN80
S265F	Flanged flush diaphragm	2in / DN50 3in / DN80
	Flanged extended diaphragm	2in / DN50 3in / DN80

Refer to seal data sheet SS/S265 for all data and details relevant to seal element.

All following specification data apply for identical characteristics of the two sides when the transmitter is differential with two seals.

## Functional Specifications

### Range and span limits

Sensor Code	Upper Range Limit (URL)	Lower Range Limit (URL)	Minimum Span							
			one remote seal (max. length = 16m)				two remote seals in same construction (max. length = 16m)			
			Flush diaphragm		Extended diaphragm		Flush diaphragm		Extended diaphragm	
			DN50/2in	DN80/2in DN100/4in	DN50/2in	DN80/2in DN100/4in	DN50/2in	DN80/2in DN100/4in	DN50/2in	DN80/2in DN100/4in
<b>C</b>	6kPa 60mbar 24inH <sub>2</sub> O	-6kPa -60mbar -24inH <sub>2</sub> O		6kPa 60mbar 24inH <sub>2</sub> O		6kPa 60mbar 24inH <sub>2</sub> O	2kPa 20mbar 8inH <sub>2</sub> O	1kPa 10mbar 4inH <sub>2</sub> O	3kPa 30mbar 12inH <sub>2</sub> O	1kPa 10mbar 4inH <sub>2</sub> O
<b>F</b>	40kPa 400mbar 160inH <sub>2</sub> O	-40kPa -400mbar -160inH <sub>2</sub> O	10kPa 100mbar 40inH <sub>2</sub> O	6kPa 60mbar 24inH <sub>2</sub> O	16kPa 160mbar 64inH <sub>2</sub> O	6kPa 60mbar 24inH <sub>2</sub> O	3kPa 30mbar 12inH <sub>2</sub> O	1.3kPa 13.3mbar 5.3inH <sub>2</sub> O	3kPa 30mbar 12inH <sub>2</sub> O	1.3kPa 13.3mbar 5.3inH <sub>2</sub> O
<b>L</b>	250kPa 2500mbar 1000inH <sub>2</sub> O	-250kPa -2500mbar -1000inH <sub>2</sub> O	10kPa 100mbar 40inH <sub>2</sub> O	6kPa 60mbar 24inH <sub>2</sub> O	16kPa 160mbar 64inH <sub>2</sub> O	6kPa 60mbar 24inH <sub>2</sub> O	8.3kPa 83mbar 34inH <sub>2</sub> O	8.3kPa 83mbar 34inH <sub>2</sub> O	8.3kPa 83mbar 34inH <sub>2</sub> O	8.3kPa 83mbar 34inH <sub>2</sub> O
<b>N</b>	2000kPa 20bar 290psi	-2000kPa -20bar -290psi	67kPa 0.67bar 9.7psi	67kPa 0.67bar 9.7psi	67kPa 0.67bar 9.7psi	67kPa 0.67bar 9.7psi	67kPa 0.67bar 9.7psi	67kPa 0.67bar 9.7psi	67kPa 0.67bar 9.7psi	67kPa 0.67bar 9.7psi
<b>R</b>	10000kPa 100bar 1450psi	-10000kPa -100bar -1450psi	333kPa 3.3bar 49psi	333kPa 3.3bar 49psi	333kPa 3.3bar 49psi	333kPa 3.3bar 49psi	333kPa 3.3bar 49psi	333kPa 3.3bar 49psi	333kPa 3.3bar 49psi	333kPa 3.3bar 49psi

### Span limits

Maximum span = URL  
(can be further adjusted up to ± URL (TD = 0.5) for differential models, within the range limits)

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

Adjustable time constant : 0 to 60s.  
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)

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

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

Lower ambient limit for Viton and PTFE gaskets: -20°C (-4°F)

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

#### Process

The following table show characteristics of capillary/seal fill fluids when used in transmitters with remote seal.

Filling Liquid	Id	Density at 20° C in Kg/m	Process temperature in° C (° F)
Silicone oil	IB	924	-30 and +250 (-22 and +482)
Carbon Fluoride	L	1880	-30 and +150 (-22 and +302)
High-temperature Oil	IH	1070	-10 and +400 (+14 and +752)
White Oil	WB	849	-6 and +250 (+21 and +482)
Vacuumproof Design	IC-V	1055	-30 and +200 (-22 and +392)

#### Storage

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

-6°C (+21°F) with white oil filling.

Upper limit: +85°C (+185°F)

## Pressure limits

Refer to seal specification sheet for maximum working pressure related to the used remote seal.

Filling Liquid	Id	Pressure rating in mbar abs.					
		20° C (68° F)	100° C (212° F)	150° C (302° F)	200° C (392° F)	250° C (482° F)	400° C (752° F)
Silicone oil	IB	> 500	> 500	> 500	> 750	> 1000	
Carbon Fluoride	L	> 1000	> 1000	> 1000			
High-temperature Oil	IH	> 500	> 500	> 500	> 750	> 1000	> 1000
White Oil	WB	> 500	> 1000	> 1000	> 1000	> 1000	
Vacuumproof Design	IC-V	> 5	> 25	> 38	> 50		

## Environmental limits

### Electromagnetic compatibility (EMC)

Definition	Class 3
Radio suppression (according to EN 550011)	Limit class B
Fulfills NAMUR recommendation	

### Low voltage directive

Comply with 73/23/EEC

### Pressure equipment directive (PED)

Instruments with maximum working pressure 25MPa, 250bar, 3625psi or 41MPa, 410bar, 5945psi 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 60068-2-26)

### Shock resistance (according to IEC 60068-2-27)

Acceleration:	50g
Duration:	11ms

### Wet and dust-laden atmospheres

The transmitter is dust and sand tight and protected against immersion effects as defined by IEC EN60529 (1989) to IP 67 (IP 68 on request) or by NEMA to 4X or by JIS to C0920.

### Hazardous atmospheres

- Transmitters of the type of protection "Intrinsically safe EEx ia" according to the directions 94 / 9 / EC (ATEX)  
Transmitter with 4 to 20mA output signal and HART communication  
Marking (DIN EN 50 014): II 1/2 GD T50°C EEx ia IIC T6 or resp.  
II 1/2 GD T95°C EEx ia IIC T4

Supply and signal circuit type of protection Intrinsic Safety EEx ib IIB/IIC resp. EEx ia IIB/IIC

for connection to supply units with maximum values:

II 1/2 GD T50°C EEx ia resp. ib IIC T6 resp.

II 1/2 GD T95°C EEx ia resp. ib IIC T4

for Temperature class T4 resp. T95°C:

$U_i = 30V$

$I_i = 200mA$

$P_i = 0.8W$  for T4 with  $T_a = (-40 \text{ to } +85)^\circ C / (-40 \text{ to } +185)^\circ F$

$P_i = 1.0W$  for T4 with  $T_a = (-40 \text{ to } +70)^\circ C / (-40 \text{ to } +158)^\circ F$

for Temperature class T6 resp. T50°C:

$P_i = 0.7W$  for T6 with  $T_a = (-40 \text{ to } +40)^\circ C / (-40 \text{ to } +104)^\circ F$

effective internal capacitance,  $C_i \leq 10nF$

effective internal inductance, negligible.

Fieldbus transmitters (PROFIBUS PA / FOUNDATION Fieldbus)

Marking (DIN EN 50 014): II 1/2 GD T50°C EEx ia IIC T6 or resp.

II 1/2 GD T95°C EEx ia IIC T4

Supply and signal circuit type of protection Intrinsic Safety

EEx ib IIB/IIC resp. EEx ia IIB/IIC

for connection to FISCO supply units with rectangular or

trapezoidal characteristics with maximum values:

II 1/2 G EEx ia respectively ib IIC T4/T6

$U_i = 17.5V$      $I_i = 360mA$      $P_i = 2.52W$

II 1/2 G EEx ia respectively ib IIB T4/T6

$U_i = 17.5V$      $I_i = 380mA$      $P_i = 5.32W$

resp. for connection to supply unit or barrier with linear characteristics with maximum values:

II 1/2 G EEx ia respectively ib IIC T4/T6

$U_i = 24V$      $I_i = 250mA$      $P_i = 1.2W$

effective internal inductance  $L_i \leq 10 \mu H$ ,

effective internal capacitance  $C_i \approx 0$

Maximum permissible ambient temperatures depending on the temperature class:

T4:  $-40^\circ C$  to  $+85^\circ C$  ( $-40^\circ F$  to  $+185^\circ F$ )

T5, T6:  $-40^\circ C$  to  $+40^\circ C$  ( $-40^\circ F$  to  $+104^\circ F$ )

- Transmitters of the type of protection "flameproof enclosure EEx d" according to the directions 94 / 9 / EC (ATEX)

Transmitter with 4 to 20mA output signal and HART communication and Fieldbus transmitters (PROFIBUS PA / FOUNDATION Fieldbus)

Marking (DIN EN 50 014): II 1/2 G EEx d IIC T6

Ambient temperature range:  $-40^\circ C$  to  $+75^\circ C$  ( $-40^\circ F$  to  $+167^\circ F$ )

- Transmitters of category 3 for the application in "Zone 2"

Transmitter with 4 to 20mA output signal and HART communication according to the directions 94 / 9 / EC (ATEX)

Marking (DIN EN 50 014): II 3 GD T50°C EEx nL IIC T6 or resp.

II 3 GD T95°C EEx nL IIC T4

Operating conditions:

Supply and signal circuit (terminals signal +/-):  $U \leq 45V$

$I \leq 22.5mA$

Ambient temperature range:

Temperature class T4  $T_a = -40^\circ C$  to  $+85^\circ C$  ( $-40^\circ F$  to  $+185^\circ F$ )

Temperature class T5, T6  $T_a = -40^\circ C$  to  $+40^\circ C$  ( $-40^\circ F$  to  $+104^\circ F$ )

- Factory Mutual (FM)

Transmitter with 4 to 20mA output signal and HART communication

Intrinsically safe: Class I; Division 1; Groups A, B, C, D;

Class I; Zone 0; Group IIC; AEx ia IIC

Degree of protection : NEMA Type 4X (indoor or outdoor)

Permissible ambient temperature depending on temperature class

$U_{max} = 30V, C_i = 10.5nF, L_i = 10\mu H$			
Ambient Temperature	Temperature class	$I_{max}$	$P_i$
$-40 \text{ to } +85^\circ C$ ( $-40 \text{ to } +185^\circ F$ )	T4	200mA	0.8W
$-40 \text{ to } +70^\circ C$ ( $-40 \text{ to } +129^\circ F$ )	T4	200mA	1W
$-40 \text{ to } +40^\circ C$ ( $-40 \text{ to } +104^\circ F$ )	T5	25mA	0.75W
$-40 \text{ to } +40^\circ C$ ( $-40 \text{ to } +104^\circ F$ )	T6	25mA	0.5W

Fieldbus transmitters (PROFIBUS PA/FOUNDATION Fieldbus)

Intrinsically Safe : Class I, II and III; Division 1; Groups A, B, C, D, E, F, G;

Class I; Zone 0, AEx ia Group IIC T6; T4

Non-incendive Class I, II and III, Division

2; Groups A, B, C, D, F, G

Transmitter with 4 to 20mA output signal and HART communication and Fieldbus transmitters (PROFIBUS PA/FOUNDATION Fieldbus)

Explosion-Proof: Class I; Division 1; Groups A, B, C, D;

Class II/III, Division 1; Groups E, F, G

Degree of protection : NEMA Type 4X (indoor or outdoor)

- Canadian Standard (CSA)

Transmitter with 4 to 20mA output signal and HART communication and Fieldbus transmitters (PROFIBUS PA/FOUNDATION Fieldbus)

Explosion-Proof: Class I; Division 1; Groups B, C, D

Class II; Division 1; Groups E, F, G

Class III

Degree of protection : NEMA Type 4X (indoor or outdoor)

- Overfill protection for non-flammable and inflammable toxic liquids** 265DR as a part of overfill protection on vessels for water polluting and flammable liquids.

Flammable liquids: only when combined with intrinsic safety code E1

Total pressure up to 4 MPa, 40 bar, 580 psi

Process temperature limits:  $-40$  to  $+85^\circ C$  ( $-40$  to  $+185^\circ F$ )

Process temperature limits on remote mounted seal(s):  $-30^\circ C$  to  $+250^\circ C$  ( $-22$  to  $482^\circ F$ ).

Fill fluid: Silicone oil IB (code S)

Approval: Z-65.11-271

## Electrical Characteristics and Options

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

#### Power Supply

The transmitter operates from 10.5 to 45VDC with no load and is protected against reverse polarity connection (additional load allows operations over 45VDC).

Minimum power supply is 14VDC with backlit indicator.

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

#### Ripple

Maximum permissible voltage ripple of power supply during the communication:

7Vpp at f = 50 to 100Hz

1Vpp at f = 100 to 200Hz

0.2Vpp at f = 200 to 300Hz

#### Load limitations

4 to 20mA and HART total loop resistance :

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

A minimum of 250Ω is required for HART communication.

#### Integral display (optional)

2-line, 6-character 19-segment alphanumeric display with additional bar chart display, optionally with back illumination. User-specific display:

percentage of the output current or

output current in mA or

free process variable

Diagnostic message, alarms, measuring range infringements and changes in the configuration are also displayed.

#### Output signal

Two-wire 4 to 20mA, user-selectable for linear or square root output, power of  $3/2$  or  $5/2$ , freely programmable with 20 reference points 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 (configurable down to 3.5mA)

- Upper limit: 20.5mA (configurable up to 22.5mA)

#### Alarm current

Min. alarm current: configurable from 3.5mA to 4mA,  
standard setting: 3.6mA

Max. alarm current: configurable from 20mA to 22.5mA,  
standard setting: 21mA

Standard setting: max. alarm current

#### SIL - Functional Safety (optional)

according to IEC 61508 / 61511 Device with Declaration of SIL Conformity for use in safety related applications up to SIL2.

### PROFIBUS PA output

#### Device type

Pressure transmitter compliant to Profile 3.0 Class A & B; ident. number 04C2 HEX.

#### Power supply

The transmitter operates from 10.2 to 32VDC with no polarity.

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

#### Current consumption

operating (quiescent): 11.7mA

fault current limiting: 17.3mA 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

40ms

#### Function blocks

2 standard Analog Input Function Block,

1 Transducer Block, 1 Physical Block

#### Integral display

2-line, 6-character 19-segment alphanumeric display with additional bar chart display, optionally with back illumination. User-specific display:

percentage of the output or

OUT (analog input function block)

Diagnostic message, alarms, measuring range infringements and changes in the configuration are also displayed.

#### Transmitter failure mode

Permanent self-diagnostic; possible errors indicated in diagnostic parameters and in the status of process values.

## FOUNDATION Fieldbus output

### Power supply

The transmitter operates from 10.2 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):	11.7mA
fault current limiting:	17.3mA 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 Standard Analog Input Function blocks/25ms max (each)
- 1 Standard PID Function Block

### Additional blocks

- 1 manufacturer specified Pressure with Calibration Transducer Block,
- 1 enhanced Resource Block

### Number of link objects

10

### Number of VCRs

16

### Output interface

FOUNDATION fieldbus digital communication protocol to standard H1, compliant to specification V. 1.5; FF registration in progress.

### Integral display

2-line, 6-character 19-segment alphanumeric display with additional bar chart display, optionally with back illumination. User-specific display:

- percentage of the output or
- OUT (analog input)

Diagnostic message, alarms, measuring range infringements and changes in the configuration are also displayed.

### Transmitter failure mode

Permanent self-diagnostic; possible errors indicated in diagnostic parameters and in the status of process values.

## 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), mounting position with vertical diaphragm and zero based range for transmitter with isolating diaphragms in 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 (based to URL) 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.

### 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

For differential pressure sensor

– ±0.04% for TD from 1:1 to 10:1

– ±0.04% + 0.005 x  $\frac{\text{URL}}{\text{Span}}$  -0.05)% for TD greater than 10:1

For absolute pressure sensor

– 80kPa, 800mbar, 321inH2O

## Operating influences

### Ambient Temperature (for turndown up to 15:1)

per 20K (36°F) change between the limits of  
-20°C to +65°C (-4 to +150°F)  
for differential pressure sensor  
- ±(0.03% URL + 0.05% span)

per 120K (216°F) change between the limits of  
-40°C to +80°C (-40 to +176°F)  
Thermal change for absolute pressure sensor.

- on zero 40kPa, 400mbar, 160inH<sub>2</sub>O  
(absolute sensor of 41MPa, 410bar, 5945psi)  
- on span 0.3kPa, 3bar, 43.5psi  
(absolute sensor of 41MPa, 410bar, 5945psi)

The total temperature error is the combination of the above transmitter effect with seal errors, as applicable due to application temperatures.

Refer to seal data sheets for additional effects of the remote seal.

### Supply voltage

Within voltage/load specified limits the total effect is less than 0.001% of URL per volt.

### Load

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

### Electromagnetic field

Total effect : less than 0.05% of span from 80 to 1000MHz and for field strengths up to 10V/m when tested with shielded conduit and grounding, with or without meter.

### Common mode interference

No effect from 250Vrms @ 50Hz, or 50VDC

### Mounting position

Rotations in plane of diaphragm have negligible effect. A tilt from vertical causes a zero shift of  $\sin \alpha \times 0.35$  kPa (3.5 mbar, 1.4 inH<sub>2</sub>O) of URL which can be corrected with the zero adjustment. No span effect.

## Physical Specification

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

### Materials (side without seal)

#### Process isolating diaphragms (\*)

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

#### Process flanges, adapters, plugs and drain/vent valves (\*)

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

#### Blind flange (reference and/or seal side)

AISI 316 L ss

#### Sensor fill fluid

Silicone oil; inert fill (Carbon Fluoride)

#### Mounting bracket

AISI 316 L ss

#### Gaskets (\*)

Viton™; Perbunan (NBR); EPDM; PTFE.

#### Sensor housing

AISI 316 L ss.

#### Bolts and nuts

Stainless steel bolts and nuts Class A4-70 per ISO 3506, in compliance with NACE MR0175 Class II.

#### Electronic housing and covers

Barrel version

- Low-copper content aluminium alloy with baked epoxy finish;
- AISI 316 L ss.

DIN version

- Low-copper content aluminium alloy with baked epoxy finish.

#### Covers O-ring

Viton™

#### Local zero and span adjustments

Glass filled polycarbonate plastic (removable).

No local zero and span adjustments with housing made of stainless steel.

#### Tagging

AISI 316ss or plastic 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.

™ Hastelloy is a Cabot Corporation trademark

™ Monel is an International Nickel Co. trademark

™ Viton is a Dupont de Nemour trademark

(\*) Wetted parts of the transmitter.

## Optional extras

### Mounting brackets

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

### Integral display

plug-in rotatable LCD indicator.

### Supplemental customer tag

AISI 316 ss tag fastened to the transmitter with stainless steel wire for customer's tag data up to a maximum of 30 characters and spaces.

### Surge protection (optional)

Up to 4kV

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

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

not available with ATEX-Ex nL or PROFIBUS PA / FOUNDATION  
Fieldbus with Intrinsic Safety Ex i or FM-Intrinsically Safe

### Cleaning procedure for oxygen service

### Hydrogen preparation

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

### Process connections

on flanges : 1/4 – 18 NPT on process axis selectable with 7/16 – 20 UNF  
fixing threads.

on adapters : 1/2 – 14 NPT on process axis

Refer to seal data sheet for process connection variants through  
remote seal.

### Electrical connections

Two 1/2 – 14 NPT or M20x1.5 threaded conduit entries, direct on  
housing, or plug connector:

– HART : straight or angle Harting Han 8U connector and one plug.

– PROFIBUS PA, FOUNDATION Fieldbus, : M12x1 or 7/8in  
(without mating female plug)

### Terminal block

HART version: four terminals for signal/external meter wiring up to  
2.5mm<sup>2</sup> (14AWG) and four 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 4mm<sup>2</sup> (12AWG) ground termination points are  
provided.

### Mounting position

Transmitter can be mounted in any position.

Electronics housing may be rotated by 360°. A positive stop  
prevents over travel.

### Mass (without options and seals)

3.5kg approx (8lb); add 1.5kg (3.4lb) for AISI housing.

Add 650g (1.5lb) for packing.

### Packing

Carton

## 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 type plate. If calibration range and tag data are not specified, the transmitter will be supplied configured as follows:

4 mA	Zero
20 mA	Upper Range Limit (URL)
Output	Linear
Damping	0.125s
Transmitter failure mode	21mA
Optional LCD-indicator	0 to 100% linear

Any or all the above configurable parameters, including Lower range-value and Upper range-value 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 filling liquid.

### Transmitter with PROFIBUS PA communication

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

Measure Profile	Pressure
Engineering Unit	mbar/bar
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	0.125s.
Address	126

Any or all the above configurable parameters, including Lower range-value and Upper range-value 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 filling liquid.

### Transmitter with FOUNDATION Fieldbus communication

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

Measure Profile	Pressure
Engineering Unit	mbar/bar
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	0.125s
Address	Not necessary

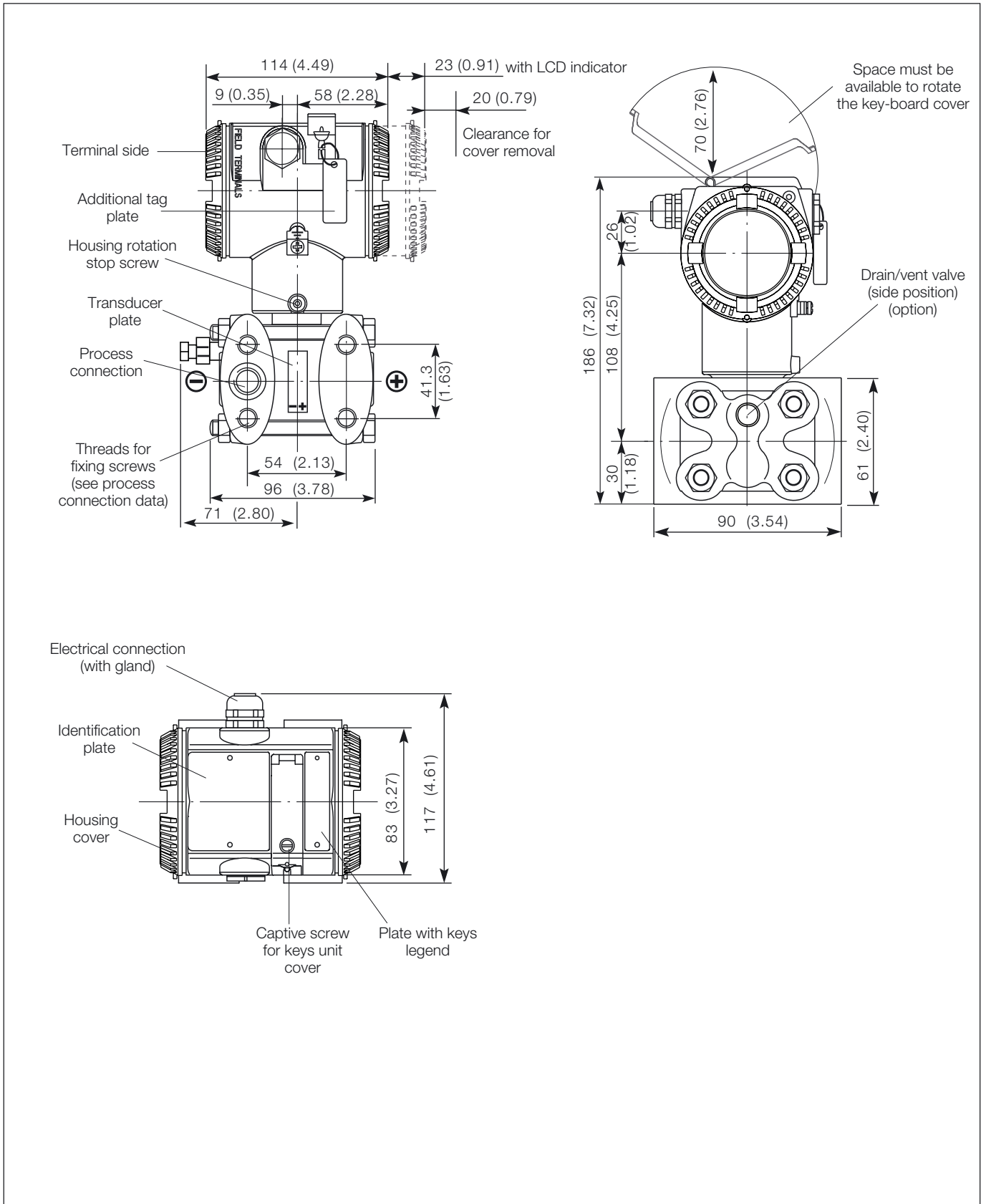
Any or all the above configurable parameters, including lower range value and upper range value can be changed by any FOUNDATION Fieldbus compatible configurator.

The transmitter database is customized with specified flange type and material, o-ring and filling liquid.

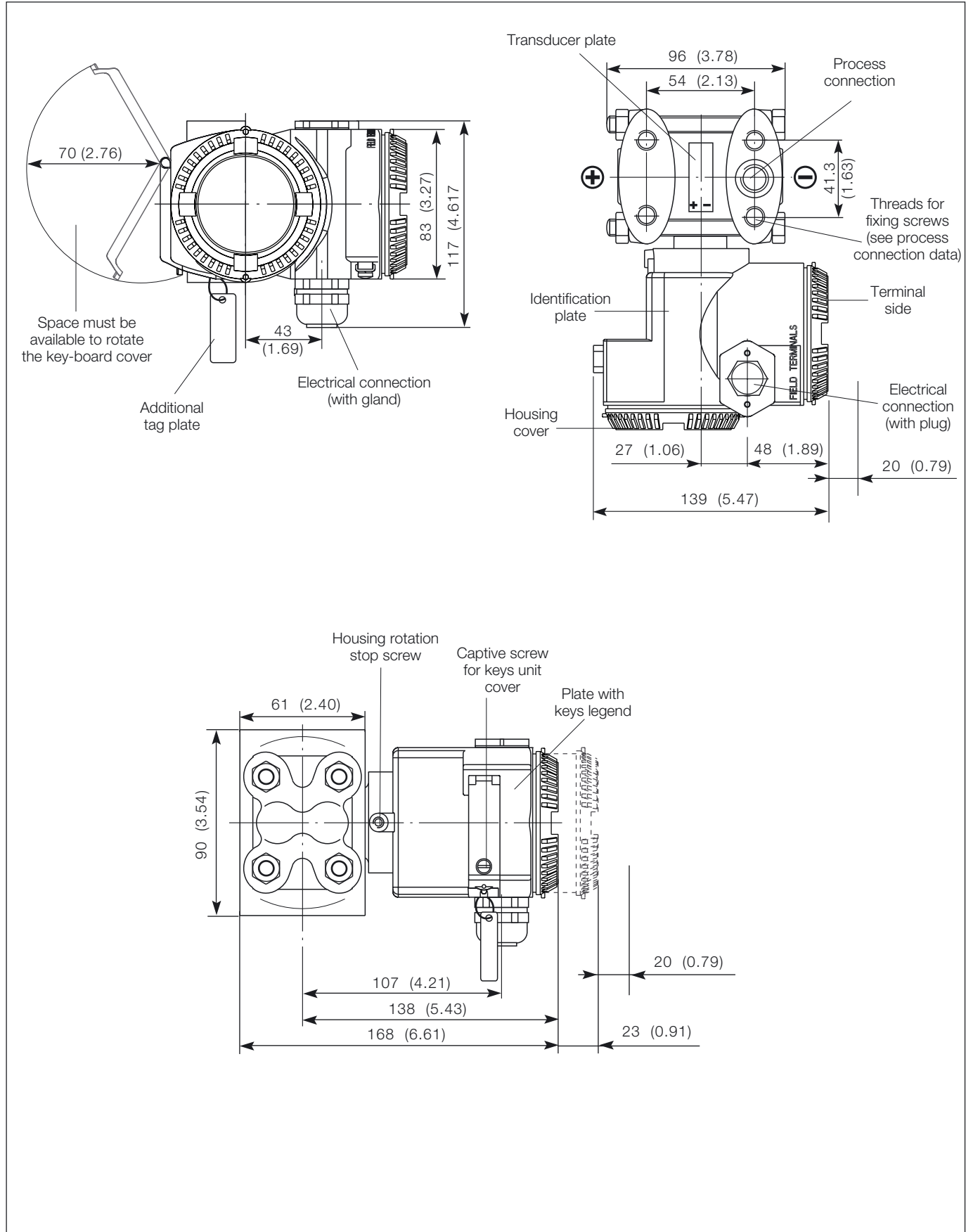


**MOUNTING DIMENSIONS** (not for construction unless certified) - dimensions in mm (in)

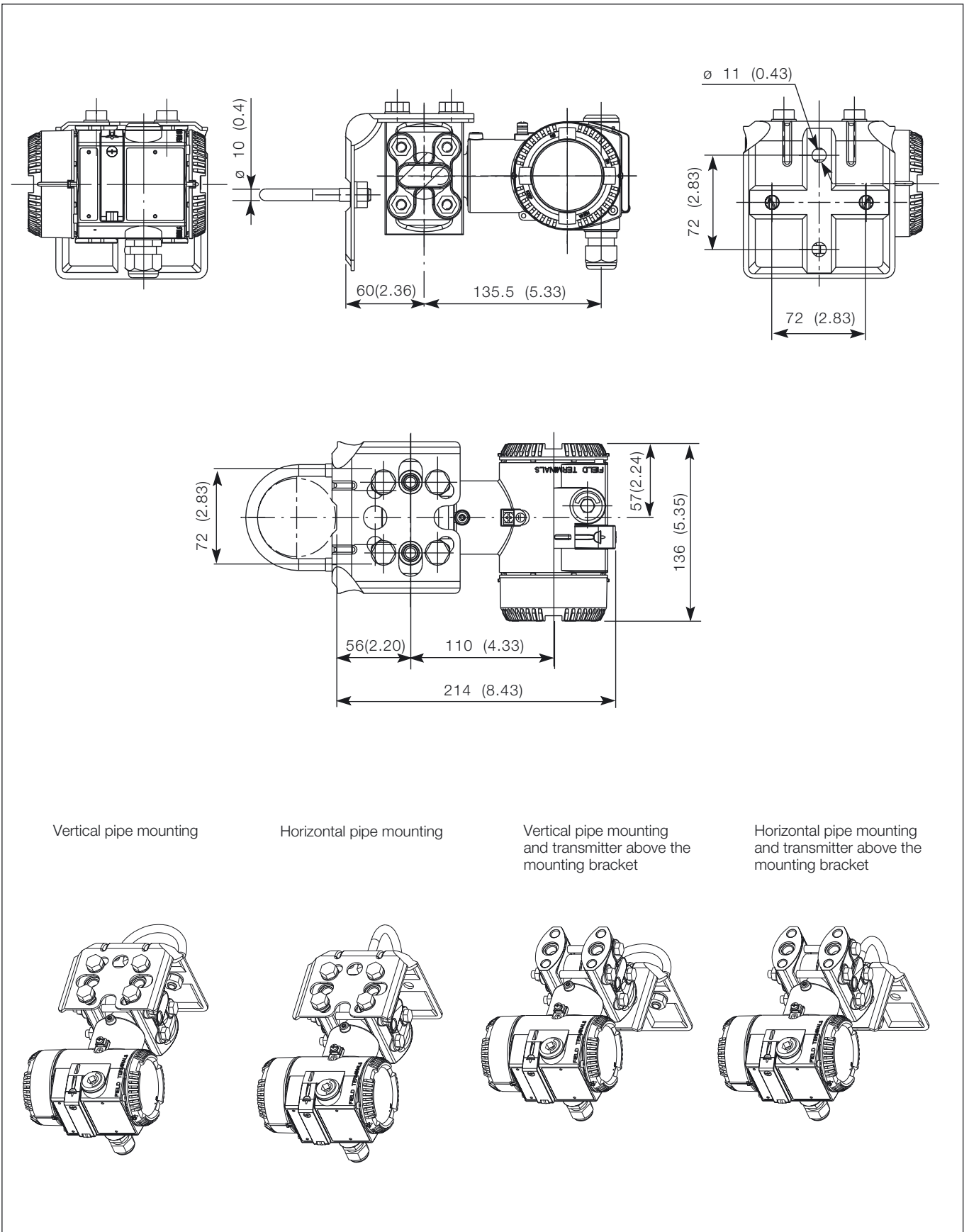
**Transmitter with barrel housing**



Transmitter with DIN housing



Possible mounting with bracket



## Electrical connections

### Standard Terminal block and fieldbus connector versions

Test sockets for 4...20mA (not in function with fieldbus transmitters)

Earthing/potential equalizing terminal

Output signal/power supply

Cable entry

TEST SIGNAL

Screw terminals for 0.5...2.5mm<sup>2</sup> – wires

7/8in connector

M12 x 1 connector

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

Mating female plug NOT SUPPLIED

### Harting Han 8U connector

Harting pin identification (view onto socket)

**BASIC ORDERING INFORMATION model 265DR Differential Pressure Transmitter with remote seal(s)**

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. Quote separately one or two seals as required. FOR ORDER NUMBER OF REMOTE SEALS REFER TO DATA SHEET SS/S265.

BASE MODEL – 1 <sup>st</sup> to 5 <sup>th</sup> characters			2	6	5	D	R	X	S	X	X	X	X	X
Differential Pressure Transmitter with remote seal(s) – BASE ACCURACY 0.04%														
<b>SENSOR - Range/max Span (refer to table at page 2 for min span) – 6<sup>th</sup> character</b>														
6kPa	60mbar	24inH <sub>2</sub> O						C						
40kPa	400mbar	160inH <sub>2</sub> O						F						
250kPa	2500mbar	1000inH <sub>2</sub> O						L						
2000kPa	20bar	290psi						N						
10000kPa	100bar	1450psi						R						
<b>Static pressure value – 7<sup>th</sup> character</b>														
16MPa	160bar	2320psi						C						
25MPa	250bar	3625psi						Z						
41MPa	410bar	5945psi						T						
<b>Diaphragm material / Fill fluid (wetted parts) – 8<sup>th</sup> character</b>														
AISI 316 L ss		Silicone oil						NACE	S					
Hastelloy C276™		Silicone oil						NACE	K					
Monel 400™		Silicone oil						NACE	M					
Monel 400™ gold plated		Silicone oil						NACE	V					
Tantalum		Silicone oil						NACE	T					
AISI 316 L ss		Inert fluid				(Note 1)		NACE	A					
Hastelloy C276™		Inert fluid				(Note 1)		NACE	F					
Monel 400™		Inert fluid				(Note 1)		NACE	C					
Monel 400™ gold plated		Inert fluid				(Note 1)		NACE	Y					
Tantalum		Inert fluid				(Note 1)		NACE	D					
Hastelloy C276™		Silicone oil				(Two seal to be quoted separately)		R						
Hastelloy C276™		Inert fluid				(Two seal to be quoted separately) (Note 1)		2						
<b>Process flanges/adapters material and connection (wetted parts) – 9<sup>th</sup> character</b>														
AISI 316 L ss (Horizontal connection)		1/4 – 18 NPT-f direct ( 7/16 – 20 UNF U.S. drilling)				(Note 2)		NACE	A					
AISI 316 L ss (Horizontal connection)		1/2 – 14 NPT-f through adapter ( 7/16 – 20 UNF U.S. drilling)				(Note 2)		NACE	B					
Hastelloy C276™ (Horizontal connection)		1/4 – 18 NPT-f direct ( 7/16 – 20 UNF U.S. drilling)				(Note 2)		NACE	D					
Hastelloy C276™ (Horizontal connection)		1/2 – 14 NPT-f through adapter ( 7/16 – 20 UNF U.S. drilling)				(Note 2)		NACE	E					
Monel 400™ (Horizontal connection)		1/4 – 18 NPT-f direct ( 7/16 – 20 UNF U.S. drilling)				(Note 2)		NACE	G					
Monel 400™ (Horizontal connection)		1/2 – 14 NPT-f through adapter ( 7/16 – 20 UNF U.S. drilling)				(Note 2)		NACE	H					
AISI 316 L ss for two seals construction						(Note 3)		NACE	R					
<b>Bolts/Gasket (wetted parts) – 10<sup>th</sup> character</b>														
AISI 316 ss (NACE)		Viton™				(Note 1)		NACE					3	
AISI 316 ss (NACE)		PTFE (MWP 25MPa)						NACE					4	
AISI 316 ss (NACE)		EPDM						NACE					5	
AISI 316 ss		Perbunan											6	
<b>Housing material and electrical connection – 11<sup>th</sup> character</b>														
Aluminium alloy (Barrel version)		1/2 – 14 NPT												A
Aluminium alloy (Barrel version)		M20 x 1.5 (CM 20)				(Not available FM, CSA)								B
Aluminium alloy (Barrel version)		Harting Han 8U connector				(Not available ATEX EExd, FM, CSA)		(Note 4)						E
Aluminium alloy (Barrel version)		Fieldbus connector				(Not available ATEX EExd, FM, CSA)		(Note 4)						G
AISI 316 L ss (Barrel version)		1/2 – 14 NPT												S
AISI 316 L ss (Barrel version)		M20 x 1.5 (CM 20)				(Not available FM, CSA)								T
Aluminium alloy (DIN version)		M20 x 1.5 (CM 20)				(Not available FM, CSA)								J
Aluminium alloy (DIN version)		Harting Han 8U connector				(Not available ATEX EExd, FM, CSA)		(Note 4)						K
Aluminium alloy (DIN version)		Fieldbus connector				(Not available ATEX EExd, FM, CSA)		(Note 4)						W
<b>Output/Additional options – 12<sup>th</sup> character</b>														
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 265DR**

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
<b>Drain/vent valve (material and position) (wetted parts)</b>										
AISI 316 L ss on process axis (Note 7)	NACE	V1								
AISI 316 L ss on flange side top (Note 7)	NACE	V2								
AISI 316 L ss on flange side bottom (Note 7)	NACE	V3								
Hastelloy C276™ on process axis (Note 8)	NACE	V4								
Hastelloy C276™ on flange side top (Note 8)	NACE	V5								
Hastelloy C276™ on flange side bottom (Note 8)	NACE	V6								
Monel 400™ on process axis (Note 9)	NACE	V7								
Monel 400™ on flange side top (Note 9)	NACE	V8								
Monel 400™ on flange side bottom (Note 9)	NACE	V9								
<b>Electrical certification</b>										
ATEX Group II Category 1/2 GD – Intrinsic Safety EEx ia		E1								
ATEX Group II Category 1/2 G – Flameproof EEx d		E2								
ATEX Group II Category 3 GD – Type of protection "N" EEx nL energy limited		E3								
Factory Mutual (FM) – Intrinsically Safe		EA								
Factory Mutual (FM) – Explosion Proof (only with 1/2 – 14 NPT electrical connection and stainless steel label)		EB								
Canadian Standard Association – Intrinsically Safe (pending)		ED								
Canadian Standard Association – Explosion Proof		EE								
<b>Integral LCD</b>										
Digital LCD integral display		L1								
Backlit digital LCD integral display		L2								
<b>Mounting bracket (shape and material)</b>										
For pipe mounting AISI 316 L ss		B2								
For wall mounting AISI 316 L ss		B4								
<b>Surge</b>										
Surge/Transient Protector (Note 10)		S1								
<b>Operating manual</b>										
German		M1								
<b>Labels &amp; tag language</b>										
German in stainless steel (not available with DIN Electronic Housing code J, K, W)		T1								
German and English plastic (not suitable for Factory Mutual - Explosion Proof)		TA								
<b>Additional tag plate</b>										
In stainless steel		I1								
<b>Certificates</b>										
Inspection certificate EN 10204–3.1.B of calibration		C1								
Inspection certificate EN 10204–3.1.B of the cleanliness stage according to DIN 25410		C3								
Inspection certificate EN 10204–3.1.B of helium leakage test of the sensor module		C4								
Inspection certificate EN 10204–3.1.B of the pressure test		C5								
Certificate of compliance with the order EN 10204–2.1 of instrument design		C6								
Overfill protection		C9								
SIL2 - classification (Note 11)		CL								
<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.B of process wetted parts (small parts with certificate of compliance EN 10204)		H3								
Test report EN 10204-2.2 of the pressure bearing and process wetted parts		H4								
<b>Connector</b>										
Fieldbus 7/8in (without mating female plug) Recommended for FOUNDATION Fieldbus (Notes 6, 12)		U1								
Fieldbus M12x1 (without mating female plug) Recommended for PROFIBUS PA (Notes 6, 12)		U2								
Harting Han 8U – straight entry (Notes 5, 12)		U3								
Harting Han 8U – angle entry (Notes 5, 13)		U4								

- Note 1: Suitable for oxygen service
- Note 2: Not available with diaphragm/fill fluid code R, 2.
- Note 3: Not available with diaphragm material/fillfluid code S, K, M, V, T, A, F, C, Y, D.
- Note 4: Select type in additional ordering code
- Note 5: Not available with Electronic Housing code G and W
- Note 6: Not available with Electronic Housing code E and K
- Note 7: Not available with Process flanges/adapters code D, E, G, H, R.
- Note 8: Not available with Process flanges/adapters code A, B, G, H, R.
- Note 9: Not available with Process flanges/adapters code A, B, D, E, R.
- Note 10: Not available with ATEX-EEx nL (code E3) or PROFIBUS PA / FOUNDATION Fieldbus (code 2 or 3) with Intrinsic Safety EEx ia (code E1) or FM-Intrinsically Safe (code EA).
- Note 11: Not available with sensor code N, R.
- Note 12: Not available with Electronic housing code T, S, A, B, J, E.
- Note 13: Not available with Electronic housing code T, S, A, B, J, K.

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™ Viton is a Dupont de Nemour trademark

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

- Adapters supplied loose
- Plug on axis (no drain/vent valves)
- General purpose (no Ex design)
- No meter/display, no mounting bracket, no surge protection
- English manual and labels (stainless steel nameplate for Barrel housing code A,B,E,G,S,T; plastic nameplate for DIN housing code J,K,W)
- 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.

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