



Pressure Transmitter HDA 4300 Ex applications

Relative pressure

Accuracy 0.25 %

Intrinsically Safe
Non-Incendive
CSA approval



Description:

The pressure transmitter HDA 4300 in **CSA** version has been specially developed for the North American market for use in potentially explosive atmospheres and is based on the HDA 4000 series.

As with the industry model, the HDA 4300 in **CSA** version has a very accurate and robust sensor cell with a thin-film strain gauge on a stainless steel membrane.

Intended fields of application are, for example, the oil and gas industry, on gas turbines or in locations with high levels of dust contamination, e.g. in mills.

Protection types and applications:

Intrinsically safe:

- Class I Div. 1 Group A, B, C, D T6 [C, US]
- Class I Zone 0 AEx ia IIC T6 [US]
- Ex ia IIC T6 [C]

- Class I, II, III
Div. 1
Group A, B, C, D, E, F, G T6 [C, US]

Non-incendive:

- Class I Div. 2 Group A, B, C, D T4A [C, US]
- Class I Zone 2 AEx nL IIC T4 [US]
- Class I Zone 2 Ex nL IIC T4 [C]

- Class I, II, III
Div. 2
Group A, B, C, D, F, G T4A [C, US]
- Class I Zone 2 AEx nA II T4 [US]
- Class I Zone 2 Ex nA II T4 [C]

Technical data:

Input data

Measuring ranges ¹⁾	bar	6	16	40	60	100	250	400	600	1000
Overload pressures	bar	15	32	80	120	200	500	800	1000	1600
Burst pressure	bar	100	200	200	300	500	1000	2000	2000	3000
Mechanical connection	G1/4 A ISO 1179-2									
Tightening torque, recommended	20 Nm									
Parts in contact with fluid	Stainless steel: 1.4542; 1.4571; 1.4548; 1.4435; 1.4404; 1.4301									
Seal:	FKM									

Output data

Output signal, permitted load resistance	4 .. 20 mA, 2-conductor $R_{Lmax} = (U_B - 12 V) / 20 \text{ mA} [\text{k}\Omega]$
Accuracy acc. to DIN 16086, terminal based	$\leq \pm 0.25 \% \text{ FS typ.}$ $\leq \pm 0.5 \% \text{ FS max.}$
Accuracy, B.F.S.L.	$\leq \pm 0.15 \% \text{ FS typ.}$ $\leq \pm 0.25 \% \text{ FS max.}$
Temperature compensation	$\leq \pm 0.008 \% \text{ FS} / ^\circ\text{C typ.}$
Zero point	$\leq \pm 0.015 \% \text{ FS} / ^\circ\text{C max.}$
Temperature compensation	$\leq \pm 0.008 \% \text{ FS} / ^\circ\text{C typ.}$
Span	$\leq \pm 0.015 \% \text{ FS} / ^\circ\text{C max.}$
Non-linearity acc. to DIN 16086, terminal based	$\leq \pm 0.3 \% \text{ FS max.}$
Hysteresis	$\leq \pm 0.1 \% \text{ FS max.}$
Repeatability	$\leq \pm 0.05 \% \text{ FS}$
Rise time	$\leq 1.5 \text{ ms}$
Long-term drift	$\leq \pm 0.1 \% \text{ FS typ.} / \text{year}$

Environmental conditions

Compensated temperature range	-25 .. +85 °C
Operating/ambient temperature range ²⁾	Intrinsically safe: $T_a = -40 .. +60 ^\circ\text{C} / -20 .. +60 ^\circ\text{C}$ Non-incendive: $T_a = -40 .. +85 ^\circ\text{C} / -20 .. +85 ^\circ\text{C}$
Storage temperature range	-40 .. +100 °C
Fluid temperature range ²⁾	Intrinsically safe: $T_a = -40 .. +60 ^\circ\text{C} / -20 .. +60 ^\circ\text{C}$ Non-incendive: $T_a = -40 .. +85 ^\circ\text{C} / -20 .. +85 ^\circ\text{C}$
Vibration resistance acc. to DIN EN 60068-2-6 at 10 .. 500 Hz	$\leq 10 \text{ g}$ (1/2-14 NPT Conduit) $\leq 20 \text{ g}$ (male connector)
Protection class acc. to DIN EN 60529 / NEMA ³⁾ ISO 20653	IP 65, NEMA 4 (male connector) IP6K9K (1/2-14 NPT Conduit)

Relevant data for Ex applications

Supply voltage	12 .. 28 V DC
Max. input current	$I_i = 100 \text{ mA}$
Max. input power	up to 28 V: $P_i = 1 \text{ W}$
Connection capacitance of the sensor	$C_i \leq 22 \text{ nF}$
Inductance of the sensor	$L_i = 0 \text{ mH}$
Insulation voltage ⁴⁾	50 V AC, with integrated overvoltage protection acc. to EN 61000-6-2

Other data

Residual ripple of supply voltage	$\leq 5 \%$
Current consumption	$\leq 25 \text{ mA}$
Life expectancy ⁵⁾	> 10 million cycles, 0 .. 100 % FS
Weight	~ 150 g; ~ 300 g (1/2-14 NPT Conduit)

Note: Reverse polarity protection of the supply voltage, excess voltage, overvoltage and short circuit protection are provided.
FS (Full Scale) = relative to complete measuring range; B.F.S.L. = Best Fit Straight Line

¹⁾ psi measuring ranges on request

²⁾ -20 °C with FKM seal, -40 °C on request

³⁾ With mounted mating connector in corresponding protection class

⁴⁾ 500 V AC on request

⁵⁾ Measuring range 1000 bar: > 1 million cycles (0 .. 100 % FS)

Fields of application:

Group	1	2	3	4
Protection type	Intrinsically safe Gases and dusts	Intrinsically safe Gases	Non-incendive (with field wiring) Gases	Non-incendive Gases and dusts
Certificate	CSA 1760344			
Application fields	Intrinsically safe - Class I, II, III Division 1 Group A, B, C, D, E, F, G T6	Intrinsically safe - Class I Division 1 Group A, B, C, D T6 - Class I Zone 0 AEx ia IIC T6 - Ex ia IIC T6	Non-incendive - Class I Division 2 Group A, B, C, D T4A - Class I Zone 2 AEx nL IIC T4 - Class I Zone 2 Ex nL IIC T4	Non-incendive - Class I, II, III Division 2 Group A, B, C, D, F, G T4A - Class I Zone 2 Ex nA II T4 - Class I Zone 2 AEx nA II T4 IP 6x
Electrical connection	9	5, 9, A	5, 9, A	9
Code for model code	A	B	C	

Model code:

HDA 4 7 4 X - A - XXXX - C N X - 000 (2m)

Mechanical connection

4 = G1/4 A ISO 1179-2

Electrical connection

5 = male EN175301-803

3 pole + PE

(IP67 mating connector supplied)

9 = 1/2-14 NPT Conduit (male thread),
single leads

A = male EN175301-803

3 pole + PE

(1/2" Conduit female thread)

Output signal

A = 4 .. 20 mA, 2-conductor

Measuring ranges in bar

0006, 0016; 0040; 0060; 0100; 0250; 0400; 0600; 1000

Approval

C = CSA

Isolation voltage

N = 50 V AC to housing

Protection types and applications (code)

A = Group 1

B = Group 2 and 3

C = Group 4

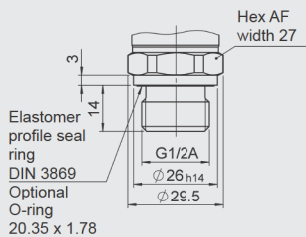
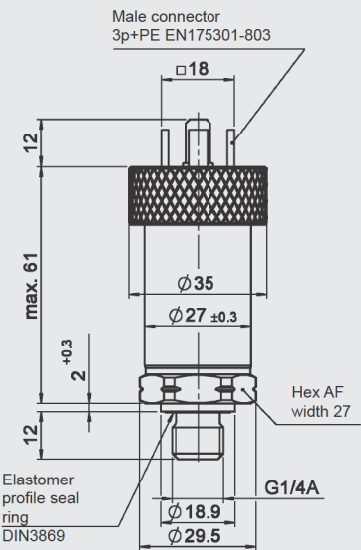
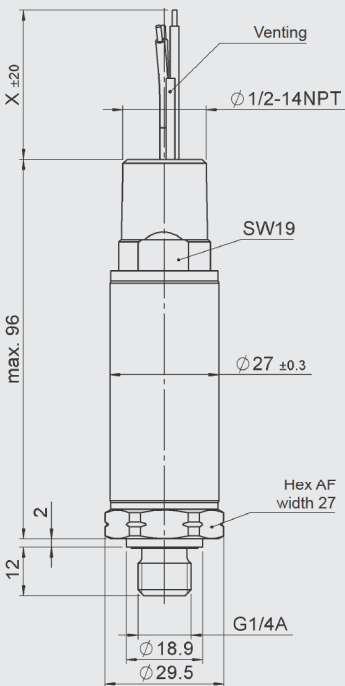
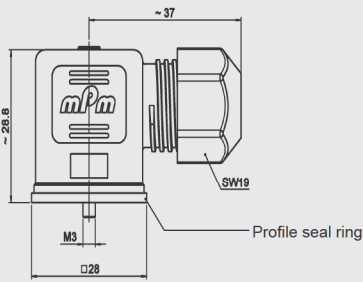
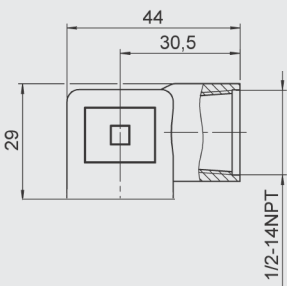
Modification number

000 = standard

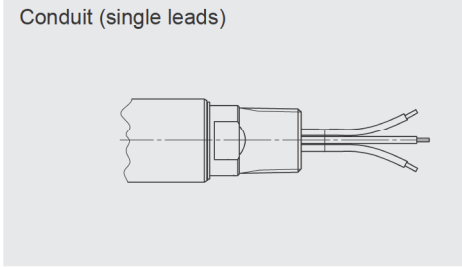
Cable length in m (only for electr. connection code "9")

Standard = 2 m

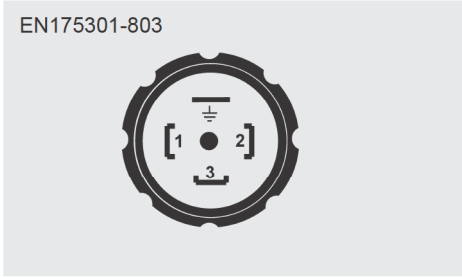
Dimensions:



Pin connections:



Lead	HDA 47X9-A
green	Signal +
white	Signal -
green-yellow	Housing



Pin	HDA 47X5-A	HDA 47XA-A
1	Signal +	Signal +
2	Signal -	Signal -
3	n.c.	n.c.
L	Housing	Housing

