

Pressure transmitters for industrial applications

Type MBS 4510

Features



- Designed for use in severe industrial environments
- Enclosure and wetted parts of acid-resistant stainless steel (AISI 316L)
- Pressure ranges in relative (gauge) or absolute up to 25 bar
- Output signal: 4 - 20 mA
- Temperature compensated and laser calibrated
- Accuracy 0,5% FS
- Zero and span adjustment
- USDA-H1 approved oil filling

Description

The high accuracy flush diaphragm pressure transmitter MBS 4510 is designed for use in non-uniform, high viscous or crystallizing media within industrial applications, and offers a reliable pressure measurement, even under harsh environmental conditions.

The flexible pressure transmitter programme covers a 4-20 mA output signal, absolute and

gauge (relative) versions, measuring ranges from 0-0.25 to 0-25 bar zero and span adjustment. A rotatable plug connection and a G1A conic pressure connection with flush mounted diaphragm. Excellent vibration stability, robust construction, and a high degree of EMC/EMI protection equip the pressure transmitter to meet the most stringent industrial requirements.

Ordering standard versions

Plug: Pg 9 (EN 175301-803)

Output: 4-20 mA

Pressure connection: G 1 A with cone

Measuring range P _e ¹⁾ [bar]	Max. operating pressure [bar]	Min. burst pressure [bar]	Code. no.
0 - 0.25	2	50	060G2418
0 - 0.4	2	50	060G2419
0 - 0.6	2	50	060G2420
0 - 1	2	50	060G2421
0 - 1.6	8	50	060G2422
0 - 2.5	8	50	060G2423
0 - 4	8	50	060G2424
0 - 6	20	50	060G2425
0 - 10	20	50	060G2426
0 - 16	50	100	060G2427
0 - 25	50	100	060G2428

1) Relative/ gauge

Technical data

Performance (EN 60770)

Accuracy (incl. non-linearity, hysteresis and repeatability)		±0.2% FS (typ.) ±0.5% FS (max.)
Non-linearity BFSL (conformity)		≤ ±0.2% FS
Hysteresis and repeatability		≤ ±0.1% FS
Thermal zero point shift	Measuring range: 0-250 mbar	≤ ±0.4% FS/10K
	Measuring range: 0-400 mbar	≤ ±0.3% FS/10K
	Measuring range: ≥0-600 mbar	≤ ±0.2% FS/10K
Thermal sensitivity (span) shift	Measuring range: 0-250 mbar	≤ ±0.4% FS/10K
	Measuring range: 0-400 mbar	≤ ±0.35% FS/10K
	Measuring range: ≥0-600 mbar	≤ ±0.2% FS/10K
Response time		< 4 ms
Max. operating pressure		Min. 2 x FS
Burst pressure	P _e versions	Min. 4 x FS
	P _{abs} versions	Min. 300 bar
Durability, P: 10-90% FS		>10×10 ⁶ cycles
Zero point adjustment	0-0.25 to 0-10 bar measuring range	-5 to +20 % FS
	0-16 to 0-25 bar measuring range	-5 to +10% FS
Span adjustment	0-0.25 to 0-25 bar measuring range	-5 to +5% FS

Electrical specifications

Nom. output signal (short circuit protected)	4 to 20 mA
Supply voltage, U _g (polarity protected)	10 to 30 V d.c.
Supply voltage dependency	≤ ±0.05% FS/10 V
Current limitation (linear output signal up to 1.5 × rated range)	28 mA (typ.)
Load [R _L] (load connected to 0 V)	$R_L \leq \frac{U_g - 10 V}{0.02 A} [\Omega]$

Environmental conditions

Medium temperature range	-10 → +85 °C	
Ambient temperature range	-10 → + 85 °C	
Compensated temperature range	0 → +80°C	
Transport temperature range	-25 → +85°C	
EMC - Emission	EN 61000-6-3	
EMC Immunity	EN 61000-6-2	
Insulation resistance	> 100 MΩ at 100 V	
Mains frequency test	SEN 361503	
Vibration stability	Sinusoidal	15.9 mm-pp, 5 Hz-25 Hz 20 g, 25 Hz - 2 kHz Random 7.5 g _{rms} , 5 Hz - 1 kHz
		IEC 60068-2-6 IEC 60068-2-34, IEC 60068-2-36
Shock resistance	Shock	500 g / 1 ms
	Free fall	IEC 60068 - 2 - 27 IEC 60068 - 2 - 32
Enclosure (depending on electrical connection)	IP65	

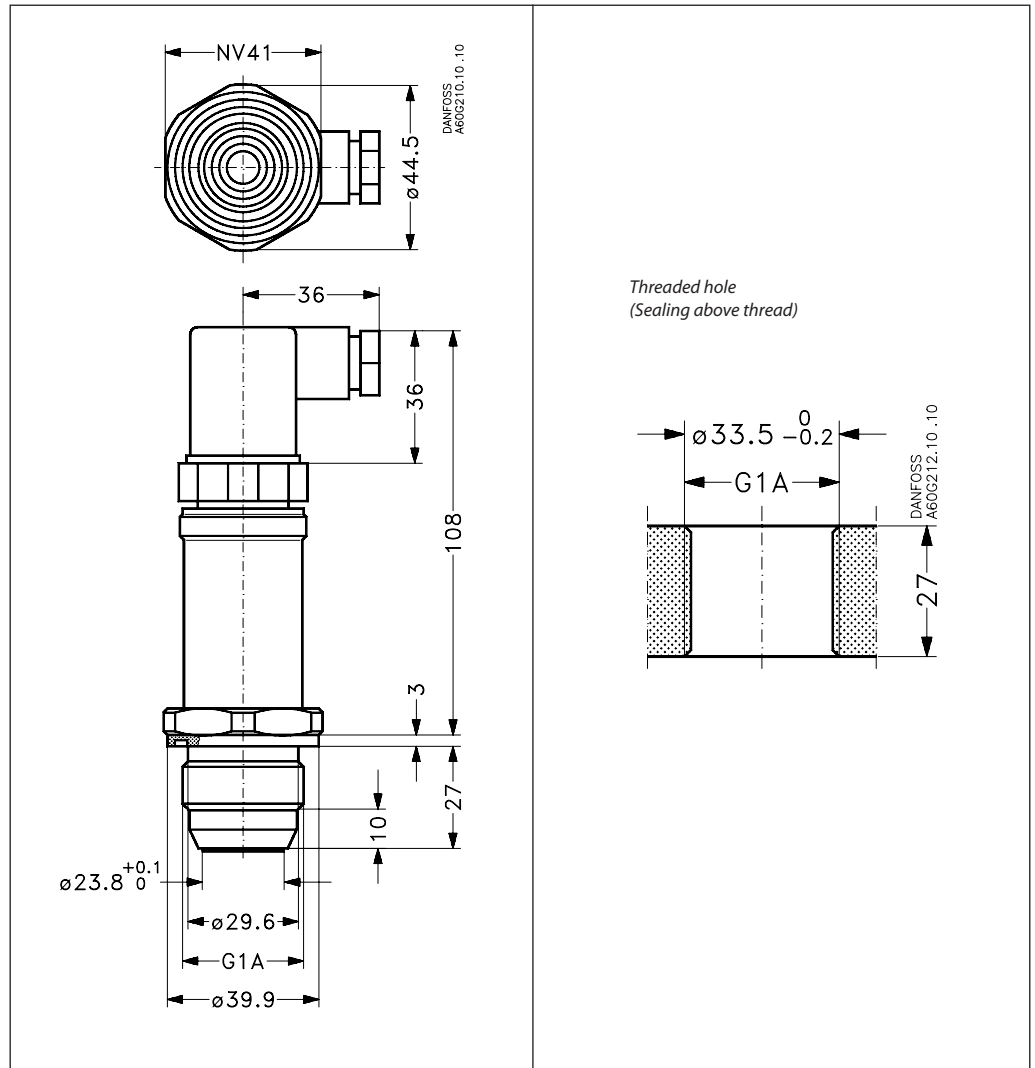
Mechanical characteristics

Materials	Wetted parts	EN 10088-1; 1.4404 (AISI 316 L)
	Enclosure	EN 10088-1; 1.4404 (AISI 316 L)
	Electrical connections	Glass filled polyamid, PA 6.6
Gasket (above thread)		DIN 3869-33-NBR
Weight		0.4 kg

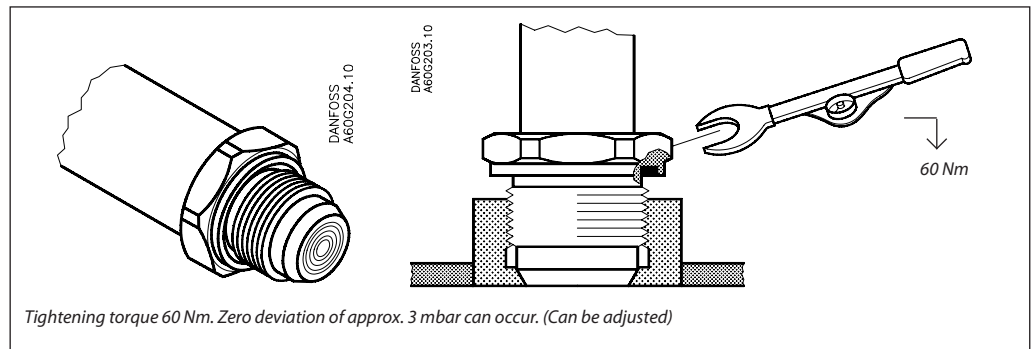
Electrical connections

Type code	1	Electrical connection, 4 - 20 mA output (2 wire)
EN 175301-803, Pg 9		
		<p>Pin 1: + supply Pin 2: ÷ supply Pin 3: Not used</p> <p>Earth: Connected to MBS enclosure</p>

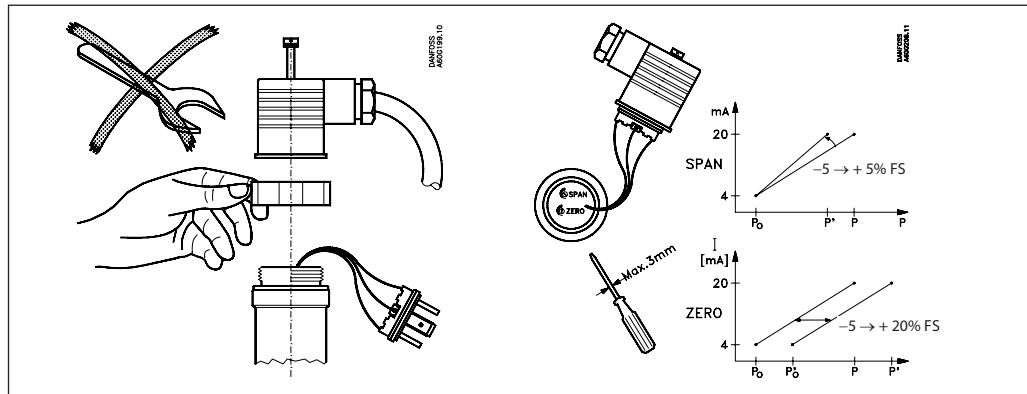
Dimensions



Installation



Adjustment



Accessories

<p>Welding nipple for conic metal/metal seal Code no.: 060G2501</p>	<p>DIN 11851 (dairy connection), DN40 Code no.: 060G2505</p>
<p>DIN 11851 (dairy connection), DN50 Code no.: 060G2506</p>	<p>Clamp, ISO 2852, 1 1/2 in. Code no.: 060G2502</p>
<p>Clamp, ISO 2852, 2 in. Code no.: 060G2510</p>	<p>SMS 1145 connection, 1 1/2 in. Code no.: 060G2503</p>

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without consequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.