



Pressure transmitter with flush diaphragm Type MBS 4010

Features


- Designed for use in severe industrial environments
- Enclosure and wetted parts of acid-resistant stainless steel (AISI 316L)
- Minimum dead volume
- O-ring sealing ahead of thread
- Pressure ranges in relative (gauge) from 0 up to 60 bar and absolute from 0 up to 25 bar
- Output signal: 4-20 mA
- Electrical connections: Plug Pg 9; EN 175301-803-A or 2 m screened cable
- Pressure connection: G 1/2A; ISO 228/1
- Temperature compensated and laser calibrated

Description

The standard pressure transmitter MBS 4010 flush diaphragm is designed for use in almost all industrial applications with non-uniform, high viscous or crystallizing mediums, and offers a reliable pressure measurement, even under harsh environmental conditions.

The pressure transmitters with 4-20 mA output signal cover absolute from 0-4 up to 0-25 bar and gauge (relative) versions, measuring ranges from 0-4 to 0-60 bar.

A robust design an excellent vibration stability and a high degree of EMC/EMI protection equip the pressure transmitter to meet the most stringent industrial requirements.

Ordering standard programme

*Gauge/relative pressure measuring
Output 4-20 mA*

Pressure connection	Measuring range P ¹⁾ _e [bar]	Max. operation pressure [bar]	Min. burst pressure [bar]	Code. no Plug version EN 175301-803-A	Code. no Cable version (2 m)
G 1/2 A ISO 228/1	0 - 4	8	16	060G3211	060G3232
	0 - 6	20	40	060G3212	060G3233
	0 - 10	20	40	060G3213	060G3234
	0 - 16	50	100	060G3214	-
	0 - 25	50	100	060G3215	060G3236
	0 - 40	80	160	060G3216	060G3237
	0 - 60	200	400	060G3217	-

¹⁾ Relative/gauge

*Absolute pressure measuring
Output 4-20 mA*

Pressure connection	Measuring range P _{abs} [bar]	Max. operating pressure [bar]	Min. burst pressure [bar]	Code no. Plug version EN 175301-803-A	Code no. Cable version (2 m)
G 1/2 A ISO 228/1	0 - 4	8	200	060G3203	060G3224
	0 - 6	20	200	060G3204	-
	0 - 10	20	200	060G3205	060G3226
	0 - 16	50	200	060G3206	060G3227
	0 - 25	50	200	060G3207	-

Technical data
Performance (EN 60770)

Accuracy (incl. non-linearity, hysteresis and repeatability)		±0.3% FS (typ.) ± 0.8% FS (max.)
Non-linearity BFSL (conformity)		≤ ±0.2% FS
Hysteresis and repeatability		≤ ±0.1% FS
Thermal zero point shift		≤ ±0.1% FS/10K (typ.) ≤ ±0.2% FS/10K (max.)
Thermal sensitivity (span) shift		≤ ±0.1% FS/10K (typ.) ≤ ±0.2% FS/10K (max.)
Response time	Liquids with viscosity < 100 cSt	< 4 ms
	Air and gases	< 35 ms
Overload pressure (Static)		2 × FS
Burst pressure		min. 4 × FS
Durability, P: 10-90% FS		>10×10 ⁶ cycles

Electrical specifications

Nom. output signal (short circuit protected)		4-20 mA
Supply voltage V_B (polarity protected)		10-30 V dc
Voltage dependency		<0.05% FS/10 V
Current limitation (linear output signal up to 1.5 x rated range)		28 mA
Load resistance $[R_L]$ (Load connected 0 V)		$[R_L] \leq \frac{U_B - 10V}{0.02 A} [\Omega]$

Environmental conditions

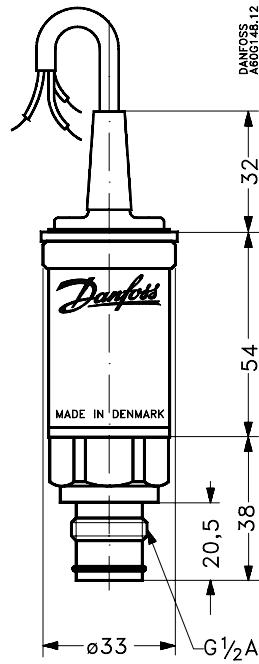
Media temperature range		-40 → +85°C	
Ambient temperature range (depending on electrical connection)		see page 5	
Compensated temperature range		0 → +80°C	
Transport temperature range		-50 → +85°C	
EMC - Emission		EN 61000-6-3	
EMC Immunity		EN 61000-6-2	
Insulation resistance		> 100 MΩ at 100 V	
Mains frequency test		SEN 361503	
Vibration stability	Sinusoidal	15.9 mm-pp, 5 Hz-25 Hz	IEC 60068-2-6
		20 g, 25 Hz - 2 kHz	
Shock resistance	Random	7.5 g _{rms} , 5Hz-1kHz	IEC 60068-2-64
	Shock	500 g / 1 ms	IEC 60068 - 2 - 27
	Free fall		IEC 60068 - 2 - 32
Enclosure (depending on electrical connection)		see page 5	

Mechanical characteristics

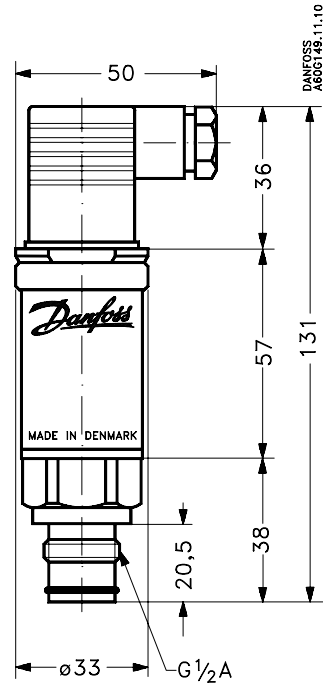
Pressure connection	Thread	G 1/2 A, ISO 228/1
	Seal behind thread	DIN 3852 form E, NBR
	Seal ahead of thread	O-ring 15 × 2, NBR
Electrical connection	Plug	EN 175301-803-A; Pg 9
	Cable	2 m screened PE-cable
Wetted parts, material		EN 10088-1; 1.4401 (AISI 316)
Enclosure material		EN 10088-1; 1.4301 (AISI 304)
Weight		0.3 kg

Dimensions

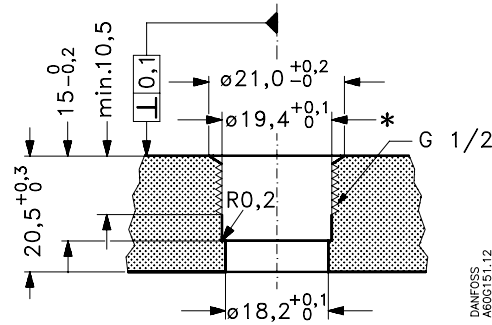
Cable version



Plug version EN 175301-803-A Pg9

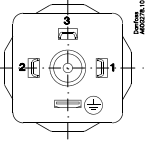
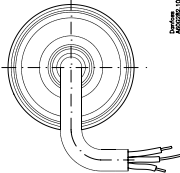


Thread hole for MBS4010



* Chamfer $\varnothing 19.4^{+0.1}$ after tapping

Electrical connections

Type code	
1	3
EN 175301-803-A, Pg 9	2 m screened cable
	
Ambient temperature	
-40 → + 85 °C	-30 → +85 °C
Enclosure (IP protection fulfilled together with mating connector)	
IP 65	IP 67
Materials	
Glass filled polyamid, PA 6.6	Poliolyfin cable with PE shrinkage tubing
Electrical connection, 4-20 mA output (2-wire)	
Pin 1: + supply Pin 2: ÷ supply Pin 3: Not used Earth: Connected to MBS enclosure	Brown wire: + supply Black wire: ÷ supply Red wire: Not used Orange: Not used Screen: Not connected to MBS enclosure

Accessories

	Code no.
Adaptor for amoured hose	060G0211
Plug EN 175301-803 IP 67, 5 m cable	060G1034
Weld nipple G $\frac{1}{2}$ A	060G0289

