

MBS 3000 pressure sensor

Features

Designed for use in demanding industrial environments.

- Enclosure of acid-resistant stainless steel (AISI 316L).
- 4-20 mA output signals.
- CE-marked: EMC-protected in accordance with EU EMC Directive.
- Temperature-compensated and laser-calibrated.
- Typical applications:
 - pumps
 - compressors
 - hydraulics
 - pneumatics
 - water treatment.



Fig. 131 MBS sensor

Dimensions

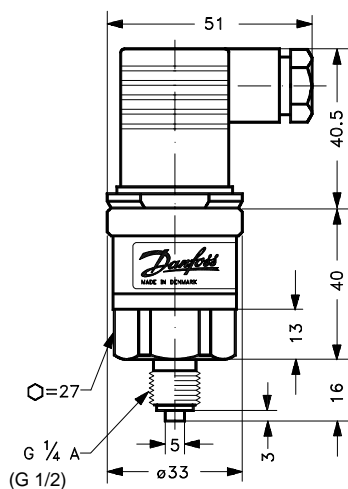
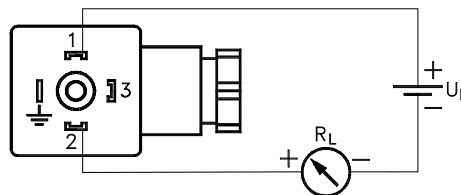


Fig. 132 Dimensional drawing of the MBS sensor

Electrical connection, two-wire, 4-20 mA



- 1 Supply +
- 2 Supply -
- 3 Not used
- ⊕ Connected to transmitter housing

Fig. 133 Rectangular plug EN 175301-803-A

TM05 2187 4511

TM05 2185 4511

TM05 2186 4511

Technical data

Performance

Accuracy (incl. non-linearity, hysteresis and repeatability)	± 0.5 % FS (typ.) ± 1 % 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	< 4 ms
Max. operating pressure	See ordering table
Burst pressure	See ordering table

Electrical specifications

Rated output signal	4-20 mA
Supply voltage V_{supply} (polarity-protected)	9 → 32 V d.c.
Supply voltage dependency	≤ ± 0.05 % FS/10 V
Current limitation	28 mA (typ.)
Max. load [R_L]	$R_L \leq \frac{V_{\text{supply}} - 9 \text{ V}}{0.02 \text{ A}} [\Omega]$

Environmental conditions

Operating temperature range			-40 → +85 °C
Compensated temperature range			0 → +80 °C
Transport temperature range			-50 → +85 °C
EMC - emission			EN 61000-6-3
EMC immunity	Electrostatic discharge	Air: 8 kV Contact: 4 kV	EN 61000-6-2
	RF field	10 V/m, 26 MHz - 1 GHz	
	RF conducted	3 Vms, 150 kHz - 30 MHz	
	Transient burst 4 kV	(CM), clamp	
	Transient surge 1 kV	(CM, DM) at Rg = 42 Ω	
Insulation resistance		> 100 MΩ at 100 V	
Mains frequency		500 V, 50 Hz	SEN 361503
Vibration stability	Sinusoidal	20 g, 25 Hz - 2 kHz	IEC 60068-2-6
	Random	7.5 grms, 5 Hz - 1 kHz	IEC 60068-2-64
Shock resistance	Shock	500 g/1 ms	IEC 60068-2-27
	Free fall		IEC 60068-2-32
Enclosure			IP65 - IEC 60529

Mechanical characteristics

Pressure connection	G 1/4 A, ISO 228/1 (G 1/2)
Electrical connections	Rectangular EN 175301-803-A plug
Wetted parts, material	EN 10088-1; 1.4404 (AISI 316 L)
Housing material	EN 10088-1; 1.4404 (AISI 316 L)
Weight	0.2 kg