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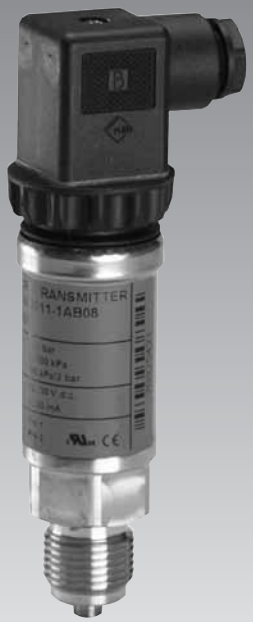

Pressure transmitters for industrial applications

Type MBS 4500

Technical brochure

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Features

- Designed for use in severe industrial environments
- Enslosure and wetted parts of acid-resistant stainless steel (AISI 316L)
- Pressure ranges in relative (gauge) or absolute from 0 up to 600 bar
- Output signal: 4 - 20 mA
- A wide range of pressure connections
- Temperature compensated and laser calibrated
- Accuracy 0,5% FS
- Zero and span adjustment

Description

The high accuracy pressure transmitter MBS 4500 is designed for use in almost all 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 0-1 to 0-600 bar zero and span adjustment. A rotatable plug connection and a wide range of pressure connections.
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-A)
Output: 4-20 mA
Pressure connection: G 1/2 A (EN 837)

Measuring range Pe [1] [bar]	Type no.	Code no.
0-1	MBS 4500-1011-1AB08	**060G2401**
0-1.6	MBS 4500-1211-1AB08	**060G2402**
0-2.5	MBS 4500-1411-1AB08	**060G2403**
0-4	MBS 4500-1611-1AB08	**060G2404**
0-6	MBS 4500-1811-1AB08	**060G2405**
0-10	MBS 4500-2011-1AB08	**060G2406**
0-16	MBS 4500-2211-1AB08	**060G2407**
0-25	MBS 4500-2411-1AB08	**060G2408**

1) Relative/ gauge

Kontakt:
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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		≤ ±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
Overload pressure		6 × FS (max. 1500 bar)
Burst pressure		> 6 × FS (max. 2000 bar)
Durability, P: 10-90% FS		>10×10^6 cycles
Zero point adjustment	0-1 to 0-10 bar mearsuring range	-5 to +20 % FS
	0-16 to 0-40 bar measuring range	-5 to +10% FS
	0-60 to 0-600 bar measuring range	-2.5 to +5% FS
Span adjustment	0-1 to 0-600 bar measuring range	-5 to +5% FS

Electrical specifications

Nom. output signal (short curcuit protected)	4 to 20 mA
Supply voltage, U_B (polarity protected)	10 to 30 V dc
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)	$R_L \leq \frac{U_B - 10\,V}{0.02\,A}$ [Ω]

Environmental conditions

Medium temperature range			–40 → +85 °C
Ambient 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			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	
		Random 7.5 g_{rms}, 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 *(IP protection fulfilled together with mating connector)*			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
Weight (depending on pressure connection)		0.2 - 0.3 kg

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Ordering special versions

MBS 4500 - 1 – 1

Measuring range

0 - 1 bar	1 0
0 - 1.6 bar	1 2
0 - 2.5 bar	1 4
0 - 4 bar	1 6
0 - 6 bar	1 8
0 - 10 bar	2 0
0 - 16 bar	2 2
0 - 25 bar	2 4
0 - 40 bar	2 6
0 - 60 bar	2 8
0 - 100 bar	3 0
0 - 160 bar	3 2
0 - 250 bar	3 4
0 - 400 bar	3 6
0 - 600 bar	3 8

Pressure reference

Gauge (relative)	1
Absolute	2

Pressure connection

A B 0 4	G ¼ A (EN 837)
A B 0 6	G 3/8 A (EN 837)
A B 0 8	G ½ A (EN 837)
A C 0 4	¼ -18 NPT
A C 0 8	½ -14 NPT
G B 0 4	DIN 3852-E-G ¼

Gasket: DIN 3869-14 NBR

Electrical connection

Figures refer to plug and standard PIN configuration - see page 5

1 — Plug Pg 9 (EN175301-803-A)

Output signal

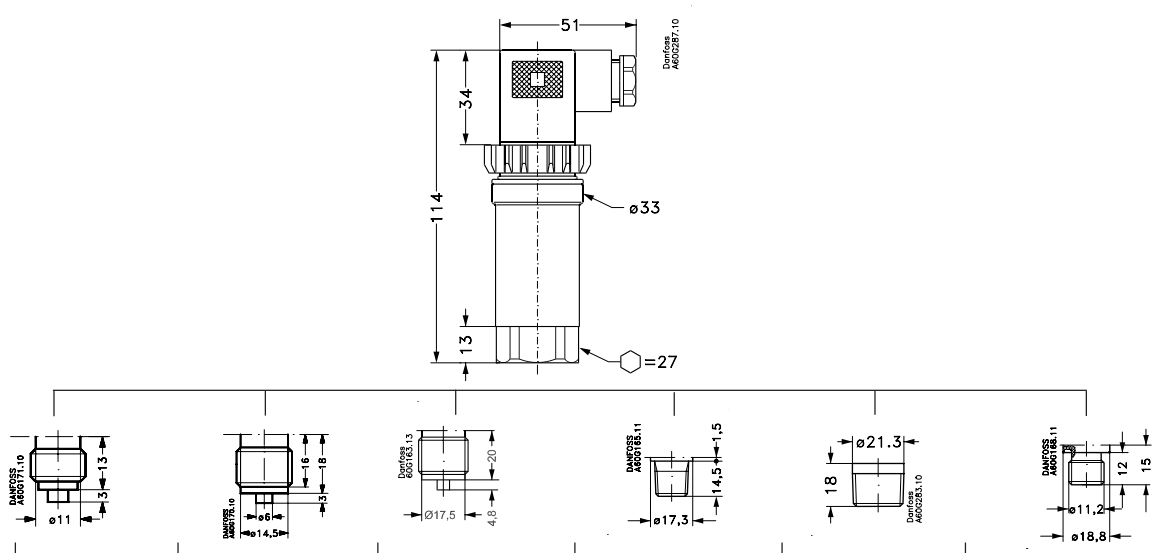
1 — 4 - 20 mA

Preferred versions

Non-standard build-up combinations may be selected. However, minimum order quantities may apply. Please contact your local Danfoss office for further information, or request on other versions.

Dimensions / Combinations

Type code	1
	EN175301-803-A, Pg 9



	G ¼ A (EN 837)	G 3/8 A (EN 837)	G ½ A (EN 837)	¼ – 18 NPT	½ - 14 NPT	DIN 3852-E-G ¼ Gasket: DIN 3869-14
Type code	AB04	AB06	AB08	AC04	AC08	GB04
Recommended torque 1)	30-35 Nm	30-35 Nm	30-35 Nm	2-3 turns after finger tightened	2-3 turns after finger tightened	30-35 Nm

1)Depends of different parameters as packing material, mating material, thread lubrication and pressure level.

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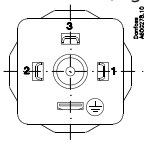
Electrical connection

Type code, page 4	Electrical connection, 4 - 20 mA output (2 wire)
1	
EN 175301-803-A, Pg 9 	*Pin1: + supply* *Pin 2: ÷ supply* *Pin 3: Not used* *Earth: Connected to MBS enclosure*

Adjustment