

Pressure transmitters for high temperature applications

Type MBS 3200

Features



- Designed for use in severe industrial environments
- For medium and ambient temperatures up to 125 °C
- Low supply voltage
- All standard output signals: 4-20 mA, 0-5 V, 1-5 V, 1-6 V, 0-10 V
- Enclosure and wetted parts of AISI 316L
- A wide range of pressure and electrical connections
- Temperature compensated, linearized and laser adjusted

Description

The compact high temperature pressure transmitter MBS 3200 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 different output signals, absolute and gauge (relative) versions, measuring ranges from 0-1 to 0-600 bar and a wide range of pressure and electrical connections.

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 versions

Output: 4 - 20mA
 Pressure connection : G½ EN 837
 Plug: EN 175301-803, Pg9

Measuring range Pe [bar]	Overload (Static) [bar]	Burst pressure [bar]	Type	Code no.
0-1	6	100	MBS 3200-1011-1AB08-0	060G1870
0-1.6	12	100	MBS 3200-1211-1AB08-0	060G1871
0-2.5	24	100	MBS 3200-1411-1AB08-0	060G1872
0-4	24	100	MBS 3200-1611-1AB08-0	060G1873
0-6	60	100	MBS 3200-1811-1AB08-0	060G1874
0-10	60	100	MBS 3200-2011-1AB08-0	060G1875
0-16	150	150	MBS 3200-2211-1AB08-0	060G1876
0-25	150	150	MBS 3200-2411-1AB08-0	060G1877
0-40	300	400	MBS 3200-2611-1AB08-0	060G1878
0-60	360	800	MBS 3200-2811-1AB08-0	060G1879
0-100	600	1200	MBS 3200-3011-1AB08-0	060G1880
0-160	1200	1200	MBS 3200-3211-1AB08-0	060G1881
0-250	1500	2000	MBS 3200-3411-1AB08-0	060G1882
0-400	1500	2000	MBS 3200-3611-1AB08-0	060G1883
0-600	1500	2000	MBS 3200-3811-1AB08-0	060G1884

Technical data
Performance (EN 60770)

Accuracy (incl. non-linearity and repeatability)	±0.5% FS (typ.) ±1% FS (max.)
Non-linearity (best fit straight line)	≤ ±0.2% FS
Hysteresis and repeatability	≤ ±0.1% FS
Thermal error band (compensated temperature range)	≤ ±1% FS
Response time	< 4 ms
Overload pressure (static)	Min. 6×FS (max. 1500 bar)
Burst pressure	>6×FS (max. 2000 bar)
Durability, P: 10-90% FS	>10×10 ⁶ cycles

Electrical specifications

U _B	Nom. output signal (short-circuit protected)		
	4 to 20 mA	0-5, 1-5, 1-6 V dc	0-10 V dc
Supply voltage [U _B], polarity protected	9 to 34 V dc	10 to 30 V dc	15 to 30 V dc
Supply - current consumption	-	≤ 5 mA	≤ 8 mA
Supply voltage dependency	≥±0.05% FS/10 V		
Current limitation (linear output up to 1.5x nom. range)	28 mA (typ.)	-	
Output impedance	-	≤25 Ω	
Load [R _L] (load connected to 0V)	R _L ≤ (U _B - 9V)/0.02A	R _L ≥ 5 kΩ	R _L ≥ 10 kΩ

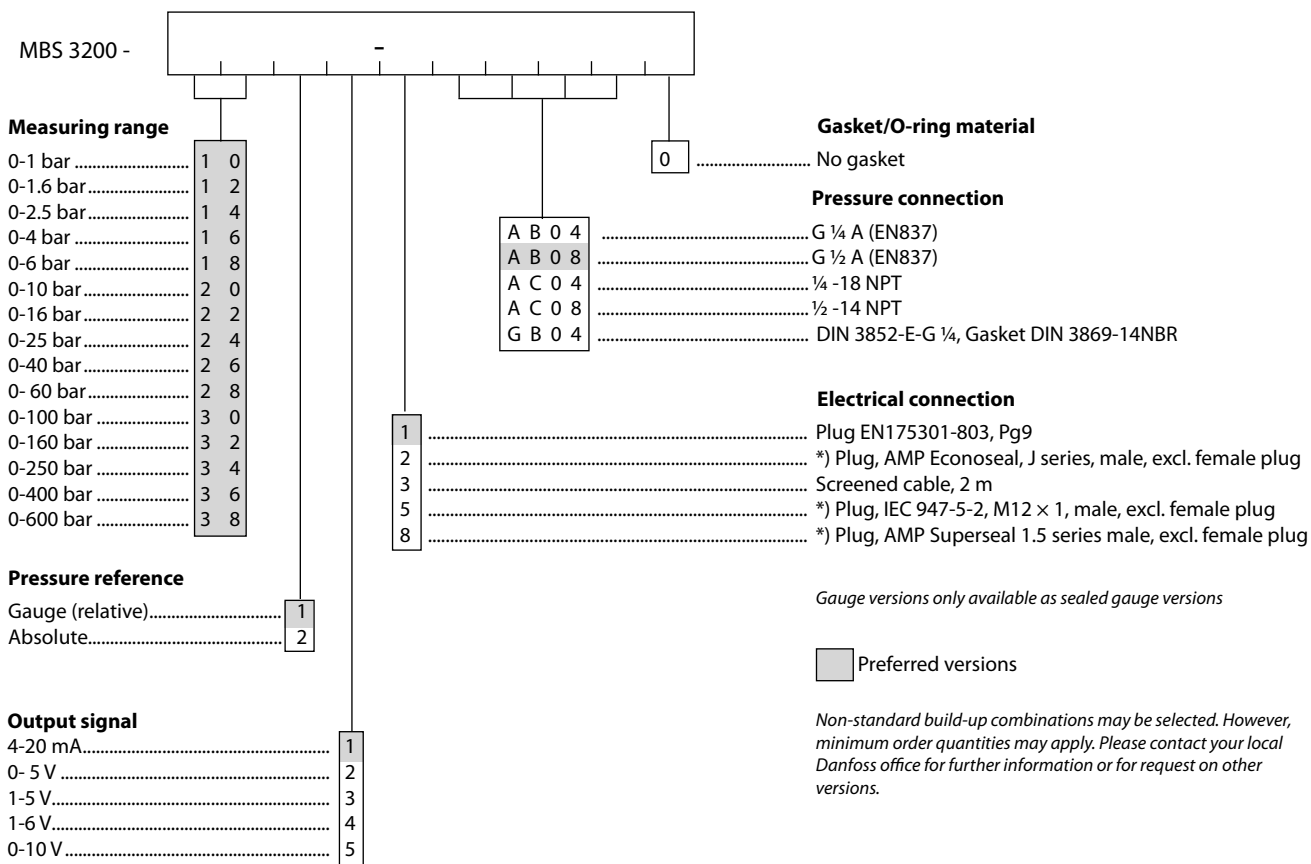
Environmental conditions

Medium temperature range (depending on gasket material)	-40 to +125°C	
Ambient temperature range (depending on electrical connection)	see page 4	
Compensated temperature range	0 to +100°C	
Transport temperature range	-50 to +125°C	
EMC - Emission	EN 61000-6-3	
EMC - Immunity	EN 61000-6-2	
Insulation resistance	> 100 MΩ at 100 V dc	
Mains frequency test 500 V, 50 H	SEN 361503	
Vibration stability	Sinusoidal $\frac{15.9 \text{ mm-pp}, 5 \text{ Hz-25 Hz}}{20 \text{ g}, 25 \text{ Hz} - 2 \text{ kHz}}$	IEC 60068-2-6
	Random 7.5 g rms, 5 Hz - 1 kHz	IEC 60068-2-34, IEC 60068-2-36
Shock resistance	Shock 500 g / 1 ms	IEC 60068-2-27
	Free fall	IEC 60068-2-32
Enclosure (depending on electrical connection)	see page 4	

Mechanical characteristics

Materials	Wetted parts	EN 10088-1 ; 1.4404 (AISI316L)
	Enclosure	EN 10088-11 ; 1.4404 (AISI316L)
	Pressure connection	see page 3
	Electrical connections	see page 4
Weight (depending on pressure connection and electrical connection)		0.2-0.3 kg

Ordering of special versions



Dimensions/Combinations

Type code	1	2	3	5	8
	EN 175301-803, Pg 9	AMP Econoseal	2 m screened cable	EN 60947-5-2 4 pin; M12X1	AMP Superseal
	G ¼ A (EN837)	G ½ A (EN837)	¼ - 18 NPT	½ - 14 NPT	DIN 3852-E-G ¼ Gasket: DIN 3869-14
Type code	AB04	AB08	AC04	AC08	GB04

Electrical connections

Type code, page 3				
1	2	5	8	3
DIN 43650, Pg 9 	AMP Econoseal J series (male) 	IEC 947-5-2 4 pin; M12X1 	AMP Superseal 1.5 series (male) 	2 m screened cable
<i>Ambient temperature, 4-20 mA output</i>				
-40 to +100 °C	-40 to +100 °C	-25 to +90 °C	-40 to +100 °C	-30 to +85 °C
<i>Ambient temperature, 0-5 V, 1-5 V, 1-6 V and 0-10 V output</i>				
-40 to +125 °C	-40 to +105 °C	-25 to +90 °C	-40 to +125 °C	-30 to +85 °C
<i>Enclosure</i>				
IP 65	IP 67	IP 67	IP 67	IP67
<i>Materials</i>				
Glass filled polyamid, PA 6.6	Glass filled polyamid, PA 6.6 ¹⁾	Nickel plated brass, CuZn/Ni	Glass filled polyamid, PA 6.6 ²⁾	Polyolifin cable with PE shrinkage tubing
<i>Electrical connection, 4-20 mA output (2 wire)</i>				
Pin 1: +supply Pin 2: ÷supply Pin 3: Not used Earth: Connected to MBS enclosure	Pin 1: +supply Pin 2: ÷supply Pin 3: Not used	Pin 1: +supply Pin 2: Not used Pin 3: Not used Pin 4: ÷supply	Pin 1: +supply Pin 2: ÷supply Pin 3: Not used	Brown wire: +supply Black wire: ÷supply Red wire: Not used Orange: Not used Screen: Not connected to MBS enclosure
<i>Electrical connection, 0-5V, 1-5V, 1-6V, 0-10V output</i>				
Pin 1: +supply Pin 2: ÷supply Pin 3: Output Earth: Connected to MBS enclosure	Pin 1: +supply Pin 2: ÷supply Pin 3: Output Pin 4: ÷supply	Pin 1: +supply Pin 2: not used Pin 3: Output Pin 4: ÷supply	Pin 1: +supply Pin 2: ÷supply Pin 3: Output	Brown wire: Output Black wire: ÷supply Red wire: + supply Orange: Not used Screen: Not connected to MBS enclosure

¹⁾ Female plug: Glass filled polyester, PBT

²⁾ Wire: PETFE (teflon)

Protection sleeve: PBT mesh (polyester)

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