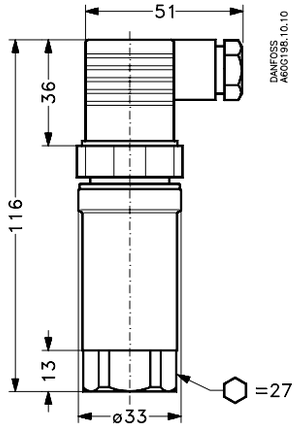
Data sheet

Pressure transmitters for industrial applications Type MBS 4500

- Designed for use in severe industrial environments
- Accuracy: 0.5 % FS
- Zero point and span adjustment
- CE-marked: EMC protected in accordance with EU EMC Directive
- Enclosure and wetted parts of acid-resistant stainless steel (AISI 316L)
- Laser calibrated temperature compensation and linearization
- Many different pressure connections

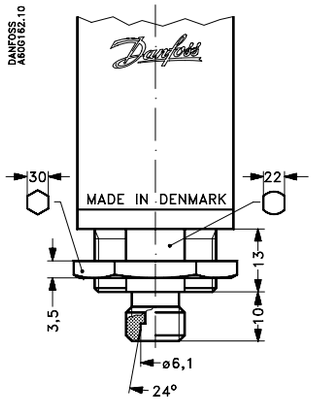
Dimensions (mm)

Standard transmitter housing



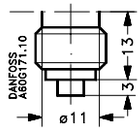
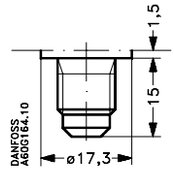
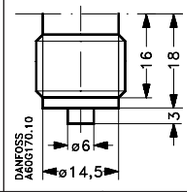
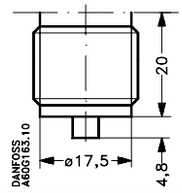
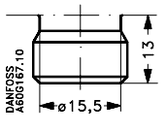
Pressure connections, see below

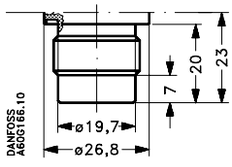
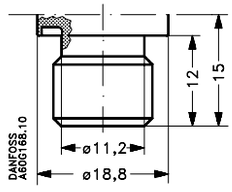
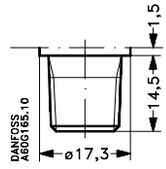
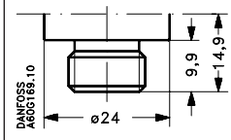
Panel mounting version



ISO/DIS 8434-1
(24° compression fitting)
M12 x 1.5 - 6g,

Pressure connections

DIN 16288-B6kt-G 1/4 A	1/4 in. Flare, 7/16-20 UNF	DIN 16288-B6kt-G 3/8 A	DIN 16288-B6kt-G 1/2 A	DIN 3852/3 M18 x 1.5 - 6g
				

DIN 3852-E-M22 x 1.5	DIN 3852-G 1/4 A	1/4-18 NPT	9/16-18 UNF-2A (SAE J514)
			

Technical data

Performance

Accuracy		±0.2% FS (typ.)/±0,5% FS (max.)
Non-linearity (Best fit straight line)		< ±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 (10 to 90%)		< 4 ms
Max. operating pressure		See table
Burst pressure		on page 3
Zero point adjustment	0-15 to 0-150 psi measuring range	–20 to 5 % FS
	0-200 to 0-500 psi measuring range	–10 to 5 % FS
	0-750 to 0-7500 psi measuring range	–5 to 2.5 % FS
Span adjustment	0-15 to 0-7500 psi measuring range	–5 to 5 % FS

Electrical specifications

Rated output signal	4 to 20 mA
Supply voltage, U_B (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 x rated range)	28 mA (typ.)
Max load R_L	$R_L \leq \frac{U_B - 10\ V}{0.02\ A}$ [Ω]

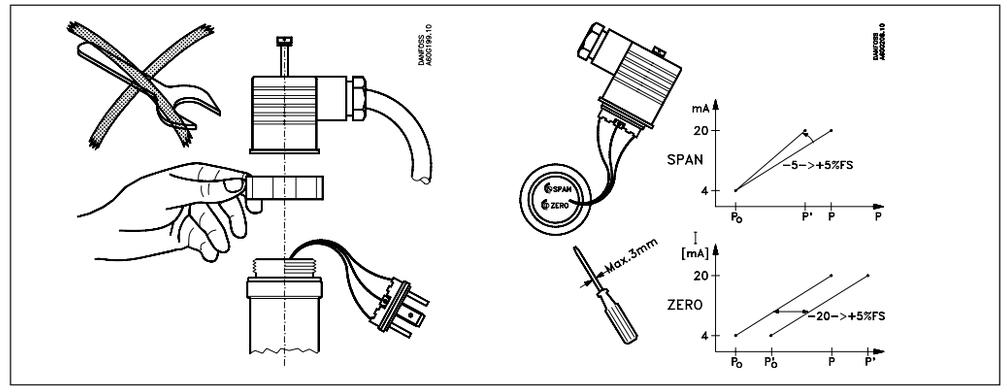
Environmental conditions

Operating temperature range				–40 to 85°C
Compensated temperature range				0 to 80°C
Transport temperature range				–50 to 85°C
EMC - Emission				EN 50081-1
EMC - Immunity	Electrostatic discharge	Air	8 kV	EN 50082-1 (IEC 801-2)
		Contact	4 kV	EN 50082-1 (IEC 801-2)
	RF field	10 V/m, 26 MHz - 1 GHz		EN 50082-1 (IEC 801-3)
	RF conducted	3 V_{rms}, 150 kHz - 30 MHz		EN 50082-1 (IEC 801-6)
	Transient	burst	4 kV (CM)	EN 50082-1 (IEC 801-4)
		surge	1 kV (CM,DM)	EN 50082-1 (IEC 801-5)
Insulation resistance				> 100 MΩ at 500 V d.c.
Mains frequency test		500 V, 50 Hz		SEN 361503
Vibration stability	Sinusoidal	20 g, 25 Hz - 2 kHz		IEC 68-2-6
	Random	7,5 g_{rms}, 5 Hz - 1 kHz		IEC 68-2-34, IEC 68-2-36
Shock resistance	Shock	500 g / 1 ms		IEC 68-2-27
	Free fall	1000 mm, Surface: Steel		IEC 68-2-32
Enclosure				IP 65 - IEC 529

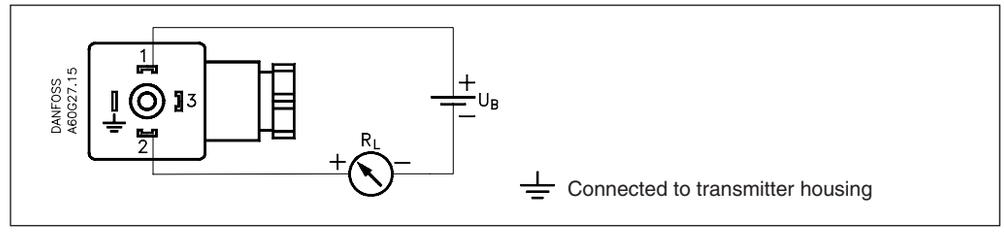
Mechanical characteristics

Material	Wetted parts	DIN 17440-1.4404 (AISI 316 L)
	Housing	DIN 17440-1.4404 (AISI 316 L)
Weight		0.3 kg

Adjustment



Electrical connection



Ordering standard version MBS 4500

Pressure connection	Pressure ranges P_e (gauge)	Max. operation pressure	Min. burst pressure	DIN 43650 plug versions	
				Type no.	**Code no.**
1/4 -18 NPT	0-15 psi	30 psi	750 psi	MBS 4500-5211-1AC04	**060G2192**
	0-30 psi	120 psi	750 psi	MBS 4500-5411-1AC04	**060G2193**
	0-60 psi	120 psi	750 psi	MBS 4500-5611-1AC04	**060G2194**
	0-100 psi	300 psi	750 psi	MBS 4500-5811-1AC04	**060G2195**
	0-150 psi	300 psi	750 psi	MBS 4500-6011-1AC04	**060G2196**
	0-200 psi	750 psi	1450 psi	MBS 4500-6211-1AC04	**060G2197**
	0-300 psi	750 psi	1450 psi	MBS 4500-6411-1AC04	**060G2198**

Ordering, special versions

Type MBS 4500- 1 - 1

Measuring range

0 - 15 psi	5 2
0 - 30 psi	5 4
0 - 60 psi	5 6
0 - 100 psi	5 8
0 - 150 psi	6 0
0 - 200 psi	6 2
0 - 300 psi	6 4
0 - 500 psi	6 6
0 - 750 psi	6 8
0 - 1000 psi	7 0
0 - 1500 psi	7 2
0 - 2000 psi	7 4
0 - 3000 psi	7 6
0 - 5000 psi	7 8
0 - 7500 psi	8 0

Pressure reference

Gauge (relative)	1
Absolute	2

Pressure connection

A B 0 4	.... DIN 16288-B6kt-G 1/4 A
B B 0 4	.... DIN 3852-G 1/4 A, NBR O ring
A B 0 6	.... DIN 16288-B6kt-G 3/8 A
A B 0 8	.... DIN 16288-B6kt-G 1/2 A
A E 0 7	.... ISO/DIS 8434-1 (24°), M12x1.5 - 6g
B A 1 2	.... DIN 3852/3, M18x1.5 - 6g, NBR O-ring
B A 1 6	.... DIN 3852-E-M22x1.5, NBR gasket
A C 0 4	.... 1/4 -18 NPT
A D 0 8	.... 1/4 in. Flare, 7/16-20 UNF
B D 1 0	.... 9/16 -18 UNF-2A (SAE J514), NBR O-ring

Electrical connection

1 ..... Plug (DIN 43650)

Output signal

1 ..... 4 to 20 mA

Accessories

Description	Code no.
Wall bracket	**060G0213**
Condensation loop: 1 m stainless capillary tube with 2 x G 1/2 unions	**060-0619**
Adapter G 1/2 (ISO 228/1) female – DIN 16288-B6kt-G 1/4 A male[1)]	**060G1021**
Adapter G 1/2 (ISO 228/1) female – DIN 3852-B6kt-G 1/4 A male[1)]	**060G1022**
Adapter G 1/2 (ISO 228/1) female – DIN 16288-B6kt-G 3/8 A male[1)]	**060G1023**
Adapter G 1/2 (ISO 228/1) female – DIN 1/4 in. flare 7/16-20 UNF male[1)]	**060G1024**
Adapter G 1/2 (ISO 228/1) female – ISO/DIS 8434-1, M12 x 1.5-6g male[1)]	**060G1025**
Adapter G 1/2 (ISO 228/1) female – 9/16-18 UNF-2A, (SAE J514) male[1)]	**060G1026**
Adapter G 1/2 (ISO 228/1) female – 1/4-18 NPT male[1)]	**060G1027**
Adapter G 1/2 (ISO 228/1) female – DIN 3852/3, M18 x 1.5-6g male[1)]	**060G1028**
Adapter G 1/2 (ISO 228/1) female – DIN 3852-E-M22 x 1.5 male[1)]	**060G1029**
Adapter with integrated pulse snubber G 1/2 (ISO 228/1) female – DIN 16288-B6kt-G 1/2 A male[1)]	**060G0252**

1) See page 1 – pressure connections

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 subsequential 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

Danfoss Inc.
7880 Tranmere Drive
Mississauga, Ontario
L5S 1L9, Canada
Tel: 905-676-6000 Fax: 905-676-0279

Danfoss Automatic Controls
Division of Danfoss Inc.
7941 Corporate Drive
Baltimore, Maryland 21236
Tel: 410-931-8250 Fax: 410-931-8256