



### Main characteristics

Measuring ranges	-1 ... 0 bar up to 0 ... 40 bar
Turn down	5:1
Long term stability	≤ ± 0.1% FS / Year
Accuracy (20 °C) <small>(Linearity, hysteresis, repeatability, error of span and zero point)</small>	≤ ± 0.25% FS ≤ ± 0.1% FS
Performance after Turn-Down	[Turn-Down] * [Accuracy] FS
Autoclavability	Complete device with mounted protection cap. Process duration max. 30 minutes, sterilisation temperature max 140 °C, ambient pressure max 3500 mbar.

### Autoclavability

Sterilisation conditions	Complete device with mounted protection cap
Process duration	≤ 30 min
Sterilisation temperature	≤ 140 °C
Ambient pressure during sterilisation process	≤ 3500 mbar

### Main Features

- Fully autoclavable pressure transmitter for common sterilisation processes
- SIP/CIP compatible
- Surface roughness of process connection ≤ 0.8 Ra
- Fully welded compact design
- External programming of zero point and span with FlexProgrammer 9701
- Excellent temperature characteristics
- Available with optional electro-polished process connection

### Applications

- Health care
- Biotechnology
- Pharmaceutical

### Technical specifications

Measuring principle	Piezoresistive silicon sensor
Measuring ranges	-1 ... 0 bar up to 0 ... 40 bar
Type of pressure	Relative / Absolute
Turn down	5:1
Accuracy (20 °C) <small>(Linearity, hysteresis, repeatability, error of span and zero point)</small>	≤ ± 0.25% FS ≤ ± 0.1% FS
Zero thermal drift	≤ ± 0.03% FS/10 K
Span thermal drift	≤ ± 0.03% FS/10 K
Long term stability	≤ ± 0.1% FS / Year
Response time (10 ... 90%)	≤ 5 ms
Process connections	See page 3

### Environment

Temperature	
Storage	-10 ... +85°C
Compensated range	-10 ... +85°C
Medium (without cooling neck)	-10 ... +125°C
Medium (with cooling neck)	-10 ... +200°C
Ambient	-10 ... +85°C
Protection rating	IP67 (EN 60529)
Vibration IEC60068-2-6	1.5 mm p-p (10 – 57 Hz), 10 g (58 Hz – 2 KHz) 10 cycles within 2.5 h per axis
Shock IEC60068-2-27	50 g/11 ms 100 g/6 ms 10 x Imp. per Axis and direction
Bump IEC60068-2-27	100 g/2 ms 4000 x Imp. per Axis and direction
Random IEC60068-2-64	0.1 g <sup>2</sup> /Hz (20 Hz – 1 KHz) 30 min per axis (>10 g RMS)

**Electrical specification**

Output signal / Power supply	4 ... 20 mA / 8 ... 30 VDC 0...10 V / 13 ... 30 VDC
Load impedance	
Current output	$R_{\Omega} = (U_{\text{supply}} - 8 \text{ V}) / 20 \text{ mA}$
Voltage output	> 5 K $\Omega$
Insulation resistance	>100 M $\Omega$ at 500 VDC
Electrical connections	See page 3

**Material**

Process connection	SS 1.4435 AISI 316L
Housing	SS 1.4404 AISI 316L
Diaphragm	SS 1.4435 AISI 316L
Sealing	EPDM gaskets are conform to 3-A, Sanitary Standard 18-03 Class I

**Surface roughness**

Process connection	Ra $\leq$ 0.4 $\mu\text{m}$
Weld joint	Ra $\leq$ 0.8 $\mu\text{m}$
Diaphragm	Ra $\leq$ 0.4 $\mu\text{m}$

**Approvals**

CE conformity	EMC directive 2004/108/CE in accordance with EN 61000-6-2 & EN 61000-6-3
Hygienic	3-A 74-05 EHEDG, EL Class I

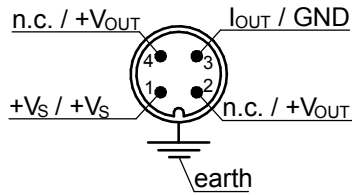
**Measuring ranges and overpressure safety**

	Pressure in bar				
<b>Pressure range</b>	0 ... 0.4	0 ... 1.6	0 ... 6	0 ... 25	0 ... 40
	0 ... 0.6	0 ... 2	0 ... 10	-1 ... 24	-1 ... 39
	0 ... 1	0 ... 2.5	-1 ... 9		
	-1 ... 0	-1 ... 1.5	0 ... 16		
	-1 ... 0.6	0 ... 4	-1 ... 15		
		-1 ... 3	0 ... 20		
		-1 ... 5			
<b>Over pressure</b>	3	15	60	70	135
<b>Burst pressure</b>	6	30	120	140	270

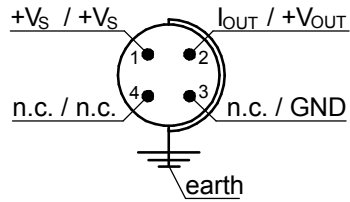
**Electrical connections**

Signal at 4...20 mA / Signal at 0...10V

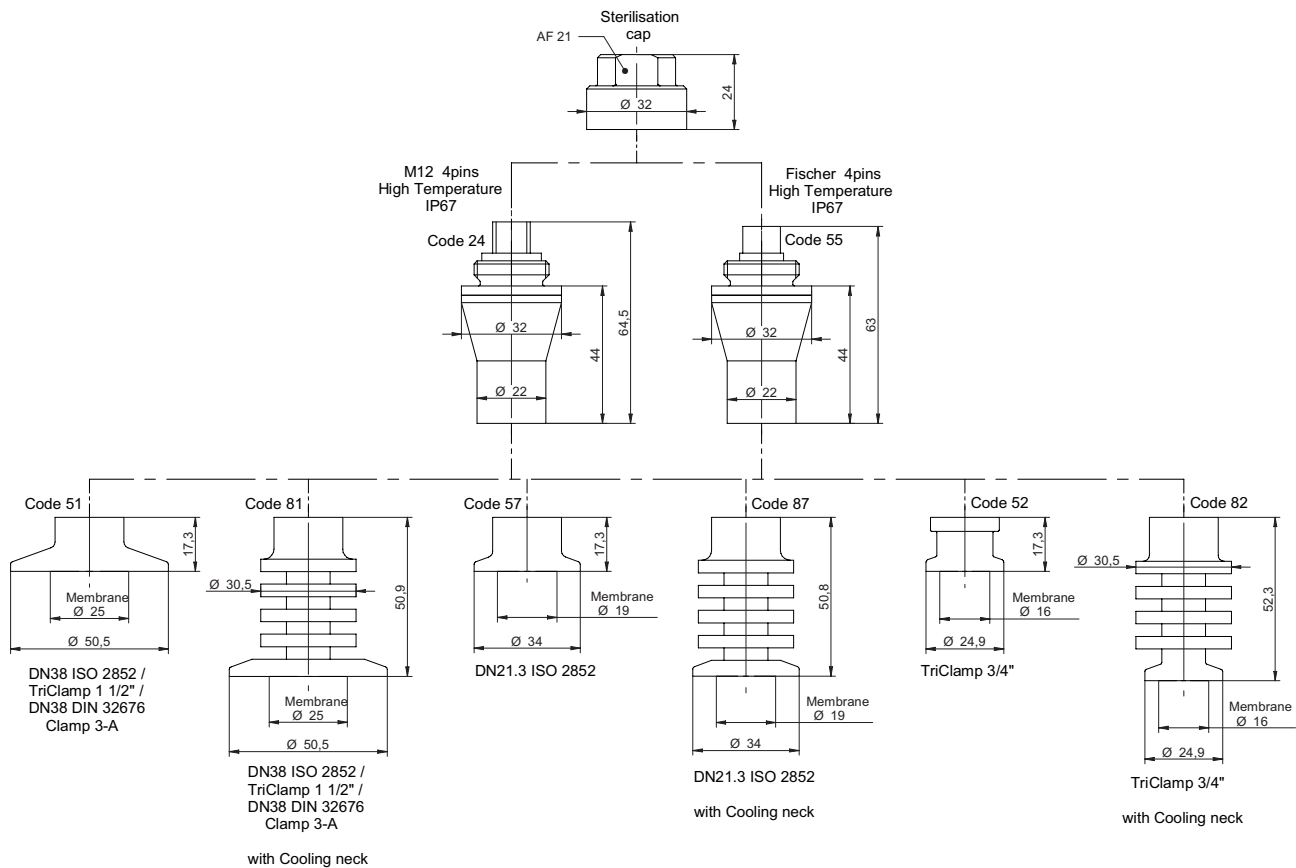
**M12, 4-pins**



**Fischer plug 4-pins**



**Dimensions (mm)**



Ordering details PBMH autoclavable

		PBMH	-	2	.	x	.	xxx	.	x	.	xx	.	xx	.	xx	.	x	.	x	.	x	.																			
<b>Model</b>		Pressure transmitter fully autoclavable	PBMH																																							
<b>Housing material</b>		Stainless steel 1.4404 AISI 316L	2																																							
<b>Accuracy</b>		0.25% FS	4																																							
		0.10% FS	5																																							
<b>Pressure range and unit in bar</b>																																										
		-1...0	Only pressure type relative																										B59													
		-1...0.6	Only pressure type relative																										B72													
		-1...1.5	Only pressure type relative																										B74													
		-1...3	Only pressure type relative																										B76													
		-1...5	Only pressure type relative																										B77													
		-1...9	Only pressure type relative																										B79													
		-1...15	Only pressure type relative																										B81													
		-1...24	Only pressure type relative																										B82													
		-1...39	Only pressure type relative																										B1L													
		0...0.4	Only pressure type relative																										B11													
		0...0.6	Only pressure type relative																										B12													
		0...1	Only pressure type relative																										B15													
		0...1.6																											B16													
		0...2																											B17													
		0...2.5																											B18													
		0...4																											B19													
		0...6																											B20													
		0...10																											B22													
		0...16																											B24													
		0...20																											B25													
		0...25																											B26													
		0...40																											B27													
<b>Kind of pressure</b>		Relative	R																																							
		Absolute	A																																							
<b>Output signal</b>		4...20mA	A1																																							
		0...10V	A2																																							
<b>Output connection</b>		M12, 4 pins	24																																							
		Fischer plug, 4 pins	56																																							
<b>Process connection</b>		DN38 ISO 2852 / TriClamp 1 1/2" / DIN 32676 Clamp (with 3-A)	51																																							
		TriClamp 3/4" (without 3-A)	52																																							
		DN21.3 ISO 2852 (without 3-A)	57																																							
		DN38 ISO 2852 / TriClamp 1 1/2" / DIN 32676 Clamp with cooling neck (with 3-A)	81																																							
		TriClamp 3/4" with cooling neck (without 3-A)	82																																							
		DN21.3 ISO 2852 with cooling neck (without 3-A)	87																																							
<b>Process connection material</b>		Stainless steel 1.4435 AISI 316L	5																																							
		Stainless steel 1.4435 AISI 316L electropolished	F																																							
<b>Sealing</b>		Without	0																																							
		EPDM (FDA / 3-A)	2																																							
		EPDM (EHEDG)	In combination with process connection Code 51/ 81																										7													
<b>Oil filling</b>		FDA approved white oil	2																																							
<b>Display</b>		Without	0																																							
<b>ATEX</b>		Without	0																																							
<b>Approval</b>		Without	0																																							
<b>Downscale</b>		Without downscale																																								
		With downscale	S0x																																							