

# Pressure Transmitter for high pressure applications Model SH-1

WIKA Data Sheet PE 81.38

## Applications

Quasi static pressures in:

- High pressure sterilisation
- Lubricating circuits
- Constant pressure monitoring

## Special Features

- Pressure ranges from 0 ... 1600 bar to 0 ... 4000 bar
- Wetted parts and case of stainless steel
- Various pressure connections
- Various industrial standard signal outputs
- Wiring with connector or flying leads



Fig. Pressure transmitter SH-1

## Description

These pressure transmitters have been developed for high pressure applications with quasi-static pressures or non-dynamic changes in pressure. They stand out for their high accuracy as well as their robust and compact design and provide excellent flexibility, as they can be adapted to a great variety of measuring tasks.

These transmitters are available in many variations, since numerous combinations of different mechanical and electrical connections are possible.

## Design

All wetted parts are made of stainless steel and are hermetically welded. Internal sealing gaskets are not required. The robust case is also made of stainless steel and provides at least IP 65 ingress protection.

The pressure transmitters can be supplied with a non-stabilised direct voltage of 10 (14) ... 30 V and provide all commonly used output signals.

For use in high humidity environments all pressure transmitters can be supplied with a hermetically sealed stainless steel case which provides ingress protection IP 68.

## Specifications

## Model SH-1

Pressure range		1600	2500	4000 <sup>1)</sup>
Over pressure safety		2000	3000	4400
Burst pressure		4000	5000	7000
		<sup>1)</sup> On request.		
Materials		{Other materials see WIKA diaphragm seal program}		
■ Wetted part		Stainless steel		
■ Case		Stainless steel		
Power supply UB	UB in VDC	10 < UB ≤ 30 (14 ... 30 with signal output 0 ... 10 V)		
Signal output and maximum ohmic load R <sub>A</sub>	R <sub>A</sub> in Ohm	4 ... 20 mA, 2-wire	R <sub>A</sub> ≤ (UB – 10 V) / 0.02 A	
		{0 ... 5 V, 3-wire}	R <sub>A</sub> > 5 k	
		{0 ... 10 V, 3-wire}	R <sub>A</sub> > 10 k	
		{Other signal outputs on request}		
Adjustability zero/span	%	± 5 using potentiometers inside the instrument		
Response time (10 ... 90 %)	ms	≤ 1		
Dielectric strength		500		
Accuracy	% of span	≤ 0.25 (BFSL)		
	% of span	≤ 0.5 <sup>2)</sup>		
		<sup>2)</sup> Including non-linearity, hysteresis, zero point and full scale error (corresponds to error of measurement per IEC 61298-2)		
		Adjusted in vertical mounting position with lower pressure connection		
Non-linearity	% of span	≤ 0.2 (BFSL) according to IEC 61298-2		
Non-repeatability	% of span	≤ 0.1		
1-year stability	% of span	≤ 0.2 (at reference conditions)		
Permissible temperature of				
■ Medium <sup>3)</sup>		-30 ... +100 °C	-22 ... +212 °F	
■ Ambience <sup>3)</sup>		-20 ... +80 °C	-4 ... +176 °F	
■ Storage <sup>3)</sup>		-40 ... +100 °C	-40 ... +212 °F	
		<sup>3)</sup> Also complies with EN 50178, Tab. 7, Operation (C) 4K4H, Storage (D) 1K4, Transport (E) 2K3		
Compensated temp. range		0 ... +80 °C	32 ... +176 °F	
Temperature coefficients within compensated temp range				
■ Mean TC of zero	% of span	≤ 0.2 / 10 K		
■ Mean TC of range	% of span	≤ 0.2 / 10 K		
CE-conformity				
■ Pressure equipment directive		97/23/EC		
■ EMC directive		89/336/EEC emission (class B) and immunity according to EN 61 326		
Shock resistance	g	1000 according to IEC 60068-2-27 (mechanical shock)		
Vibration resistance	g	20 according to IEC 60068-2-6 (vibration under resonance)		
Wiring protection				
■ Short-circuit proofness		Sig+ according to UB-		
■ Reverse polarity protection		UB+ according to UB-		
Weight	kg	Ca. 0.2		

{ } Items in curved brackets are optional extras for additional price.

## Dimensions in mm

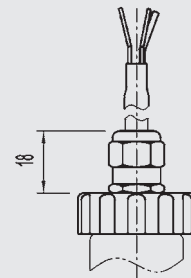
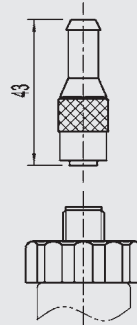
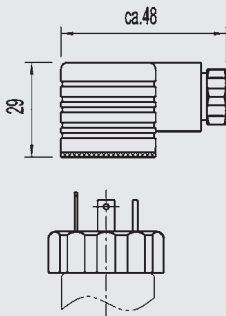
Ingress Protection IP per IEC 60529. The ingress protection classes specified only apply while the pressure transmitter is connected with female connectors that provide the corresponding ingress protection.

### Electrical connections

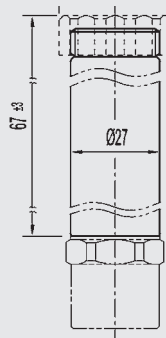
DIN 175301-803 A  
L-connector  
for conductor cross section up to  
max. 1.5 mm<sup>2</sup>,  
conductor outer diameter 6-8 mm  
IP 65  
Order code: A4

M 12x1  
Circular connector  
4-pin  
IP 67  
Order code: M4  
)

Flying leads  
for conductor cross section 0.5 mm<sup>2</sup>,  
AWG 20 with end splices,  
conductor outer diameter 6.8 mm,  
IP 67  
Order code: DL

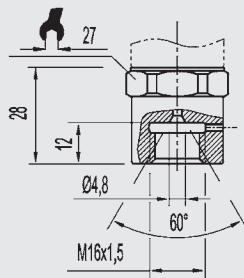


### Case

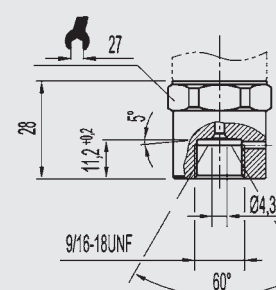


### Pressure connections

M 16x1,5 female \*\*)  
Order code: ML



9/16 - 18 UNF female  
F 250-C \*\*)  
Order code: VZ



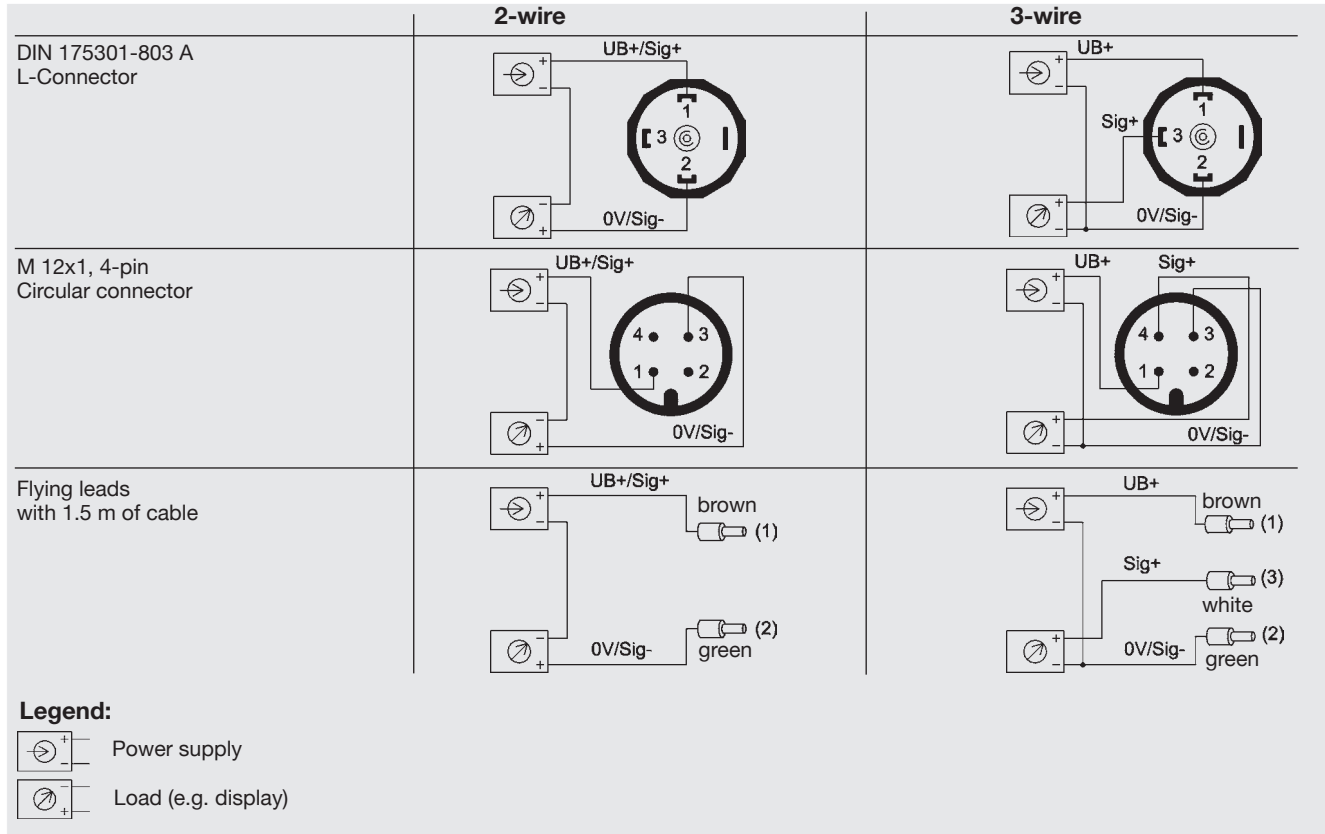
For installation and safety instructions see the operating instructions for this product.

The respective values for your mounting torque and maximum pressure please find in the documentation of your high-pressure equipment supplier.

) Female connectors are not included in delivery.

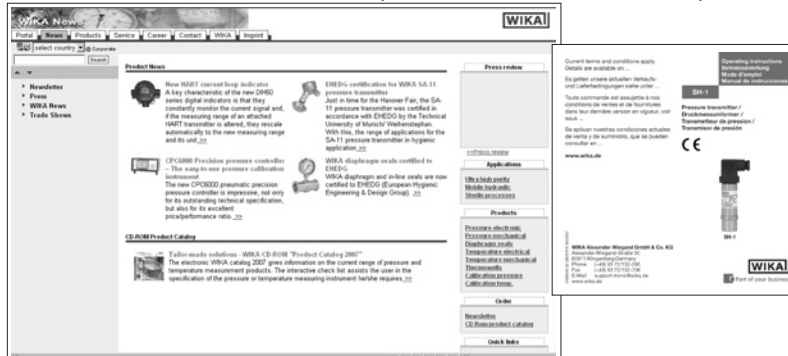
\*\*) The respective values for your mounting position please find in the documentation of your high-pressure equipment supplier.

## Wiring details



## Further information

You can obtain further information (data sheets, instructions, etc.) via our internet address [www.wika.de](http://www.wika.de)



Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.



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