

Pressure Transmitter for highest pressure applications Model HP-1

WIKA Data Sheet PE 81.29

Applications

- Test benches
- Water jet cutting
- High pressure cleaning

Special Features

- Pressure ranges from 0 ... 1,600 bar to 0 ... 8,000 bar
- Sensor clamped via sealing cone
- Wetted parts and case made of stainless steel
- Various pressure connections
- Various industrial standard output signals



Fig. Pressure transmitter HP-1

Description

New applications, for example internal hydro forming continue placing new and different demands on pressure measuring technology. The model HP-1 meets these demands, and is suitable for extremely high pressure applications up to 8,000 bar.

High stability

Due to its specially clamped sensor element, it offers a high stability to permanent load cycles even in highly dynamic processes. Furthermore, the well-proven WIKA technology guarantees high accuracy and longterm stability of the pressure transmitters.

Several possible pressure and electrical connections enable the user to find the optimal solution for his measuring task.

Design

All wetted parts materials are specially suited for extremely high pressure ranges. A patented mechanical sealing cone design eliminates welds in the pressure connection that are potential leak points. The rugged case is made of stainless steel and provides at least IP 65 ingress protection.

Safe

Safety is important when working with extremely high pressures. The HP-1 incorporates several safety features. Eliminating welds in the pressure connection greatly improves sensor durability. In the event of sensor failure, the special small diameter pressure port limits the flow of media into the transmitter case.

Fast

The HP-1 is characterised by a response time of 1 ms.

Specifications

Model HP-1

Pressure range ¹⁾		1600	2500	4000	5000	6000	7000	8000
Over pressure safety		2300	3500	5000	6000	7000	8000	10000
Burst pressure		4000	6000	8000	10000	11000	11000	12000
		¹⁾ > 8000 bar on request.						
Materials								
■ 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 _A	R _A in Ohm	4 ... 20 mA, 2-wire		R _A ≤ (UB - 10 V) / 0.02 A				
		0 ... 20 mA, 3-wire		R _A ≤ (UB - 14 V) / 0.02 A				
		{0 ... 5 V, 3-wire}		R _A > 5 k				
		{0 ... 10 V, 3-wire}		R _A > 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 ²⁾						
		²⁾ 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				
1-year stability	% of span	≤ 0.2		(at reference conditions)				
Permissible temperature of								
■ Medium ³⁾		0 ... +80 °C			32 ... +176 °F			
■ Ambience ³⁾		-20 ... +80 °C			-4 ... +176 °F			
■ Storage ³⁾		-40 ... +85 °C			-40 ... +185 °F			
		³⁾ 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	100 according to IEC 60068-2-27 (mechanical shock)						
Vibration resistance	g	5 according to IEC 60068-2-6 (vibration under resonance)						
Wiring protection								
■ Short-circuit proofness		Sig+ according to UB-						
■ Reverse polarity protection		UB+ towards UB-						
Weight	kg	Approx. 0.3						

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

Dimensions in mm

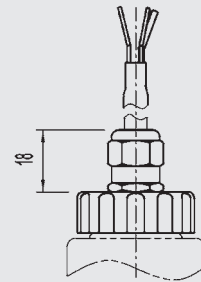
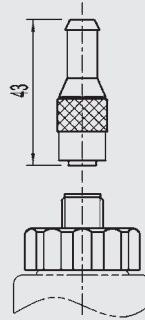
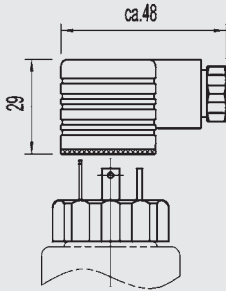
Ingress Protection IP per IEC 60529. The ingress protection classes specified only apply while the pressure transmitter is connected with female connectors that provide the corresponding ingress protection.

Electrical connections

DIN 175301-803 A
L-connector
for conductor cross section up to
max. 1.5 mm²,
conductor outer diameter 6-8 mm,
IP 65
Order code: A4

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

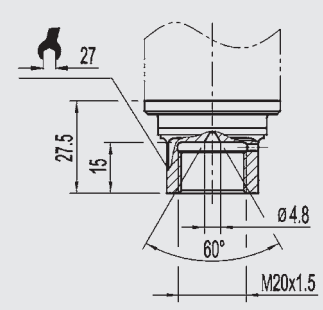
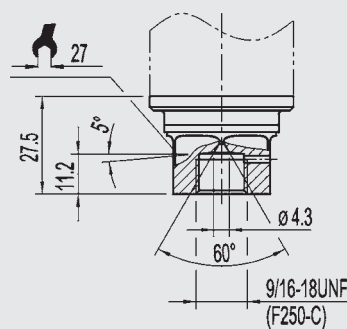
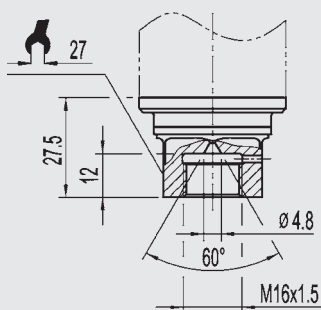
Flying leads
for conductor cross section 0.5 mm²,
AWG 20 with end splices,
conductor outer diameter 6.8 mm,
IP 67
Order code: DL

**Case****Pressure connections**

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

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

M 20x1,5 female **)
Order code: MP



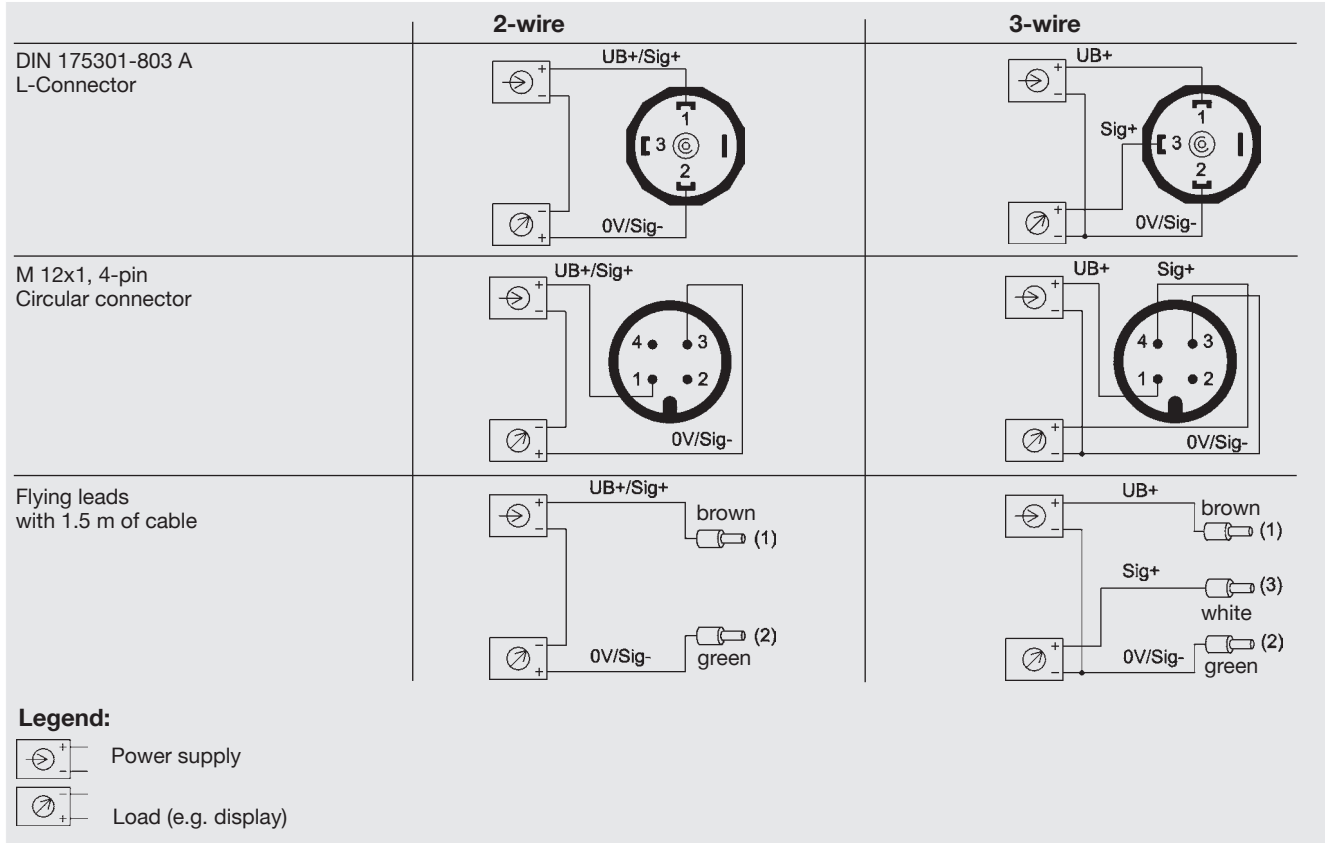
For installation and safety instructions see the operating instructions for this product.

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.

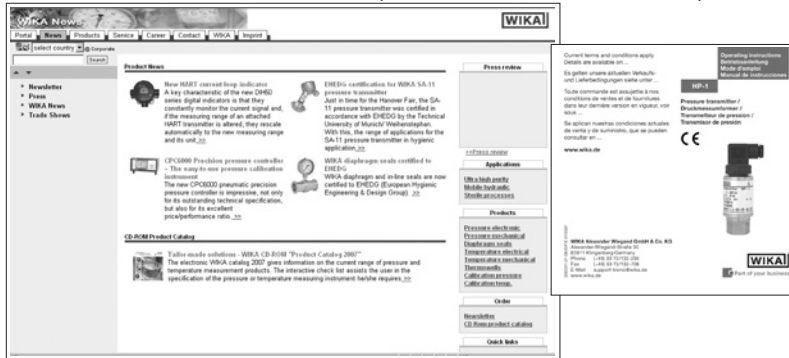
**) The respective values for your mounting position please find in the documentation of your high-pressure equipment supplier.

Wiring details



Further information

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



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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