

# Pressure transducer with integrated electronics

**RE 30269/07.05**  
Replaces: 02.03

1/6

type HM 17

Series 1X



H6983\_d

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## Features

- Suitable for measuring pressures in hydraulic systems
- Conversion of a pressure into an electrical analogue signal (e.g. for use in control and instrumentation technology)
- Sensor in thin-film technology
- 4-pin M12 component plug on housing
- Accuracy class 0.5
- Measuring range max. up to 600 bar
- Connecting thread G1/4
- Parts that come into contact with fluids are made of stainless steel
- Compact build
- Operational reliability due to high bursting pressure and polarity reversal, overvoltage and short-circuit protection
- CE mark

HM 17	-1X/	-	/V0/	0
Pressure transducer with integrated electronics				0 = No options
Series 10 to 19 (10 to 19: unchanged technical data and pin assignment)	= 1X		V0 = Standard version	
<b>Measuring ranges:</b>			<b>C =</b> Current output 4 - 20 mA	
Up to 50 bar	= 050		<b>H =</b> Voltage output 0.1 - 10 V	
Up to 100 bar	= 100		<b>H =</b> Voltage output 0.5 - 5 V	
Up to 200 bar	= 200			
Up to 250 bar	= 250			
Up to 315 bar	= 315			
Up to 400 bar	= 400			
Up to 450 bar	= 450			
Up to 600 bar	= 600			

The plug-in connector is not included in the scope of supply! (see page 5)


Output signal and permissible max load $R_A$	/	4 to 20 mA, two-wire $R_A = (U_B - 10 \text{ V})/0.02 \text{ A}$ with $R_A$ in Ohm and $U_B$ in Volt
	U	0.5 to 5 V, three-wire $R_A > 10 \text{ k}\Omega$
	U	0.1 to 10 V, three-wire $R_A > 20 \text{ k}\Omega$
Balancing error:		
–Zero point		$< 0.15 \text{ ‰}^{1)}$
–Final value		$< 0.3 \text{ ‰}^{1)}$
Temperature coefficients in the nominal temperature range		
–Highest TC of the zero point		$< 0.2 \text{ ‰}/10 \text{ K}$
–Highest TC of the span		$< 0.2 \text{ ‰}/10 \text{ K}$
Characteristic curve deviation		typ. $< 0.2 \text{ ‰}^{1)}$ (limit point setting)
Hysteresis		$< 0.1 \text{ ‰}^{1)}$
Repeatability		$< 0.05 \text{ ‰}^{1)}$
Adjustment time (10 to 90 %)	$t$	$< 2 \text{ ms}$
Long-term drift (1 year) under reference conditions		$< 0.2 \text{ ‰}^{1)}$

Technical data (continued)

Ambient conditions		
Nominal temperature range	ϑ	-20 to +80 °C
Limit temperature range	ϑ	-40 to +85 °C
Storage temperature range	ϑ	-40 to +100 °C
Hydraulic fluid temperature range	ϑ	-40 to +90 °C
Mechanical data		
Pressure port		G1/4 male thread according to DIN 3852 form E (pressure channel with nozzle Ø = 0.6 mm); Profiled seal according to DIN 3869, material FKM
Materials:		
–Parts that come into contact with measuring substance		CrNi steels 1.4571 and 1.4542
–Housing		CrNi steels 1.4571
Tightening torque	M <sub>A</sub>	10 Nm
Shock load capacity		1000 g as per IEC 60068-2-27
Vibration capacity		20 g as per IEC 60068-2-6
Electrical connection		4-pin M12 component plug on housing <sup>2)</sup>
Weight	m	0.05 kg

<sup>1)</sup> Referred to full measuring range

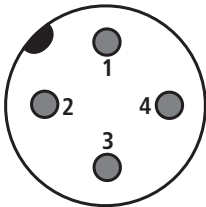
<sup>2)</sup> Recommendation: Use of shielded connecting cables;  
With plug-in connector M12x1, see page 5

 **Note!**

For details regarding **environment simulation tests** in the field of EMC (electro-magnetic compatibility), climate and mechanical stress, see RE 30266-U (declaration of environmental compatibility). The information provided in this declaration for pressure transducer HM 16 is also valid for HM 17.

Pin assignment

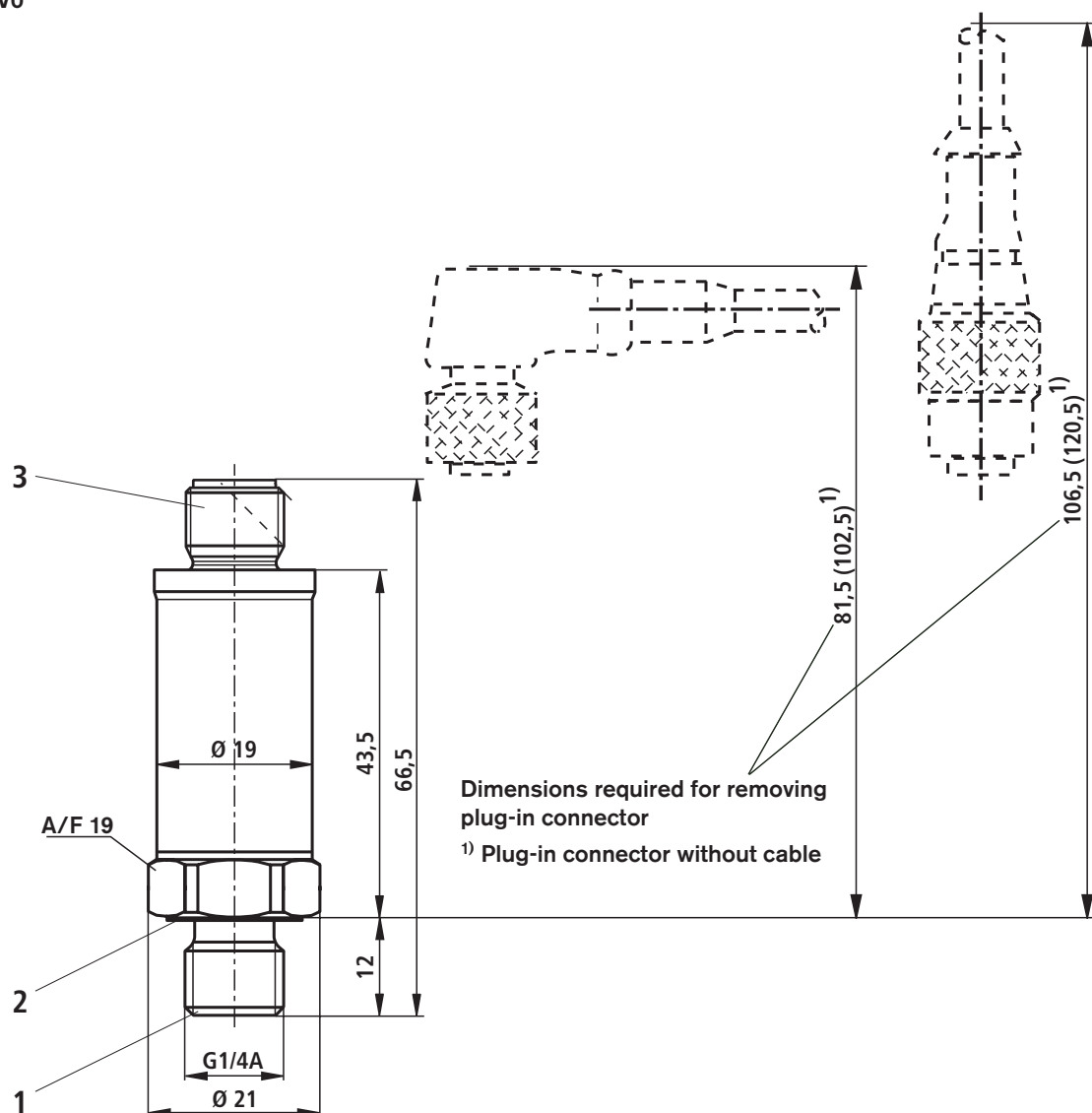
Version V0  
(4-pin M12 component plug, viewed to contact side)



Voltage		Current (two-wire system)	
1	→ Auxiliary power + (+U <sub>B</sub> )	1	→ Auxiliary power + (+U <sub>B</sub> )
2	→ n. c.	2	→ n. c.
3	→ Auxiliary power – (0 V)	3	→ Auxiliary power – (0 V)
4	→ Output signal	4	→ n. c.

## Unit dimensions (dimensions in mm)

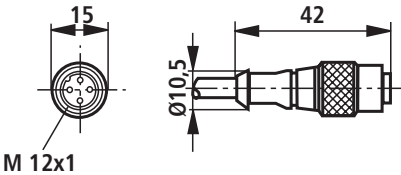
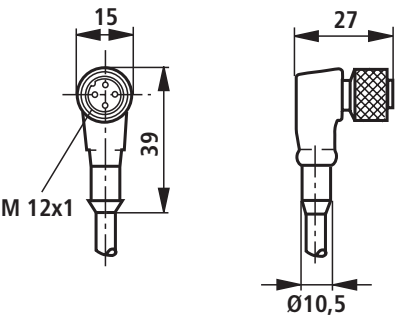
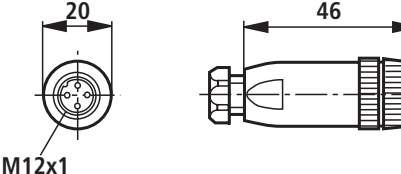
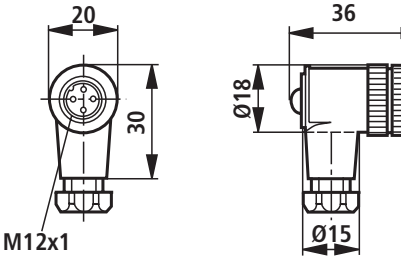
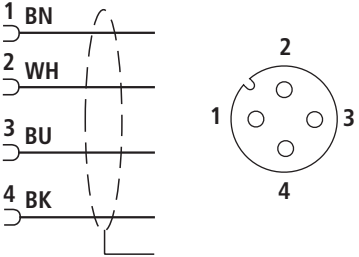
Version V0



- 1 Pressure port G1/4 according to DIN 3852
- 2 Profiled seal according to DIN 3869, material FKM (material no. R900012502)
- 3 4-pin M12 component plug

Accessories:

Plug-in connectors:

Technical data:			Designation	Material no.
Current carrying capacity:	4 A		04 POL (with 2 m cable)	R900773031
Temperature range:	−25 ... 90 °C		04 POL (with 5 m cable)	R900779498
Type of protection:	IP 67			
Contacts:	CuZn			
Contact surface:	Gold-plated			
Housing:	TPU		04 POL (with 2 m cable)	R900779504
Seal:	FKM		04 POL (with 5 m cable)	R900779503
Screws:	CuZn/Ni			
Wire cross-section:	4 x 0.34 mm			
Envelope material:	PUR		04 POL (without cable) <sup>1)</sup>	R900773042
Shield:	Not connected on plug side			
Envelope diameter:	Ø5.0 mm			
Envelope colour:	Black			
Bending radius for dyn. applications:	min. 50 mm			
Connection with cable sockets with connecting cables				
				
			04 POL (without cable) <sup>1)</sup>	R900779509
			<sup>1)</sup> Type of protection IP 68	