

Pressure transducer with integrated electronics

RE 30269/07.05
Replaces: 02.03

1/6

type HM 17

Series 1X



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4	– Accuracy class 0.5
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

Ordering code

HM 17 -1X/ - /V0/ 0

Pressure transducer with integrated electronics

Series 10 to 19
(10 to 19: unchanged technical data and pin assignment)

= 1X

0 = No options

V0 = Standard version

Measuring ranges:

Up to 50 bar	= 050
Up to 100 bar	= 100
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

C =	Current output 4 - 20 mA
H =	Voltage output 0.1 - 10 V
H =	Voltage output 0.5 - 5 V

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

Technical data (for applications outside these parameters, please consult us!)

Input variables									
Auxiliary power	U_B	19 to 36 VDC (8 to 36 VDC with output 0.5 to 5 V)							
Current consumption	I	4 mA (with voltage output)							
Measuring range	p_N in bar	50	100	200	250	315	400	450	600
Overload protection	p_{max} in bar	120	200	500	500	780	800	1200	1200
Bursting pressure	p in bar	550	800	1200	1200	1500	1700	2400	2400
Dead volume	V	ca. 200 mm ³							
Output variables									
Output signal and permissible max load R_A	I	4 to 20 mA, two-wire $R_A = (U_B - 10 V)/0.02 A$ with R_A in Ohm and U_B in Volt							
	U	0.5 to 5 V, three-wire $R_A > 10 k\Omega$							
	U	0.1 to 10 V, three-wire $R_A > 20 k\Omega$							
Balancing error:									
-Zero point		< 0.15 % ¹⁾							
-Final value		< 0.3 % ¹⁾							
Temperature coefficients in the nominal temperature range									
-Highest TC of the zero point		< 0.2 %/10 K							
-Highest TC of the span		< 0.2 %/10 K							
Characteristic curve deviation		typ. < 0.2 % ¹⁾ (limit point setting)							
Hysteresis		< 0.1 % ¹⁾							
Repeatability		< 0.05 % ¹⁾							
Adjustment time (10 to 90 %)		t	< 2 ms						
Long-term drift (1 year) under reference conditions		< 0.2 % 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 $\varnothing = 0.6$ 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_A	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 ²⁾
Weight	m	0.05 kg

¹⁾ Referred to full measuring range

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

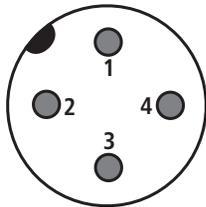
Note!

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

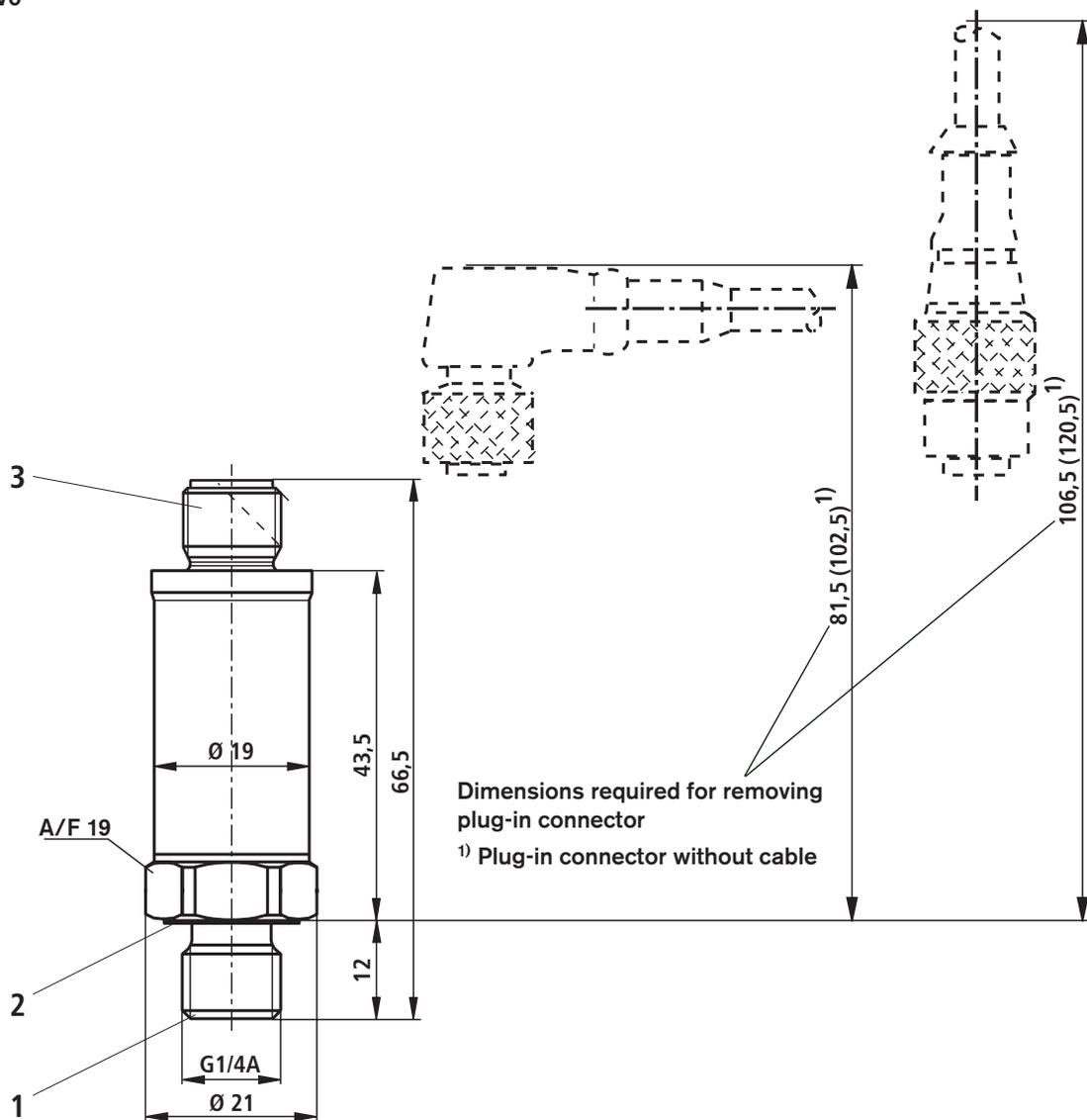
(4-pin M12 component plug, viewed to contact side)



Voltage	Current (two-wire system)
1 → Auxiliary power + (+ U_B)	1 → Auxiliary power + (+ U_B)
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			
Shield:	Not connected on plug side			
Envelope diameter:	Ø5.0 mm			
Envelope colour:	Black			
Bending radius for dyn. applications:	min. 50 mm		04 POL (without cable) ¹⁾	R900773042
Connection with cable sockets with connecting cables				
			04 POL (without cable) ¹⁾	R900779509

¹⁾ Type of protection IP 68