

P2VA1, P2VA2

Pressure transmitter



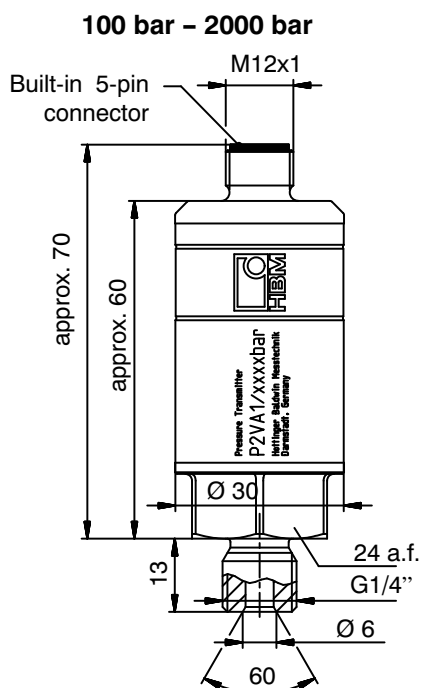
Special features

- Monolithic steel measuring body
- No welded seam
- High-quality integral amplifier
- Nominal (rated) pressures of 0 – 100 bar to 0 – 7000 bar
- Extremely reliable and durable

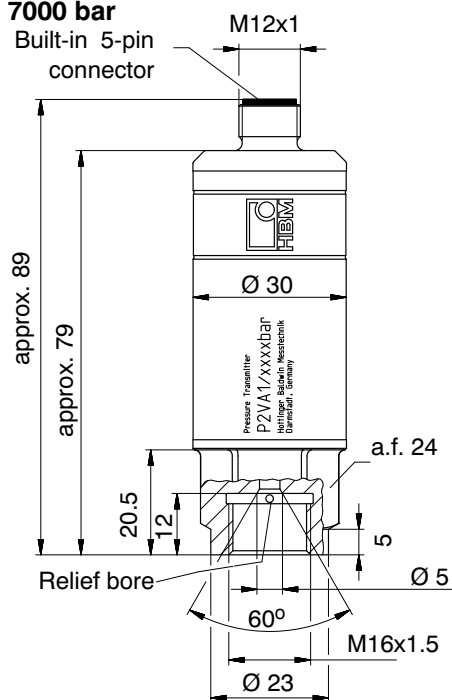


TEDS: Transducer Electronic Data Sheet

Dimensions (in mm)



3000 bar – 7000 bar



Specifications according to DIN 16086

Type		P2VA1 (output signal in V) ¹⁾		
		P2VA2 (output signal in mA) ¹⁾		
Measuring ranges	bar	100	200, 500, 1000, 2000, 3000	5000, 7000
Input quantities				
Pressure type		Absolute pressure		
Accuracy class		0.2	0.3	
Initial value	bar	0		
Operating range at reference temperature	%	0 to approx. 110		
	%	<i>0 to approx. 105</i>		
Overload limit at reference temperature	%	150		
Test pressure	%	200	150	
Dynamic loading				
Permissible pressure	%	100		
Permissible vibration amplitude (dyn. loading according to DIN 50100)	%	70		
Dead volume approx.	cm ³	0.8		
Control volume, approx.	mm ³	1.5		
Materials from which components in contact with the measurement media are made		1.4542, 1.4301		
Output characteristics				
Transducer identification		TEDS		
Signal spread (sensitivity)	V	0.5 ... 10		
	mA	<i>4...20 (16)</i>		
Zero signal, adjustment tolerance (factory)	V	< ±0.020	< ±0.010	±0.020
	mA	<i>< ±0.032</i>	<i>< ±0.016</i>	<i>±0.032</i>
Sensitivity tolerance	V	< ±0.020	< ±0.010	±0.020
	mA	<i>< ±0.032</i>	<i>< ±0.016</i>	<i>±0.032</i>
Maximum signal	V	10.5		
	mA	<i>21.6</i>		
Effect of temperature on zero signal in the nominal (rated) excitation voltage range per 10 K, relative to nominal (rated) sensitivity	% / 10 K	0.2		
Effect of temperature on sensitivity in the nominal (rated) excitation voltage range per 10 K, relative to actual value	% / 10 K	0.2		
Characteristic curve deviation (start setting)	%	0.3		
Repeatability per DIN 1319	%	< ±0.05		
Cut-off frequency	- 3 dB	kHz		
	- 1 dB	kHz		
Burden	Ω	≥10000 (min.)		
		<i>≤500 (max.)</i>		
Power supply				
Reference voltage	V	24		
Nominal range	V	15 ... 30 ²⁾		
Effect of the supply voltage when changing from 15 to 30 V	%	0.02		
Max. current consumption (for the P2VA2, excluding loop current)	mA	25		
Max. power consumption	W	< 1		
		<i>< 2</i>		

¹⁾ normal font: P2VA1; *italics*: P2VA2

²⁾ At maximum operating temperature and maximum excitation voltage, the permissible dissipation is exceeded with the P2VA2. The maximum operating temperature is therefore restricted to 70°C and not 85°C as for the P2VA1.

Measuring ranges	bar	100, 200, 500, 1000, 2000	3000, 5000, 7000
Ambient conditions			
Reference temperature	°C	+23	
Nominal (rated) temperature range	°C	0 ... + 70	
Operating temperature range	°C	-20 ... + 85	
Storage temperature range	°C	-40 ... +85	
Impact resistance (tested to DIN IEC68)			
Impact acceleration	m/s ²	1000	
Impact duration	ms	4	
Impact form		Half sine wave	
Vibration resistance (tested to DIN IEC 68)	m/s ²	150	
Mechanical data			
Pressure connection		G1/4" outside	M16x1.5 inside
Seal		Metallic, edge loading, 58° taper For the mounting operation, the seal can be attached to the transducer.	
Transducer mounting		The seal can be attached to the transducer.	Connect directly to a high-pressure pipe with a manipulated pipe end.
Tightening torque, max.	Nm	30	30 - 50
Electrical connection		M12 x 1 / 5-pin connector	
Mounting position		Any, but preferably pressure connection uppermost for venting purposes	
Dimensions			
Length (without pressure connection and mating connector)	mm	70	approx. 80
	mm	30	30
Maximum diameter			
Hexagon, across flats	mm	24	
Weight without cable, approx.	g	150	200
Degree of protection		IP67	

Sealing joint (to customer design):

3000 bar and higher:

M16x1.5 inside: High-pressure screw connector M16x1.5 – for example, from Nova Swiss. The transducer has a relief aperture, which exits in the center of a hexagonal face.

Less than 3000 bar:

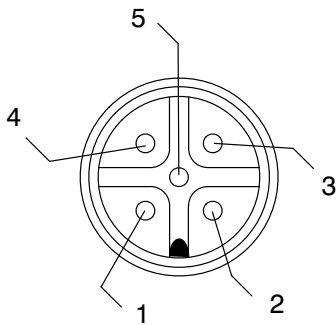
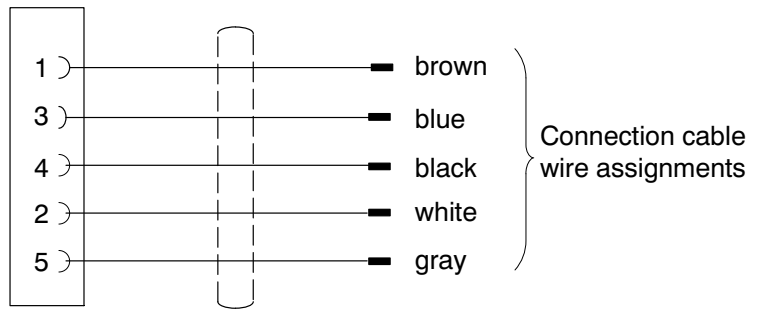
G1/4" outside (with the aid of the conical seals 58° with retaining spring, included in scope of delivery for this measuring range): The depth to the root of the line aperture should be 17 mm, the thread must be at least 13.5 mm. The diameter of the line aperture should be, for sharp-edged designs 4 mm, or with a margin (max. 0.5 x 45°) 5 mm.

Possible up to 1000 bar:

Under the hexagon, sealing is provided by a Usitring, 14.7x22x1.5. The ring must be centered and supported by screwing in to a height of 1.3 mm, diameter 22.2 ± 0.1.

Pin assignment

Supply voltage 15 to 30 V DC ¹⁾
 Supply voltage 0 V ²⁾
 Output 0.5 ... 10 V (4 to 20 mA for the P2VA2)
 Output 0 V
 Transducer identification
 TEDS DATA



Connections 2 and 3 are internally linked.

- 1) Operating on a SELV circuit (separated extra-low voltage)
 2) Also ground for TEDS

Accessories:

Included in scope of supply:

- 1 pack with 2 x 58° tapered seals with retaining spring¹⁾
- 1 x 5 m cable, female cable connector, M12x1 with shielding, 5-pin PUR

Order No.: 2-9278.0371
 Order No.: 1-KAB166-5

Options to be ordered:

Connection adapter for a measuring range of less than 3000 bar

- Connection adapter G1/4" inside, M20x1.5 outside
- Connection adapter G1/4" outside, G1/2" outside
- 1 pack with 2 x 58° conical seals with retaining spring¹⁾
- 1 x 5 m cable, female cable connector, M12x1 with shielding, 5-pin PUR
- 1 x 20 m cable, female cable connector, M12x1 with shielding, 5-pin PUR

Order No.: 1-Adapt-G1/4-M20
 Order No.: 1-Adapt-G1/4-G1/2
 Order No.: 2-9278.0371
 Order No.: 3-3301.0185
 Order No.: 1-KAB166-20

¹⁾ for measuring ranges of 100 bar to 2000 bar

Modifications reserved.
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