

P3IC / P3ICP

Absolute pressure transducer

“Industrial Class”

Special features

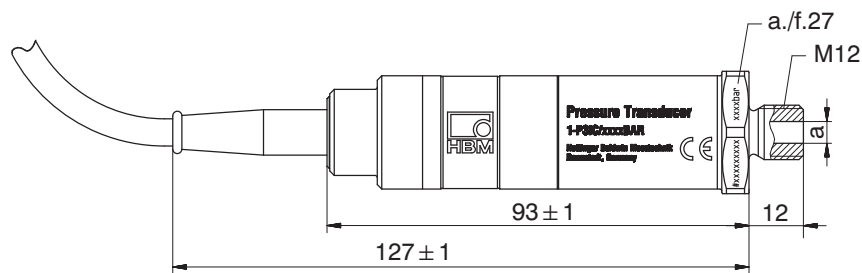
- For static and dynamic pressure variance, pressure peaks and pressure oscillations
- Nominal (rated) pressure 10 bar to 3000 bar
- Strain gage measurement principle
- Corrosion resistant
- PT100 for temperature compensation in two-wire circuit



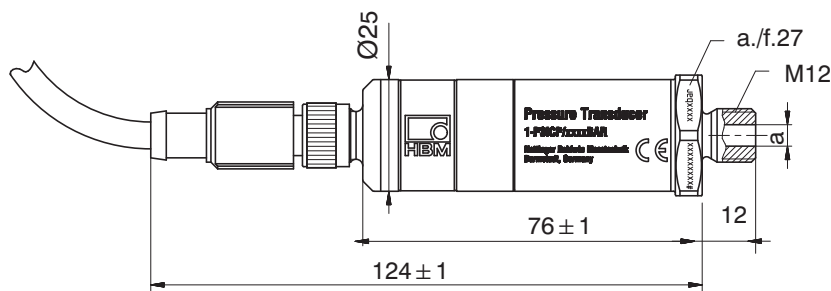
TEDS: Transducer Electronic Data Sheet

Dimensions (in mm)

P3IC 10–2500 bar



P3ICP 10–2500 bar



Drawings for measuring range 3000 bar, see page 6

Economical, standard versions available from stock:

Measuring range, 0 bar...	Order code	
	Cable connection 5 m cable, free ends	M12, 8-pin (sensor plug)
10 bar	1-P3IC/10BAR	1-P3ICP/10BAR
20 bar	1-P3IC/20BAR	1-P3ICP/20BAR
50 bar	1-P3IC/50BAR	1-P3ICP/50BAR
100 bar	1-P3IC/100BAR	1-P3ICP/100BAR
200 bar	1-P3IC/200BAR	1-P3ICP/200BAR
500 bar	1-P3IC/500BAR	1-P3ICP/500BAR
1 000 bar	1-P3IC/1000BAR	1-P3ICP/1000BAR
2 000 bar	1-P3IC/2000BAR	1-P3ICP/2000BAR
2 500 bar	1-P3IC/2500BAR	1-P3ICP/2500BAR
3 000 bar	1-P3IC/3000BAR	1-P3ICP/3000BAR

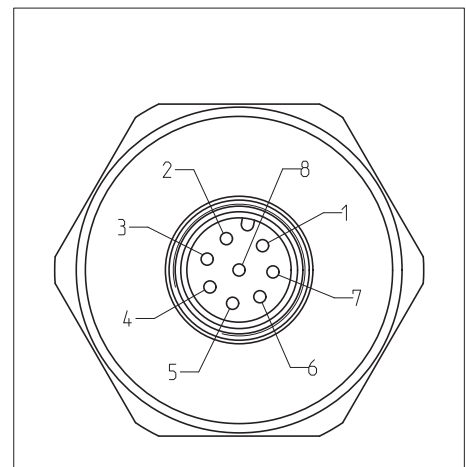
Pin assignment

Connection cable assignment

Color code	Connection
white	Measurement signal (+)
yellow	Measurement signal (-)
green	Bridge excitation voltage (+)
rose	Sense lead (+)
brown	Bridge excitation voltage (-)
blue	Sense lead (-)
red	Pt 100
gray	Pt 100

Plug assignment

Plug contact	Color code	Connection
1	weiss	Measurement signal (+)
4	gelb	Measurement signal (-)
3	grün	Bridge excitation voltage (+)
6	rosa	Sense lead (+)
2	braun	Bridge excitation voltage (-)
7	blau	Sense lead (-)
8	rot	Pt 100
5	grau	Pt 100



Specifications per DIN 16086

Type	1-P3IC / P3ICP										
Accuracy class	0.2	0.15	0.2	0.15	0.1	0.2					
Mechanical input quantities											
Pressure type	absolute pressure										
Measuring range, 0 bar...	bar	10	20	50	100	200	500	1000	2000	3000	
									2500		
Initial value	bar	0									
Mechanical values per VDI/VDE 2600, related to full scale value											
Operating range at reference temperature	%	0...200				0...150					
Overload limit at reference temperature	%	250				200					
Test pressure	%	250				200			150		
Permissible pressure at dyn. load	%	100									
Permissible oscillation width at dyn. load per DIN 50 100	%	70									
Dead volume	mm ³	2000					800			900	
Control volume	mm ³	9	7				1.5				
Output characteristics											
Output signal span	mV/V	2								1,5	
Characteristic curve deviation (cutoff point)	%	0.25	0.10	0.10	0.10	0.10			0.20		
Characteristic curve deviation (initial point)	%	0.20	0.15	0.20	0.15	0.15	0.10	0.10	0.10	0.20	
Repeatability per DIN 1319	%	< ±0.05									
Fundamental resonance frequency	kHz	13	15	26	38	67	100				
Input resistance at reference temperature	Ω	350 ± 5									
Output resistance at reference temperature	Ω	350 ± 1.5									
Insulation resistance at 1000 V AC	MΩ	5000									
Electrical strength	V	90									
Sensitivity tolerance	%	< ±0.15									
Zero signal tolerance	%	< ± 1									
Creep upon unloading 15 min.	%	0.2	0.1		± 0.05			± 0.03			
Effect of temperature on sensitivity in the nominal (rated) excitation voltage range per 10K, rel. to actual value											
in the nominal (rated) temperature range	%						± 0.1				
in the operating temperature range	%						± 0.2				
Effect of temperature on zero signal in the nominal (rated) excitation voltage range per 10K, rel. to nominal (rated) sensitivity											
in the nominal (rated) temperature range	%						± 0.1				
in the operating temperature range	%						± 0.15				
Excitation voltage											
Reference excitation voltage	V	5									
Nominal (rated) excitation voltage	V	0.5 ... 7.5									
Operating range	V	0.5 ... 12									
Ambient conditions											
Permissible voltage between measuring circuit and transducer ground at reference temperature	V	50									
Material											
of parts in contact with the measurement medium		1.4542 / 1.4301			1.45 42		1.4548				
of parts in contact with the environment		1.4301 / 1.454 / 1.4542, chloroprene / silicone									
Reference temperature	°C	23									
Nominal (rated) temperature range	°C	-10...+80									
Limiting temperature range	°C	-40...+100 (...120°C up to 24 hours)									
Storage temperature range	°C	-50...+100									

Measuring range, 0 bar...	bar	10	20	50	100	200	500	1000	2000	3000
									2500	
Impact resistance (tested according to DIN EN 600 68-2-29)										
Impact acceleration	m/s ²	1000								
Impact duration	ms	4								
Impact form	-	Half sine wave								
Acceleration sensitivity per 10 m/s ² for exciting frequencies of 20% of natural frequency	%	< ± 0.001								
Mechanical specifications										
Degree of protection (per DIN 40050, IEC 529)		IP67								
Pressure connection		M12x1.5							M20x1.5	
Tightening torque	N·m	30								
Mounting position		any								
Electrical connection P3IC/10 ... 3000 bar		PUR cable, 5 m long, free ends M12 sensor plug, 8 pins								
Weight without cable approx.	g	200								

Accessories:

P3ICP accessories	Order number
M12 x 1.5 to M20 x 1.5 external thread adapter (up to 500 bar)	1-P3M/500/M20
M12 x 1.5 to G1/2 external thread adapter (up to 500 bar)	1-P3M/500/R1/2
Double-cone seal, 90° (for nominal (rated) measuring range up to 3000 bar), Scope of supply: 2 pieces per pack ¹⁾	2-9278.0376
Connection cable with M12 plug, 5 m long, free ends	1-KAB168-5
Connection cable with M12 plug, 20 m long, free ends	1-KAB168-20

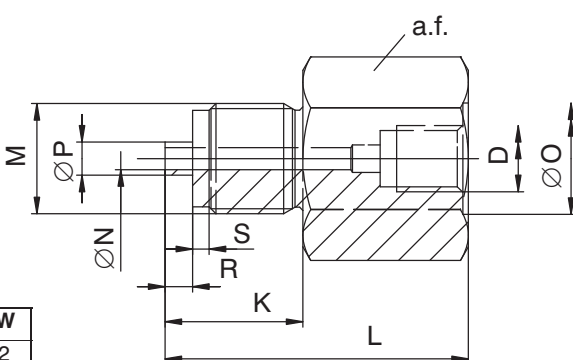
1) A double-cone seal is included in the scope of supply of all P3 with measuring ranges of 500 bar and higher. The parts specified above are accessories for replacement.

Mounting of plug and TEDS	Order number
MS3106PEMV plug, mounted to transducer cable	D-MS/MONT
15-pin D plug, mounted to transducer cable	D-15D/MONT

To be ordered separately:

Connecting branches
for measuring ranges to 500 bar
Material: stainless steel 1.4305

Type	D	K	L	M	N	O	P	R	S	SW
P3M/500/M20	M12x1.5	25	50	M20x1.5	4	20.2	5	5	3	32
P3M/500/R1/2	M12x1.5	20	50	G1/2	4	20.2	5	5	3	32



All dimensions in mm

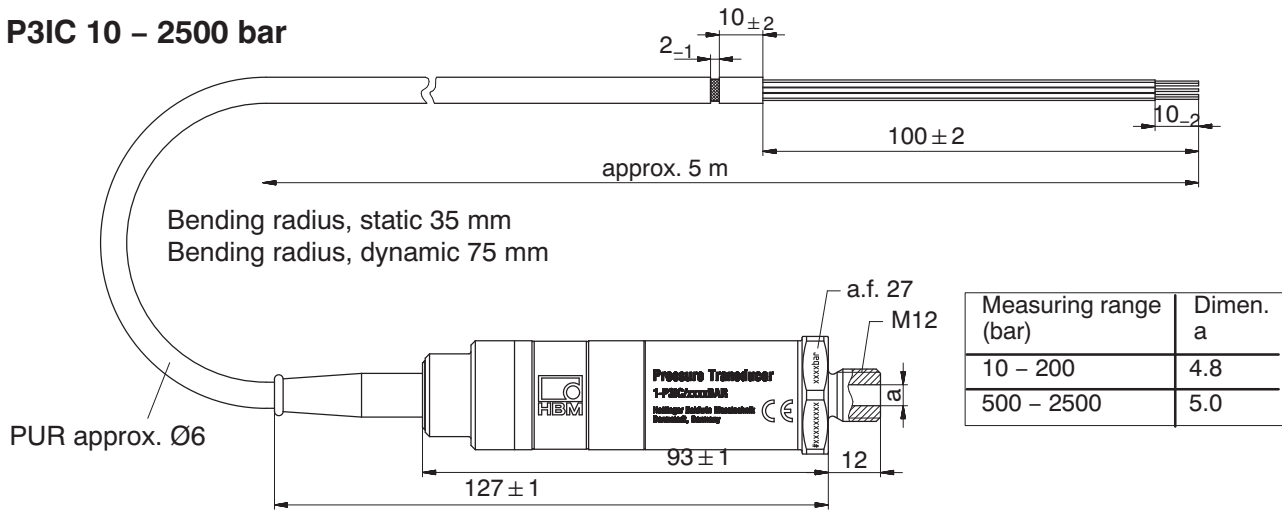
Options

K-P3... (optional versions) ¹⁾

Order no.		
K-P3		
Code	Option 1: Design	
MB	P3MB "Classic" (Connection cable, 3m)	[not with Option 3 = P / C]
MBP	P3MBP "Classic" (HS6P plug, welded)	[only with Option 3 = P / C]
IC °)	P3IC "Industry Class" (Connection cable, 5m) °)	
ICP °)	P3ICP "Industry Class" (Sensor plug M12, 8 pin) °)	[not with Option 4 = 003 / 020]
Code	Option 2: Measuring range	
010B	10 bar	
020B	20 bar	
050B	50 bar	
100B	100 bar	
200B	200 bar	
500B	500 bar	
01KB	1000 bar	
02KB	2000 bar	
2KB5	2500 bar	
03KB	3000 bar	
Code	Option 3: Electrical connection [only with Option 1 = MB / MBP]	
K	Connection cable, 3m, free ends	[only with Option 1 = MB]
Y	Connection cable, 20m, free ends	[only with Option 1 = MB]
M	Connection cable, 3m, MS plug	[only with Option 1 = MB]
N	Connection cable, 20m, MS plug	[only with Option 1 = MB]
D	Connection cable, 3m, D15 plug	[only with Option 1 = MB]
F	Connection cable, 20m, D15 plug	[only with Option 1 = MB]
P	HS6P plug, welded	[only with Option 1 = MBP]
A	ATEX II 2 G EEx ib IIC T4, Connection cable, 3m, free ends	[only with Option 1 = MB]
B	ATEX II 2 G EEx ib IIC T4, Connection cable, 20m, free ends	[only with Option 1 = MB]
C	ATEX II 2 G EEx ib IIC T4, HS6P plug, welded	[only with Option 1 = MBP]
Code	Option 4: Connection cable [only with Option 1 = IC / ICP]	
003	3m [only with Option 1 = IC]	
005	5m	
007	7m	
020	20m [only with Option 1 = IC]	
Ordering examples:		
K-P3 -	M B -	- [] - [] (with Option 1 = MB / MBP)
K-P3 -	I C -	- [] - [] (with Option 1 = IC / ICP)
K-P3 -	M B P -	0 5 0 B - C
K-P3 -	I C -	2 K B 5 - 0 2 0

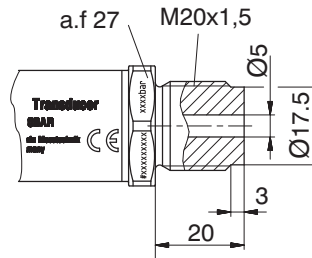
¹⁾ Not all codes can be combined with each other. Please take heed of the terms in the square brackets!

P3IC 10 – 2500 bar

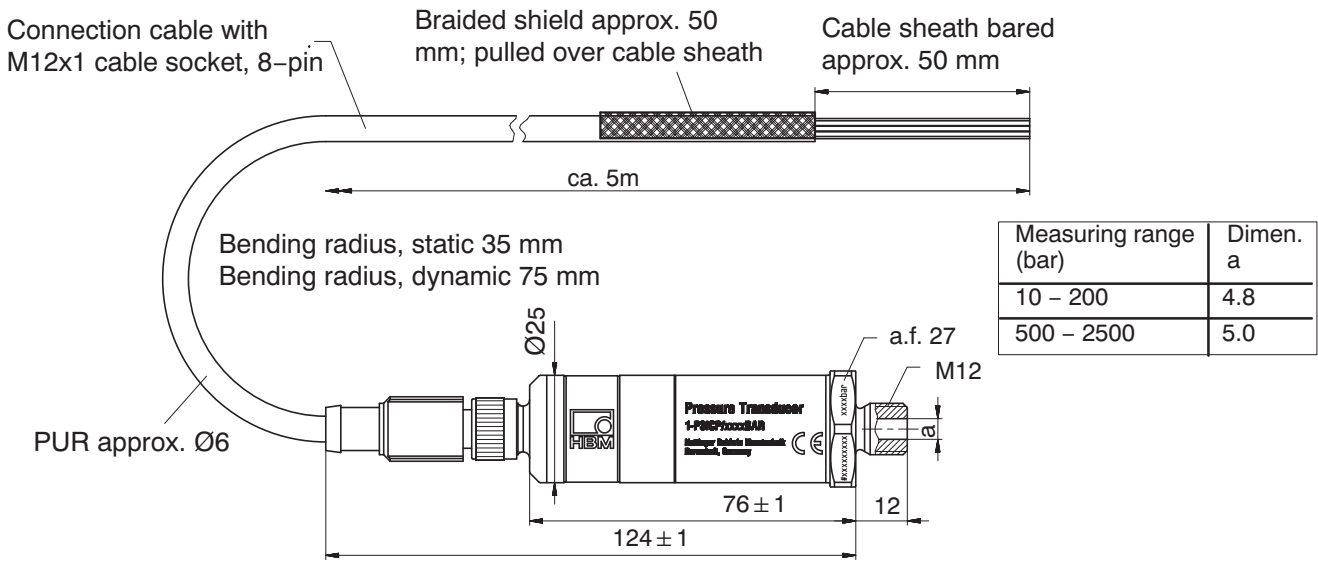


Differing detail:

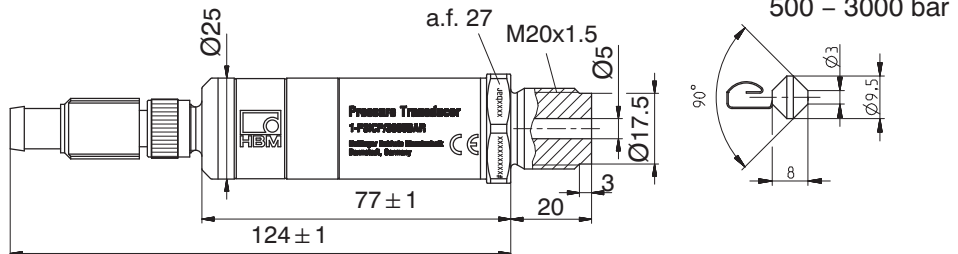
P3IC 3000 bar



P3ICP 10 – 2500 bar

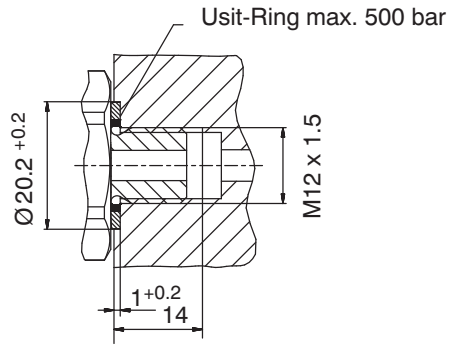


P3ICP 3000 bar

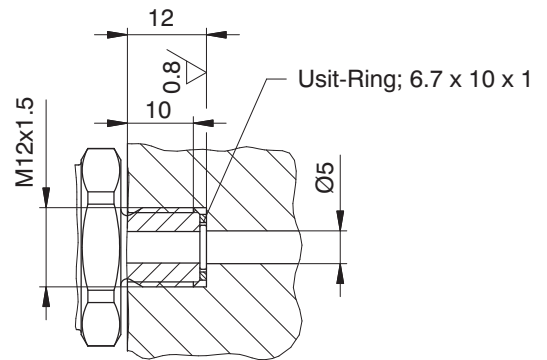
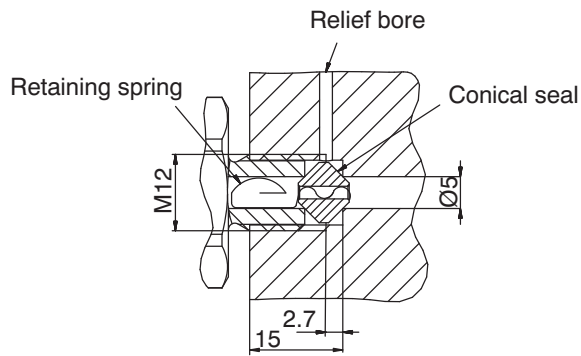


Mounting options

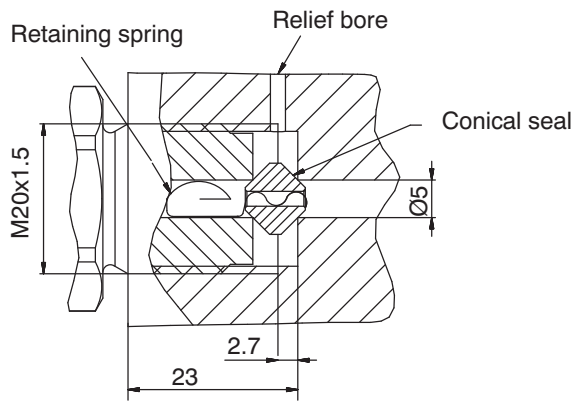
10 – 500 bar



500 – 2500 bar



3000 bar



Regional Distributor



803, Riqqa Palace Building
Al-Maktum Ave.
P.O.Box 181802 Dubai, UAE
Tel: +9714 - 2270081
Fax: +9714 - 2239962
E-mail: rscso@eim.ae
www.rcs-co.com

Hottinger Baldwin Messtechnik GmbH

Im Tiefen See 45, D-64293 Darmstadt, Germany
Tel.: +49 6151 8030; Fax: +49 6151 803 9100
E-mail: support@hbm.com www.hbm.com



measurement with confidence