

# M6 absolute pressure transmitter

## for Test & Measurement applications

Type 4080B...

Designed for Test & Measurement applications, the absolute piezoresistive pressure transmitter Type 4080B... with its miniature M6 thread size offers new possibilities for applications where small size and robustness are key factors.

- Miniature M6x1 thread size
- Wrench size 11
- Weight <13.5 g
- Media separated measuring element
- Temperature compensated 25 ... 150 °C [77 ... 302 °F]
- Internal temperature measurement
- Variants with Lemo connector or flying lead

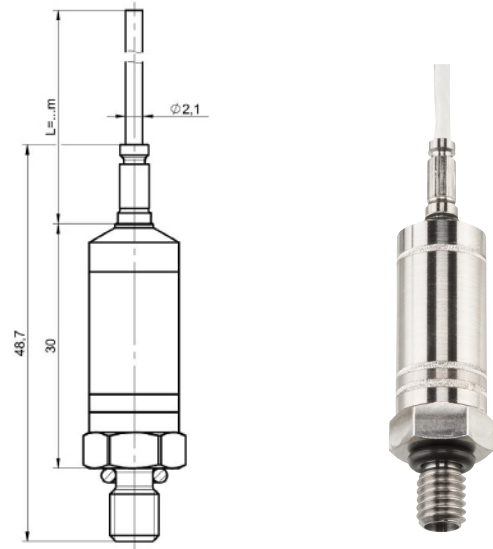
### Description

The piezoresistive pressure transmitters of the 4080B series are characterized by an extremely compact and light construction. The completely media-separated measuring element enables reliable and accurate pressure measurements even in harsh environment. Because of its robustness, the 4080B series is suitable for various demanding Test & Measurement applications where static pressures or dynamic pressures up to 5 kHz need to be measured.

Ranges of 5, 10, 20, 130 and 250 bar with an output of 0.2 ... 4.4 VDC covers the most popular applications such as steering- and brake systems, hydraulic-, water- and oil circuits, gearbox, pneumatic and fuel pressure measurements.

In addition, the transducer includes a temperature voltage output of 1.8 ... 3.6 VDC. This temperature probe is located on the sensitive pressure element itself and provides helpful diagnosis data.

The enhanced electromagnetic compatibility ensures reliable operation and measurement quality even in environments with electrical or electromagnetic effects.



### Technical data

#### General properties

Measuring range	bar	5	10	20	130	250
Overload pressure	bar	10	20	30	200	300
Burst pressure	bar	>15	>30	>60	>250	>500
Operating temperature range	°C	-40 ... 150				
Compensated temperature range	°C	25 ... 150				
Reference temperature Tref	°C	25				
Supply voltage	VDC	8 ... 16				
Supply current	mA	<5				

#### Pressure output properties <sup>(1)</sup>

Measuring range	bar	5	10	20	130	250
Full scale output @ Tref (FSO)	VDC	4.2 (±0.5 %FSO)				
Zero offset output @Tref (ZMO)	VDC	0.2 (±1.0 %FSO)				
Total error band <sup>(2)</sup>						
inside comp. temp. range	%FSO (max)	<±2.0				
outside comp. temp. range	%FSO (typ)	<±5.0				
Non-linearity @Tref	%FSO	<±0.3				
Thermal FSO shift	%FSO	<±1.0				
Thermal ZMO shift	%FSO	<±1.5		<±1.0		
Freq. range (-3 dB)	Hz	0 ... 5 000				

4080B\_003-415e-12..18

This information corresponds to the current state of knowledge. Kistler reserves the right to make technical changes. Liability for consequential damage resulting from the use of Kistler products is excluded.

© 2018 Kistler Group, Eulachstrasse 22, 8408 Winterthur, Switzerland  
Tel. +41 52 224 11 11, info@kistler.com, www.kistler.com. Kistler Group products are protected by various intellectual property rights. For more details visit www.kistler.com

**Technical data (continuation)**

**Temperature output properties**

Measuring range	bar	5	10	20	130	250
Calibrated temperature range	°C	25 ... 150				
Temperature output range <sup>(3)</sup>	VDC	1.8 ... 3.6				
Total error band	%FSO	<±5.0				

**Mechanical properties**

Measuring range	bar	5	10	20	130	250
Weight (excluding cable)	g	<13.5				
Housing material		Stainless steel				
Media compatibility		Liquids and gases compatible with stainless steel				
Pressure connection		M6x1				
Tightening torque	N·m	6				
Electrical connection Lemo		Lemo ECS.FF.304.SLD				
Electrical connection flylead		4 conductor AWG 28 screened cable				
Ingress protection		IP65				
Max load cycles @Tref Δp = FS) <sup>(4)</sup>	n	50 Mio			0.1 Mio	
Max load cycles @Tref Δp = FS) <sup>(5)</sup>	n	n.a.			50 Mio	

**EMC compliance**

EMC emission EN 61000-6-4  
EMC immunity EN 61000-6-2

- <sup>(1)</sup> Where not differently stated, the output properties are valid only within the compensated temperature range (important temperature on the Electronic PCB. Fluid temperature may be higher)
- <sup>(2)</sup> Total Error Band includes non-linearity, hysteresis, thermal FSO shift and thermal ZMO shift
- <sup>(3)</sup> Output corresponds to chip temperature which can differ from the fluid temperature
- <sup>(4)</sup> Tested on Type 4080B250 with an impulsive pressure load from 0 bar to 250 bar with a gradient of 50 bar/ms
- <sup>(5)</sup> Tested on Type 4080B250 with a sinusoidal pressure load alternating between 250 bar and 150 bar with a gradient of 30 bar/ms

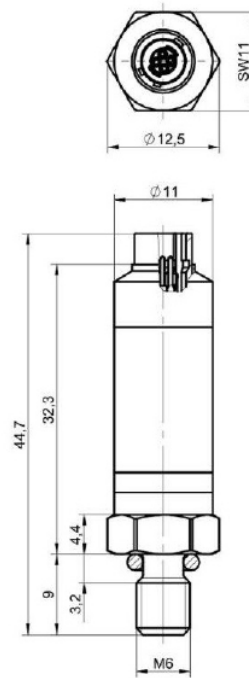
**Electrical connection**

Lemo version: ECS.FF.304.SLD

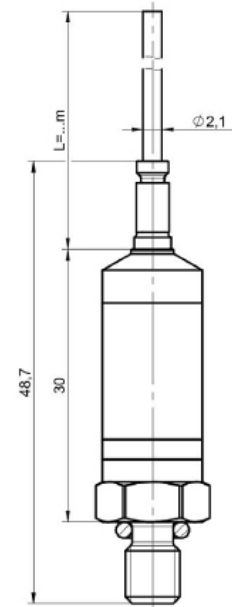
Pin	1	Supply
Pin	2	Signal pressure
Pin	3	GND
Pin	4	Signal temperature

**Dimensions**

Dimension drawing Type 4080B...LC

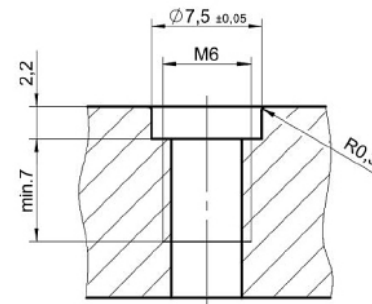


Dimension drawing Type 4080B...FL



**Mounting**

The sensor can be directly mounted into the recommended threaded measuring port with a maximum tightening torque of 6 N·m and a FPM 4.47x1.78 O-ring.



Flylead version: 4 conductor 55M1444-28 screened cable

White	GND
Yellow	Supply
Blue	Signal pressure
Red	Signal temperature

4080B\_003-415e-12-18

### Included accessories

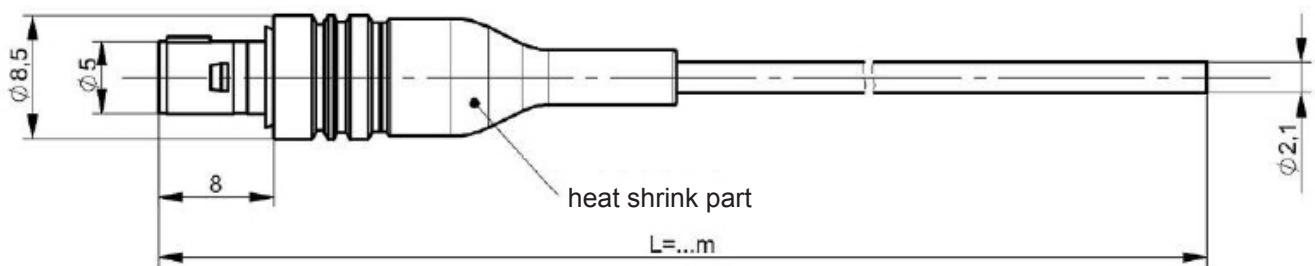
- Calibration document
- O-ring FPM 4.47x1.78

### Optional accessories

- O-ring FPM 4.47x1.78
- 2 m Lemo adapter cable for Type 4080B...-LC  
Connector: FGS.FF.304.YLM  
Cable: Typ 55M1444-28-2/4/6/9 (round braid shielded and jacketed)

### Type

- 1153A1  
4779A2 (other length on request)



### Ordering key

Type 4080B  -

#### Measuring range

0 ... 5 bar	005
0 ... 10 bar	010
0 ... 20 bar	020
0 ... 130 bar	130
0 ... 250 bar	250

#### Electrical connection

Lemo connector	LC
Flylead	FL

#### Cable length

Without cable (for Lemo variant)	
Cable length 1 m	1

### Ordering examples

- Transducer 250 bar with Lemo connector
- Transducer 10 bar with flylead 1 m
- 2 m connection cable with Lemo connector to open wire ends

### Type

- 4080B250-LC  
4080B010-FL1  
4779A2