

Cavity Pressure Sensor

with Front $\varnothing 2,5$ mm

Type 6182B...

Miniaturized quartz sensor with single-wire technology for mold cavity pressures up to 2000 bar encountered in the injection molding of plastics.

- Ideally suited for industrial applications
- Designed without a diaphragm and with a flat, machinable front face
- Also available with coated front for glass filled plastics

Description

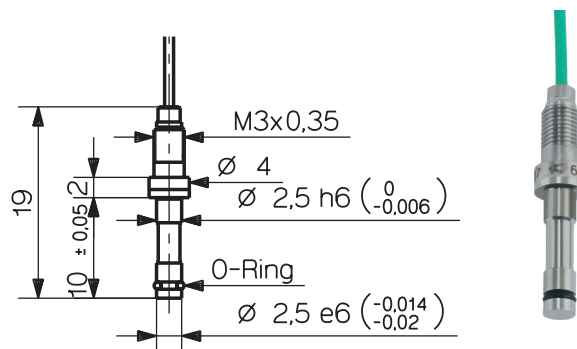
The miniaturized quartz sensor for mold cavity pressure Type 6182B... has a 2,5 mm diameter front face. The small cross-sectional area of the single-wire cable allows flexibility of installation. Shielding in the single-wire technology is provided by the mold. It is therefore essential for the cable and connector to be integrated in the mold.

For multi cavity applications the sensor Type 6182B is used without the single-wire connector Typ 1839. The Multi Cavity Set Type 6829A... and the Multi Sensor System Type 6831A... are described in the appropriate data sheets.

The pressure acts over the entire front of the sensor and is transmitted to the quartz measuring element, which produces a proportional electric charge (pC = Picocoloumb). This is converted into a voltage 0 ... 10 V when used with a charge amplifier.

Application

It is designed for industrial applications for monitoring and open-looped and closed-looped control in thermoplastic injection molding.

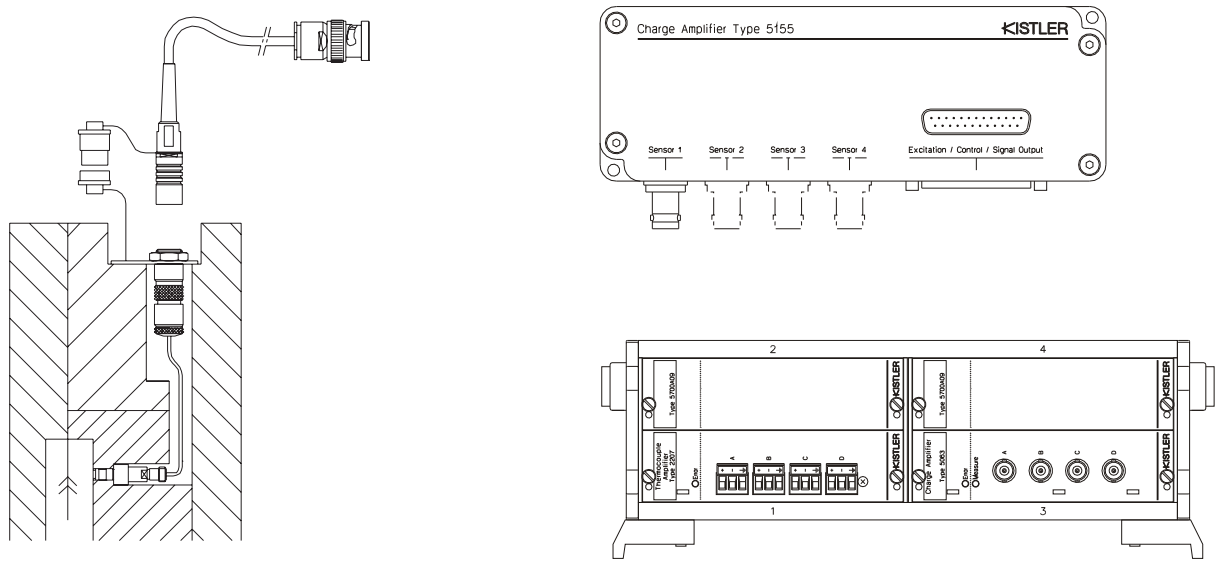


Technical Data

Measuring range	bar	0 ... 2 000
Overload	bar	2 500
Sensitivity	pC/bar	≈2,5
Linearity, all ranges	% FSO	≤±1
Operating temperature range		
Mold (sensor, cable, connector)	°C	*0 ... 200
Melt (on sensor front face)	°C	<450
Insulation resistance		
at 20 °C	TΩ	>10
at 200 °C	TΩ	>1

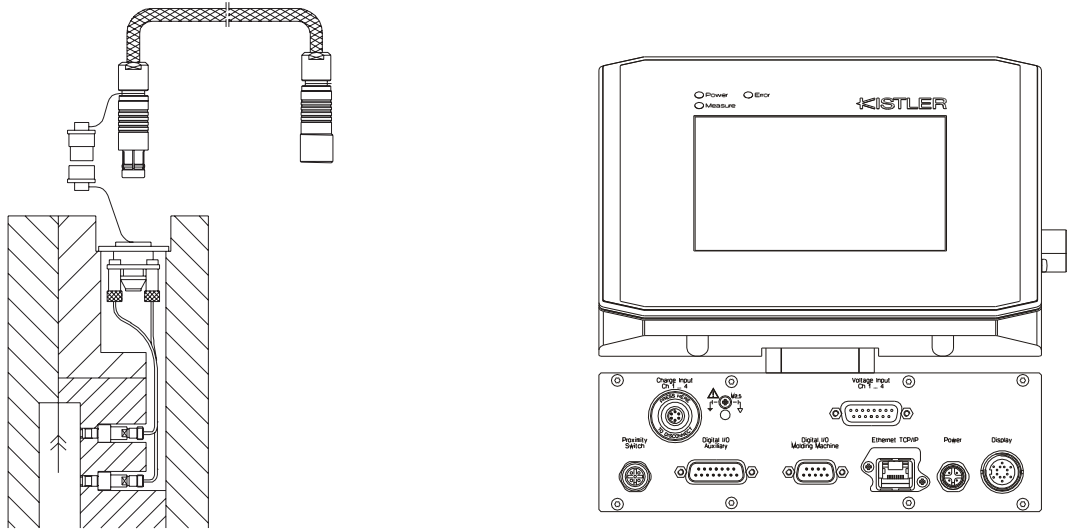
* During machine down time, the mold temperature may be allowed to rise to 240 °C without damaging the sensor. However, measuring errors may occur

Cable and Amplifier for Measuring Chain with Sensor Type 6182B...



Cable Type 1667B... (BNC Connector)	Cable Type 1672B... (TNC Connector)
Type 5039Axx2	Type 5039Axx1
Type 5049Axx2	Type 5049Axx1
Type 5155Axx2x/Axx4x/Axx8x	Type 5155Axx1x/Axx3x/Axx7x
Type 5063A1 in Type 2859A.../2865...	

Fig. 1: Sensor Type 6182B... with Charge Amplifier Typ 5155A... or Signal Conditioner Type 2859/2865...



4-Channel Cable Type 1995A... to Connector Type 1708A..	8-Channel Cable Type 1997A... on Connector Type 1710A...
Type 2869A0xx	Type 2869A2xx/2869B2xx
Type 2869A1xx/2869B1xx	Type 2869B3xx

Fig. 2: Sensor Type 6182B... with Monitoring System CoMo Injection Typ 2869...

6182B_000-537e-12.11

Installation Examples

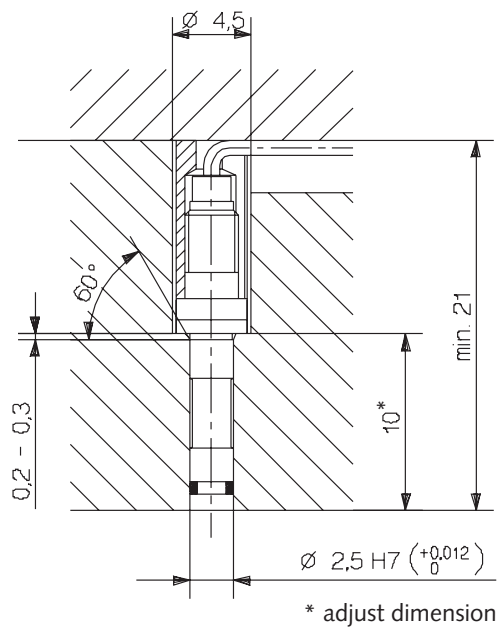


Fig. 3: Installation with spacer sleeve (Type 6464A1)

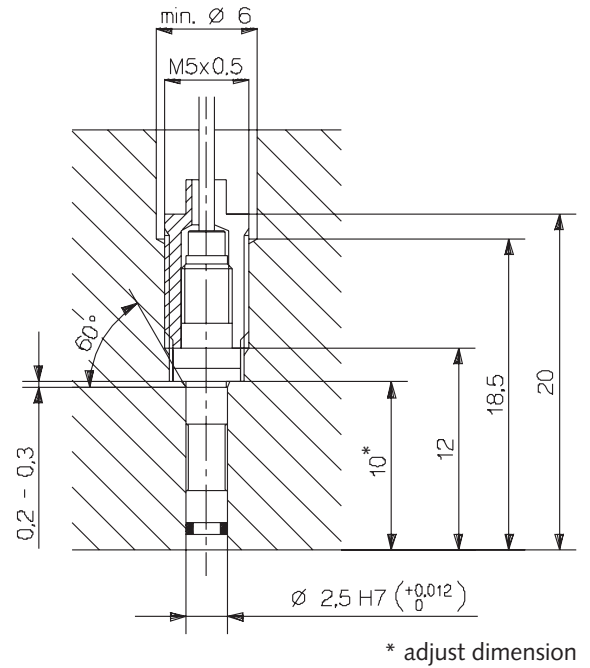


Fig. 4: Installation with mounting nut Type 6458 (optional accessories)

Accessories Included

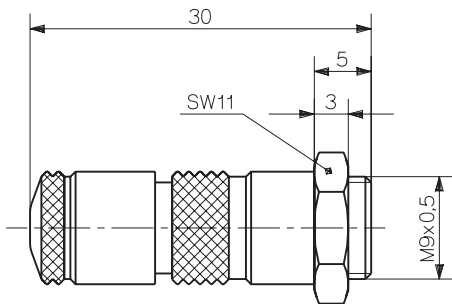


Fig. 5: Single-wire connector Type 1839

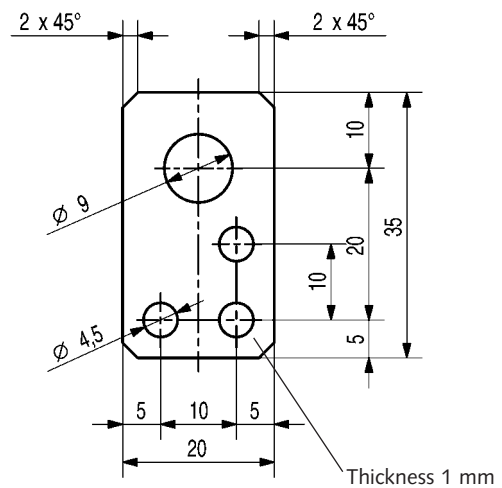


Fig. 6: Mounting plate Mat. No. 65005208

Pressure Sensor Type 6182BE

This standard sensor with machinable front is suitable for unfilled plastics. The front can be re-machined to suit the cavity wall.

Pressure Sensor Type 6182BCE

For abrasive melts (e.g. with glass or carbon fibers) this type with a coated front is recommended. The front face of coated sensors must not be re-machined.

Mounting

The sensor is preferably installed in the mounting bore with the spacer sleeve (Art. No. 6464A1). The front face of the sensor forms part of the cavity wall. The sensor must therefore be installed in such a way that its front face is exactly flush with the wall.

The sensor front face from Type 6182BE can be machined up to 0,5 mm.

The single-wire cable must be installed completely in the mold. The connector supplied must be installed with the single-wire cable cut to length. The insulation of the cable must not be stripped prior to insertion into the connector. This connector is attached in the mounting plate and this secured in a recess in the mold. The identification plate should be located nearby, indicating the type of sensor and its sensitivity.

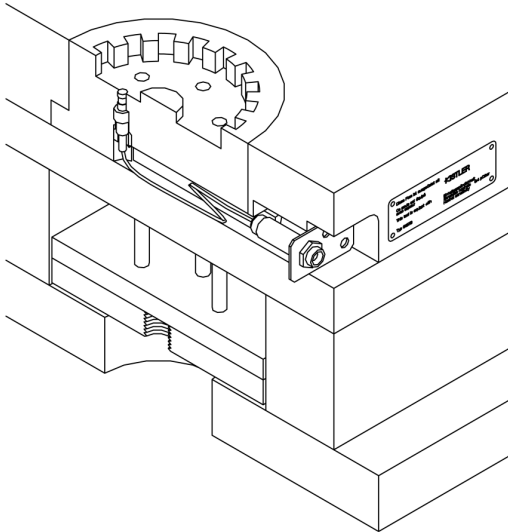


Fig. 7: Sensor, cable, mounting plate and identification plate

Accessories Included	Mat. No./Type
• Spacer sleeve (l = 50 mm)	6464A1
• Mounting plate	65005208
• Connector with cap	1839
• Checking tool	65000144
• Identification plate	65005416
• O-ring	1100A55

Optional Accessories	Mat. No./Type
• Dummy sensor	6558
• Extraction tool	1358A
• Mounting nut	6458
• Installation tubular socket wrench	1356

• 4-channel connector for Types 6182BG and BCG	1708A0
• 8-channel connector for Types 6182BG and BCG	1710A0

• Contact elements 1 channel	1712A0
• Contact elements 4 channels	1714A0
• Crimped pin	65003747
• Crimpset with tools	1381A0

Ordering Key

Standard sensor with single-wire cable l = 1,5 m and connector	E
Standard sensor with single-wire cable l = 5 m and connector	E1
Sensor with single-wire cable l = 1,5 m and coated front	CE
Sensor Type 6182BE without connector	G
Sensor Typ 6182BCE without connector	CG
For contact elements Types 1712A... and 1714A...	
Sensor with single-wire cable and crimped pin (Mat. No. 65003747). Cable with special length. Specify cable length l in m. L _{min} = 0,04 m/L _{max} = 1,5 m	Zsp
Sensor with chromed face, single-wire cable and crimped pin (Mat. No. 65003747). Cable with special length. Specify cable length l in m. L _{min} = 0,04 m/L _{max} = 1,5 m	CZsp

