

Cavity Pressure Sensor

with Front $\varnothing 2,5$ mm

Type 6182C...

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 chromed face for abrasive plastics
- Exchangeable cable

Description

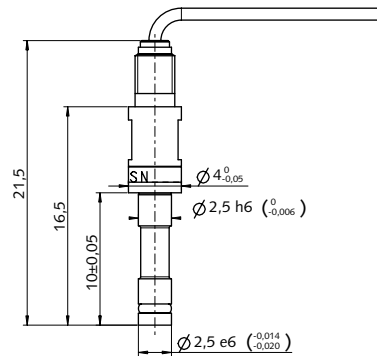
The miniaturized quartz sensor for mold cavity pressure Type 6182C... has a 2,5 mm diameter front face. The small cross-sectional area of the single-wire cable allows flexibility of installation. Shielding in the single-wire technology is provided by the mold. It is therefore essential for the cable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

For multi cavity applications the sensor Type 6182C... is used without the single-wire connector Typ 1839.

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.

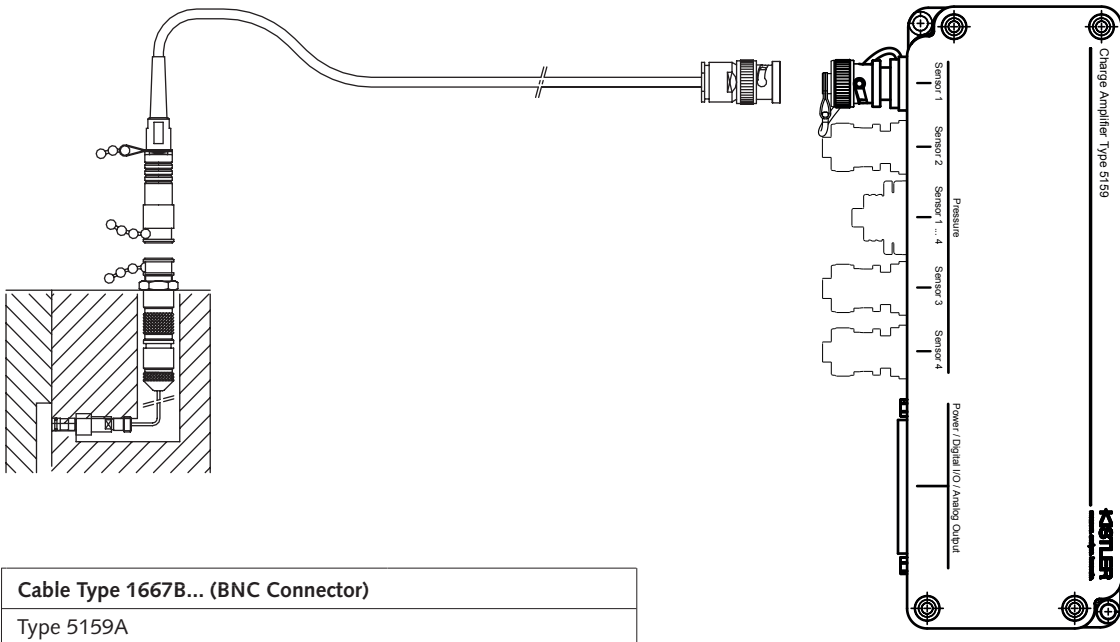


Technical Data

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

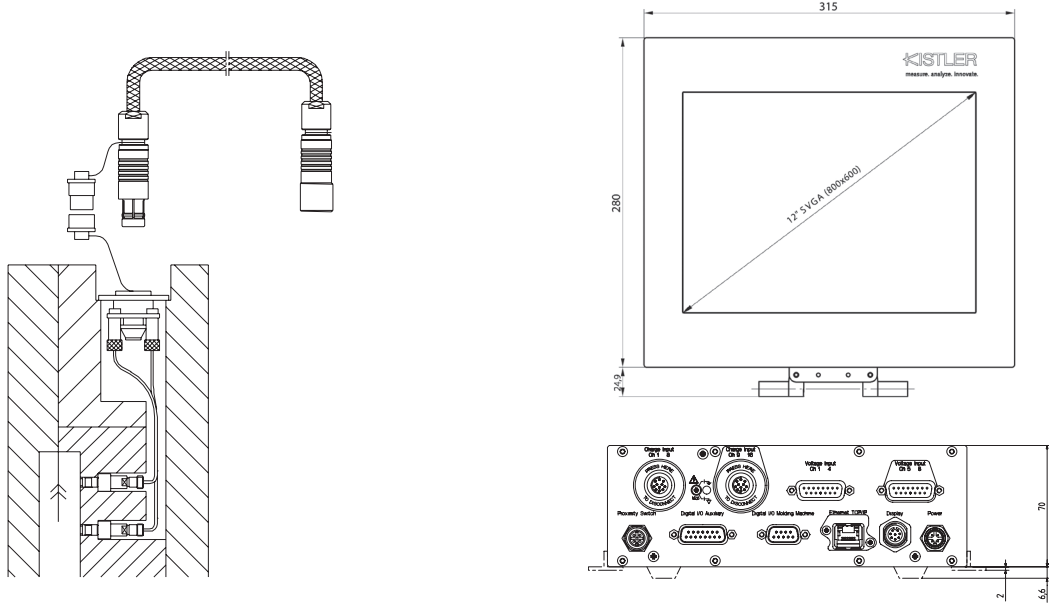
* During machine down time, the mold temperature may be allowed to rise to 240 °C without damaging the sensor. However, measuring errors may occur

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



Cable Type 1667B... (BNC Connector)
Type 5159A

Fig. 1: Sensor Type 6182C... with Charge Amplifier Typ 5159A...



4-Channel Cable Type 1995A... to Connector Type 1708..	8-Channel Cable Type 1997A... on Connector Type 1710...
Type 2869B0xx	Type 2869B2xx
Type 2869B1xx	Type 2869B3xx

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

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Installation Examples

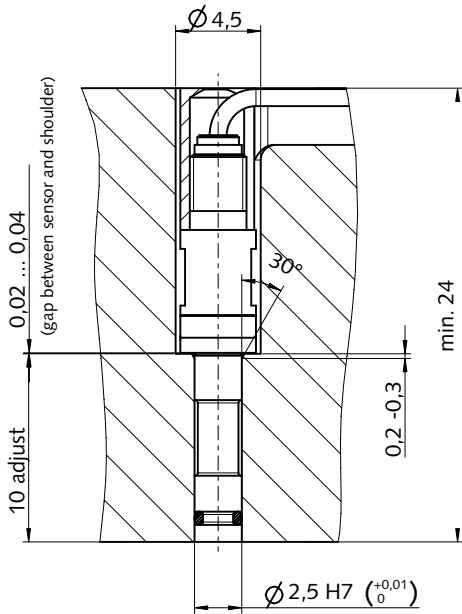


Fig. 3: Installation with spacer sleeve Type 6464A1

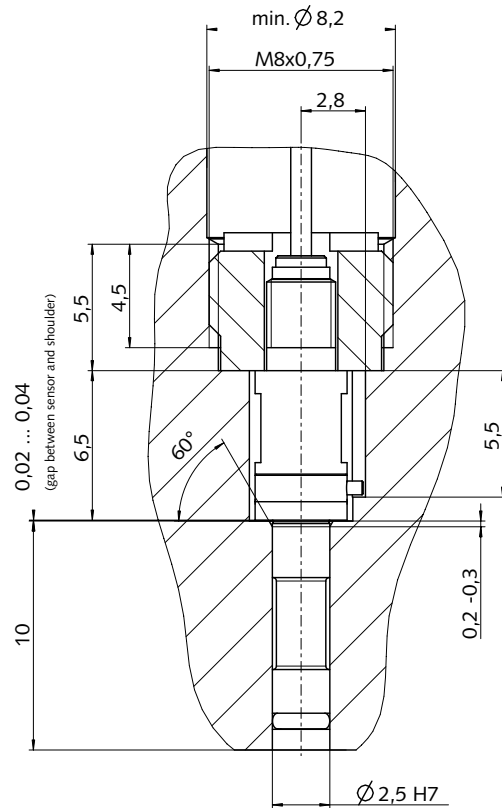


Fig. 4: Optional installation with mounting nut Type 6460A1 and key way pin Type 65001430

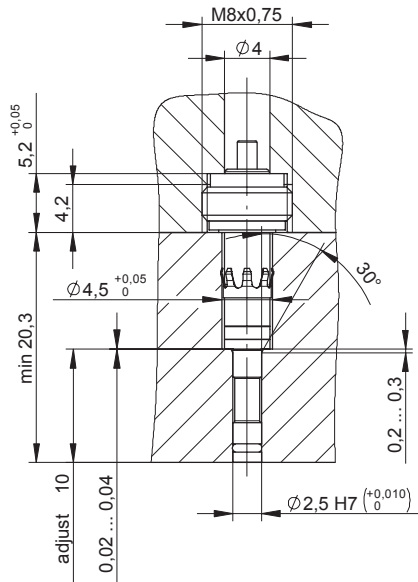


Fig. 5: Installation of the Types 6182C...N... with conducting spacer sleeve

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Accessories Included

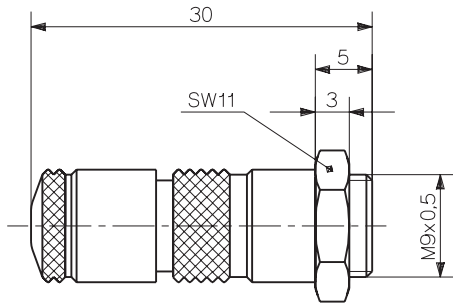


Fig. 6: Single-wire connector Type 1839

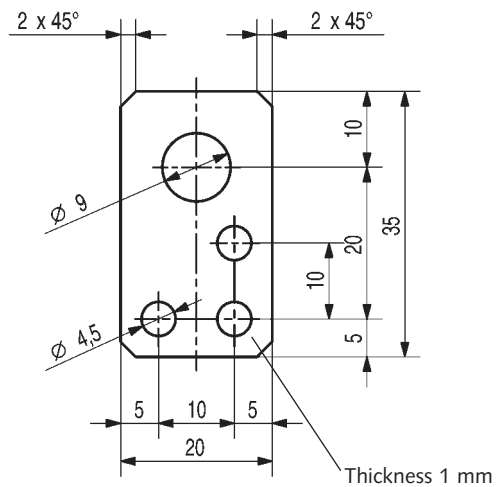


Fig. 7: Mounting plate Mat. No. 65005208

Pressure Sensor Type 6182CA

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 6182CC

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 6182CA... can be machined up to 0,5 mm. Coated variants Type 6182CC... must not be machined.

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.

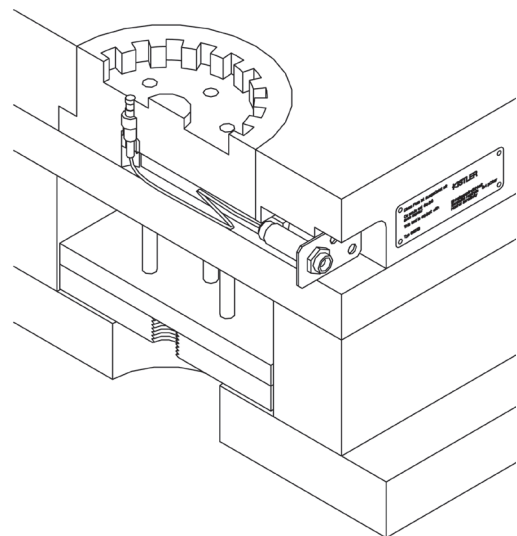


Fig. 8: Sensor, cable, mounting plate and identification plate

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Accessories Included **Mat. No./Type**

- Spacer sleeve (L = 50 mm) 6464A1
- Conducting spacer sleeve (L = 40 mm) 1720A1
- Mounting plate 65005208
- Connector (with cap) 1839
- Checking tool 65000146
- Identification plate 65005416
- O-ring 1100A55

Optional Accessories **Mat. No./Type**

- Replacement cable singlewire 1,5 m 1900A17L1,5
- Replacement cable singlewire 5 m 1900A17L5
- Auxiliary tool to dismount the cable 1300A30
- Fork wrench AF 3,5 65007991

- Dummy sensor 6454A
- Extraction tool 1358A
- Mounting nut 6460A1
- Installation tool for Mounting nut 1300A131
- Keyway pin 65001430

- 4-channel connector for Type 6182C...G and 6182C...G1 1708...
- 8-channel connector for Type 6182C...G and 6182C...G1 1710...

- Contact elements 1 channel for Type 6182C...Zsp 1712A0
- Contact elements 4 channels for Type 6182C...Zsp 1714A0

- Crimped pin 65003747
- Crimpset with tools 1381A0

Ordering Key

Sensor

Sensor front uncoated, keyway pin	A
Sensor front chromed	C

Type 6182C

Cabel

Sensor with single-wire-cable (L = 1,5 m)	E
Sensor with single-wire-cable (L = 5 m)	E1
Sensor with single-wire-cable, without connector (L = 1,5 m)	G
Sensor with single-wire-cable, without connector (L = 5 m)	G1

For contact elements Types 1712A... and 1714A...

Sensor with single-wire-cable and crimped pin (Mat. Nr. 65003747). Cable with special lengths. Specify L in m. (L _{min} = 0,04 m/L _{max} = 1,5 m)	Zsp
Sensor with conducting spacer sleeve Type 1720A1 and contact element Type 1712A1	NE
Sensor with conducting spacer sleeve Type 1720A1 and contact element Type 1712A1, without connector	NG

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