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Temperature Sensors

for Injection Molding

Types 6192B…, 6193B…,
6194B…, 6195B…

Temperature sensors for measuring the contact temperature directly in the cavity at the surface of the solidified plastic melt.

• Integral steel braiding glass silk insulated high-temperature cable with Fischer connector
• Versions without connector for connection to temperature amplifier Type 2205A...
• Mounting compatibility with standard mold cavity pressure sensors   Types 6157B..., 6159A..., 6182B..., 6183A...

Description

Temperature sensor Types 6192B…, 6193B…, 6194B… and 6195B… are compatible for mounting purposes with the standard mold cavity pressure sensors with 4 mm, 2,5 mm and 1 mm front diameters. The rugged high-temperature cable is integrated in the sensor and can be used in temperatures up to 450 °C. The measuring principle is based on Type K thermocouples. Two thermocouple leads are fed separately to the front of the sensor, where they are welded to a thermocouple. For this reason, these sensors cannot be machined at their front.

The Type K thermocouple is used because of its technical advantages such as corrosion resistance.

Application

The sensors measure the contact temperature at the surface of the solidified surface layer of the plastic melt in the cavity. This temperature can be used for monitoring and control purposes, for example for adjusting the mold temperature during the process. In addition, this temperature can be used to calculate the melt temperature in the molded part. The contact temperature also provides information on the surface of a plastic part and can be used to optimize the strength at the weldline. The sensor can not be machined at the front.

For multicavity molds, Types 6192BG…, 6193BG…, 6194BG… and 6195BG… (thermal conductors without connector) can be directly connected to the temperature amplifier Type 2205A…. For this purpose, the temperature amplifier is built into the mold and supplies voltage signals of 0 to 10 V to appropriate evaluation units. Further details must be obtained from the data sheet for Type 2205A... (2205A_000-591).


Type 6193B... Type 6195B... Type 6194B... Type 6192B...
(ø1 mm)   (ø2,5 mm)   (ø2,5 mm)   (ø4 mm)

Technical Data

Thermocouple	Type	K (NiCr-Ni)
Measuring accuracy	Norm	IEC548 KI 1
Operating temperature range		
Mold (sensor and cable)	°C	0 … 450
Mold (connector)	°C	0 … 200
Melt (at the front of the sensor)	°C	≤450
Pressure range	bar	0 … 2 000
Cable		
Positive	+	green
Negative	–	white

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Cable and Amplifier for Measuring Chain with Temperature Sensors Type 6192B ..., 6193B..., 6194B... and 6195B...
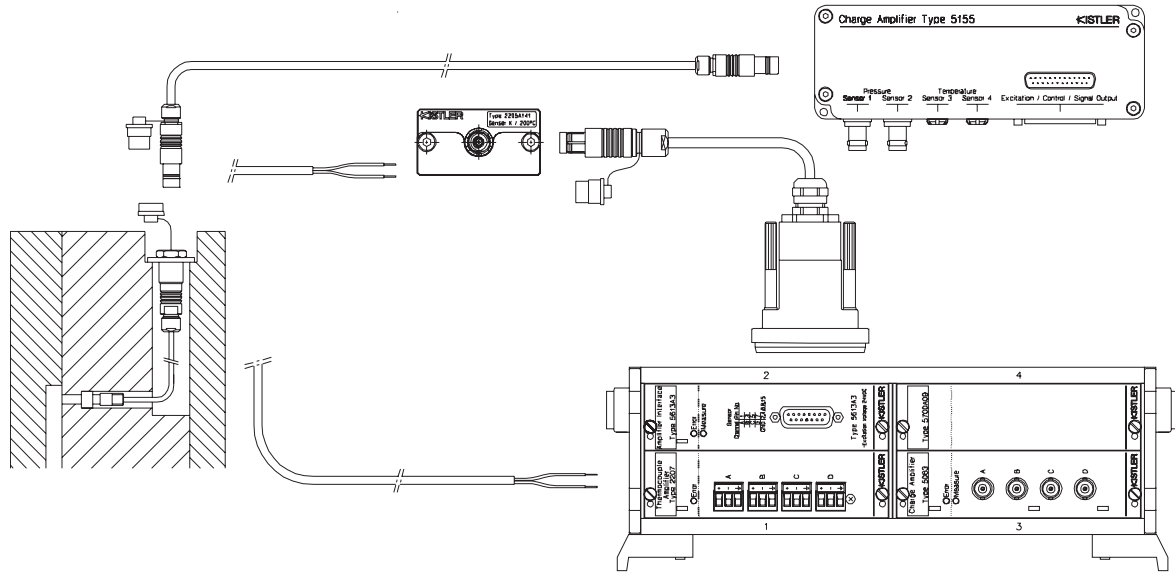
Compensation Cable Type 2295A...	Compensation Cable Type 2290A... (open Ends)	Extension Cable Type 1457A1A... of Type 2205A...
Type 5155AxxAx/5155AxxBx (1 channels pressure, 1 channel temperature)	Type 2205A... Temperature Amplifier	Type 2859/2865 with plug-in unit Type 5613A3
Type 5155AxxCx/5155AxxDx (2 channels pressure, 2 channel temperature)	Type 2859/2865 with plug-in unit Type 2207A...	

Fig. 1: Temperature sensor with charge and temperature amplifier Type 5155 and signal conditioner Type 2859A / 2865A
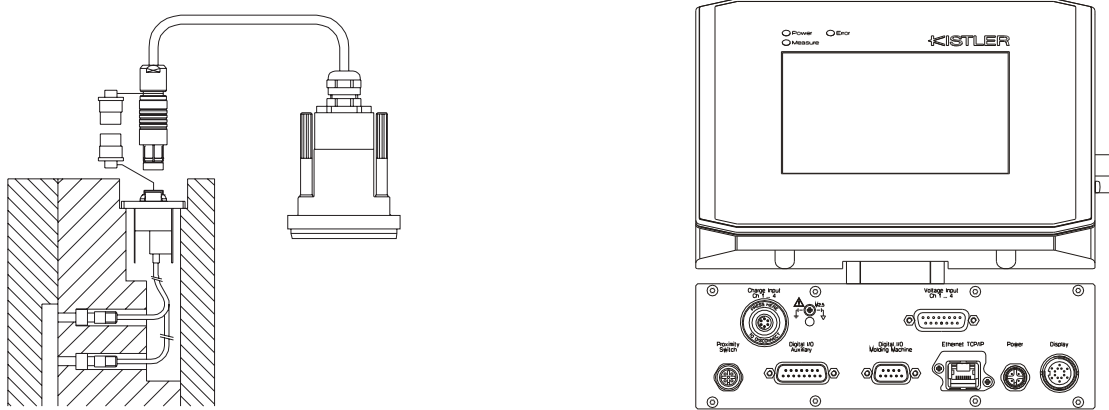
Extension Cable Type 1457A1A... on Temperature Amplifier Type 2205A... (in Mold)
Type 2869A1xx and Type 2869B...

Fig. 2: Temperature sensor with temperature amplifier Type 2205A... in mold and connection to CoMo Injection Type 2869A/B
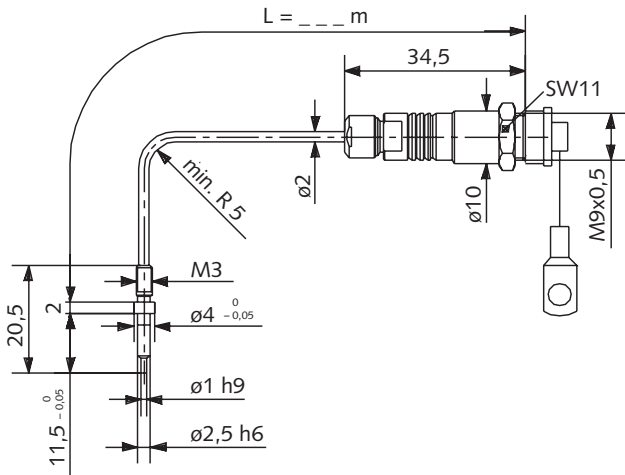
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Dimensions

Fig. 3: Type 6193B... (ø1 mm)
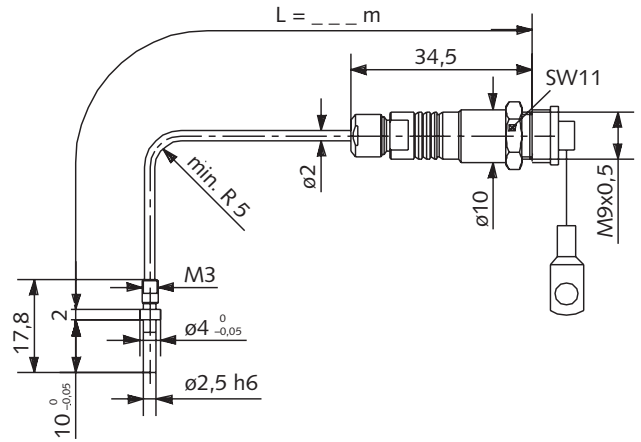
Fig. 4: Type 6195B... (ø2,5 mm, shoulder 4 mm)
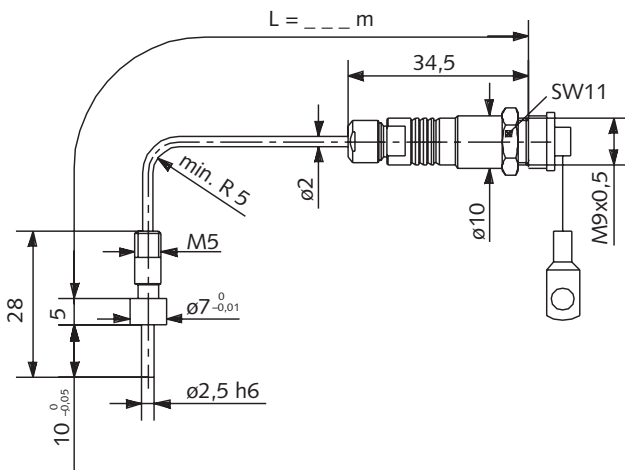
Fig. 5: Typ 6194B... (ø2,5 mm, shoulder 7 mm)

Fig. 6: Typ 6192B... (ø4 mm)
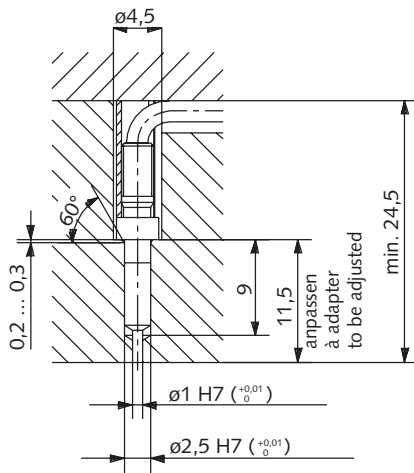
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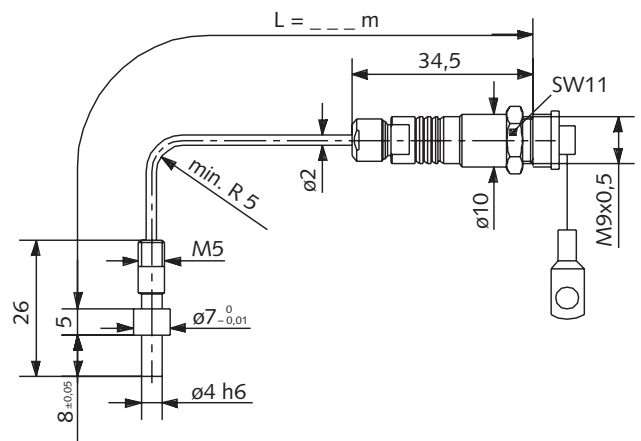
Fig. 7: Mounting Type 6193B... with spacer sleeve Type 6464A3

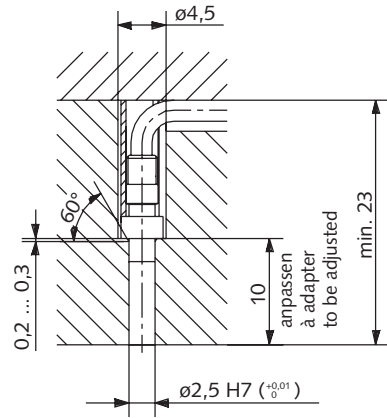Fig. 8: Mounting Type 6195B… with spacer sleeve Type 6464A3

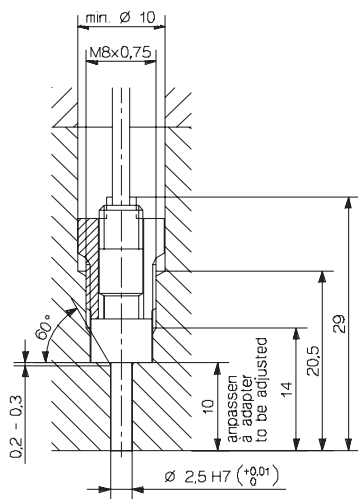

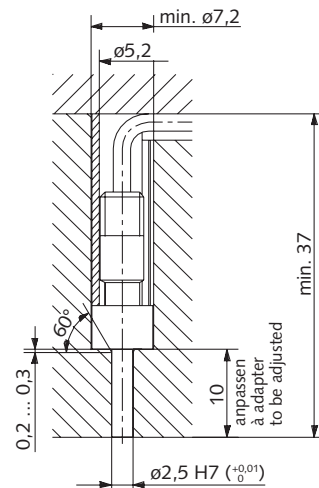Fig. 9: Mounting Type 6194B... with mounting nut Type 6457

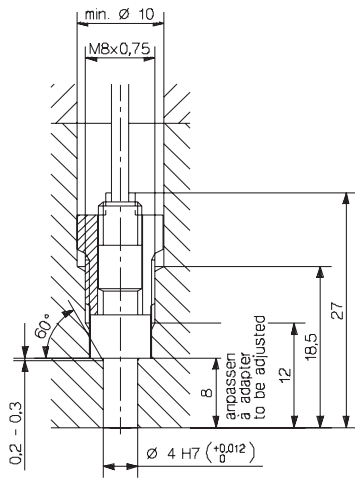Fig. 10: Mounting Type 6194B... with spacer sleeve Type 6459

6192B_000-637e-12.08

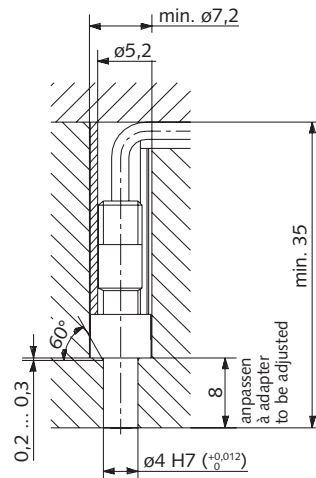Fig. 11: Mounting Type 6192B... with mounting nut Type 6457

Fig. 12: Mounting Type 6192B... with spacer sleeve Type 6459

Mounting

The sensor Types 6192B… and 6194B… are fixed in the mounting bore with the mounting nut Type 6457 (or with the spacer sleeve Type 6459). Types 6193B… and 6195B… are exclusively mounted with spacer sleeve Type 6464A3.

After mounting, the sensor front forms part of the cavity wall. The sensor must therefore be fitted so that its front comes exactly flush. The sensor front must not be machined. Fix the connector to a protected part of the mold with the mounting plate (Art. No. 3.520.328) supplied. Secure the protective cap with a mounting plate screw and cover the open connector.

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Accessories Included	Type/Art.No.
• Mounting nut for Types 6192B... and 6194B...	6457
• Spacer sleeve for Type 6193B..., 6195B…	6464A3
• Mounting plate	3.520.328

Optional Accessories	Type/Art.No.
• Compensating cable one end without connector	
L = 2 m	2290A2
L = 5 m	2290A5
Custom length ($L_{min} = 0{,}1$/$L_{max} = 30$ m)	2290Asp
• Compensating cable with connectors both ends	
L = 2 m	2295A2
L = 5 m	2295A5
Custom length ($L_{min} = 0{,}1$/$L_{max} = 30$ m)	2295Asp
• Temperauter amplifier (2 channel) with measuring range up to 200 °C	2205A121
• Temperauter amplifier (4 channel) with measuring range up to 200 °C	2205A141
• Temperauter amplifier (2 channel) with measuring range up to 400 °C	2205A221
• Temperauter amplifier (4 channel)	2205A241
• 4 channel extension cable for Type 2205A...	1457A...
• Extraction tool for Type 6193B... and 6195B...	1358A
• Mounting nut for Types 6193B... and 6195B...	6458
• Tubular socket wrench for Types 6193B... and 6195B... and mounting nut 6458	1356
• Extraction tool for Types 6192B... and 6194B...	1315A
• Tubular socket wrench or Types 6192B... and 6194B...	1383
• Spacer sleeve for Types 6192B... and 6194B...	6459

Dummy sensor	
• Type 6192B...	6545
• Type 6193B...	6579
• Type 6194B...	6549
• Type 6195B...	6558

Ordering Key

Type 619 ☐ B ☐

4 mm front diameter temperature sensor	2
1 mm front diameter temperature sensor	3
2,5 mm front diameter temperature sensor (shoulder ø7 mm)	4
2,5 mm front diameter temperature sensor (shoulder ø4 mm)	5

0,4 m cable length	0,4
Cable with special length, specify cable length L in m ($L_{min} = 0{,}1$ m / $L_{max} = 5$ m)	sp
Sensor without connector with cable length L = 2 m	G
Sensor without connector with cable length L = 5 m	G1