

Type 4009B / 4010B

Cavity temperature sensor

- Extreme fast response times
- High amplitude
- Cost-effective solution for quality monitoring and control in injection molding
- Waterproof design



Description

The cavity temperature sensor type 4009B.../ 4010B... has been especially designed to use in the mold cavity and has, compared to the previous types, yet a smaller dimension.

The cavity temperature plays an important part in the qualitative assessment of the injection molding process. It is only possible to describe the quality of a molded part completely by measuring cavity pressure and the cavity temperature.

Depending on the application, however it is recommended to measure, monitor and control either cavity pressure, or the cavity temperature or both signals at the same time. In case of a multi cavity mold it is advisable solely because of the cost reasons to check first of all which problems can be solved by using cavity temperature sensors only.

The thermocouple type N has significant advantages compared to the common material combinations used in industry. While the thermocouple type J consists of corrosive materials, and the thermocouple type K shows inaccuracies up to 3 °C even in the lower temperature range (50 ... 200 °C), these shortcomings have been overcome by using the thermocouple type N.

Technical data

Thermocouple (not insulated)	Type	N
Colors / polarity according to IEC 60584	pink (NiCrSi) white (NiSi)	positive negative
Class		1
Maximum deviations according to IEC 60584	(-40 ... 1000 °C)	$dT = \pm 0.004 \times T$ or $\pm 1.5 \text{ K}$
Standard operating temperature (sensor front)	°C	up to 600
Operating temperature range (cable)	°C	0 ... 200
Response time switchover to holding pressure and sequential control with PRIAMUS amplifier (Rising > 5°K at < 120 ms)	ms	3
Remark		
The sensors including connecting cable can be cleaned in an ultrasonic bath together with the mold inserts if a sealed protecting cap is used (cleaning agent: aqueous tenside solution).		

subject to technical amendments

Remarks

Cavity temperature sensors will be delivered with distance sleeves (recommended mounting). Mounting nut installation is recommended when the sensor can't be clamped between two plates (slides etc.)

Compensation leads

Accessories

For connecting the charge / temperature amplifiers type 5060... and 8102... the compensation leads type 1100A2 (connecting cable) and type 1101A2 (extension cable) can be used.

Scope of delivery

Article	Type	Article	Type
Distance sleeve	4522A	Identification plate	-
Mounting plate (for type 4010B)	4581A	Mounting accessory	4592A

Accessories

Article	Type	Article	Type
Mounting / extraction tool for distance sleeve	4567A	Mounting tool for mounting nut	4562A
Mounting nut	4543A	Dummy	4509A

Order codes

4009B

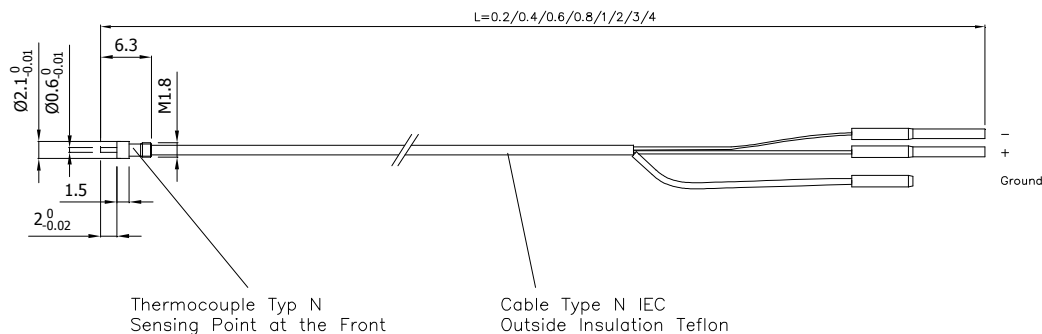
4010B0,2 / 0,4 / 0,6 / 0,8 / 1,0

Type 4009B-M

Type 4009B-M has been developed especially to be connected to the multi pin connector type 1189B and has the following advantages:

- Easy handling
- Cost-effective (less cables are being needed)
- Can be assembled by the user
- Can be combined with sensors and quick disconnects
- Self-explanatory due to a clever color system

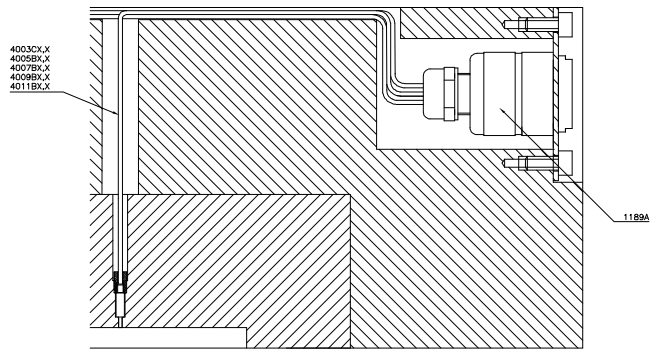
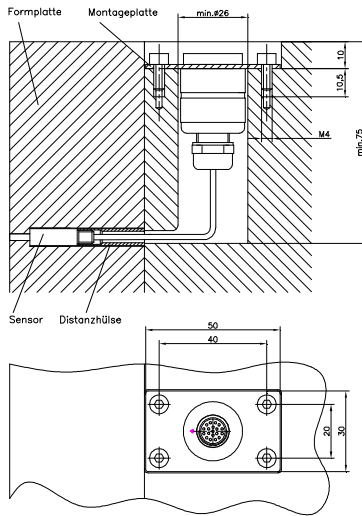
Dimensions



To mount the multi pin connector we recommend calculating 50 – 100 mm cable length.

Mounting dimensions multi pin connector

Connection sample



Remarks

Cavity temperature sensors will be delivered with distance sleeves (recommended mounting). Mounting nut installation is recommended when the sensor can't be clamped between two plates (slides etc.)

Compensation leads

For connecting the charge / temperature amplifiers type 5060B... and 8101A... the compensation leads type 1152Ax (connecting cable) can be used.

Scope of delivery

Article	Type	Article	Type
Distance sleeve, l = 40 mm	4522A	Identification plate	-

Accessories

Article	Type	Article	Type
Mounting / extraction tool for distance sleeve	4567A	Fischer multi pin connector	1189B
Mounting nut	4543A	Ejector tool for crimp contacts	1310A
Mounting tool for mounting nut	4562A	Crimping contacts	1312A
Dummy	4509A	Crimping pliers	1311A

Order codes

4009B-M