

Type 4005B / 4006B

Cavity temperature sensor

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

Machinable sensor front



Description

The cavity temperature sensor type 4005B.../ 4006B... has been especially designed to use in the mold cavity. The big advantage of this sensor is its machinable sensor front.

The dimension of the sensor has been determined in this shape in order to be small enough for the use in multi cavity molds, and on the other hand to be large enough for easy handling during installation and removal.

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.

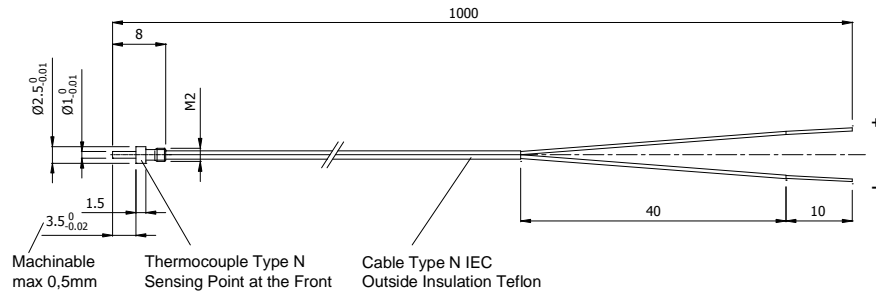
Technical data

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= ± 0.004 x T or ± 1.5 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 (envelope curve procedure resp. absolute measuring procedure)	ms	4 ... 10
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).		

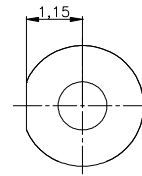
subject to technical amendments

Dimensions

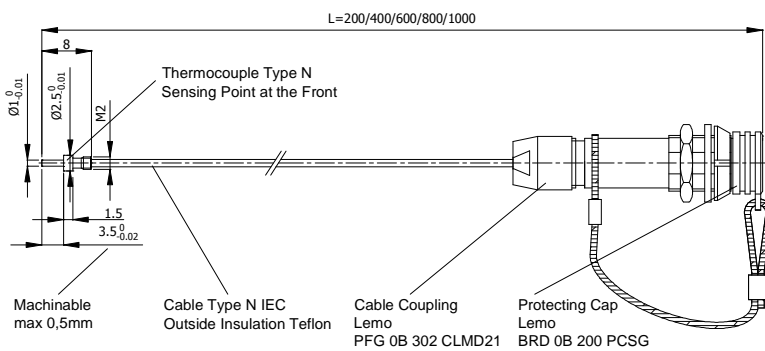
Type 4005B (open wires, for multipin connectors)



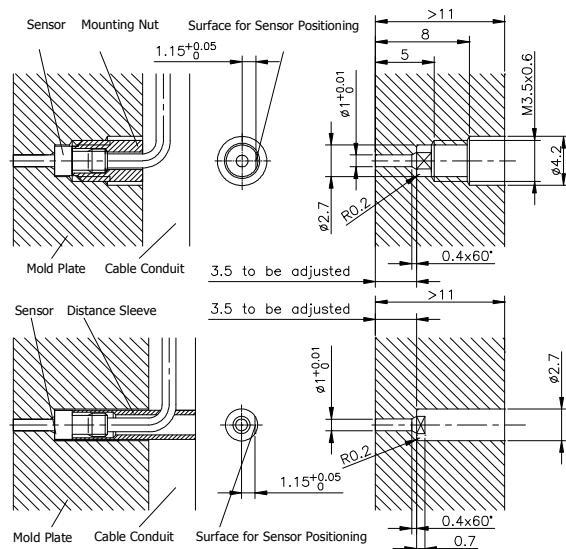
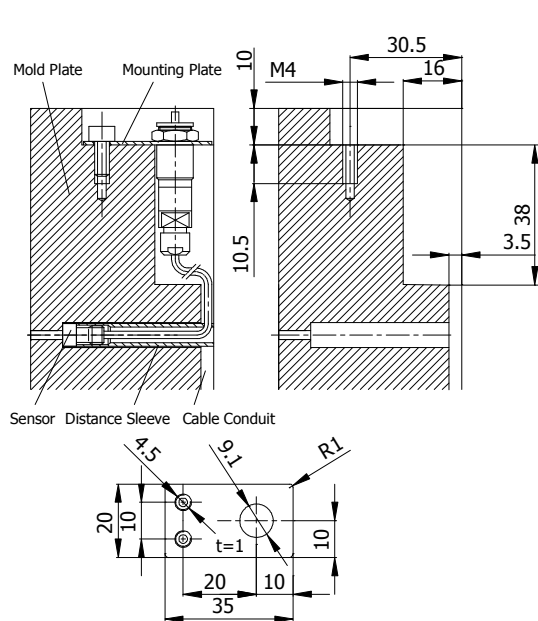
Sensor front view (enlarged)



Type 4006B...



Mounting dimensions



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

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, l = 40 mm	4521A	Identification plate	-
Mounting plate (for type 4006B)	4581A	Mounting accessory	4592A

Accessories

Article	Type	Article	Type
Distance sleeve, l = 80 mm	4521A0,08	Mounting tool for mounting nut	4562A
Mounting / extraction tool for distance sleeve	4561B	Dummy	4505A
Mounting nut	4541A		

Order codes

4005B

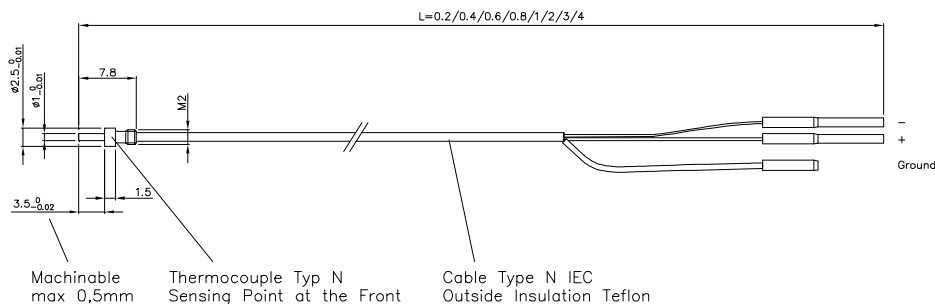
4006B0,2 / 0,4 / 0,6 / 0,8 / 1,0

Type 4005B-M

Type 4005B-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

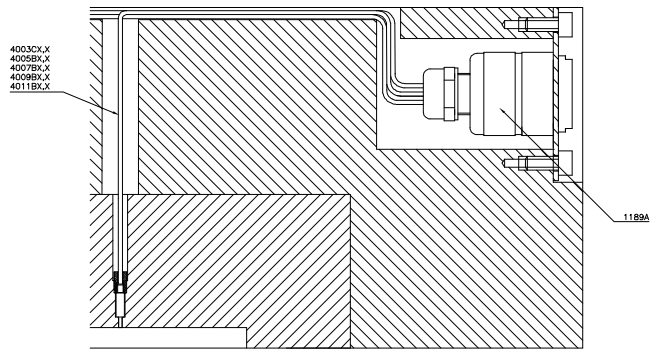
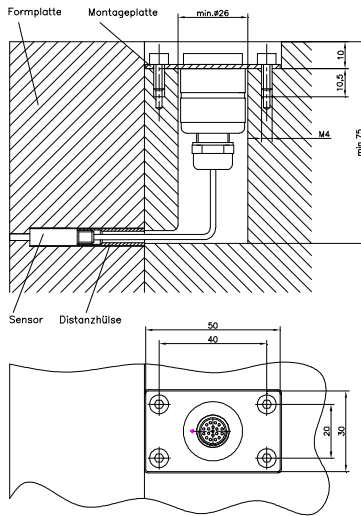
Dimensions



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	4521A	Identification plate	-

Accessories

Article	Type	Article	Type
Distance sleeve, l = 80 mm	4521A0,08	Fischer multi pin connector	1189B
Mounting / extraction tool for distance sleeve	4561B	Ejector tool for crimp contacts	1310A
Mounting nut	4541A	Crimping contacts	1312A
Mounting tool for mounting nut	4562A	Crimping pliers	1311A
Dummy	4505A		

Order codes

4005B-M