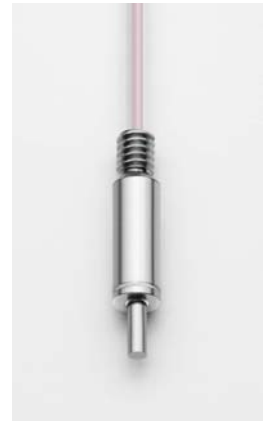


## Type 4003B / 4004B

### Cavity temperature sensor

- small but robust!
- flexible cable
- cost-effective solution for quality monitoring and control in injection molding
- automatic switchover at the end of the flow path
- sequential control over the position of the melt
- weld lines control
- automatic balancing of the volumetric filling of multi cavity hotrunner molds



### Description

The cavity temperature sensor type 4003B.../ 4004B... has been especially designed to use in the mold cavity. 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)<br>white (NiSi) | positive<br>negative                                |
| Class   |                               | 1   |
| Maximum deviations according to IEC 60584   | (-40 ... 1000 °C)             | $dT = \pm 0.004 \times T$<br>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 (envelope curve procedure resp. absolute measuring procedure)                                  | ms                            | 4 ... 10  |
| <b>Remark</b>   |                               |   |
| 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

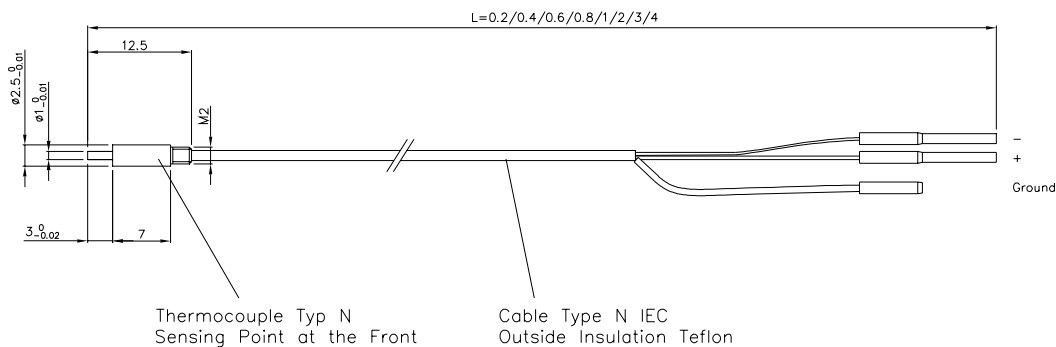


## Type 4003B-M

Type 4003B-M has been developed especially to be connected to the multi pin connector type 1189A and has the following advantages:

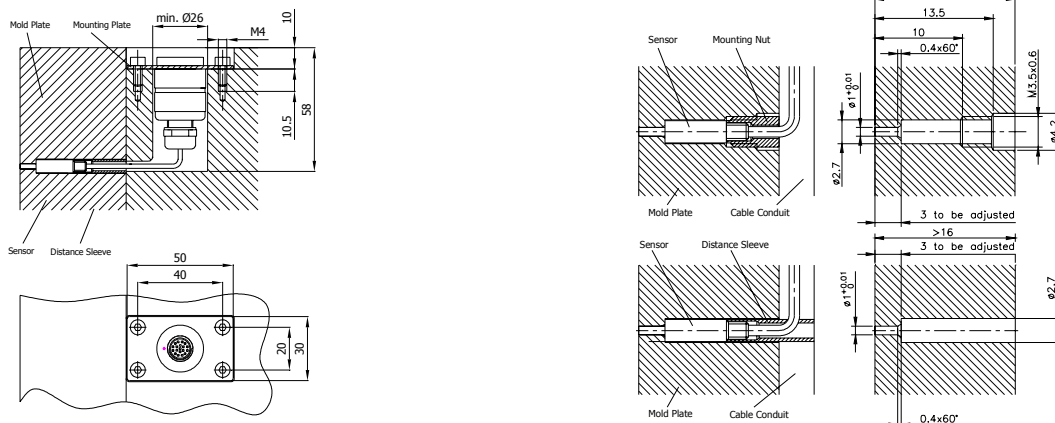
- Easy handling
- Cost-effective (less cables are being needed)
- Can be assembled by the user
- Can be combined with sensors and quick disconnects
- Self-explanatory due to a clever color system

### Dimensions



### Mounting dimensions

With multi pin connector



### 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.)

subject to technical amendments

## Compensation leads

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

## Scope of delivery

Distance sleeve type 4521A (l = 40 mm)  
Identification plate

## Accessories

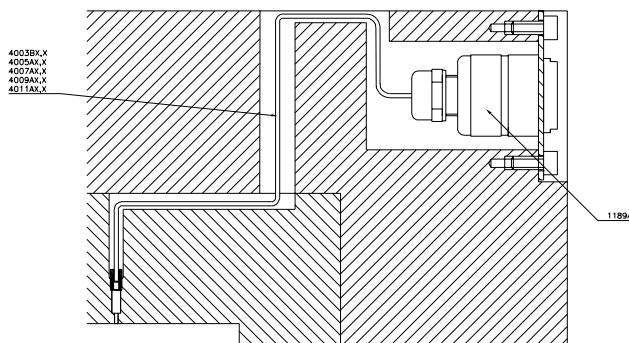
Distance sleeve type 4521A0,08 (l = 80 mm)  
Fischer multi pin connector type 1189A  
Ejector tool for crimp contacts, type 1310A  
Mounting / extraction tool for distance sleeve type 4561B  
Mounting nut type 4541A  
Mounting tool for mounting nut, type 4562A  
Crimping pliers type 1311A  
Crimping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

## Order codes

4003B-M

## Connection samples

### Measuring chain



### Measuring chain with 4-/8 channels

