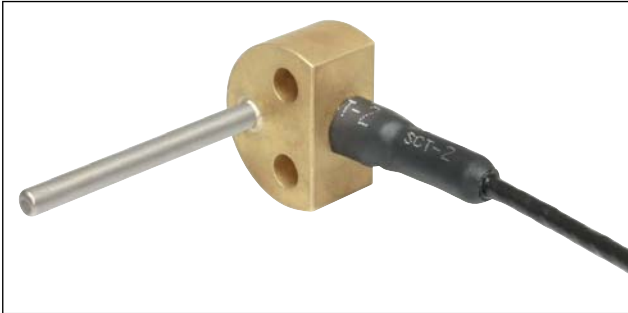


# Temperature sensor

## ▶ GEL 2161

Platinum resistance thermometer  
Pt100 / Pt1000



### **Description**

- ▶ Compact and robust sensor can be used in harsh applications
- ▶ Cable finishing in combination with a speed sensor possible
- ▶ Simple flange mounting

### **Features**

- ▶ Measuring temperature -40°C to +250°C
- ▶ Fire behaviour according to DIN 5510 and NF F16-101
- ▶ Protection class IP 68
- ▶ Type testing according to EN 50155

### **Advantages**

- ▶ Compact design
- ▶ Customer specific packaging
- ▶ Customer specific sensor unit

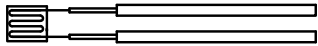
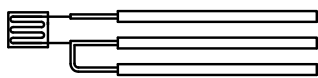
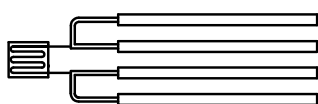
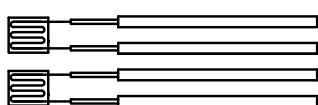
### **Fields of application**

- ▶ Rail vehicle industry
- ▶ Automation

# Technical data

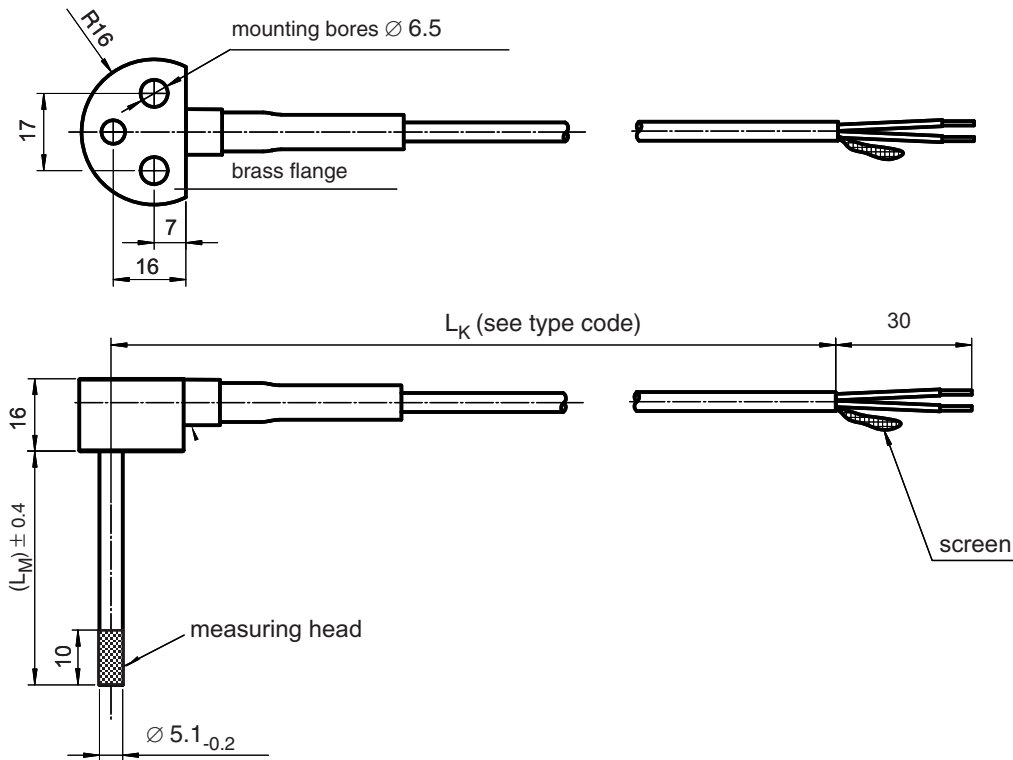
Cable type	A	B	C
<b>Electrical data</b>			
Measuring element	Pt100 / Pt1000 (DIN EN 60751 class B)		
Tolerance	Tolerance class B		
Messuring current	0.3 to 1 mA <sup>(1)</sup>		
Electromagnetic compatibility	Rail vehicles: EN 50121-3-2		
Insulation (EN 60439-1)	500 V AC		
<b>Mechanical data</b>			
Measuring temperature measuring head	-40°C to +250°C		
Operating temperature (housing / cable)	-40°C to +150°C	-40°C to +120°C	
Storage temperature	-40°C to +120°C		
Protection class	IP 68		
Vibration resistance (EN 61373 cat. 3)	300 m/s <sup>2</sup>		
Shock resistance (EN 61373 cat. 3)	1000 m/s <sup>2</sup>		
Type testing	according to EN 50155		
Material of flange	brass		
Material of measuring tube	stainless steel		
Diameter of measuring tube	5 mm (6 mm on request)		
Active length of measuring head	10 mm		
Min. length of measuring tube	30 mm		
Weight sensor (incl. 2 m cable)	approx. 100 g		
<b>Cable</b>			
Electrical connection	cable screened (specification on request), cable outlet straight		
Cable length	≤ 100 m		
Cable diameter	3.8 mm	4.8 mm	5.7 mm
Cable cross section	4 x 0.14 mm <sup>2</sup>		4 x 0.34 mm <sup>2</sup>
Bending radius static / dynamic	10 x cable diameter		
Fire behaviour	-	DIN 5510 and NF F16-101	

## Wiring diagram

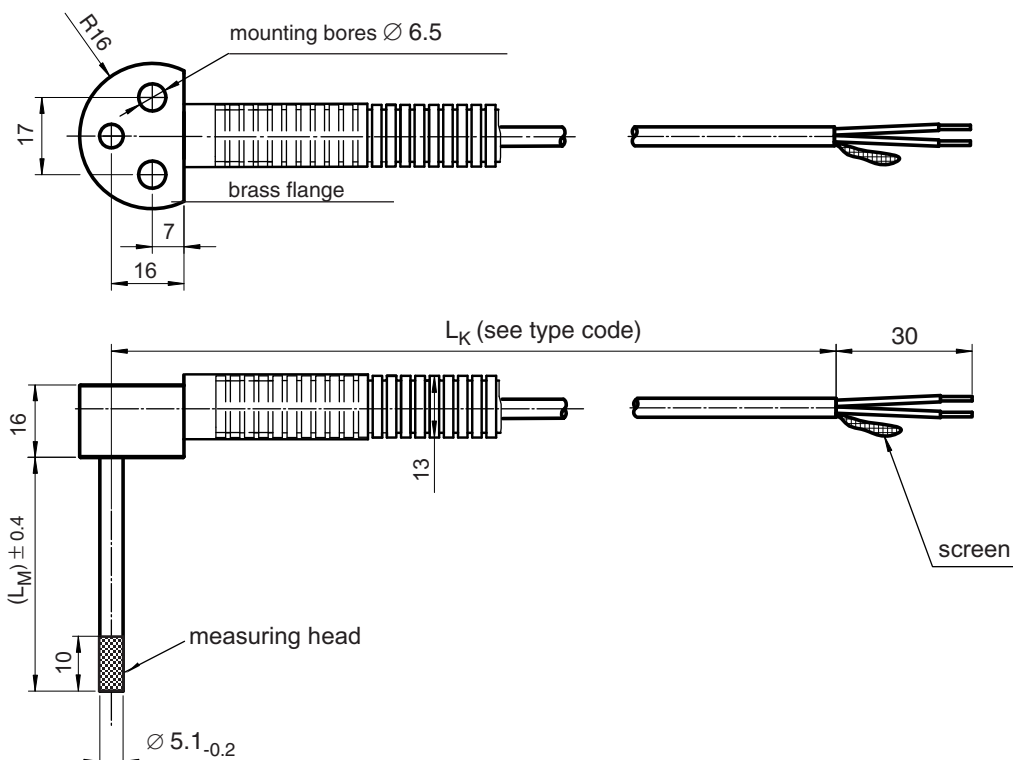
Wiring (Type code)	Illustration	Wire number (cable B/C)	Wire colour (cable A)
12		1 2	white red
13		1 2 3	white red blue/red
14		1 2 3 4	white blue/white red blue/red
22		1 2 3 4	white blue/white red blue/red

<sup>(1)</sup> A higher measuring current may lead to inaccuracies in measurement due to internal heat dissipation, up to 3 mA for Pt1000 and 10 mA for Pt100 is possible.

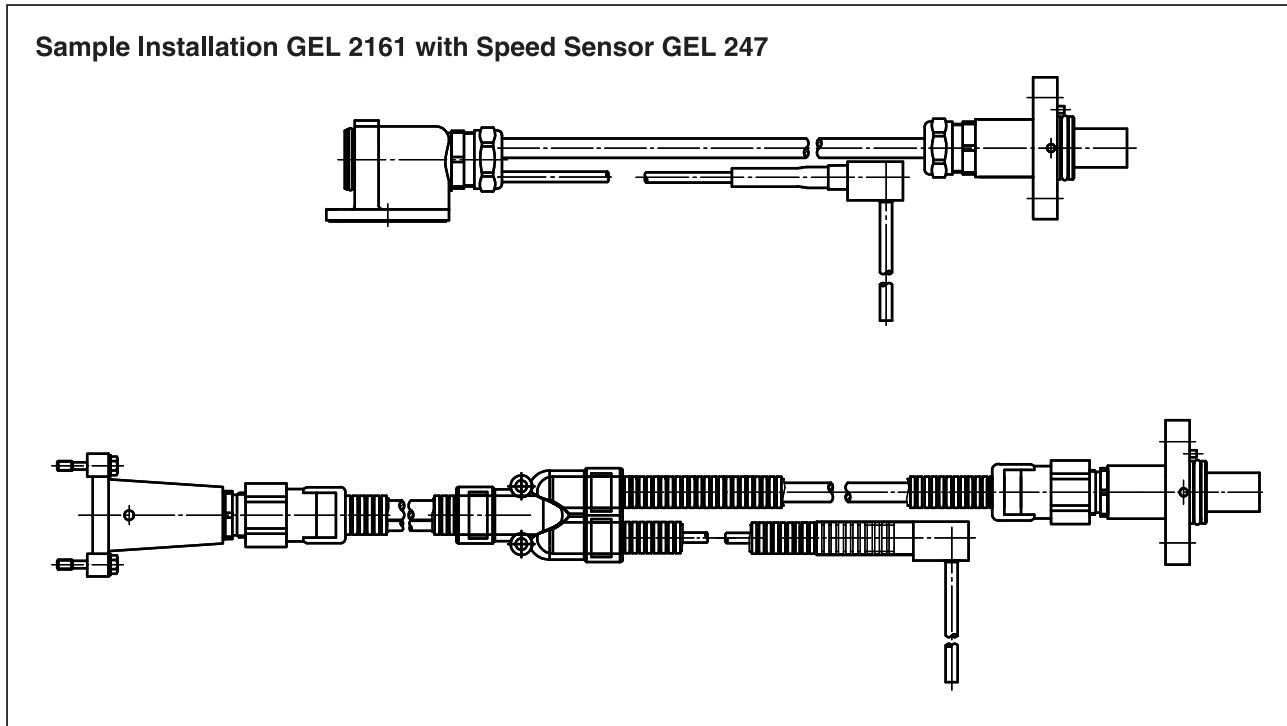
## Dimensions GEL 2161 (Cable connection)



## Dimensions GEL 2161 (Flexible conduit fitting)



# Sample installation, type code



## Type code

2161	<b>Measuring element</b>		
	C	Pt100	
	M	Pt1000	
	<b>Connection</b>		
	12	1 Pt100 / Pt1000 in 2-wire	
	13	1 Pt100 / Pt1000 in 3-wire	
	14	1 Pt100 / Pt1000 in 4-wire	
	22	2 Pt100 / Pt1000 in 2-wire	
<b>Cable screen</b>			
L	connected to sensor housing		
P	not connected to sensor housing		
<b>Measuring tube length (L<sub>M</sub>)</b>			
000	Length in mm (min. 30 mm)		
<b>Cable type (see Technical Data)</b>			
A	PTFE cable, 4 x 0,14 mm <sup>2</sup>		
B	non-halogen cable, 4 x 0,14 mm <sup>2</sup>		
C	non-halogen cable, 4 x 0,34 mm <sup>2</sup>		
<b>Cable outlet</b>			
K	cable		
W	flexible conduit DN 10		
<b>Cable length (L<sub>K</sub>)</b>			
000	Cable length in cm		

## Please note!

The type code has to be used for a product definition. The GEL 2161 is always a customer specific version and a Y-number will be created. The customer specific version will be designed based on a technical drawing or application not provided by the customer. The minimum value for a customer version is 200 pcs.

Subject to technical modifications and typographical errors.  
The latest version can be downloaded at [www.lenord.de](http://www.lenord.de).

**IRIS**  
Certification

ISO  
9001

ISO  
14001