

**FRODE PEDERSEN**

**Application**

- For measurement and surveillance of bearing temperature in stern tubes on ships in order to avoid damages and break down of costly equipment.
- The operating range is up to 800°C
- Fields of application
  - Marine industry

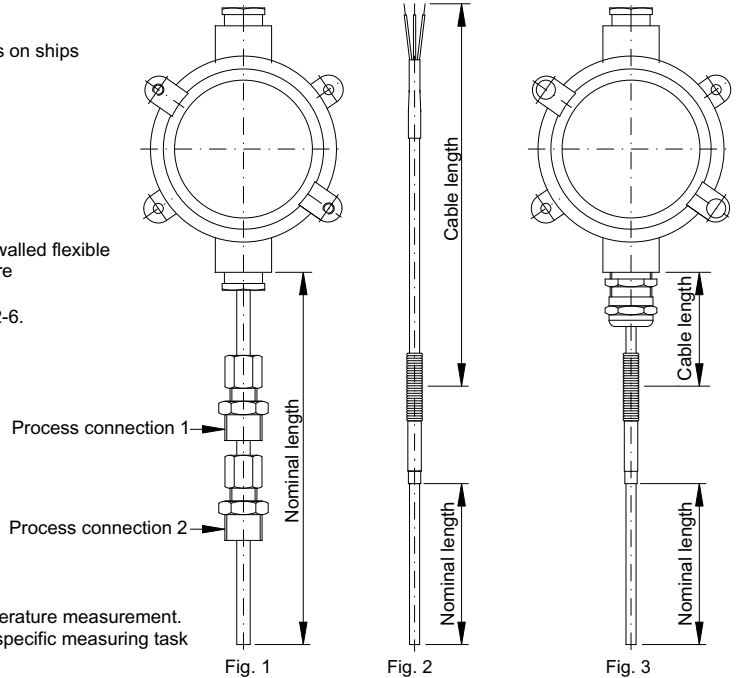
**Technical features**

- Pt100 resistance thermometer acc. to IEC 751
- 3-wire connection is standard
- SM is a mineral insulated resistance thermometer protected with a thin-walled flexible metal tube. The resistance element is welded to the inner wires which are firmly embedded in ceramic powder (MgO - purity >96%)
- Solid construction with high resistance against vibration acc. to IEC 68-2-6.
- Type approved by classification societies (see page 2).
- Connected to the process by one or two adjustable compression fittings
- Electrical wiring in a junction box or with cable

**Ordering**

The requested sensor is selected from the table below  
The colour code means:

- Standard: Built of standard modules (short delivery time)
- Variant: Modified standard modules
- Special: Special versions and material. We are specialist in temperature measurement. Please contact us and we will do our best to solve your specific measuring task



**Ordering information**

**Sensor**

Specification number	1808-													
<b>Type</b>													<b>Cable length (meter)</b>	
Fig. 1 With junction box	0												0 0	None (for fig. 1)
Fig. 2 With cable and flying leads	1												0 1	1 meter
Fig. 3 With cable and junction box	2												x x	Special (Min. 1m)
Special:	s													
<b>Sheath diameter and material</b>													<b>Cable type</b>	
3mm OD. Material: W.no. 1.4571	0												0	None (for fig. 1)
4.5mm OD. Material: W.no. 1.4571	1												1	0.382mm . Teflon (FEP) insulated, inner braided screen
6mm OD. Material: W.no. 1.4571 <sup>1)</sup>	2												s	Special:
Special:	s													
Note 1: For 2xPt100, 3-wire W.no. 1.4541													0	3-wire
<b>Process connection 1 (see page 2)</b>													1	4-wire
Material: Stainless steel AiSi 316													2	2-wire
None	0													
3/8" BSP compression fittings with teflon olive (ferrule)	1												0	Tolerance acc. to IEC 751
1/2" BSP compression fittings with teflon olive (ferrule)	2												1	Class B, i.e. $\pm (0.3^{\circ}\text{C} + 0.005 \times t_{\text{actual}})^{\circ}\text{C}$
Special:	s												s	Class A, i.e. $\pm (0.15^{\circ}\text{C} + 0.002 \times t_{\text{actual}})^{\circ}\text{C}$
<b>Process connection 2 (see page 2)</b>														Special
Material: Stainless steel AiSi 316														
None	0												0	Resistance value (ohm) acc. to IEC 751
3/8" BSP compression fittings with teflon olive (ferrule)	1												1	1xPt100
1/2" BSP compression fittings with teflon olive (ferrule)	2												s	2xPt100 (only as 2-wire for sheath diam.3 and 4.5mm)
Special:	s													Special:
<b>Nominal length (mm)</b>														<b>Measuring range</b>
2000	0	2	0	0	0	0	0	0	0				0	-50 +400°C
3000	0	3	0	0	0	0	0	0	s				s	Special:
5000	0	5	0	0	0	0	0	0	0					
10000	1	0	0	0	0	0	0	0	0					
Interim lengths (Min.100, max. 30.000)	x	x	x	x	x	x	x	x	x					

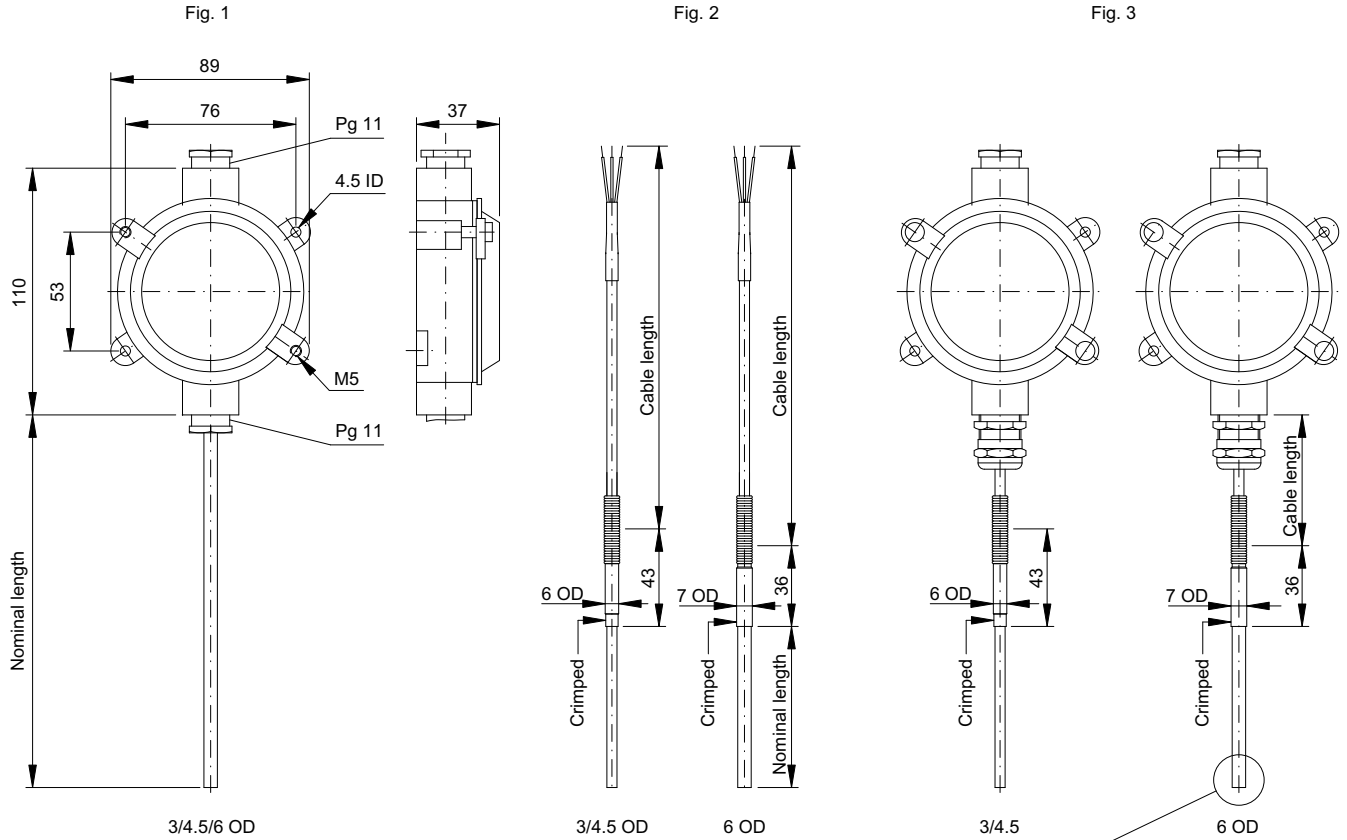
**Accessories**

Process connection: See data sheet 9113

**Customer information**

Name:  
Tel.:

Dimensions

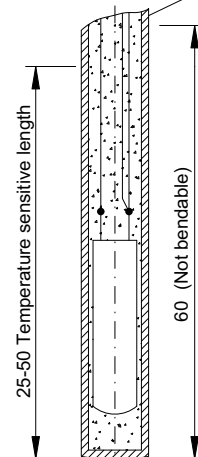
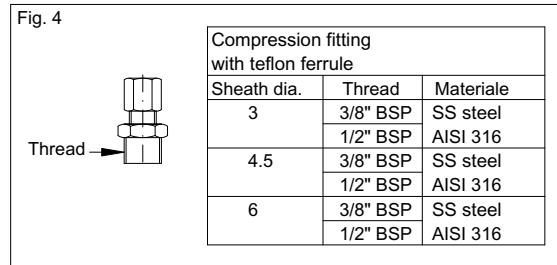


Insulation resistance

Depending of temperature, length and diameter

Diameter mm	U Volt	Rmin M ohm x m	Bending radius Min. bending is 5 x D @ repeatable bendings 2 x D @ stationary bending
3 - 6	250	1000	

Process connection



Response time

Sheath diameter	Response time in seconds (guidelines)			
	In water @ 0.4m/sec.		In air @ 2m/sec.	
	t <sub>0.5</sub>	t <sub>0.9</sub>	t <sub>0.5</sub>	t <sub>0.9</sub>
3	2	7	36	94
4.5	4	12	42	126
6	7	20	48	151

Note:

The 0.5/0.9 time is the time that it takes the sensor to reach 50%/90% of the final value of a temperature change of a medium.

If media and velocity are different from the ones stated, the time can change significantly.

Type Approvals

- Lloyd's Register of Shipping
- Det Norske Veritas

Connection diagram

