

# Temperature sensor W20

Head type B with protection tube // 0...600 °C



W20



## Highlights

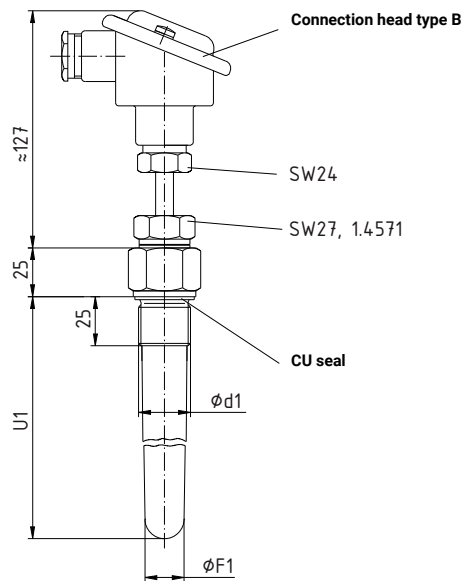
- For exhaust gas temperature measurement in diesel and gas engines → Up to 600 °C Media temperature
- Very high vibration resistance → Reliable and long-lasting operation
- Customer-specific variant possible → Simple integration into plants / systems
- Available as single and double resistance thermometer or thermocouple
- Optionally integrable transmitter → Simple integration into process control systems

Technical data	
<b>Type</b>	Temperature sensor with protection tube type 2
<b>Measuring range</b>	0...600 °C
<b>Measuring medium</b>	Exhaust gases marine diesel engines
<b>Protection tube length</b>	100...300 mm
<b>Protection tube diameter</b>	14, 17 or 20 mm conical
<b>Process connection</b>	G½, G¾, M27 x 2, M33 x 2
<b>Nominal pressure</b>	PN 25
<b>Medium temperature</b>	0...600 °C
<b>Ambient temperature</b>	-50...85 °C
<b>Storage temperature</b>	-25...70 °C
<b>Degree of protection according to EN 60529</b>	IP54
<b>Approvals</b>	DNV

Electrical data	
<b>Measuring element</b>	1 x Pt100 / 3-wire / Class B 1 x Pt1000 / 2-wire / Class B 1 x NiCr-Ni (Type K) 2 x NiCr-Ni (Type K)
<b>Measuring insert</b>	Interchangeable
<b>Accuracy</b>	Class B / $\pm(0.30 K + 0.005 \times T)$ Class 1 / $\pm 1.5 \text{ °C}$ or $0.004 \times T$
<b>Electrical connection</b>	Head type B with ceramic socket Head type B with transmitter
<b>Analogue output</b>	
<b>Current signal</b>	4...20 mA
<b>Supply voltage</b>	8...35 VDC
<b>Scaling</b>	Programmable
<b>Signal error</b>	NAMUR NE43
<b>Max. burden</b>	$\leq (V_{\text{supply}} - 8) / 0.023 [\Omega]$
<b>Power consumption</b>	25 mW...0.8 W

# Technical drawing

W20



All dimensions in mm

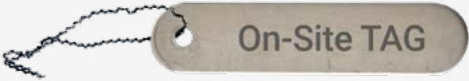
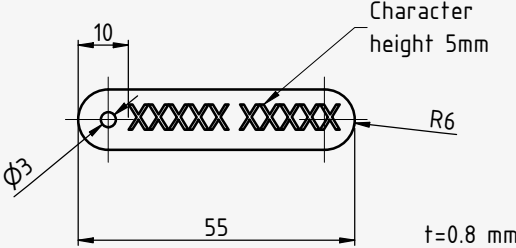
## Materials

Materials	
<b>Not in contact with media</b>	
Connection head	Die-cast aluminium, silver painted
<b>In contact with media</b>	
Process connection	Stainless steel 1.4571 or steel 1.7335
Protection tube	Stainless steel 1.4571 or steel 1.7335

# Article numbers

Order code								
<b>Type</b>								
Resistance thermometer	W							
Thermocouple	T							
<b>Diameter F1</b>								
14 / 17 mm (up to nominal length U1: 150 mm)	14							
17 / 23 mm (up to nominal length U1: 150 mm)	17							
20 / 23 mm (from nominal length U1: 200 mm)	20							
<b>Material</b>								
Stainless steel 1.4571 (max. 450 °C)	3							
Steel 1.7335, heat resistant (max. 600 °C)	5							
<b>Sensor element</b>								
1 x Pt100 3-wire / Class B				P31				
1 x Pt1000 2-wire / Class B				P12				
1 x NiCr-Ni (Type K)				1TK				
2 x NiCr-Ni (Type K)				2TK				
<b>Nominal length U1</b>								
100 mm					100			
120 mm					120			
150 mm					150			
200 mm					200			
250 mm					250			
300 mm					300			
<b>Measuring insert</b>								
Interchangeable						2		
<b>Electrical connection</b>								
Head type B with ceramic socket							B0	
Head type B with transmitter (only with sensor element 1 x Pt100 3-wire)							BT	
<b>Process connection d1</b>								
G½ (for Ø 14 / 17 mm)							2T6	
G¾							3T6	
M27 x 2							HT6	
M33 x 2							FT6	
<b>Example order number</b>	<b>W</b>	<b>17</b>	<b>3</b>	<b>P31</b>	<b>100</b>	<b>2</b>	<b>B0</b>	<b>3T6</b>

# Accessories

Accessories	Order number
<p><b>Measuring point designation</b> Laser-inscribed stainless steel plate with fixing wire for easy attachment to measuring points</p> <ul style="list-style-type: none"><li>→ <b>Scope of delivery:</b> Designation plate inscribed according to specification and enclosed fixing wire (sealing wire)</li><li>→ <b>Fastening:</b> Wire (included in delivery), alternatively sealing, cable ties or similar (not included in delivery)</li><li>→ <b>Materials:</b> Plate stainless steel 1.4571, wire stainless steel</li><li>→ <b>Dimensions:</b> Plate 55 x 10 x 0.8 mm, wire length 180 mm</li><li>→ <b>Inscription:</b> one-sided, single-line, max. 11 characters, character height 5 mm, designation width max. 40 mm, letters, numbers, symbols, barcodes, QR codes</li><li>→ <b>Transmission of designations:</b> digital list, file formats Excel, Word or CSV</li></ul>  	<p><b>ONSITETAG</b></p>