

# Temperature Measurement

## Temperature sensors

### SITRANS TS200 compact version

#### Selection and ordering data

SITRANS TS200	Article No.				
Temperature sensors in compact version, for universal use, mineral-insulated version, for unfavorable space conditions	7MC7212-	●	●	●	●
Click the article number for online configuration in the PIA Life Cycle Portal.					
<b>Sensor diameter</b>					
6 mm (0.24 inches)		6			
<b>Length of the basic sensor B</b>					
Effective length U = B-10, see "Dimensional drawings"					
200 mm (7.87 inches)			C		
500 mm (19.68 inches)			D		
750 mm (29.53 inches)			E		
<b>Customer-specific length of the basic sensor B</b>					
Effective length U = B-10, see "Dimensional drawings"					
Specify customer-specific length with Y44, see order codes					
70 ... 100 mm (2.76 ... 3.94 inches) Initial: 100 mm (3.94 inches)			B		
101 ... 250 mm (3.98 ... 9.84 inches) Initial: 200 mm (7.87 inches)			C		
251 ... 500 mm (9.88 ... 19.68 inches) Initial: 500 mm (19.68 inches)			D		
501 ... 750 mm (19.72 ... 29.53 inches) Initial: 750 mm (29.53 inches)			E		
751 ... 1 000 mm (19.72 ... 39.37 inches) Initial: 1 000 mm (39.37 inches)			F		
1 001 ... 1 500 mm (39.4 ... 59.00 inches) Initial: 1 500 mm (59.00 inches)			G		
Special length: < 70 mm (2.76 inches) or > 1 500 mm (59.00 inches)			X		
<b>Sensor<sup>1)</sup></b>					
Note: The accuracy class range can be lower than the measuring range. For more detailed information, see "Configuration"/"Measuring technology: Measuring accuracy"					
Pt100, Basic, -50 ... +400 °C (-58 ... +752 °F)				A	
Pt100, vibration-resistant, -50 ... +400 °C (-58 ... +752 °F)				B	
Pt100, extended range, -196 ... +600 °C (-320.8 ... +1 112 °F)				C	
Type K thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)				K	
Type J thermocouple, -40 ... +750 °C -0 ... +750 °C (-18 ... +1 382 °F)				J	
<b>Number/precision of sensors</b>					
Pt100 connection: 1 × 4-wire connection or 2 × 3-wire connection, see "Configuration"/"Measuring technology: Connection types"					
Single, basic accuracy (Class 2/Class B)					1
Single, increased accuracy (Class 1/Class A)					2
Single, maximum accuracy (Class AA)					3
Double, basic accuracy (Class 2/Class B)					4
Double, increased accuracy (Class 1/Class A)					5
Double, maximum accuracy (Class AA)					6
<b>Type of connection end</b>					
Solid wire ends (basic sensor)					0
Flying leads					1
Coupling LEMO 1S					2
M12 device plug, not for double Pt100					3
Thermocouple coupling, made of thermal material (2 × TC on request)					4
Mini connection head aluminum, not for double Pt100					5

<sup>1)</sup> Pt1000 versions are also available.

To find these, switch to Online Configuration in the PIA Life Cycle Portal: [www.siemens.com/pia-portal](http://www.siemens.com/pia-portal)

Options	Order code
Add "-Z" to article number and specify options; separate multiple expansions with "+"	
<b>Process connection</b>	
Soldering nipple enclosed	
• G $\frac{1}{4}$ "	A20

## Selection and ordering data (continued)

Options	Order code
• G½"	A21
• NPT½"	A22
• M18x1.5	A23
Compression fitting enclosed	
• G¼"	A30
• G½"	A31
• NPT½"	A32
Surface connection piece	
• Aluminum, enclosed (non-Ex)	A50
<b>Certificates and approvals</b>	
Inspection certificate EN 10204-3.1: Wetted material	C12
Inspection certificate EN 10204-3.1: Visual, dimensional and function check	C34
Inspection certificate EN 10204-2.1: Declaration of compliance with the order	C35
ISO 9001 grease-free (cleaned for oxygen applications, for example)	C51
<b>Marine approvals</b>	
Det Norske Veritas Germanischer Lloyd (DNV GL)	D01
<b>Type of protection (Ex)</b>	
Without explosion protection requirements (Europe, Australia, New Zealand)	E00
Intrinsic safety "i"/"IS" <sup>1)</sup> according to ATEX and IECEx (Europe, Australia, New Zealand)	E01
Without explosion protection requirements (USA, Canada), Basis CSA	E17
Intrinsic safety "i"/"IS" <sup>1)</sup> according to cCSAus (USA, Canada)	E18
Without explosion protection requirements (China)	E54
Intrinsic safety "i"/"IS" <sup>1)</sup> according to NEPSI (China)	E55
NEW: Intrinsic safety ia,"ic" according to KCC/KCS (Korea)	E70
Without explosion protection requirements (EAC)	E80
Intrinsic safety "i"/"IS" <sup>1)</sup> according to EACEx (EAC)	E81
<b>Device settings</b>	
Tag plate made of stainless steel, specify label in plain text	Y15
Perform factory calibration at one point, specify desired temperature in plain text. <u>Notice:</u> For devices with built-in head transmitter, select test points within the set measuring range.	Y33
Special length of the basic sensor B Effective length U = B-10, see "Dimensional drawings" Select range, plain text specification of desired length (no specification = standard length)	Y44
<b>Customer-specific plain text</b>	
Handling number of the special design	Y99

<sup>1)</sup> Please select Ex i version of the optional transmitter.

For ordering examples, see "Temperature sensors"/"Ordering examples".

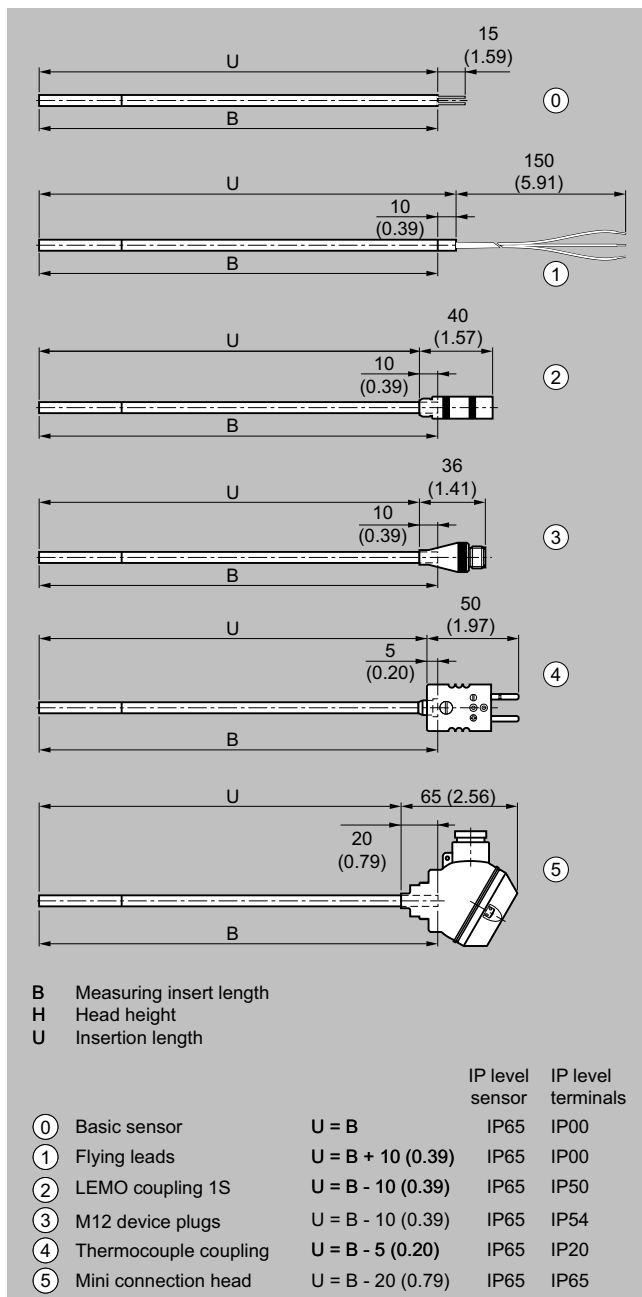
For accessories, see "Accessories"/"Additional accessories for assembly, connection and transmitter configuration".

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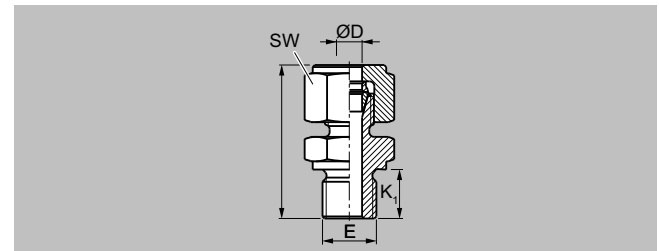
#### Dimensional drawings



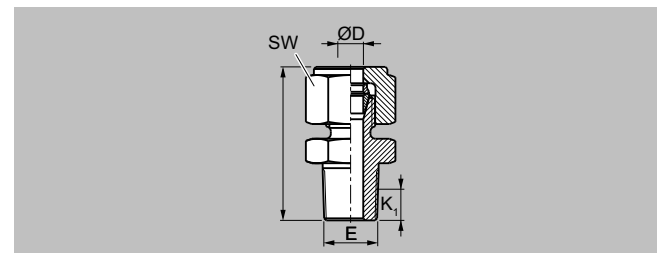
SITRANS TS200, temperature sensors in cable design, for universal use, mineral-insulated version, for unfavorable space conditions, dimensions in mm (inch)

#### Dimensional drawings (continued)

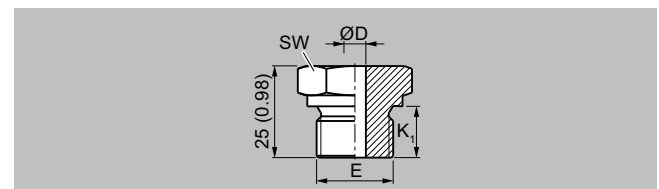
##### Process connection



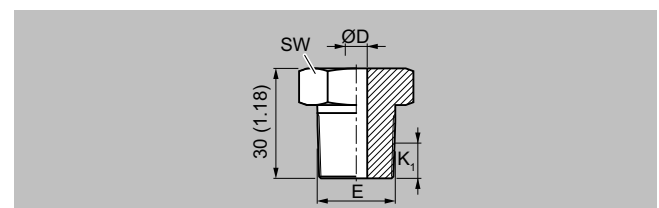
Compression fitting, metric (A30, A31), dimensions in mm (inch)



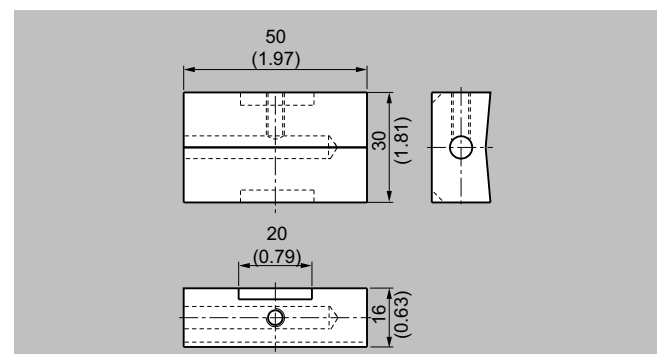
Compression fitting NPT (A32), dimensions in mm (inch)



Soldering nipple, metric (A20, A21, A23), dimensions in mm (inch)



Soldering nipple NPT (A22), dimensions in mm (inch)



Surface connection piece (A50), dimensions in mm (inch)