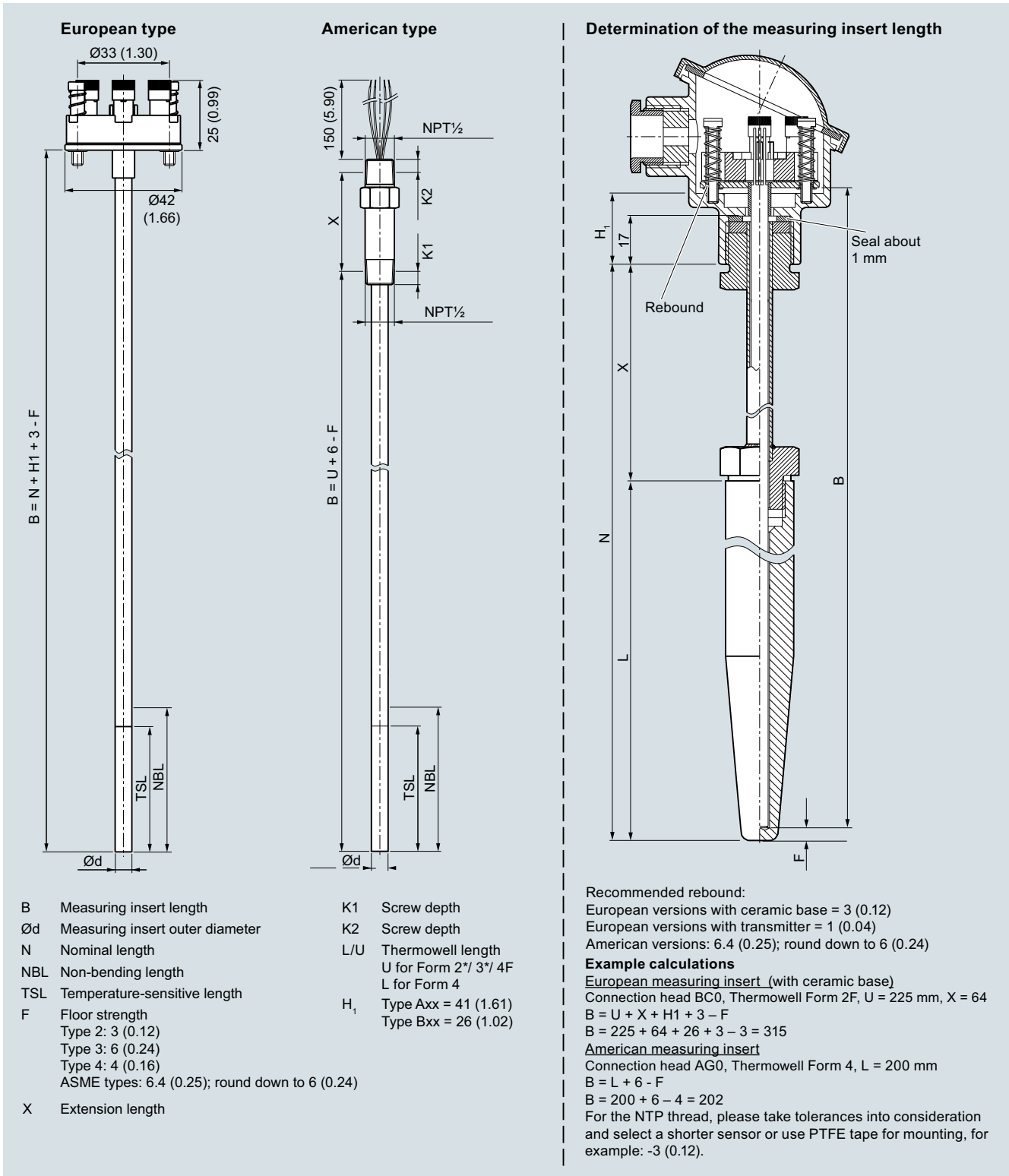


#### Dimensional drawings



SITRANS TSinsert measuring inserts for temperature sensors, replaceable, mineral-insulated design  
European type (DIN ceramic base), spring load approx. 6 mm (0.24 inch)/3 mm (0.12 inch) with transmitter  
American type, spring load approx. 21 mm (0.83 inch); determination of measuring insert length, dimensions in mm (inch);  
Cold End types: see drawings on page 2/103

## Temperature Measurement

### SITRANS TSinsert

#### Measuring inserts for retrofits and upgrades European and American type

Selection and Ordering data	Article No.
<b>SITRANS TSinsert for temperature sensors, replaceable, mineral-insulated design, European or American type</b>	<b>7MC701</b>
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
<b>Measurement tip diameter</b>	
6 mm (0.24 inch)	6
8 mm (0.31 inch) (with sleeve)	8
10 mm (0.39 inch) (with sleeve)	0
<b>Type</b>	
European type - DIN ceramic base	1
European type - DIN flying leads, absolutely necessary with built-on transmitter	2
American type - ANSI (nipple spring)	5
<b>Sensor<sup>1)</sup></b>	
Please note: The accuracy class range can be lower than the measuring range. For more information, see page 2/18	
Pt100, basis, -50 ... +400 °C (-58 ... +752 °F)	A
Pt100, vibration-resistant, -50 ... +400 °C (-58 ... +752 °F)	B
Pt100, expanded range, U <sub>min</sub> = 100 mm -196 ... +600 °C (-321 ... +1 112 °F)	C
Thermocouple Type J, -40 ... +750 °C (-40 ... +1 382 °F)	J
Thermocouple Type K, -40 ... +1 000 °C (-40 ... +1 832 °F)	K
Thermocouple Type N, -40 ... +1 000 °C (-40 ... +1 832 °F)	N
<b>Sensor number/Accuracy</b>	
Circuit Pt 100: 1 x 4-wire circuit or 2 x 3-wire circuit, see "Measuring technique: Connection types", page 2/20	
Single, basic accuracy (Class 2/Class B)	A
Single, increased accuracy (Class 1/Class A)	B
Single, highest accuracy (Class AA)	C
Double, basic accuracy (Class 2/Class B)	D
Double, increased accuracy (Class 1/Class A)	E
Double, highest accuracy (Class AA)	F
<b>Measuring insert length B, standard</b>	
145 mm (6.89 inch)	1 3
205 mm (8.07 inch)	1 7
275 mm (10.83 inch)	2 1
315 mm (12.40 inch)	2 3
345 mm (13.58 inch)	2 4
375 mm (14.76 inch)	2 5
405 mm (15.94 inch)	2 7
435 mm (17.13 inch)	2 0
555 mm (21.85 inch)	3 5
585 mm (23.03 inch)	3 6

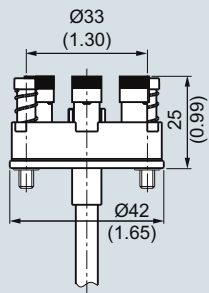
Selection and Ordering data	Article No.
<b>SITRANS TSinsert for temperature sensors, replaceable, mineral-insulated design, European or American type</b>	<b>7MC701</b>
<b>Measuring insert length B, customer-specific</b>	
specify length with Y44, s. page 2/93	
85 ... 100 mm (3.37 ... 3.94 inch)	1 1
Initial: 100 mm (3.94 inch)	
101 ... 150 mm (3.98 ... 5.91 inch)	1 3
Initial: 145 mm (5.71 inch)	
151 ... 200 mm (5.95 ... 7.87 inch)	1 5
Initial: 200 mm (7.87 inch)	
201 ... 250 mm (7.91 ... 9.84 inch)	1 7
Initial: 205 mm (8.07 inch)	
251 ... 300 mm (9.88 ... 11.81 inch)	2 1
Initial: 275 mm (10.83 inch)	
301 ... 350 mm (11.85 ... 13.78 inch)	2 3
Initial: 315 mm (12.40 inch)	
351 ... 400 mm (13.82 ... 15.75 inch)	2 5
Initial: 375 mm (14.76 inch)	
401 ... 450 mm (15.79 ... 17.72 inch)	2 7
Initial: 405 mm (15.94 inch)	
451 ... 500 mm (17.76 ... 19.68 inch)	3 1
Initial: 500 mm (19.68 inch)	
501 ... 550 mm (19.72 ... 21.65 inch)	3 3
Initial: 525 mm (20.67 inch)	
551 ... 600 mm (21.69 ... 23.92 inch)	3 5
Initial: 555 mm (21.85 inch)	
601 ... 700 mm (23.66 ... 27.56 inch)	3 7
Initial: 655 mm (25.79 inch)	
701 ... 800 mm (27.60 ... 31.50 inch)	4 1
Initial: 735 mm (28.94 inch)	
801 ... 900 mm (31.54 ... 35.43 inch)	4 3
Initial: 825 mm (32.48 inch)	
901 ... 1 000 mm (35.47 ... 39.37 inch)	4 5
Initial: 950 mm (37.40 inch)	
1 001 ... 1 500 mm (39.41 ... 59.05 inch)	4 7
Initial: 1 250 mm (49.21 inch)	
1 501 ... 2 000 mm (59.09 ... 78.74 inch)	4 8
Initial: 1 700 mm (66.93 inch)	

<sup>1)</sup> Pt1000 versions are also available. To find these, please switch to Online Configuration in the PIA Life Cycle Portal: [www.siemens.com/pia-portal](http://www.siemens.com/pia-portal)

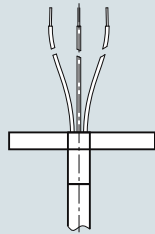
**Additional configurations on page after next page!**

**You find ordering examples on page 2/41!**

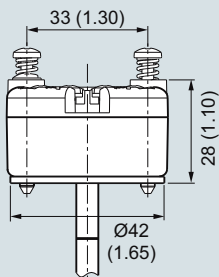
### Measuring inserts for retrofits and upgrades European and American type



Cold end type, ceramic base, dimensions in mm (inch)



Cold end type, free wire ends, dimensions in mm (inch)



European type:  
cold end type, built-on transmitter, dimensions in mm (inch)

## Temperature Measurement

### SITRANS TSinsert

#### Measuring inserts for retrofits and upgrades European and American type

Selection and Ordering data	Order code	Selection and Ordering data	Order code
<b>Further designs</b>		<b>Marine approvals</b>	
Add <b>"-Z"</b> to Article No. and specify Order code.		Det Norske Veritas Germanischer Lloyd (DNV GL)	<b>D01</b>
<b>Measuring insert length B</b>	<b>Y44</b>	Bureau Veritas (BV)	<b>D02</b>
Select range, enter desired length in plain text (No entry = standard length)		Lloyd's Register of Shipping (LR)	<b>D04</b>
<b>Options</b>		American Bureau of Shipping (ABS)	<b>D05</b>
Add <b>"-Z"</b> to Article No. and add options, separate extensions with "+".		<b>Designation, calibration</b>	
<b>Built-in head transmitter</b>		Stainless steel TAG plate , enter lettering in plain text	<b>Y15</b>
Measuring range to be set must be specified with plain text data "Y01".		Plant calibration per 1 point, enter temperature in plain text	<b>Y33</b>
SITRANS TH100, 4 ... 20 mA, Pt100	<b>T10</b>	<b>Transmitter options</b>	
SITRANS TH100 Ex i (ATEX), 4 ... 20 mA, Pt100	<b>T11</b>	Transmitter, enter complete setting in plain text (Y01:+/-NNNN ... +/-NNNN C,F)	<b>Y01</b>
SITRANS TH200, 4 ... 20 mA, Universal	<b>T20</b>	Enter measuring point (max. 8 characters) in plain text	<b>Y17</b>
SITRANS TH200 Ex i(ATEX), 4 ... 20 mA, Universal	<b>T21</b>	Transmitter, enter measuring point description (max. 16 characters) in plain text	<b>Y23</b>
SITRANS TH300, HART, Universal	<b>T30</b>	Transmitter, enter measuring point text (max. 32 characters) in plain text	<b>Y24</b>
SITRANS TH300 Ex i (ATEX), HART, Universal	<b>T31</b>	Transmitter, enter bus address in plain text	<b>Y25</b>
SITRANS TH400 PA, Universal	<b>T40</b>	Transmitter, fail-safe value 3.6 mA (instead of 22.8 mA)	<b>U36</b>
SITRANS TH400 PA Ex i, Universal	<b>T41</b>	Transmitter with a SIL 2 conformity	<b>C20</b>
SITRANS TH400 FF, Universal	<b>T45</b>	Transmitter with a SIL 2/3 conformity	<b>C23</b>
SITRANS TH400 FF Ex i, Universal	<b>T46</b>	Transmitter test protocol (5 points)	<b>C11</b>
<b>Explosion protection</b>		1) Please select Ex i version of the optional transmitter.	
Without explosion protection requirements (Europe, Australia, New Zealand)	<b>E00</b>	2) Only with connection heads code AG0, AH0, AU0, AV0, without cable gland (please select non-Ex version of the optional transmitter).	
Intrinsic safety "i"/"IS <sup>1)</sup> " according to ATEX and IECEx (Europe, Australia, New Zealand)	<b>E01</b>		
For SITRANS TS500 in flameproof enclosure "d"/"XP" type of protection; dust protection through housing "t"/"DIP <sup>2)</sup> " according to ATEX and IECEx (Europe, Australia, New Zealand)	<b>E03</b>		
For SITRANS TS500 in non-sparking "nA"/"NI" according to ATEX and IECEx type of protection (Europe, Australia, New Zealand)	<b>E04</b>		
Without explosion protection requirements (USA, Canada) Basis FM	<b>E10</b>		
Flameproof enclosure "d"/"XP"; dust protection through housing "t"/"DIP <sup>2)</sup> " according to cFMus (USA); NPT connections at the enclosure are mandatory	<b>E13</b>		
Flameproof enclosure "d"/"XP"; dust protection through housing "t"/"DIP <sup>2)</sup> " according to cFMus (USA, Canada); other connections (M,G,R)	<b>E14</b>		
Non-sparking "nA"/"NI" according to cFMus (USA, Canada)	<b>E16</b>		
Without explosion protection requirements (USA, Canada), Basis CSA	<b>E17</b>		
Intrinsic safety "i"/"IS <sup>1)</sup> " according to cCSAus (USA, Canada)	<b>E18</b>		
For SITRANS TS500 in flameproof enclosure "d"/"XP" type of protection; dust protection through housing "t"/"DIP <sup>2)</sup> " according to cCSAus (USA, Canada); NPT connections <b>at the enclosure</b> are mandatory	<b>E20</b>		
For SITRANS TS500 in flameproof enclosure "d"/"XP" type of protection; dust protection through housing "t"/"DIP <sup>2)</sup> " according to cCSAus (USA); other connections (M, G, R)	<b>E21</b>		
For SITRANS TS500 in non-sparking "nA"/"NI" type of protection according to cCSAus (USA, Canada)	<b>E23</b>		
Without explosion protection requirements (China)	<b>E54</b>		
Intrinsic safety "i"/"IS <sup>1)</sup> " according to NEPSI (China)	<b>E55</b>		
For SITRANS TS500 in flameproof enclosure "d" type of protection; dust protection through housing "t <sup>2)</sup> " according to NEPSI (China)	<b>E56</b>		
For SITRANS TS500 in non-sparking "nA"/"NI" type of protection according to NEPSI (China)	<b>E57</b>		
Without explosion protection requirements (EAC)	<b>E80</b>		
Intrinsic safety "i"/"IS <sup>1)</sup> " according to EACEx (EAC)	<b>E81</b>		
For SITRANS TS500 in flameproof enclosure "d"/"XP" type of protection; dust protection through housing "t"/"DIP <sup>2)</sup> " according to EACEx (EAC)	<b>E82</b>		
For SITRANS TS500 in non-sparking "nA"/"NI" type of protection according to EACEx (EAC)	<b>E83</b>		

**You find ordering examples on page 2/41.**  
**Accessories, see page 2/238.**