

SITRANS TSinsert / Measuring inserts for retrofitting and upgrading, European and American type

Selection and ordering data

SITRANS TSinsert		Article No.	
Measuring inserts for temperature sensors, exchangeable, mineral-insulated version, as European or American type		7MC701 ● - ● ● ● ● ●	
Click the article number for online configuration in the PIA Life Cycle Portal.			
Diameter measuring tip "d"			
6 mm (0.24 inches)		6	
8 mm (0.31 inches); with thermowell		8	
10 mm (0.39 inches); with thermowell		0	
Type			
European type - DIN ceramic base		1	
European type - DIN flying leads, mandatory with mounted transmitter		2	
American type - ANSI (nipple spring)		5	
Sensor²⁾			
Note: The accuracy class range can be lower than the measuring range. For more detailed information, see "Configuration"/"Measuring technology: Measuring accuracy"			
Pt100, basic version, -50 ... +400 °C (-58 ... +752 °F)			A
Pt100, vibration-resistant, -50 ... +400 °C (-58 ... +752 °F)			B
Pt100, extended measuring range, -196 ... +600 °C (-320.8 ... +1 112 °F)			C
Type J thermocouple, -0 ... +750 °C (-18 ... +1 382 °F)			J
Type K thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)			K
Type N thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)			N
Number/precision of sensors			
Pt100 connection: 1 x 4-wire connection or 2 x 3-wire connection, see "Configuration"/"Measuring technology: Connection types"			
Single, basic accuracy (Class 2/Class B)			A
Single, increased accuracy (Class 1/Class A)			B
Single, maximum accuracy (Class AA)			C
Double, basic accuracy (Class 2/Class B)			D
Double, increased accuracy (Class 1/Class A)			E
Double, maximum accuracy (Class AA)			F
Length of measuring insert "B", standard			
145 mm (6.89 inches)			1 3
205 mm (8.07 inches)			1 7
275 mm (10.83 inches)			2 1
315 mm (12.40 inches)			2 3
345 mm (13.58 inches)			2 4
375 mm (14.76 inches)			2 5
405 mm (15.94 inches)			2 7
435 mm (17.13 inches)			2 0
555 mm (21.85 inches)			3 5
585 mm (23.03 inches)			3 6
Length of measuring insert "B", customer-specific			
Specify customer-specific length with Y44, see page 2/103 order codes			
85 ... 100 mm (3.37 ... 3.94 inches)			1 1
Initial: 100 mm (3.94 inches)			
101 ... 150 mm (3.98 ... 5.91 inches)			1 3
Initial: 145 mm (5.71 inches)			
151 ... 200 mm (5.95 ... 7.87 inches)			1 5
Initial: 200 mm (7.87 inches)			
201 ... 250 mm (7.91 ... 9.84 inches)			1 7
Initial: 205 mm (8.07 inches)			
251 ... 300 mm (9.88 ... 11.81 inches)			2 1
Initial: 275 mm (10.83 inches)			
301 ... 350 mm (11.85 ... 13.78 inches)			2 3
Initial: 315 mm (12.40 inches)			
351 ... 400 mm (13.82 ... 15.75 inches)			2 5
Initial: 375 mm (14.76 inches)			
401 ... 450 mm (15.79 ... 17.72 inches)			2 7
Initial: 405 mm (15.94 inches)			
451 ... 500 mm (17.76 ... 19.69 inches)			3 1
Initial: 500 mm (19.69 inches)			
501 ... 550 mm (19.72 ... 21.65 inches)			3 3
Initial: 525 mm (20.67 inches)			
551 ... 600 mm (21.69 ... 23.92 inches)			3 5
Initial: 555 mm (21.85 inches)			

Temperature Measurement

Temperature sensors

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Selection and ordering data (continued)

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601 ... 700 mm (23.66 ... 27.56 inches) Initial: 655 mm (25.79 inches)		3 7
701 ... 800 mm (27.60 ... 31.50 inches) Initial: 735 mm (28.94 inches)		4 1
801 ... 900 mm (31.54 ... 35.43 inches) Initial: 825 mm (32.48 inches)		4 3
901 ... 1 000 mm (35.47 ... 39.37 inches) Initial: 950 mm (37.40 inches)		4 5
1 001 ... 1 500 mm (39.41 ... 59.05 inches) Initial: 1 250 mm (49.21 inches)		4 7
1 501 ... 2 000 mm (59.09 ... 78.74 inches) Initial: 1 700 mm (66.93 inches)		4 8

1) Pt1000 versions are also available.

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

Options	Order code
Add "-Z" to article number and specify order code	
Certificates for functional safety	
SITRANS TH320/420 transmitter with SIL2/3 certificate	C20
Marine approvals	
Det Norske Veritas Germanischer Lloyd (DNV GL)	D01
Type of protection (Ex)	
Without explosion protection requirements (Europe, Australia, New Zealand)	E00
Intrinsic safety "i"/"IS" ¹⁾ according to ATEX and IECEx (Europe, Australia, New Zealand)	E01
For flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ according to ATEX and IECEx (Europe, Australia, New Zealand)	E03
For non-sparking "ec" according to ATEX and IECEx (Europe, Australia, New Zealand)	E04
Without explosion protection requirements (USA, Canada) Basis FM	E10
For flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ according to cFMus (USA); NPT connections on the enclosure are mandatory	E13
For flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ according to cFMus (USA, Canada); other connections (M,G,R)	E14
For non-sparking "nA"/"NI" according to cFMus (USA, Canada)	E16
Without explosion protection requirements (USA, Canada), Basis CSA	E17
Intrinsic safety "i"/"IS" ¹⁾ according to cCSAus (USA, Canada)	E18
For flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ according to cCSAus (USA, Canada); NPT connections on the enclosure are mandatory	E20
For flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ according to CSAus (USA); other connections (M, G, R)	E21
For non-sparking "nA"/"NI" according to cCSAus (USA, Canada)	E23
Without explosion protection requirements (China)	E54
Intrinsic safety "i"/"IS" ¹⁾ according to NEPSI (China)	E55
For flameproof enclosure "d"; dust protection through enclosure "t" ²⁾ according to NEPSI (China)	E56
For non-sparking "nA"/"NI" according to NEPSI (China)	E57
Without explosion protection requirements (EAC)	E80
Intrinsic safety "i"/"IS" ¹⁾ according to EACEx (EAC)	E81
For flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ according to EACEx (EAC)	E82
For non-sparking "nA"/"NI" according to EACEx (EAC)	E83

Selection and ordering data (continued)

Options	Order code
Add "-Z" to article number and specify order code	
Special design	
SafeGuard 2 × Pt100 4-wire	G30
Built-in head transmitter	
Measuring range to be set must be specified with plain text data "Y01".	
SITRANS TH100, input 1 × Pt100, 4 ... 20 mA	T12
SITRANS TH320, input 1 × universal, 4 ... 20 mA	T24
SITRANS TH320, input 1 × universal, HART	T34
SITRANS TH420, input 2 × universal, HART	T35
Device settings (including head transmitter options)	
Tag plate made of stainless steel, specify label in plain text	Y15
Factory calibration per 1 point, specify temperature in plain text	Y33
Specify measuring range in plain text (Y01: +/-NNNN ... +/-NNNN C,F), marking on the device when option "Y15" is selected in addition	Y01
Specify measuring point description in plain text (max. 16 characters)	Y23
Specify measuring point message in plain text (max. 32 characters)	Y24
Specify bus address in plain text	Y25
Customer-specific plain text	
Handling number of the special design	Y99

¹⁾ Select Ex i version of the optional transmitter.

²⁾ Only with connection heads code AG0, AH0, AU0, AV0, without cable gland (select non-Ex version of the optional transmitter).

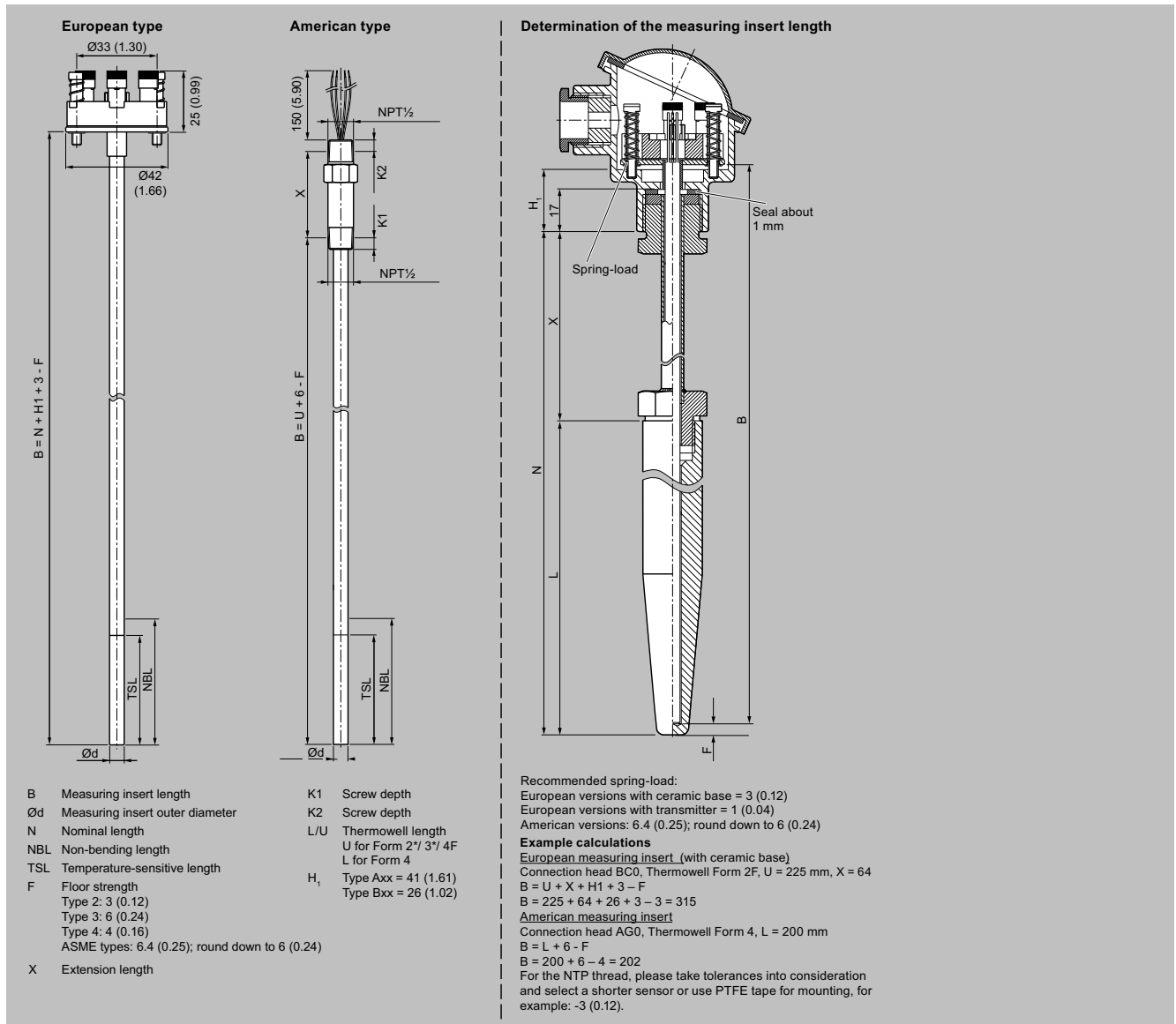
Temperature Measurement

Temperature sensors

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Dimensional drawings

Measuring inserts for temperature sensors



SITRANS TSinsert - measuring inserts for temperature sensors, replaceable, mineral-insulated version

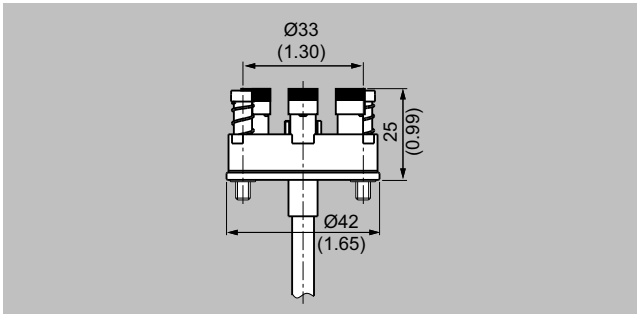
European type (DIN ceramic base): Suspension approx. 6 mm (0.24 inches)/3 mm (0.12 inches) with transmitter

American type: Suspension approx. 21 mm (0.83 inches)

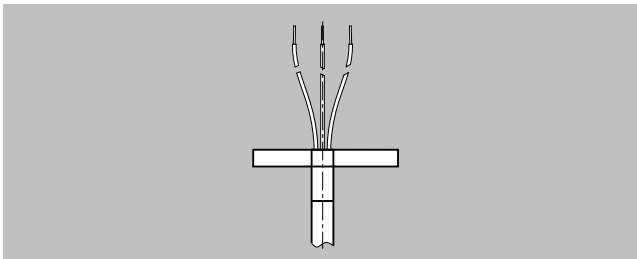
Determination of the measuring insert length, dimensions in mm

Dimensional drawings (continued)

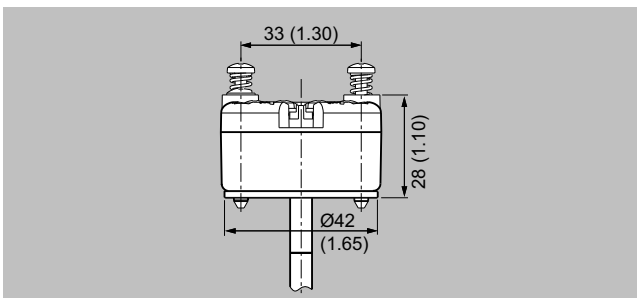
Cold end versions



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



Cold end versions, flying lead



European type: Cold end versions, installed transmitter, dimensions in mm (inch)