

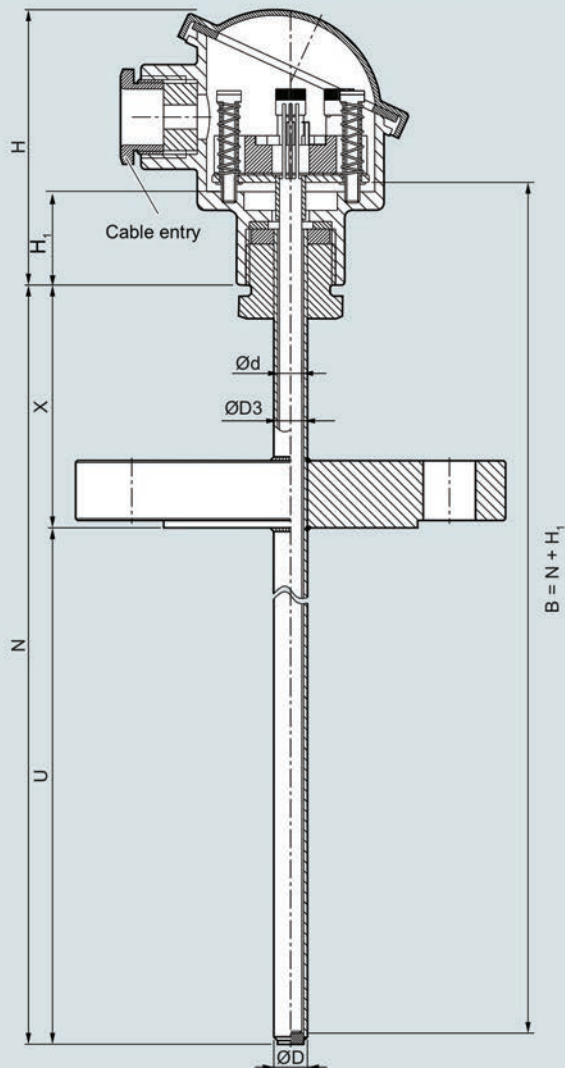
Temperature Measurement

Temperature sensors

SITRANS TS500 - Tubular thermowells

Type 2F, with flange and extension

Dimensional drawings



- B Measuring insert length
- Ød Measuring insert outer diameter (6 (0.24))
- ØD Process connection outer diameter
- ØD3 Thermowell internal diameter
- H Head height
- H₁ Type Axx = 41 (1.61)
Type Bxx = 26 (1.02)
- N Nominal length
- U Insertion length
- X Extension length, floor strength 3 mm

SITRANS TS500, temperature sensors for vessels and pipes, tubular thermowell for low to medium stress, according to DIN 43772, type 2F, with flange, with extension, dimensions in mm (inch)

Temperature Measurement

Temperature sensors

SITRANS TS500 - Tubular thermowells

Type 2F, with flange and extension

Selection and Ordering data	Article No.	Ord. Code	Selection and Ordering data	Article No.	Ord. Code
SITRANS TS500 Tubular thermowell, low to medium stress, according to DIN 43722, Type 2F, with flange, with extension Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	7MC751-		SITRANS TS500 Tubular thermowell, low to medium stress, according to DIN 43722, Type 2F, with flange, with extension	7MC751-	
Material, in contact with media 316Ti (1.4571) 316L (1.4404 or 1.4435)	1 2		341...360 mm (13.43 ... 14.17 inch) Initial: 360 mm (14.17 inch)	2 0	
Process connection Flange EN; DN 25 PN10 ... 40 B1 Flange EN; DN 40 PN 40 B1 Flange EN; DN 50 PN 40 B1 Flange ASME; 1.0" RF 150 Flange ASME; 1.0" RF 300 Flange ASME; 1.5" RF 150 Flange ASME; 1.5" RF 300 Flange ASME; 2.0" RF 150 Flange ASME; 2.0" RF 300 Flange ASME; 1.0" RF 600 Flange ASME; 1.5" RF 600 Flange ASME; 1.5" RF 900 Flange ASME; 2.0" RF 600 Flange ASME; 2.0" RF 900 Flange EN; DN 32 PN 40 B1 Flange EN; DN 40 PN 100 B1 Flange EN; DN 50 PN 16 B1 Flange EN; DN 80 PN 16 B1 Flange EN; DN 100 PN 16 B1	2 A 2 B 2 C 2 E 2 F 2 G 2 H 2 J 2 K 2 L 2 N 2 R 2 S 2 T 4 A 4 B 4 C 4 D 4 E		361...380 mm (14.21 ... 14.96 inch) Initial: 380 mm (14.96 inch)	2 1	
Thermowell form 2F, 9 mm (0.35 inch) 2F, 12 mm (0.47 inch)	A B		381...400 mm (14.99 ... 15.75 inch) Initial: 400 mm (15.75 inch)	2 2	
Insertion U standard 225 mm (8.86 inch) 315 mm (12.40 inch) 465 mm (18.31 inch)	1 1 1 5 2 6		401...420 mm (15.79 ... 16.54 inch) Initial: 420 mm (16.54 inch)	2 3	
Insertion length U customer-specific enter customer specific length with Y44, see page 2/73 Order codes 80 ... 100 mm (3.15 ... 3.94 inch) Initial: 100 mm (3.94 inch) 101 ... 120 mm (3.98 ... 4.72 inch) Initial: 120 mm (4.72 inch) 121 ... 140 mm (4.76 ... 5.51 inch) Initial: 140 mm (5.51 inch) 141 ... 160 mm (5.55 ... 6.30 inch) Initial: 160 mm (6.30 inch) 161 ... 180 mm (6.34 ... 7.09 inch) Initial: 180 mm (7.09 inch) 181 ... 200 mm (7.13 ... 7.87 inch) Initial: 200 mm (7.87 inch) 201 ... 220 mm (7.91 ... 8.66 inch) Initial: 220 mm (8.66 inch) 221 ... 240 mm (8.70 ... 9.45 inch) Initial: 225 mm (8.86 inch) 241...260 mm (9.49 ... 10.24 inch) Initial: 250 mm (9.84 inch) 261...280 mm (10.28 ... 11.02 inch) Initial: 280 mm (11.02 inch) 281...300 mm (11.06 ... 11.81 inch) Initial: 285 mm (11.22 inch) 301...320 mm (11.85 ... 13.00 inch) Initial: 315 mm (12.40 inch) 321...340 mm (12.64 ... 13.39 inch) Initial: 340 mm (13.39 inch)	0 1 0 2 0 3 0 4 0 5 0 6 0 7 1 1 1 2 1 3 1 4 1 5 1 6		421...440 mm (16.57 ... 17.32 inch) Initial: 440 mm (17.32 inch)	2 4	
			441...460 mm (17.36 ... 18.11 inch) Initial: 460 mm (18.11 inch)	2 5	
			461...480 mm (18.15 ... 18.90 inch) Initial: 465 mm (18.30 inch)	2 6	
			481...500 mm (18.94 ... 19.69 inch) Initial: 500 mm (19.69 inch)	2 7	
			501...550 mm (19.72 ... 21.65 inch) Initial: 510 mm (20.08 inch)	3 1	
			551...600 mm (21.69 ... 23.62 inch) Initial: 600 mm (23.62 inch)	3 2	
			601...650 mm (23.66 ... 25.59 inch) Initial: 650 mm (25.59 inch)	3 3	
			651...700 mm (25.63 ... 27.56 inch) Initial: 700 mm (27.56 inch)	3 4	
			701...750 mm (27.60 ... 29.53 inch) Initial: 750 mm (29.53 inch)	3 5	
			751...800 mm (29.57 ... 31.50 inch) Initial: 800 mm (31.50 inch)	3 6	
			801...850 mm (31.54 ... 33.46 inch) Initial: 850 mm (33.46 inch)	3 7	
			851...900 mm (33.50 ... 35.43 inch) Initial: 900 mm (35.43 inch)	4 1	
			901...950 mm (35.47 ... 37.40 inch) Initial: 950 mm (37.40 inch)	4 2	
			951...1 000 mm (37.44 ... 39.37 inch) Initial: 1 000 mm (39.37 inch)	4 3	
			1 001...1 100 mm (39.41 ... 43.31 inch) Initial: 1 100 mm (43.31 inch)	4 4	
			1 101...1 200 mm (43.35 ... 47.24 inch) Initial: 1 200 mm (47.24 inch)	4 5	
			1 201...1 300 mm (47.28 ... 51.18 inch) Initial: 1 300 mm (51.18 inch)	4 6	
			1 301...1 400 mm (51.22 ... 55.12 inch) Initial: 1 400 mm (55.12 inch)	4 7	
			1 401...1 500 mm (55.16 ... 59.05 inch) Initial: 1 500 mm (59.05 inch)	5 1	
			Extension X Standard length for Type 2F DIN 43772 (X=64 mm (2.52 inch))	1	
			Extension length X - customer specific enter customer specific length with Y45, see page 2/73 Order codes 75 ...150 mm (2.95 ... 5.91 inch) Initial: 150 mm (5.91 inch) 151 ... 300 mm (5.95 ... 11.81 inch) Initial: 300 mm (11.81 inch) 301 ... 450 mm (11.85 ... 17.72 inch) Initial: 450 mm (17.72 inch)	9 9 9	N 1 D N 2 D N 3 D

Additional configurations on page after next page!

You find ordering examples on page 2/40!

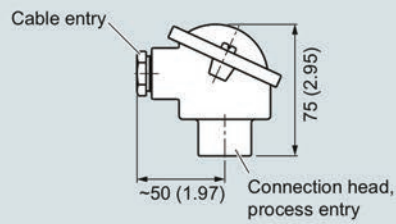
Temperature Measurement

Temperature sensors

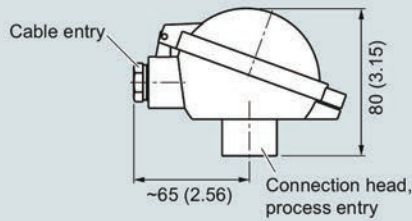
SITRANS TS500 - Tubular thermowells

Type 2F, with flange and extension

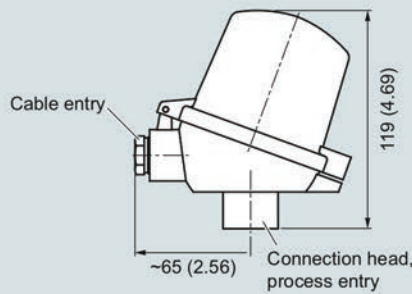
2



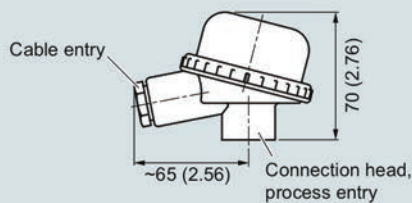
Connection head, aluminum, Type BA0, dimensions in mm (inch)



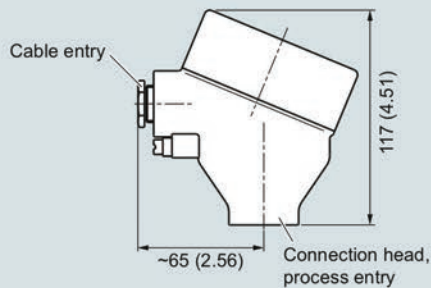
Connection head, aluminum, Type BB0, dimensions in mm (inch)



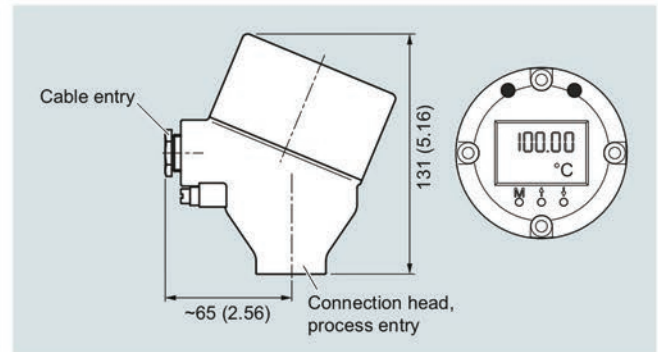
Connection head, aluminum, Type BC0, plastic, type BP0, dimensions in mm (inch)



Connection head, plastic, Type BM0, dimensions in mm (inch)



Connection head, aluminum, Type AG0, stainless steel, Type AU0, dimensions in mm (inch)



Connection head with 4-20 mA display, aluminum, Type AH0, stainless steel, Type AV0, dimensions in mm (inch)

Temperature Measurement

Temperature sensors

SITRANS TS500 - Tubular thermowells

Type 2F, with flange and extension

Selection and Ordering data

Article No.

SITRANS TS500

7MC751-

Tubular thermowell, low to medium stress, according to DIN 43722, Type 2F, with flange, with extension

Head

Aluminum head, BA0, flange cover, Standard
 Aluminum head, BB0, low hinged cover, screw connection
 Aluminum head, BC0, high hinged cover, screw connection
 Aluminum head, AG0, screw cover, suitable for Ex d¹⁾
 Aluminum head, AH0, screw cover, suitable for Ex d, display¹⁾
 Plastic head, BM0, screw cover
 Plastic head, BP0, high hinged cover, screw connection
 Stainless steel head, AU0, screw cover, suitable for Ex d¹⁾
 Stainless steel head, AV0, screw cover, suitable for Ex d, display¹⁾

Sensor²⁾

Please note: The accuracy class range can be lower than the measuring range. For more information, see page 2/21
 Pt100, Basis, -50 ... +400 °C (-58 ... +752 °F)
 Pt100, vibration resistant, -50 ... +400 °C (-58 ... +752 °F)
 Pt100, expanded range, -196 ... +600 °C (-321 ... +1 112 °F)
 Thermocouple Type K, -40 ... +1 000 °C (-40 ... +1 832 °F)
 Thermocouple Type J, -40 ... +750 °C (-40 ... +1 382 °F)
 Thermocouple Type N, -40 ... +1 000 °C (-40 ... +1 832 °F)

Sensor number/Accuracy

Pt 100 connection: 1 x 4-wire connection or 2 x 3-wire connection, see "Measuring technology: connection types", page 2/23
 Single, basic accuracy (Class 2/Class B)
 Single, increased accuracy (Class 1/Class A)
 Single, highest accuracy (Class AA)
 Double, basic accuracy (Class 2/Class B)
 Double, increased accuracy (Class 1/Class A)
 Double, highest accuracy (Class AA)

¹⁾ Ex d in connection with Order code E03

²⁾ Pt1000 versions are also available. To find these, please switch to Online Configuration in the PIA Life Cycle Portal: www.siemens.com/pia-portal

Selection and Ordering data

Order code

Further designs

Add "-Z" to Article No. and specify Order code.

Insertion length customer-specific

Select range, enter desired length in plain text (No entry = standard length)

Y44

Extension X length customer-specific

Select range, enter desired length in plain text (No entry = standard length)

Y45

Options

Add "-Z" to Article No. and add options, separate extensions with "+".

Built-in head transmitter

Measuring range to be set must be specified with plain text data "Y01".

SITRANS TH100, input 1 x Pt100, 4 ... 20 mA
 SITRANS TH320, input 1 x universal, 4 ... 20 mA
 SITRANS TH320, input 1 x universal, HART
 SITRANS TH420, input 2 x universal, HART
 SITRANS TH400, input 1 x universal, PA
 SITRANS TH400, input 1 x universal, PA, Ex
 SITRANS TH400, input 1 x universal, FF
 SITRANS TH400, input 1 x universal, FF, Ex

T12

T24

T34

T35

T40

T41

T45

T46

Explosion protection

Without explosion protection requirements (Europe, Australia, New Zealand)

E00

Intrinsic safety "i"/"IS¹⁾" according to ATEX and IECEx (Europe, Australia, New Zealand)

E01

Flameproof enclosure "d"/"XP"; dust protection through housing "t"/"DIP²⁾" according to ATEX and IECEx (Europe, Australia, New Zealand)

E03

Non-sparking "ec" according to ATEX and IECEx (Europe, Australia, New Zealand)

E04

Without explosion protection requirements (USA, Canada) Basis FM

E10

Flameproof enclosure "d"/"XP"; dust protection through housing "t"/"DIP²⁾" according to cFMus (USA, Canada); other connections (M, G, R)

E14

Non-sparking "nA"/"NI" according to cFMus (USA, Canada)

E16

Without explosion protection requirements (USA, Canada), Basis CSA

E17

Intrinsic safety "i"/"IS¹⁾" according to cCSAus (USA, Canada)

E18

Flameproof enclosure "d"/"XP"; dust protection through housing "t"/"DIP²⁾" according to cCSAus (USA); other connections (M, G, R)

E21

Non-sparking "nA"/"NI" according to cCSAus (USA, Canada)

E23

Without explosion protection requirements (China)

E54

Intrinsic safety "i"/"IS¹⁾" according to NEPSI (China)

E55

Flameproof enclosure "d"; dust protection through housing "t²⁾" according to NEPSI (China)

E56

Non-sparking "nA"/"NI" according to NEPSI (China)

E57

Without explosion protection requirements (EAC)

E80

Intrinsic safety "i"/"IS¹⁾" according to EACEx (EAC)

E81

Flameproof enclosure "d"/"XP"; dust protection through housing "t"/"DIP²⁾" according to EACEx (EAC)

E82

Non-sparking "nA"/"NI" according to EACEx (EAC)

E83

Marine approvals

Det Norske Veritas Germanischer Lloyd (DNV GL)

D01

Temperature Measurement

Temperature sensors

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Type 2F, with flange and extension

Selection and Ordering data	Order code
Certificates and approvals	
EN 10204-3.1 Inspection certificate for materials coming into contact with media	C12
EN 10204-3.1 Inspection certificate for hydrostatic pressure test	C31
EN 10204-3.1 Inspection certificate for helium leak test	C32
EN 10204-3.1 Inspection certificate for dye-penetration-test	C33
EN 10204-3.1 Inspection certificate: visual, measurement and functional inspection	C34
EN 10204-2.1: Declaration of compliance with the order ISO 9001 grease-free (cleaned for e.g. oxygen applications)	C35 C51
EN 10204-3.1 Acceptance test certificate "Positive Materials Identification" (PMI)	On request
Designation, calibration	
Stainless steel TAG plate, enter lettering in plain text	Y15
Plant calibration per 1 point, enter temperature in plain text	Y33
Transmitter options	
Transmitter, enter complete setting in plain text (Y01: +/-NNNN ... +/-NNNN C,F), marking on the device when Order code "Y15" is selected	Y01
Enter measuring point (max. 8 characters) in plain text	Y17
Transmitter, enter measuring point description (max. 16 characters) in plain text	Y23
Transmitter, enter measuring point text (max. 32 characters) in plain text	Y24
Transmitter, enter bus address in plain text	Y25
Transmitter, fail-safe value 3.6 mA (instead of 22.8 mA)	U36
SITRANS TH320/420 transmitter with SIL2/3 certificate	C20
Transmitter test protocol (5 points)	C11
Further options	
Connection form, flying leads (for the direct transmitter assembly, delivery without screws and springs)	G01
M12 device plug (in combination with transmitter, Non-Ex and intrinsically safe, max. IP65/67)	G12
Han 7D device plug (Non Ex and intrinsically safe, without mating connector max. IP65/67)	G13
Connection head with 1/2" NPT thread without cable gland, for AU0 and AH0 only IP66	G20
with outer earth screw for heads AG0, AH0, AU0 and AV0	A02
with inner earth screw for heads BC0, AG0, AH0, AU0 and AV0	A03
Option not found?	
Handling number special version	Y99

1) Please select Ex i version of the optional transmitter.

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

You find ordering examples on page 2/40.

Accessories, see page 2/251.