

Temperature Measurement

Temperature sensors

SITRANS TS500 / Tubular thermowells / Type 2, without process connection

Selection and ordering data

SITRANS TS500 Tubular thermowell for low to medium stress, according to DIN 43772, Type 2, without process connection, without extension, plug-in or for use with sliding compression fittings	Article No. 7MC751 ● - ● ● ● ● ● - ● ● ● ●
Click the article number for online configuration in the PIA Life Cycle Portal.	
Wetted material	
316Ti (1.4571)	1
316L (1.4404 or 1.4435)	2
Process connection	
Without process connection (for compression fittings) N=U	0 N
Thermowell form	
2; 9 mm (0.35 inches)	A
2; 12 mm (0.47 inches)	B
Installation length "U" (= N), standard	
160 mm (6.3 inches)	0 4
250 mm (9.84 inches)	1 2
400 mm (15.75 inches)	2 2
Installation length "U" (= N), customer-specific Specify customer-specific length with Y44, see order codes	
80 ... 100 mm (3.15 ... 3.94 inches) Initial: 100 mm (3.94 inches)	0 1
101 ... 120 mm (3.98 ... 4.72 inches) Initial: 120 mm (4.72 inches)	0 2
121 ... 140 mm (4.76 ... 5.51 inches) Initial: 140 mm (5.51 inches)	0 3
141 ... 160 mm (5.55 ... 6.30 inches) Initial: 160 mm (6.3 inches)	0 4
161 ... 180 mm (6.34 ... 7.09 inches) Initial: 180 mm (7.09 inches)	0 5
181 ... 200 mm (7.13 ... 7.87 inches) Initial: 200 mm (7.87 inches)	0 6
201 ... 220 mm (7.91 ... 8.66 inches) Initial: 220 mm (8.66 inches)	0 7
221 ... 240 mm (8.7 ... 9.45 inches) Initial: 225 mm (8.86 inches)	1 1
241 ... 260 mm (9.49 ... 10.24 inches) Initial: 250 mm (9.84 inches)	1 2
261 ... 280 mm (10.28 ... 11.02 inches) Initial: 280 mm (11.02 inches)	1 3
281 ... 300 mm (11.06 ... 11.81 inches) Initial: 285 mm (11.22 inches)	1 4
301 ... 320 mm (11.85 ... 12.6 inches) Initial: 315 mm (12.4 inches)	1 5
321 ... 340 mm (12.64 ... 13.39 inches) Initial: 340 mm (13.39 inches)	1 6
341 ... 360 mm (13.43 ... 14.17 inches) Initial: 360 mm (14.17 inches)	2 0
361 ... 380 mm (14.21 ... 14.96 inches) Initial: 380 mm (14.96 inches)	2 1
381 ... 400 mm (15 ... 15.75 inches) Initial: 400 mm (15.75 inches)	2 2
401 ... 420 mm (15.79 ... 16.54 inches) Initial: 420 mm (16.54 inches)	2 3
421 ... 440 mm (16.57 ... 17.32 inches) Initial: 440 mm (17.32 inches)	2 4
441 ... 460 mm (17.36 ... 18.11 inches) Initial: 460 mm (18.11 inches)	2 5
461 ... 480 mm (18.15 ... 18.90 inches) Initial: 465 mm (18.30 inches)	2 6
481 ... 500 mm (18.94 ... 19.69 inches) Initial: 500 mm (19.69 inches)	2 7
501 ... 550 mm (19.72 ... 21.65 inches) Initial: 510 mm (20.08 inches)	3 1
551 ... 600 mm (21.69 ... 23.62 inches) Initial: 600 mm (23.62 inches)	3 2
601 ... 650 mm (23.66 ... 25.59 inches) Initial: 650 mm (25.59 inches)	3 3
651 ... 700 mm (25.63 ... 27.56 inches) Initial: 700 mm (27.56 inches)	3 4
701 ... 750 mm (27.6 ... 29.53 inches) Initial: 750 mm (29.53 inches)	3 5

Selection and ordering data (continued)

SITRANS TS500 Tubular thermowell for low to medium stress, according to DIN 43772, Type 2, without process connection, without extension, plug-in or for use with sliding compression fittings	Article No. 7MC751	●	-	●	●	●	●	-	●	●	●	●
751 ... 800 mm (29.57 ... 31.50 inches) Initial: 800 mm (31.50 inches)												3 6
801 ... 850 mm (31.5 ... 33.47 inches) Initial: 850 mm (33.47 inches)												3 7
851 ... 900 mm (33.5 ... 35.43 inches) Initial: 900 mm (35.43 inches)												4 1
901 ... 950 mm (35.47 ... 37.4 inches) Initial: 950 mm (37.4 inches)												4 2
951 ... 1 000 mm (37.44 ... 39.37 inches) Initial: 1 000 mm (39.37 inches)												4 3
1 001 ... 1 100 mm (39.4 ... 43.30 inches) Initial: 1 100 mm (43.30 inches)												4 4
1 101 ... 1 200 mm (43.35 ... 47.24 inches) Initial: 1 200 mm (47.24 inches)												4 5
1 201 ... 1 300 mm (47.28 ... 51.18 inches) Initial: 1 300 mm (51.18 inches)												4 6
1 301 ... 1 400 mm (51.22 ... 55.11 inches) Initial: 1 400 mm (55.11 inches)												4 7
1 401 ... 1 500 mm (55.15 ... 59.05 inches) Initial: 1 500 mm (59.05 inches)												5 1
Extension "X" Standard length for Type 2 according to DIN 43772 (without extension N=U)												0
Head												
Aluminum head, BA0, flange cap, standard												A
Aluminum head, BB0, spring flap low, screw closure												B
Aluminum head, BC0, spring flap high, screw closure												C
Aluminum head, AG0, screw cover, Ex d suitable ¹⁾												G
Aluminum head, AH0, screw cover, Ex d suitable, local display ¹⁾												H
Plastic head, BM0, screw cover												M
Plastic head, BP0, spring flap high, screw closure												P
Stainless steel head, AU0, screw cover, Ex d suitable ¹⁾												U
Stainless steel head, AV0, screw cover, Ex d suitable, local display ¹⁾												V
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 K thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)												K
Type J thermocouple, -0 ... +750 °C (-18 ... +1 382 °F)												J
Type N thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)												N
Number/precision of sensors 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)												5
Double, increased accuracy (Class 1/Class A)												6
Double, maximum accuracy (Class AA)												7

¹⁾ Ex d in connection with order option E03

²⁾ 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	
Accessories	
With external grounding screw for connection heads AG0, AH0, AU0 and AV0	A02
With external grounding screw for connection heads BC0, AG0, AH0, AU0 and AV0	A03

Options	Order code
Add "-Z" to article number and specify order code	
Compression fitting enclosed	
G½"	A31
NPT½"	A32

Temperature Measurement

Temperature sensors

SITRANS TS500 / Tubular thermowells / Type 2, without process connection

Selection and ordering data (continued)

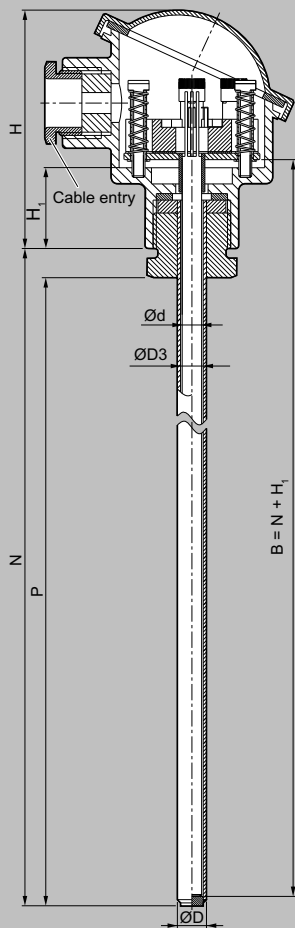
Options	Order code
Add "-Z" to article number and specify order code	
Certificates and approvals	
Transmitter test report (5 points)	C11
EN 10204-3.1 Inspection certificate Wetted material	C12
EN 10204-3.1 Inspection certificate Hydrostatic pressure test	C31
EN 10204-3.1 Inspection certificate Helium leak test	C32
EN 10204-3.1 Inspection certificate Surface tear test	C33
EN 10204-3.1 Factory certificate Visual, dimensional and function check	C34
EN 10204-2.1: Declaration of compliance with the order	C35
ISO 9001 grease-free (cleaned for oxygen applications, for example)	C51
EN 10204-3.1 Inspection certificate "Positive Materials Identification" (PMI)	On request
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
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ 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 enclosure "t"/"DIP" ²⁾ 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"/"IS" ¹⁾ according to cCSAus (USA, Canada)	E18
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ according to CSAus (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"/"IS" ¹⁾ according to NEPSI (China)	E55
Flameproof enclosure "d"; dust protection through enclosure "t" ²⁾ according to NEPSI (China)	E56
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

Options	Order code
Add "-Z" to article number and specify order code	
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ according to EACEx (EAC)	E82
Non-sparking "nA"/"NI" according to EACEx (EAC)	E83
Special design	
Flying lead connection type (for direct transmitter mounting, delivery without screws or springs)	G01
Cable input for connection head	
M12 device plug (in combination with transmitter, non-Ex and intrinsically safe, max. IP65/67)	G12
Han 7 D device plug (non-Ex and intrinsically safe, without mating connector max. IP65/67)	G13
Connection head with ½"-NPT thread without cable gland, for AU0 and AHO only IP66	G20
SafeGuard 2 × Pt100 4-wire	G30
Built-in head-mounted 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
SITRANS TH420, input 2 × universal, PROFIBUS PA	T44
Device settings (including head-mounted 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
Installation length U customer-specific Select range, plain text specification of desired length (no specification = standard length)	Y44
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, AHO, AU0, AV0, without cable gland (select non-Ex version of the optional transmitter).

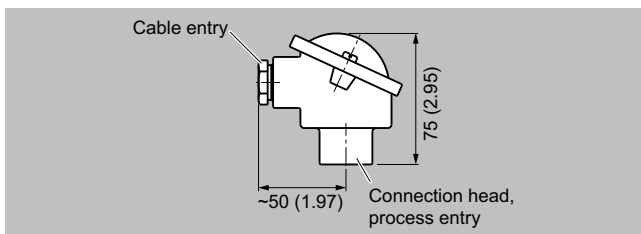
Dimensional drawings



B	Measuring insert length
Ød	Measuring insert outer diameter (6 (0.24))
ØD	Process connection outer diameter
ØD3	Thermowell internal diameter
H	Head height
H ₁	Type Axx = 41 (1.61)
	Type Bxx = 26 (1.02)
N	Nominal length
P	Space for process connection P ~ N - 9 (0.35), floor strength 3 mm

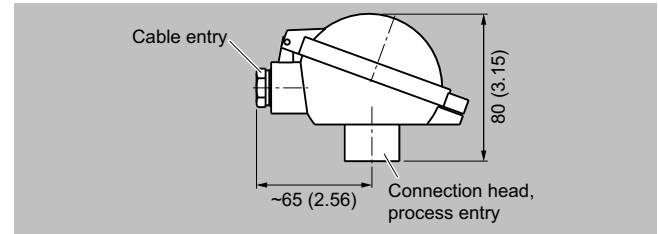
SITRANS TS500, temperature sensors for vessels and pipes, tubular thermowell for low to medium stress, without process connection, without extension, plug-in or for use with sliding compression fittings, dimensions in mm (inch)

Connection heads

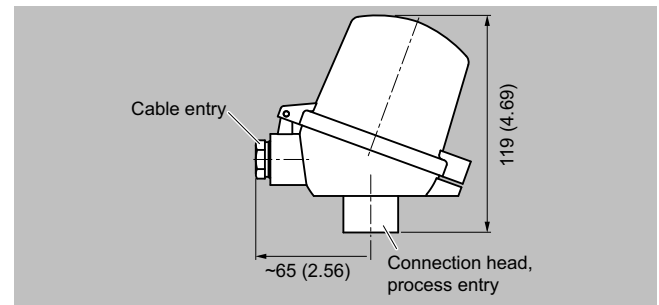


Connection head, aluminum, type BA0, dimensions in mm (inch)

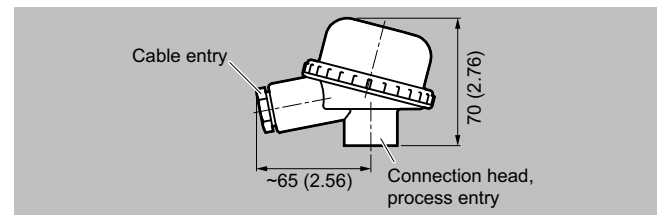
Dimensional drawings (continued)



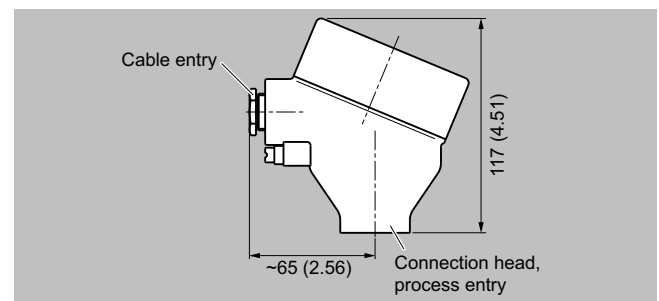
Connection head, aluminum, type BB0, dimensions in mm (inch)



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



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



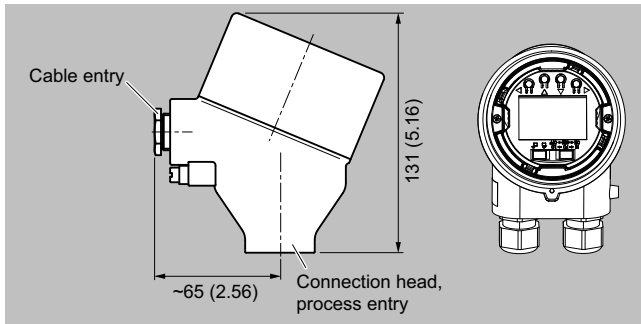
Connection head, aluminum, type AG0, stainless steel, type AU0, dimensions in mm (inch)

Temperature Measurement

Temperature sensors

SITRANS TS500 / Tubular thermowells / Type 2, without process connection

Dimensional drawings (continued)



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

Selection and ordering data

SITRANS TS500 Tubular thermowell for low to medium stress, Type 2N similar to DIN 43772, screwed design, without extension	Article No. 7MC751	● - ● ● ● ● ● - ● ● ● ●
Click the article number for online configuration in the PIA Life Cycle Portal.		
Wetted material		
316Ti (1.4571)	1	
316L (1.4404 or 1.4435)	2	
Process connection		
G ½" (½"BSPP)	1	C
½" NPT	1	J
Thermowell form		
2N, 9 mm (0.35 inches)		A
Standard installation length "U"		
100 mm (3.97 inches)		0 1
160 mm (6.30 inches)		0 4
230 mm (9.06 inches)		1 0
360 mm (14.17 inches)		2 0
510 mm (20.08 inches)		3 1
Installation length "U" customer-specific Specify customer-specific length with Y44, see order codes		
80 ... 100 mm (3.15 ... 3.94 inches) Initial: 100 mm (3.94 inches)		0 1
101 ... 120 mm (3.98 ... 4.72 inches) Initial: 120 mm (4.72 inches)		0 2
121 ... 140 mm (4.76 ... 5.51 inches) Initial: 140 mm (5.51 inches)		0 3
141 ... 160 mm (5.55 ... 6.30 inches) Initial: 160 mm (6.3 inches)		0 4
161 ... 180 mm (6.34 ... 7.09 inches) Initial: 180 mm (7.09 inches)		0 5
181 ... 200 mm (7.13 ... 7.87 inches) Initial: 200 mm (7.87 inches)		0 6
201 ... 220 mm (7.91 ... 8.66 inches) Initial: 220 mm (8.66 inches)		0 7
221 ... 240 mm (8.70 ... 9.45 inches) Initial: 230 mm (9.06 inches)		1 0
241 ... 260 mm (9.49 ... 10.24 inches) Initial: 250 mm (9.84 inches)		1 2
261 ... 280 mm (10.28 ... 11.02 inches) Initial: 280 mm (11.02 inches)		1 3
281 ... 300 mm (11.06 ... 11.81 inches) Initial: 285 mm (11.22 inches)		1 4
301 ... 320 mm (11.85 ... 12.6 inches) Initial: 315 mm (12.4 inches)		1 5
321 ... 340 mm (12.64 ... 13.39 inches) Initial: 340 mm (13.39 inches)		1 6
341 ... 360 mm (13.43 ... 14.17 inches) Initial: 360 mm (14.17 inches)		2 0
361 ... 380 mm (14.21 ... 14.96 inches) Initial: 380 mm (14.96 inches)		2 1
381 ... 400 mm (15 ... 15.75 inches) Initial: 400 mm (15.75 inches)		2 2
401 ... 420 mm (15.79 ... 16.54 inches) Initial: 420 mm (16.54 inches)		2 3
421 ... 440 mm (16.57 ... 17.32 inches) Initial: 440 mm (17.32 inches)		2 4
441 ... 460 mm (17.36 ... 18.11 inches) Initial: 460 mm (18.11 inches)		2 5
461 ... 480 mm (18.15 ... 18.90 inches) Initial: 465 mm (18.30 inches)		2 6
481 ... 500 mm (18.94 ... 19.69 inches) Initial: 500 mm (19.69 inches)		2 7
501 ... 550 mm (19.72 ... 21.65 inches) Initial: 510 mm (20.08 inches)		3 1
551 ... 600 mm (21.69 ... 23.62 inches) Initial: 600 mm (23.62 inches)		3 2

Temperature Measurement

Temperature sensors

SITRANS TS500 / Tubular thermowells / Type 2N, screwed design, without extension

Selection and ordering data (continued)

SITRANS TS500 Tubular thermowell for low to medium stress, Type 2N similar to DIN 43772, screwed design, without extension	Article No. 7MC751	● - ● ● ● ● ● - ● ● ● ●
601 ... 650 mm (23.66 ... 25.59 inches) Initial: 650 mm (25.59 inches)		3 3
651 ... 700 mm (25.63 ... 27.56 inches) Initial: 700 mm (27.56 inches)		3 4
701 ... 750 mm (27.6 ... 29.53 inches) Initial: 750 mm (29.53 inches)		3 5
751 ... 800 mm (29.57 ... 31.50 inches) Initial: 800 mm (31.50 inches)		3 6
801 ... 850 mm (31.5 ... 33.47 inches) Initial: 850 mm (33.47 inches)		3 7
851 ... 900 mm (33.5 ... 35.43 inches) Initial: 900 mm (35.43 inches)		4 1
901 ... 950 mm (35.47 ... 37.4 inches) Initial: 950 mm (37.4 inches)		4 2
951 ... 1 000 mm (37.44 ... 39.37 inches) Initial: 1 000 mm (39.37 inches)		4 3
1 001 ... 1 100 mm (39.4 ... 43.30 inches) Initial: 1 100 mm (43.30 inches)		4 4
1 101 ... 1 200 mm (43.35 ... 47.24 inches) Initial: 1 200 mm (47.24 inches)		4 5
1 201 ... 1 300 mm (47.28 ... 51.18 inches) Initial: 1 300 mm (51.18 inches)		4 6
1 301 ... 1 400 mm (51.22 ... 55.11 inches) Initial: 1 400 mm (55.11 inches)		4 7
1 401 ... 1 500 mm (55.15 ... 59.05 inches) Initial: 1 500 mm (59.05 inches)		5 1
Extension "X"		
Without extension (non-adjustable)		0
Head		
Aluminum head, BA0, flange cap, standard		A
Aluminum head, BB0, spring flap low, screw closure		B
Aluminum head, BCD, spring flap high, screw closure		C
Aluminum head, AG0, screw cover, Ex d suitable ¹⁾		G
Aluminum head, AH0, screw cover, Ex d suitable, local display ¹⁾		H
Plastic head, BMO, screw cover		M
Plastic head, BPO, spring flap high, screw closure		P
Stainless steel head, AU0, screw cover, Ex d suitable ¹⁾		U
Stainless steel head, AV0, screw cover, Ex d suitable, local display ¹⁾		V
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 K thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)		K
Type J thermocouple, -0 ... +750 °C (-18 ... +1 382 °F)		J
Type N thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)		N
Number/precision of sensors		
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)		5
Double, increased accuracy (Class 1/Class A)		6
Double, maximum accuracy (Class AA)		7

¹⁾ Ex d in connection with order option E03

²⁾ Pt1000 versions are also available.

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

Selection and ordering data (continued)

Options	Order code
Add "-Z" to article number and specify order code	
Accessories	
With external grounding screw for connection heads AG0, AHO, AU0 and AV0	A02
With external grounding screw for connection heads BC0, AG0, AHO, AU0 and AV0	A03
Certificates and approvals	
Transmitter test report (5 points)	C11
EN 10204-3.1 Inspection certificate Wetted material	C12
EN 10204-3.1 Inspection certificate Hydrostatic pressure test	C31
EN 10204-3.1 Inspection certificate Helium leak test	C32
EN 10204-3.1 Inspection certificate Surface tear test	C33
EN 10204-3.1 Factory certificate Visual, dimensional and function check	C34
EN 10204-2.1: Declaration of compliance with the order	C35
ISO 9001 grease-free (cleaned for oxygen applications, for example)	C51
EN 10204-3.1 Inspection certificate "Positive Materials Identification" (PMI)	On request
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
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP ⁽²⁾ " 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 enclosure "t"/"DIP ⁽²⁾ " 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"/"IS ⁽¹⁾ " according to cCSAus (USA, Canada)	E18
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP ⁽²⁾ " according to CSAus (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"/"IS ⁽¹⁾ " according to NEPSI (China)	E55
Flameproof enclosure "d"; dust protection through enclosure "t ⁽²⁾ " according to NEPSI (China)	E56
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

Options	Order code
Add "-Z" to article number and specify order code	
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP ⁽²⁾ " according to EACEx (EAC)	E82
Non-sparking "nA"/"NI" according to EACEx (EAC)	E83
Special design	
Flying lead connection type (for direct transmitter mounting, delivery without screws or springs)	G01
Cable input for connection head	
M12 device plug (in combination with transmitter, non-Ex and intrinsically safe, max. IP65/67)	G12
Han 7 D 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 AHO only IP66	G20
SafeGuard 2 × Pt100 4-wire	G30
Built-in head-mounted 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
SITRANS TH420, input 2 × universal, PROFIBUS PA	T44
Device settings (including head-mounted 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
Installation length U customer-specific Select range, plain text specification of desired length (no specification = standard length)	Y44
Extension length X customer-specific Select range, plain text specification of desired length (no specification = standard length)	Y45
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, AHO, AU0, AV0, without cable gland (select non-Ex version of the optional transmitter).

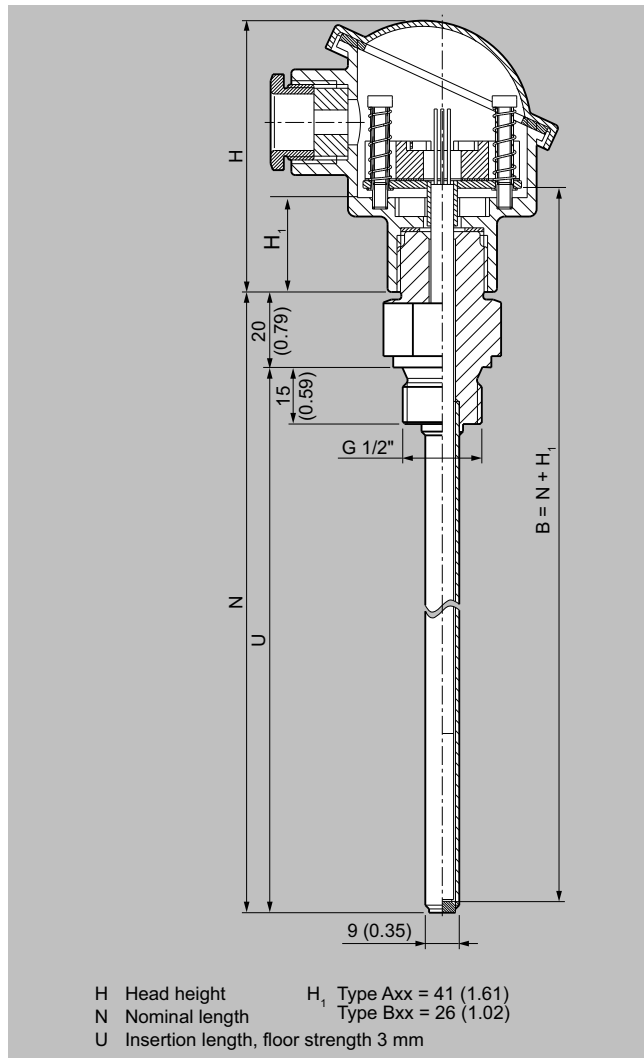
Temperature Measurement

Temperature sensors

SITRANS TS500 / Tubular thermowells / Type 2N, screwed design, without extension

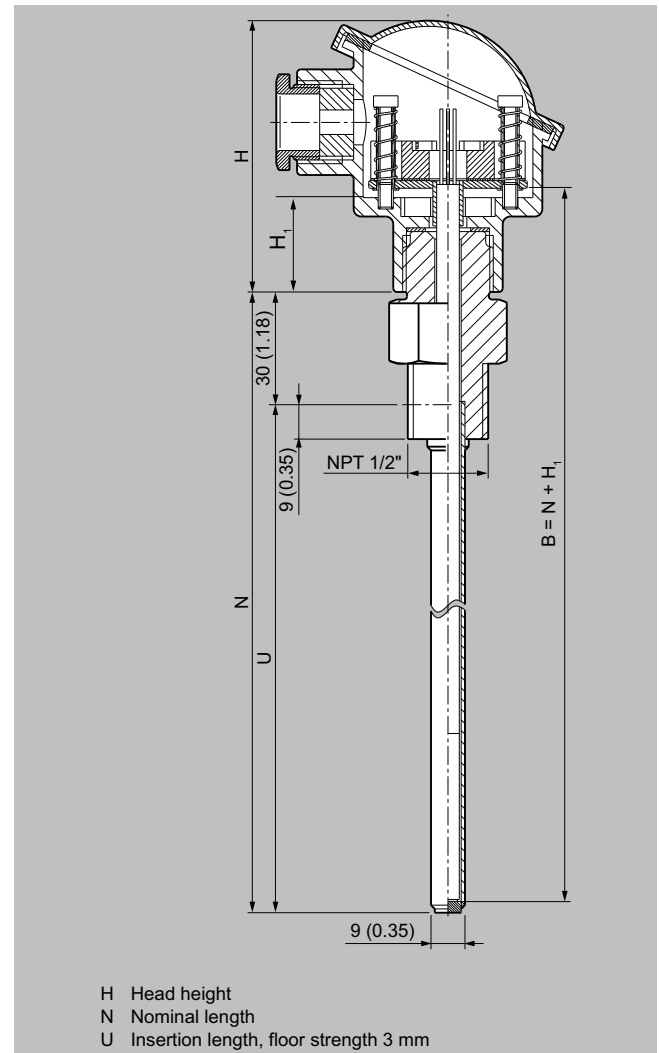
Dimensional drawings

SITRANS TS500, temperature sensors for vessels and pipes, tubular thermowell for low to medium stress, type 2N similar to DIN 43772, screwed design, without extension, non-adjustable connection head. For Ex-versions the maximum process temperature is 100 °C.



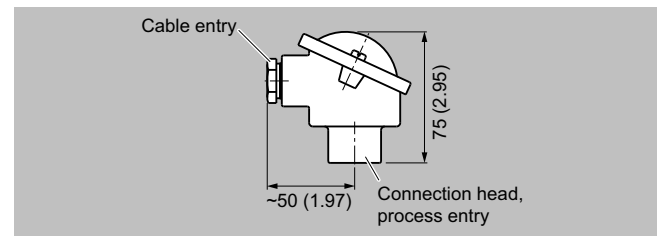
Connection type "G", dimensions in mm (inch)

Dimensional drawings (continued)



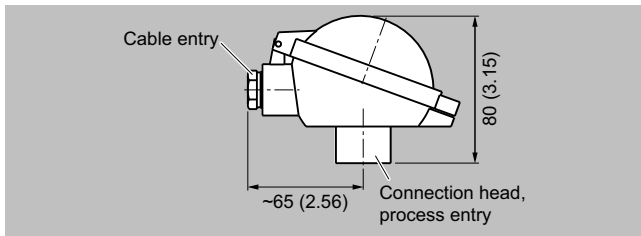
Connection type "NPT", dimensions in mm (inch)

Connection heads

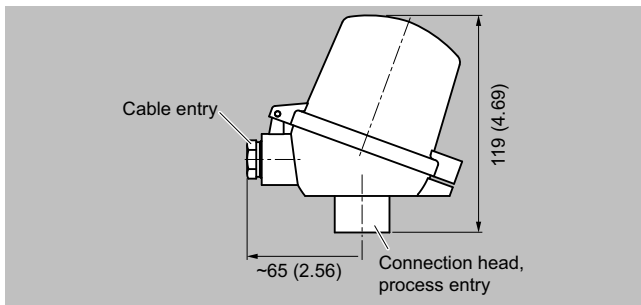


Connection head, aluminum, type BAO, dimensions in mm (inch)

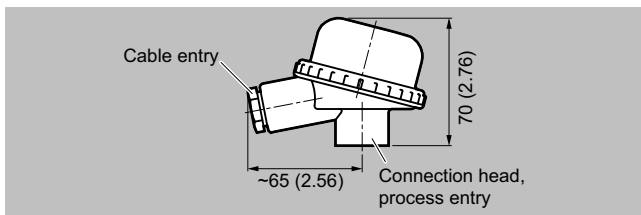
Dimensional drawings (continued)



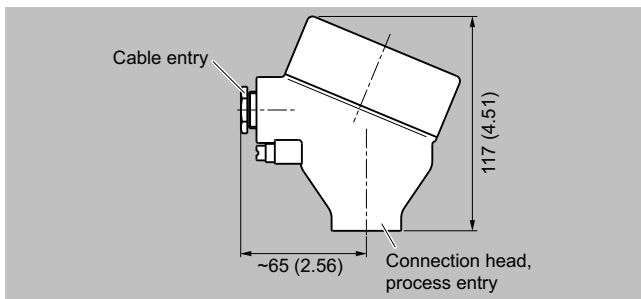
Connection head, aluminum, type BB0, dimensions in mm (inch)



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

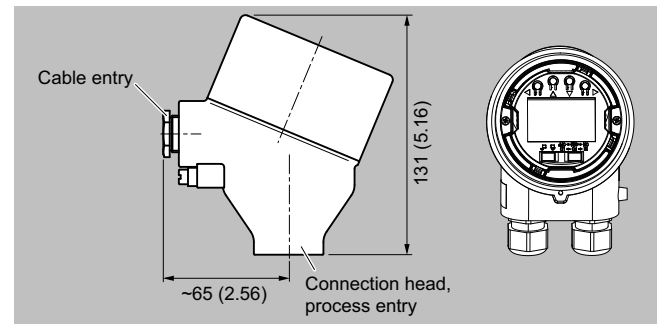


Connection head, plastic, type BM0, dimensions in mm (inch)



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

Dimensional drawings (continued)



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 2G, screwed design

Selection and ordering data

Selection and ordering data	Article No.	Order code
SITRANS TS500	7MC751	
Tubular thermowell for low to medium stress, according to DIN 43772, Type 2G, screwed design, with extension	● - ● ● ● ● ● ● - ● ● ● ● ● ● ● ● ● ●	
Click the article number for online configuration in the PIA Life Cycle Portal.		
Wetted material		
316Ti (1.4571)	1	
316L (1.4404 or 1.4435)	2	
Process connection		
Cylindrical: G½" (½" BSPP)	1	C
Cylindrical: G¾" (¾" BSPP)	1	D
Tapered: NPT½"	1	J
Tapered: NPT¾"	1	K
Tapered: NPT1"	1	L
Cylindrical: M20 × 1.5	1	V
Cylindrical: M27 × 2.0	1	W
Cylindrical: M33 × 2.0	1	Y
Thermowell form		
2G, 9 mm (0.35 inches)		A
2G, 12 mm (0.47 inches)		B
Standard installation length "U"		
160 mm (6.30 inches)		0 4
250 mm (9.84 inches)		1 2
400 mm (15.75 inches)		2 2
Installation length "U" customer-specific		
Specify customer-specific length with Y44, see order codes		
80 ... 100 mm (3.15 ... 3.94 inches) Initial: 100 mm (3.94 inches)		0 1
101 ... 120 mm (3.98 ... 4.72 inches) Initial: 120 mm (4.72 inches)		0 2
121 ... 140 mm (4.76 ... 5.51 inches) Initial: 140 mm (5.51 inches)		0 3
141 ... 160 mm (5.55 ... 6.30 inches) Initial: 160 mm (6.3 inches)		0 4
161 ... 180 mm (6.34 ... 7.09 inches) Initial: 180 mm (7.09 inches)		0 5
181 ... 200 mm (7.13 ... 7.87 inches) Initial: 200 mm (7.87 inches)		0 6
201 ... 220 mm (7.91 ... 8.66 inches) Initial: 220 mm (8.66 inches)		0 7
221 ... 240 mm (8.70 ... 9.45 inches) Initial: 225 mm (8.86 inches)		1 1
241 ... 260 mm (9.49 ... 10.24 inches) Initial: 250 mm (9.84 inches)		1 2
261 ... 280 mm (10.28 ... 11.02 inches) Initial: 280 mm (11.02 inches)		1 3
281 ... 300 mm (11.06 ... 11.81 inches) Initial: 285 mm (11.22 inches)		1 4
301 ... 320 mm (11.85 ... 12.6 inches) Initial: 315 mm (12.4 inches)		1 5
321 ... 340 mm (12.64 ... 13.39 inches) Initial: 340 mm (13.39 inches)		1 6
341 ... 360 mm (13.43 ... 14.17 inches) Initial: 360 mm (14.17 inches)		2 0
361 ... 380 mm (14.21 ... 14.96 inches) Initial: 380 mm (14.96 inches)		2 1
381 ... 400 mm (15 ... 15.75 inches) Initial: 400 mm (15.75 inches)		2 2
401 ... 420 mm (15.79 ... 16.54 inches) Initial: 420 mm (16.54 inches)		2 3
421 ... 440 mm (16.57 ... 17.32 inches) Initial: 440 mm (17.32 inches)		2 4
441 ... 460 mm (17.36 ... 18.11 inches) Initial: 460 mm (18.11 inches)		2 5
461 ... 480 mm (18.15 ... 18.90 inches) Initial: 465 mm (18.30 inches)		2 6

Selection and ordering data (continued)

Selection and ordering data	Article No.	Order code
SITRANS TS500	7MC751	
Tubular thermowell for low to medium stress, according to DIN 43772, Type 2G, screwed design, with extension	● - ● ● ● ● ● - ● ● ● ● ● ● ● ●	
481 ... 500 mm (18.94 ... 19.69 inches) Initial: 500 mm (19.69 inches)		2 7
501 ... 550 mm (19.72 ... 21.65 inches) Initial: 510 mm (20.08 inches)		3 1
551 ... 600 mm (21.69 ... 23.62 inches) Initial: 600 mm (23.62 inches)		3 2
601 ... 650 mm (23.66 ... 25.59 inches) Initial: 650 mm (25.59 inches)		3 3
651 ... 700 mm (25.63 ... 27.56 inches) Initial: 700 mm (27.56 inches)		3 4
701 ... 750 mm (27.6 ... 29.53 inches) Initial: 750 mm (29.53 inches)		3 5
751 ... 800 mm (29.57 ... 31.50 inches) Initial: 800 mm (31.50 inches)		3 6
801 ... 850 mm (31.5 ... 33.47 inches) Initial: 850 mm (33.47 inches)		3 7
851 ... 900 mm (33.5 ... 35.43 inches) Initial: 900 mm (35.43 inches)		4 1
901 ... 950 mm (35.47 ... 37.4 inches) Initial: 950 mm (37.4 inches)		4 2
951 ... 1 000 mm (37.44 ... 39.37 inches) Initial: 1 000 mm (39.37 inches)		4 3
1 001 ... 1 100 mm (39.4 ... 43.30 inches) Initial: 1 100 mm (43.30 inches)		4 4
1 101 ... 1 200 mm (43.35 ... 47.24 inches) Initial: 1 200 mm (47.24 inches)		4 5
1 201 ... 1 300 mm (47.28 ... 51.18 inches) Initial: 1 300 mm (51.18 inches)		4 6
1 301 ... 1 400 mm (51.22 ... 55.11 inches) Initial: 1 400 mm (55.11 inches)		4 7
1 401 ... 1 500 mm (55.15 ... 59.05 inches) Initial: 1 500 mm (59.05 inches)		5 1
Extension "X"		
Standard length for type 2G DIN 43772 (X=129 mm (5.08 inches))		1
Extension length "X" customer-specific Specify customer-specific length with Y45, see page 2/68 order codes		
75 ... 150 mm (2.95 ... 5.91 inches) Initial: 150 mm (5.91 inches)		9 N 1 D
151 ... 300 mm (5.95 ... 11.81 inches) Initial: 300 mm (11.81 inches)		9 N 2 D
301 ... 450 mm (11.85 ... 17.72 inches) Initial: 450 mm (17.72 inches)		9 N 3 D
Head		
Aluminum head, BA0, flange cap, standard		A
Aluminum head, BB0, spring flap low, screw closure		B
Aluminum head, BC0, spring flap high, screw closure		C
Aluminum head, AG0, screw cover, Ex d suitable ¹⁾		G
Aluminum head, AH0, screw cover, Ex d suitable, local display ¹⁾		H
Plastic head, BM0, screw cover		M
Plastic head, BP0, spring flap high, screw closure		P
Stainless steel head, AU0, screw cover, Ex d suitable ¹⁾		U
Stainless steel head, AV0, screw cover, Ex d suitable, local display ¹⁾		V
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 K thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)		K
Type J thermocouple, -0 ... +750 °C (-18 ... +1 382 °F)		J
Type N thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)		N
Number/precision of sensors		
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

Temperature Measurement

Temperature sensors

SITRANS TS500 / Tubular thermowells / Type 2G, screwed design

Selection and ordering data (continued)

Selection and ordering data	Article No.	Order code
SITRANS TS500	7MC751	
Tubular thermowell for low to medium stress, according to DIN 43772, Type 2G, screwed design, with extension	● - ● ● ● ● ● - ● ● ● ● ● ● ● ●	
Single, maximum accuracy (Class AA)		3
Double, basic accuracy (Class 2/Class B)		5
Double, increased accuracy (Class 1/Class A)		6
Double, maximum accuracy (Class AA)		7

1) Ex d in connection with order option E03

2) 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	
Accessories	
With external grounding screw for connection heads AG0, AHO, AU0 and AV0	A02
With external grounding screw for connection heads BCO, AG0, AHO, AU0 and AV0	A03
Certificates and approvals	
Transmitter test report (5 points)	C11
EN 10204-3.1 Inspection certificate Wetted material	C12
EN 10204-3.1 Inspection certificate Hydrostatic pressure test	C31
EN 10204-3.1 Inspection certificate Helium leak test	C32
EN 10204-3.1 Inspection certificate Surface tear test	C33
EN 10204-3.1 Factory certificate Visual, dimensional and function check	C34
EN 10204-2.1: Declaration of compliance with the order	C35
ISO 9001 grease-free (cleaned for oxygen applications, for example)	C51
EN 10204-3.1 Inspection certificate "Positive Materials Identification" (PMI)	On request
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" according to ATEX and IECEx (Europe, Australia, New Zealand)	E01
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" 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 enclosure "t"/"DIP" 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"/"IS" according to cCSAus (USA, Canada)	E18
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" according to CSAus (USA); other connections (M, G, R)	E21
Non-sparking "nA"/"NI" according to cCSAus (USA, Canada)	E23

Options	Order code
Add "-Z" to article number and specify order code	
Without explosion protection requirements (China)	
	E54
Intrinsic safety "i"/"IS" according to NEPSI (China)	
	E55
Flameproof enclosure "d"; dust protection through enclosure "t" according to NEPSI (China)	
	E56
Non-sparking "nA"/"NI" according to NEPSI (China)	
	E57
Without explosion protection requirements (EAC)	
	E80
Intrinsic safety "i"/"IS" according to EACEx (EAC)	
	E81
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" according to EACEx (EAC)	
	E82
Non-sparking "nA"/"NI" according to EACEx (EAC)	
	E83
Special design	
Flying lead connection type (for direct transmitter mounting, delivery without screws or springs)	
	G01
Cable input for connection head	
M12 device plug (in combination with transmitter, non-Ex and intrinsically safe, max. IP65/67)	
	G12
Han 7 D 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 AHO only IP66	
	G20
SafeGuard 2 x Pt100 4-wire	
	G30
Built-in head-mounted transmitter	
Measuring range to be set must be specified with plain text data "Y01".	
SITRANS TH100, input 1 x Pt100, 4 ... 20 mA	
	T12
SITRANS TH320, input 1 x universal, 4 ... 20 mA	
	T24
SITRANS TH320, input 1 x universal, HART	
	T34
SITRANS TH420, input 2 x universal, HART	
	T35
SITRANS TH420, input 2 x universal, PROFIBUS PA	
	T44
Device settings (including head-mounted 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
Installation length U customer-specific	
Select range, plain text specification of desired length (no specification = standard length)	
	Y44

Selection and ordering data (continued)

Options	Order code
Add "-Z" to article number and specify order code	
Customer-specific plain text	
Handling number of the special design	Y99

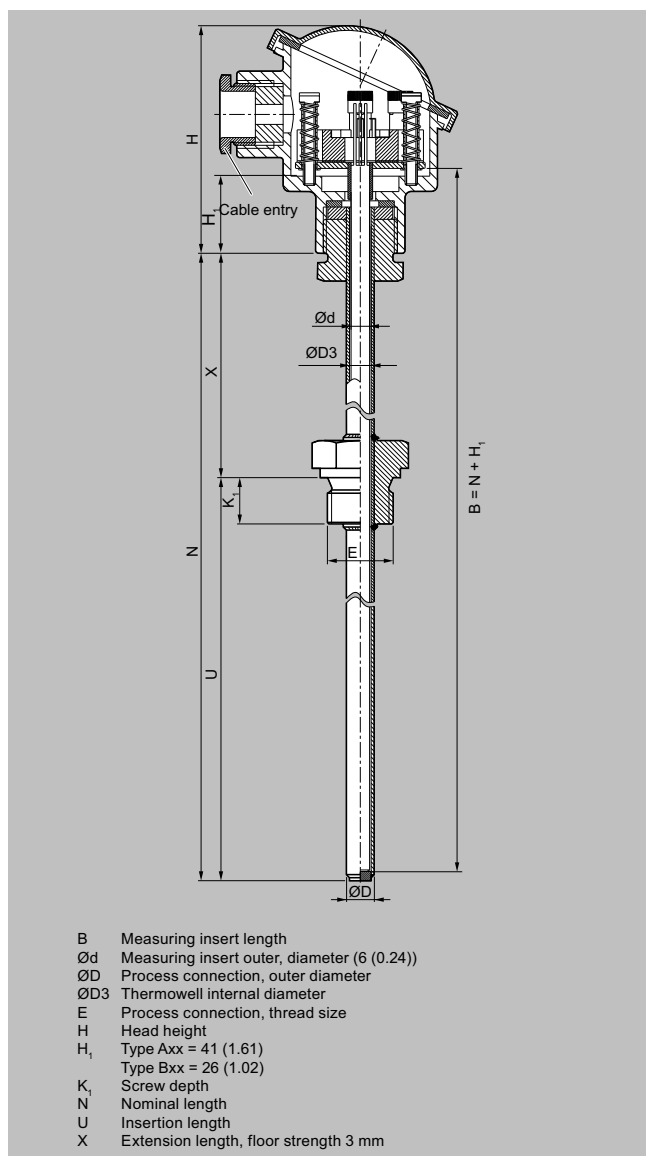
- ¹⁾ Select Ex i version of the optional transmitter.
- ²⁾ Only with connection heads code AG0, AH0, AU0, AV0, without cable gland (select non-Ex version of the optional transmitter).

Temperature Measurement

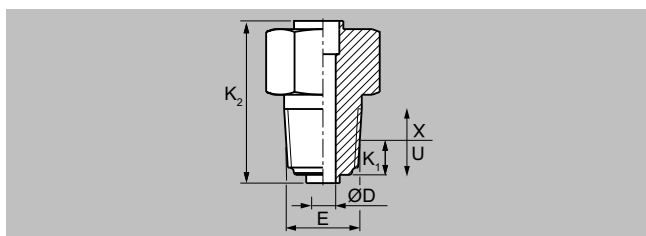
Temperature sensors

SITRANS TS500 / Tubular thermowells / Type 2G, screwed design

Dimensional drawings



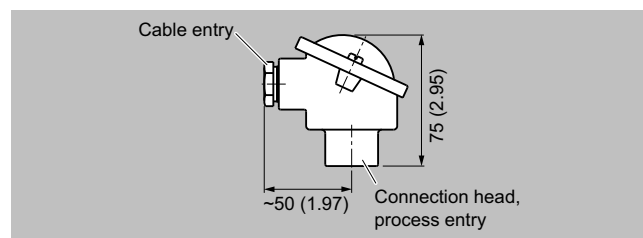
SITRANS TS500, temperature sensors for vessels and pipes, tubular thermowell for low to medium stress, according to DIN 43772, type 2G, screwed design, with extension, for screw-in depth dimensions, see "Technical reference", "Thread shapes" page, dimensions in mm (inch).



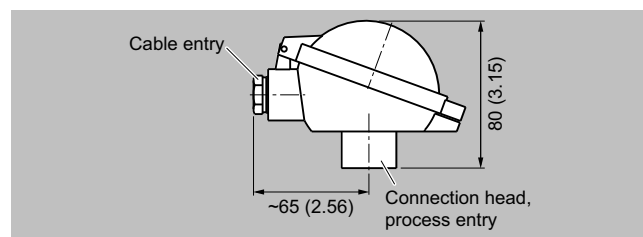
Process connection tapered, dimensions in mm (inch)

Dimensional drawings (continued)

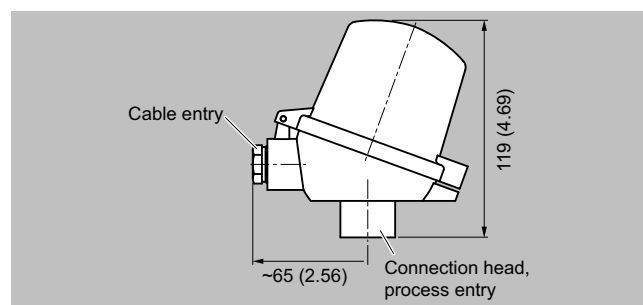
Connection heads



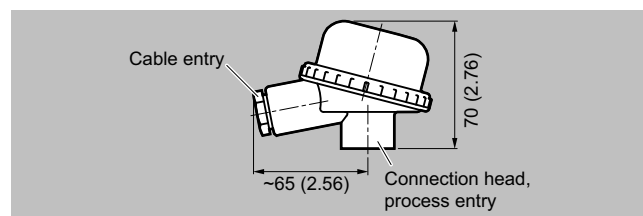
Connection head, aluminum, type BA0, dimensions in mm (inch)



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

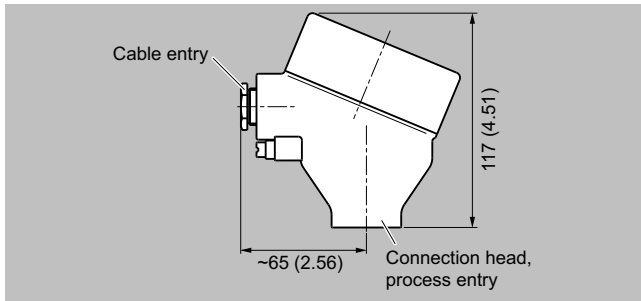


Connection head, aluminum, type BCO, plastic, type BPO, dimensions in mm (inch)

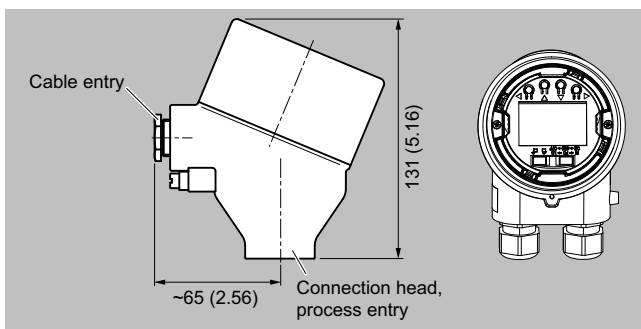


Connection head, plastic, type BM0, dimensions in mm (inch)

Dimensional drawings (continued)



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, flange

Selection and ordering data

	Article No.	Order code
SITRANS TS500	7MC751	
Tubular thermowell for low to medium stress, according to DIN 43772, Type 2F, with flange, with extension	● - ● ● ● ● ● - ● ● ● ● ● ● ● ●	
Click the article number for online configuration in the PIA Life Cycle Portal.		
Wetted material		
316Ti (1.4571)	1	
316L (1.4404 or 1.4435)	2	
Process connection		
Flange EN; DN 25 PN10 ... 40 B1	2	A
Flange EN; DN 40 PN 40 B1	2	B
Flange EN; DN 50 PN 40 B1	2	C
Flange ASME; 1.0" RF 150	2	E
Flange ASME; 1.0" RF 300	2	F
Flange ASME; 1.5" RF 150	2	G
Flange ASME; 1.5" RF 300	2	H
Flange ASME; 2.0" RF 150	2	J
Flange ASME; 2.0" RF 300	2	K
Flange ASME; 1.0" RF 600	2	L
Flange ASME; 1.5" RF 600	2	N
Flange ASME; 1.5" RF 900	2	R
Flange ASME; 2.0" RF 600	2	S
Flange ASME; 2.0" RF 900	2	T
Flange EN; DN 32 PN 40 B1	4	A
Flange EN; DN 40 PN 100 B1	4	B
Flange EN; DN 50 PN 16 B1	4	C
Flange EN; DN 80 PN 16 B1	4	D
Flange EN; DN 100 PN 16 B1	4	E
Thermowell form		
2G, 9 mm (0.35 inches)		A
2G, 12 mm (0.47 inches)		B
Standard installation length "U"		
225 mm (8.86 inches)	1	1
315 mm (12.40 inches)	1	5
465 mm (18.31 inches)	2	6
Installation length "U" customer-specific Specify customer-specific length with Y44, see order codes		
80 ... 100 mm (3.15 ... 3.94 inches) Initial: 100 mm (3.94 inches)	0	1
101 ... 120 mm (3.98 ... 4.72 inches) Initial: 120 mm (4.72 inches)	0	2
121 ... 140 mm (4.76 ... 5.51 inches) Initial: 140 mm (5.51 inches)	0	3
141 ... 160 mm (5.55 ... 6.30 inches) Initial: 160 mm (6.3 inches)	0	4
161 ... 180 mm (6.34 ... 7.09 inches) Initial: 180 mm (7.09 inches)	0	5
181 ... 200 mm (7.13 ... 7.87 inches) Initial: 200 mm (7.87 inches)	0	6
201 ... 220 mm (7.91 ... 8.66 inches) Initial: 220 mm (8.66 inches)	0	7
221 ... 240 mm (8.70 ... 9.45 inches) Initial: 225 mm (8.86 inches)	1	1
241 ... 260 mm (9.49 ... 10.24 inches) Initial: 250 mm (9.84 inches)	1	2
261 ... 280 mm (10.28 ... 11.02 inches) Initial: 280 mm (11.02 inches)	1	3
281 ... 300 mm (11.06 ... 11.81 inches) Initial: 285 mm (11.22 inches)	1	4
301 ... 320 mm (11.85 ... 12.6 inches) Initial: 315 mm (12.4 inches)	1	5
321 ... 340 mm (12.64 ... 13.39 inches) Initial: 340 mm (13.39 inches)	1	6
341 ... 360 mm (13.43 ... 14.17 inches) Initial: 360 mm (14.17 inches)	2	0

Selection and ordering data (continued)

SITRANS TS500	Article No.	Order code
Tubular thermowell for low to medium stress, according to DIN 43772, Type 2F, with flange, with extension	7MC751	
361 ... 380 mm (14.21 ... 14.96 inches) Initial: 380 mm (14.96 inches)	● - ● ● ● ● ● - ● ● ● ● ● ● ● ● ●	
381 ... 400 mm (15 ... 15.75 inches) Initial: 400 mm (15.75 inches)		2 1
401 ... 420 mm (15.79 ... 16.54 inches) Initial: 420 mm (16.54 inches)		2 2
421 ... 440 mm (16.57 ... 17.32 inches) Initial: 440 mm (17.32 inches)		2 3
441 ... 460 mm (17.36 ... 18.11 inches) Initial: 460 mm (18.11 inches)		2 4
461 ... 480 mm (18.15 ... 18.90 inches) Initial: 465 mm (18.30 inches)		2 5
481 ... 500 mm (18.94 ... 19.69 inches) Initial: 500 mm (19.69 inches)		2 6
501 ... 550 mm (19.72 ... 21.65 inches) Initial: 510 mm (20.08 inches)		2 7
551 ... 600 mm (21.69 ... 23.62 inches) Initial: 600 mm (23.62 inches)		3 1
601 ... 650 mm (23.66 ... 25.59 inches) Initial: 650 mm (25.59 inches)		3 2
651 ... 700 mm (25.63 ... 27.56 inches) Initial: 700 mm (27.56 inches)		3 3
701 ... 750 mm (27.6 ... 29.53 inches) Initial: 750 mm (29.53 inches)		3 4
751 ... 800 mm (29.57 ... 31.50 inches) Initial: 800 mm (31.50 inches)		3 5
801 ... 850 mm (31.5 ... 33.47 inches) Initial: 850 mm (33.47 inches)		3 6
851 ... 900 mm (33.5 ... 35.43 inches) Initial: 900 mm (35.43 inches)		3 7
901 ... 950 mm (35.47 ... 37.4 inches) Initial: 950 mm (37.4 inches)		4 1
951 ... 1 000 mm (37.44 ... 39.37 inches) Initial: 1 000 mm (39.37 inches)		4 2
1 001 ... 1 100 mm (39.4 ... 43.30 inches) Initial: 1 100 mm (43.30 inches)		4 3
1 101 ... 1 200 mm (43.35 ... 47.24 inches) Initial: 1 200 mm (47.24 inches)		4 4
1 201 ... 1 300 mm (47.28 ... 51.18 inches) Initial: 1 300 mm (51.18 inches)		4 5
1 301 ... 1 400 mm (51.22 ... 55.11 inches) Initial: 1 400 mm (55.11 inches)		4 6
1 401 ... 1 500 mm (55.15 ... 59.05 inches) Initial: 1 500 mm (59.05 inches)		4 7
Extension "X"		
Standard length for type 2F DIN 43772 (X=64 mm (2.52 inches))		5 1
Extension length "X" customer-specific		
• Specify customer-specific length with Y45, see order codes		
75 ... 150 mm (2.95 ... 5.91 inches) Initial: 150 mm (5.91 inches)		9 N 1 D
151 ... 300 mm (5.95 ... 11.81 inches) Initial: 300 mm (11.81 inches)		9 N 2 D
301 ... 450 mm (11.85 ... 17.72 inches) Initial: 450 mm (17.72 inches)		9 N 3 D
Head		
Aluminum head, BA0, flange cap, standard		A
Aluminum head, BB0, spring flap low, screw closure		B
Aluminum head, BC0, spring flap high, screw closure		C
Aluminum head, AG0, screw cover, Ex d suitable ¹⁾		G
Aluminum head, AH0, screw cover, Ex d suitable, local display ¹⁾		H
Plastic head, BMO, screw cover		M
Plastic head, BP0, spring flap high, screw closure		P
Stainless steel head, AU0, screw cover, Ex d suitable ¹⁾		U
Stainless steel head, AV0, screw cover, Ex d suitable, local display ¹⁾		V

Temperature Measurement

Temperature sensors

SITRANS TS500 / Tubular thermowells / Type 2F, flange

Selection and ordering data (continued)

	Article No.	Order code
SITRANS TS500	7MC751	
Tubular thermowell for low to medium stress, according to DIN 43772, Type 2F, with flange, with extension	● - ● ● ● ● ● - ● ● ● ● ● ● ● ● ● ●	
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 K thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)		K
Type J thermocouple, -0 ... +750 °C (-18 ... +1 382 °F)		J
Type N thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)		N
Number/precision of sensors 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)		5
Double, increased accuracy (Class 1/Class A)		6
Double, maximum accuracy (Class AA)		7

1) Ex d in connection with order option E03

2) 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.	
Accessories	
With external grounding screw for connection heads AGO, AHO, AUO and AVO	A02
With external grounding screw for connection heads BCO, AGO, AHO, AUO and AVO	A03
Certificates and approvals	
Transmitter test report (5 points)	C11
EN 10204-3.1 Inspection certificate Wetted material	C12
EN 10204-3.1 Inspection certificate Hydrostatic pressure test	C31
EN 10204-3.1 Inspection certificate Helium leak test	C32
EN 10204-3.1 Inspection certificate Surface tear test	C33
EN 10204-3.1 Factory certificate Visual, dimensional and function check	C34
EN 10204-2.1: Declaration of compliance with the order	C35
ISO 9001 grease-free (cleaned for oxygen applications, for example)	C51
EN 10204-3.1 Inspection certificate "Positive Materials Identification" (PMI)	On request
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
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP ²⁾ " 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

Options	Order code
Add "-Z" to article number and specify order code.	
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP ²⁾ " 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"/"IS ¹⁾ " according to cCSAus (USA, Canada)	E18
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP ²⁾ " according to CSAUs (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"/"IS ¹⁾ " according to NEPSI (China)	E55
Flameproof enclosure "d"; dust protection through enclosure "t ²⁾ " according to NEPSI (China)	E56
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
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP ²⁾ " according to EACEx (EAC)	E82
Non-sparking "nA"/"NI" according to EACEx (EAC)	E83
Special design	
Flying lead connection type (for direct transmitter mounting, delivery without screws or springs)	G01
Cable input for connection head	
M12 device plug (in combination with transmitter, non-Ex and intrinsically safe, max. IP65/67)	G12
Han 7 D device plug (non-Ex and intrinsically safe, without mating connector max. IP65/67)	G13
Connection head with ½" NPT thread without cable gland, for AUO and AHO only IP66	G20
SafeGuard 2 × Pt100 4-wire	G30

Selection and ordering data (continued)

Options	Order code
Add "-Z" to article number and specify order code.	
Built-in head-mounted 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
SITRANS TH420, input 2 × universal, PROFIBUS PA	T44
Device settings (including head-mounted 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

Options	Order code
Add "-Z" to article number and specify order code.	
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
Installation length U customer-specific	Y44
Select range, plain text specification of desired length (no specification = standard length)	
Extension length X customer-specific	Y45
Select range, plain text specification of desired length (no specification = standard length)	
Customer-specific plain text	
Handling number of the special design	Y99

¹⁾ Select Ex i version of the optional transmitter.

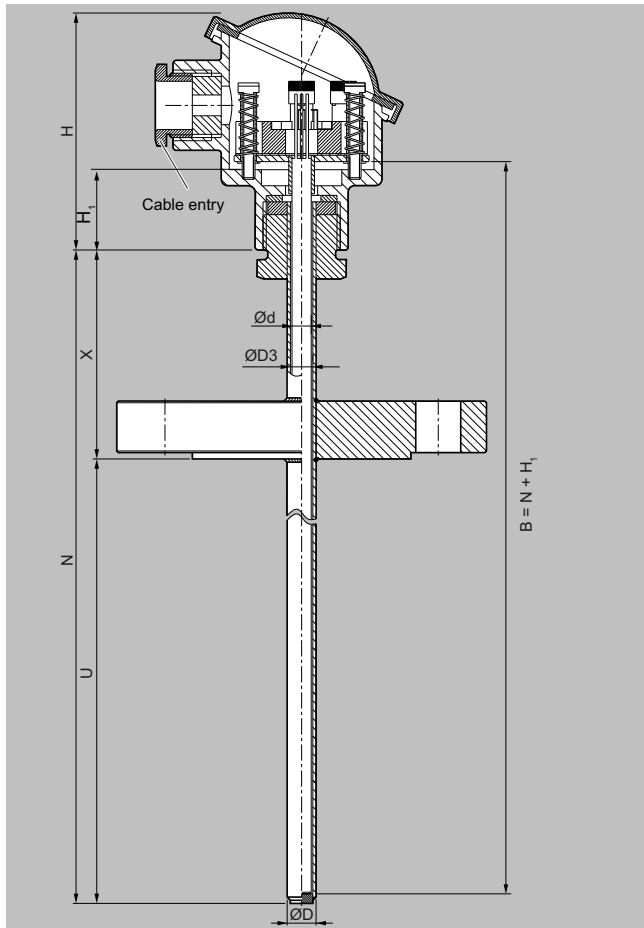
²⁾ Only with connection heads code AG0, AH0, AU0, AV0, without cable gland (select non-Ex version of the optional transmitter).

Temperature Measurement

Temperature sensors

SITRANS TS500 / Tubular thermowells / Type 2F, flange

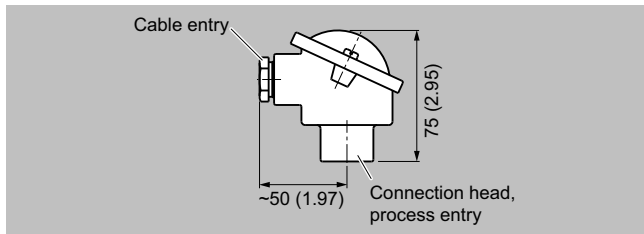
Dimensional drawings



- 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

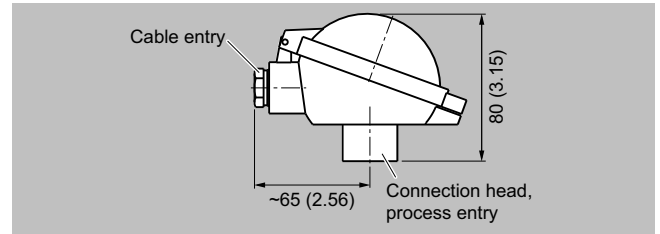
SITRANS TS500, temperature sensors for vessels and pipes, tubular thermowell for low to medium stress, according to DIN 43772, type 2F, with flange, with extension, dimensions in mm (inch)

Connection heads

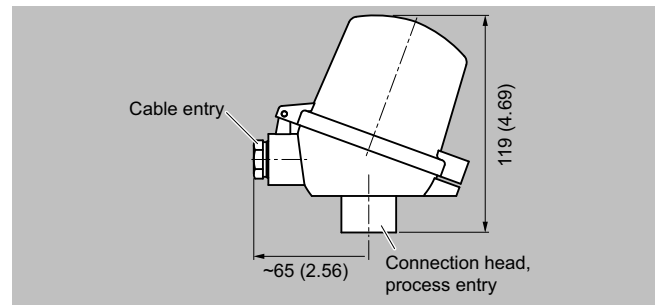


Connection head, aluminum, type BA0, dimensions in mm (inch)

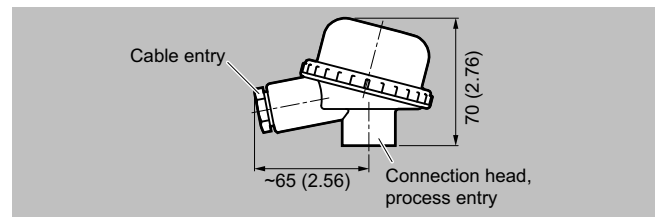
Dimensional drawings (continued)



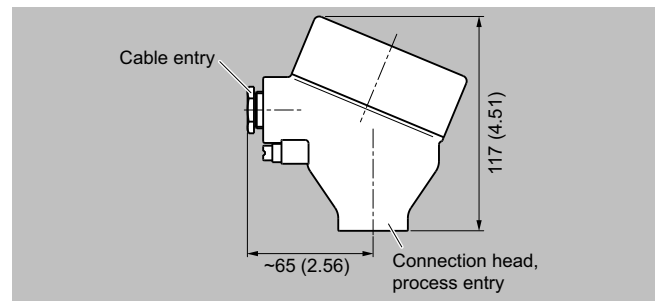
Connection head, aluminum, type BB0, dimensions in mm (inch)



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

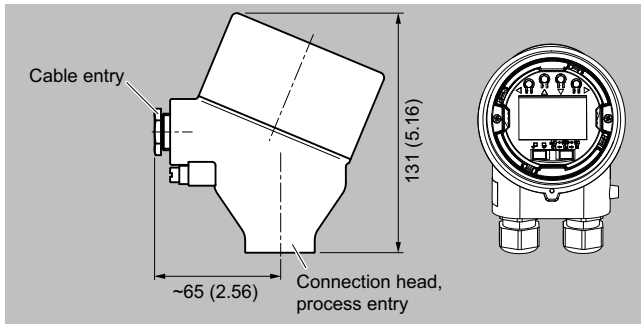


Connection head, plastic, type BM0, dimensions in mm (inch)



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

Dimensional drawings (continued)



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 3, without process connection

Selection and ordering data

SITRANS TS500 Tubular thermowell for low to medium stress, according to DIN 43772, Type 3, without process connection, improved response time, plug-in or for use with sliding compression fittings	Article No. 7MC751 ● - ● ● ● ● - ● ● ● ●						
Click the article number for online configuration in the PIA Life Cycle Portal.							
Wetted material							
316Ti (1.4571)						1	
316L (1.4404 or 1.4435)						2	
Process connection							
Without process connection (for compression fittings) U = N						0	N
Thermowell form							
3. 12/9 mm (0.47/0.35 inches)							K
Installation length "U" (= N), standard							
160 mm (6.3 inches)						0	4
220 mm (8.66 inches)						0	7
280 mm (11.02 inches)						1	3
Installation length "U" customer-specific Specify customer-specific length with Y44, see order codes							
121 ... 140 mm (4.76 ... 5.51 inches) Initial: 140 mm (5.51 inches)						0	3
141 ... 160 mm (5.55 ... 6.30 inches) Initial: 160 mm (6.3 inches)						0	4
161 ... 180 mm (6.34 ... 7.09 inches) Initial: 180 mm (7.09 inches)						0	5
181 ... 200 mm (7.13 ... 7.87 inches) Initial: 200 mm (7.87 inches)						0	6
201 ... 220 mm (7.91 ... 8.66 inches) Initial: 220 mm (8.66 inches)						0	7
221 ... 240 mm (8.70 ... 9.45 inches) Initial: 225 mm (8.86 inches)						1	1
241 ... 260 mm (9.49 ... 10.24 inches) Initial: 250 mm (9.84 inches)						1	2
261 ... 280 mm (10.28 ... 11.02 inches) Initial: 280 mm (11.02 inches)						1	3
281 ... 300 mm (11.06 ... 11.81 inches) Initial: 285 mm (11.22 inches)						1	4
301 ... 320 mm (11.85 ... 12.6 inches) Initial: 315 mm (12.4 inches)						1	5
321 ... 340 mm (12.64 ... 13.39 inches) Initial: 340 mm (13.39 inches)						1	6
341 ... 360 mm (13.43 ... 14.17 inches) Initial: 360 mm (14.17 inches)						2	0
361 ... 380 mm (14.21 ... 14.96 inches) Initial: 380 mm (14.96 inches)						2	1
381 ... 400 mm (15 ... 15.75 inches) Initial: 400 mm (15.75 inches)						2	2
401 ... 420 mm (15.79 ... 16.54 inches) Initial: 420 mm (16.54 inches)						2	3
421 ... 440 mm (16.57 ... 17.32 inches) Initial: 440 mm (17.32 inches)						2	4
441 ... 460 mm (17.36 ... 18.11 inches) Initial: 460 mm (18.11 inches)						2	5
461 ... 480 mm (18.15 ... 18.90 inches) Initial: 465 mm (18.30 inches)						2	6
481 ... 500 mm (18.94 ... 19.69 inches) Initial: 500 mm (19.69 inches)						2	7
501 ... 550 mm (19.72 ... 21.65 inches) Initial: 510 mm (20.08 inches)						3	1
551 ... 600 mm (21.69 ... 23.62 inches) Initial: 600 mm (23.62 inches)						3	2
601 ... 650 mm (23.66 ... 25.59 inches) Initial: 650 mm (25.59 inches)						3	3
651 ... 700 mm (25.63 ... 27.56 inches) Initial: 700 mm (27.56 inches)						3	4
701 ... 750 mm (27.6 ... 29.53 inches) Initial: 750 mm (29.53 inches)						3	5
751 ... 800 mm (29.57 ... 31.50 inches) Initial: 800 mm (31.50 inches)						3	6
801 ... 850 mm (31.5 ... 33.47 inches) Initial: 850 mm (33.47 inches)						3	7

Selection and ordering data (continued)

SITRANS TS500 Tubular thermowell for low to medium stress, according to DIN 43772, Type 3, without process connection, improved response time, plug-in or for use with sliding compression fittings	Article No. 7MC751	● - ● ● ● ● ● - ● ● ● ●
851 ... 900 mm (33.5 ... 35.43 inches) Initial: 900 mm (35.43 inches)		4 1
901 ... 950 mm (35.47 ... 37.4 inches) Initial: 950 mm (37.4 inches)		4 2
951 ... 1 000 mm (37.44 ... 39.37 inches) Initial: 1 000 mm (39.37 inches)		4 3
1 001 ... 1 100 mm (39.4 ... 43.30 inches) Initial: 1 100 mm (43.30 inches)		4 4
Extension Standard length for type 2 according to DIN 43772 (without extension N = U)		0
Head Aluminum head, BA0, flange cap, standard		A
Aluminum head, BBO, spring flap low, screw closure		B
Aluminum head, BCO, spring flap high, screw closure		C
Aluminum head, AG0, screw cover, Ex d suitable ¹⁾		G
Aluminum head, AH0, screw cover, Ex d suitable, local display ¹⁾		H
Plastic head, BMO, screw cover		M
Plastic head, BPO, spring flap high, screw closure		P
Stainless steel head, AU0, screw cover, Ex d suitable ¹⁾		U
Stainless steel head, AV0, screw cover, Ex d suitable, local display ¹⁾		V
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 K thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)		K
Type J thermocouple, -0 ... +750 °C (-18 ... +1 382 °F)		J
Type N thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)		N
Number/precision of sensors 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)		5
Double, increased accuracy (Class 1/Class A)		6
Double, maximum accuracy (Class AA)		7

¹⁾ Ex d in connection with order option E03

²⁾ 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	
Accessories	
With external grounding screw for connection heads AG0, AH0, AU0 and AV0	A02
With external grounding screw for connection heads BCO, AG0, AH0, AU0 and AV0	A03
Compression fitting enclosed	
G½"	A31
NPT½"	A32
Certificates and approvals	
Transmitter test report (5 points)	C11
EN 10204-3.1 Inspection certificate Wetted material	C12
EN 10204-3.1 Inspection certificate Hydrostatic pressure test	C31
EN 10204-3.1 Inspection certificate Helium leak test	C32
EN 10204-3.1 Inspection certificate Surface tear test	C33

Options	Order code
Add "-Z" to article number and specify order code	
EN 10204-3.1 Factory certificate Visual, dimensional and function check	C34
EN 10204-2.1: Declaration of compliance with the order	C35
ISO 9001 grease-free (cleaned for oxygen applications, for example)	C51
EN 10204-3.1 Inspection certificate "Positive Materials Identification" (PMI)	On request
Certificates for functional safety	
SITRANS TH320/420 transmitter with SIL2/3 certificate	C20
Marine approvals	
Det Norske Veritas Germanischer Lloyd (DNV GL)	D01

Temperature Measurement

Temperature sensors

SITRANS TS500 / Tubular thermowells / Type 3, without process connection

Selection and ordering data (continued)

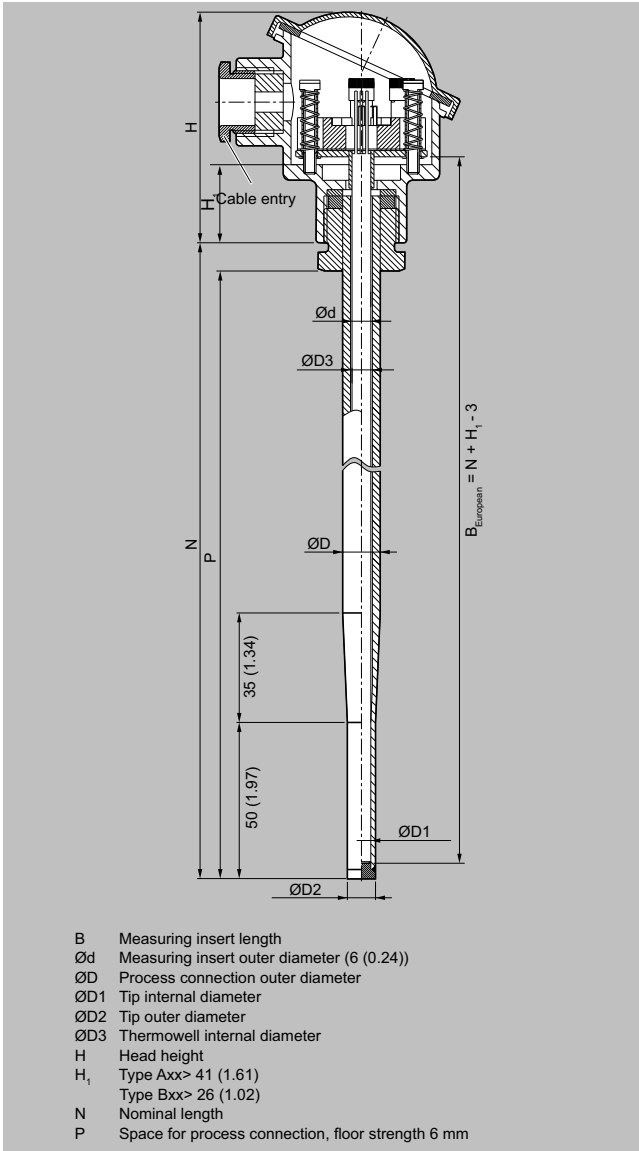
Options Add "-Z" to article number and specify order code	Order code
Type of protection (Ex)	
Without explosion protection requirements (Europe, Australia, New Zealand)	E00
Intrinsic safety "i"/"IS" ¹⁾ according to ATEX and IECEx (Europe, Australia, New Zealand)	E01
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ 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 enclosure "t"/"DIP" ²⁾ 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"/"IS" ¹⁾ according to cCSAus (USA, Canada)	E18
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ according to CSAus (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"/"IS" ¹⁾ according to NEPSI (China)	E55
Flameproof enclosure "d"; dust protection through enclosure "t" ²⁾ according to NEPSI (China)	E56
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
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ according to EACEx (EAC)	E82
Non-sparking "nA"/"NI" according to EACEx (EAC)	E83
Special design	
Flying lead connection type (for direct transmitter mounting, delivery without screws or springs)	G01

Options Add "-Z" to article number and specify order code	Order code
Cable input for connection head	
M12 device plug (in combination with transmitter, non-Ex and intrinsically safe, max. IP65/67)	G12
Han 7 D device plug (non-Ex and intrinsically safe, without mating connector max. IP65/67)	G13
Connection head with ½"-NPT thread without cable gland, for AU0 and AH0 only IP66	G20
SafeGuard 2 × Pt100 4-wire	G30
Built-in head-mounted 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
SITRANS TH420, input 2 × universal, PROFIBUS PA	T44
Device settings (including head-mounted 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
Installation length U customer-specific Select range, plain text specification of desired length (no specification = standard length)	Y44
Customer-specific plain text	
Handling number of the special design	Y99

¹⁾ Select Ex i version of the optional transmitter.

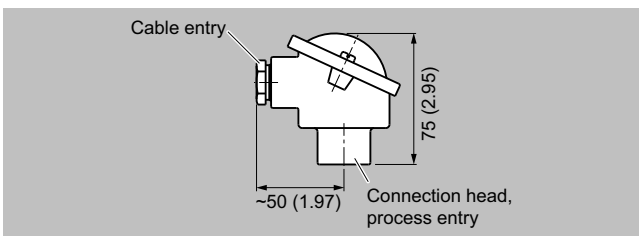
²⁾ Only with connection heads code AG0, AH0, AU0, AV0, without cable gland (select non-Ex version of the optional transmitter).

Dimensional drawings



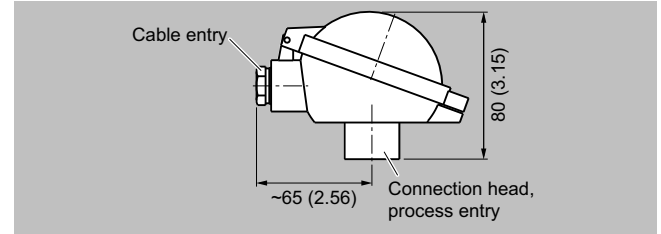
SITRANS TS500, temperature sensors for vessels and pipes, tubular thermowell for low to medium stress, without process connection, without extension, plug-in or for use with sliding compression fittings, dimensions in mm (inch)

Connection heads

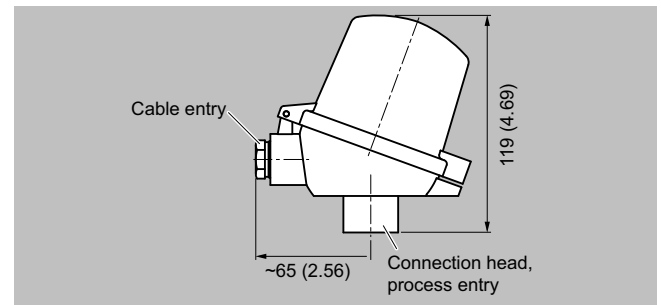


Connection head, aluminum, type BA0, dimensions in mm (inch)

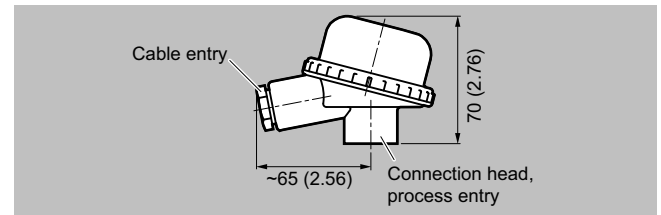
Dimensional drawings (continued)



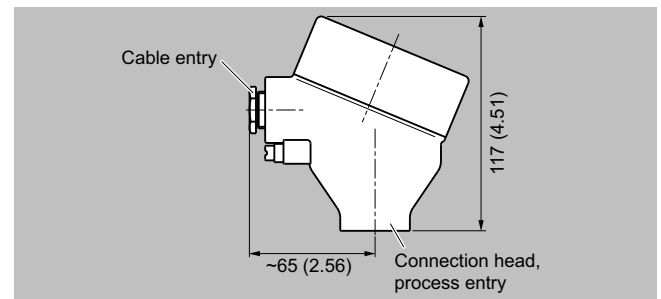
Connection head, aluminum, type BB0, dimensions in mm (inch)



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



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



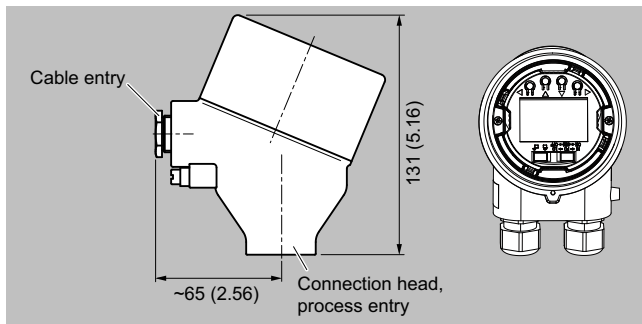
Connection head, aluminum, type AG0, stainless steel, type AU0, dimensions in mm (inch)

Temperature Measurement

Temperature sensors

SITRANS TS500 / Tubular thermowells / Type 3, without process connection

Dimensional drawings (continued)



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

Selection and ordering data

SITRANS TS500	Article No.	Order code
Tubular thermowell made of pipe material for low to medium stress, according to DIN 43772, Type 3G, screwed design, with extension	7MC751	● - ● ● ● ● ● - ● ● ● ● ● ● ● ●
Click the article number for online configuration in the PIA Life Cycle Portal.		
Wetted material		
316Ti (1.4571)	1	
316L (1.4404 or 1.4435)	2	
Process connection		
Cylindrical: G½" (½" BSPP)	1	C
Cylindrical: G¾" (¾" BSPP)	1	D
Tapered: NPT½"	1	J
Tapered: NPT¾"	1	K
Tapered: NPT1"	1	L
Cylindrical: M20 × 1.5	1	V
Cylindrical: M27 × 2.0	1	W
Cylindrical: M33 × 2.0	1	Y
Thermowell form		
3G, 12/9 mm (0.47/0.35 inches)		K
Standard installation length "U"		
160 mm (6.30 inches)		0 4
220 mm (8.66 inches)		0 7
280 mm (11.02 inches)		1 3
Installation length "U" customer-specific		
Specify customer-specific length with Y44, see page 2/83 order codes		
121 ... 140 mm (4.76 ... 5.51 inches) Initial: 140 mm (5.51 inches)		0 3
141 ... 160 mm (5.55 ... 6.30 inches) Initial: 160 mm (6.3 inches)		0 4
161 ... 180 mm (6.34 ... 7.09 inches) Initial: 180 mm (7.09 inches)		0 5
181 ... 200 mm (7.13 ... 7.87 inches) Initial: 200 mm (7.87 inches)		0 6
201 ... 220 mm (7.91 ... 8.66 inches) Initial: 220 mm (8.66 inches)		0 7
221 ... 240 mm (8.70 ... 9.45 inches) Initial: 225 mm (8.86 inches)		1 1
241 ... 260 mm (9.49 ... 10.24 inches) Initial: 250 mm (9.84 inches)		1 2
261 ... 280 mm (10.28 ... 11.02 inches) Initial: 280 mm (11.02 inches)		1 3
281 ... 300 mm (11.06 ... 11.81 inches) Initial: 285 mm (11.22 inches)		1 4
301 ... 320 mm (11.85 ... 12.6 inches) Initial: 315 mm (12.4 inches)		1 5
321 ... 340 mm (12.64 ... 13.39 inches) Initial: 340 mm (13.39 inches)		1 6
341 ... 360 mm (13.43 ... 14.17 inches) Initial: 360 mm (14.17 inches)		2 0
361 ... 380 mm (14.21 ... 14.96 inches) Initial: 380 mm (14.96 inches)		2 1
381 ... 400 mm (15 ... 15.75 inches) Initial: 400 mm (15.75 inches)		2 2
401 ... 420 mm (15.79 ... 16.54 inches) Initial: 420 mm (16.54 inches)		2 3
421 ... 440 mm (16.57 ... 17.32 inches) Initial: 440 mm (17.32 inches)		2 4
441 ... 460 mm (17.36 ... 18.11 inches) Initial: 460 mm (18.11 inches)		2 5
461 ... 480 mm (18.15 ... 18.90 inches) Initial: 465 mm (18.30 inches)		2 6
481 ... 500 mm (18.94 ... 19.69 inches) Initial: 500 mm (19.69 inches)		2 7
501 ... 550 mm (19.72 ... 21.65 inches) Initial: 510 mm (20.08 inches)		3 1

Temperature Measurement

Temperature sensors

SITRANS TS500 / Tubular thermowells / Type 3G, screwed design

Selection and ordering data (continued)

SITRANS TS500	Article No.										Order code					
Tubular thermowell made of pipe material for low to medium stress, according to DIN 43772, Type 3G, screwed design, with extension	7MC751															
	●	-	●	●	●	●	●	-	●	●	●	●	●	●	●	●
551 ... 600 mm (21.69 ... 23.62 inches) Initial: 600 mm (23.62 inches)												3	2			
601 ... 650 mm (23.66 ... 25.59 inches) Initial: 650 mm (25.59 inches)												3	3			
651 ... 700 mm (25.63 ... 27.56 inches) Initial: 700 mm (27.56 inches)												3	4			
701 ... 750 mm (27.6 ... 29.53 inches) Initial: 750 mm (29.53 inches)												3	5			
751 ... 800 mm (29.57 ... 31.50 inches) Initial: 800 mm (31.50 inches)												3	6			
801 ... 850 mm (31.5 ... 33.47 inches) Initial: 850 mm (33.47 inches)												3	7			
851 ... 900 mm (33.5 ... 35.43 inches) Initial: 900 mm (35.43 inches)												4	1			
901 ... 950 mm (35.47 ... 37.4 inches) Initial: 950 mm (37.4 inches)												4	2			
951 ... 1 000 mm (37.44 ... 39.37 inches) Initial: 1 000 mm (39.37 inches)												4	3			
Extension "X"																
Standard length for type 3G DIN 43772 (X=131 mm (5.16 inches))																1
Extension length "X" customer-specific Specify customer-specific length with Y45, see page 2/83 order codes																
75 ... 150 mm (2.95 ... 5.91 inches) Initial: 150 mm (5.91 inches)																9
151 ... 300 mm (5.95 ... 11.81 inches) Initial: 300 mm (11.81 inches)																9
Head																
Aluminum head, BA0, flange cap, standard																A
Aluminum head, BB0, spring flap low, screw closure																B
Aluminum head, BC0, spring flap high, screw closure																C
Aluminum head, AG0, screw cover, Ex d suitable ¹⁾																G
Aluminum head, AH0, screw cover, Ex d suitable, local display ¹⁾																H
Plastic head, BM0, screw cover																M
Plastic head, BP0, spring flap high, screw closure																P
Stainless steel head, AU0, screw cover, Ex d suitable ¹⁾																U
Stainless steel head, AV0, screw cover, Ex d suitable, local display ¹⁾																V
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 K thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)																K
Type J thermocouple, -0 ... +750 °C (-18 ... +1 382 °F)																J
Type N thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)																N
Number/precision of sensors 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)																5
Double, increased accuracy (Class 1/Class A)																6
Double, maximum accuracy (Class AA)																7

¹⁾ Ex d in connection with order option E03

²⁾ Pt1000 versions are also available.

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

Selection and ordering data (continued)

Options	Order code
Add "-Z" to article number and specify order code	
Accessories	
With external grounding screw for connection heads AG0, AHO, AU0 and AV0	A02
With external grounding screw for connection heads BC0, AG0, AHO, AU0 and AV0	A03
Certificates and approvals	
Transmitter test report (5 points)	C11
EN 10204-3.1 Inspection certificate Wetted material	C12
EN 10204-3.1 Inspection certificate Hydrostatic pressure test	C31
EN 10204-3.1 Inspection certificate Helium leak test	C32
EN 10204-3.1 Inspection certificate Surface tear test	C33
EN 10204-3.1 Factory certificate Visual, dimensional and function check	C34
EN 10204-2.1: Declaration of compliance with the order	C35
ISO 9001 grease-free (cleaned for oxygen applications, for example)	C51
EN 10204-3.1 Inspection certificate "Positive Materials Identification" (PMI)	On request
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
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP ⁽²⁾ " 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 enclosure "t"/"DIP ⁽²⁾ " 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"/"IS ⁽¹⁾ " according to cCSAus (USA, Canada)	E18
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP ⁽²⁾ " according to CSAus (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"/"IS ⁽¹⁾ " according to NEPSI (China)	E55
Flameproof enclosure "d"; dust protection through enclosure "t ⁽²⁾ " according to NEPSI (China)	E56
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

Options	Order code
Add "-Z" to article number and specify order code	
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP ⁽²⁾ " according to EACEx (EAC)	E82
Non-sparking "nA"/"NI" according to EACEx (EAC)	E83
Special design	
Flying lead connection type (for direct transmitter mounting, delivery without screws or springs)	G01
Cable input for connection head	
M12 device plug (in combination with transmitter, non-Ex and intrinsically safe, max. IP65/67)	G12
Han 7 D 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 AHO only IP66	G20
SafeGuard 2 x Pt100 4-wire	G30
Built-in head-mounted transmitter	
Measuring range to be set must be specified with plain text data "Y01".	
SITRANS TH100, input 1 x Pt100, 4 ... 20 mA	T12
SITRANS TH320, input 1 x universal, 4 ... 20 mA	T24
SITRANS TH320, input 1 x universal, HART	T34
SITRANS TH420, input 2 x universal, HART	T35
SITRANS TH420, input 2 x universal, PROFIBUS PA	T44
Device settings (including head-mounted 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
Installation length U customer-specific Select range, plain text specification of desired length (no specification = standard length)	Y44
Extension length X customer-specific Select range, plain text specification of desired length (no specification = standard length)	Y45
Customer-specific plain text	
Handling number of the special design	Y99

¹⁾ Select Ex i version of the optional transmitter.

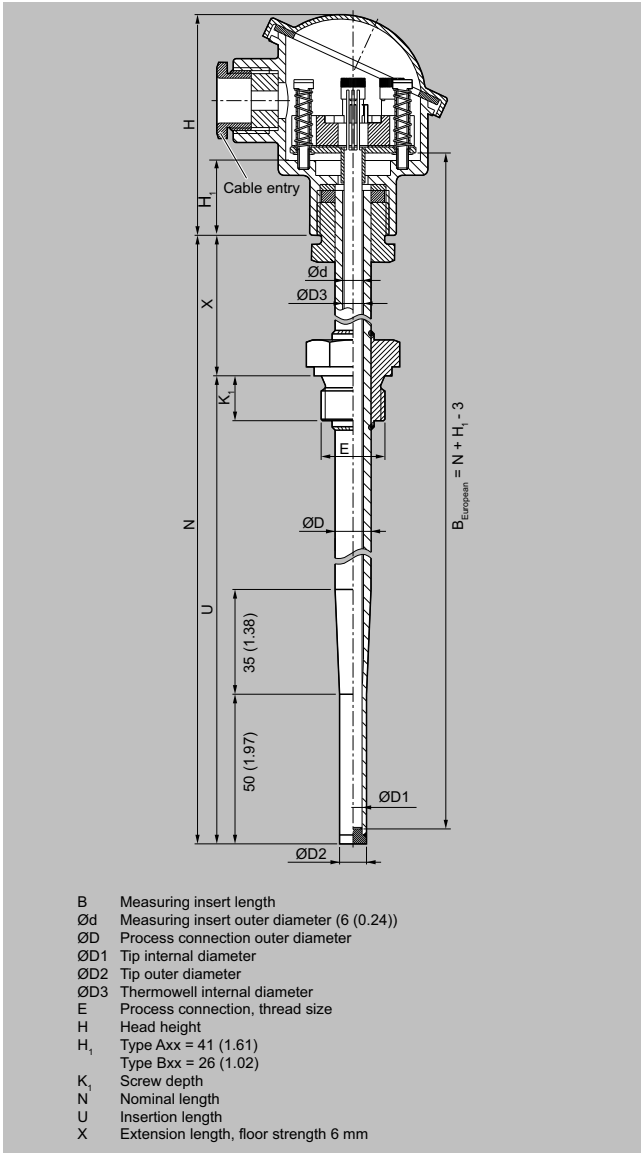
²⁾ Only with connection heads code AG0, AHO, AU0, AV0, without cable gland (select non-Ex version of the optional transmitter).

Temperature Measurement

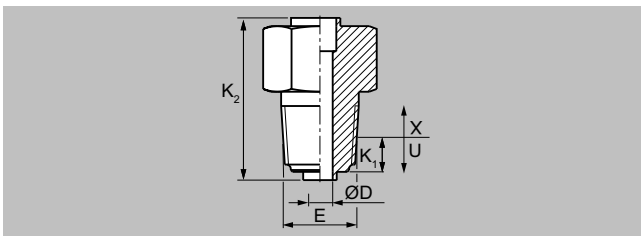
Temperature sensors

SITRANS TS500 / Tubular thermowells / Type 3G, screwed design

Dimensional drawings



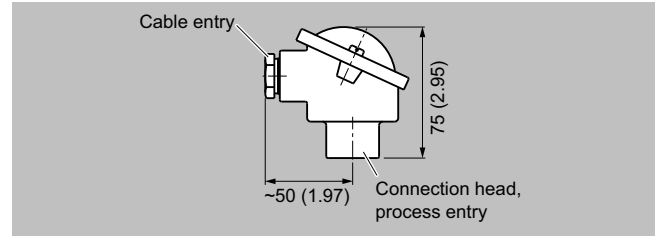
SITRANS TS500, temperature sensors for vessels and pipes, tubular thermowell for low to medium stress, according to DIN 43772, type 3G, screwed design, without process connection, with extension, for screw-in depth dimensions, see "Technical reference", "Thread shapes" page, dimensions in mm (inch).



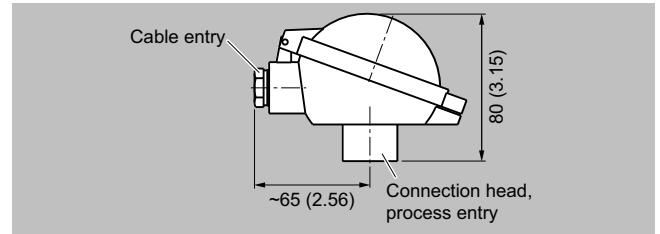
Process connection tapered, dimensions in mm (inch)

Dimensional drawings (continued)

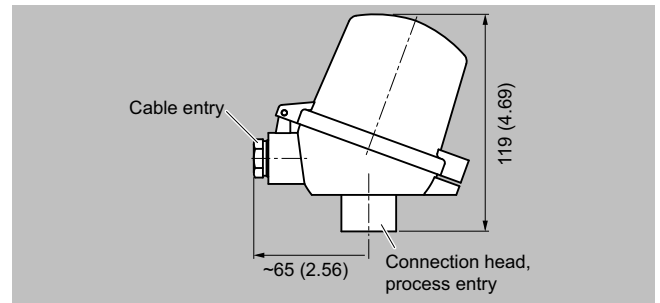
Connection heads



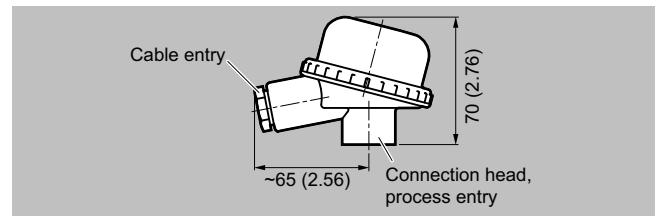
Connection head, aluminum, type BA0, dimensions in mm (inch)



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

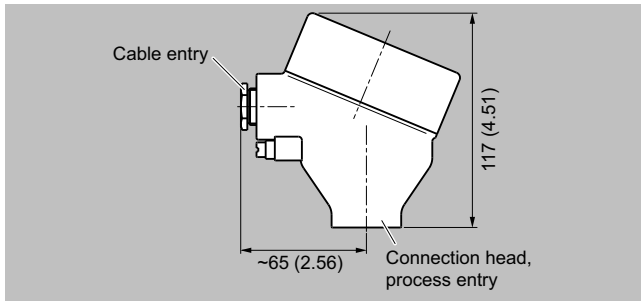


Connection head, aluminum, type BCO, plastic, type BPO, dimensions in mm (inch)

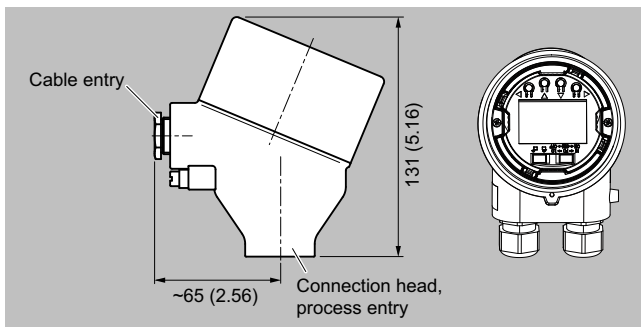


Connection head, plastic, type BM0, dimensions in mm (inch)

Dimensional drawings (continued)



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 3F, flange

Selection and ordering data

	Article No.	Order code
SITRANS TS500	7MC751	
Tubular thermowell for low to medium stress, according to DIN 43772, Type 3F, with flange, with extension	● - ● ● ● ● ● - ● ● ● ● ● ● ● ●	
Click the article number for online configuration in the PIA Life Cycle Portal.		
Wetted material		
316Ti (1.4571)	1	
316L (1.4404 or 1.4435)	2	
Process connection		
Flange EN; DN 25 PN10 ... 40 B1	2	A
Flange EN; DN 40 PN 40 B1	2	B
Flange EN; DN 50 PN 40 B1	2	C
Flange ASME; 1.0" RF 150	2	E
Flange ASME; 1.0" RF 300	2	F
Flange ASME; 1.5" RF 150	2	G
Flange ASME; 1.5" RF 300	2	H
Flange ASME; 2.0" RF 150	2	J
Flange ASME; 2.0" RF 300	2	K
Flange ASME; 1.0" RF 600	2	L
Flange ASME; 1.5" RF 600	2	N
Flange ASME; 1.5" RF 900	2	R
Flange ASME; 2.0" RF 600	2	S
Flange ASME; 2.0" RF 900	2	T
Flange EN; DN 32 PN 40 B1	4	A
Flange EN; DN 40 PN 100 B1	4	B
Flange EN; DN 50 PN 16 B1	4	C
Flange EN; DN 80 PN 16 B1	4	D
Flange EN; DN 100 PN 16 B1	4	E
Thermowell form		
3F; 12/9 mm (0.47/0.35 inches)		K
Standard installation length "U"		
225 mm (8.86 inches)		1 1
285 mm (11.22 inches)		1 4
345 mm (13.58 inches)		1 7
Installation length "U" customer-specific		
Specify customer-specific length with Y44, see order codes		
121 ... 140 mm (4.76 ... 5.51 inches) Initial: 140 mm (5.51 inches)		0 3
141 ... 160 mm (5.55 ... 6.30 inches) Initial: 160 mm (6.3 inches)		0 4
161 ... 180 mm (6.34 ... 7.09 inches) Initial: 180 mm (7.09 inches)		0 5
181 ... 200 mm (7.13 ... 7.87 inches) Initial: 200 mm (7.87 inches)		0 6
201 ... 220 mm (7.91 ... 8.66 inches) Initial: 220 mm (8.66 inches)		0 7
221 ... 240 mm (8.70 ... 9.45 inches) Initial: 225 mm (8.86 inches)		1 1
241 ... 260 mm (9.49 ... 10.24 inches) Initial: 250 mm (9.84 inches)		1 2
261 ... 280 mm (10.28 ... 11.02 inches) Initial: 280 mm (11.02 inches)		1 3
281 ... 300 mm (11.06 ... 11.81 inches) Initial: 285 mm (11.22 inches)		1 4
301 ... 320 mm (11.85 ... 12.6 inches) Initial: 315 mm (12.4 inches)		1 5
321 ... 340 mm (12.64 ... 13.39 inches) Initial: 340 mm (13.39 inches)		1 6
341 ... 360 mm (13.43 ... 14.17 inches) Initial: 345 mm (13.58 inches)		1 7
361 ... 380 mm (14.21 ... 14.96 inches) Initial: 380 mm (14.96 inches)		2 1
381 ... 400 mm (15 ... 15.75 inches) Initial: 400 mm (15.75 inches)		2 2

Selection and ordering data (continued)

SITRANS TS500	Article No.	Order code
Tubular thermowell for low to medium stress, according to DIN 43772, Type 3F, with flange, with extension	7MC751	● - ● ● ● ● ● - ● ● ● ● ● ● ● ●
401 ... 420 mm (15.79 ... 16.54 inches) Initial: 420 mm (16.54 inches)		2 3
421 ... 440 mm (16.57 ... 17.32 inches) Initial: 440 mm (17.32 inches)		2 4
441 ... 460 mm (17.36 ... 18.11 inches) Initial: 460 mm (18.11 inches)		2 5
461 ... 480 mm (18.15 ... 18.90 inches) Initial: 465 mm (18.30 inches)		2 6
481 ... 500 mm (18.94 ... 19.69 inches) Initial: 500 mm (19.69 inches)		2 7
501 ... 550 mm (19.72 ... 21.65 inches) Initial: 510 mm (20.08 inches)		3 1
551 ... 600 mm (21.69 ... 23.62 inches) Initial: 600 mm (23.62 inches)		3 2
601 ... 650 mm (23.66 ... 25.59 inches) Initial: 650 mm (25.59 inches)		3 3
651 ... 700 mm (25.63 ... 27.56 inches) Initial: 700 mm (27.56 inches)		3 4
701 ... 750 mm (27.6 ... 29.53 inches) Initial: 750 mm (29.53 inches)		3 5
751 ... 800 mm (29.57 ... 31.50 inches) Initial: 800 mm (31.50 inches)		3 6
801 ... 850 mm (31.5 ... 33.47 inches) Initial: 850 mm (33.47 inches)		3 7
851 ... 900 mm (33.5 ... 35.43 inches) Initial: 900 mm (35.43 inches)		4 1
901 ... 950 mm (35.47 ... 37.4 inches) Initial: 950 mm (37.4 inches)		4 2
951 ... 1 000 mm (37.44 ... 39.37 inches) Initial: 1 000 mm (39.37 inches)		4 3
1 001 ... 1 100 mm (39.4 ... 43.30 inches) Initial: 1 100 mm (43.30 inches)		4 4
Extension "X"		
Standard length for type 3F DIN 43772 (X=66 mm (2.60 inches))		1
Extension length "X" customer-specific Specify customer-specific length with Y45, see page 2/88 order codes		
75 ... 150 mm (2.95 ... 5.91 inches) Initial: 150 mm (5.91 inches)		9 N 1 D
151 ... 300 mm (5.95 ... 11.81 inches) Initial: 300 mm (11.81 inches)		9 N 2 D
Head		
Aluminum head, BA0, flange cap, standard		A
Aluminum head, BB0, spring flap low, screw closure		B
Aluminum head, BC0, spring flap high, screw closure		C
Aluminum head, AG0, screw cover, Ex d suitable ¹⁾		G
Aluminum head, AH0, screw cover, Ex d suitable, local display ¹⁾		H
Plastic head, BM0, screw cover		M
Plastic head, BP0, spring flap high, screw closure		P
Stainless steel head, AU0, screw cover, Ex d suitable ¹⁾		U
Stainless steel head, AV0, screw cover, Ex d suitable, local display ¹⁾		V
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 K thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)		K
Type J thermocouple, -0 ... +750 °C (-18 ... +1 382 °F)		J
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)		1
Single, increased accuracy (Class 1/Class A)		2

Temperature Measurement

Temperature sensors

SITRANS TS500 / Tubular thermowells / Type 3F, flange

Selection and ordering data (continued)

	Article No.	Order code
SITRANS TS500	7MC751	
Tubular thermowell for low to medium stress, according to DIN 43772, Type 3F, with flange, with extension	● - ● ● ● ● ● - ● ● ● ● ● ● ● ●	
Single, maximum accuracy (Class AA)		3
Double, basic accuracy (Class 2/Class B)		5
Double, increased accuracy (Class 1/Class A)		6
Double, maximum accuracy (Class AA)		7

1) Ex d in connection with order option E03

2) 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	
Accessories	
With external grounding screw for connection heads AG0, AHO, AU0 and AV0	A02
With external grounding screw for connection heads BCO, AG0, AHO, AU0 and AV0	A03
Certificates and approvals	
Transmitter test report (5 points)	C11
EN 10204-3.1 Inspection certificate Wetted material	C12
EN 10204-3.1 Inspection certificate Hydrostatic pressure test	C31
EN 10204-3.1 Inspection certificate Helium leak test	C32
EN 10204-3.1 Inspection certificate Surface tear test	C33
EN 10204-3.1 Factory certificate Visual, dimensional and function check	C34
EN 10204-2.1: Declaration of compliance with the order	C35
ISO 9001 grease-free (cleaned for oxygen applications, for example)	C51
EN 10204-3.1 Inspection certificate "Positive Materials Identification" (PMI)	On request
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" according to ATEX and IECEx (Europe, Australia, New Zealand)	E01
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" 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 enclosure "t"/"DIP" 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"/"IS" according to cCSAus (USA, Canada)	E18
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" according to CSAus (USA); other connections (M, G, R)	E21
Non-sparking "nA"/"NI" according to cCSAus (USA, Canada)	E23

Options	Order code
Add "-Z" to article number and specify order code	
Without explosion protection requirements (China)	E54
Intrinsic safety "i"/"IS" according to NEPSI (China)	E55
Flameproof enclosure "d"; dust protection through enclosure "t" according to NEPSI (China)	E56
Non-sparking "nA"/"NI" according to NEPSI (China)	E57
Without explosion protection requirements (EAC)	E80
Intrinsic safety "i"/"IS" according to EACEx (EAC)	E81
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" according to EACEx (EAC)	E82
Non-sparking "nA"/"NI" according to EACEx (EAC)	E83
Special design	
Flying lead connection type (for direct transmitter mounting, delivery without screws or springs)	G01
Cable input for connection head	
M12 device plug (in combination with transmitter, non-Ex and intrinsically safe, max. IP65/67)	G12
Han 7 D 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 AHO only IP66	G20
SafeGuard 2 x Pt100 4-wire	G30
Built-in head-mounted transmitter	
Measuring range to be set must be specified with plain text data "Y01".	
SITRANS TH100, input 1 x Pt100, 4 ... 20 mA	T12
SITRANS TH320, input 1 x universal, 4 ... 20 mA	T24
SITRANS TH320, input 1 x universal, HART	T34
SITRANS TH420, input 2 x universal, HART	T35
SITRANS TH420, input 2 x universal, PROFIBUS PA	T44
Device settings (including head-mounted 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

Selection and ordering data (continued)

Options	Order code
Add "-Z" to article number and specify order code	
Specify bus address in plain text	Y25
Installation length U customer-specific Select range, plain text specification of desired length (no specification = standard length)	Y44
Extension length X customer-specific Select range, plain text specification of desired length (no specification = standard length)	Y45

Options	Order code
Add "-Z" to article number and specify order code	
Customer-specific plain text	
Handling number of the special design	Y99

¹⁾ Select Ex i version of the optional transmitter.

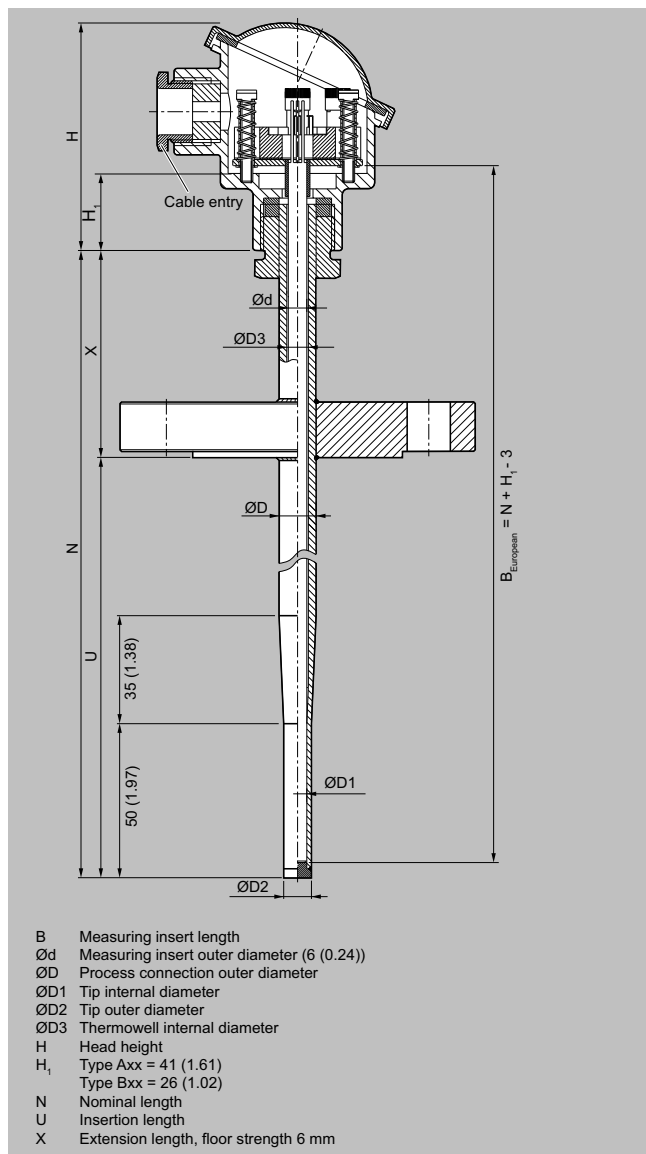
²⁾ Only with connection heads code AG0, AHO, AU0, AV0, without cable gland (select non-Ex version of the optional transmitter).

Temperature Measurement

Temperature sensors

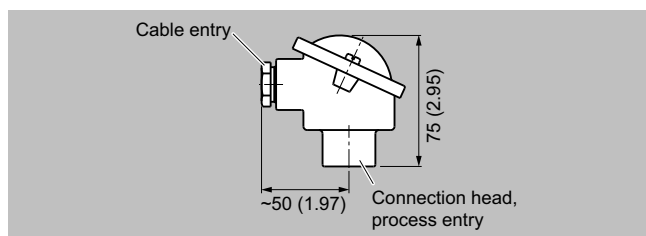
SITRANS TS500 / Tubular thermowells / Type 3F, flange

Dimensional drawings



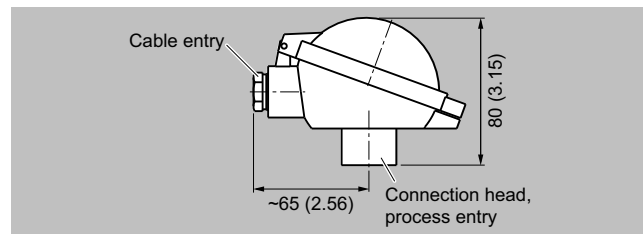
SITRANS TS500, temperature sensors for vessels and pipes, tubular thermowell for low to medium stress, according to DIN 43772, type 3F, with flange, with extension, dimensions in mm (inch)

Connection heads

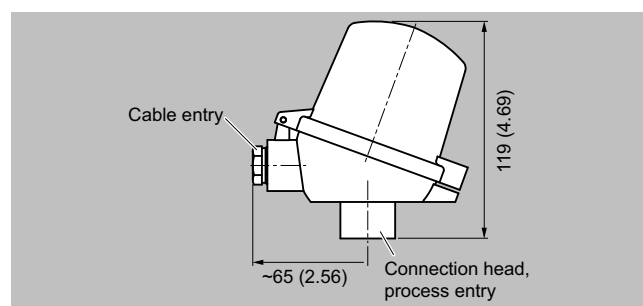


Connection head, aluminum, type BA0, dimensions in mm (inch)

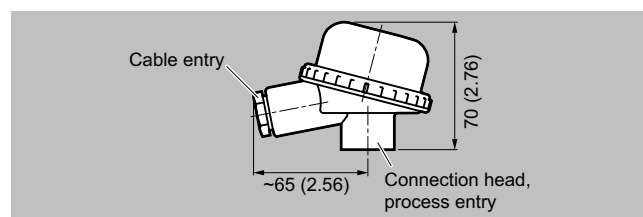
Dimensional drawings (continued)



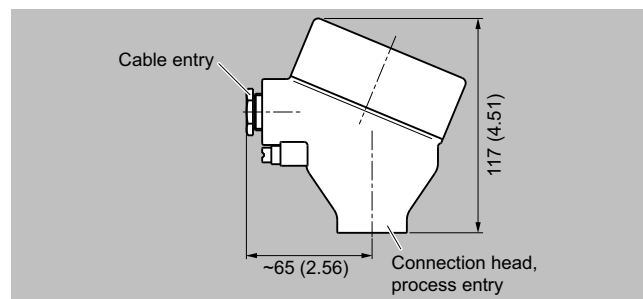
Connection head, aluminum, type BB0, dimensions in mm (inch)



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

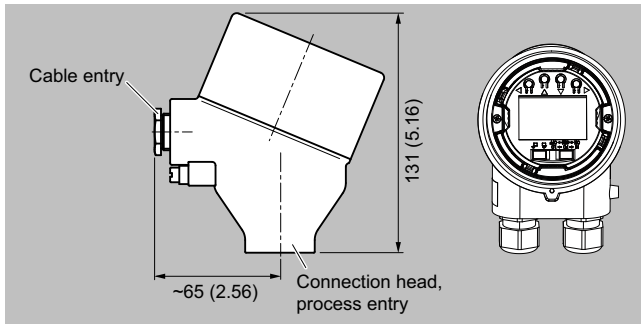


Connection head, plastic, type BM0, dimensions in mm (inch)



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

Dimensional drawings (continued)



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

Temperature Measurement

Temperature sensors

SITRANS TS500 / Barstock thermowells / Type 4+4F

Selection and ordering data

	Article No.	Order code
SITRANS TS500	7MC752	
Barstock thermowell for connection head, with local display and medium to high stress, according to DIN 43772. Type 4, for welding, Type 4F with flange, with extension	● - ● ● ● ● ● - ● ● ● ● ● ● ● ●	
Click the article number for online configuration in the PIA Life Cycle Portal.		
Wetted material		
316Ti (1.4571)	1	
316L (1.4404 or 1.4435)	2	
1.7335 Heat-resistant, only for versions without flange	3	
1.5415 Heat-resistant, only for versions without flange	4	
Process connection		
None (for welding)	0	N
Flange DN25 PN10 ... 40 B1	2	A
Flange 1"RF150	2	E
Flange 1"RF300	2	F
Flange 1.5"RF150	2	G
Flange 1.5"RF300	2	H
Thermowell form		
Version with flange: Deviating from standard [U = L-70 mm (2.76 inches)] installation length "U"; specify in plain text with Y44. [Min: U = C; Max: U = L-50 mm (1.97 inches)]		
Type 4/4F L = 140 mm (5.51 inches), C = 65 mm (3.74 inches), ØD = 24 mm (0.95 inches), Ød = 6 mm (0.24 inches)		A 0 0
Type 4/4F L = 200 mm (7.87 inches), C = 65 mm (3.74 inches), ØD = 24 mm (0.95 inches), Ød = 6 mm (0.24 inches)		B 0 0
Type 4/4F L = 200 mm (7.87 inches), C = 125 mm (4.92 inches), ØD = 24 mm (0.95 inches), Ød = 6 mm (0.24 inches)		D 0 0
Type 4/4F L = 260 mm (10.24 inches), C = 125 mm (4.92 inches), ØD = 24 mm (0.95 inches), Ød = 6 mm (0.24 inches)		E 0 0
Extension "X"		
According to DIN 43772, (X=149 mm (5.87 inches))		1
Extension length "X" customer-specific		
Specify customer-specific length with Y45, see page 2/93 order codes		
75 ... 150 mm (2.95 ... 5.91 inches) Initial: 150 mm (5.91 inches)	9	N 1 D
151 ... 300 mm (5.95 ... 11.81 inches) Initial: 300 mm (11.81 inches)	9	N 2 D
301 ... 450 mm (11.85 ... 17.72 inches) Initial: 450 mm (17.72 inches)	9	N 3 D
451 ... 600 mm (17.86 ... 23.62 inches) Initial: 600 mm (23.62 inches)	9	N 4 D
601 ... 750 mm (23.66 ... 29.53 inches) Initial: 750 mm (29.53 inches)	9	N 5 D
751 ... 900 mm (29.57 ... 45.43 inches) Initial: 900 mm (45.43 inches)	9	N 6 D
901 ... 1 050 mm (45.47 ... 41.34 inches) Initial: 1 050 mm (41.34 inches)	9	N 7 D
Head		
Aluminum head, BAO, flange cap, standard		A
Aluminum head, BBO, spring flap low, screw closure		B
Aluminum head, BCO, spring flap high, screw closure		C
Aluminum head, AGO, screw cover, Ex d suitable ¹⁾		G
Aluminum head, AHO, screw cover, Ex d suitable, local display ¹⁾		H
Plastic head, BMO, screw cover		M
Plastic head, BPO, spring flap high, screw closure		P
Stainless steel head, AU0, screw cover, Ex d suitable ¹⁾		U
Stainless steel head, AV0, screw cover, Ex d suitable, local display ¹⁾		V
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 K thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)		K
Type J thermocouple, -0 ... +750 °C (-18 ... +1 382 °F)		J
Type N thermocouple, -270 ... +1 100 °C (-167 ... +2 012 °F)		N

Selection and ordering data (continued)

SITRANS TS500	Article No.	Order code
Barstock thermowell for connection head, with local display and medium to high stress, according to DIN 43772. Type 4, for welding, Type 4F with flange, with extension	7MC752	● - ● ● ● ● ● - ● ● ● ● ● ● ● ●
Number/precision of sensors 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)		5
Double, increased accuracy (Class 1/Class A)		6
Double, maximum accuracy (Class AA)		7

1) Ex d in connection with order option E03

2) 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	
Accessories	
With external grounding screw for connection heads AG0, AHO, AUO and AVO	A02
With external grounding screw for connection heads BC0, AG0, AHO, AUO and AVO	A03
Certificates and approvals	
Transmitter test report (5 points)	C11
EN 10204-3.1 Inspection certificate Wetted material	C12
EN 10204-3.1 Inspection certificate Hydrostatic pressure test	C31
EN 10204-3.1 Inspection certificate Helium leak test	C32
EN 10204-3.1 Inspection certificate Surface tear test	C33
EN 10204-3.1 Factory certificate Visual, dimensional and function check	C34
EN 10204-2.1: Declaration of compliance with the order	C35
ISO 9001 grease-free (cleaned for oxygen applications, for example)	C51
EN 10204-3.1 Inspection certificate "Positive Materials Identification" (PMI)	On request
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
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP ² " 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 enclosure "t"/"DIP ² " 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

Options	Order code
Add "-Z" to article number and specify order code	
Intrinsic safety "i"/"IS ¹ " according to cCSAus (USA, Canada)	E18
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP ² " according to CSAus (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"/"IS ¹ " according to NEPSI (China)	E55
Flameproof enclosure "d"; dust protection through enclosure "t ² " according to NEPSI (China)	E56
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
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP ² " according to EACEx (EAC)	E82
Non-sparking "nA"/"NI" according to EACEx (EAC)	E83
Special design	
Flying lead connection type (for direct transmitter mounting, delivery without screws or springs)	G01
Full penetration process connection for 316L/316TI	G02
Cable input for connection head	
M12 device plug (in combination with transmitter, non-Ex and intrinsically safe, max. IP65/67)	G12
Han 7 D device plug (non-Ex and intrinsically safe, without mating connector max. IP65/67)	G13
Connection head with ½"-NPT thread without cable gland, for AUO and AHO only IP66	G20
SafeGuard 2 × Pt100 4-wire	G30
Built-in head-mounted 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
SITRANS TH420, input 2 × universal, PROFIBUS PA	T44
Device settings (including head-mounted 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

Temperature Measurement

Temperature sensors

SITRANS TS500 / Barstock thermowells / Type 4+4F

Selection and ordering data (continued)

Options	Order code
Add "-Z" to article number and specify order code	
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

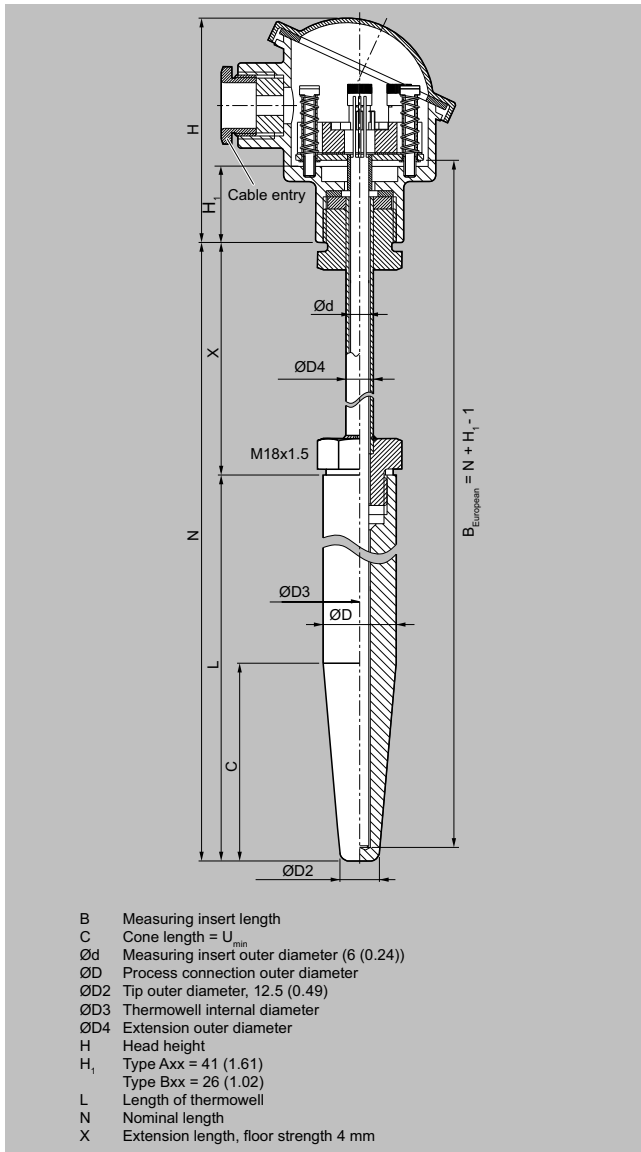
Options	Order code
Add "-Z" to article number and specify order code	
Specify bus address in plain text	Y25
Installation length U customer-specific Select range, plain text specification of desired length (no specification = standard length)	Y44
Extension length X customer-specific Select range, plain text specification of desired length (no specification = standard length)	Y45
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).

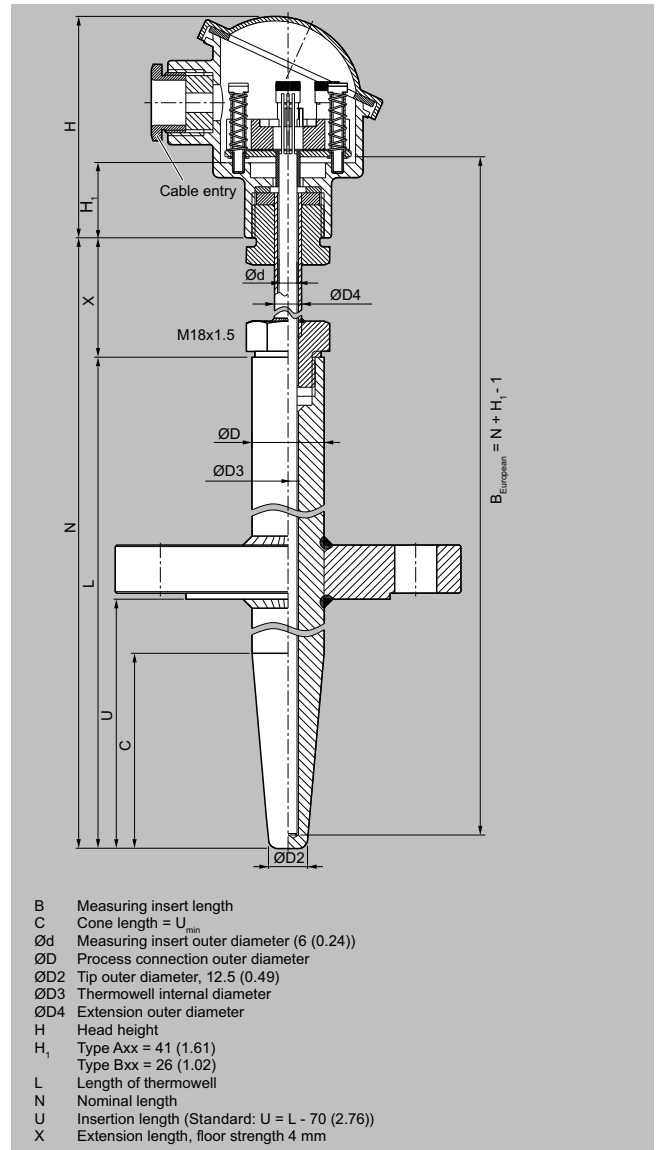
Dimensional drawings

SITRANS TS500, temperature sensors for vessels and pipes, barstock thermowell for medium to extreme stress, according to DIN 43772.



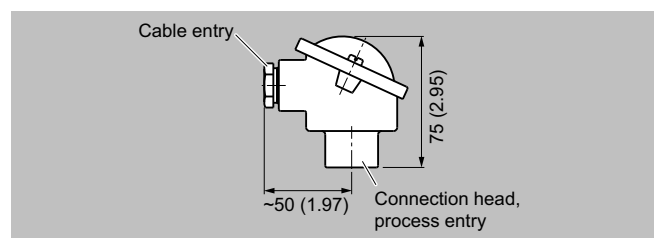
Thermowell type 4, for welding in, with extension, dimensions in mm (inch)

Dimensional drawings (continued)



Thermowell type 4F, with flange, with extension, dimensions in mm (inch)

Connection heads



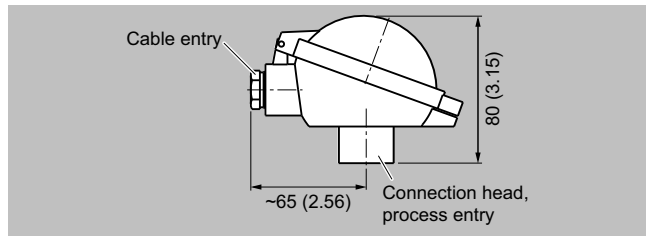
Connection head, aluminum, type BA0, dimensions in mm (inch)

Temperature Measurement

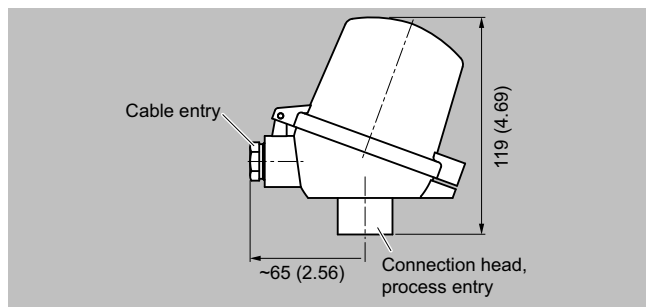
Temperature sensors

SITRANS TS500 / Barstock thermowells / Type 4+4F

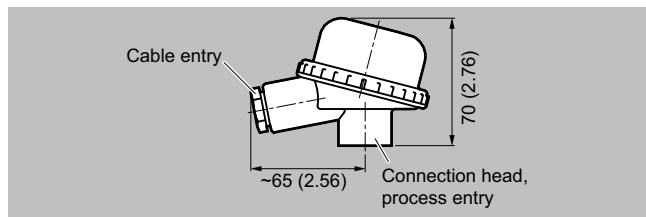
Dimensional drawings (continued)



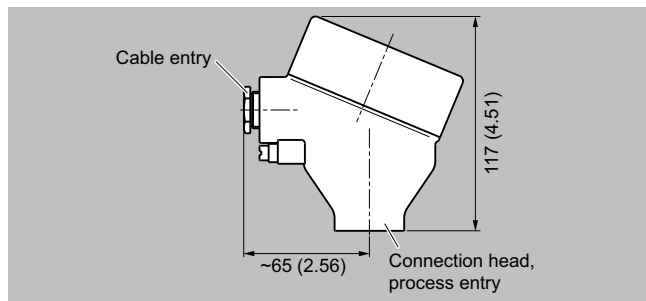
Connection head, aluminum, type BB0, dimensions in mm (inch)



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

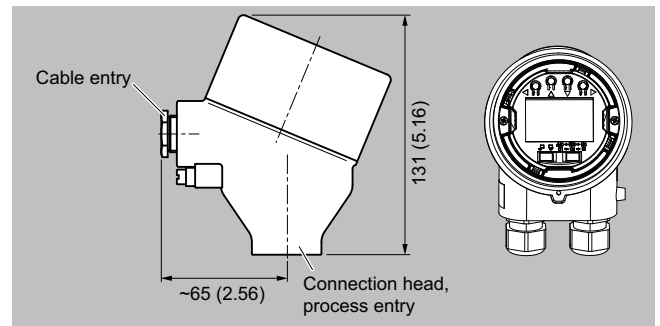


Connection head, plastic, type BM0, dimensions in mm (inch)



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

Dimensional drawings (continued)



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

Selection and ordering data

SITRANS TS500	Article No.	Order code
Temperature sensors for installation in existing thermowells, suitable for thermowells in accordance with DIN 43772 and ASME B40.9-2001, with extension of European or American type	7MC7500-	● ● ● ● ● - ● ● ● ● ● ● ● ●
Click the article number for online configuration in the PIA Life Cycle Portal.		
Design		
Existing thermowells	1	
Thread form:		
G½" (½"BSPP) (not for American type)	C	
NPT½"	J	
M14x1.5 (not for American type)	T	
M18x1.5 (not for American type)	U	
M20x1.5 (not for American type)	V	
Without thread	N	
Special design	Z	J 1 Y
Installation length "U" unloaded, standard lengths		
110 mm (4.33 inches)	B 1	
140 mm (5.51 inches)	B 2	
200 mm (7.87 inches)	C 1	
260 mm (10.24 inches)	C 2	
410 mm (16.14 inches)	E 1	
Installation length "U" unloaded, customer-specific Specify customer-specific length with Y44, see order codes		
30 ... 100 mm (1.18 ... 3.94 inches) Initial: 100 mm (3.94 inches)	A 0	
101 ... 200 mm (3.98 ... 7.87 inches) Initial: 200 mm (7.87 inches)	B 0	
201 ... 300 mm (7.91 ... 11.81 inches) Initial: 300 mm (11.81 inches)	C 0	
301 ... 400 mm (11.85 ... 15.75 inches) Initial: 400 mm (15.75 inches)	D 0	
401 ... 500 mm (15.79 ... 19.69 inches) Initial: 500 mm (19.69 inches)	E 0	
501 ... 600 mm (19.72 ... 23.62 inches) Initial: 600 mm (23.62 inches)	F 0	
601 ... 800 mm (23.66 ... 31.50 inches) Initial: 800 mm (31.50 inches)	G 0	
801 ... 1 000 mm (31.54 ... 39.37 inches) Initial: 1 000 mm (39.37 inches)	H 0	
1 001 ... 1 250 mm (39.41 ... 49.21 inches) Initial: 1 250 mm (49.21 inches)	J 0	
1 251 ... 1 500 mm (49.25 ... 59.05 inches) Initial: 1 500 mm (59.05 inches)	K 0	
Special length < 30 mm (1.18 inches) or > 1 500 mm (59.00 inches)	X 0	
Diameter measuring tip "d"		
6 mm (0.24 inches)	6	
8 mm (0.31 inches) (with barrel = not exchangeable)	8	
10 mm (0.39 inches) (with barrel = not exchangeable)	0	
Extension X		
Without extension		0
European type		
• X = 65 (M = 81 mm) (3.15 inches) adjustable		1
• X = 139 mm (5.47 inches) (M = 155 mm (6.10 inches)) adjustable (DIN standard length for L=110)		2
• X = 149 mm (5.87 inches) (M = 165 mm (6.50 inches)) adjustable		3
American type		
• X = 74 mm (2.91 inches), integrated sensor suspension, NIP non-adjustable (NPT½"), Umin = 100 mm		6
• X = 150 mm (5.91 inches) integrated sensor suspension NUN adjustable (NPT½")		8
Extension length "X" customer-specific Specify customer-specific length with Y45, see page 2/98 order codes		
75 ... 150 mm (2.95 ... 5.91 inches) Initial: 150 mm (5.91 inches)	9	N 1
151 ... 300 mm (5.95 ... 11.81 inches) Initial: 300 mm (11.81 inches)	9	N 2

Temperature Measurement

Temperature sensors

SITRANS TS500 / for installation in existing thermowells

Selection and ordering data (continued)

SITRANS TS500	Article No.	Order code
Temperature sensors for installation in existing thermowells, suitable for thermowells in accordance with DIN 43772 and ASME B40.9-2001, with extension of European or American type	7MC7500-	● ● ● ● ● - ● ● ● ● ● ● ● ●
301 ... 450 mm (11.85 ... 17.72 inches) Initial: 450 mm (17.72 inches)	9	N 3
Special length < 45 mm (1.77 inches) or > 450 mm (17.7 inches)	9	N 8
Design		
European type (M24 adjustable)		D
Head		
Aluminum head, BA0, flange cap, standard	A	
Aluminum head, BBO, spring flap low, screw closure	B	
Aluminum head, BCO, spring flap high, screw closure	C	
Aluminum head, AG0, screw cover, Ex d suitable ¹⁾	G	
Aluminum head, AH0, screw cover, Ex d suitable, local display ¹⁾	H	
Plastic head, BMO, screw cover	M	
Plastic head, BPO, spring flap high, screw closure	P	
Stainless steel head, AU0, screw cover, Ex d suitable ¹⁾	U	
Stainless steel head, AVO, screw cover, Ex d suitable, local display ¹⁾	V	
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)		1
Single, increased accuracy (Class 1/Class A)		2
Single, maximum accuracy (Class AA)		3
Double, basic accuracy (Class 2/Class B)		5
Double, increased accuracy (Class 1/Class A)		6
Double, maximum accuracy (Class AA)		7

¹⁾ Ex d in connection with order option E03

²⁾ 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	
Accessories	
With external grounding screw for connection heads AG0, AH0, AU0 and AV0	A02
With external grounding screw for connection heads BCO, AG0, AH0, AU0 and AV0	A03
Certificates and approvals	
Transmitter test report (5 points)	C11
EN 10204-3.1 Factory certificate Visual, dimensional and function check	C34
EN 10204-2.1: Declaration of compliance with the order	C35
EN 10204-3.1 Inspection certificate "Positive Materials Identification" (PMI)	On request
Certificates for functional safety	
SITRANS TH320/420 transmitter with SIL2/3 certificate	C20
Marine approvals	
Det Norske Veritas Germanischer Lloyd (DNV GL)	D01

Options	Order code
Add "-Z" to article number and specify order code	
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
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ 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 enclosure "t"/"DIP" ²⁾ according to cFMus (USA); NPT connections at the enclosure are mandatory	E13
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ according to cFMus (USA, Canada); other connections (M,G,R)	E14
Non-sparking "nA"/"NI" according to cFMus (USA, Canada)	E16

Selection and ordering data (continued)

Options	Order code
Add "-Z" to article number and specify order code	
Without explosion protection requirements (USA, Canada), Basis CSA	E17
Intrinsic safety "i"/"IS" ¹⁾ according to cCSAus (USA, Canada)	E18
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ according to cCSAus (USA, Canada); NPT connections on the enclosure are mandatory	E20
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ according to CSAUs (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"/"IS" ¹⁾ according to NEPSI (China)	E55
Flameproof enclosure "d"; dust protection through enclosure "t" ²⁾ according to NEPSI (China)	E56
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
Flameproof enclosure "d"/"XP"; dust protection through enclosure "t"/"DIP" ²⁾ according to EACEx (EAC)	E82
Non-sparking "nA"/"NI" according to EACEx (EAC)	E83
Special design	
Flying lead connection type (for direct transmitter mounting, delivery without screws or springs)	G01
Full penetration process connection for 316L/316Ti	G02
Cable input for connection head	
M12 device plug (in combination with transmitter, non-Ex and intrinsically safe, max. IP65/67)	G12
Han 7 D device plug (non-Ex and intrinsically safe, without mating connector max. IP65/67)	G13
Connection head with ½"-NPT thread without cable gland, for AU0 and AHO only IP66	G20
SafeGuard 2 × Pt100 4-wire	G30
Input of the connection head	
Input of the connection head: M24×1.5, with sealing screw, Umin = 50 mm	G50
Input of the connection head: NPT ½", with sealing screw, Umin = 50 mm	G51

Options	Order code
Add "-Z" to article number and specify order code	
Input of the connection head: M24×1.5, open, Umin = 50 mm	G52
Input of the connection head: NPT ½", open, Umin = 50 mm	G53
Built-in head-mounted 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
SITRANS TH420, input 2 × universal, PROFIBUS PA	T44
Device settings (including head-mounted 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
Installation length U customer-specific Select range, plain text specification of desired length (no specification = standard length)	Y44
Extension length X customer-specific Select range, plain text specification of desired length (no specification = standard length)	Y45
Customer-specific plain text	
Handling number of the special design	Y99

¹⁾ Select Ex i version of the optional transmitter.

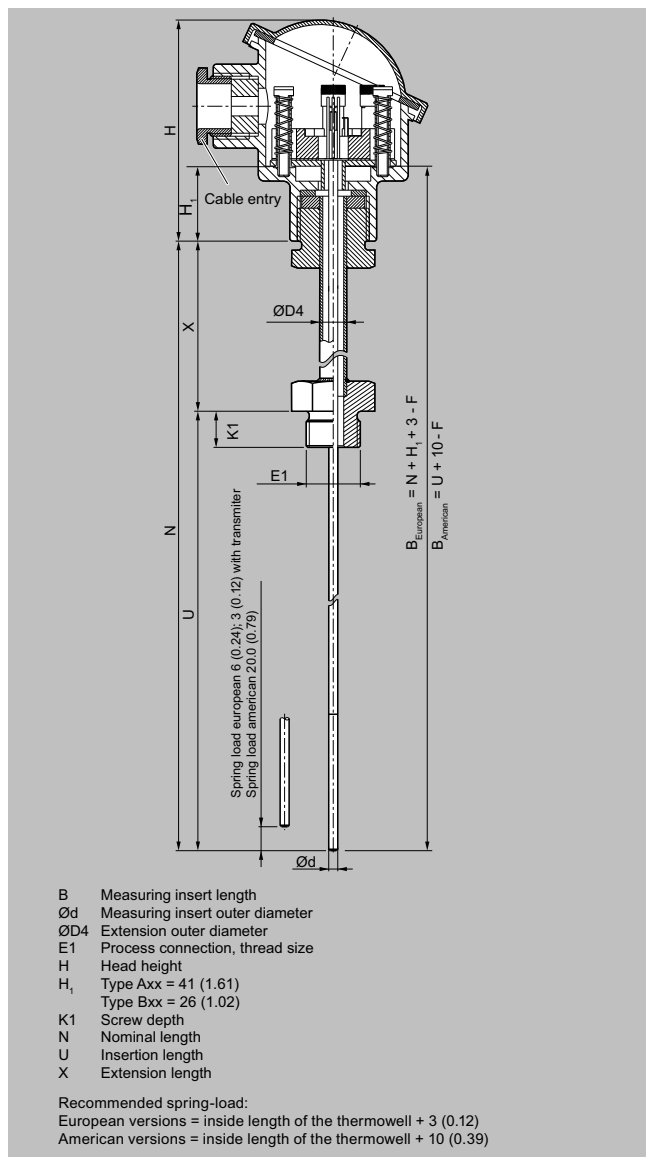
²⁾ Only with connection heads code AG0, AHO, AU0, AV0, without cable gland (select non-Ex version of the optional transmitter).

Temperature Measurement

Temperature sensors

SITRANS TS500 / for installation in existing thermowells

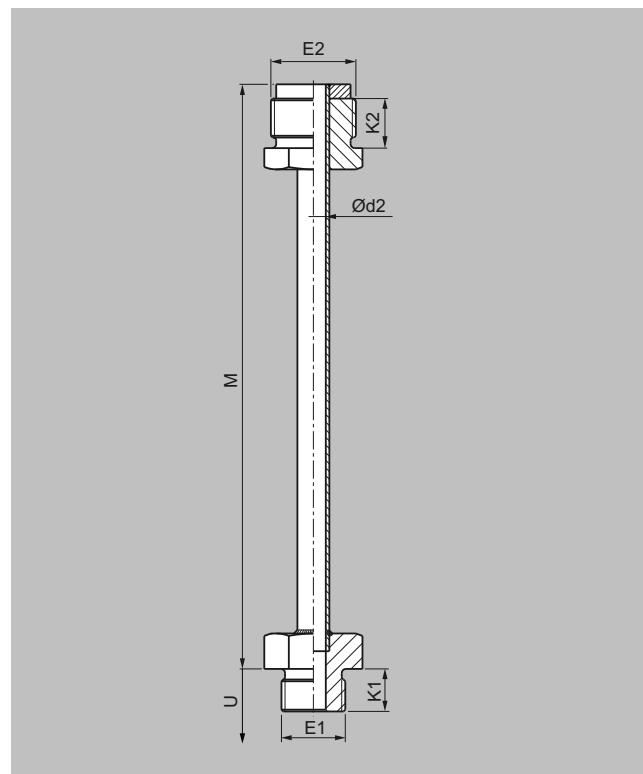
Dimensional drawings



SITRANS TS500, temperature sensors for vessels and pipes. Temperature sensors for installation in existing thermowells, suitable for thermowells in accordance with DIN 43772 and ASME B40.9-2001, with extension of European or American type, dimensions in mm (inch)

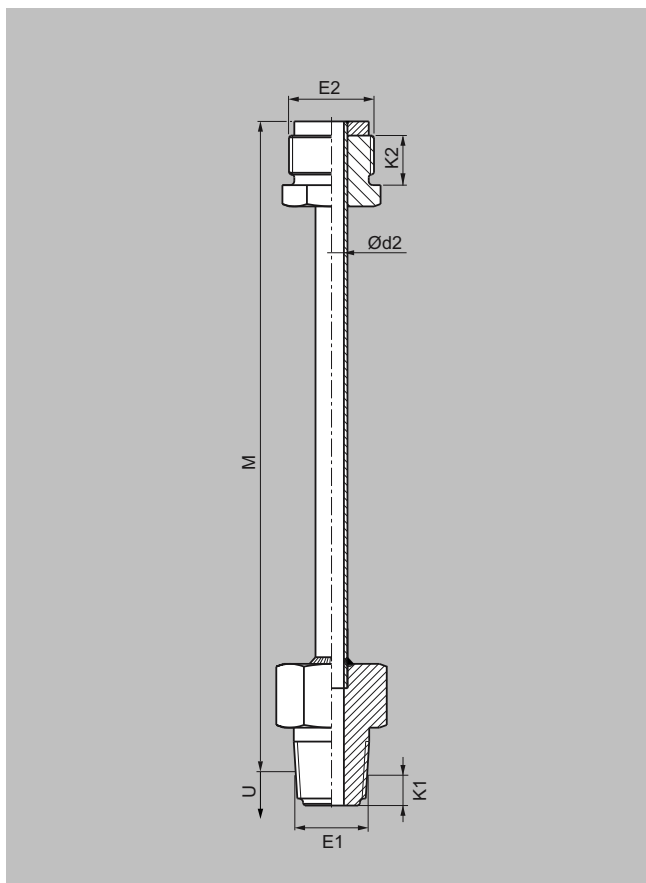
Dimensional drawings (continued)

Extensions



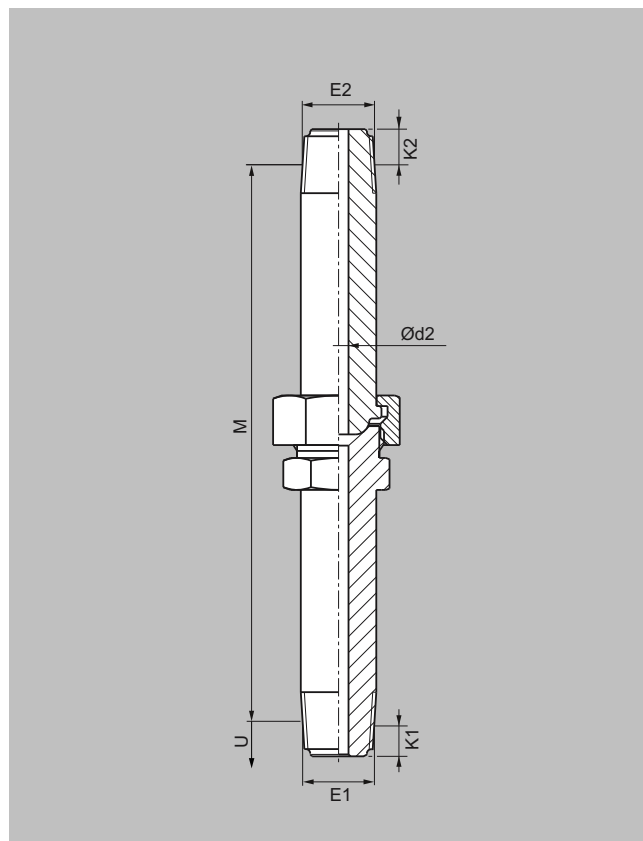
Extension (1, 2, 3)¹⁾, adjustable, European, cylindrical

Dimensional drawings (continued)



Extension (1, 2, 3)¹⁾, adjustable, European, tapered

Dimensional drawings (continued)



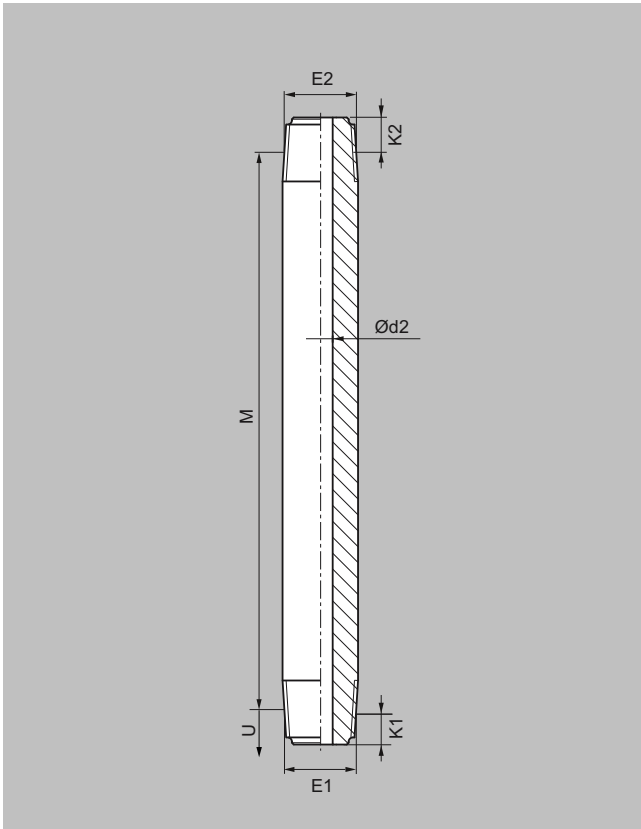
Extension NUN, adjustable, tapered, American (8)¹⁾

Temperature Measurement

Temperature sensors

SITRANS TS500 / for installation in existing thermowells

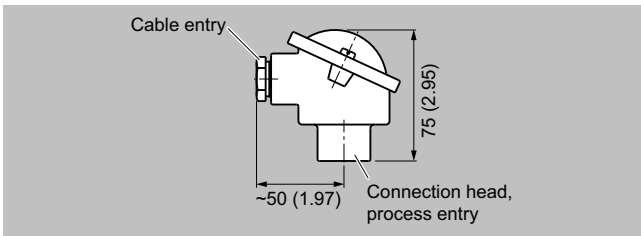
Dimensional drawings (continued)



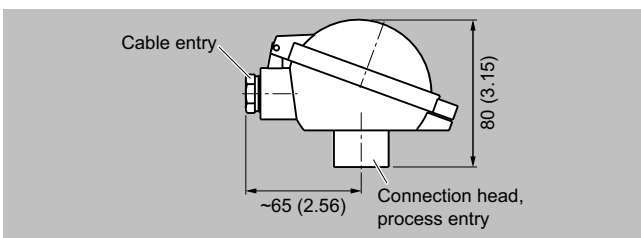
Extension NIP, non-adjustable, tapered, American (6)¹⁾

¹⁾ Numbers 1 ... 8: See Selection and ordering data "Extension" option

Connection heads

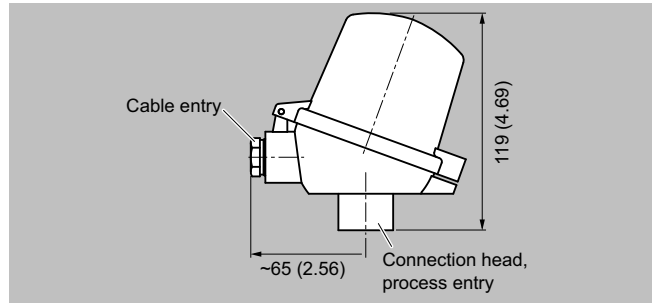


Connection head, aluminum, type BA0, dimensions in mm (inch)

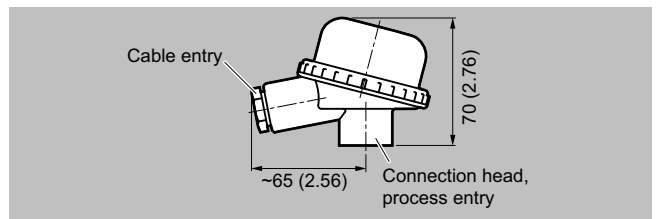


Connection head, aluminum, type BB0, dimensions in mm (inch)

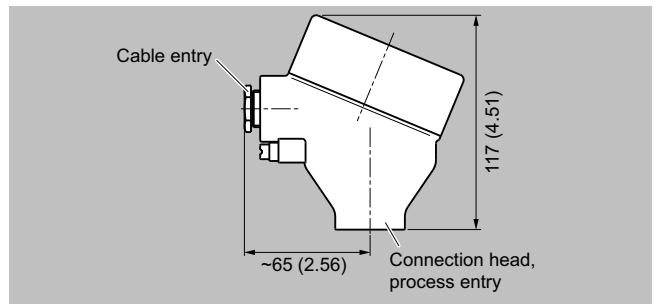
Dimensional drawings (continued)



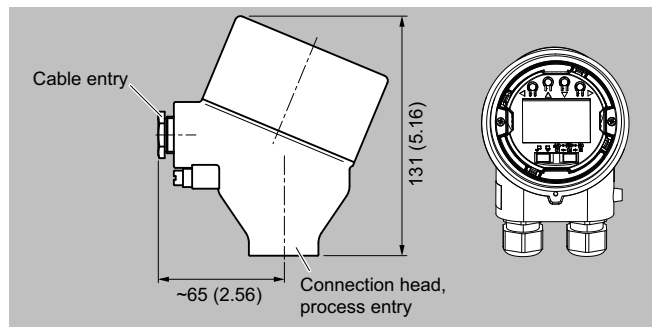
Connection head, aluminum, type BC0, plastic, type BP0, dimensions in mm (inch)



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



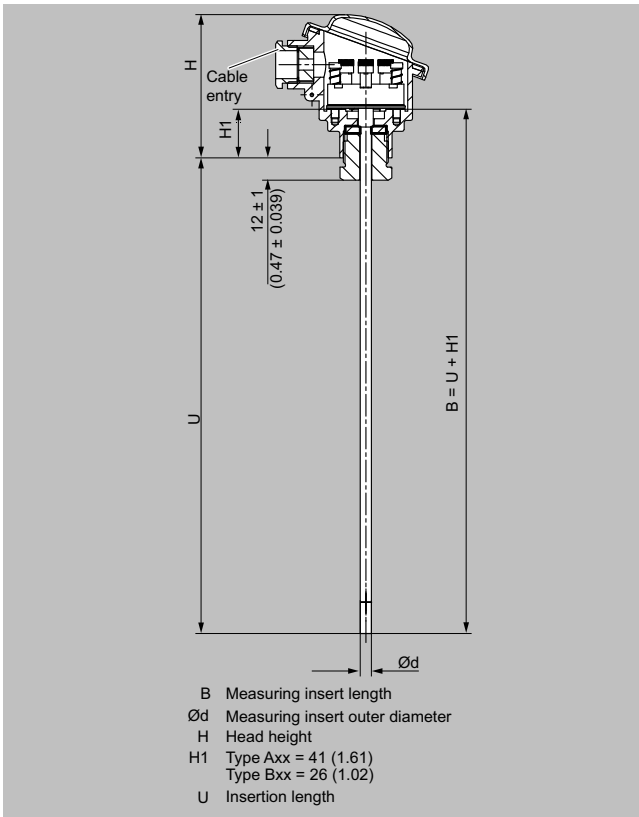
Connection head, aluminum, type AG0, stainless steel, type AU0, dimensions in mm (inch)



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

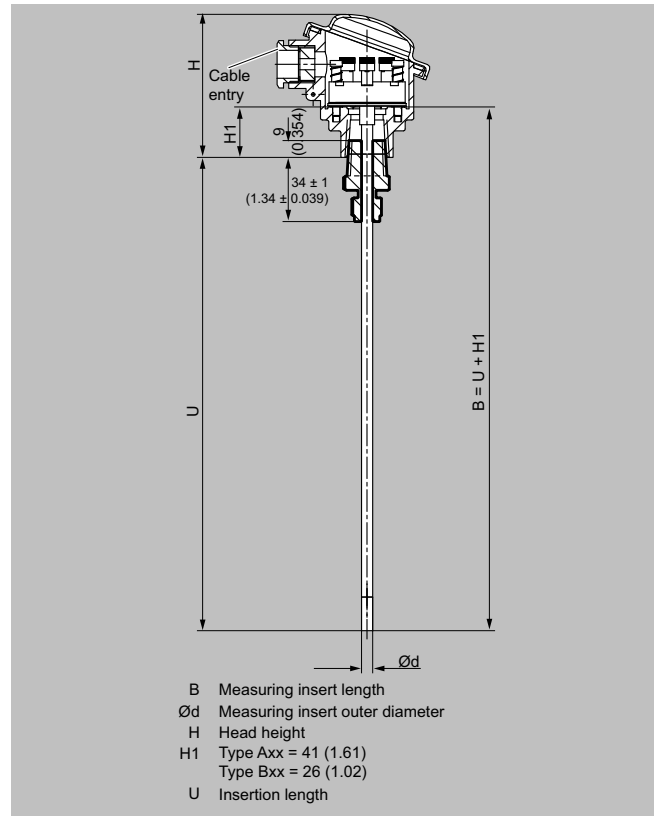
Dimensional drawings (continued)

Option G50: M24×1.5, with gasket



Dimensional drawings (continued)

Option G51: 1/2" NPT, with seal



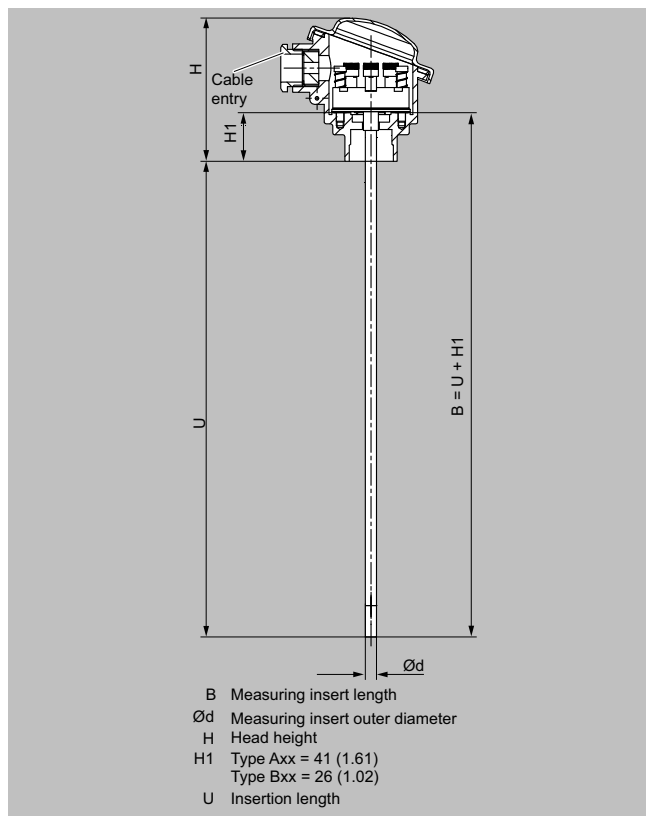
Temperature Measurement

Temperature sensors

SITRANS TS500 / for installation in existing thermowells

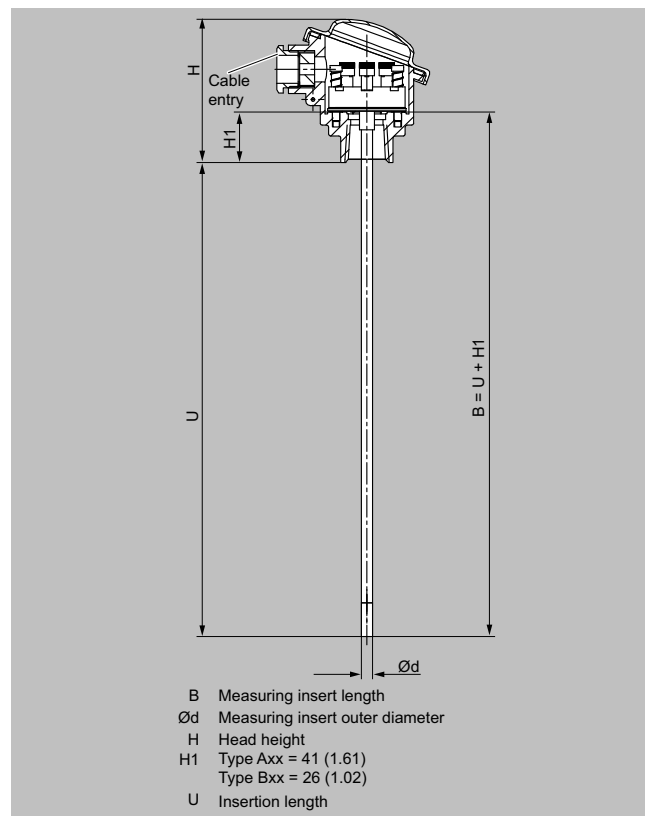
Dimensional drawings (continued)

Option G52: M24×1.5, open



Dimensional drawings (continued)

Option G53: 1/2" NPT, open



Input of the connection head: $U_{min} = 50 \text{ mm}$ (1.97 inches), dimensions in mm (inch)