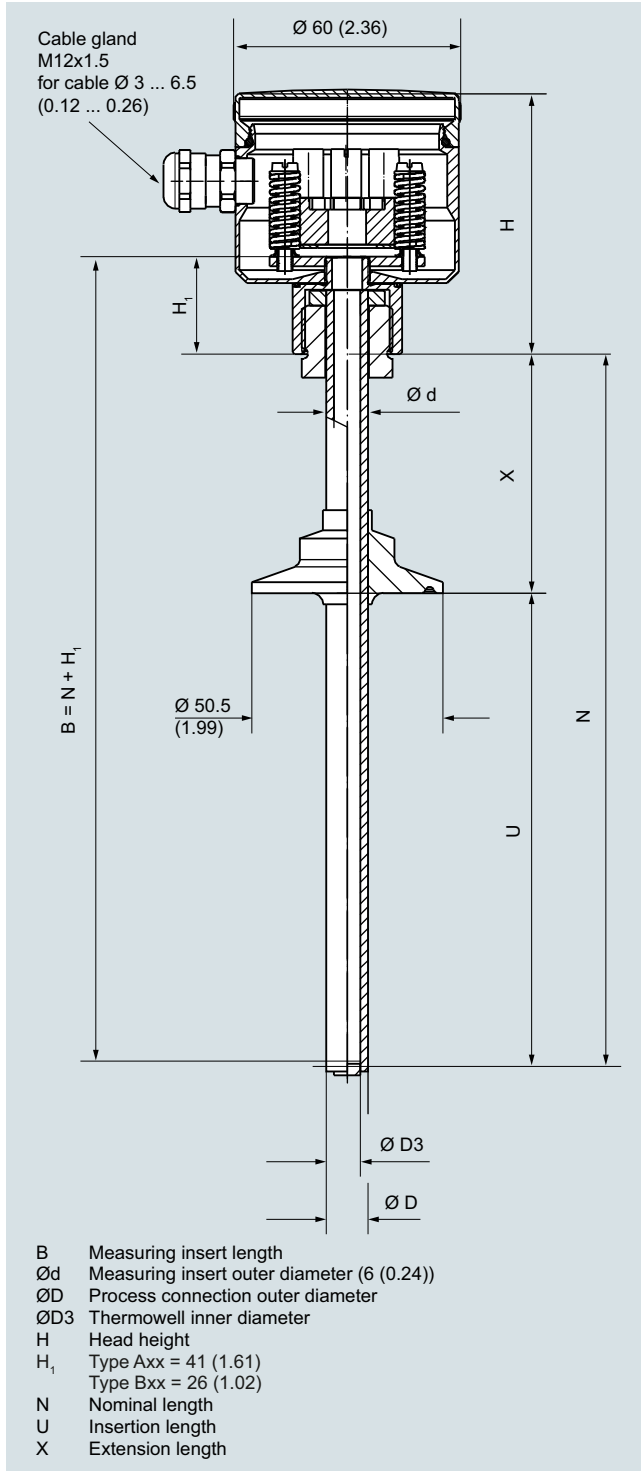


Dimensional drawings



SITRANS TS300 modular design, dimensions in mm (inch)

Temperature Measurement

Temperature sensors

SITRANS TS300 for food, pharmaceuticals and biotechnology

Modular design

2

Selection and Ordering data

SITRANS TS300 for food, pharmaceuticals and biotechnology, modular design for installation in pipes and vessels

Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Head

Stainless steel head, BS0, screw cover (Standard version)

Aluminum head, BAO, flange cover standard

Plastic cover, BMO, screw cover

Aluminum head, BB0, hinged cover low

Aluminum head, BC0, hinged cover high

Special version:

(add Order code and plain text)

Process connection, material 1.4404 or 1.4435/316L

Milk pipe union to DIN 11851 with slotted union nut and nominal diameter/pressure

DN 25/PN 40

DN 32/PN 40

DN 40/PN 40

DN 50/PN 25

Clamp connection:

ISO 2852	DIN 32676	Tri-Clamp	Outer diameter D
-	-	1/2" / 3/4"	25.0 mm
DN 25/33.7/38	DN 25/32/40	1", 1 1/2"	50.5 mm
DN 40/51	DN 50	2"	64.0 mm
DN 63.5	-	2 1/2"	77.5 mm
DN 88.9	DN 80	-	106.0 mm

Varivent connection (Tuchenhagen)

Ø D₆ = 50 mm (1.97 inch),

for Varivent housing DN 25 and DN 1"

Ø D₆ = 68 mm (2.68 inch),

for Varivent housing DN 40 ... 125

and 1 1/2" ... 6"

NEUMO/BioControl

Size 25

Size 50

Size 65

Ingold flange

DN 25 with hexagon union nut G 1 1/4", mounting length 40 mm (1.57"), diameter 24.8 mm (0.98") incl. O-ring

Welding piece

(sphere diameter 30 x 40 mm

(1.2 x 1.6 inch) long)

Special version:

Type of screwed gland and nominal diameter (add Order code and plain text)

Thermowell

Ø D = 6 mm (0.24 inch)

Ø D = 9 mm (0.35 inch)

Ø D = 9 mm (0.35 inch)

Ø D = 9 mm (0.35 inch)

Ø D = 9 mm (0.35 inch)

tapered tip

D₂ = 5 Ø x 20 mm

(0.2 x 0.79 inch)

Special version:

(add Order code and plain text)

Measuring insert

Ø 3/3.2 mm, (0.12/0.13 inch) miner. insul.

Ø 6 mm (0.24 inch)

Ø 6 mm (0.24 inch) miner. insul.

Ø 3/3.2 mm, (0.12/0.12 inch)

miner. insul.

Article No. Order code

7MC8005-0-0

5

1

2

3

4

9

AA

AB

AC

AD

CA

CB

CC

CD

CE

KU

KV

BA

BB

BC

JA

LA

ZA

1

2

3

4

9

Selection and Ordering data

SITRANS TS300 for food, pharmaceuticals and biotechnology, modular design for installation in pipes and vessels

Neck tube length X

65 mm (2.56 inch) [M = 80 mm (3.15 inch)]

130 mm (5.12 inch) [M = 145 mm (5.71 inch)]

Special version:

(add Order code and plain text)

Insertion length

Enter customer specific length with Y44,

see Order codes below

15 mm (0.59 inch)

16 ... 35 mm (0.63 ... 1.38 inch)

Initial: 35 mm (1.38 inch)

36 ... 50 mm (1.42 ... 1.97 inch)

Initial: 50 mm (1.97 inch)

51 ... 100 mm (2.01 ... 3.94 inch)

Initial: 100 mm (3.94 inch)

101 ... 160 mm (3.98 ... 6.30 inch)

Initial: 160 mm (6.30 inch)

161 ... 250 mm (6.34 ... 9.84 inch)

Initial: 250 mm (9.84 inch)

251 ... 400 mm (9.88 ... 15.75 inch)

Initial: 400 mm (15.75 inch)

1 ... 4 inch, Initial: 4 inch

4 ... 6 inch, Initial: 6 inch

6 ... 9 inch, Initial: 9 inch

Special version:

(add Order code and plain text)

Sensor

Thin-film technology:

measuring range -50 ... +400 °C

(-58 ... +752 °F)

2 x Pt100, class A, three-wire

1 x Pt100, class A, four-wire

Special version:

(add Order code and plain text)

Further designs

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

Process connection completely electropolished

Hygiene version

(R_a < 0.8 µm (3.1 x 10⁻⁵ inch))

Certificates

• Roughness depth measurement R_a

certified by factory certificate to

EN 10204-3.1

• Material certificate to EN 10204-3.1

TAG plate made of stainless steel

specify TAG No. in plain text

Test report (at 0, 50 and 100%)

specify measuring range in plain text

If optional head transmitters are integrated,

please note that all calibration points are

located in the set measuring range. If the

points are located outside the standard

measuring range, a Y01 addition is always

required.

Insertion length customer-specific

Select range, enter desired length in plain

text (No entry = standard length)

Article No. Order code

7MC8005-0-0

1

2

9

B

C

D

E

F

G

H

J

K

L

Z

P 1 Y

G

H

Z

P01

H01

C18

C12

Y15

Y33

Y44

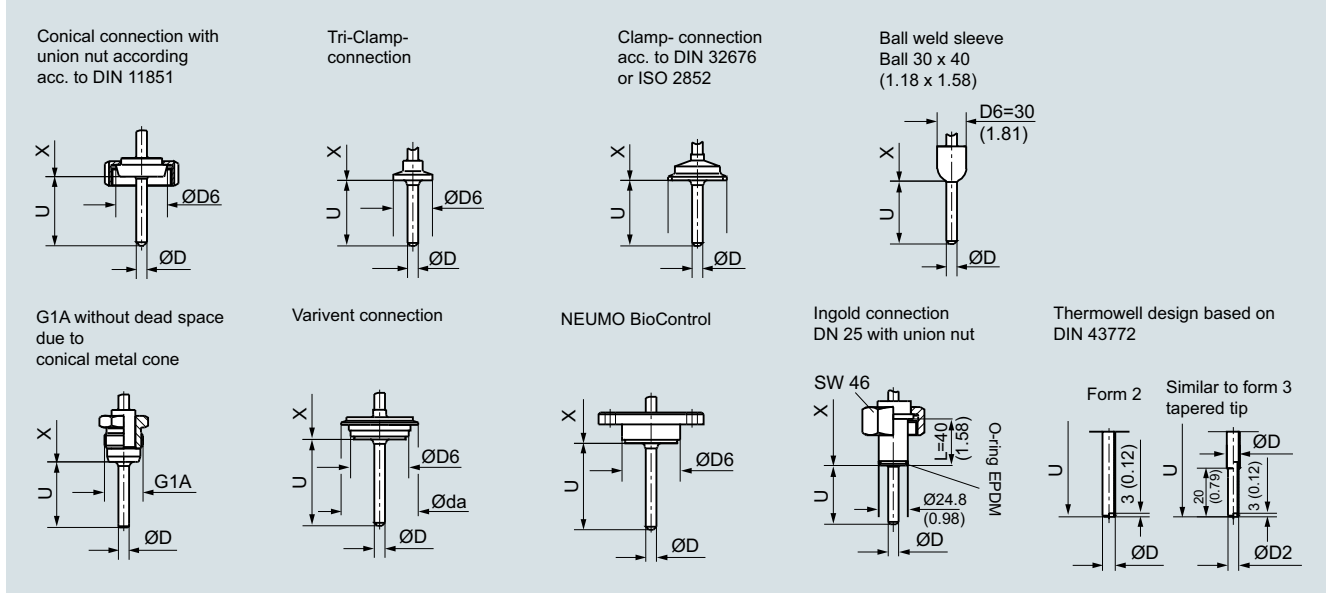
Temperature Measurement

Temperature sensors

SITRANS TS300 for food, pharmaceuticals and biotechnology

Modular design

Dimensional drawings



Process connections, dimensions in mm (inch)

Temperature Measurement

Temperature sensors

SITRANS TS300 for food, pharmaceuticals and biotechnology

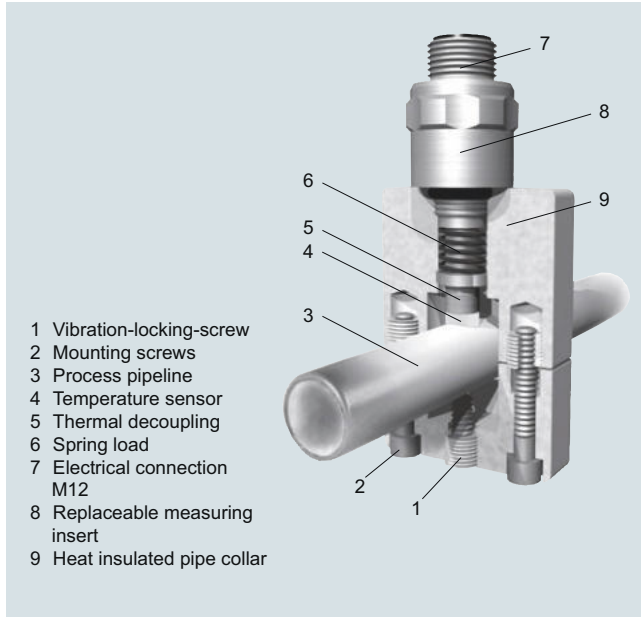
Modular design

2

Selection and Ordering data	Order code
Further designs	
Add "-Z" to Article No. and specify Order code.	
Explosion protection	
Manufacturers declaration for intrinsically safe circuits	E01
Built-in head transmitter	
Measuring range to be set must be specified with plain text data "Y11".	
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 TH400, input 1 x universal, PA	T40
SITRANS TH400, input 1 x universal, PA, Ex	T41
SITRANS TH400, input 1 x universal, FF	T45
SITRANS TH400, input 1 x universal, FF, Ex	T46
Transmitter options	
Transmitter, enter complete setting in plain text (Y11: +/-NNNN ... +/-NNNN C,F)	Y11
Enter measuring point (max. 8 characters) in plain text	Y17
Transmitter, enter measuring point description (max. 16 characters) in plain text	Y23
Transmitter, enter measuring point text (max. 32 characters) in plain text	Y24
Transmitter, enter bus address in plain text	Y25
Transmitter, fail-safe value 3.6 mA (instead of 22.8 mA)	U36
SITRANS TH320/420 transmitter with SIL2/3 certificate	C20
Transmitter test protocol (5 points)	C11
Further options	
Connection form, flying leads (for the direct transmitter assembly, delivery without screws and springs)	G01
M12 device plug (in combination with transmitter, Non-Ex)	G12
Option not found?	
Specify special version in plain text	Y98
Process number for the special version	Y99

Accessories, see page 2/251.

Dimensional drawings



Resistance thermometer with thermowell in Clamp-on design

Temperature Measurement

Temperature sensors

SITRANS TS300 for food, pharmaceuticals and biotechnology

Clamp-on design

2

Selection and Ordering data

Article No. 7MC8016-0

SITRANS TS300
for food, pharmaceuticals and biotechnology
Clamp-on design for the measuring of the pipe surface temperature

Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Design

Acc. to IEC 60751, class A
[-40 ... +150 °C (-40 ... +302 °F)]

Type of connection

Device plug M12 x 1
connection head form B, stainless steel
4 ... 20 mA compact transmitter
SITRANS TH100slim (standard measuring range 0 ... 100 °C (32 ... 212 °F))

Mounting with pipe collar

Pipe outer-Ø mm (inch)	Collar size mm (inch)	
4 (0.16)		A1
6 (0.24)		B1
6.35 (0.25)		C1
8 (0.31)		D1
9.35 (0.37)		E1
10 (0.39)		F1
10.2 (0.40)	50 x 35 x 20 (1.97 x 1.38 x 0.79)	G1
10.3 (0.41)		H1
12 (0.47)		J1
12.7 (0.50)		K1
13 (0.51)		L1
13.5 (0.53)		M1
13.7 (0.54)		N1
14 (0.55)		P1
15.88 (0.62)		Q1
16 (0.63)		R1
17.2 (0.68)		S1
18.0 (0.71)		A2
19.0 (0.74)		B2
19.05 (0.75)		C2
20.0 (0.79)		D2
21.3 (0.84)		E2
22.0 (0.87)		F2
23.0 (0.90)		G2
24.0 (0.94)		H2
25.0 (0.98)		J2
25.4 (1.00)		K2
26.7 (1.05)		L2
26.9 (1.06)		M2
28.0 (1.10)	70 x 70 x 20 (2.76 x 2.76 x 0.79)	N2
29.0 (1.14)		P2
30.0 (1.18)		Q2
31.8 (1.25)		R2
32.0 (1.26)		S2
33.4 (1.31)		T2
33.7 (1.33)		U2
34.0 (1.34)		V2
35.0 (1.38)		W2
36.0 (1.42)		X2

Selection and Ordering data

Article No. 7MC8016-0

SITRANS TS300
for food, pharmaceuticals and biotechnology
Clamp-on design for the measuring of the pipe surface temperature

38.0 (1.49)

38.1 (1.50)

41.0 (1.61)

42.4 (1.67)

44.5 (1.75)

48.3 (1.90)

50.8 (2.00)

53.0 (2.09)

54.0 (2.13)

57.0 (2.24)

Always indicate external tube diameter for¹⁾:

- Installation with pipe collar and deviating external tube diameter (S11-S19)
- Securing with clamps (S21-S23)
- Clamping band installation (S31-S35)

¹⁾ Special sizes for pipe outer diameters: In order to process "Z0" special sizes, the following two additional items of information are essential:
- the required diameter specified in plain text under "K1Y"
- Selection of the corresponding pipe collar, clamping band or clamping bracket size (Order codes "S11" to "S35")

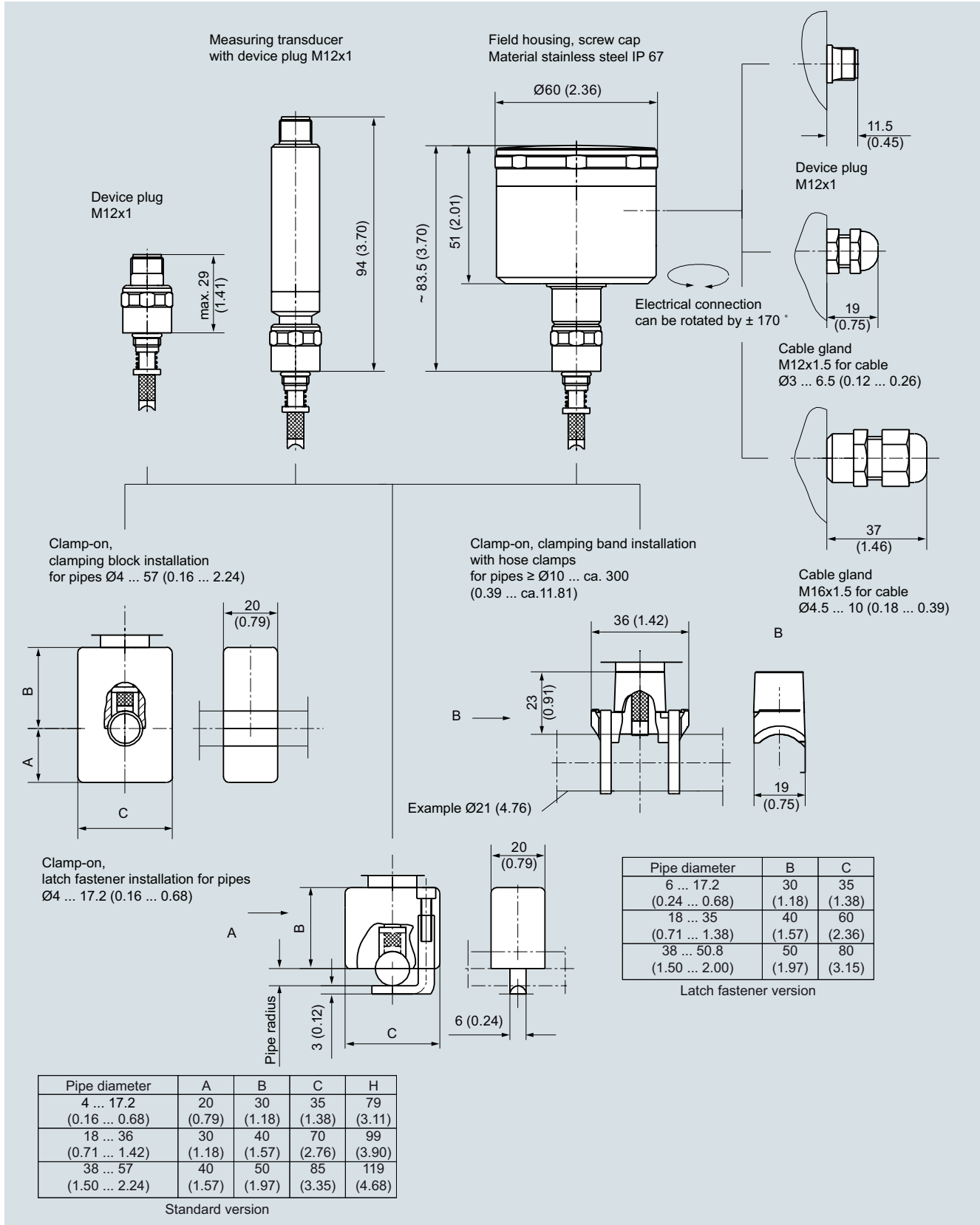
Recommended for all versions: Heat-conductive-compound, silicone-free, syringe 3 g, Order code: L15 (see page 2/54)

Temperature Measurement

Temperature sensors
SITRANS TS300 for food, pharmaceuticals and biotechnology

Clamp-on design

Dimensional drawings



SITRANS TS300 Clamp-on design, device plug, field housing, cable gland, variants, dimensions in mm (inch)

Temperature Measurement

Temperature sensors

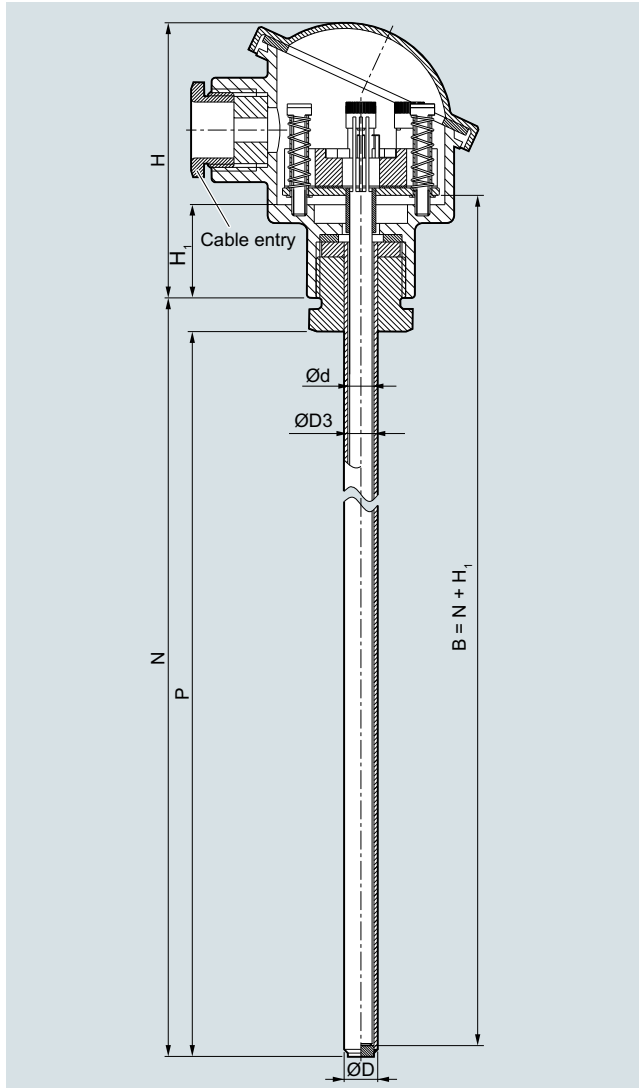
SITRANS TS300 for food, pharmaceuticals and biotechnology

Clamp-on design

2

Selection and Ordering data	Order code	Selection and Ordering data	Order code
Further designs Add "-Z" to Article No. and specify Order code.		Further Options Assignment marking, engraving instead of adhesive label (Serial number and pipe diameter on plug and plastic block)	L11
Explosion protection Manufacturers declaration for intrinsically safe circuits	E01	2 mm drain hole	L12
Built in head transmitter Measuring range to be set must be specified with plain text data "Y11".		Sensor 4-wire connection	L14
SITRANS TH100, input 1 x Pt100, 4 ... 20 mA	T12	Heat-conductive-compound, silicone-free, syringe 3 g	L15
SITRANS TH320, input 1 x universal, 4 ... 20 mA	T24	Suffixes	
SITRANS TH320, input 1 x universal, HART	T34	Add "-Z" to Article No. and specify Order code and plain text.	
SITRANS TH420, input 2 x universal, HART	T35	TAG plate made of stainless steel (specify TAG No. in plain text)	Y15
SITRANS TH400, input 1 x universal, PA	T40	Test report at 0 %, 50 % and 100 % (specify the measuring range in plain text)	Y33
SITRANS TH400, input 1 x universal, PA, Ex	T41	If optional head transmitters are integrated, please note that all calibration points are located in the set measuring range. If the points are located outside the standard measuring range, a Y01 addition is always required.	
SITRANS TH400, input 1 x universal, FF	T45	Special version, specify in plain text	Y98
SITRANS TH400, input 1 x universal, FF, Ex	T46	Process number for special version	Y99
Transmitter options		Accessories, see page 2/251.	
Transmitter, enter complete setting in plain text (Y11: +/-NNNN ... +/-NNNN C,F)	Y11	Ordering examples:	
Enter measuring point (max. 8 characters) in plain text	Y17	Deviating tube diameter 28.5 mm: 7MC8016-1AZ00-Z K1Y+S12 {K1Y: 28.5 mm}	
Transmitter, enter measuring point description (max. 16 characters) in plain text	Y23	Space-saving mounting, tube diameter 38 mm: 7MC8016-1AZ00-Z K1Y + S23 {K1Y: 38 mm}; as of diameter ≥ 18 mm, we recommend using the clamping band installation.	
Transmitter, enter measuring point text (max. 32 characters) in plain text	Y24	Clamping band installation, tube diameter 111 mm: 7MC8016-1AZ00-Z K1Y+S32 {K1Y: 111 mm}	
Transmitter, enter bus address in plain text	Y25		
Transmitter, fail-safe value 3.6 mA (instead of 22.8 mA)	U36		
SITRANS TH320/420 transmitter with SIL2/3 certificate	C20		
Transmitter test protocol (5 points)	C11		
Other cable gland (only for connection head)			
Polyamide for cable diameter 4.5 ... 10 mm (0.18 ... 0.39 inch)	K02		
Stainless steel for cable diameter 3 ... 6,5 mm (0.12 ... 0.25 inch)	K03		
Device plug M12 x 1	K11		
Deviating pipe; mm (inch)			
4 ... 17.2 (0.16 ... 0.68)		Collar size; mm (inch)	
18 ... 38 (0.71 ... 1.49)		50 x 35 (1.97 x 1.38)	S11
38.1 ... 57 (1.5 ... 2.24)		70 x 70 (2.76 x 2.76)	S12
Larger nominal diameters on request		90 x 85 (3.54 x 3.35)	S13
			S19
Space-saving mounting (latch fastening)			
Outer pipe; mm (inch):			
4 ... 17.2 (0.16 ... 0.68)			S21
18 ... 35 (0.71 ... 1.38)			S22
(Clamping band version recommended, see below)			
38 ... 50.8 (1.45 ... 2.00)			S23
(Clamping band version recommended, see below)			
Clamping band installation			
Outer pipe; mm (inch):			
10 ... 57 (0.39 ... 2.24)			S31
58 ... 220 (2.28 ... 8.66)			S32
Without clamping band			S35

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
- 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 joints, dimensions in mm (inch)