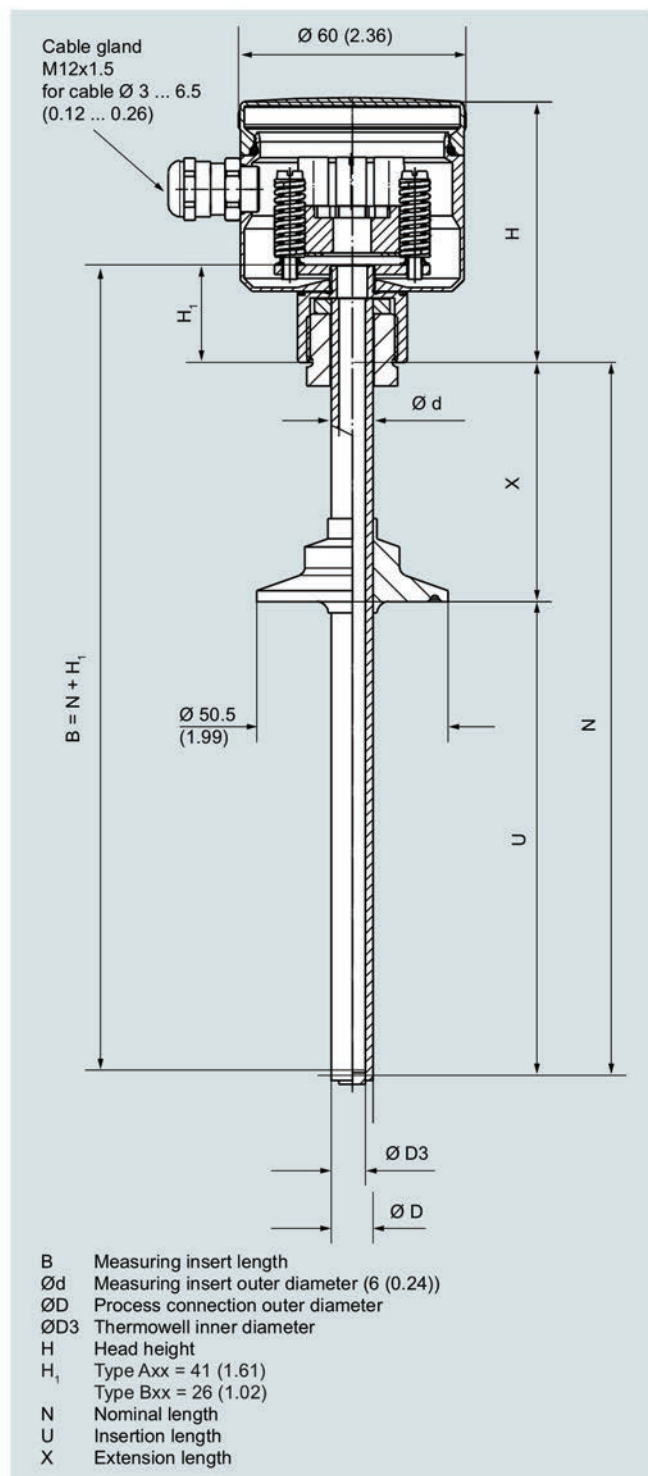


Dimensional drawings



SITRANS TS300 modular design, dimensions in mm (inch)

Temperature Measurement

Temperature sensors

SITRANS TS300 for food, pharmaceuticals and biotechnology

Modular design

Selection and Ordering data

Article No. Order code

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

7MC8005-
0 - 0

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

Head

Stainless steel head, BS0, screw cover (Standard version) 5
Aluminum head, BA0, flange cover standard 1
Plastic cover, BM0, screw cover 2
Aluminum head, BB0, hinged cover low 3
Aluminum head, BC0, hinged cover high 4
Special version: 9
(add Order code and plain text) H 1 Y

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)

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.

miner. insul.

Selection and Ordering data

Article No. Order code

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

7MC8005-
0 - 0

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: 9 N 1 Y
(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: Z P 1 Y
(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: G H Z Q 1 Y
(add Order code and plain text)

Further designs

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

Process connection completely electropolished P01

Hygiene version H01
(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 C18

• Material certificate to EN 10204-3.1 C12

TAG plate made of stainless steel Y15

specify TAG No. in plain text

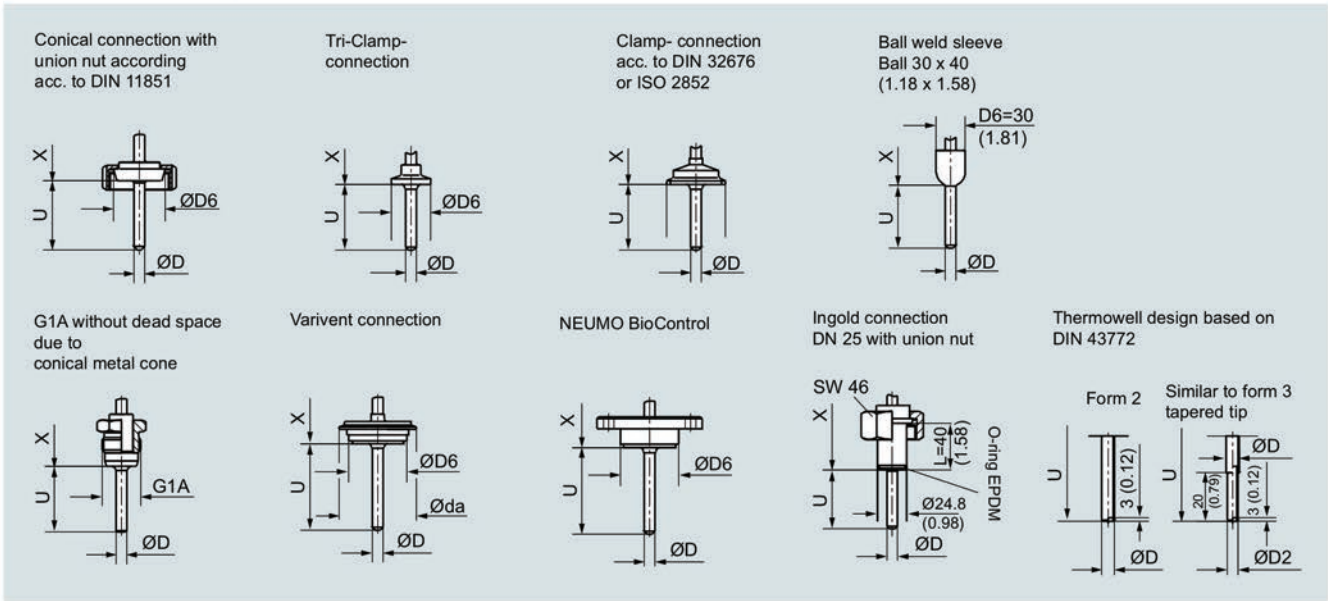
Test report (at 0, 50 and 100%) specify measuring range in plain text Y33
If optional head transmitters are integrated, please note that all calibration points are located in the set measuring range. If the points are located outside the standard measuring range, a Y01 addition is always required.

Insertion length customer-specific

Select range, enter desired length in plain text (No entry = standard length) Y44

2

Dimensional drawings



Process connections, dimensions in mm (inch)

Temperature Measurement

Temperature sensors

SITRANS TS300 for food, pharmaceuticals and biotechnology

Modular design

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

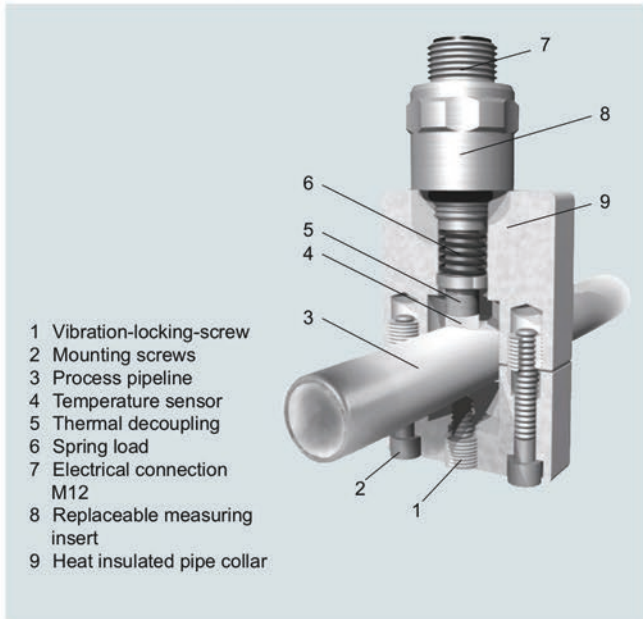
Y98

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

Selection and Ordering data

Article No. Ord. code

SITRANS TS300

7MC8016-0

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)

6 (0.24)

6.35 (0.25)

8 (0.31)

9.35 (0.37)

10 (0.39)

10.2 (0.40)

10.3 (0.41)

12 (0.47)

12.7 (0.50)

13 (0.51)

13.5 (0.53)

13.7 (0.54)

14 (0.55)

15.88 (0.62)

16 (0.63)

17.2 (0.68)

18.0 (0.71)

19.0 (0.74)

19.05 (0.75)

20.0 (0.79)

21.3 (0.84)

22.0 (0.87)

23.0 (0.90)

24.0 (0.94)

25.0 (0.98)

25.4 (1.00)

26.7 (1.05)

26.9 (1.06)

28.0 (1.10)

29.0 (1.14)

30.0 (1.18)

31.8 (1.25)

32.0 (1.26)

33.4 (1.31)

33.7 (1.33)

34.0 (1.34)

35.0 (1.38)

36.0 (1.42)

50 x 35 x 20
(1.97 x 1.38 x 0.79)

70 x 70 x 20
(2.76 x 2.76 x 0.79)

1

A
B
C

A1
B1
C1
D1
E1
F1
G1
H1
J1
K1
L1
M1
N1
P1
Q1
R1
S1
A2
B2
C2
D2
E2
F2
G2
H2
J2
K2
L2
M2
N2
P2
Q2
R2
S2
T2
U2
V2
W2
X2

Selection and Ordering data

Article No. Ord. code

SITRANS TS300

7MC8016-0

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)

90 x 85 x 20

50.8 (2.00)

(3.54 x 3.35 x 0.79)

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)

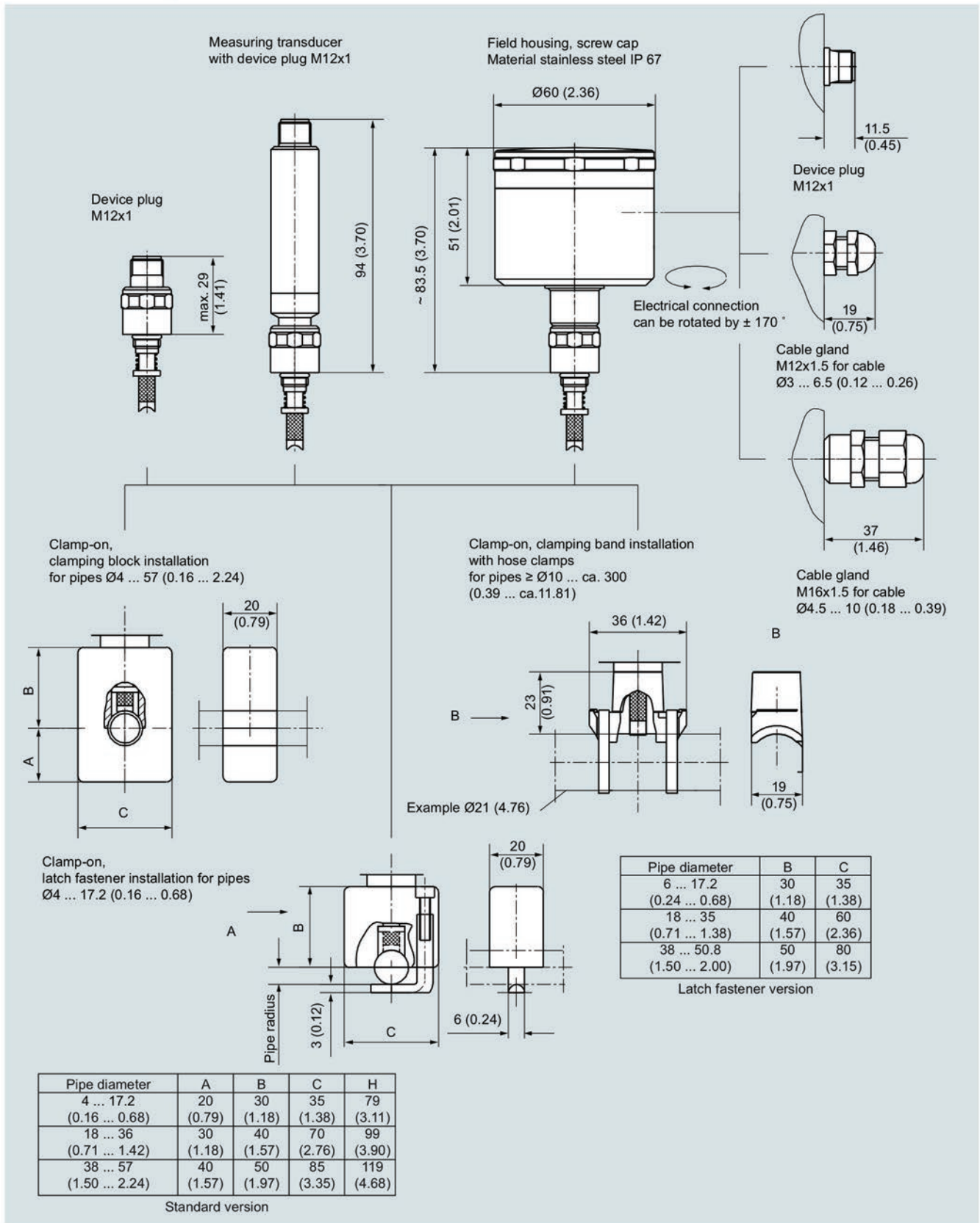
¹⁾ Special sizes for pipe outer diameters: In order to process "Z0" special sizes, the following two additional items of information are essential:
- the required diameter specified in plain text under "K1Y"
- Selection of the corresponding pipe collar, clamping band or clamping bracket size (Order codes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

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

Y2
A3
B3
C3
D3
E3
F3
G3
H3
J3
Z0

K1Y

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

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

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)

18 ... 38 (0.71 ... 1.49)

38.1 ... 57 (1.5 ... 2.24)

Larger nominal diameters on request

Collar size; mm (inch)

50 x 35 (1.97 x 1.38)

70 x 70 (2.76 x 2.76)

90 x 85 (3.54 x 3.35)

Larger nominal diameters on request

S11

S12

S13

S19

Space-saving mounting (latch fastening)

Outer pipe; mm (inch):

4 ... 17.2 (0.16 ... 0.68)

18 ... 35 (0.71 ... 1.38)

(Clamping band version recommended, see below)

38 ... 50.8 (1.45 ... 2.00)

(Clamping band version recommended, see below)

S21

S22

S23

Clamping band installation

Outer pipe; mm (inch):

10 ... 57 (0.39 ... 2.24)

58 ... 220 (2.28 ... 8.66)

Without clamping band

S31

S32

S35

Selection and Ordering data

Order code

Further Options

Assignment marking, engraving instead of adhesive label (Serial number and pipe diameter on plug and plastic block)

L11

2 mm drain hole

L12

Sensor 4-wire connection

L14

Heat-conductive-compound, silicone-free, syringe 3 g

L15

Suffixes

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

TAG plate made of stainless steel (specify TAG No. in plain text)

Y15

Test report at 0 %, 50 % and 100 % (specify the measuring range in plain text)

Y33

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.

Special version, specify in plain text

Y98

Process number for special version

Y99

Accessories, see page 2/251.

Ordering examples:

Deviating tube diameter 28.5 mm:

7MC8016-1AZ00-Z K1Y+S12 {K1Y: 28.5 mm}

Space-saving mounting, tube diameter 38 mm:

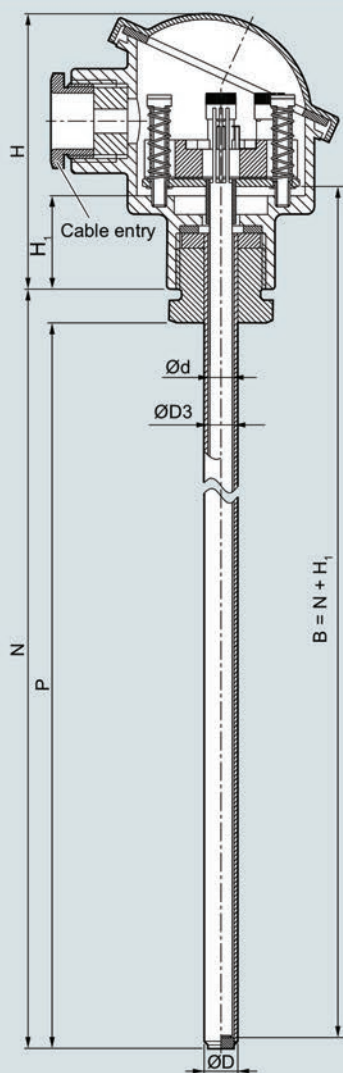
7MC8016-1AZ00-Z K1Y + S23 {K1Y: 38 mm};

as of diameter ≥ 18 mm, we recommend using the clamping band installation.

Clamping band installation, tube diameter 111 mm:

7MC8016-1AZ00-Z K1Y+S32 {K1Y: 111 mm}

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 $P \sim N - 9$ (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)