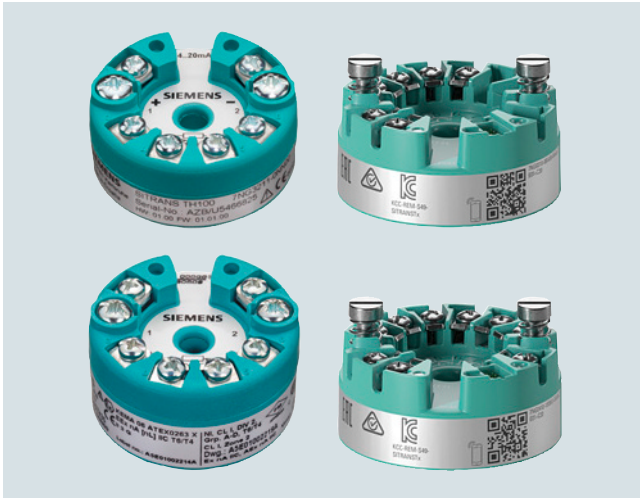## Overview

The following temperature transmitters are available for installation in the connection head::

SITRANS TH100

Programmable 2-wire temperature transmitter (4 to 20 mA), without galvanic isolation, only for Pt100 resistance thermometers.

SITRANS TH320

Programmable 2-wire temperature transmitter as a 4 to 20 mA version or with HART communication (4 to 20 mA), galvanic isolation. 1 sensor input for resistance thermometer and thermocouples.

SITRANS TH420

Programmable 2-wire temperature transmitter with HART communication (4 to 20 mA), galvanic isolation. 2 sensor inputs for resistance thermometers and thermocouples; therefore expanded functions such as hot backup (redundancy) and drift detection are possible..

SITRANS TH400

Temperature transmitter with PROFIBUS PA or FOUNDATION Fieldbus connection, electrical isolation for resistance thermometers and thermocouple elements.

Note:

- SITRANS TH100/TH320/TH420/TH400 can be fitted in the high hinged cover or instead of the terminal base. Retrofitting possible only in the high hinged cover.
- If using intrinsically-safe temperature sensors any installed temperature transmitters must also be intrinsically-safe..

Selection and Ordering Data

Detailed information on the transmitters can be found at the respective products under "Compact and head transmitters".

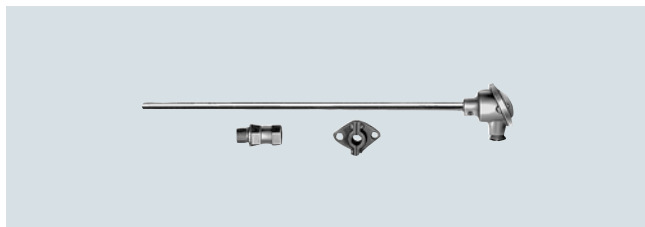| Transmitter to be fitted	Order code
To order the sensor with a built-in temperature transmitter, add "**-Z**" to the article number of the sensor, and supplement with the following order code:	
SITRANS TH100, input 1 x Pt100, 4 ... 20 mA	**T12**
SITRANS TH320, input 1 x universal, 4 ... 20 mA	**T24**
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**
Customer-specific setting of the built-in transmitter (specify settings in plain text)	**Y11**

2

Temperature Measurement
Temperature sensors
Resistance thermometers

Flue gas resistance thermometers, with connection head
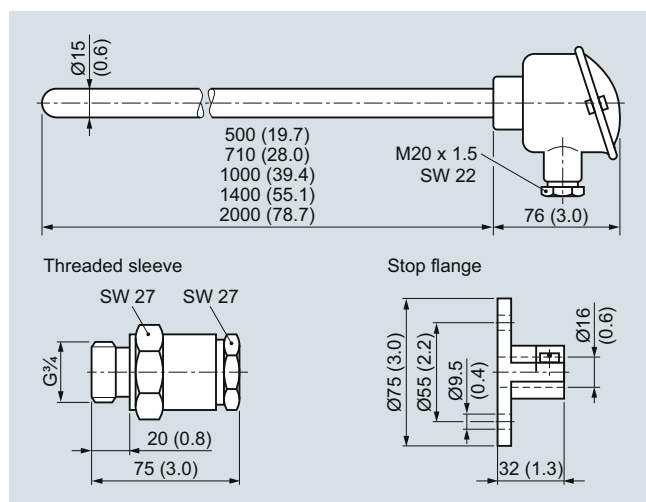
Overview

The flue gas resistance thermometer with connection head is suitable for the temperature range from -50 to +600 °C (-58 to +1112 °F) and can also be supplied with a built-in temperature transmitter.

Please order mounting flange or threaded sleeve separately.

Technical specifications

Design	According to DIN 43764: Thermometer without mount
Thermowell	
• Form	1, DIN 43772; cylindrical, 15 mm diameter (0.59 inch), wall thickness 3 mm (0.12 inch), seamless
• Material	St 35.8, mat. No. 1.0305, enamelled
• Loading capacity	1 bar (14.5 psi) above atmospheric, to DIN 43772
Measuring insert	Replaceable, with measuring insert tube (8 mm diameter (0.31 inch)) made of stainless steel; terminal block with clamping springs

Dimensional drawings

Flue gas resistance thermometer with connection head, dimensions in mm (inches)

Selection and Ordering data

	Article No.
Flue gas resistance thermometer Measuring resistor (winding) embedded in ceramic 1 Pt100 measuring resistor, 3-wire connection	
Mounting length/mm (inch):	
• 300 ... 500 mm: (11.8 ... 19.69 inch): Initial 500 mm (19.7 inch)	**7MC1000 - 1BA2**■
• 501 ... 710 mm: (19.72 ... 27.95 inch): Initial 710 mm (27.95 inch)	**7MC1000 - 2BA2**■
• 711 ... 1 000 mm: (28 ... 39.37 inch): Initial 1 000 mm (39.37 inch)	**7MC1000 - 3BA2**■
• 1 001 ... 1 400 mm: (39.41 ... 55.12 inch): Initial 1 400 mm (19.7 inch)	**7MC1000 - 4BA2**■
• 1 401 ... 2 000 mm: (55.16 ... 78.7 inch): Initial 2 000 mm (78.7 inch)	**7MC1000 - 5BA2**■

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

Connection head, form B, made of cast light alloy, with 1 cable inlet and	
• Screw cover	**1**
• Standard hinged cover	**4**
• High hinged cover	**6**

Further designs Please add "**-Z**" to Article No. and specify Order code(s) and plain text.	Order code
Special version, specify in plain text	**Y98**
Process number for special version	**Y99**
TAG plate made of stainless steel specify TAG No. in plain text	**Y15**
Calibration carried out at one point, specify desired temperature in plain text (order equivalent number of times for several calibration points).	**Y33**

Accessories	Article No.
Mounting flange Adjustable, to DIN 43734; Material: GTW 35, mat. No. 0.8035, for thermowell diameter 15 mm (0.59 inch), 0.3 kg (0.66 lb)	**7MC2998 - 5CA**
Gas-tight threaded sleeve Material: 9 SMnPb 28 Material No. 1.0718, for thermowell diameter 15 mm (0.59 inch), 0.4 kg (0.88 lb)	
• G¾ internal thread with gasket	**7MC2998 - 5DA**
• G½ internal thread with gasket	**7MC2998 - 5DC**

To order a temperature transmitter installed in the connection head and transmitters for SIL applications, see "Temperature transmitters for mounting in the connection head" (page 2/117).
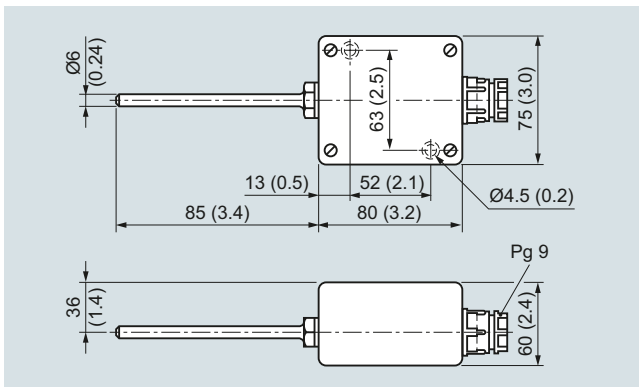
Individual parts: Measuring inserts, see "Accessories".on page 2/117

■ **Overview**

The resistance thermometer for damp rooms is suitable for a temperature range from -30 to +60 °C (-22 to +140 °F).

■ **Technical specifications**

Thermowell	Made of stainless steel
Connection head	Made of cast light alloy, with cable bushing; made of plastic on request
Measuring insert	1 or 2 Pt measuring resistors to DIN EN 60751, connection in 2 or 3-wire connection, class B
Degree of protection	IP65 acc. to DIN EN 60529

■ **Dimensional drawings**

Resistance thermometer for damp rooms, dimensions in mm (inches)

■ **Selection and Ordering data**   Article No.

Resistance thermometer for damp rooms Stainless steel thermowell	
• with one Pt100 measuring resistor 0.1 kg (0.22 kg)	**7MC1027-1AA**
• with two Pt100 measuring resistors 0.1 kg (0.22 kg)	**7MC1027-1AB**

Further designs Please add "**-Z**" to Article No. and specify Order code(s) and plain text.	Order code
Special version, specify in plain text	**Y98**
Process number for special version	**Y99**
TAG plate made of stainless steel specify TAG No. in plain text	**Y15**
Calibration carried out at one point, specify desired temperature in plain text (order equivalent number of times for several calibration points).	**Y33**

To order a temperature transmitter installed in the connection head and transmitters for SIL applications, see "Temperature transmitters for mounting in the connection head" (page 2/117).

Note:

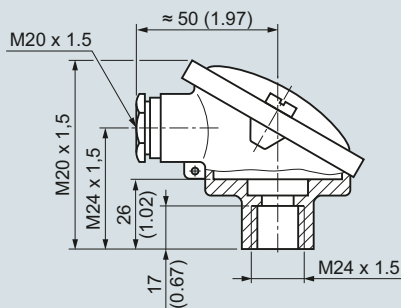Additional fitting of head mounted transmitter of SITRANS TH series is possible.

2

Temperature Measurement
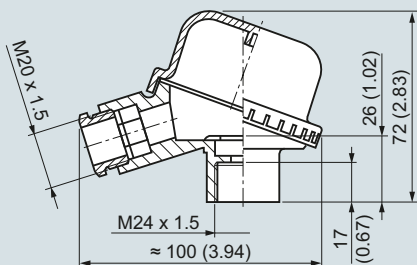## Temperature sensors
Resistance thermometers

Accessories – connection heads
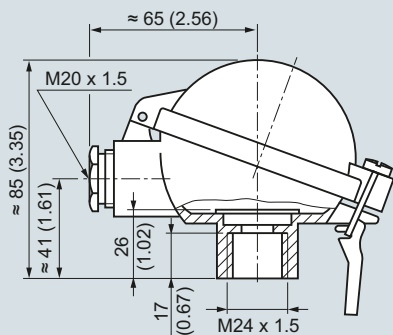
■ **Dimensional drawings**

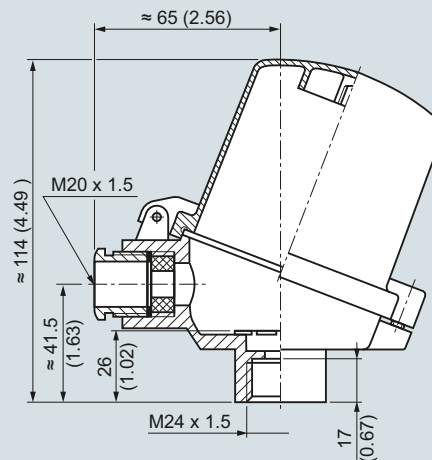### *Connection head type B for SITRANS TS500*

Connection head, Type B, degree of protection IP54, made of aluminium, with screw cover, dimensions in mm (inches)
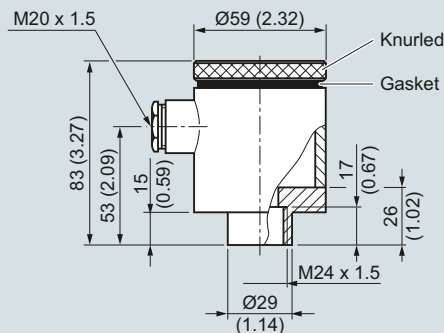

Connection head, Type B, degree of protection IP54, made of plastic, with screw cover, dimensions in mm (inches)

Connection head, Type B, degree of protection IP65, made of aluminium, with standard hinged cover, dimensions in mm (inches)

Connection head, Type B, degree of protection IP65, made of aluminium, with high hinged cover, dimensions in mm (inches)

Connection head, Type B-VA, degree of protection IP65, made of stainless steel, with screw cover, dimensions in mm (inches)

Connection heads type B for SITRANS TS500 (accessory resistance thermometer)

	Article No.
Degree of protection IP54	
Connection head type: similar to BA0; aluminum; flange cover	**7MC1907-1BA**
Connection head type: similar to BM0; plastic; screw cover	**7MC1907-1BK**
Degree of protection IP65	
Connection head type: similar to BB0; aluminum; small spring flap	**7MC1907-1BF**
Connection head type: similar to BC0; aluminum; high spring flap	**7MC1907-1BL**
Connection head type: B-VA, stainless steel	**7MC1907-1BV**
Quick-release lock for connection heads BB0, BC0, degree of protection of connection head reduced to IP20, weight: 0.02 kg (0.04 lb)	**7MC1907-1BS**