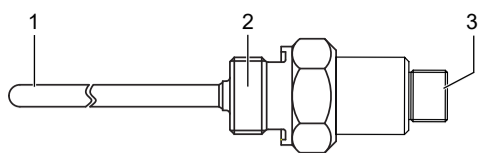


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**www.baumer.com**

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Änderungen vorbehalten  
Modifications réservées

**Structure**



1	Sensor tip	2	Process connection
3	Electrical connection		

**Factory settings**

Sensor parameters	Value
Output range	0 ... 150 °C
Current limits	Min.: 3.5 mA Max.: 20.5 mA
Output at sensor fault	23 mA
Damping	0.0 s



**Quickstart**

Kurzanleitung  
Guide rapide

**TE2**

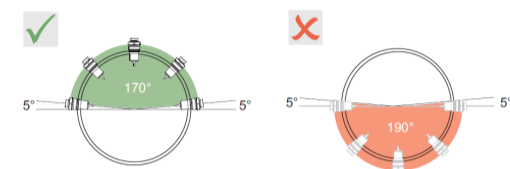
**Compact RTD temperature sensor**  
Kompakter RTD-Tempersensoren  
Compacte capteur de température RTD



11250145, V2, 1/14/2022

**EN | DE | FR**

**Weld-in sleeves including drainage**  
Einschweissmuffen mit Drainage  
Manchons à souder avec drainage



Hygienic weld-in sleeves with leakage hole by Baumer: Install the weld-in sleeves at a proper angle (see illustration) to ensure automatic draining.

Hygienische Einschweissmuffen mit Leckagebohrung von Baumer: Montieren Sie die Einschweissmuffen im richtigen Winkel (siehe Abbildung), um die automatische Drainage zu gewährleisten.

Les manchons à souder hygiéniques avec trou de fuite de Baumer: Montez les manchons à souder à l'angle correct pour assurer un drainage automatique.

**Operating conditions**

Process connection	BCID code	Connection	Process pressure [bar]	Process temperature, standard [°C] T <sub>amb</sub> = 20°C	Process temperature, with cooling neck [°C] T <sub>amb</sub> = 20°C
Sleeve Ø6	T65	1	-1 ... 40	-50 ... 125	-50 ... 250
G 1/2 A ISO 228-1	G06	3	-1 ... 100	-50 ... 125	-50 ... 250
G 1/2 A hygienic	A03	4	-1 ... 40	-50 ... 125	-50 ... 250
M12x1.5 hygienic	A02	5	-1 ... 40	-50 ... 115	-50 ... 250
M12x1.5 hygienic with PEEK cone	A02	6	-1 ... 10	-50 ... 205	n.a.
G 1/8 B external thread, hygienic	A01	7	-1 ... 40	-50 ... 125	-50 ... 250
G 1/4 A DIN 3852-E	G50	8	-1 ... 100	-50 ... 125	-50 ... 250
ISO 2852 (Tri-Clamp), DN 33.7; 38, Ø 50.5	C04	9	-1 ... 40	-50 ... 125	-50 ... 250
Tri-Clamp Ø 24.9	C01	A	-1 ... 40	-50 ... 125	-50 ... 250
BHC 3A DN 38	B01	B	-1 ... 40	-50 ... 125	-50 ... 250
1/2-14 NPT	N02	D	-1 ... 100	-50 ... 125	-50 ... 250
1/4-18 NPT	N01	E	-1 ... 100	-50 ... 125	-50 ... 250
G 1/2 A DIN 3852-E	G51	F	-1 ... 100	-50 ... 125	-50 ... 250

Operating voltage range: +Vs = 8 ... 35 VDC  
Disconnect the system from power before connecting the device.

Note on electromagnetic compatibility: Shielded connection cable is recommended. Ground the cable shield on both sides over a large surface and ensure potential equalization.

Betriebsspannungsbereich: +Vs = 8 ... 35 VDC  
Vor dem Anschliessen des Geräts die Anlage spannungsfrei schalten.

Hinweis zur elektromagnetischen Verträglichkeit: Geschirmtes Anschlusskabel empfohlen. Kabelschirm beidseitig, grossflächig erden und Potentialausgleich sicherstellen.

Tension de service : +Vs = 8 ... 35 VDC  
Mettre l'installation hors tension avant de raccorder l'appareil.

Remarque concernant la compatibilité électromagnétique : câble de connexion blindé recommandé. Effectuer une mise à la terre sur une grande surface aux deux extrémités du blindage du câble et assurer la liaison équipotentielle.

**EN**

**Applicable documents**

- Download at [www.baumer.com](http://www.baumer.com):
  - Operating manual
  - Data sheet
  - EU conformity declaration
  - Approval certificates
- As a product insert:
  - General information insert (11042373)

**Security**

**WARNING**

**Hot media burns**  
The sensor housing can heat up to over 50 °C during operation.

- a) Wear suitable protecting gloves when handling hot media.

**Installation**

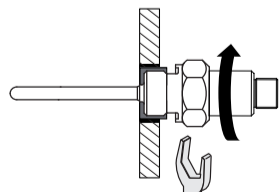
The sensor may be installed anywhere inside the container or pipe. For a detailed description of the installation process, see the operating instructions (available on the website).

**Installation of the sensor (for industrial applications)**

**DANGER**

**Risk of injury from dangerous media**

- a) Wear protective gear when working with hazardous media (e.g. acids, lye).
- b) Empty pipes prior to the installation.



Use Teflon tape (PTFE) for sealing the threads of sensors with the following process connections:

- G 1/2 A ISO 228-1 (BCID G06)
- 1/2-14 NPT (BCID N02)
- 1/4-18 NPT (BCID N01)

Do not use Teflon tape (PTFE) for sealing the threads of sensors with the following process connections:

- G 1/2 A DIN 3852-E (BCID G51)
- G 1/4 A DIN 3852-E (BCID G50)

**Instruction:**

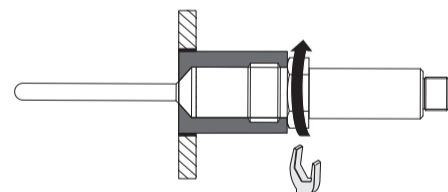
- Screw the sensor in place with the following torque:
  - G 1/2 A: 30 Nm max.
  - 1/x-1x NPT: 20 Nm max.

**Installation of the sensor (for hygienic applications)**

**WARNING**

**Health hazard from contaminated media**

- Only use welding sleeves and adapters from Baumer.
- Do not seal the process connection with Teflon tape (PTFE).
- The welding should only be carried out by persons who are trained in the hygiene sector.



This applies to sensors with the following process connection:

- G 1/2 A hygienic (BCID A03)
- M12x1.5 hygienic (BCID A02)
- M12x1.5 hygienic with PEEK cone (BCID A02)
- G 1/8 A hygienic (BCID A03)
- ISO 2852 Tri-Clamp Ø 50.5 (BCID C04)
- Tri-Clamp Ø 24.9 (BCID C01)
- BHC 3A DN 38 (BCID B01)

**Instruction:**

- Screw the sensor in place with the following torque:
  - G 1/2 A hygienic: 15 ... 20 Nm
  - M12x1.5 hygienic: 12 ... 16 Nm
  - M12x1.5 hygienic with PEEK cone 8 ... 12 Nm
  - G 1/8 A hygienic: 10 Nm max.

**Troubleshooting**

Error	Cause	Resolution
Sensor does not start	Sensor connection incorrect	Check the plug and power supply
	Short circuit	Fix the short circuit
	Device error	Dismount and return the sensor
Faulty sensor signal	Invalid temperature range	Check the set limits

**Parameterization**

Sensor parameterization is using *FlexProgrammer*. Here, the temperature range, measuring unit, sensor offset, damping and alarms can be set. For more information see the **HELP** menu of *FlexProgrammer*.

**Potentially explosive atmosphere**

TE2-x.x.xx19.xxxx.x with Pt100 output (without transmitter) can be used in explosion hazardous areas of all zones.

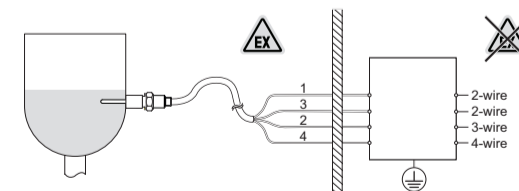
**TE2-x.x.xx19.xxxx.x in all zones**

Use a Zener barrier. Observe the temperatures, connection values and circuit diagram below:

**Ex ia simple apparatus (IEC 60079-11)**

- Limits:
- Ui: 15 VDC
  - Ii: 50 mA
  - Pi: 25 W
  - Ci: 0 nF
  - Li: 0 µH

- Temperature class:
- T1 ... T5: -40 < T<sub>amb</sub> < 85 °C
  - T6: -40 < T<sub>amb</sub> < 55 °C
  - T135: -40 < T<sub>amb</sub> < 85 °C



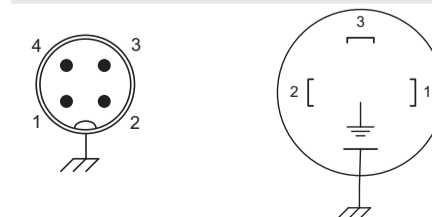
**Electrical connection**

**Instruction:**

- Perform electrical sensor connection in compliance with related pin assignment.

**Pin assignment**

**M12-A, 4-Pin DIN EN 175301-803 A**



**Pin assignment 4-pin M12-A connector**

Output	Circuit diagram	Function	Pin
Pt100 (single element)		Pt100 11	1, 2
		Pt100 12	3, 4
		Frame ground	Plug thread
Pt100 (dual element)		Pt100 11	1
		Pt100 21	2
		Pt100 22	3
		Pt100 12	4
		Frame ground	Plug thread
4 ... 20 mA (2-wire), lout at pin 2		+Vs	1
		+Iout	2
		N.C.	3, 4
		Frame ground	Plug thread
4 ... 20 mA (2-wire), lout at pin 2 and 3 (option "A")		+Vs	1
		+Iout	2, 3
		N.C.	4
		Frame ground	Plug thread

**Pin assignment connector DIN 175301-803 A**

Output	Circuit diagram	Function	Pin
Pt100 (single element)		N.C.	1
		Pt100 11	2
		Pt100 12	3
		Frame ground	Grounding lug
4 ... 20 mA (2-wire)		+Vs	1
		+Iout	2
		N.C.	3
		Frame ground	Grounding lug

**Maintenance**

The sensor is maintenance-free. No special preventive maintenance is required.  
Storage temperature: -55 ... 90 °C

