



Description

The FlexTop temperature transmitter type 2204 is suitable for input from Pt500 RTD sensors, potentiometer and resistance input.

The FlexTop 2204 features a 4 ... 20 mA output signal.

Environment

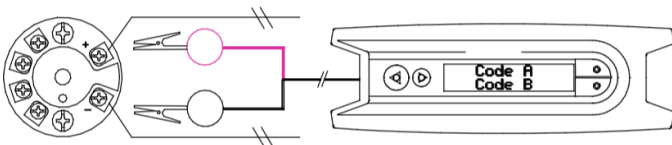
| | |
|---------------------|----------------------------------|
| Humidity | <98 % RH, condensing |
| Ambient temperature | -40 ... 85°C |
| Storage temperature | -55 ... 90 °C |
| Protection class | IP10, terminals IP55, housing |
| Vibrations | GL, test 2 |

Configuring with FlexProgrammer 9701

The FlexTop 2204 can be configured using the 4...20 mA cable. The maximum distance depends on the cable type, resistance and capacity. We recommend to use shielded cables.

To be able to configure the FlexTop 2204 with the FlexProgrammer 9701 the dedicated software, Flex-program, must be loaded on the PC.

During the configuration the new data are, by means of the FlexProgrammer 9701, transferred from the PC to the FlexTop 2204, where they are stored in the internal memory.



Note: During the first power-up after a configuration the power-on time increases to approx. 10 sec.

Field of application

FlexTop temperature transmitter type 2204 is a compact temperature transmitter, designed to be built into the housing of a temperature sensor, like the Baumer CombiTemp.

Safety instruction

This instrument is built and tested according to the current EU-directives and packed in technically safe condition. In order to maintain this condition and to ensure safe operation, the user must follow the hints and warnings given in this instruction.

During the installation the valid national rules have to be observed. Ignoring the warnings may lead to severe personal injury or substantial damage to property.

The product must be operated by trained staff. Correct and safe operation of this equipment is dependent on proper transport, storage, installation and operation.

All electrical wiring must conform to local standards. In order to prevent stray electrical radiation, we recommend twisted and shielded input cables, as also to keep power supply cables separated from the input cables. The connection must be made according to the connecting diagrams.

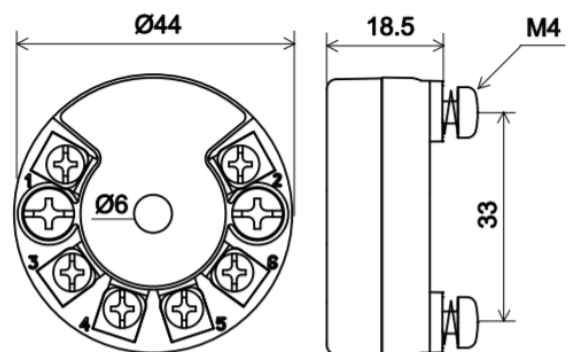
Before switching on the power supply take care that other equipment is not affected. Ensure that the supply voltage and the conditions in the environment comply with the specification of the device.

Before switching off the supply voltage check the possible effects on other equipment and the processing system.

WARNING

For electrical installation and commissioning of explosion protected devices, the data given in the conformity certificate as also the local regulations for installation of electrical apparatus within explosion protected areas must be considered. The intrinsically safe versions can be mounted in the explosion hazarded area according to its specification only connected to a certified intrinsically safe supply loop with the corresponding electrical values.

Dimensions



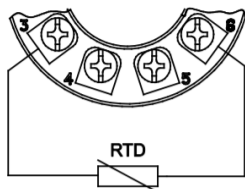
WARNING

This product contains no replaceable parts.

In case of malfunction the product must be shipped to Baumer for repair

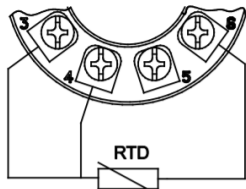
Electrical installation

RTD - 2-wire



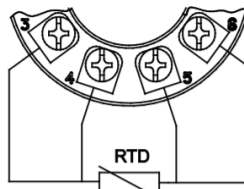
No cable compensation
Can be configured

RTD - 3-wire



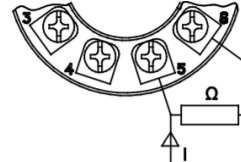
3-wire cable compensation

RTD - 4-wire



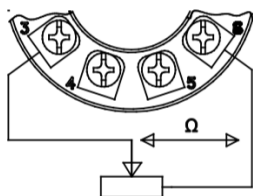
4-wire cable compensation

A



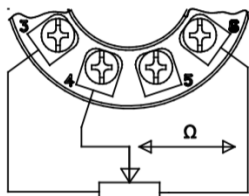
Current measurement

Potentiometer



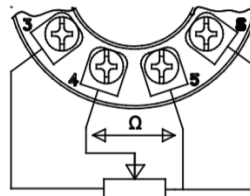
No compensation
Can be configured

Potentiometer



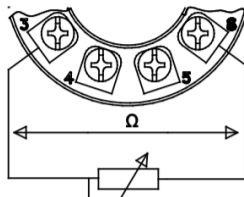
3-wire compensation
for transfer resistance
between element and wiper

Potentiometer



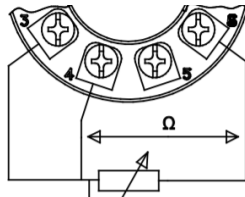
4-wire compensation
for transfer resistance
between element and wiper

Resistance



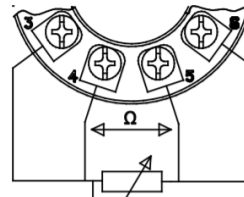
No compensation
Can be configured

Resistance



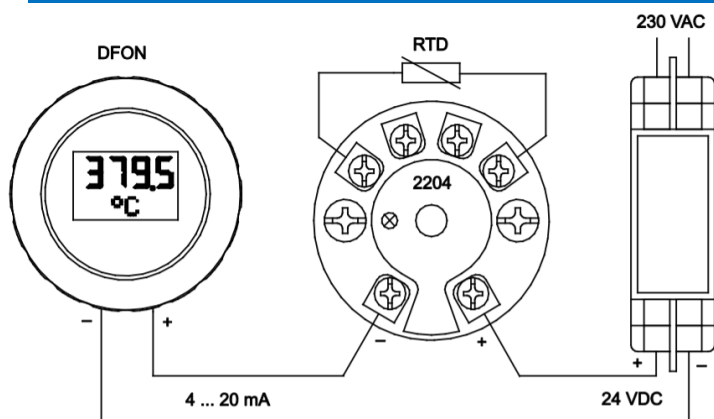
3-wire cable compensation

Resistance



4-wire cable compensation

Connection diagram (non-EX application)

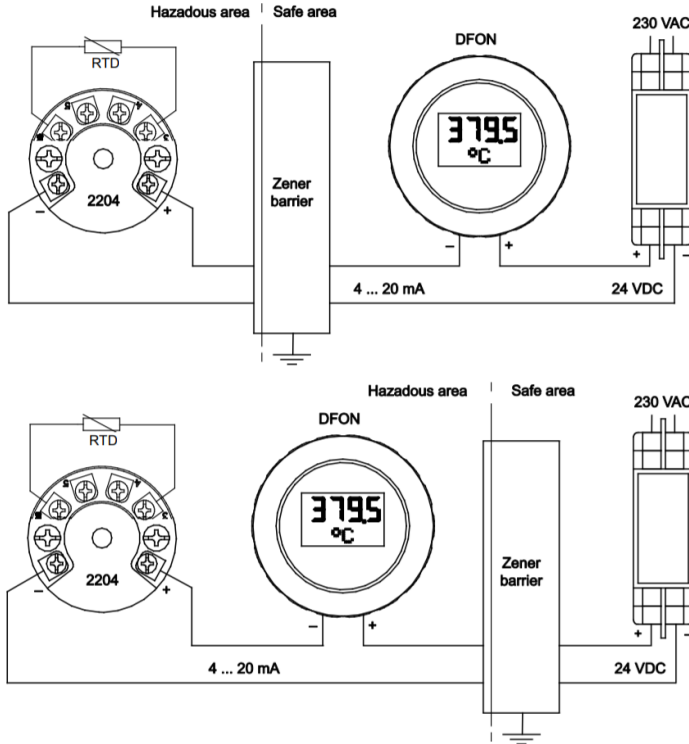


FlexTop 2204

Operating instructions

Hazardous area - ATEX

Connection diagram ATEX



ATEX data for FlexTop™ 2204 Ex ia (2204-0002)

| | | |
|----------------------|----------------------------|---|
| Approval | ATEX II 1G Ex ia IIC T5/T6 | |
| Voltage supply range | 8...28 V DC | |
| Internal inductivity | L_i | $\leq 10 \mu\text{H}$ |
| Internal capacity | C_i | $\leq 10 \text{nF}$ |
| Temperature class | T1...T5: | $-40 < T_{\text{amb}} < 85^\circ\text{C}$ |
| | T6: | $-40 < T_{\text{amb}} < 50^\circ\text{C}$ |
| Barrier data | U_i : | $\leq 28 \text{VDC}$ |
| | I_i : | $\leq 0,1 \text{A}$ |
| | P_i : | $\leq 0,7 \text{W}$ |

The installation of FlexTop 2204 must be done in accordance with prevailing guidelines for zones 0 or 1.

The FlexTop 2204 must be connected in the 4...20 mA loop circuit only. FlexTop 2204 must be mounted in a housing, e.g. $\varnothing 80\text{mm}$ stainless steel housing or DIN-B housing.

ATEX data for FlexTop™ 2204 Ex ec (2204-0003)

| | | |
|-------------------|---------------------------|---|
| Approval | ATEX II 3G Ex ec IIC T5 X | |
| Supply range | U_n : | 30 V DC, max. |
| | I_n : | 20 mA |
| Temperature class | T5: | $-40 < T_{\text{amb}} < 85^\circ\text{C}$ |

A FlexTop 2204-0003 may be mounted in hazardous areas in accordance with the current EU-directives.

The product must be mounted in a suitable enclosure fulfilling relevant requirement in EN 60 079-0 among these minimum IP54 ingress protection.

ATEX configuration with FlexProgrammer 9701

The FlexProgrammer 9701 configuring unit must be connected to the FlexTop 2204 or DFON outside the hazardous area.

Configuring procedure:

- Disconnect mains from the 4...20 mA loop circuit.
- Disconnect the FlexTop 2204 from the circuitry within the hazardous area.
- Bring the FlexTop 2204 to the safe area.
- Connect the FlexProgrammer 9701 and perform the configuring session.
- Reinstall the FlexTop 2204 in the hazardous area.
- Connect the power supply to the circuit.