# Immersion temperature sensor FT-T1Q...

for fast-response measurement in hydraulic systems

**Immersion temperature sensors for fast-response measurements**

- **T1 measuring element**
- **Suitable for domestic water and other liquid media**
- **For use in very fast-response controlled systems**
- **No immersion pocket**
- **DIN connecting head with cable gland**

## Use

The FT-T1Q... immersion temperature sensors are suitable for the measurement of the fluids in hydraulic systems with very fast-response controlled processes (e.g. domestic hot water systems). The sensors are installed without an immersion pocket.
The FT-T1Q... may be used with all controllers with a T1 sensor input (e.g. those in the INTEGRAL RS range).

## Type summary

Two types are available. They differ only in the length of the pocket.

| | |
|---|---|
| **FT-T1Q** | Pocket length 70 mm |
| **FT-T1Q2** | Pocket length 150 mm |

## Ordering

Please quote the quantity, product description and type code on your order.

*Example:* **1 Immersion temperature sensor, type FT-T1Q2**

## Technical design

The *T1 temperature sensor* is based on a silicon resistance element with a positive temperature coefficient (PTC). The relationship between the measured signal and the temperature is linear. For detailed resistance data, see data sheet 1713.

## Mechanical design

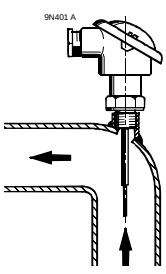
The FT-T1Q... immersion sensor comprises two elements, which are inseparable during operation:

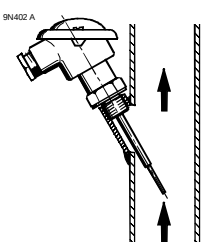
– Stainless steel sensor probe with a built-in T1 measuring element. To reduce the sensor response time, the end section of the probe is tapered.
– Cast aluminium DIN connecting head with a PG16 cable gland.

## Mounting notes

Mounting instructions (Ref. 35224) are enclosed with the sensor.

The FT-T1Q... should be mounted so that the immersion probe is approximately in the middle of the pipe (where the medium is ideally mixed) but at a minimum depth of 20 mm. Orientation is unimportant, and there is no need for an immersion pocket. In restricted spaces, the sensor may also be mounted in a pipe bend, with the probe against the direction of flow.

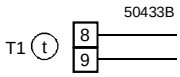


## Technical data

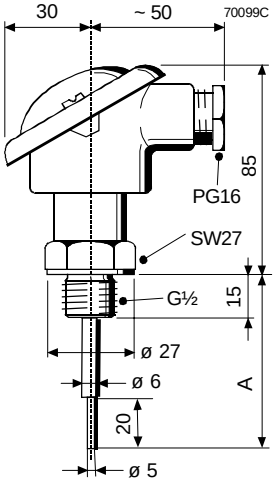
| | |
|---|---|
| Application range | – 30 ...130 °C |
| Measuring element | T1 (PTC) |
| Time constant 63 % to VDI/ VDE 3522 | < 2.5 s, measured in moving water |
| Measured medium | Domestic water or other liquid media |
| Nominal pressure, PN | 40 bar |
| Materials: | |
| Connecting head | Cast aluminium, grey |
| Sensor probe | Stainless steel V4A (1.4571) |
| Packaging | Cardboard |
| Maintenance | None required |
| Electrical connection | |
| Connection terminals | 2 screw terminals for max. 2.5 $mm^2$ |
| Cable length | Max. 170 m with 1.5 $mm^2$ Cu |
| Cable entry | PG16 gland |
| Weight (incl. packaging) | 0.45 kg |
| Dimensions | See "Dimensions" below |
| Connecting head | Shape B, to DIN 43729 |
| Sensor probe | Internal thread G½ (ISO 228/1) |
| – Immersed length | FT-T1Q 70 mm (including 20 mm tapered end)<br>FT-T1Q2 150 mm (including 20 mm tapered end) |
| – Diameter | 6 mm (tapered end: diameter 5 mm) |
| – Wall thickness | 1.0 mm (tapered end 0.5 mm) |
| Orientation | Any |
| General ambient conditions | |
| Temperature ranges | |
| – Operation | – 30 ...100 °C at housing |
| – Storage / Transport | – 30 ...100 °C |
| Ambient humidity | |
| – Operation | < 95 %rh (non-condensing) |
| – Storage / Transport | < 95 %rh (non-condensing) |
| Protection standard | IP54 to EN60529 |
| Conformity | Meets the requirements for CE marking |

## Connection terminals




## Dimensions

All dimensions in mm




Mounting depth (A):
FT-T1Q 70 mm
FT-T1Q2 150 mm

External thread G1/2 to ISO228/1