DATA SHEET

T 5222 EN

Type 5207-0060 Fast-response Temperature Sensor

with Pt 1000 resistor

$C \in$

Application

Fast-responding temperature sensors to measure rapid temperature changes in heat exchangers.

Special features

- Optimal step response featuring a half-value time $t_{0.5}$ of approx. 1 second and a 90 % time $t_{0.9}$ of approx. 3 seconds measured in flowing water (0.4 m/s)

- Minimum thermal resistance and low heat capacity

- Easy installation

- The use of a special sensor pocket provides optimal positioning of the temperature sensor at the heat exchanger

Principle of operation

The Type 5207-0060 Temperature Sensor has been especially designed for domestic hot water heating in instantaneous heating systems. It is ideally used with TROVIS 57xx Electric Actuators with Process Controller.

Fast-responding Pt 1000 temperature sensors are used in compact heat exchangers which only have a fairly small mass with a low heat storage capacity. As a result, the temperature can change rapidly (basic values according to Class B of EN 60751).

Three times characterize the step response:

- **Half-value time $t_{0.5}$** indicates the time taken for the measurement to reach 50 % of the final value

- **90 % time $t_{0.9}$** indicates the time taken to reach 90 % of the final value

- **Time τ**, indicates the time taken to reach 63.2 % of the final value
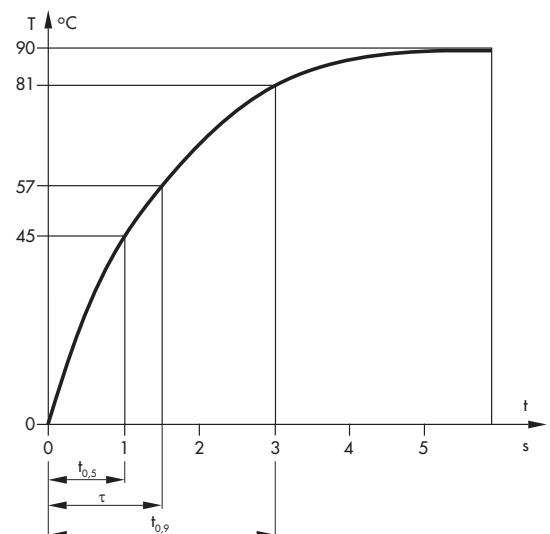

Fig. 1: *Type 5207-0060 Temperature Sensor*
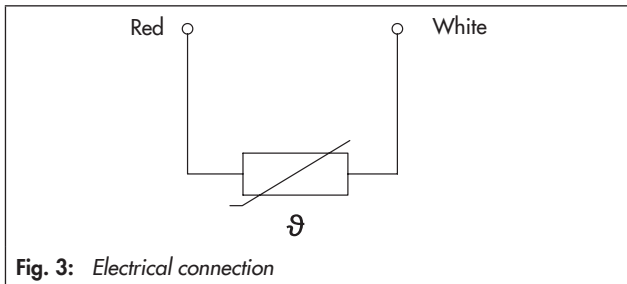

Fig. 2: *Step response*

Electrical connection

Fig. 3: *Electrical connection*

Table 1: *Technical data*

Type 5207-0060 Temperature Sensor	
Measuring element	1x Pt 1000 (EN 60751, Class B) Two-wire circuit
Perm. medium temperature	−5 to +90 °C
Perm. ambient temperature	−5 to +80 °C
Time constants (medium: water 0.4 m/s)	$t_{0.5} \leq 1$ second $t_{0.9} \leq 3$ seconds
Pressure rating	PN 16
Degree of protection	IP 54 according to EN 60529
Immersion depth	52 mm
Mechanical connection	Thread G ¼
Electrical connection	Free cable end fitted with wire end ferrules with plastic sleeves
Connecting cable length	2000 mm
Sensor pocket	
Mechanical connection	Male thread G ¾ Female thread G ¼ Coupling nut G ¾ or G 1
Pressure rating	PN 16

Table 2: *Materials*

Type 5207-0060 Temperature Sensor	
Mechanical connection	Brass (2.0401.20)
Protective tubing	Inconel® 600 (2.4816)
Connecting cable	PVC
Sensor pocket	Red brass CC491K (Rg5)

Dimensions

Type 5207-0060 Temperature Sensor (Pt 1000) Configuration ID 3525819

Sensor pocket G ¾ Order no. 1400-9236

Sensor pocket G 1 Order no. 1400-9252
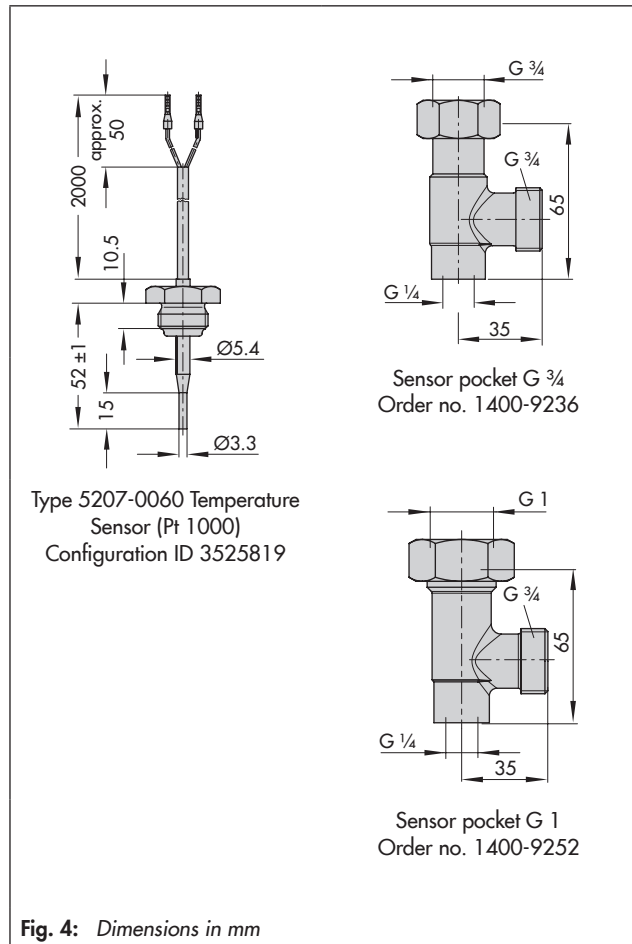
Fig. 4: *Dimensions in mm*

Accessories

For all versions	Ordering number
Sensor pocket G ¾ with coupling nut	1400-9249
Sensor pocket G 1 with coupling nut	1400-9252

Disposal

SAMSON is a producer registered at the following European institution ▶ https://www.ewrn.org/national-registers/national-registers. WEEE reg. no.: DE 62194439/FR 025665

➔ Observe local, national and international refuse regulations.

➔ Do not dispose of components, lubricants and hazardous substances together with your other household waste.

ℹ *Note*

We can provide you with a recycling passport according to PAS 1049 on request. Simply e-mail us at aftersalesservice@samsongroup.com giving details of your company address.

☼ *Tip*

On request, we can appoint a service provider to dismantle and recycle the product.

Ordering text

Type 5207-0060 Fast-response Temperature Sensor

Accessories: Sensor pocket with coupling nut (G ¾ or G 1)
and seal

Associated Information Sheet

–   Sensors Sand Thermostats   ▶ **T 5200**

Specifications subject to change without notice   **T 5222 EN**