

T 5221 EN

Fast-response temperature sensors

Types 5207-61/-64/-65

with Pt 1000 resistor



Application

Fast-responding temperature sensors for measuring rapid temperature changes in heat exchangers and DHW circuits

Special features

The Types 5207-61/-64/-65 Temperature Sensors include the following features:

- Basic values according to Class B of DIN EN 60751
- Pt 1000 resistors
- Step response (see Fig. 3) featuring a response time τ of less than one second
- Minimum thermal resistance and low heat capacity
- No air space between measuring insert and immersion tube
- Without thermowell
- Fixed immersion depth (Type 5207-61)
- Variable immersion depth (Types 5207-64/-65)

Versions

Immersion sensor with immersion tube

- 110 mm length, 80 mm immersion depth, operating temperature range -50 to $+180$ °C
- 170 mm length, 40 to 100 mm immersion depth, operating temperature range -15 to $+180$ °C
- 250 mm length, 120 to 190 mm immersion depth, operating temperature range -15 to $+180$ °C

Principle of operation

Fast-responding temperature sensors are used in compact heat exchangers and DHW heaters that are fairly small and have a low heat storage capacity. As a result, the temperature can change rapidly. Furthermore, the temperature sensors are easy to install and do not need to be calibrated.

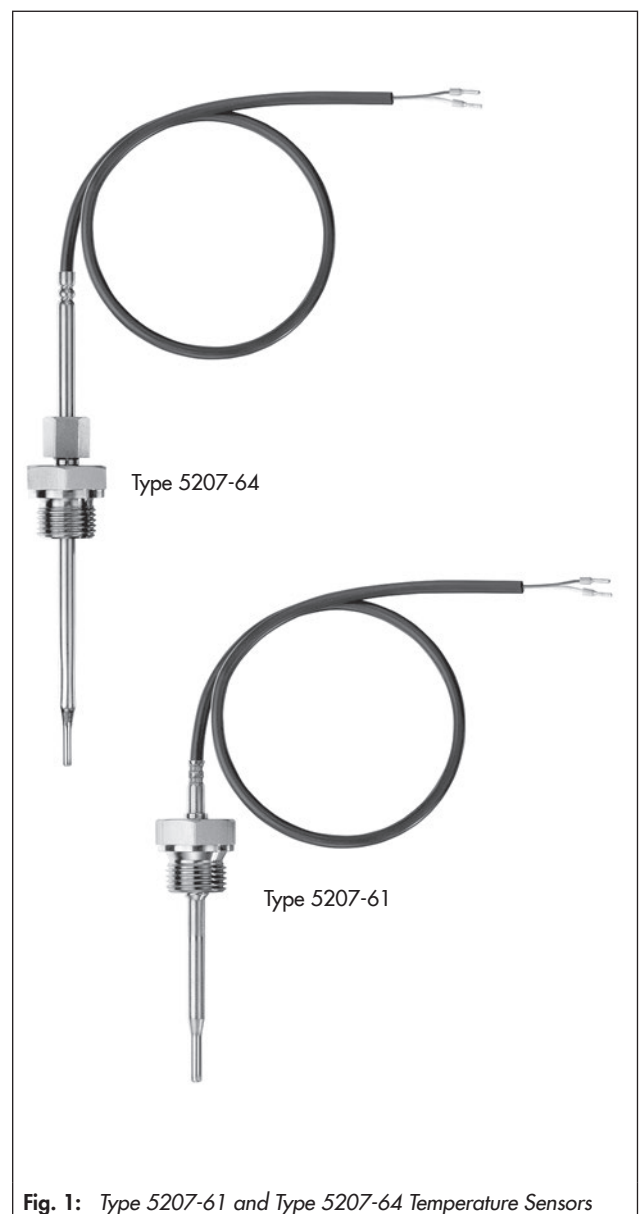


Fig. 1: Type 5207-61 and Type 5207-64 Temperature Sensors

Electrical connection

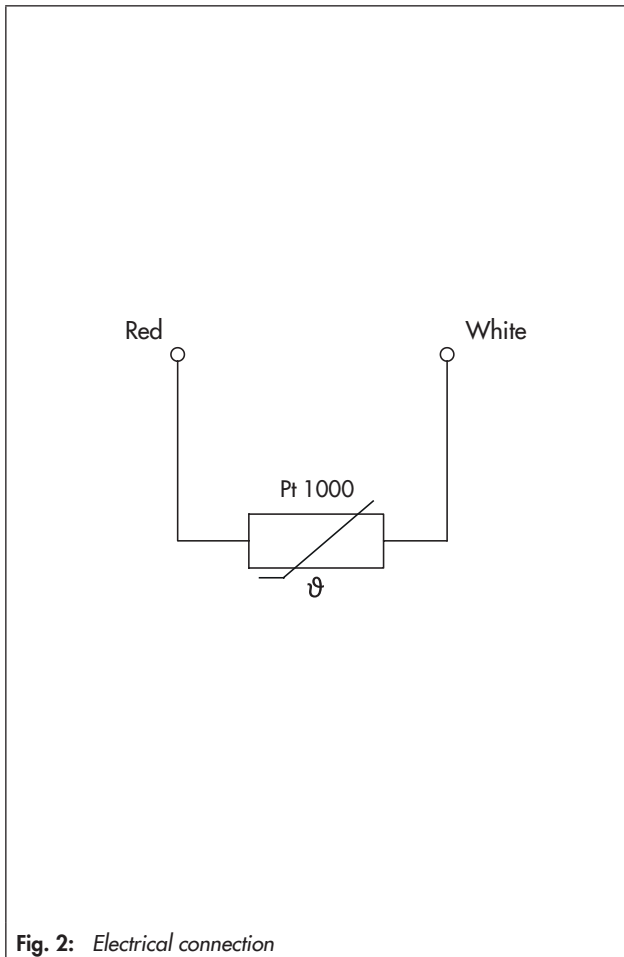


Fig. 2: Electrical connection

Step response of sensors

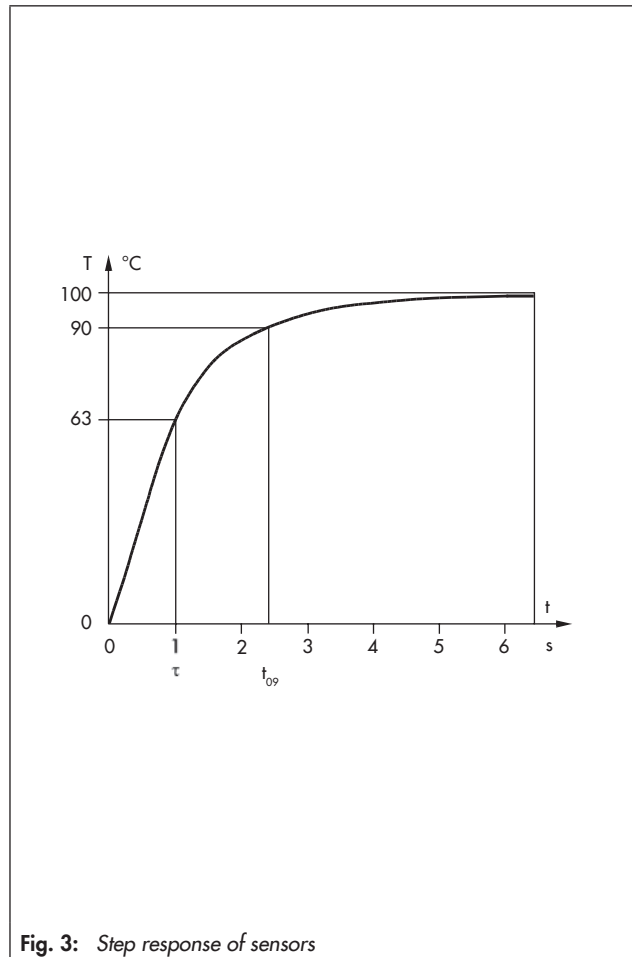


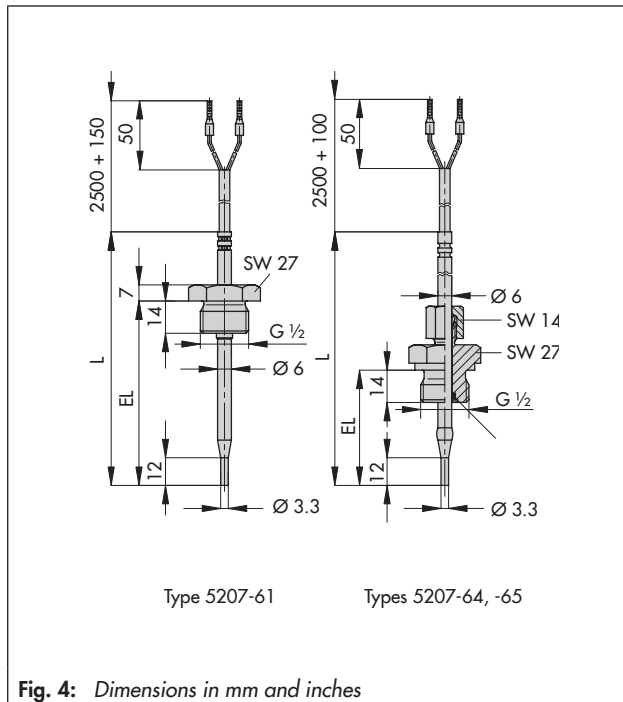
Fig. 3: Step response of sensors

Table 1: Technical data

Temperature sensor	Type	5207-61	5207-64	5207-65
Style		Immersion sensor	Immersion sensor with screw gland	
Number of resistors		1x Pt 1000 (DIN EN 60751 Class B)		
Scope		-50 to +180 $^{\circ}\text{C}$	-15 to +180 $^{\circ}\text{C}$	-15 to +180 $^{\circ}\text{C}$
Permissible temperature range of the process medium		-50 to +180 $^{\circ}\text{C}$	-15 to +180 $^{\circ}\text{C}$	-15 to +180 $^{\circ}\text{C}$
Permissible ambient temperature range		-50 to +180 $^{\circ}\text{C}$	-15 to +180 $^{\circ}\text{C}$	-15 to +180 $^{\circ}\text{C}$
Time constant τ		0.8 s	0.9 s	0.9 s
Pressure rating		PN 40		
Degree of protection		IP 65 according to EN 60529		
Length of immersion tube	L	110 mm	170 mm	250 mm
Immersion depth	EL	80 mm fixed	40 to 120 mm	120 to 190 mm
Mechanical connection		Screw-in thread G 1/2	Screw gland G 1/2	
Electrical connection		Free cable end with wire ferrule		
Connecting cable length		2.5 m		
Weight		0.15 kg	0.21 kg	0.27 kg

Table 2: Materials

Immersion tube, screw fitting	CrNiMo steel
Screw gland	CrNiMo steel
Seal	FPM
Connecting cable	Insulation: Silicone The silicone connecting cable is approved for permanent use within the temperature range -50 to +180 °C.

Dimensions**Fig. 4:** Dimensions in mm and inches**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 aftersaleservice@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

Fast-response temperature sensor

Type 5207-61

Type 5207-64

Type 5207-65

Associated Information Sheet

- Temperature sensors and thermostats ▶ T 5200