

T 5220 EN

Types 5207 to 5277 Temperature Sensors with Pt 1000 resistors

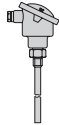
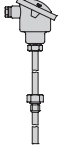
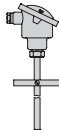
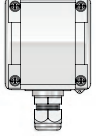
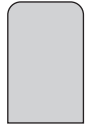


Application

Measurement of temperatures in HVAC systems.

Versions with Pt 1000 resistors. Basic values according to Class B of DIN EN 60751.

Table 1: Screw-in, duct, contact and outdoor sensors with Pt 1000 resistors

Screw-in sensor	•	•	•	•	•	•			
Duct sensor							•		
Contact sensor								•	
Outdoor sensor									•
Number of resistors	1	1	1	1	1	1	1	1	1
Pt 1000 resistors	See Table 5								
Sensor length mm	80	160	250	160	250	400	60 ... 280		–
Sensor shaft G ½ made of ¹⁾	Brass			1.4571			Nickel-plated brass		–
Pressure rating PN	16			40					–
Permissible temperatures									
Medium °C	–20 to +150			–60 to +400			–20 to +150	–50 to +120	
Ambient °C	–20 to +70			–20 to +70			–20 to +70	–50 to +100	–50 to +90
Degree of protection acc. to EN 60529 IP	54			54			41	65	43
Weight (approx.) kg	0.4	0.4	0.5	0.4	0.5	0.6	0.6	0.04	0.04
Conformity	CE EAC								
Type	5207-21	5207-27	5207-26	5207-47	5207-46	5207-48	5217	5267-3	5227-4
Style									
Preferable scope of application	Flow or return flow pipes, DHW applications, heating systems						Supply air, mixed air, exhaust air (non-corrosive air and gases)	Flow or return flow pipes	Exterior walls of buildings

¹⁾ Flange connection with duct sensors instead of G ½

Table 2: Room sensors with Pt 1000 resistors





Room sensor		•	•	•
with potentiometer and mode selector switch			•	•
Number of Pt 1000 resistors		1	1	1
Resistance values		See Table 5		
Permissible temperatures				
Ambient °C		-35 to +70	-35 to +70	-35 to +70
Degree of protection acc. to EN 60529 IP		30	30	30
Weight kg (approx.)		0.05	0.07	0.07
Conformity		CE EAC		
Type		5257-11	5257-51	5257-71
Style				
Preferable site of installation		Recreation rooms and offices		

Table 3: Application range of room sensors

	5257-11	5257-51	5257-71
Controllers for HVAC systems			
TROVIS 5573	•	•	
TROVIS 5573-1	•	•	
TROVIS 5575	•	•	
TROVIS 5576	•	•	
TROVIS 5578	•	•	
TROVIS 5578-E	•	•	
TROVIS 5579	•	•	
TROVIS 5430 ¹⁾	•	•	
TROVIS 5431 ¹⁾	•	•	
TROVIS 5432 ¹⁾	•	•	
TROVIS 5433 ¹⁾	•	•	
TROVIS 5475-2 ¹⁾	•	•	
TROVIS 5476 ¹⁾	•	•	
TROVIS 5479 ¹⁾	•	•	
TROVIS 5571 (PLC) ¹⁾	•	•	
Electric actuators with process controllers			
TROVIS 5757-7			•
TROVIS 5725-7 ¹⁾			•

¹⁾ No longer available

Table 4: Immersion sensors with Pt 1000 resistors (can also be used as contact sensors)¹⁾

Immersion sensor with thermowell/ contact sensor	•		
Number of Pt 1000 resistors	1		
Resistance values	See Table 5		
Sensor length mm	50		
Permissible temperatures			
Medium °C	-50 to +180		
Ambient °C	-50 to +180		
Degree of protection acc. to EN 60529 IP	67		
Weight kg (approx.)	0.065	0.101	0.165
Connecting cable length m	2	3	5
Conformity	CE EAC		
Type	5277-21	5277-31	5277-51
Style			
Preferable scope of application	Immersion sensor with connecting cable, thermowell required Flow or return flow temperature measurement, DHW applications, heating systems		

¹⁾ **Accessories for Types 5277-21/-31/-51**- **Brass thermowell, G ½, PN 16**

Immersion length 80 mm

Order no. 1099-0807

Immersion length 160 mm

Order no. 8525-5005

- **Thermowell CrNiMo, G ½, PN 40**

Immersion length 80 mm

Order no. 1099-0805

Immersion length 160 mm

Order no. 8525-5011

Immersion length 250 mm

Order no. 1099-0806

- **Mounting kit**

To use an immersion sensor as a contact sensor

Material no.: 100000722

i Note

It is not necessary to calibrate the line with temperature sensors with Pt 1000 resistors. In cases where the length of line between sensor and controller exceeds 100 m, the cross-section of the wire must be at least 1.5 mm². Route the sensor lines and other supply voltage lines separately.

The Type 5267-3 Contact Sensor is suitable for pipes with up to 60 mm diameter. On assembly, the supplied heat-conducting paste must be applied between the sensor (copper protective tube) and the pipe.

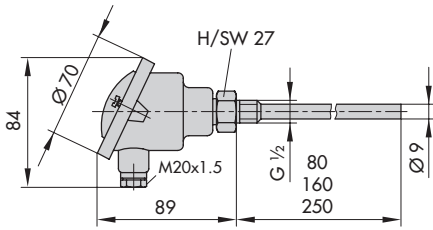
The maximum permissible wire cross-section is 1.5 mm² for terminals for sensors (Types 5227-4, 5257-xx and 5267-3).

Table 5: Resistance values for Types 5207 to 5277 Sensors with Pt 1000 resistors

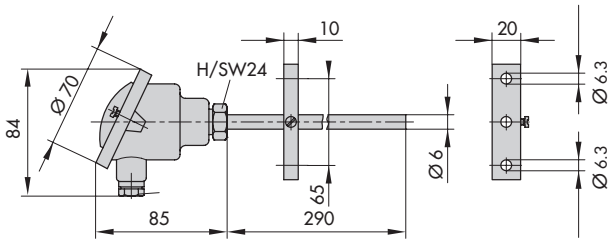
Temperature °C	-35	-30	-25	-20	-15	-10	-5	0	+5	+10	+15	+20
Resistance Ω	862.5	882.2	901.9	921.6	941.2	960.9	980.4	1000.0	1019.5	1039.0	1058.5	1077.9
Temperature °C	+25	+30	+35	+40	+45	+50	+55	+60	+65	+70	+75	+80
Resistance Ω	1097.3	1116.7	1136.1	1155.4	1174.7	1194.0	1213.2	1232.4	1251.6	1270.8	1289.9	1308.9
Temperature °C	+85	+90	+95	+100	+105	+110	+115	+120	+125	+130	+135	+140
Resistance Ω	1328.0	1347.1	1366.1	1385.1	1404.0	1422.9	1441.8	1460.7	1479.5	1498.3	1517.1	1535.8
Temperature °C	+145	+150	+155	+160	+165	+170	+175	+180	+185	+190	+195	+200
Resistance Ω	1554.6	1573.3	1591.9	1610.5	1629.1	1647.7	1666.3	1684.8	1703.3	1721.7	1740.2	1758.6

Screw-in sensors

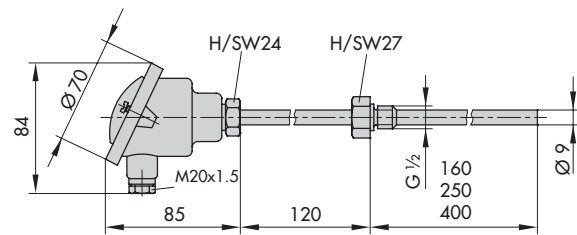
Types 5207-2x



Type 5217; immersion depth adjustable between 60 and 280 mm



Type 5207-4x



Sample application

Pipe installations:

- a) On elbows, against the direction of flow
- b) In smaller pipes, positioned at an angle against the direction of flow
- c) At a right angle to the flow

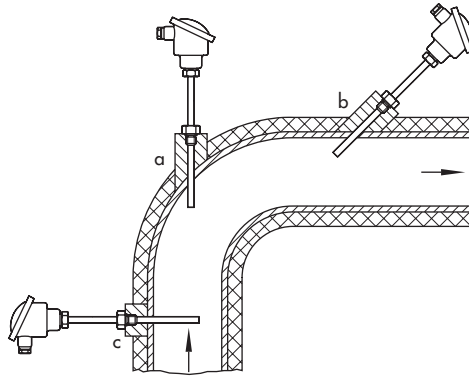


Fig. 1: Dimensions in mm · Screw-in sensors

Contact sensor

Type 5267-3

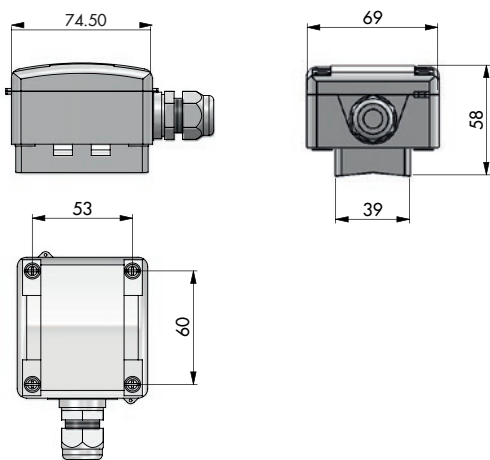


Fig. 2: Dimensions in mm · Contact sensor

Outdoor sensor

Type 5227-4

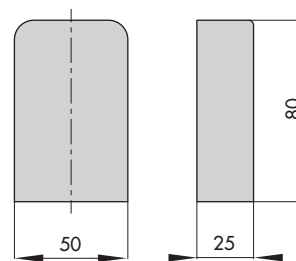


Fig. 3: Dimensions in mm · Outdoor sensor

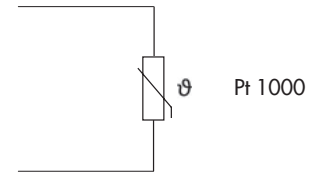
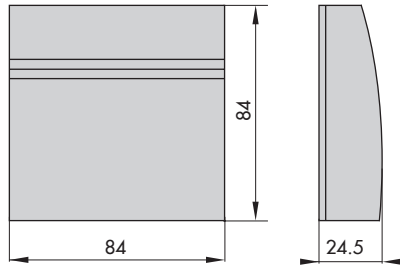
Room sensors

Installation

- On the wall of the room concerned at a height of 1.5 m
- Do not mount the sensor in alcoves or close to appliances which give off heat

Type 5257-11 Room Panel

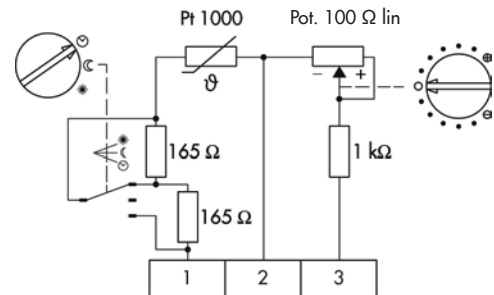
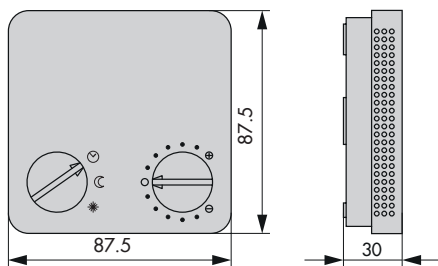
Room sensor for measuring the room temperature



Type 5257-51 Room Panel

Remote control of heating controllers

Room sensor for measuring the room temperature; changing the room temperature set point with the mode switch



☉ Automatic mode

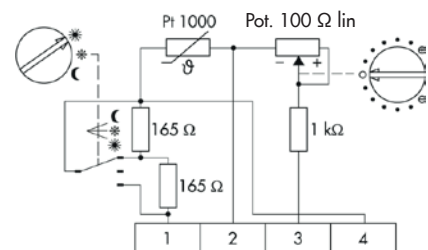
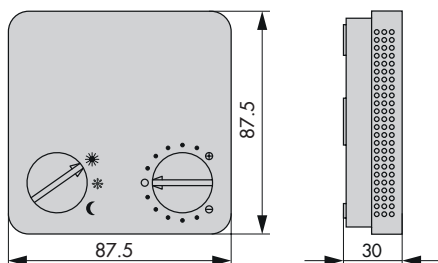
☾ Night mode (reduced operation)

☀ Day mode (rated operation)

Type 5257-71 Room Panel

Remote control of electric actuators with process controller

Room sensor for measuring the room temperature; changing the room temperature set point with the mode switch



☀ Day mode (rated operation)

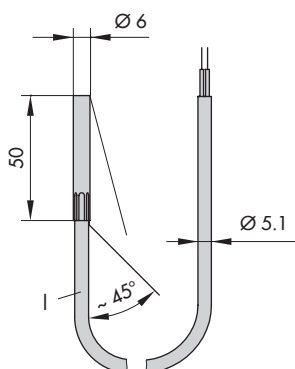
❄ Off/frost protection

☾ Night mode (reduced operation)

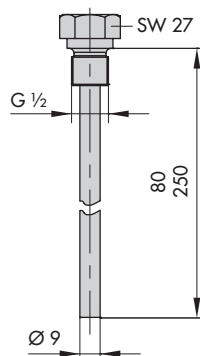
Fig. 4: Dimensions in mm · Room panels

Immersion sensors

Types 5277-21/-31/-51



Thermowell



Connecting cable length

Type 5277-21: $l = 2$ m, silicone connecting cable

Type 5277-31: $l = 3$ m, silicone connecting cable

Type 5277-51: $l = 5$ m, silicone connecting cable

Fig. 5: Dimensions in mm · Immersion sensors

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.

T Tip

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

Associated Information Sheet

- For temperature sensors and thermostats ► T 5200