



## Cable Temperature Sensor QAP21.2

for applications up to 180 °C

### Use

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The cable temperature sensor is used for acquiring high medium temperatures. It is especially suited for acquiring the medium temperature in flat solar collectors.

### Ordering

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When ordering, please give type reference of cable temperature sensor and type reference of the accessories required.

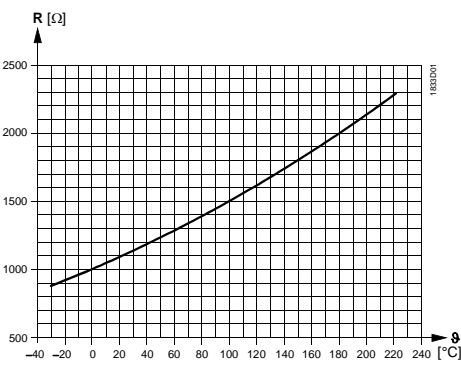
### Function

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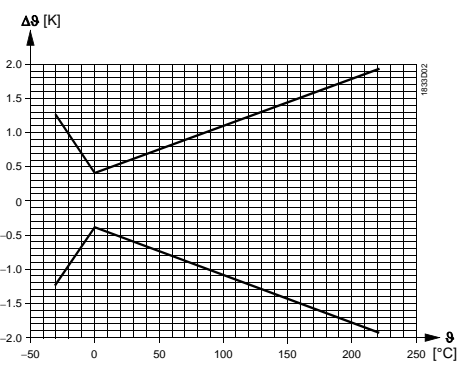
The sensor acquires the medium temperature in the solar panel with its nickel element. The resistance value of the element changes as a function of the temperature. It is delivered for further handling by a suitable controller.

Sensing element

Characteristic



Accuracy



Legend

- R Resistance value in Ohm
- $\theta$  Temperature in degrees Celsius
- $\Delta\theta$  Temperature differential in Kelvin

Mechanical design

The cable temperature sensor consists of a sleeve (6 mm diameter, 50 mm long), sensing element and connecting cable with ferrules.

The sensing element is accommodated in the sleeve which is flat on one side and to which the connecting cable is attached.

The sensor is not suited for direct immersion in liquid media (without using a protection pocket).

Accessories (not included with standard delivery)

Name	Type reference
Protection pocket, Ms63, PN10, immersion length 100 mm	ALT-SB100 <sup>1)</sup>

1) For other protection pocket accessories, refer to Data Sheet N1194.

Engineering notes

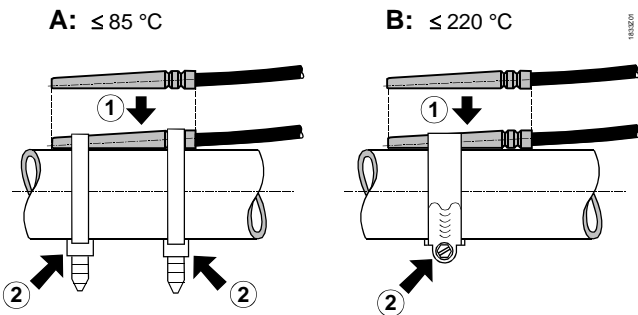
The permissible cable lengths are dependent on the type of controller used. For details, refer to the Data Sheet of the relevant controller.

Mounting notes

The following mounting choices exist:

On pipes

- Up to medium temperatures of 85 °C: with plastic cable tie (supplied by thirds)
- Up to medium temperatures of 220 °C: with stainless steel cable tie (supplied by thirds)



Indirect immersion

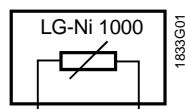
With the help of a protection pocket. The inside diameter of the pocket should match the diameter of the sensor's sleeve (e.g. 6.1 mm).

The sensor is supplied complete with Mounting Instructions.

## Technical data

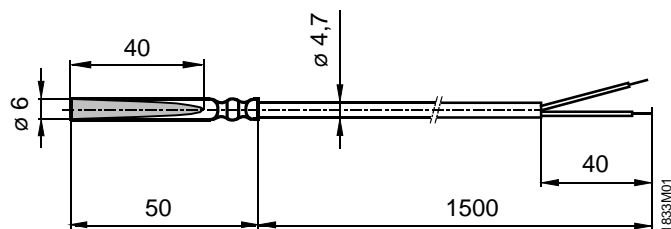
Functional data	Measurement range	–30 ... +180 °C
	max. (1-2 h/d)	220 °C
	Sensing element	LG-Ni 1000
	Time constant $t_{63}$	
	When fitted to the pipe	<20 s
Protective data	With protection pocket	<30 s
	Measurement accuracy at 0 °C	±0.4 K (refer to "Function")
	Measurement and output	passive
	Degree of protection	IP 67 to IEC 529
Connections	Safty class	III to EN 60 730
	Mechanically	cable tie or protection pocket (supplied by thirds)
	Electrical connections	
Environmental conditions	Connecting cable	2-core, interchangeable, with ferrules
	Cable length	approx. 1.5 m
	Perm. cable length	refer to "Engineering notes"
	Ambient temperature	
Materials	Sensor sleeve	–30 ... +180 °C (220 °C for max. 1-2 h/d)
	Connecting cable	–50 ... +180 °C (220 °C for max. 1-2 h/d)
Weight	Sensor sleeve	stainless steel V4A (1.4571)
	Connecting cable	silicon
	Packaging (minigrip® bag)	PVC
	Including packaging	0.056 kg

## Internal diagram

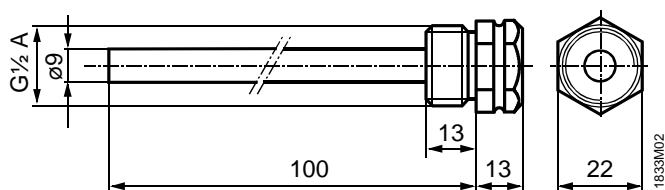


## Dimensions

### QAP21.2



### ALT-SB100



Dimensions in mm

