



## 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.

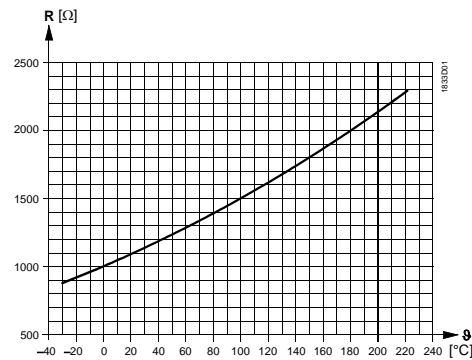
### Function

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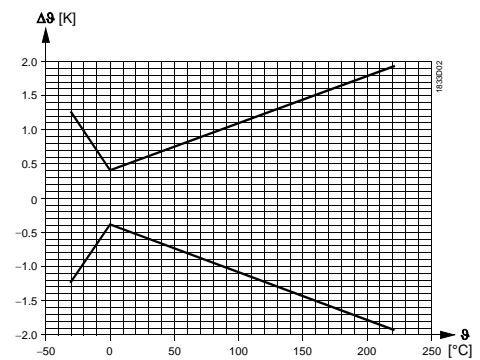
The sensor acquires the medium temperature in the solar panel with its nickel element. The resistance value of the element changes as a function of the temperature. It is delivered for further handling by a suitable controller.

## 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	<b>ALT-SB100</b> <sup>1)</sup>

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

## Engineering notes

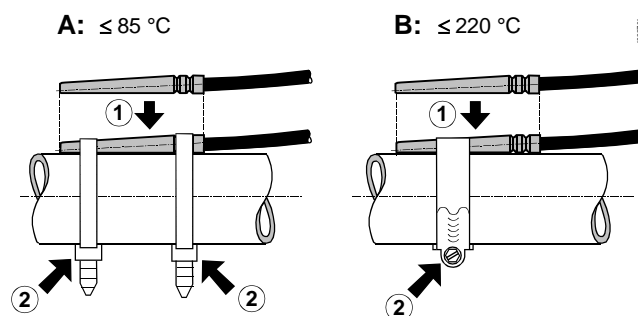
The permissible cable lengths are dependent on the type of controller used. For details, refer to the Data Sheet of the relevant controller.

## 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.

## Disposal



The devices are considered electronics devices for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic waste.

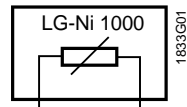
- Dispose of the device via the channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

## 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
	With protection pocket	<30 s
Degree of protection	Measurement accuracy at 0 °C	$\pm 0.4$ K (refer to "Function")
	Measurement and output	passive
	Protection degree of housing	IP67 according to EN 60529
Connections	Protection class	III according to EN 60730-1
	Mechanically	cable tie or protection pocket (supplied by thirds)
Environmental conditions	Electrical connections	
	Connecting cable	2-core, interchangeable, with ferrules
	Cable length	approx. 1.5 m
	Perm. cable length	refer to "Engineering notes"
Environmental compatibility	Ambient temperature	
	Sensor sleeve	-30 ... +180 °C (220 °C for max. 1-2 h/d)
Materials	Connecting cable	-50 ... +180 °C (220 °C for max. 1-2 h/d)
	Sensor sleeve	stainless steel V4A (1.4571)
Weight	Connecting cable	silicon
	Packaging (minigrip <sup>®</sup> bag)	PVC
	Including packaging	0.056 kg

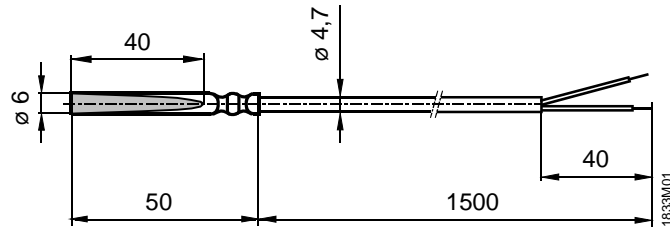
\*) The documents can be downloaded from <http://siemens.com/bt/download>.

## Internal diagram

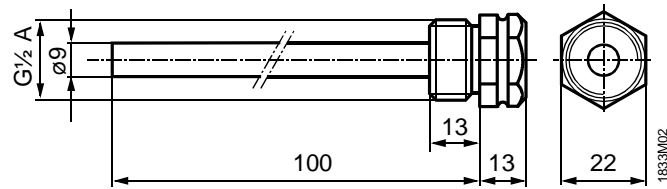


## Dimensions

### QAP21.2



### ALT-SB100



Dimensions in mm