Cable Temperature Sensors

QAZ21.682/101
QAZ21.685/101

for use in refrigeration plant

Cable temperature sensor for acquiring the medium temperature in refrigeration plant. Strap-on sensor with 2 cable ties or immersion sensor with a protection pocket.

Use

For the control or limitation of the medium temperature in refrigeration plant, especially for acquiring the suction gas temperature and for controlling superheat. Suited for use with controllers operating with LG-Ni 1000 sensing elements.

Ordering and delivery

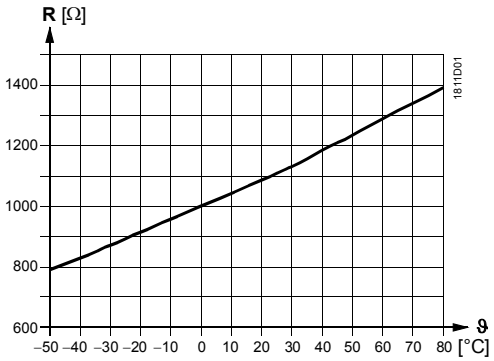
When ordering, please give name and type reference of the sensor, e.g.:
Cable temperature sensor **QAZ21.682/101**
The sensor is supplied complete with 2 cable ties and sleeve coated with thermal conductive wax.
Minimum order quantity: 100 pieces for QAZ21.685/101

Function

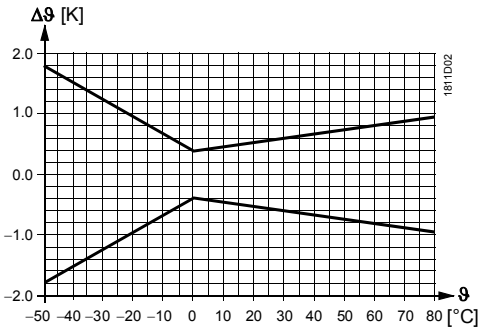
The sensor acquires the medium temperature in the solar collector. The resistance value of the sensing element changes as a function of the temperature.
It is delivered for further handling by a suitable controller.

Sensing element

Characteristic:



Accuracy:



Legend

R Resistance value in Ohm
ϑ Temperature in degrees Celsius
Δϑ Temperature differential in Kelvin

Mechanical design

The cable temperature sensor consists of sleeve (6 mm diameter, 50 mm long), sensing element and connecting cable with ferrules.
The sensing element is embedded in the sleeve. The sleeve is flat on one side and coated with thermal conductive wax. The sensor is not suited for direct immersion in liquid media (protection pocket mandatory).

Accessories (not included with standard delivery)

Name	*Type reference*
Protection pocket, Ms63, PN10, immersion length 100 mm	**ALT-SB100** [1]

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

Engineering notes

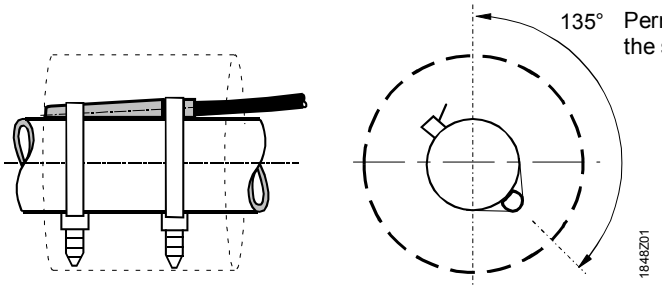
The permissible cable lengths are dependent on the type of controller used. For details, refer to the Data Sheet of the relevant controller.

Mounting notes

Mounting choices:

On pipes

Place flat section on the pipe and secure with the 2 cable ties supplied with the sensor



Sensor can be mounted on a piece of pipe with no lagging or underneath the lagging.

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.

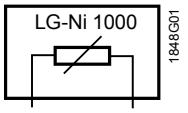
- Dispose of the device via the channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Technical data

Functional data	Sensing range	−50 ... +80 °C
	Sensing element	LG-Ni 1000
	Time constant	
	Sensor when fitted on the pipe	<20 s
	Sensor with protection pocket	<30 s
	Measuring accuracy at 0 °C	±0.4 K (refer to "Function")
	Measurement and output	passive
Connections	Mechanically	cable tie (2x)
	Electrical connections	
	Connecting cable	2-core, interchangeable, with ferrules
	Cable length	approx. 1.5 m
	Perm. cable length	refer to "Engineering notes"
Degree of protection	Protection class	III according to EN 60730-1
	Protection degree of housing	IP67 according to EN 60529
Environmental conditions	Operation to	IEC 721-3-3
	Climatic conditions	class 3K8H
	Temperature	−50...+80 °C
	Humidity	10...100 % r. h.
	Transport to	IEC 721-3-2
	Climatic conditions	class 2K3
	Temperature	−50...+80 °C
	Humidity	<100 % r. h.
Environmental compatibility	The product environmental declaration CE1E1701en*) contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).	
Materials	Sensor sleeve	stainless steel V4A (1.4571)
	Connecting cable	silicon
	Packaging (minigrip® bag)	PVC
Weight	Including packaging	0.075 kg

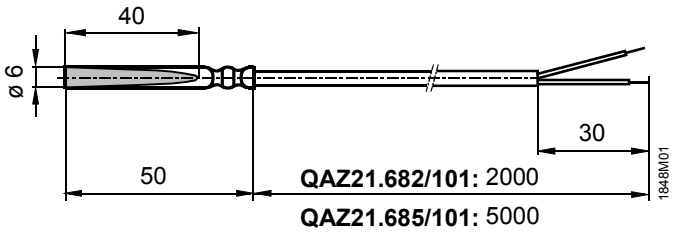
*) The documents can be downloaded from http://siemens.com/bt/download.

Internal diagram

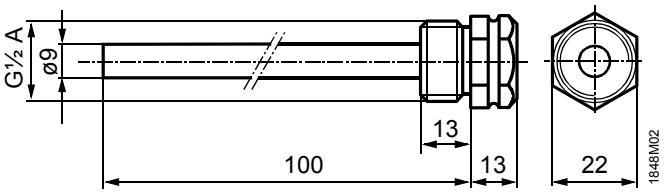


Dimensions

QAZ21…



ALT-SB100



Dimensions in mm

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