SIEMENS





Strap-on temperature sensor

QAD2... FA-T1G

- Strap-on sensor for acquiring the temperature of pipework.
- Range of use -30... 125/130 °C / 5...95 % r. F. non-condensing (not suitably for chillers)

Use

Acquisition of temperature of pipework for

- controlling or limiting the flow temperature
- limiting the return temperature
- controlling the d.h.w. temperature

Type summary

Type reference	Sensing element	Range of use	Time constant
QAD22	LG-Ni 1000	-30+130 °C	3 s
QAD2010	Pt 100	-30+130 °C	3 s
QAD2012	Pt 1000	-30+130 °C	3 s
QAD2030	NTC 10k	-30+125 °C	6 s
FA-T1G	T1 (PTC)	-30+130 °C	3 s

Ordering

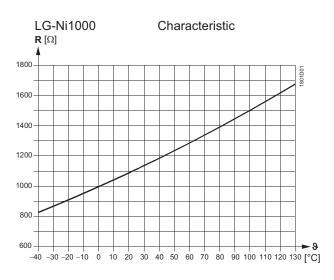
When ordering, please give type reference, z.B: Strap-on temperature sensor QAD2...

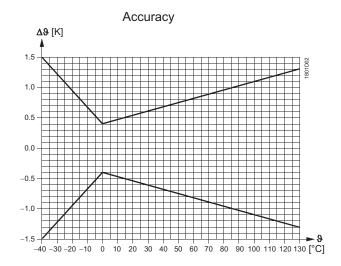
The QAD2... is suited for use with all types of controllers that can handle analog passive sensor signals.

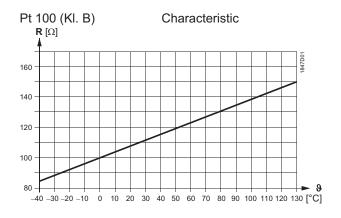
Function

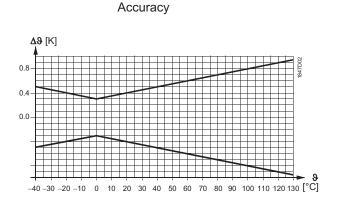
The sensor's nickel sensing element acquires the temperature of pipework. The resistance of the sensing element changes as a function of the medium temperature. The resistance value is used for handling by a suitable controller.

Sensing element





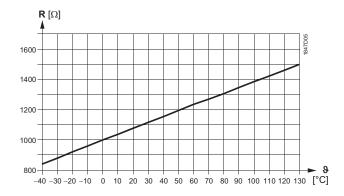


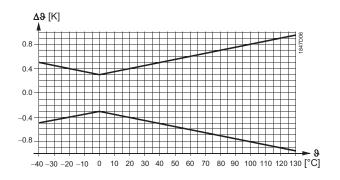


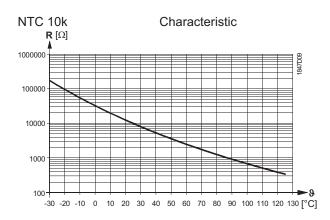
Pt 1000 (KI. B)

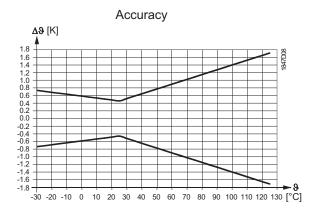
Characteristic

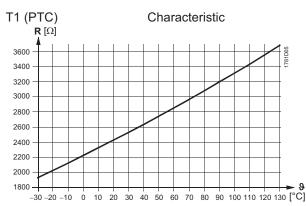
Accuracy

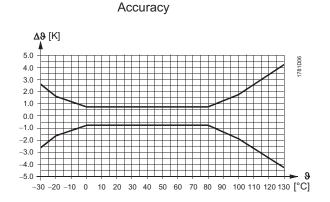












Legend

- R Resistance in Ohm
- 3 Temperature in degrees Celsius
- $\Delta \vartheta$ Temperature differential in Kelvin

Mechanical design

The strap-on temperature sensor consists of the following components:

- Two-sectional plastic housing comprised of base with connection terminals, grommet and removable cover (snap-on design)
- The coupling sheet with sensing element is flexible and adapts to the pipe's surface
- Mounting clamp (adjustable strap-on band) for pipe diameters from 15...140 mm

The connection terminals can be accessed after removing the housing cover. Cable entry is made via a grommet (tension relief into housing). If required, the grommet can be replaced by a Pg 11 cable entry gland.

Technical data

Sensing element refer to "Type summary" Time constant t ₆₃ refer to "Typ summary" (referred to 'the pipe's surface) Measurement accuracy refer to "Function" Measured medium water, other liquid media Type of measurement and output passive Degree of protection IP 42 as per IEC 529 and safety class III as per EN 60 730 Electrical connections Screw terminals for max. 1 x 2.5 mm² Cable entry grommet for cable of 5.57.2 mm dia. can be fitted Permitted cable lengths refer to Data Sheet of controller Environmental conditions Climatic conditions class 3K5 Temperature (housing) -5+50 °C Humidity (housing) 595 % r.h. Transport as per IEC 721-3-2 Climatic conditions class 2K3 Temperature -25+70 °C Humidity <95 % r.h. Mechanical conditions class 2M2 Materials Base PA-GF35 Housing cover ASA Luran S Adjustable strap-on band stainless steel Packaging	General sensor data	Range of use	refer to "Type summary"
Measurement accuracy refer to "Function" Measured medium water, other liquid media Type of measurement and output passive Degree of protection and safety class Degree of protection IP 42 as per IEC 529 Electrical connections Screw terminals for max. 1 x 2.5 mm² Cable entry grommet for cable of 5.57.2 mm dia. Pg 11 cable entry gland can be fitted Permitted cable lengths refer to Data Sheet of controller Environmental conditions Climatic conditions class 3K5 Temperature (housing) -5+50 °C Humidity (housing) 595 % r.h. Temperature (housing) -5+50 °C Humidity (housing) as per IEC 721-3-2 Climatic conditions class 2K3 Temperature -25+70 °C Humidity <95 % r.h.		Sensing element	refer to "Type summary"
Measurement accuracy refer to "Function" Measured medium water, other liquid media Type of measurement and output passive Degree of protection IP 42 as per IEC 529 and safety class III as per EN 60 730 Electrical connections Screw terminals for max. 1 x 2.5 mm² Cable entry grommet for cable of 5.57.2 mm dia. Pg 11 cable entry gland can be fitted Permitted cable lengths refer to Data Sheet of controller Environmental conditions class 3K5 Temperature -5+50 °C Humidity (housing) 595 % r.h. Transport as per IEC 721-3-2 Climatic conditions class 2K3 Temperature -25+70 °C Humidity <95 % r.h.		Time constant t ₆₃	refer to "Typ summary"
Measured medium Type of measurement and output Degree of protection and safety class Electrical connections Electrical connections Electrical connections Electrical connections Electrical connections Electrical connections Electrical connections Electrical connections Electrical connections Environmental conditions Environmental conditions Temperature (housing) Humidity (housing) Transport Climatic conditions Temperature Humidity Humidity Humidity Humidity Housing Environmental conditions As per IEC 721-3-2 Climatic conditions Climatic conditions Class 2K3 Temperature -25+50 °C Humidity Housing Housing cover Housing cover ASA Luran S Adjustable strap-on band ASA Luran S Adjustable strap-on band Stainless steel Housing cover			(referred to the pipe's surface)
Type of measurement and output passive		Measurement accuracy	refer to "Function"
Degree of protection and safety class Degree of protection IP 42 as per IEC 529 Electrical connections Safety class III as per EN 60 730 Electrical connections Screw terminals for max. 1 x 2.5 mm² Cable entry pg 11 cable entry gland Permitted cable lengths grommet for cable of 5.57.2 mm dia. can be fitted Permitted cable lengths refer to Data Sheet of controller Environmental conditions class 3K5 Climatic conditions class 3K5 Temperature (housing) -5+50 °C Humidity (housing) 595 % r.h. Transport as per IEC 721-3-2 Climatic conditions class 2K3 Temperature -25+70 °C Humidity <95 % r.h.		Measured medium	water, other liquid media
Safety class Safety class Ill as per EN 60 730		Type of measurement and output	passive
Screw terminals for max. 1 x 2.5 mm²	Degree of protection	Degree of protection	IP 42 as per IEC 529
Cable entry Pg 11 cable entry gland grommet for cable of 5.57.2 mm dia. can be fitted Permitted cable lengths refer to Data Sheet of controller Environmental conditions Operation as per IEC 721-3-3 Climatic conditions class 3K5 —5+50 °C Temperature (housing) 595 % r.h. Humidity (housing) 595 % r.h. Transport class 2K3 Temperature —25+70 °C Humidity <95 % r.h.	and safety class	Safety class	III as per EN 60 730
Pg 11 cable entry gland Permitted cable lengths	Electrical connections	Screw terminals for	max. 1x 2.5 mm ²
Permitted cable lengths refer to Data Sheet of controller		Cable entry	grommet for cable of 5.57.2 mm dia.
Colors Base PA-GF35		Pg 11 cable entry gland	can be fitted
Climatic conditions Class 3K5 Temperature (housing) -5+50 °C Humidity (housing) 595 % r.h. Transport as per IEC 721-3-2 Climatic conditions class 2K3 Temperature -25+70 °C Humidity <95 % r.h. Mechanical conditions class 2M2 Materials Base PA-GF35 Housing cover ASA Luran S Adjustable strap-on band stainless steel Packaging cardboard Colors Base silver-grey, RAL 7001 Housing cover light-grey, RAL 7035 Weight without packaging 0.072 kg		Permitted cable lengths	refer to Data Sheet of controller
Temperature (housing)	Environmental conditions	Operation	as per IEC 721-3-3
Humidity (housing) 595 % r.h. Transport as per IEC 721-3-2 Climatic conditions class 2K3 Temperature -25+70 °C Humidity <95 % r.h. Mechanical conditions class 2M2 Materials Base PA-GF35 Housing cover ASA Luran S Adjustable strap-on band stainless steel Packaging cardboard Colors Base silver-grey, RAL 7001 Housing cover light-grey, RAL 7035 Weight without packaging 0.072 kg		Climatic conditions	class 3K5
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Climatic conditions		Humidity (housing)	595 % r.h.
Temperature -25+70 °C Humidity <95 % r.h. Mechanical conditions class 2M2 Materials Base PA-GF35 Housing cover ASA Luran S Adjustable strap-on band stainless steel Packaging cardboard Colors Base silver-grey, RAL 7001 Housing cover light-grey, RAL 7035 Weight without packaging 0.072 kg		Transport	as per IEC 721-3-2
Humidity Mechanical conditions Class 2M2 Materials Base PA-GF35 Housing cover ASA Luran S Adjustable strap-on band stainless steel Packaging Colors Base JPA-GF35 Acade Silver-grey, RAL 7001 Housing cover Housing cover Ilight-grey, RAL 7035 Weight Without packaging 0.072 kg		Climatic conditions	class 2K3
Materials Base PA-GF35 Housing cover ASA Luran S Adjustable strap-on band stainless steel Packaging Colors Base Silver-grey, RAL 7001 Housing cover light-grey, RAL 7035 Weight without packaging 0.072 kg		Temperature	−25+70 °C
Materials Base PA-GF35 Housing cover ASA Luran S Adjustable strap-on band stainless steel Packaging cardboard Colors Base silver-grey, RAL 7001 Housing cover light-grey, RAL 7035 Weight without packaging 0.072 kg		Humidity	<95 % r.h.
Housing cover ASA Luran S Adjustable strap-on band stainless steel Packaging cardboard Colors Base silver-grey, RAL 7001 Housing cover light-grey, RAL 7035 Weight without packaging 0.072 kg		Mechanical conditions	class 2M2
Adjustable strap-on band stainless steel Packaging cardboard Colors Base silver-grey, RAL 7001 Housing cover light-grey, RAL 7035 Weight without packaging 0.072 kg	Materials	Base	PA-GF35
Packaging cardboard Colors Base silver-grey, RAL 7001 Housing cover light-grey, RAL 7035 Weight without packaging 0.072 kg		Housing cover	ASA Luran S
Colors Base silver-grey, RAL 7001 Housing cover light-grey, RAL 7035 Weight without packaging 0.072 kg		Adjustable strap-on band	stainless steel
Housing cover light-grey, RAL 7035 Weight without packaging 0.072 kg		Packaging	cardboard
Weight without packaging 0.072 kg	Colors	Base	silver-grey, RAL 7001
		Housing cover	light-grey, RAL 7035
incl. packaging 0.083 kg	Weight	without packaging	0.072 kg
		incl. packaging	0.083 kg

The permissible cable lengths are dependent on the controller with which the sensor is used. They are specified in the Data Sheet of the relevant controller.

Mounting and installation notes

Depending on the application, the sensor is to be located as follows:

- For flow temperature control:
 - In the heating flow:
 - Directly after the pump if the pump is located in the flow
 - 1.5 to 2 m after the mixing valve if the pump is located in the return
- For limiting the return temperature:

 In the return at a location where the temperature can be correctly acquired

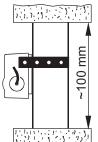
The water must be well mixed where the temperature is acquired.

The pipe may not be laagged in the vicinity of the sensor.

The sensor should be mounted such that the cable does not enter from the top.

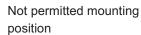
Permitted mounting positions









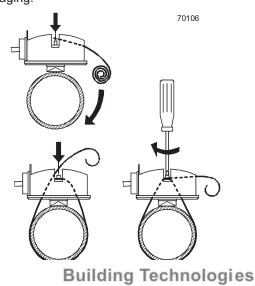




Fixing

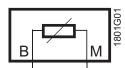
Mounting Instructions are printed on the packaging.

- Remove any paint on the pipe before fitting the strap-on temperature sensor.
- Ensure that the sensor is fixed firmly with the adjustable band supplied.



دقيق صنعت پيشرو

HVAC Products



The connecting wires are interchangeable.

Dimensions (in mm)

