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...

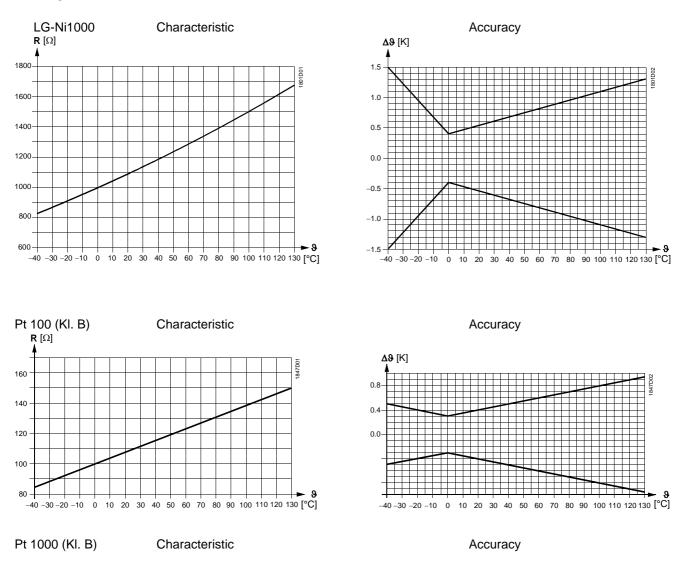
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The QAD2... is suited for use with all types of controllers that can handle analog passive sensor signals.

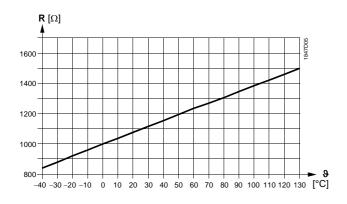
Function

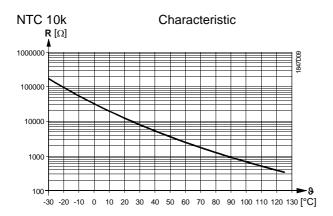
The sensor's nickel sensing element acquires the temperature of pipework. The resistance of the sensing element changes as a function of the medium temperature. The resistance value is used for handling by a suitable controller.

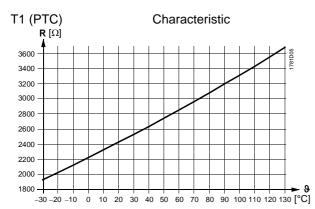
Sensing element



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Legend

- R Resistance in Ohm
- 9 Temperature in degrees Celsius
- Δ9 Temperature differential in Kelvin

Mechanical design

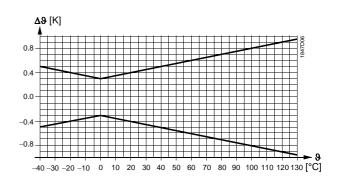
The strap-on temperature sensor consists of the following components:

- 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

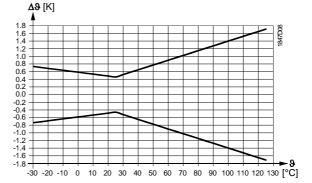
The connection terminals can be accessed after removing the housing cover. Cable entry is made via a grommet (tension relief into housing). If required, the grommet can be replaced by a Pg 11 cable entry gland.



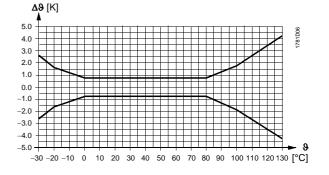
3/6



Accuracy







Technical data

Sensing element refer to "Type summary" (referred to the pipe's surface) Measurement accuracy refer to "Typ summary" (referred to the pipe's surface) Measurement accuracy refer to "Function" Measurement accuracy refer to "Function" Degree of protection and safety class Degree of protection IP 42 as per IEC 529 Electrical connections Screw terminals for max. 1x 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 Cable entry Environmental conditions Operation as per IEC 721-3-3 Climatic 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 vas per NeC F35 Housing cover ASA Luran S Adjustable strap-on band stainless steel Packaging cardboard Colors Base silver-grey, RAL 7001 Housing cover	General sensor data	Range of use	refer to "Type summary"	
Image: constraint of the pipe's surface) Image: constraint of the pipe's surface) Measurement accuracy refer to "Function" Measured medium water, other liquid media Type of measurement and output passive Degree of protection Degree of protection IP 42 as per IEC 529 and safety class Safety class III as per EN 60 730 Electrical connections Screw terminals for max. 1x 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 (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.		Sensing element	refer to "Type summary"	
Measurement accuracyrefer to "Function"Measured mediumwater, other liquid mediaType of measurement and outputpassiveDegree of protectionIP 42 as per IEC 529and safety classSafety classElectrical connectionsScrew terminals formax. 1 x 2.5 mm²Cable entrygrommet for cable of 5.57.2 mm dia.Pg 11 cable entry glandcan be fittedPermitted cable lengthsrefer to Data Sheet of controllerEnvironmental conditionsOperationas per IEC 721-3-3Climatic conditionsclass 3K5Temperature (housing)-5+50 °CHumidity (housing)595 % r.h.Transportas per IEC 721-3-2Climatic conditionsclass 2K3Temperature-25+70 °CHumidity<95 % r.h.		Time constant t ₆₃	refer to "Typ summary"	
Measured mediumwater, other liquid mediaType of measurement and outputpassiveDegree of protectionIP 42 as per IEC 529and safety classSafety classElectrical connectionsScrew terminals formax. 1x 2.5 mm²Cable entrygrommet for cable of 5.57.2 mm dia.Pg 11 cable entry glandcan be fittedPermitted cable lengthsrefer to Data Sheet of controllerEnvironmental conditionsOperationas per IEC 721-3-3Climatic conditionsclass 3K5Temperature (housing)-5+50 °CHumidity (housing)595 % r.h.Transportas per IEC 721-3-2Climatic conditionsclass 2K3Temperature-25+70 °CHumidity<95 % r.h.			(referred to the pipe's surface)	
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Transportas per IEC 721-3-2Climatic conditionsclass 2K3Temperature-25+70 °CHumidity<95 % r.h.		Temperature (housing)	−5+50 °C	
Climatic conditionsclass 2K3Temperature-25+70 °CHumidity<95 % r.h.		Humidity (housing)	595 % r.h.	
Temperature Humidity-25+70 °C <95 % r.h. class 2M2MaterialsBase Housing coverPA-GF35Housing coverASA Luran S Adjustable strap-on bandstainless steelPackagingcardboardColorsBase Housing coversilver-grey, RAL 7001 light-grey, RAL 7035		Transport	as per IEC 721-3-2	
Humidity<95 % r.h. class 2M2MaterialsBasePA-GF35Housing coverASA Luran SAdjustable strap-on bandstainless steelPackagingcardboardColorsBasesilver-grey, RAL 7001 light-grey, RAL 7035		Climatic conditions	class 2K3	
MaterialsMechanical conditionsclass 2M2MaterialsBasePA-GF35Housing coverASA Luran SAdjustable strap-on bandstainless steelPackagingcardboardColorsBasesilver-grey, RAL 7001Housing coverlight-grey, RAL 7035		Temperature	−25+70 °C	
MaterialsBasePA-GF35Housing coverASA Luran SAdjustable strap-on bandstainless steelPackagingcardboardColorsBasesilver-grey, RAL 7001Housing coverlight-grey, RAL 7035		Humidity	<95 % r.h.	
Housing coverASA Luran SAdjustable strap-on bandstainless steelPackagingcardboardBasesilver-grey, RAL 7001Housing coverlight-grey, RAL 7035		Mechanical conditions	class 2M2	
Adjustable strap-on bandstainless steelPackagingcardboardColorsBasesilver-grey, RAL 7001Housing coverlight-grey, RAL 7035	Materials	Base	PA-GF35	
PackagingcardboardColorsBasesilver-grey, RAL 7001Housing coverlight-grey, RAL 7035		Housing cover	ASA Luran S	
Colors Base silver-grey, RAL 7001 Housing cover light-grey, RAL 7035		Adjustable strap-on band	stainless steel	
Housing cover light-grey, RAL 7035		Packaging	cardboard	
	Colors	Base	silver-grey, RAL 7001	
		Housing cover	light-grey, RAL 7035	
Weight without packaging 0.072 kg	Weight	without packaging	0.072 kg	
incl. packaging 0.083 kg		incl. packaging	0.083 kg	

4/6

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:

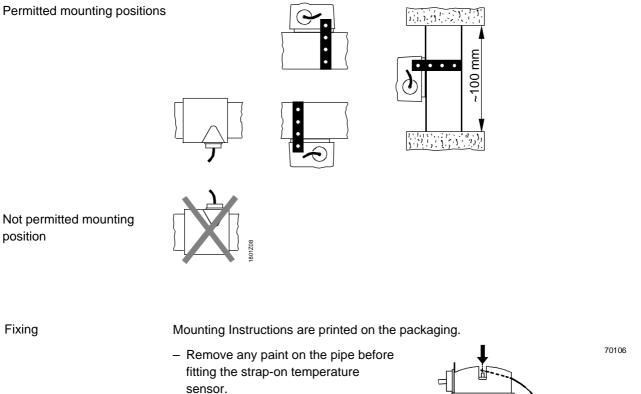
- For flow temperature control:
 - In the heating flow:
 - Directly after the pump if the pump is located in the flow
 - 1.5 to 2 m after the mixing valve if the pump is located in the return
- For limiting the return temperature:

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

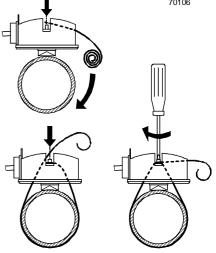
The water must be well mixed where the temperature is acquired.

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.



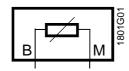
 Ensure that the sensor is fixed firmly with the adjustable band supplied.



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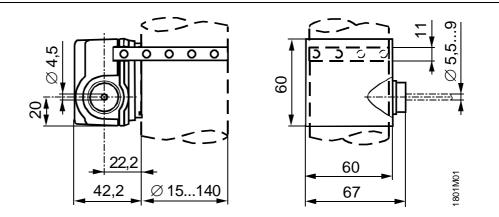
CE1N1801E 23.11.2006

5/6



The connecting wires are interchangeable.

Dimensions (in mm)



6/6

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CE1N1801E 23.11.2006