



Strap-on Temperature Sensors

QAD...

- The strap-on temperature sensor is designed for mounting on pipes to acquire the temperature of the medium inside the pipe
- The QAD... and this Data Sheet are intended for OEMs which use the temperature sensors in or on their products

Use

- Control and limitation of the flow temperature
- Limitation of the return temperature

Type summary

Type reference	Sensing element	Measurement range	Tolerance*	Time constant	Weight	Packing size pieces
QAD21/201	LG-Ni 1000 Ω at 0 °C	-30...130 °C	± 0.4 K	2 s	72 g	45 **
QAD21/209						100 ***
QAD36/101	NTC 10 k Ω at 25 °C	-30...125 °C	$\pm 0,5$ K	6 s	0,072 kg	45 **

* At 0 °C excluding conducting error and self-heating effect, NTC at 25 °C

** Individually packed in multipacks / *** Multipacks

Ordering

When ordering, please give type reference according to "Type summary", e.g.

QAD21/209

Technical design

The sensing element is a thin-film LG-Ni element with a resistance of 1000 Ω at 0 °C or a NTC 10 k Ω at 25 °C.

Mechanical design

The strap-on sensor consists of plastic housing with snap-on cover. The connection terminals are accessible after removal of the cover. The cable is introduced through a cable entry gland Pg11. A strap is used to mount the sensor on pipes having a diameter of 15 to 50 mm.

Notes

Planning, mounting and installation

Depending on the application, the sensor should be located as follows:

- Flow temperature control:
 - On the heating flow pipe:
 - Immediately after the pump if the pump is installed in the flow
 - 1.5...2 m after the mixing valve if the pump is installed in the return
 - Return temperature limitation:
 - On the return pipe where the temperature to be limited can be correctly acquired. In any case, the sensor must be installed where the water is well mixed.
- The sensor may not be covered by lagging.

Permissible cable lengths

The permissible cable lengths between controller and sensor are the following:

Cable		Cable dia.	Max. cable length
Copper cable	0.6 mm dia.	5.5 mm	20 m
Copper cable	1 mm ²	6.6 mm	80 m
Copper cable	1.5 mm ²	7.2 mm	120 m

Technical data

Norms and standards

Climatic conditions	to IEC 721-3
Mechanical conditions	to IEC 721-3
Product safety	
Degree of protection of housing	IP 42 to EN 60 529
Safety class	III to EN 60 529
Insulation resistance	>10 MΩ
Insulation voltage	>500 V
Electrical connections	
Connection terminals	interchangeable
Cable entry gland	Pg11
Color	RAL 7016 (anthracite)

Dimensions

