1832P014

Cable temperature sensor   QAP21.3

Use

The sensor is for use in heating, ventilating and air conditioning plants to acquire the temperature. It is for use with the corresponding accessories as a:
- clamp-on sensor for pipework
- clamp-on sensor for solar collectors
- immersion sensor (immersion lenght 100 mm)

Ordering

When ordering, please give type reference of sensor and part numbers of the accessories required. Example:
Cable temperature sensor for solar collector mounting, **QAP21.3** and **4 6601731 0**.

Equipment combinations

The QAP21.3 is suited for use with all types of controllers that can handle analog, passive LG-Ni 1000 sensor signals.
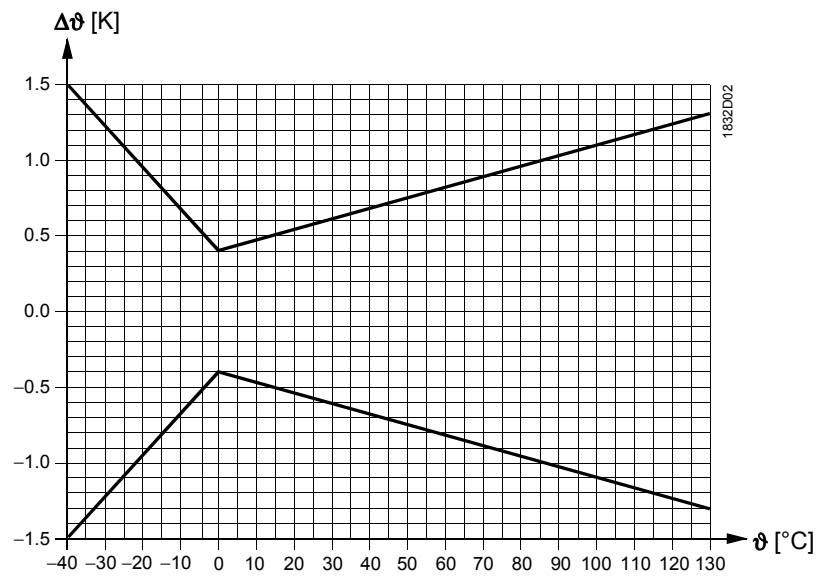
Technical design

The sensor's nickel sensing element acquires the air or medium temperature.
The resistance of the sensing element changes in function of the ambient temperature.
The resistance value is used for further handling by a suitable controller.

Sensing element

Characteristic

R [Ω]

Accuracy

Δϑ [K]
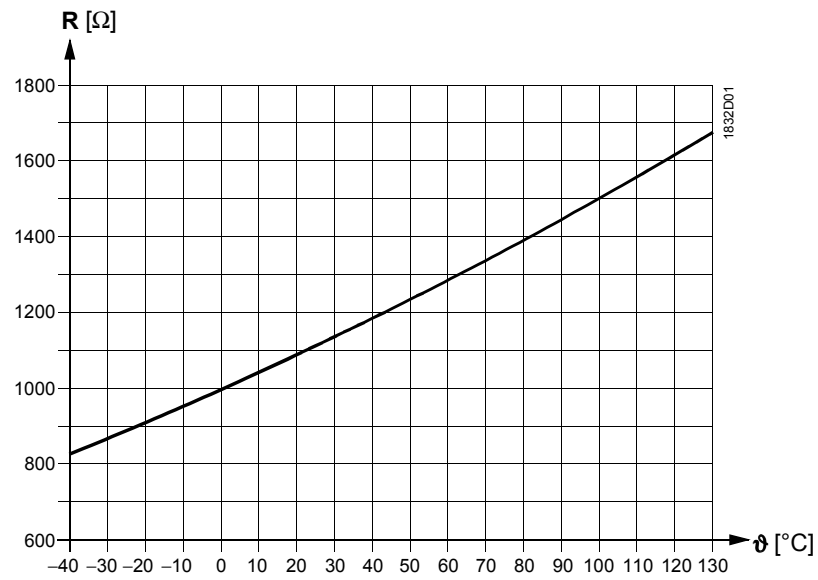
Legend

R   Resistance in Ohm

ϑ   Temperature in degrees Celsius

Δϑ   Temperature differential in Kelvin

Mechanical design

The QAP21.3 consists of a sensor sleeve (90 mm in length), a nickel sensing element of 1000 Ω at 0 °C, and a connecting cable. The sensing element is contained in the sleeve to which the connecting cable is readily connected.
Various accessories are available for the different applications and mounting modes.

Accessories	Name	Part number
	Sensor holder for pipe mounting	**4 660 1730 0**
	Sensor holder for solar collector mounting	**4 660 1731 0**
	Protection pocket, Ms63, PN10, immersion length 100 mm	**4 660 1600 0**
	Cable holder for protection pocket mounting	**4 213 1416 0**

Engineering notes

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

The connecting cable should always be connected to a conduit box. If the length of the connecting cable is not sufficient to reach the next conduit box (as might be the case with great immersion lengths), the housing should be used. It replaces the conduit box. When protection pocket mounting, the sensor must always be fixed in the pocket by means of the cable holder.

Technical data

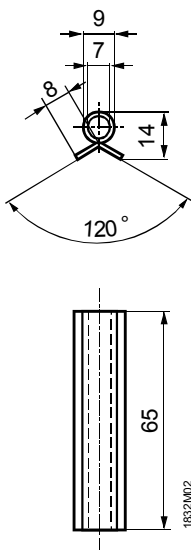|		
General sensor data	Full sensoring range	−30...+130 °C
	Sensing element	LG-Ni 1000
	Dead time	
	without pocket	0.5 s
	with pocket	1 s
	Time constant	
	without pocket	5 s
	with pocket	30 s
	Measurement accuracy	see graph "Accuracy"
	Type of measurement and output	passiv
Materials	Sensor sleeve	stainless steel V4A
	Connection cables	silicone
Protective data	Degree of protection	IP 65 as per EN 60 529
	Safety class	III as per EN 60 730
Electrical connections	Connection cable	2-wired, interchangeable
	Cable lenght	approx. 1.5 m
	Permissible cable run	see "Engineering notes"
Environmental conditions	Permissible ambient temperature	−30...+140 °C
Weight	without packaging	0.05 kg

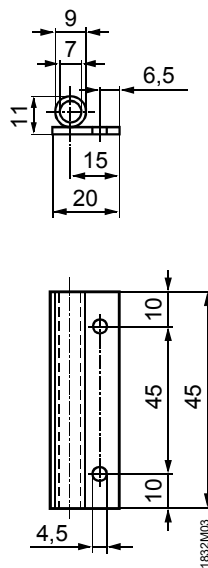## Internal diagram
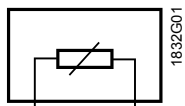
Dimensions (in mm)
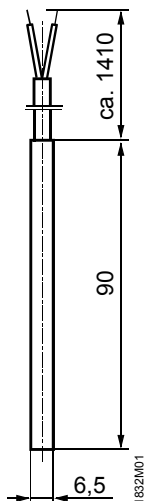
Sensor QAP21.3	Sensor holder for pipe 4 660 1730 0	Sensor holder for solar collector 4 660 1731 0	Protection pocket 4 660 1600 0