



Immersion Temperature Sensors

QAE26.9...

Use

Acquisition of flow or return temperature in heating, ventilating, and air conditioning plants.

Type summary

| <i>Type</i> | <i>Measuring range</i> | <i>Cable length</i> | <i>Material connecting cable</i> | <i>Time constant</i> | <i>Mounting length</i> | <i>Nominal pressure</i> |
|--------------------|------------------------|---------------------|----------------------------------|----------------------|------------------------|-------------------------|
| QAE26.9 | -40...+180 °C | 1,2 m | silicone | <3 s | 260 mm | PN 40 |
| QAE26.90 | -50...+180 °C | 2,0 m | silicone | <2,5 s | 65 mm | PN 16 |
| QAE26.91 | -50...+180 °C | 2,0 m | silicone | <2,5 s | 125 mm | PN 16 |
| QAE26.93 | -50...+180 °C | 2,0 m | silicone | <2.5 s | 240 mm | PN 16 |
| QAE26.95 | -50...+180 °C | 2,0 m | silicone | <2.5 s | 465 mm | PN 16 |
| QAE1020.024 | -5...+105 °C | 2,0 m | PVC | <2.5 s | 240 mm | PN 16 |

Ordering

When ordering, please indicate give name and type reference, for example: Immersion temperature sensor **QAE26.9**.

Equipment combinations

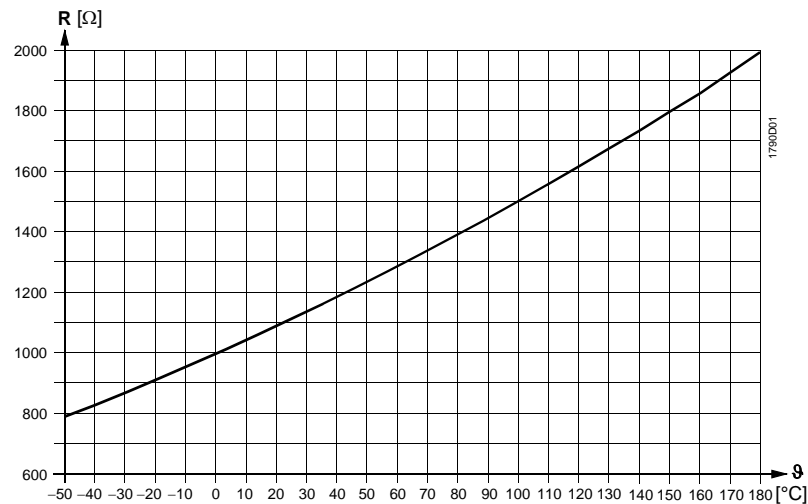
All systems or devices capable of acquiring and handling the sensor's passive LG-Ni 1000 output signal.

Function

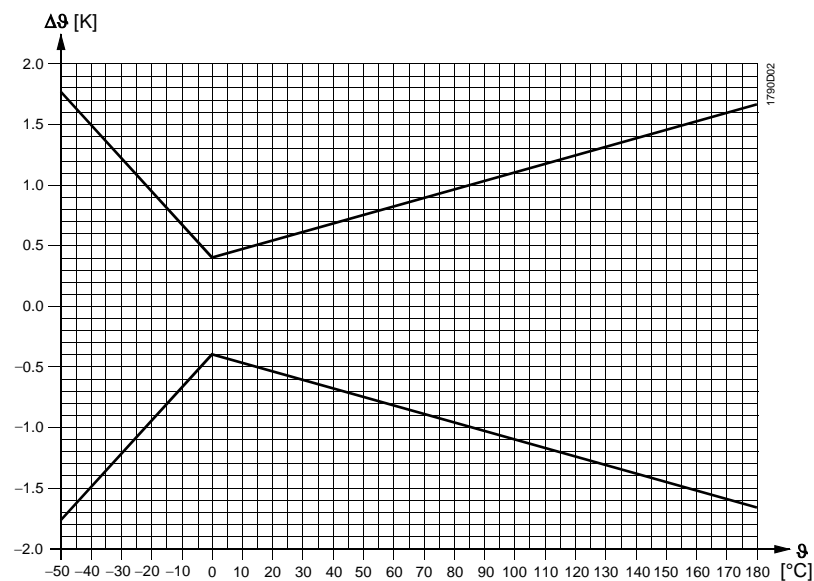
The sensor acquires the medium temperature via its sensing element whose resistance value changes as a function of the temperature.
The signal is delivered for further handling by a suitable controller.

Sensing element

Characteristic:



Accuracy:



Mechanical design

The immersion temperature sensor consists of a stainless steel immersion stem, a threaded bushing, and ready-wired connection cables. The sensing element is mounted and soldered to the end of the immersion stem by means of a heat transfer compound. The threaded bushing with screwed nipple R $\frac{1}{4}$ (sealing capacity within thread) is used to mount the sensor on the pipe. The interface between the connection cable and the immersion step is capped by a ca. 30 mm long shrink sleeve.

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 | Measuring range | refer to "Type summary" |
| | Sensing element | LG-Ni 1000 |
| | Time constant | see "Type summary" |
| | Measuring accuracy | refer to "Function" |
| | Mounting length | refer to "Type summary" |
| | Effective sensor length | |
| | QAE26.9 | 25 mm |
| QAE26.90, QAE26.91, QAE26.93, QAE26.95, QAE1020.024 | 15 mm | |
| Degree of protection | Protection degree of housing | IP64 according to EN 60529 |
| | Protection class | III according to EN 60730-1 |
| Electrical connection | Connection cables | two-wire |
| | Core cross section | |
| | QAE26.9 | 0.35 mm ² |
| | QAE26.90, QAE26.91, QAE26.93, QAE26.95, QAE1020.024 | 0.14 mm ² |
| | Cable length | refer to "Type summary" |
| Mechanical connection | Screwed nipple | R ¼ (sealing capacity inside thread) |
| Ambient conditions | Permissible cable temperature | |
| | QAE26.9, QAE26.90, QAE26.91, QAE26.93, QAE26.95 | -50...+180 °C |
| | QAE1020.024 | - 5...+105 °C |
| | Permissible humidity | <95 % r.h. |
| Environmental compatibility | The product environmental declaration CE1E1701 ^{*)} contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal). | |
| Materials | Immersion stem | stainless steel 1.4571 (V4A) |
| | Threaded bushing | Ms nickel-plated |
| | Connection cables | refer to "Type summary" |
| Weight | incl. packing | |
| | QAE26.9 | 0.104 kg |
| | QAE26.90 | 0.074 kg |
| | QAE26.91 | 0.074 kg |
| | QAE26.93 | 0.079 kg |
| | QAE26.95 | 0.093 kg |
| | QAE1020.024 | 0,079 kg |

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

Engineering notes

The permissible electrical line lengths depend on the controller. Refer to the respective controller's data sheet for more information.

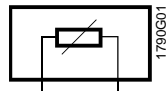
Mounting and installation notes

To mount the immersion temperature sensor, weld a T-junction or a threaded fitting with a cylindrical pipe thread for a sealing connection inside the thread (Rp ¼) so that the immersion stem faces the direction of the flow.

In order to ensure temperature acquisition along the entire immersion stem, the immersion length for the QAE26.9 must be at least 25 mm and 15 mm for QAE26.90, QAE26.91, QAE26.93, QAE26.95 and QAE1020.024.

If the connection cable needs to be extended, use a branching box.

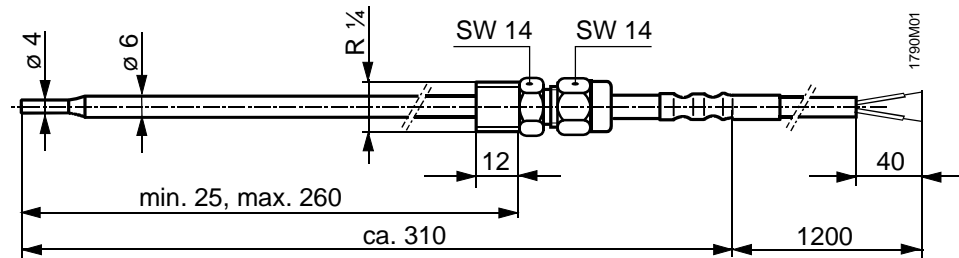
Internal diagram



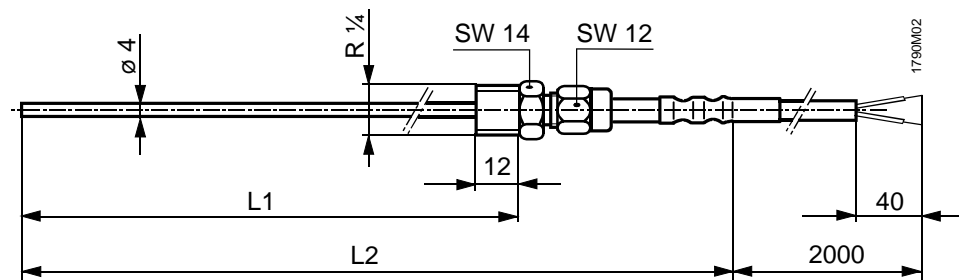
The internal diagram applies to all types.
The connections are interchangeable.

Dimensions (in mm)

QAE26.9



**QAE26.90, QAE26.91
QAE26.93, QAE26.95
QAE1020.024**



| Typ | L1 | | L2 |
|--------------------|------|------|---------|
| | min. | max. | |
| QAE26.90 | 15 | 65 | ca. 100 |
| QAE26.91 | 15 | 125 | ca. 160 |
| QAE26.93 | 15 | 240 | ca. 275 |
| QAE26.95 | 15 | 465 | ca. 500 |
| QAE1020.024 | 15 | 240 | ca. 275 |