

EGT 311: Clamp-on temperature sensor

How energy efficiency is improved

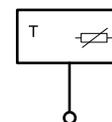
Precise and reliable data acquisition for optimised regulation of HVAC installations

Features

- Passive temperature measurement on pipes
- Suitable for HVAC building systems with media temperature up to 120 °C
- Cable inlet via a removable cable gland
- Can be mounted parallel or perpendicular to the pipe
- Retaining strap for pipes up to 110 mm and heat-conducting paste included
- Sensor with protection against corrosion and humidity
- Can be used in damp and dusty environments (type of protection IP65)



EGT311F103



Technical data

Parameters		
Measuring range		-35...90 °C
Measuring element		Ni1000 (DIN 43760)
Nominal value at 0 °C		1000 Ω
Measuring accuracy ¹⁾		±0.3 K, typ. at 21 °C
Recommended measurement current		Typ. < 1 mA

Ambient conditions		
Ambient temperature		Housing: -35...90 °C Sensor: max. 120 °C
Humidity (non-condensing)		85% rh
Storage and transport temperature		-35...90 °C

Construction		
Colour		Housing: black/yellow Base: grey
Housing material		Polycarbonate (PC) UL94-V0
Cable inlet		M20 for cables with Ø 4.5...9 mm, removable
Connection		2-conductor
Connection terminals		Plug-in connector, removable, max. 2.5 mm ²
Sensor contact		Brass, spring-loaded
Dimensions W × H × D		65 × 51 × 70 mm (with base, without cable gland)
Weight		165 g

Standards, directives		
	Type of protection ²⁾	IP65 (EN 60529)
CE conformity according to	RoHS-D 2011/65/EU & 2015/863/EU	EN IEC 63000

Overview of types

Type	Description
EGT311F103	Clamp-on temperature sensor, passive, Ni1000

Accessories

Type	Description
0300360002	Retaining strap, chrome steel (1.4016), for tube diameters up to 110 mm, incl. heat-conducting paste
0300360004	Heat-conducting paste, dosing syringe with 2 g content

¹⁾ The specified measuring accuracy only applies to the measuring element. The actual accuracy also depends on the cable length

²⁾ The type of protection IP65 is also guaranteed without screwing on the housing cover. The screw supplied serves as additional protection against manipulation of the device



Description of operation

The EGT 311 clamp-on temperature sensor measures the temperature on pipes of HVAC systems. The metal retaining strap and heat-conducting paste ensure direct contact with the pipes. For optimum temperature transmission to the sensor, a spring mechanism presses the measuring element against the surface.

The EGT 311 contains a nickel PTC thermistor (Ni1000). The resistance of this passive measuring element increases in a linear manner as the temperature increases.

Intended use

This product is only allowed to be used in HVAC building systems for control and regulation purposes. Other uses require the prior consent of the manufacturer.

The "Description of operation" section and all product instructions in this data sheet must be observed.

Modifying or converting the product is not permitted.

Improper use

The product is not suitable for security applications, for example for use in fire protection systems or in medical facilities.

The product must not be used if a malfunction could cause direct or indirect dangers to people, animals, and material goods, for example, in ventilation systems in livestock farming or in food cooling systems.

Engineering and fitting notes



Note

Only qualified electricians and HVAC specialists are permitted to fit and connect the device.

The sensor can be connected to controller and display systems.

The line resistance of the signal cable must be taken into account during planning and commissioning. When there are long cables, the line resistance may have to be compensated in the downstream electronics.

The measurement current heats up the measuring element and thus affects the accuracy of the measurement. The measurement current should therefore not be higher than specified in the technical data.

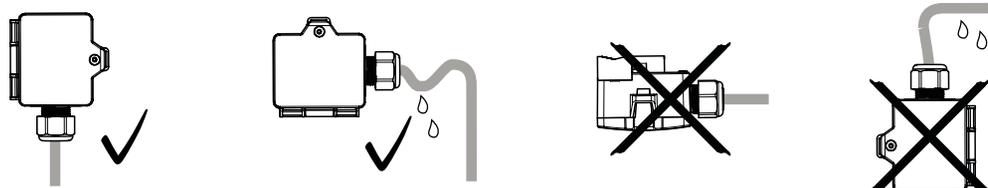
The housing can be opened and closed without tools using a hinged cover. Optionally, the cover can be secured with the supplied screw and screw cover. IP65 protection is also guaranteed without a screw fitting.

Scope of delivery

- Temperature sensor with M20×1.5 cable gland and connection terminal (removable)
- Retaining strap for pipes up to 110 mm diameter
- Dosing syringe with 2 g heat-conducting paste
- Cover screw and matching screw cover
- Fitting instructions

Fitting position

Do not mount the temperature sensor with the cable gland facing upwards. The sensor could be damaged by the ingress of condensate or dripping water.



Place of installation

Draughts and strong ambient temperature fluctuations must be avoided, as they can cause measurement deviations.

To prevent ingress of condensation, the sensor should not be mounted under the pipe. It can be installed either parallel or transverse to the pipes. A second retaining strap (not included) is required for transverse fitting.

Fitting on pipes

The device is attached directly to the pipe using the supplied retaining strap. Any insulation and paint layers must be removed beforehand. For optimum temperature conduction between the pipe and the sensor, the heat-conducting paste provided must be used.

Electrical connection

The removable cable gland and the removable connection terminal allow the wiring to be carried out away from the sensor. This makes wiring easier, especially in hard-to-reach places and when replacing a faulty sensor.

The cable inlet should be from below. If only a lateral cable inlet is possible, route the cable in a U-shape so that precipitation can drip off the loop and does not get into the sensor housing.

When laying the cables, remember that electromagnetic fields can affect the measuring accuracy. Therefore always use shielded signal cables and avoid laying them parallel to power cables.

Additional information

Fitting instructions	P100020519
Declaration on materials and the environment	MD 31.131

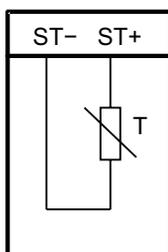
Disposal

When disposing of the product, observe the currently applicable local laws.

More information on materials can be found in the Declaration on materials and the environment for this product.

Connection diagram

EGT 311



Dimension drawing

All dimensions in mm.

EGT 311

