EGT 301: Outdoor-temperature sensor

EGT301F103

How energy efficiency is improved

Precise and reliable data acquisition for optimised heating and cooling in HVAC installations

Features

- Passive air temperature measurement
- Suitable for weather-dependent heating and ventilation systems
- Cable inlet via a removable cable gland
- Suitable for surface or wall mounting
- Mounting base thermally separated from the wall by spacers on the rear
- Mounting set and mounting base included
- Sensor with protection against corrosion and humidity
- Can be used in damp and dusty environments (type of protection IP65)

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	−35…90 °C
	Humidity (non-condensing)	85% rh
Construction		
	Colour	White
	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 mm²
	Dimensions W × H × D	65 × 41 × 70 mm (without cable gland)
	Weight	116 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
EGT301F103	Outdoor-temperature sensor, passive, Ni1000

Description of operation

The EGT 301 outdoor-temperature sensor measures the temperature at locations such as facades, cold stores, greenhouses, factories and warehouses.

The EGT 301 contains a nickel PTC thermistor (Ni1000). The resistance of this passive measuring element increases in a linear manner as the temperature increases. The temperature coefficient is therefore positive.

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*

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.

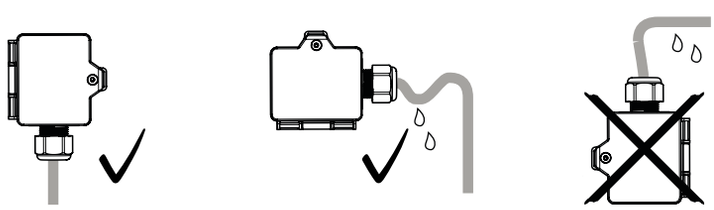
The sensor can be connected to controller and display systems.
The line resistance of the signal cable must be taken into account during planning and commissioning. When there are long cables, the line resistance may have to be compensated in the downstream electronics.
The measurement current heats 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)
- Mounting base made of polycarbonate, pure white
- Mounting set: 2 dowels, 2 countersunk head and 2 raised head screws, cover screw and suitable 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

The EGT 301 is suitable for direct mounting on the wall. A fitting height of 1.5 to 2 m above the ground is recommended.

Note
Incorrect fitting can lead to incorrect measuring results. The place of installation must also be chosen carefully to ensure reliable measurement.

Avoid:
- Poorly insulated exterior walls and fireplaces
- Heat sources such as lamps, heat pumps and air conditioning units
- Doors, windows and return air dampers
- Direct sunlight, precipitation from snow and rain
- Areas with stagnant air, such as in corners and niches of buildings, under balconies and canopies

The sensor should be at least 1.5 to 2 m away from doors and windows and should be shaded all day.

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	P100020518
Declaration on materials and the environment	MD 31.121

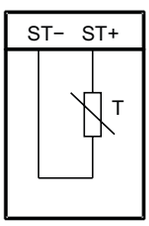
Disposal

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

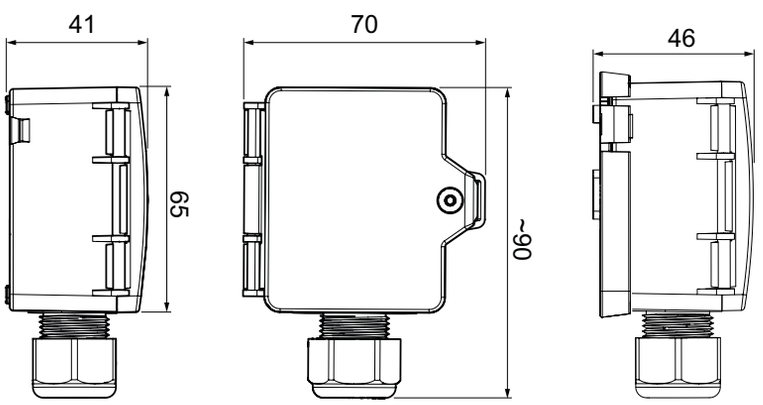
EGT 301



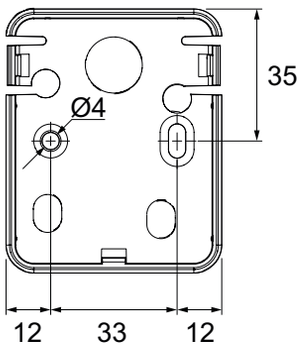
Dimension drawings

All dimensions in mm.

EGT 301



Mounting base



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