EGT 346...348, 392, 446, 447: Duct temperature sensor

EGT*4*

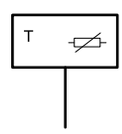
How energy efficiency is improved

Precise measurement of temperature for energy-efficient control of HVAC installations

Features

- Passive measurement of air/gas and fluid temperatures
- Suitable for HVAC building systems with media temperature up to 160 °C
- EGT 392: Can be used with media temperature up to 260 °C Robust metal housing
- Can be used in pipes and pressure vessels with optional LW 7 thermowell at up to 40 bar
- EGT 34*, EGT 44*: Cable inlet via a removable cable gland
- Humidity and corrosion-proof sensor in stainless steel immersion pipe
- Can be used in damp and dusty environments (type of protection IP65)

EGT392F102



Technical data

Parameters		
	Recommended measurement current	Typ. < 1 mA
	Time constant in moving air (3 m/s)	35 s (t_{63})
	Time constant in still air	155 s (t_{63})
	Time constant in still water	9 s (t_{63})
	Time constant in still water, with thermowell made of brass	17 s (t_{63})
	Time constant in still water, with stainless-steel thermowell	20 s (t_{63})
Ambient conditions		
EGT 34*, EGT 44*	Ambient temperature	−35…90 °C
EGT 392	Ambient temperature	−25…90 °C
	Humidity (non-condensing)	85% rh
	Storage and transport temperature	−35…90 °C
Construction		
EGT 34*, EGT 44*	Colour	Black/yellow
	Housing material	Polycarbonate (PC) UL94-V0
	Immersion stem	Ø 6 mm, stainless steel V4A
	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 sensor tube and cable gland)
EGT 392	Colour	Aluminium grey
	Housing material	Die-cast aluminium
	Immersion stem	Ø 6 mm, stainless steel V4A, up to 16 bar
	Active length	10 mm
	Cable inlet	M16 for cables Ø 5...8 mm
Standards, directives		
	Type of protection[1)]	IP65 (EN 60529)
CE conformity according to	RoHS-D 2011/65/EU & 2015/863/EU	EN IEC 63000

Resistance values

Measuring element	Standard	Nominal value at 0 °C	Measuring accuracy, typ. at 21 °C
Ni1000	DIN 43760	1000 Ω	±0.3 K
Pt1000	DIN EN 60751	1000 Ω	±0.3 K

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

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

Overview of types				
Type	Measuring element	Sensor tube length	Measuring range	Weight
EGT346F103	Ni1000	100 mm	−50…160 °C	115 g
EGT346F203	Ni1000	150 mm	−50…160 °C	126 g
EGT347F103	Ni1000	200 mm	−50…160 °C	133 g
EGT348F103	Ni1000	450 mm	−50…160 °C	176 g
EGT446F103	Pt1000	100 mm	−50…160 °C	114 g
EGT447F103	Pt1000	200 mm	−50…160 °C	133 g
EGT392F102	Ni1000	100 mm	−50…260 °C	105 g

Accessories	
Type	Description
0300360000	Compression fitting G¼"; stainless steel, up to 16 bar
0300360003	Mounting flange Ø 6 mm, plastic (for flexible immersion length)
0300360004	Heat-conducting paste, dosing syringe with 2 g content

Description of operation

The duct temperature sensor measures the media temperature in heating, ventilation and air conditioning systems, e.g. in supply and return air ducts. In combination with an immersion sleeve, the sensor is also suitable for measurement in liquid media, for example in hot water pipes.
The sensor contains either a platinum (Pt1000) or nickel PTC thermistor (Ni1000). The resistance of these passive measuring elements increases in a linear manner as the temperature increases. The temperature coefficient is therefore positive.

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.

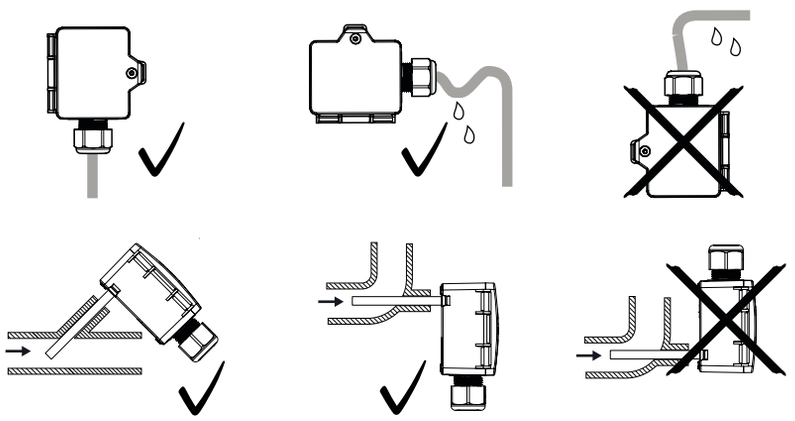
The sensor can be connected to controller and display systems. The sensor types are interchangeable within the specified measuring accuracy.
The line resistance of the signal cable must be taken into account during planning and commissioning. When there are long cables, the line resistance may have to be compensated in the downstream electronics.
The measurement current heats up the measuring element and thus affects the measuring accuracy. 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 of EGT 34*, EGT 44*

- Temperature sensor with M20×1.5 cable gland and connection terminal (removable)
- Mounting clip (for fitting on flat surfaces and full immersion length)
- Self-adhesive seal
- Mounting set: 2 dowels, 2 countersunk head and 2 raised head screws, cover screw and suitable screw cover
- Fitting instructions

Fitting position

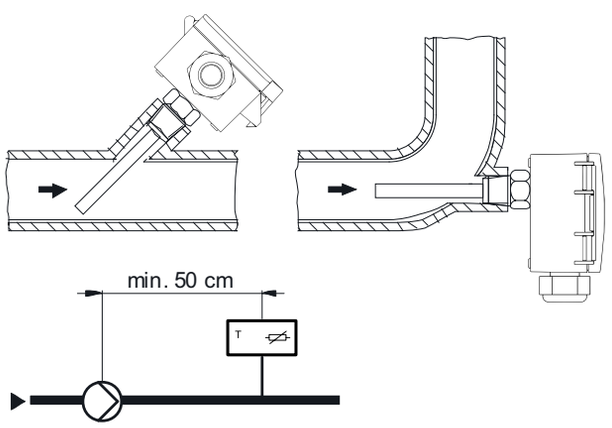
Do not mount the temperature sensor with the cable gland facing upwards. The sensor could be damaged by the ingress of condensate or dripping water.



If there is a risk condensation in the sensor tube or thermowell, install the sensor in such a way that condensate can drain off.

Use in water pipes and pressure vessels

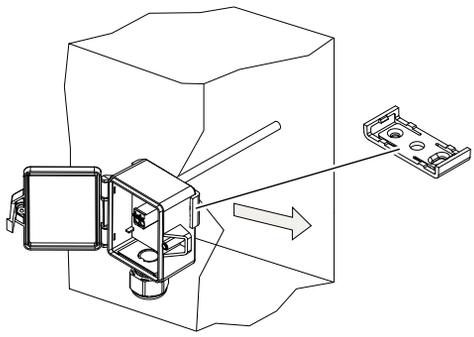
The temperature sensor must be installed in water pipes and pressure vessels with a thermowell (LW 7), see product data sheet 39.100. To optimise the heat transfer between the thermowell and the sensor tube, the space between should be filled with heat-conducting paste (0300360004).
When used in insulated piping, the immersion length of the temperature sensor must be chosen according to the thickness of the insulation.
The sensor is installed against the flow and at least 50 cm from the valve or pump.

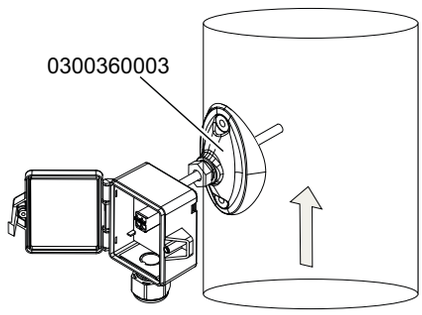


With the compression fitting 0300360000, the temperature sensor can be directly fitted in pipes that carry up to 16 bar without a thermowell.

Use in ventilation ducts

For installation in ventilation and air conditioning systems, the temperature sensor is mounted on the wall of the ventilation duct using the mounting clip provided (see figure on left). A variable immersion length is possible with flange 0300360003 (see figure on right).





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

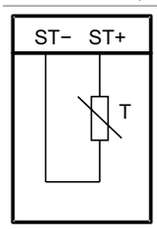
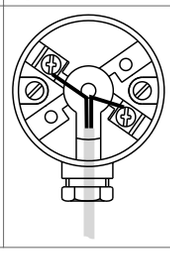
Fitting instructions	P100020520
Declaration on materials and the environment	MD 31,111

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.

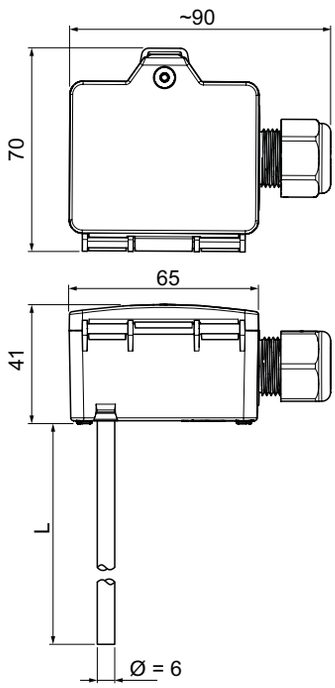
Connection diagram

EGT 346…348, EGT 446, 447	EGT 392
	

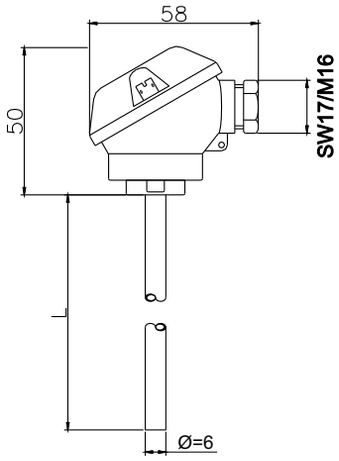
Dimension drawings

All dimensions in mm.

EGT 346…348, EGT 446, 447



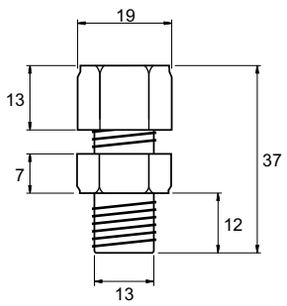
EGT 392



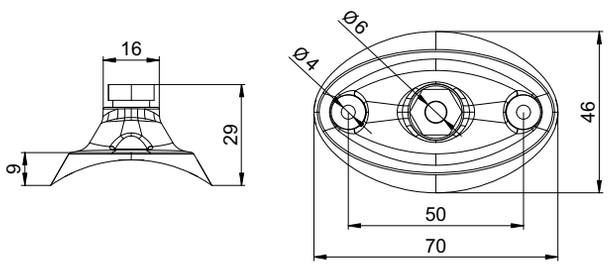
Type	L
EGT346F103	100 mm
EGT346F203	150 mm
EGT347F103	200 mm
EGT348F103	450 mm
EGT446F103	100 mm
EGT447F103	200 mm
EGT392F102	100 mm

Accessories

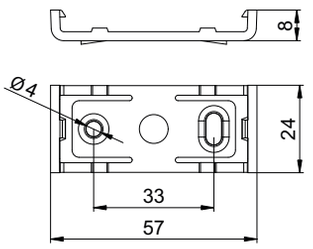
Compression fitting 0300360000



Mounting flange Ø 6 mm 0300360003



Mounting clip (supplied)



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