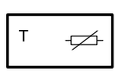
EGT 301, 401, 601: Outdoor-temperature sensor

EGT*01F102

EGT301F031



How energy efficiency is improved

Precise measurement of temperature for energy-efficient control of HVAC installations and monitoring energy consumption

Features

- Passive or active measuring element
- Extra protection against dust and humidity (IP65)
- Cable inlet on back or via cable gland
- For weather-dependent heating and ventilation systems

Technical data

Parameters		
	Recommended measurement current	< 1 mA
Time characteristic	Time constant in still air	EGT*01F102: 12 minutes EGT301F031: 7 minutes
Ambient conditions		
	Ambient temperature	EGT*01F102: -35…90 °C EGT301F031: -35…70 °C
Storage and transport	Storage and transport temperature	-35…70 °C
	Humidity (non-condensing)	85% rh
Construction		
	Sensor sleeve	EGT301F031: stainless steel 1.4571 Ø 6 × 25 mm
	Housing	White
	Housing material	Polyamide
	Connection terminals	Screw terminals 0.35...1.5 mm^2, for number of poles, see connection diagram
	Cable inlet	EGT*01F102: M16 for cable min. Ø 5 mm, max. Ø 8 mm EGT301F031: M20 for cable min. Ø 5 mm, max. Ø 8 mm
Standards and directives		
	Type of protection	IP65 (EN 60529)
CE conformity according to	RoHS Directive 2011/65/EU	EN 50581
	EMC Directive 2014/30/EU	EGT301F031: EN 60730-1 (mode of operation 1, residential premises)

Resistance values / characteristics

i *The tolerance listed below applies only to the corresponding measuring element. The accuracy of the sensor depends on the cable length and the measuring element used.*

Measuring element	Standards	Nominal value at 0 °C	Tolerance at 0 °C
Ni1000	DIN 43760	1000 Ω	±0.4 K
Ni1000 TK5000		1000 Ω	±0.4 K
Pt1000	DIN EN 60751	1000 Ω	±0.3 K

Overview of types

Type	Description
EGT301F102	Outdoor-temperature sensor; Ni1000
EGT401F102	Outdoor-temperature sensor; Pt1000
EGT601F102	Outdoor-temperature sensor; Ni1000 TK5000
EGT301F031	Outdoor-temperature transmitter; 0...10 V

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Passive types

Type	Measuring element	Measuring range	Weight
EGT301F102	Ni1000	-35...90 °C	80 g
EGT401F102	Pt1000	-35...90 °C	80 g
EGT601F102	Ni1000 TK5000	-35...90 °C	80 g

Active types

Type	Measuring accuracy at 21 °C	Output signal	Power supply	Power consumption	Measuring range	Weight
EGT301F031	Typ. ±1% of measuring range[1)2)]	0...10 V, min. load impedance 1 kΩ	15...24 V= (±10%)/ 24 V~ (±10%)	Max. 0.42 W / 0.84 VA	5 temperature ranges (-50...160 °C), adjustable on device (see connection diagram)	120 g

Description of operation

The resistance of the measuring element changes according to the temperature. The temperature coefficient is positive, which means the resistance increases along with the temperature. The elements can be exchanged within the specified tolerance ranges.

Areas of use

Sensor for measuring the temperature outdoors and in refrigerated warehouses, greenhouses and production and storage facilities. Designed for connection to control and display systems. In model EGT301F031 the measuring element is embedded in an external sensor sleeve. This can also be used in concrete ventilation ducts.

Intended use

This product is only suitable for the purpose intended by the manufacturer, as described in the “Description of operation” section.
All related product regulations must also be adhered to. Changing or converting the product is not admissible.

Engineering and fitting notes

Electric connection

The devices are designed for operation with safety extra low voltage (SELV/PELV). The technical data for the devices applies when connecting them to the power supply.
The ambient temperature of the transducer electronics should be kept constant.

CAUTION!
Electrical devices may only be installed and fitted by a qualified electrician.

Fitting

When fitting the devices outdoors, avoid direct rainfall and solar radiation. If necessary, use sun or rain protection. Cable feed from below or from the side. When feeding the cable from the side, make a loop so that rainwater is directed away. It should not be mounted above windows, ventilation outlets or heat sources.

1) *With offset adjustment ±3 K*
2) *The transducers must be operated at a constant operating voltage (±0.2 V). Current/voltage peaks when switching the supply voltage on/off must be avoided by the customer.*

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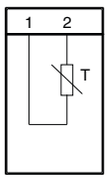
Connection diagram

EGT301F102, EGT401F102, EGT601F102



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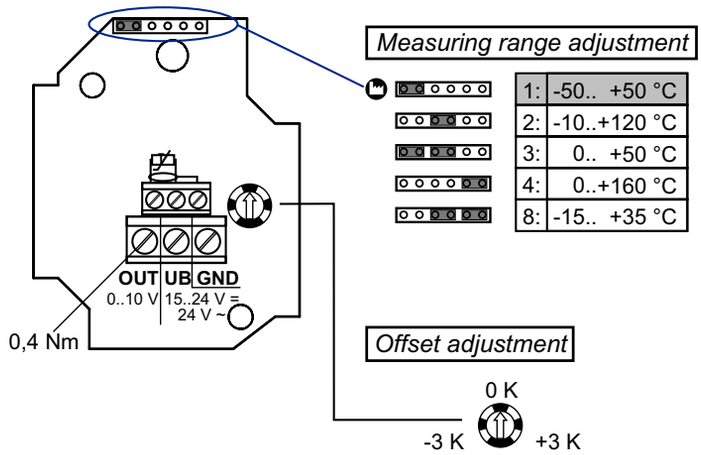

Dimension drawing

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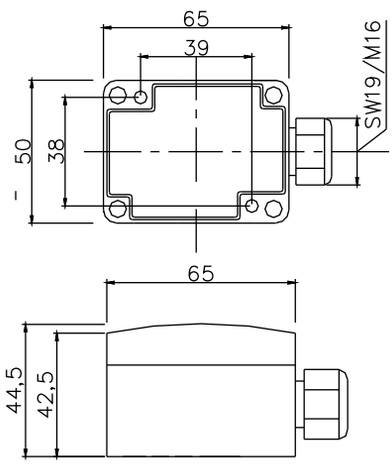
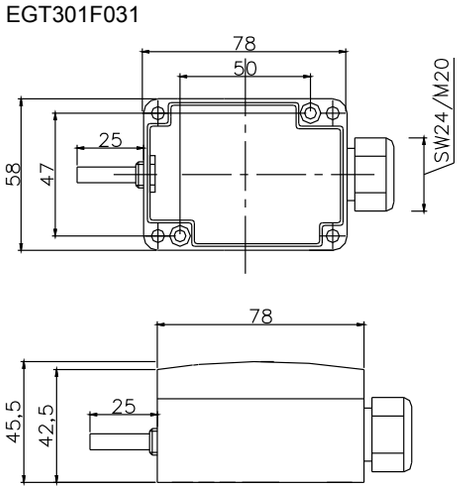


EGT301F031



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