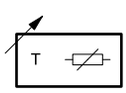
EGT 130, 330, 332, 335, 430: Room-temperature sensor, surface-mounted

EGT*30F***

EGT332F102



How energy efficiency is improved

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

Features

- Passive measuring element
- Temperature measurement in dry rooms
- Variants with setpoint adjuster, presence button and status LED

Technical data

Power supply		
	Power supply	See type list
Parameters		
Time characteristic	Time constant in still air	12 minutes
Ambient conditions		
	Storage and transport temperature	-35...70 °C
	Admissible ambient temperature	-35...70 °C
Construction		
	Housing	Pure white, similar to RAL9010
	Housing material	ASA
	Cable inlet	From rear or side top/bottom
	Connection terminals	Screw terminal, max. 1.5 mm^2
	Weight	50 g
Standards, directives		
	Type of protection	IP30 (EN 60529)
CE conformity according to	EMC Directive 2014/30/EU	EGT130F031: EN 60730-1 (mode of operation 1, residential premises)
	RoHS Directive 2011/65/EU	EN 50581

Resistance values

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	Tolerance at 0 °C
Ni500	DIN 43760	500 Ω at 0 °C	±0.4 K
Ni1000	DIN 43760	1000 Ω at 0 °C	±0.4 K
Pt100	DIN EN 60751	100 Ω at 0 °C	±0.3 K
Pt1000	DIN EN 60751	1000 Ω at 0 °C	±0.3 K

Overview of passive types

Type	Measuring range	Output signal	Adjuster
EGT330F052	-35...70 °C	Passive, Ni500	-
EGT330F102	-35...70 °C	Passive, Ni1000	-
EGT332F102	-35...70 °C	Passive, Ni1000	Resistor signal 2.5 kΩ
EGT335F102	-35...70 °C	Passive, Ni1000	Resistor signal 2.5 kΩ
EGT430F012	-35...70 °C	Passive, Pt100	-
EGT430F102	-35...70 °C	Passive, Pt1000	-

EGT 335 with presence button and 3 LEDs

Active

Type	Measuring range	Measuring accuracy at 21 °C	Output signal	Power supply	Power consumption	Adjuster
EGT130F031	3 temperature ranges, adjustable on device (see connection diagram)	Typ. ±1% of measuring range[1)2)]	Active, 0...10 V, min. load 5 kΩ	15...24 V= (±10%)/ 24 V~ (±10%)	Max. 12 mA/24 V=	-

Description of operation

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

EGT 335:

The LEDs can be controlled individually (see connection diagram) and can signal 3 different operating statuses, for example:

- Yellow, 0: OFF
- Green, 1/2: Set-back mode
- Green, 1: Normal operation

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

CAUTION!

Damage to device!

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

Electrical 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.

In particular for passive sensors, the cable resistance of the connecting cables must be considered. If necessary, this must be corrected in the downstream electronic devices. Due to self-heating, the measurement current affects the accuracy of the measuring. Therefore this should not be greater than 1 mA.

Heat caused by dissipated electric power

Temperature sensors with electronic components are always subject to a certain amount of power loss, which affects the temperature measurement of the ambient air. In active temperature sensors, the higher the operating voltage, the greater the power loss. This power loss must be taken into account in the temperature measurement. At a fixed operating voltage (±0.2 V), this is normally done by adding or subtracting a constant offset value. The duct transducers have a variable operating voltage, but due to the way they are manufactured, only one operating voltage can be taken into account.

As standard, the transducers are set to an operating voltage of 24 V=. This means that, at this voltage, the expected measurement error of the output signal is smallest. At other operating voltages, the offset error increases or diminishes due to the change in power loss of the sensor electronics. If recalibration directly on the sensor becomes necessary during later operation, this can be done using the trimmer potentiometer on the sensor circuit board.

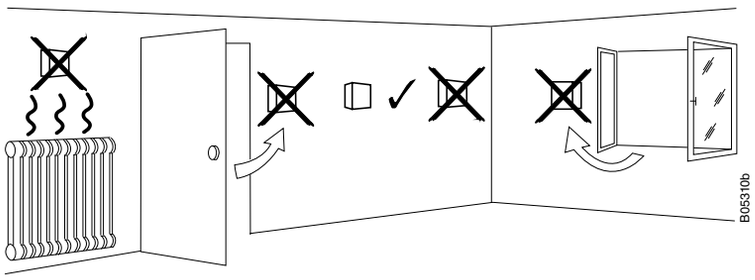
Fitting

The EGT *3* is suitable for surface mounting. For further information, see the fitting instructions. Incorrect fitting can result in incorrect measuring results. Therefore, always observe the fitting instructions. The place of installation must also be chosen carefully to ensure reliable measurement. Cold outer walls and fitting above heat sources (radiators, for example) and right next to doors with draughts must be avoided, as well as direct sunlight. Furnishings, such as curtains, cabinets or shelves, can hinder the flow of room air to the sensor and thereby cause discrepancies in the meas-

1) *With offset adjustment ±3 K*

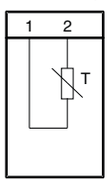
2) *The transducers must be operated at a constant operating voltage (±0.2 V). Current/voltage peaks when switching the supply voltage on/off must be avoided by the customer.*

urements. Heating pipes inside the walls can also affect the measurement. Do not use silicone or similar materials to seal the pipes in the wall.

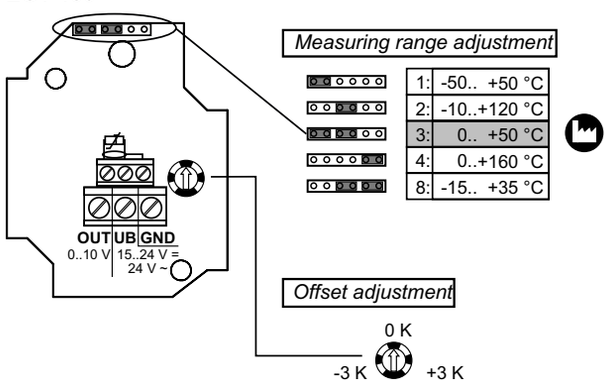


Connection diagram

EGT 330, 430



EGT 130



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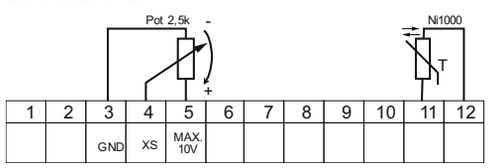

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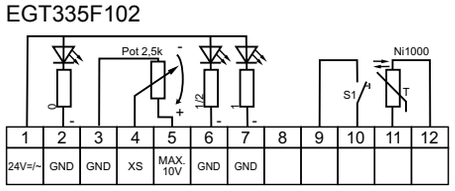
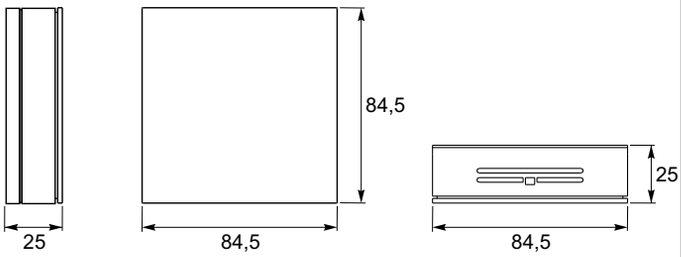
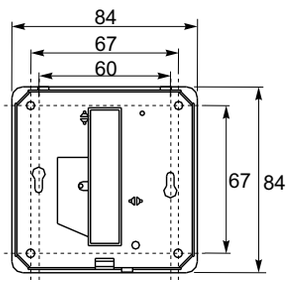


Dimension drawing

[mm]

EGT 130, 330, 430





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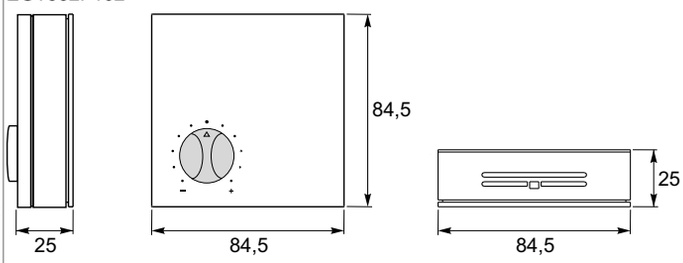

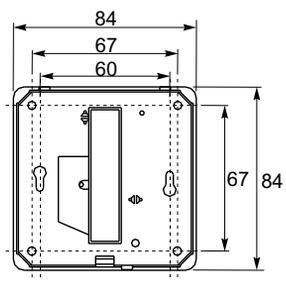

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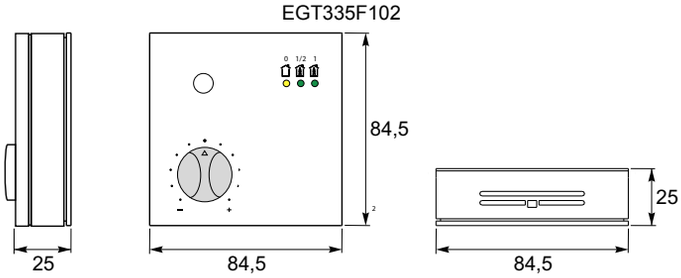

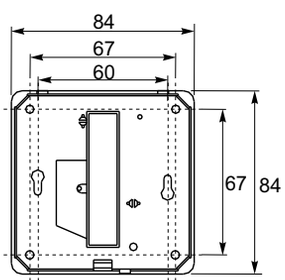

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