

EGH 120, 130: Room transducer, relative humidity and temperature

How energy efficiency is improved

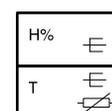
Precise measuring of humidity for energy-efficient control of HVAC installations

Features

- Measurement by means of fast capacitive sensor
- Active measuring element
- Suitable for fitting directly to walls
- Converts the measured values into a continuous analogue signal (0...10 V or 4...20 mA)



EGH1*0F0*1



Technical data

Power supply		
	Power supply	15...24 V= (±10%) or 24 V~ (±10%)
Parameters		
Relative humidity	Measuring range	0...100% rh, no condensation
	Measuring accuracy	±2% between 10...90% rh (typ. at 21 °C)
Temperature	Measuring range	0...50 °C
	Measuring accuracy	±0.5 °C (typ. at 25 °C)
Ambient conditions		
	Admissible ambient temperature	-20...70 °C
Construction		
	Housing material	ASA
	Housing	Pure white
	Connection terminals	Screw terminals, max. 1.5 mm ²
	Weight	80 g
Standards and directives		
	Type of protection	IP30 (EN 60529)
CE conformity according to	EMC Directive 2014/30/EU	EN 60730-1 (mode of operation 1, residential premises)
	RoHS Directive 2011/65/EU	EN 50581

Overview of types

Type	Output signal	Power consumption
EGH120F041	2 x 4...20 mA	Max. 1 W (24 V=)
EGH130F031	2 x 0...10 V	Max. 0.3 W (24 V=) 0.5 VA (24 V~)

Description of operation

Room transducer (surface-mounted) for measuring the relative humidity and temperature in residential premises, offices etc.

Humidity measurement:

A fast capacitive sensor measures the relative humidity and a measuring amplifier converts it to a 0...10 V or 4...20 mA standard signal.

Temperature measurement:

A sensor measures the temperature and a measuring amplifier converts it to a 0...10 V or 4...20 mA standard signal.

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!



CAUTION!

Damage to device!

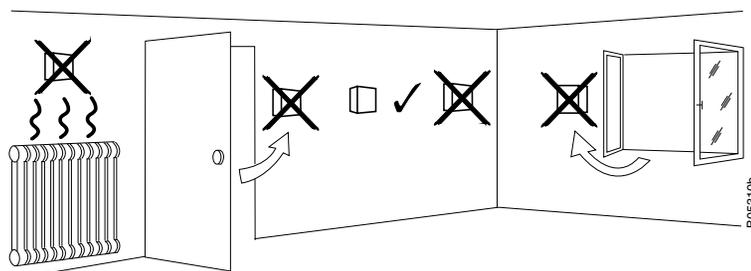
- ▶ Devices with a power connection may only be connected if the power cable is disconnected from the mains.

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 temperature sensors 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 EGH 120, 130 is suitable for surface mounting. For more 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 measurements. Heating pipes inside the walls can also affect the measurement. Do not use silicone or similar materials to seal the pipes in the wall.



Notes for users

Under normal operating conditions, the devices age very gradually. Humidity sensors are subject to increased ageing if they are used in very contaminated air or aggressive gases. These factors affecting the device depend on the concentration of the aggressive media and can cause the sensor to drift.

In applications with very contaminated air, the warranty does not cover the premature replacement of the entire sensor.

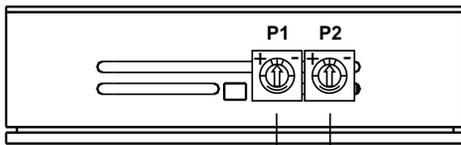


CAUTION!

Damage to device!

- ▶ Switch off any defective or damaged devices.

Offset adjustment



±4% Offset rF / rH ±3 K Offset Temp.

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

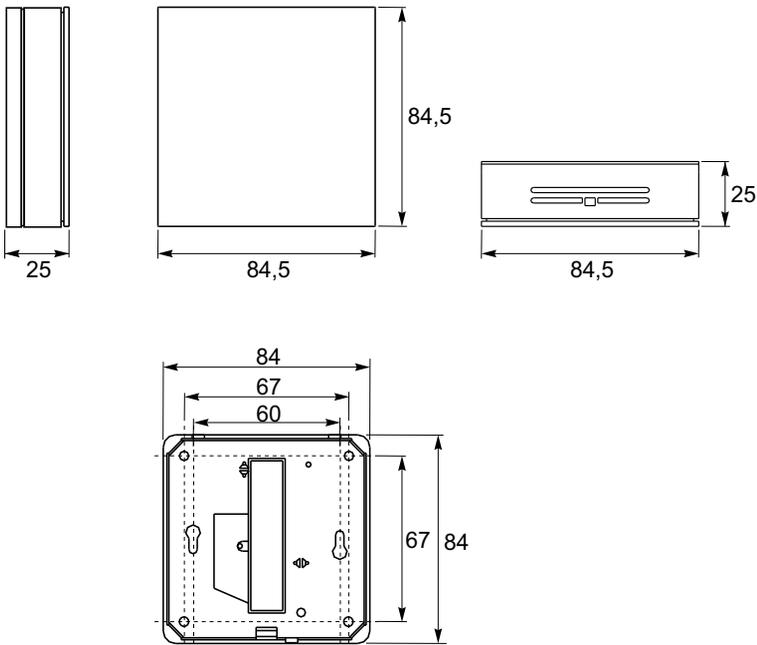
EGH120F041

1	2	3	4	5	6	7	8	9	10	11	12
rF / rH 4...20mA	15-24V= 15-24V	Temp 4...20mA									

EGH130F031

1	2	3	4	5	6	7	8	9	10	11	12
			Temp 0-10V	rF / rH 0-10V	GND	15-24V= 24V~					

Dimension drawings



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