

EGT 456: Cable-type temp. detector with platinum measuring element

How energy efficiency is improved

Accurate detection of temperature for energy-efficient control of HVAC systems and monitoring energy consumption.

Areas of application

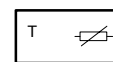
Temperature measurement in rooms, air ducting, on surfaces, in pipelines and tanks

Features

- Passive measured value acquisition
- Especially suitable for direct connection to systems with short distance between controller and sensor
- Highly versatile sensor
- Can be used in pipelines and tanks with optional LW7 protective tubes

Technical description

- Platinum thin-film sensor as per EN 60751
- 5 mm \varnothing connecting cable, normal version 1 m long, fixed permanently to sensor
- Conductor cross-section $2 \times 0,5 \text{ mm}^2$



Y04579

Type	Nominal value at 0 °C	Measuring range °C	Weight kg
EGT 456 F011	100 Ω	-40...180	0.12
EGT 456 F101	1000 Ω	-40...180	0.12
Resistance values	EN 60751, Class B	Degree of protection	IP 55 (EN 60529)
Tolerance at 0 °C	$\pm 0.3 \text{ K}$	Wiring diagram	A01632
Mean temp. coefficient	$0,00385 \text{ K}^{-1}$	Dimension drawing	M05322
Self-warming	0.11 K/mW	Fitting instructions	MV 505423
Time characteristic:			
clamped on pipe ¹⁾	Dead time Time constant		
water (0,4 m/s)	ca. 7 s 23 s		
with LW 7 pocket ²⁾	Dead time Time constant		
water (0,4 m/s)	ca. 3 s 11 s		

Accessories

- 0364345** . . . LW 7 pockets, G $\frac{1}{2}$ A; brass; for max. 3 sensors \varnothing 6.5 mm; see chapter 39
- 0364439** . . . LW 7 pockets, R $\frac{1}{2}$, of brass; see chapter 39
- 0364346** . . . LW 15 pockets, G $\frac{1}{2}$ A; brass; for up to 3 sensors \varnothing 6.5 mm; see chapter 39
- 0364258** . . . LW 15 pockets, G $\frac{1}{2}$ A; of stainless steel; for up to 3 sensors \varnothing 6.5 mm; see chapter 39
- 0311835 000*** Tension-relief piece for fitting the sensor into protective tube LW 7
- 0312520 000*** Universal tension-relief piece for cable sensors and thermostats with capillary tube
- 0313214 001** Fixing kit for all applications (comprises holder, heat-conducting paste, metal strap)
- 0313220 001** Heat-conducting paste
- 0313300** . . . Silicon cable: special length for EGT 456 on request

*) Dimension drawing or wiring diagram are available under the same number

- 1) As a clamp-on sensor with holder and heat-conducting paste
2) With heat-conducting paste

Operation

The resistance value of the Pt measuring resistor changes with respect to temperature. The temperature coefficient is always positive, i.e. the resistance value increases as the temperature rises. See table of values (for platinum; EN 60751) and characteristic. The elements are exchangeable (within the limits of the prescribed tolerances).

Engineering and fitting notes

The power cable of the EGT 456 is of dry-vulcanised silicon and, therefore, low on emissions, so the sensors can be used in painting shops.

The resistance values and tolerances apply only to the sensor elements. You should take the resistance of the cable into account if long leads are used. For the sensor cable (feed and return lines), the following applies: $R = 0,08 \text{ } [\Omega/\text{m}]$.

As an immersion sensor:

For use in pipes and containers, the cable sensor must be fitted into either an LW 7 protective tube with tension-relief piece 0311835 or an LW 15 protective tube with tension-relief piece 0312520. Using an LW 15 pocket, the sensor can be used with one or two sensor cartridges of 6.5 mm diameter (e.g. RAK).

As a clamp-on sensor:

The sensor can be fitted to pipes \varnothing 50 mm by means of a holder and a metal strap (fixing kit 0313214). Do not use pipes of more than \varnothing 50 mm diameter, since layers of heat may arise; use stem or cable sensors with pocket.

As a surface sensor:

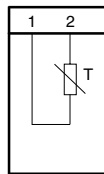
The cable sensor can be fitted to surfaces by means of a holder (fixing kit 0313214) and screws. The time constant depends on the surface.

The pressure spring supplied with the unit optimises the heat transfer when an LW 7 pocket is used. It serves as a spring element when the fixing kit (0313214 001) is used. It is generally advisable to use heat-conducting paste.

Additional technical data

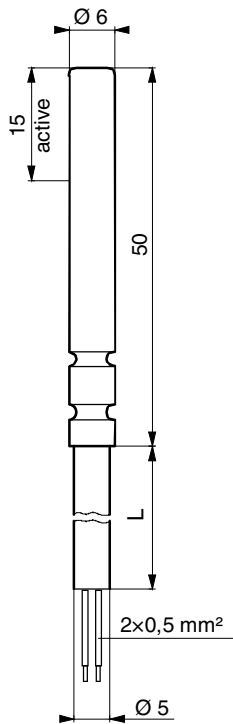
Complies with:	EN 61000-6-1/ EN 61000-6-2
EMC Directive 2004/108/EC	EN 61000-6-3/ EN 61000-6-4

Wiring diagram



A01632

Dimension drawing



M05322a

Accessories

