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Made in Czech Republic

02-209/2016 Rev.: 3



TEV-2 TEV-3

Thermostat



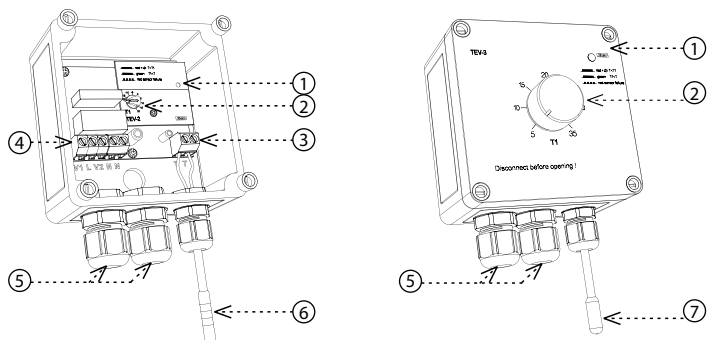
Characteristics

- single thermostat with possibility of temperature management in adjustable range (it is possible to modify this range or make a special one on request)
- it is used to regulate heating (or cooling) in demanding environments (outside, humidity, dustiness, etc.)
- thermostat is placed in water-proof box with IP65, which enables installation outside, with in-built sensor (included in the supply)
- TEV-2 - control and indication elements are placed under transparent cover, TEV-3 - control and indication elements are placed directly on the cover (for easy orientation and frequent change of temperature)
- thermostat status is indicated by LED (2 colours)
- function of monitoring sensor disconnection and short-circuit
- output changeover contact 16 A (AC1)

Description

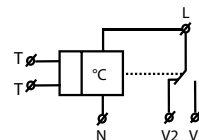
TEV-2 - without cover

TEV-3 - cover



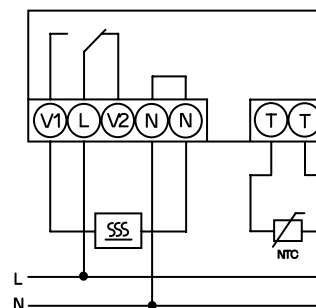
1. Device status indication
2. Temperature setting
3. Terminal for sensor
4. Terminals for connection of supply voltage and output contact
5. Sleeve for incoming cables
6. Sensor TZ-0
7. Sensor TC-0

Symbol

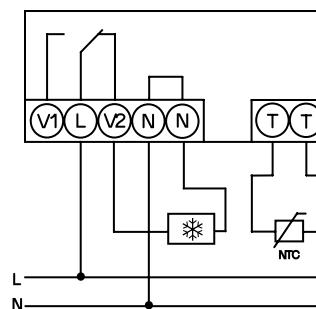


Connection

Function heating



Function cooling



Type of load	$\cos \varphi \geq 0.95$								
Mat. contacts AgNi, contact 16 A	250V / 16A	250V / 5A	250V / 3A	230V / 3A (690VA)	x	800W	x	250V / 3A	250V / 10A
Type of load									
Mat. contacts AgNi, contact 16 A	250V / 6A	250V / 6A	250V / 6A	24V / 16A	24V / 6A	24V / 4A	24V / 16A	24V / 2A	24V / 2A

	TEV-2	TEV-3
Function:	one-level thermostat	
Supply terminals:	L - N	
Supply voltage:	230 V AC / 50 - 60 Hz	
Input:	max. 2.5 VA / 0.5 W	
Max. dissipated power (Un + terminals):	3 W	
Tolerance of supply voltage:	±15 %	

Measured circuit

Measuring terminals:	T - T	
Temperature ranges:	-20 to 20 °C / -4 to 68 °F	5 to 35 °C / 41 to 95 °F
Hysteresis (sensitivity):	3 °C (± 1.5 °C) / 37.4 °F (± 2.7 °F)	
Sensor:	thermistor NTC 12 kΩ	
Faulty sensor indication:	red LED flashing	

Accuracy

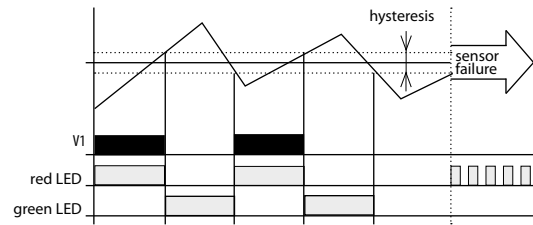
Accuracy of settings (mech.):	5 %
Dependance on temperature:	< 0.1 % / °C

Output

Number of contacts:	1x changeover / SPDT (AgNi / Silver Alloy)
Rated current:	16 A / AC1
Switching output:	4000 VA / AC1; 384 W / DC
Peak current:	30 A / < 3 s
Switched voltage:	250 V AC
Output indication:	red LED
Mechanical life:	3x10 ⁷
Electrical life:	0.7x10 ⁵

Other information

Operation temperature:	-30 to +50 °C (-22 to 122°F)	
Operation position:	any	
Protection degree:	IP65 assembly	
Overvoltage category:	III.	
Pollution level:	2	
Max. cable size (mm ²):	solid wire 2.5 / with sleeve 1.5 (AWG 12)	
Dimensions:	110 x 135 x 66 mm (4.33" x 5.3" x 2.6")	
Weight:	270 g (9.5 oz.)	274 g (9.7 oz.)
Standards:	EN 60255-1, EN 60255-26, EN 60255-27, IEC 60730-2-9	



TEV-2 and TEV-3 are universal single thermostats for universal use. In case ambient temperature is higher than set temperature relay is open (function HEATING), for cooling function (opposite function) is possible to use NC contact of relay (V2).

Warning

The device is constructed to be connected into 1-phase main and must be installed in accordance with regulations and norms applicable in a particular country. Installation, connection and setting can be done only by a person with an adequate electro-technical qualification which has read and understood this instruction manual and product functions. The device contains protections against over-voltage peaks and disturbing elements in the supply main. To ensure correct function of these protection elements it is necessary to front-end other protective elements of higher degree (A, B, C) and screening of disturbances of switched devices (contactors, motors, inductive load etc.) as it is stated in a standard. Before you start with installation, make sure that the device is not energized and that the main switch is OFF. Do not install the device to the sources of excessive electromagnetic disturbances. By correct installation, ensure good air circulation so the maximal allowed operational temperature is not exceeded in case of permanent operation and higher ambient temperature. While installing the device use screwdriver width approx. 2 mm. Keep in mind that this device is fully electronic while installing. Correct function of the device is also depended on transportation, storing and handling. In case you notice any signs of damage, deformation, malfunction or missing piece, do not install this device and claim it at the seller. After operational life treat the product as electronic waste.

DECLARATION OF CONFORMITY

ELKO EP declares that the **TEV-2 / TEV-3** type of equipment complies with Directives 2014/30/EU, 2011/65/EU, 2015/863/EU and 2014/35/EU. The full EU Declaration of Conformity is available at: www.elkoep.com/thermostat-tev-2 www.elkoep.com/thermostat-tev-3

Temperature sensor

	TZ-0	TC-0
Range:	-40°C to 125°C (-40°F to 257°F)	-20 °C to 80 °C (-4 °F to 176 °F)
Scanning element:	NTC 12K	NTC 12K
Tolerance:	±(0.15°C + 0.002 t)	±(0.15°C + 0.002 t)
In air/ in water:	(τ65) 62 s / 8 s	(τ0.5) ≤ 18 s
In air/ in water:	(τ95) 216 s / 23 s	(τ0.9) ≤ 48 s
Cable material:	PVC	PVC unshielded, 2x 0.25 mm ²
Terminal material:	stainless steel	polyamid
Protection degree:	IP67	IP67
Electrical strength:	2500 VAC	2500 VAC
Insulation resistance:	> 200 MΩ at 500 VDC	> 200 MΩ at 500 VDC
Length:	110 mm (4.3")	100 mm (3.9")
Weight:	4.5 g (0.16 oz.)	5 g (0.17 oz)

τ65 (95): time, which sensor needs to heat up on 65 (95) % of ambient temperature of environment, in which is located.

Resistive values of sensors in dependance on temperature

Temperature (°C / °F)	Sensor NTC (kΩ)
20 / 68	14.7
30 / 86	9.8
40 / 104	6.6
50 / 122	4.6
60 / 140	3.2
70 / 158	2.3

Tolerance of sensor NTC 12 kΩ is ± 5% by 25 °C / 77 °F.