

Operating manual Eltex-Guard 91170



The **Eltex-Guard** is a load guard, which measures the current in the main fuses and temporarily disconnects parts of the load at overload. The Eltex-Guard learns how much power is disconnected by each output and takes that into consideration when reconnecting the loads again.

Mounting

The Eltex-Guard should be mounted at the distribution box or at the equipment that should be disconnected at overload, for instance the heating boiler.

Connection

The current sensors are mounted on the supply cables to the distribution box and connected according to the connection diagram. The leaders can be increased by 1.5 mm² cable up to 30 m. **NOTE!** The current sensors must not be connected to power supply or ground.

The loads you want to control (for instance electric heating, heating boiler) will be connected through 240 V contactors (NC/opening function) in priority order, so that the least important will be disconnected first at overload.

Connection order: K1 – K2 – K3

Disconnection order at overload: K3 – K2 – K1

Hot water boiler should be connected to K3.

The phases should be evenly loaded, so that each contactor controls about the same load on each phase. The household current (refrigerator, freezer, washing machine, stove, etc) should not be controlled by the Eltex Guard.

Function inputs

Mechanical thermostat can be connected to F1–C (max. cable length 30 m).

NOTE! If the thermostat is under tension, it must be connected via an intermediate relay.

Function		Outputs		
F1–C	F2–C	K1	K2	K3
		1	2	3
		off	off	1
		1	2	3
		off	off	off

1, 2, 3 = connection order / priority

Hot water boiler

Should normally be connected to output K3. Function F2–C closed. If a thermostat is connected to F1–C, it will control only output K1 and K2.

No hot water boiler connected

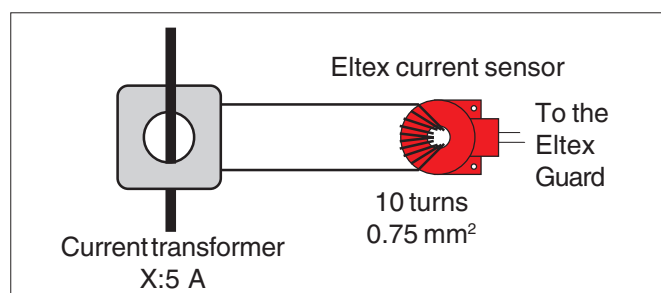
F2–C open. If a thermostat is connected to F1–C, it will control all the outputs K1, K2 and K3. Use if the Eltex-Guard is to control an electric heating boiler.

Setting

The current limit range is 16–70 A and should be set on the size of the main fuse (marked with dots).

Large plants

For large plants use **both** current transformers with 5 A secondary current **and** Eltex current sensors, see below.



Current transformer Ratio (multiply the scale with)

100:5	2
150:5	3
200:5	4
250:5	5
300:5	6
400:5	8
500:5	10
1000:5	20
2000:5	40
etc.	

Example

Main fuse 160 A. Choose current transformer 200:5 A.

The cable from the main fuse will be drawn through the big current transformer. The secondary cable (0.75 mm²) will be drawn 10 turns through Eltex current sensor. The ratio according to the table = 4. In order to set the Eltex-Guard on 160 A (the main fuse), set the current limit on:

$$\frac{\text{Main fuse, A}}{\text{Ratio}} = \frac{160}{4} = 40 \text{ A}$$

Connection

NOTE!

The electronics in the Eltex-Guard is under tension, so all switches connected must be potential free switches without connection to power or ground. Thermostat under tension must be connected through an intermediate relay.

Current sensors

The cables for the current sensors can be increased with 1.5 mm² cable up to 30 m. If the cables for the current sensors are installed close to cables under tension from, for example, the electric boiler heater, we recommend shielded cable grounded only at one end.

NOTE! The current sensors must not be connected to power or ground!

Alternative connection of the current sensors with 4 leader cable.

Technical data Eltex-Guard 91170

Outputs	3 outputs 230 V 50 Hz, max. load 100 mA, for opening contactors (recommended contactor CMC, MOH-10Z 230/50)
Inputs	3 inputs for Eltex current sensor 91214 2 control inputs for switches
Reaction time by overload	0.5 sec.
Power supply	230 V / 50 Hz (180–250 V)
Power consumption	5 W + outputs
Operating temperature	0–50°C
Dimensions (H x W x D)	90 x 53 x 63 mm
Weight	400 g
Encapsulation	DIN rail box 3 modules, IP20, halogen free
Approval	CE marked

We reserve the right to modify design and technical data.

