

EARTH-FAULT AND SHORT-CIRCUIT INDICATOR TYPE EKL8000 / EKL8001

panel-mounted

General description

The earth-fault and short-circuit indicators type EKL8000 and type EKL8001 can be used in radial networks with one input and opening networks. The device detects short-circuits by measuring the phase-currents and earth-faults by measuring the sum current. Faults are identified when the measured current is exceeding an adjusted threshold. Detected faults will be displayed by one LED per phase and one LED for earth-faults.

The fault indicator type EKL8000 and type EKL8001 consist of one display unit and four sensors (three phase-mounted sensors and one sum current sensor). The sensors have a rigid housing and their interior is fully sealed from the environment. The sensors are divisible and can be retrofitted on the cables.

The potential-free connections between all four sensors and the display unit are done by fibre optic cables. The short-circuit sensors can be mounted on screened and unscreened cables.

The device is power supplied by an exchangeable long-life lithium battery. To extend the battery lifetime an external power supply can be equipped as an option.



Features and Options

- Permanent earth-faults: Indication of permanent earth-faults by double blinking of the earth-fault LED
- 2nd short-circuit pass-through: Indication of a second short-circuit pass-through by double blinking
- Separate response delays: The response delay for short-circuits and earth-faults can be adjusted individually
- Type EKL8001: This indicator is equipped with two remote contact relays to indicate earth-faults and short-circuits separately.
- Optional reset input: For reset by recovering external power supply
- Optional power supplies: 10-110 V DC or 110 / 230 V AC power supply with optional lithium backup battery

External Connectors

- Optical connector 1: 3x short-circuit sensors type LK
- Optical connector 2: 1x earth-fault sensor type LE
- Connectors 9 – 10: Blinking lamp type BL4.1 / BL6
- Connectors 10 – 11: Remote reset input
- Connectors 16 – 17: Optional external power supply

Type EKL8000

- Connectors 13 – 15: SCADA change-over contact

Type EKL8001

- Connectors 12 – 13: SCADA NO contact for short-circuit
- Connectors 14 – 15: SCADA NO contact for earth-fault

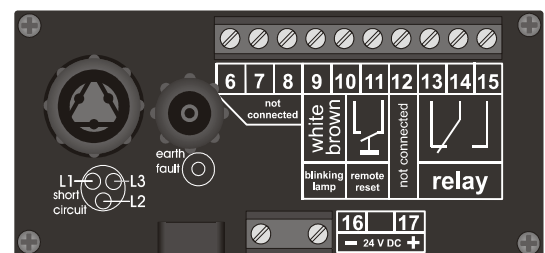


figure 1: connectors type EKL8000

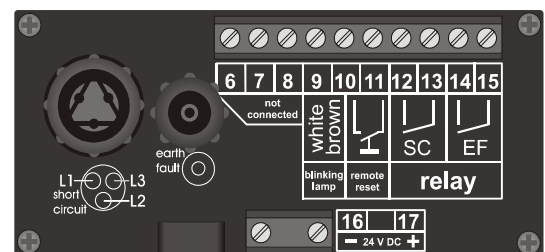


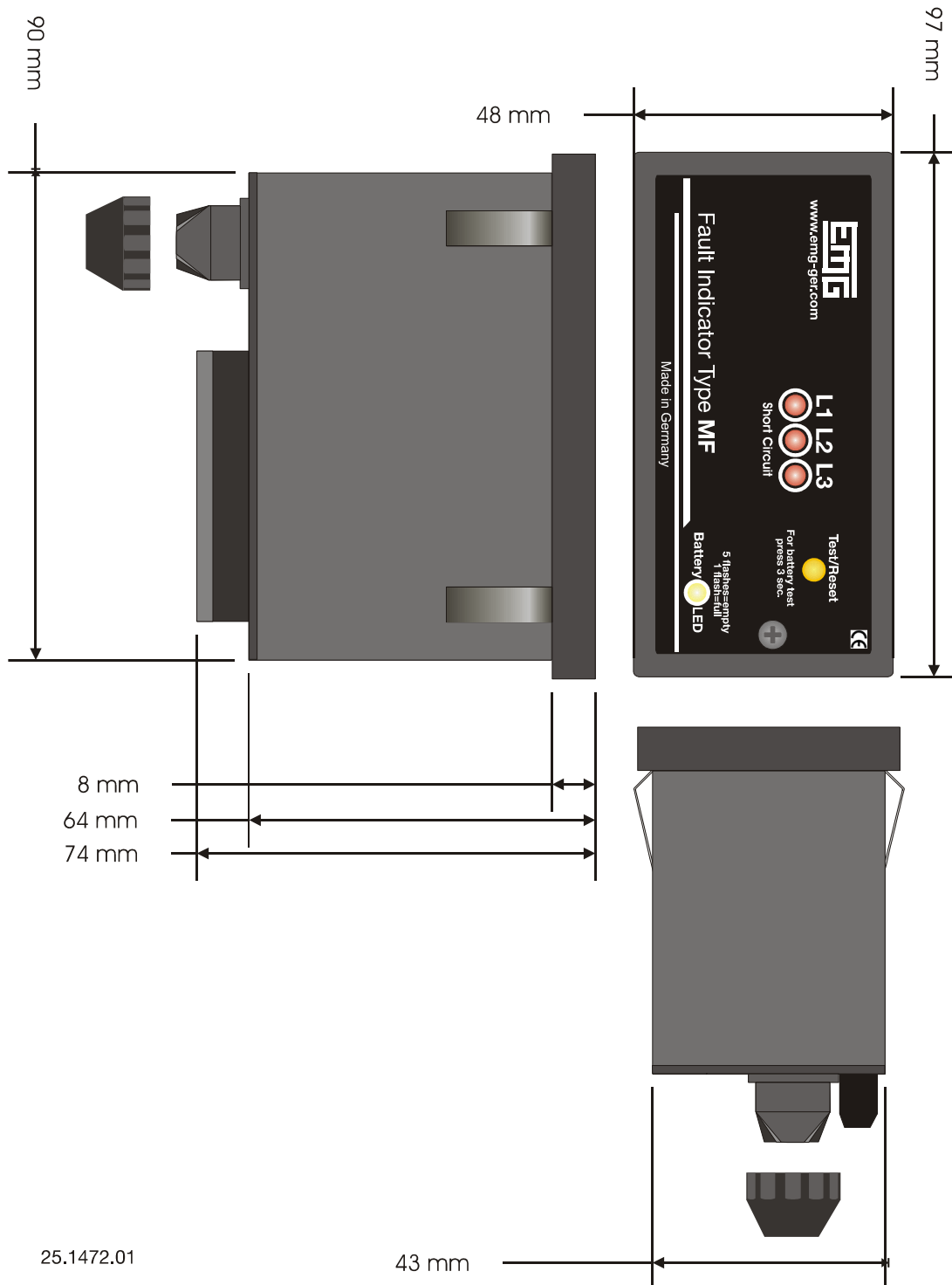
figure 2: connectors type EKL8001

General Data

Subject	Value
short-circuit current	adjustable: 200 / 300 / 400 / 500 / 600 / 800 / 1000 * A ($\pm 10\%$)
earth-fault current	adjustable: 10 / 20 / 30 / 40 / 60 / 80 / 100 * A ($\pm 10\%$)
Response delay	adjustable for short-circuit: 40 / 60 / 80 / 160 * ms adjustable for earth-fault: 40 / 60 / 80 / 160 * ms optional: one common setting for short-circuit and earth-fault with up to 16 adjustable values ranging from 20ms to 500ms
Indication unit	suitable for panel installation
Indication of a) short-circuit b) earth-fault c) battery	a) one red LED for each phase b) one red LED c) one yellow LED
Reset of the indicator	a) manual by push-button b) connection for a potential-free remote reset c) time: 1 / 2 / 4 / 8 * hours after fault d) optional: self-acting after recovering of external power supply
On site function test a) function test b) battery test	by push-button a) the button has to be pressed for 1 second b) the button has to be pressed for 3 seconds
Dimensions: display unit	(WxHxD) 97 mm x 48 mm x 74 mm (dimensions of panel cut-out: 92+0.8 x 45+0.6 mm / IEC61554 / DIN43700)
Protection class: display unit	IP40
Protection class: sensors	IP67
Internal type test	According to IEEE 495-2007
Operation temperature range	-20°C to +70°C
Power supply	lithium battery (LiSOC12) type AA / 3.6V / 2600 mAh optional: 10-110 V DC with backup battery type AA / 3.6V / 2600 mAh optional: 110/230 V AC with backup battery type AA / 3.6V / 2600 mAh
SCADA contacts	EKL8000 1x change-over contacts EKL8001 2x NO contacts permanent / wipe contact (100 * ms), configurable by DIP switch max. 230 V AC / max. 2 A / max. 30 W
Short-circuit sensors	3x short-circuit sensors type LK (fibre optic cable) diameter: 22-42** mm connection cable length: 3* m (** Other diameter ranges for all standard cables are available.)
Earth-fault sensor	1x earth-fault sensor type LE (fibre optic cable) diameter: 80-100** mm connection cable length: 3* m (** Other diameter ranges for all standard cables are available.)

* **Please note:** Other values can be ordered.

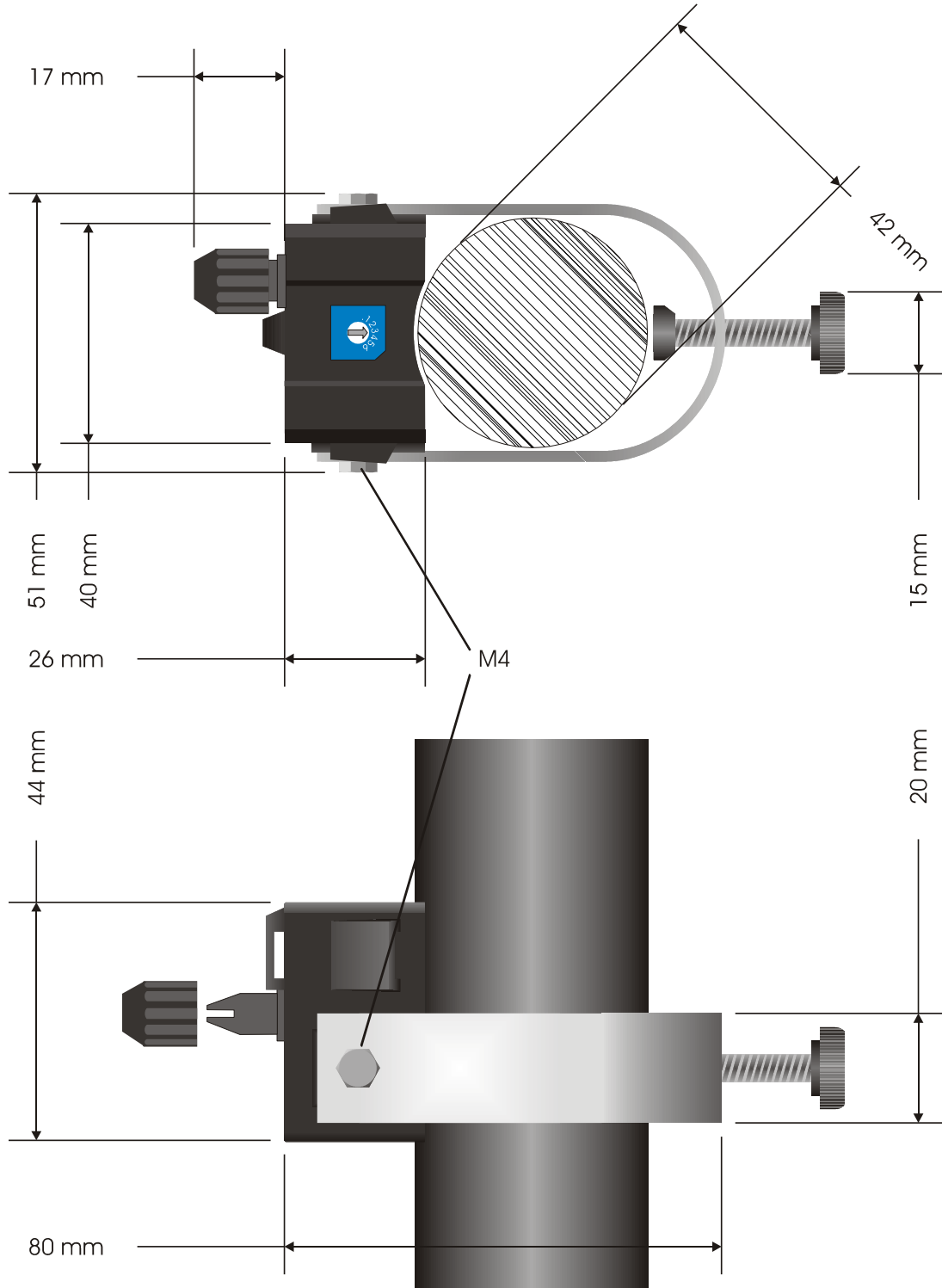
Display unit



25.1472.01

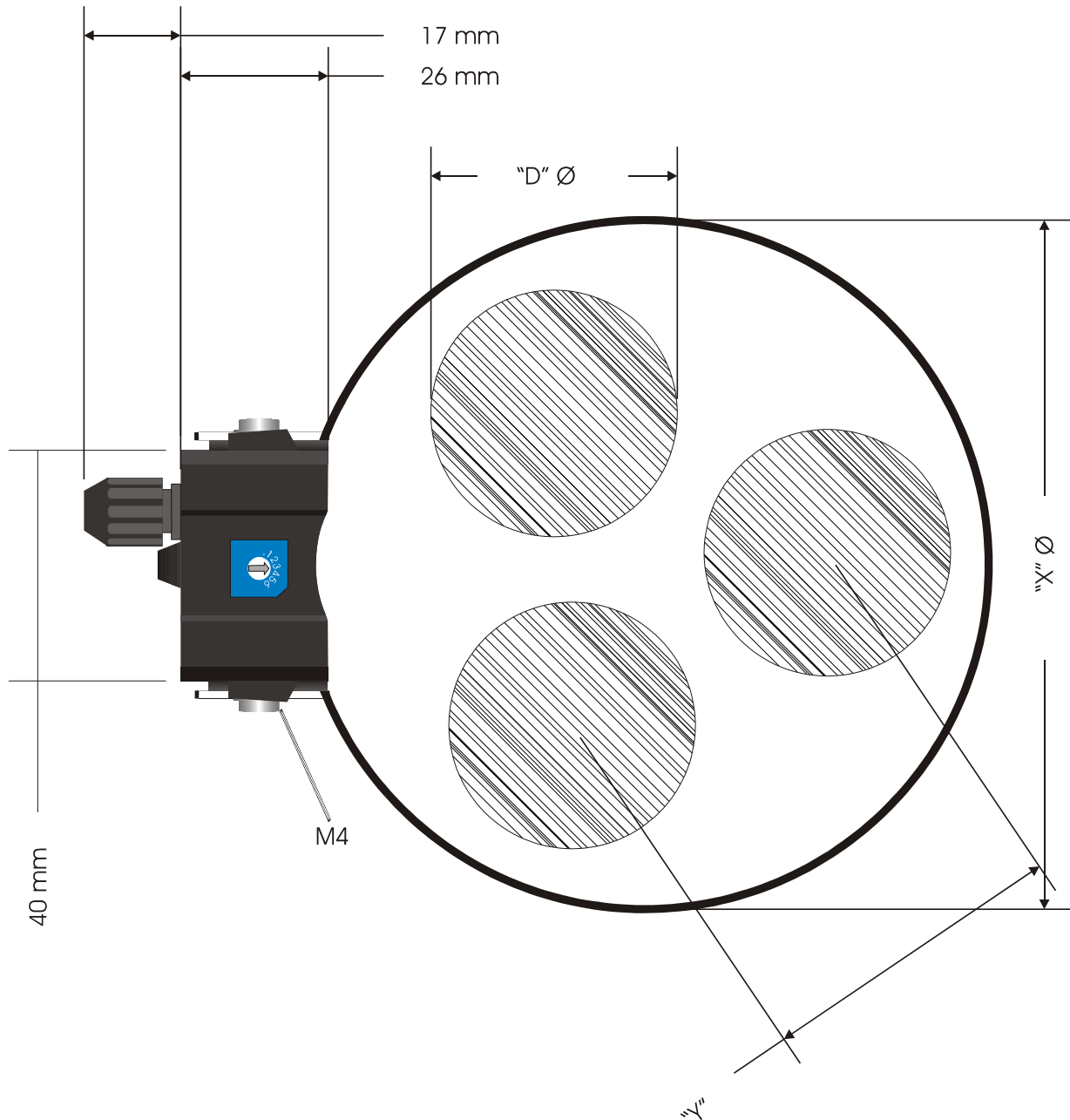
43 mm

Sensor type LK



12.1424.10

Sensor type LE



12.1556.02