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

panel mounted

General description

The earth-fault and short-circuit indicator can be used in radial networks with one input and open-ring networks which are solidly earthed or low resistance earthed.
The potential-free connection between the short-circuit sensors and accordingly the earth-fault sensor to the display unit is done by fibre optic cables. The short-circuit sensor can be mounted on screened and unscreened cables. The earth-fault sensor must be mounted on screened cables. All sensors are divisible and can be retrofitted on the cable.
The earth-fault and short-circuit indicator type EKL8001 is equipped with two remote contact relays to indicate earth-faults and short-circuits separately.

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 passing through by double blinking of the respective short-circuit LED.
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 230 V AC
Optional power supplies:	10-110 V DC or 110 / 230 V AC power supply with optional lithium backup battery

External connectors

Optical terminal:	Connectors to short-circuit sensors L1, L2 and L3
Connector 7 - 8:	earth-fault sensor
Connector 9 - 10:	external blinking lamp (Type BL4.1+BL6)
Connector 10 - 11:	Remote reset input
EKL8000:	
Connector 13- 15:	SCADA change-over contact (please refer to figure 1)
EKL8001:	
Connector 12-13:	SCADA remote contact for short-circuit
Connector 14-15:	SCADA remote contact for earth-fault (please refer to figure 2)

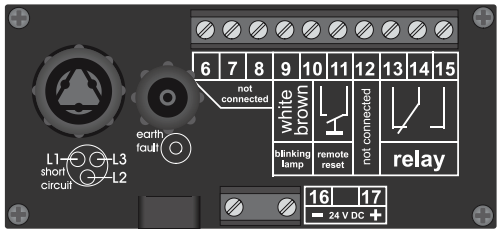


figure 1 - Connectors EKL8000

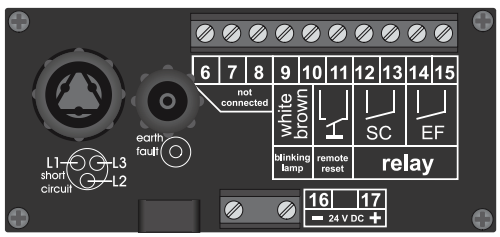


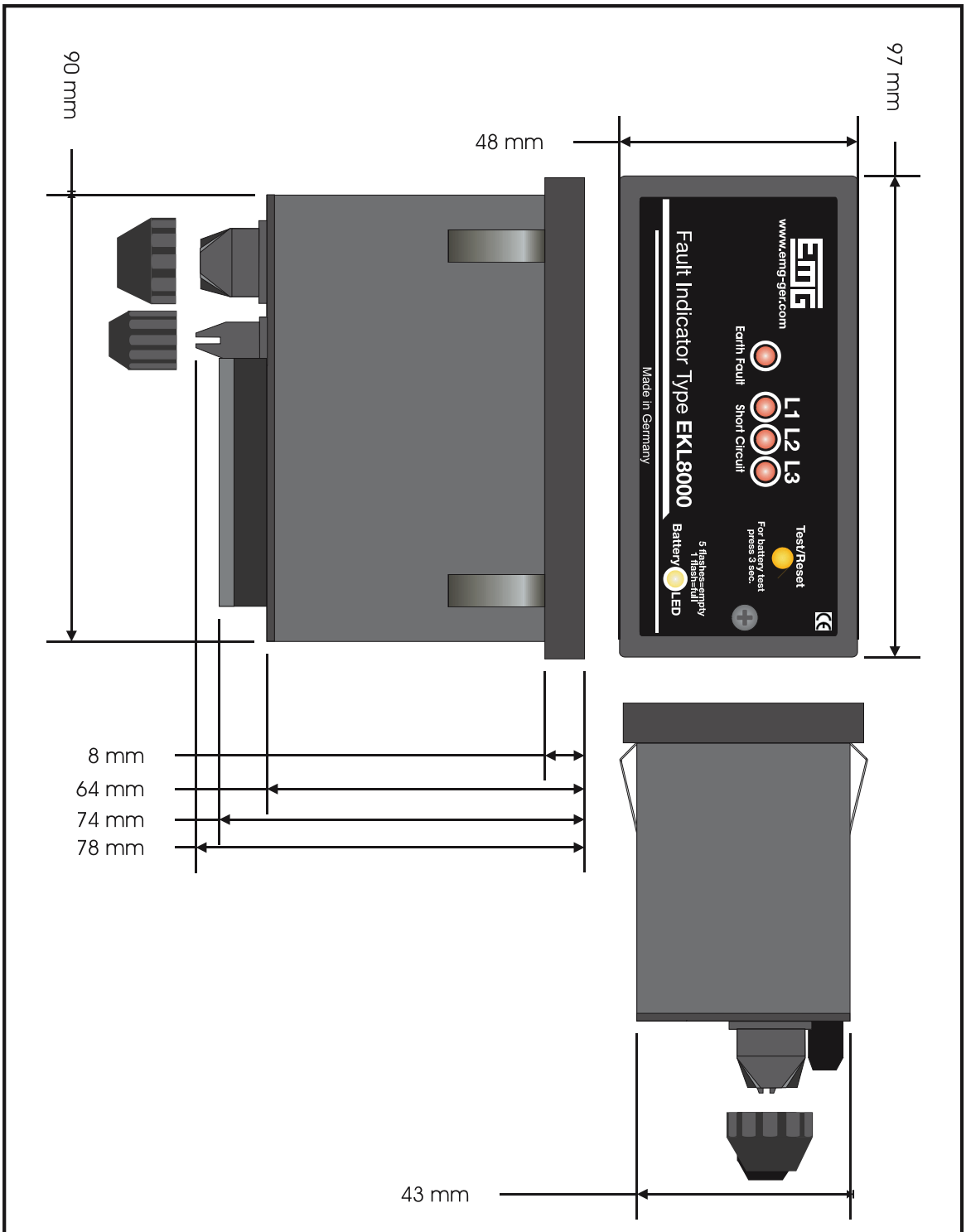
figure 2 - Connectors EKL8001

ELEKTRO-MECHANIK EM GMBH
Ringstr. 4 - D-42553 Velbert / Germany
Tel: +49 2053 422890 - Fax: +49 2053 422899
www.emg-ger.com

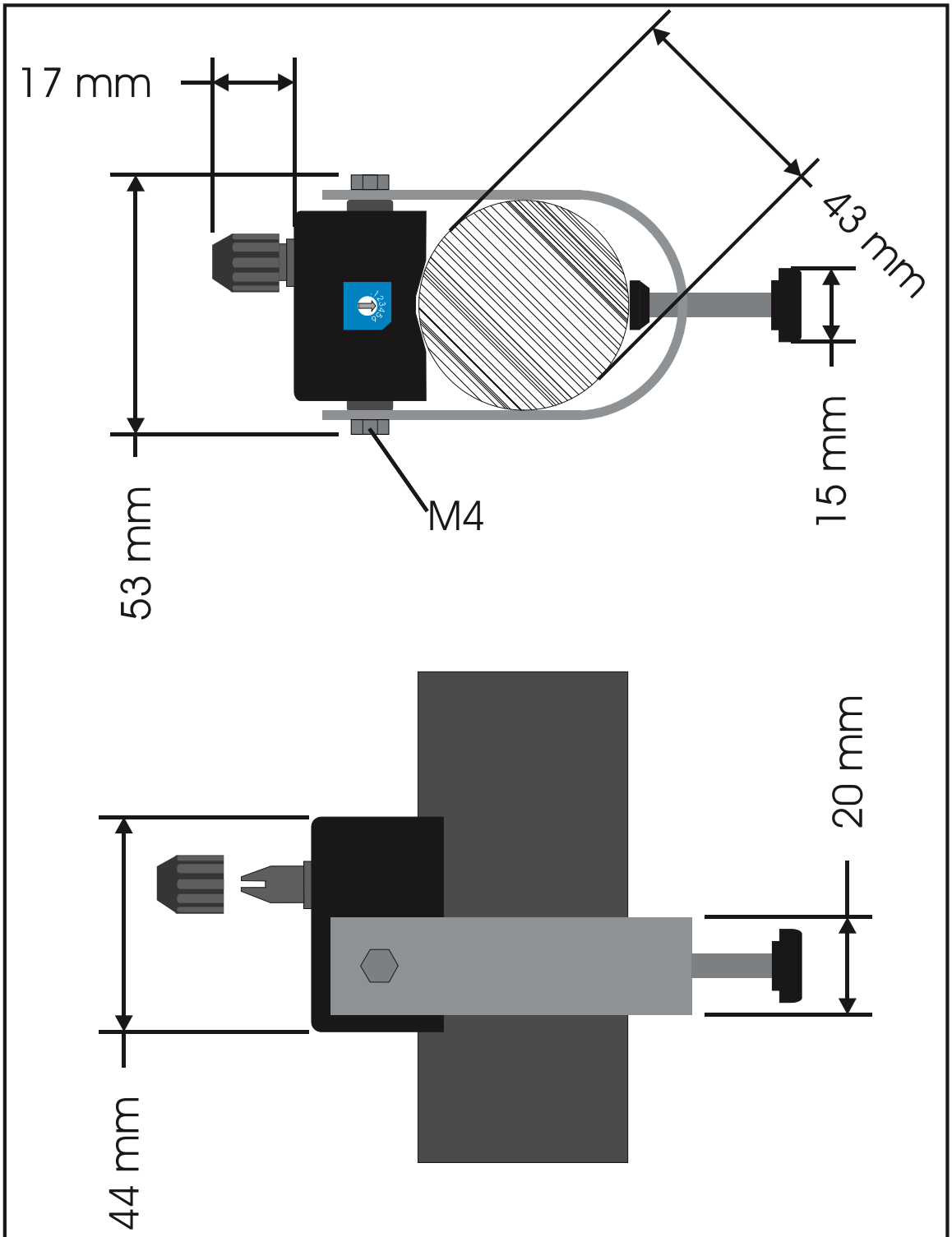
General Data

Subject	Value
short-circuit trip current (phase to phase)	adjustable: 200 / 400 / 500 / 600 / 800 / 1000 / 1200 * A (±10 %)
earth-fault trip current (phase to ground)	adjustable: 10 / 20 / 30 / 40 / 60 / 80 / 100 * A (±10 %)
response delay short-circuit	adjustable: 40 / 60 / 80 / 160 * ms
response delay earth-fault	adjustable: 40 / 60 / 80 / 160 * ms
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 for earth-fault 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 (+/-1%) hours after fault Optional: d) self-acting after recovering of 230 V AC
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: indication unit	97 mm x 48 mm x 47 mm (WxHxD) (dimensions of the cut out: $92^{+0.8}$ x $45^{+0.6}$ mm / IEC 61554 / DIN43700)
Protection class: indication unit	IP40
Protection class: sensors	IP67
internal type test	according to IEEE 495-2007
operation temperature range	-25°C to +70°C
power supply	lithium battery ($LiSOCl_2$) type AA / 3.6V / 2600 mAh Optional: 10-110 V DC with lithium backup battery type AA / 3.6V / 2600 mAh Optional: 110 / 230 V AC with lithium backup battery type AA / 3.6V / 2600 mAh
SCADA contact	EKL8000: 1x change-over contact EKL8001: 2x NO (separate earth-fault and short-circuit indication) permanent / wipe contact (100ms) (can be selected on site by a dip switch) max. 230 V AC / max. 2 A / max. 30 W
short-circuit sensor (CT)	three short circuit sensors type LK three current transformers for single-core cable diameter: 22-42* mm connection cable length: 3* m (fibre optic cable)
earth-fault sensor (CT)	one earth-fault sensor type LE three current transformers for a three-core cable diameter: 80-100* mm connection cable length: 3* m (fibre optic cable)

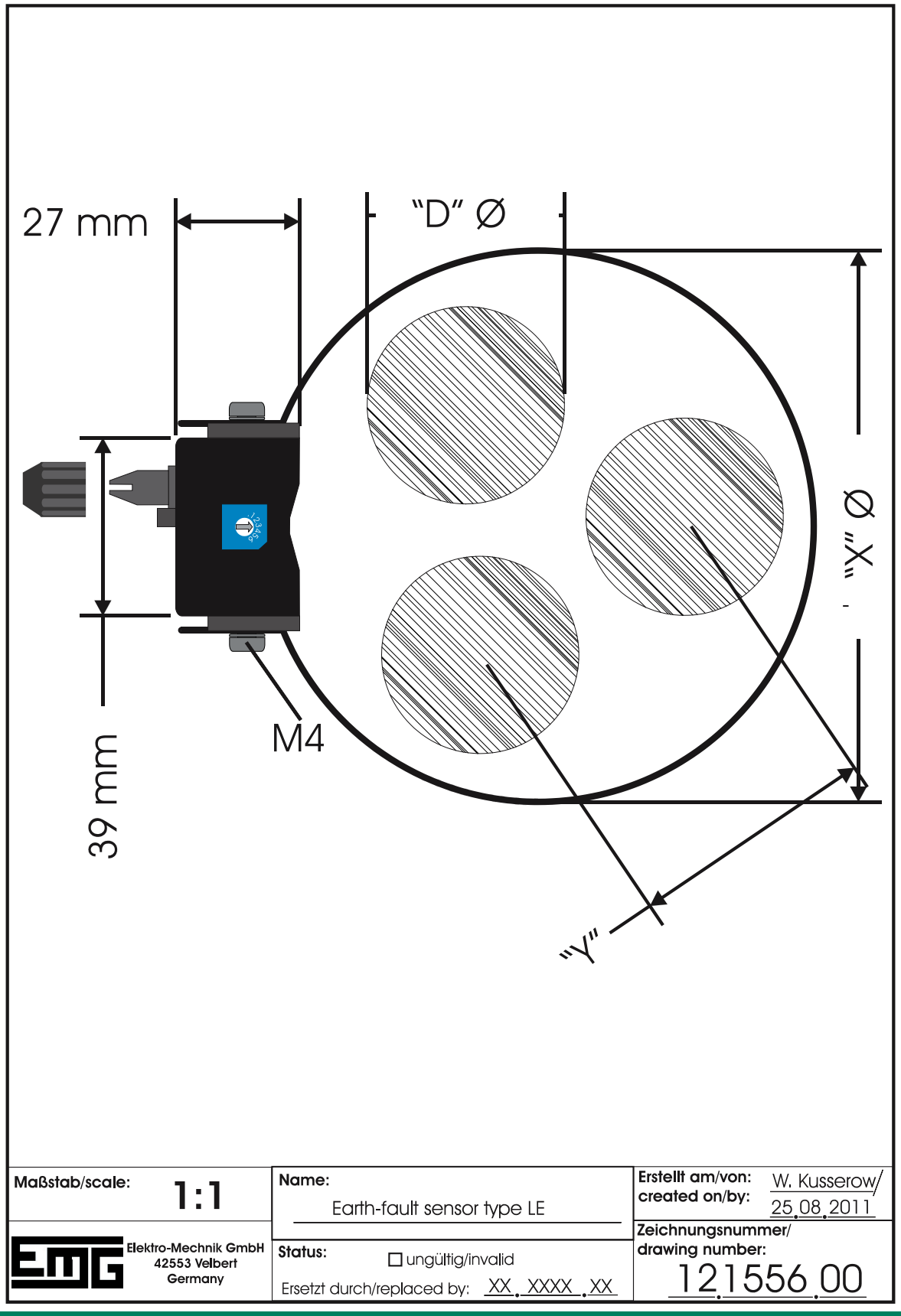
*PLEASE NOTE: other values can be ordered



Maßstab/scale: 1:1	**Name:** Indication unit type EKL8000/8001	**Erstellt am/von:** D. Kusserow / 26.08.2011 **created on/by:**
Elektro-Mechnik GmbH 42553 Velbert Germany	**Status:** ☐ ungültig/invalid Ersetzt durch/replaced by: XX.XXXX.XX	**Zeichnungsnummer/ drawing number:** 221559.00



Maßstab/scale: 1:1	Name: Short-circuit sensor type LK	Erstellt am/von: created on/by: W. Kusserow/ 11.05.2010
Elektro-Mechnik GmbH 42553 Velbert Germany	Status: ☐ ungültig/invalid Ersetzt durch/replaced by: XX.XXXX.XX	Zeichnungsnummer/ drawing number: 121424.05



Maßstab/scale: 1:1	Name: Earth-fault sensor type LE	Erstellt am/von: created on/by: W. Kusserow/ 25.08.2011
Elektro-Mechnik GmbH 42553 Velbert Germany	Status: ☐ ungültig/invalid Ersetzt durch/replaced by: XX.XXXX.XX	Zeichnungsnummer/ drawing number: 121556.00