

VOLTAGE INDICATOR

TYPE SPA

panel-mounted

General Description

The voltage indicator type SPA can be used in medium voltage networks with a rated voltage of 5 kV to 36 kV. The function of the device is a permanent indication of the voltage status of the monitored conductors. The indication of the voltage is done by a permanent blinking of one LED per phase. The connection between the sensors and the display unit is done by potential-free fibre optic cables. The sensors must be mounted on unshielded conductors. For the operation of the display device, an auxiliary power supply is required.

If the voltage is present, one LED per conductor is blinking. If the voltage of a conductor drops, the respective LED stops blinking.



figure 1 - Housing of indication unit

The behaviour of the remote contact (NO or NC) must be selected when placing the order.

Additionally the device is equipped with relays to remotely indicate the voltage status via change-over contacts. It is possible to select the characteristics of the relay contacts (factory pre-set). If the device is equipped with three relays the voltage status of each phase can be remotely indicated. If one or two relays are equipped the remote indication of the voltage status is bundled. It can be selected whether the relays operate if there is a voltage drop on one phase or if there is a voltage drop on all phases.

Features and Options

- | | |
|-----------------------------|--|
| Power supply options: | a) External power supply of 12V DC - 110V DC
b) External power supply of 230V AC |
| Remote indication options: | a) One relay for indication of no voltage on all phases
b) One relay for indication of no voltage on one phase
c) Three relays for indication of no voltage for each phase |
| Installation on conductors: | possible on round and flat conductors |

External connectors

- | | |
|--------------------|---|
| Optical terminal: | voltage sensors L1, L2 and L3 |
| Connector 7 - 9: | 1 Relais: not connected
3 Relais: SCADA change-over contact L1 |
| Connector 10 - 12: | 1 Relais: SCADA change-over contact L1, L2 and L3
3 Relais: SCADA change-over contact L2 |
| Connector 13 - 15: | 1 Relais: not connected
3 Relais: SCADA change-over contact L3 |
| Connector 16 - 17: | External power supply 12V DC - 110V DV
Or
External power supply 230V AC |

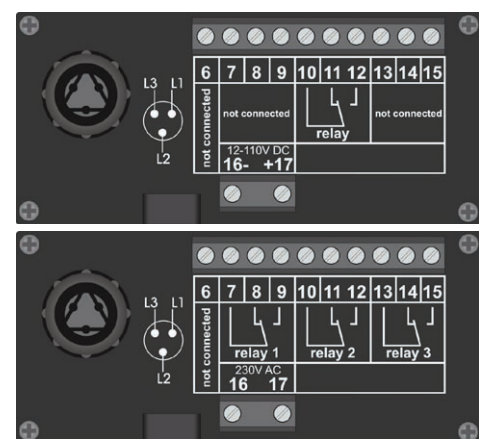
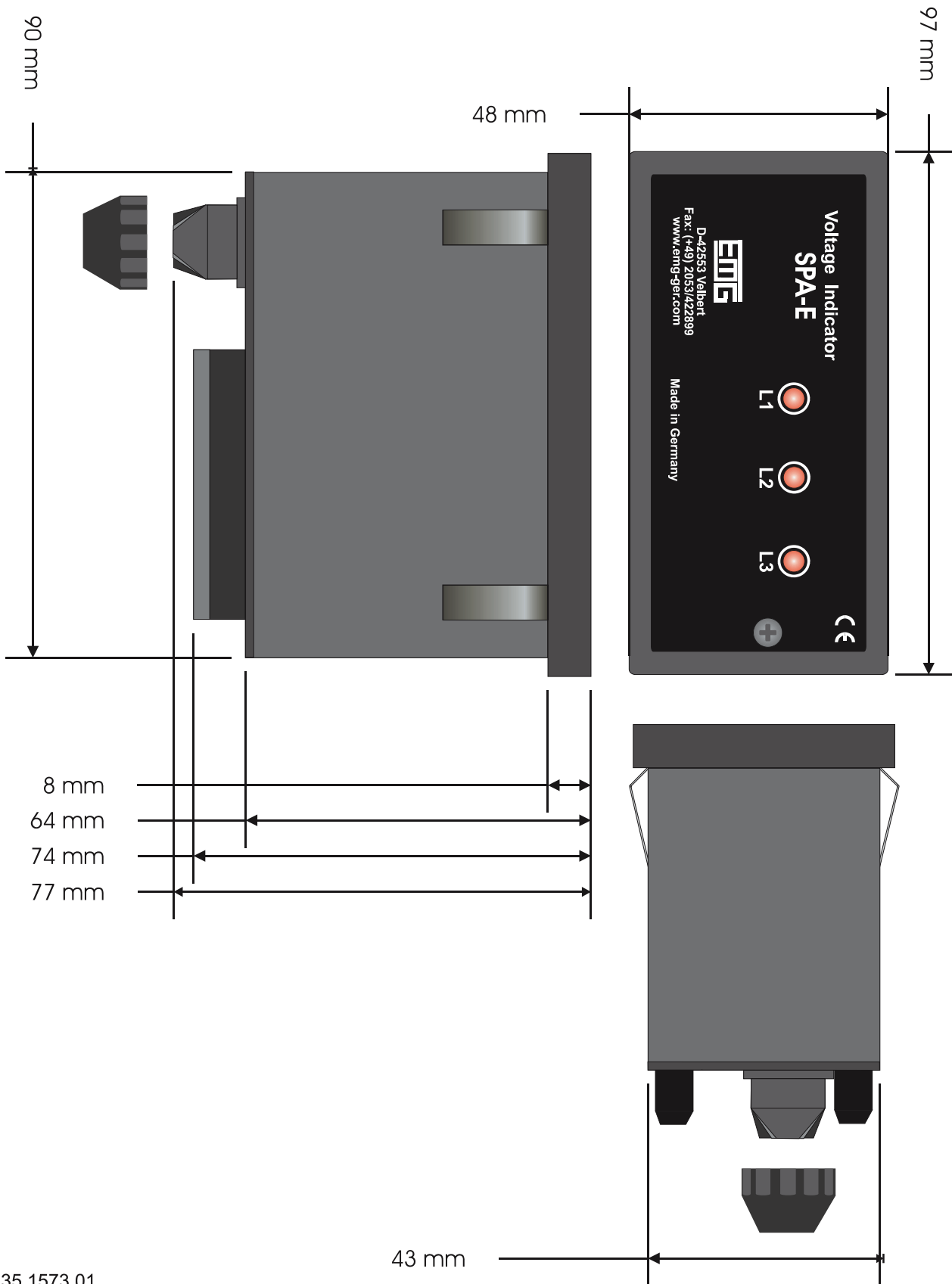


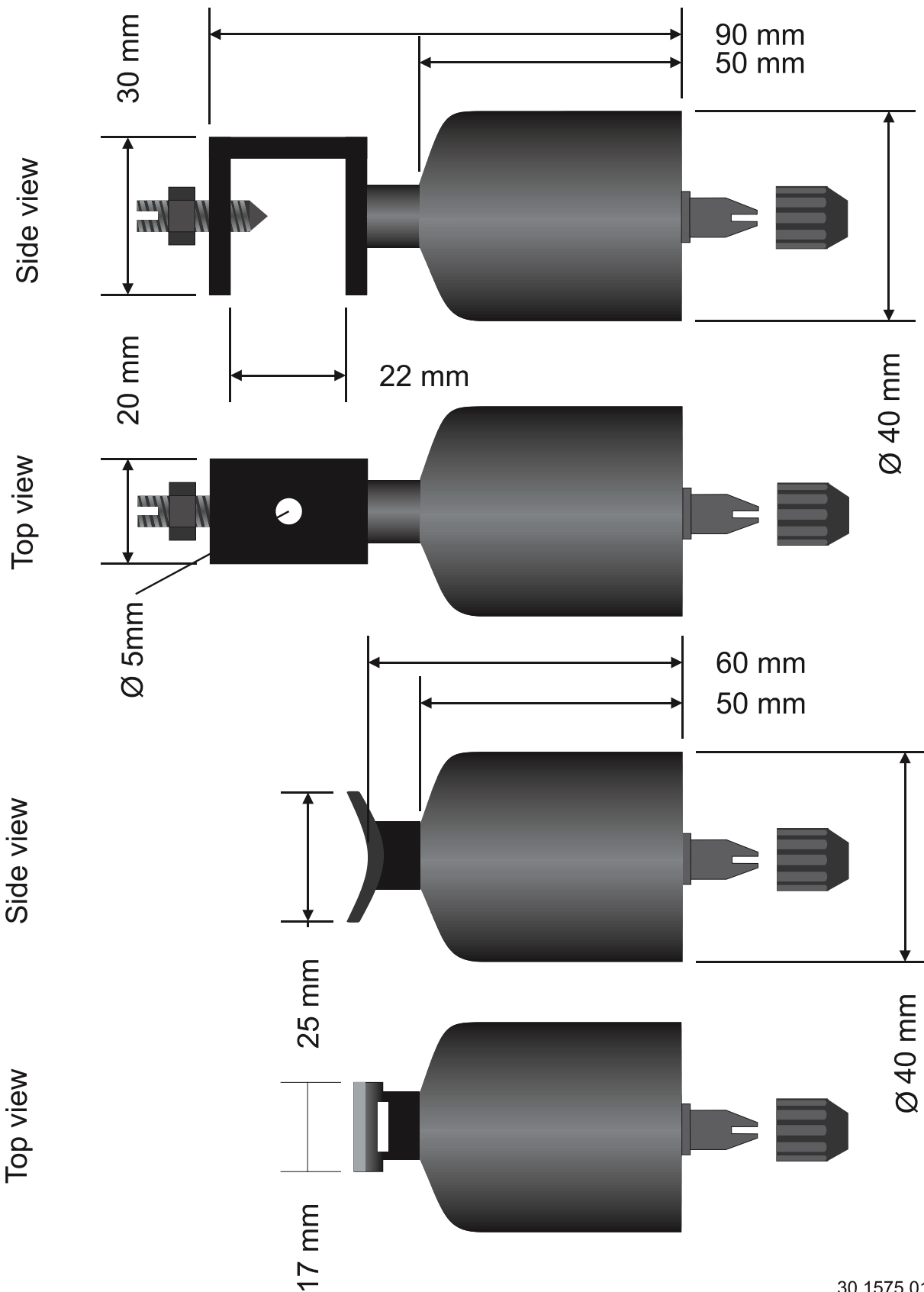
figure 2 - Connectors

General Data

Subject	Value
voltage ranges	a) 5 kV - 9 kV b) 10 kV - 19 kV c) 20 kV - 29 kV d) 30 kV - 36 kV
indication of voltage	The presence of voltage on a conductor is indicated by permanent blinking of one LED for each phase
flashing frequency	1 blink per second
indication unit	suitable for panel installation
dimensions: indication unit	(WxHxD) 97 mm x 48 mm x 74 mm (dimensions of the cut out: 92+0.8 x 45+0.6 mm / IEC 61554 / DIN43700)
protection class: indication unit	IP40
power supply	a) External power supply of 12V DC - 110V DC b) External power supply of 230V AC (Power supply should be independent of the monitored network.)
SCADA contact	a) 1 Relais: 1x change-over contact b) 3 Relais: 3x change-over contacts max. 230 V AC / max. 2 A / max. 30 W
operation temperature range	-20°C to +70°C



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