

FAULT INDICATOR

TYPE **FLA3.1V**

for overhead lines

General description

The fault indicator type FLA3.1V is used in overhead lines of a network. The indicator can be mounted under live conditions with the help of an adapter and a hot stick. The FLA3.1V is completely self-sustained by the monitored network from a current flow of 20A upwards. The indication is done by six flashing LEDs for a clear nighttime visibility and three red display areas for a clear daytime visibility.

The FLA3.1V can communicate to a remote control via a bidirectional wireless connection. In this way all settings of the indicator can be adjusted at any time without removing the indicator from the powered line. The FLA3.1V stands out for the great flexibility of the adjustments that can be done. Beside the basic settings of the indicator like trip current, response delay, reset time, etc., the FLA3.1V can be adapted to auto-reclosers in the network. This provides for an optimized fault indication and also allows the indication of different fault types. Permanent and temporary faults can be distinguished and indicated separately.

The bidirectional connection between the remote control and the fault indicator allows to read out the present current of the monitored network with the remote control at any time.

The fault indicator type FLA3.1V can be connected to the remote indication interfaces type RIS-FR and RIS-FS. This allows an easy-to-install remote indication solution for the overhead line indicators.

Advanced fault detection

The fault indicator type FLA3.1V provides two methods to detect faults. The absolute threshold detection method works with a selected fixed or an automatically calculated absolute threshold. This method can be disabled when not required.

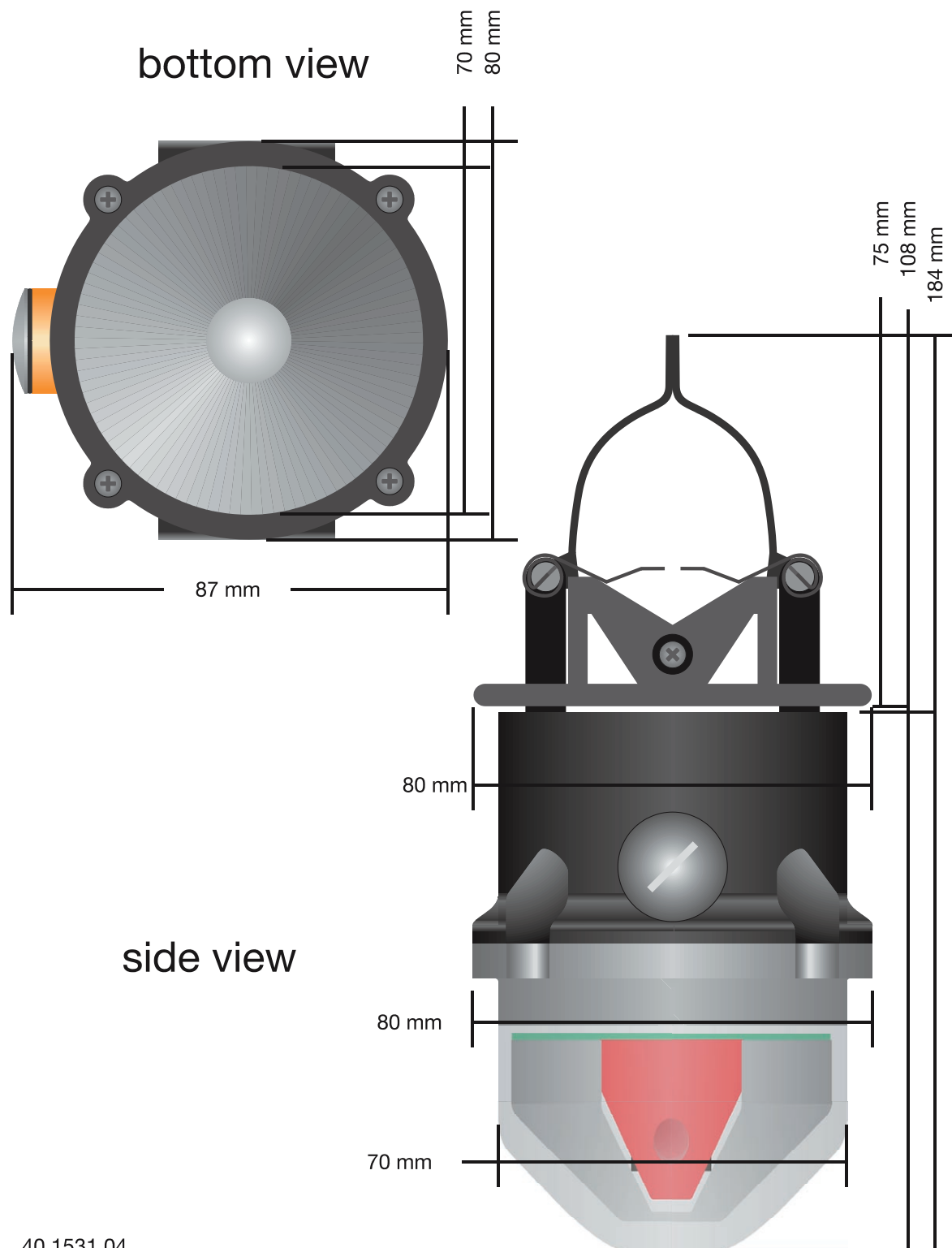
Additionally the fault indicator type FLA3.1V provides a di/dt measurement method. This method analyses current load changes that happen within a certain amount of time. The level of load change can be adjusted.

A subsequent voltage loss is used as an additional criterion to assure correct detection of a fault. This method can also be disabled when not required.

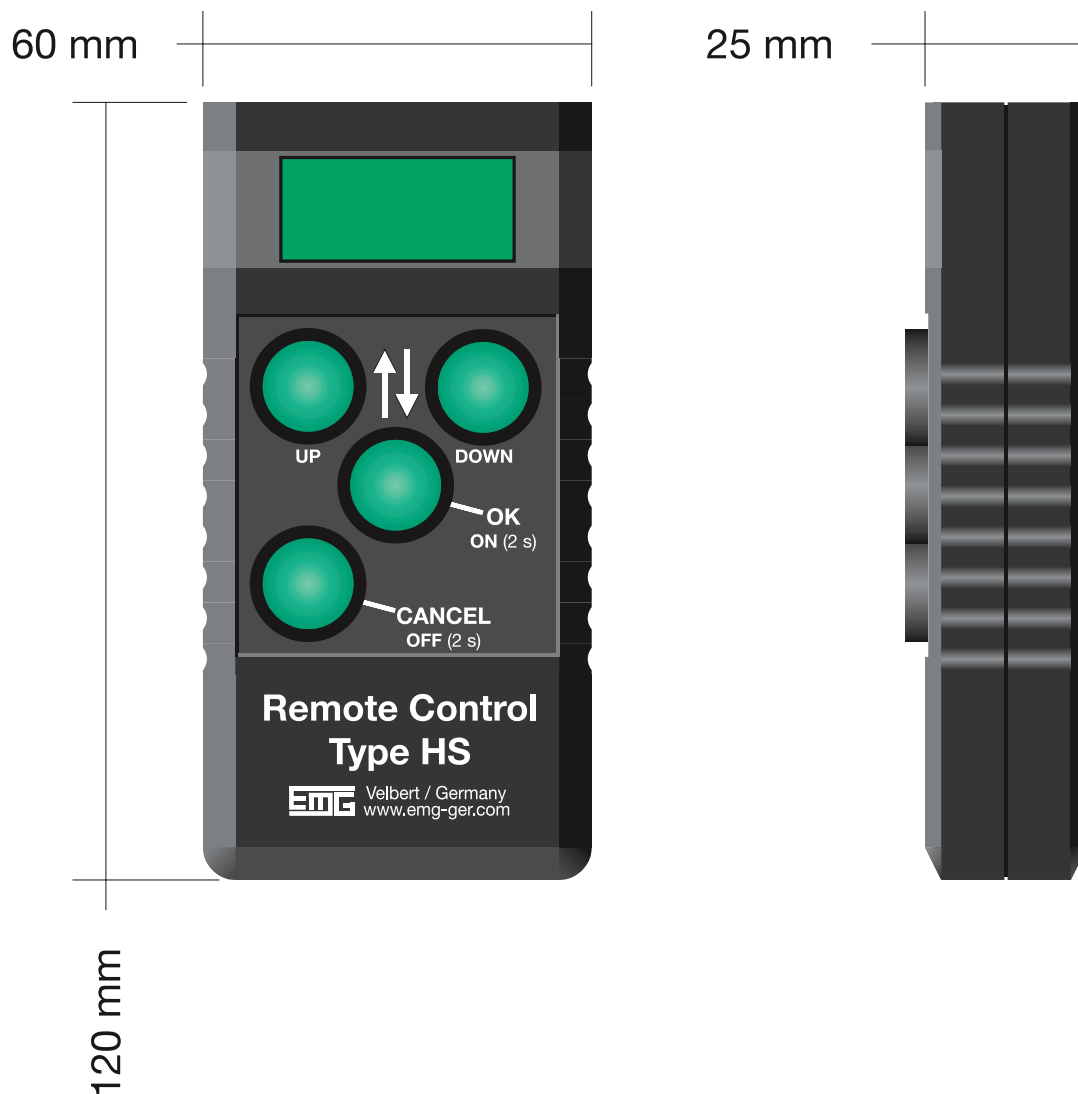


Subject	Value
trip current short-circuit (can be switched off completely)	a) Standard mode: fixed trip value 20A to 1500A (in steps of 20A) b) Automatic mode: automatically adjusted 150% to 500% (in steps of 50%) of service current
trip current earth-fault (can be switched off completely)	a) di/dt measurement with subsequent voltage loss: di: 5A to 100A (in steps of 5A) dt: 20ms at 50Hz / 16ms at 60Hz
response delay	selectable between 40ms and 300ms (in steps of 20ms) *
voltage detection	selectable between 20% to 90% of U_n (in steps of 10%)
indication unit	suitable for installation on operating overhead lines
indication	6x LED indication, 360° visibility, >3000 mcd each Flag indication, 360° visibility, red signal color
status indication	yellow LED indication
reset of the indicator	a) by remote control b) by time: selectable from 30 min to 12 h (in steps of 30 min) * c) by recovering service current: optional yes/no d) by recovering net voltage: optional yes/no
on-site function test	by remote control
temperature read-out	temperature of the circuit board
dimensions	diameter: 80mm height: 184mm
protection class	IP67
housing material	ABS HI100-NP, Carbotex K20 UVR
weight	0.610kg
type tests	according to IEEE 495-2007, EN 60068-2-11 2000-02, ASTM G44-99 (2005)
operation temperature range	-40°C to +70°C
accuracy	+/- 10%
cable diameter ranges	a) 10 mm - 28 mm reducible to 6 mm - 15 mm with included adapter b) 25 mm - 42 mm
power supply	lithium battery (LiSOCl ₂) type A / 3.6V / 3600 mAh self-sustained from 20A net current upwards
total fault indication hours	approx. 10 years with 800 hours
flashing frequency	60 per minute (1 Hz)
maximum operating voltage	<= 46kV
current withstand	25 kA / 170ms Sym. RMS
communication	433MHz bidirectional radio interface to remote control type HS and remote indication interface type RIS
remote indication	a) faults and the reset of the indicator b) current on/off events or voltage on/off events

*PLEASE NOTE: other values can be ordered



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