

FAULT INDICATOR

TYPE **FLA3.1VL**

for overhead lines

General description

The fault indicator type FLA3.1VL 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 indication is done by an ultra bright flashing LED.

The FLA3.1VL 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 FLA3.1VL 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 FLA3.1VL can be adapted to auto-reclosers in the network. This provides an optimized fault indication and also allows the indication of different fault types. Permanent and temporary faults can be distinguished and indicated separately by an additional green bottom LED.

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

The fault indicator type FLA3.1VL can be connected to the remote indication interface type RIS. This allows an easy-to-install and retrofittable integration of the overhead line indicators into remote monitoring systems.

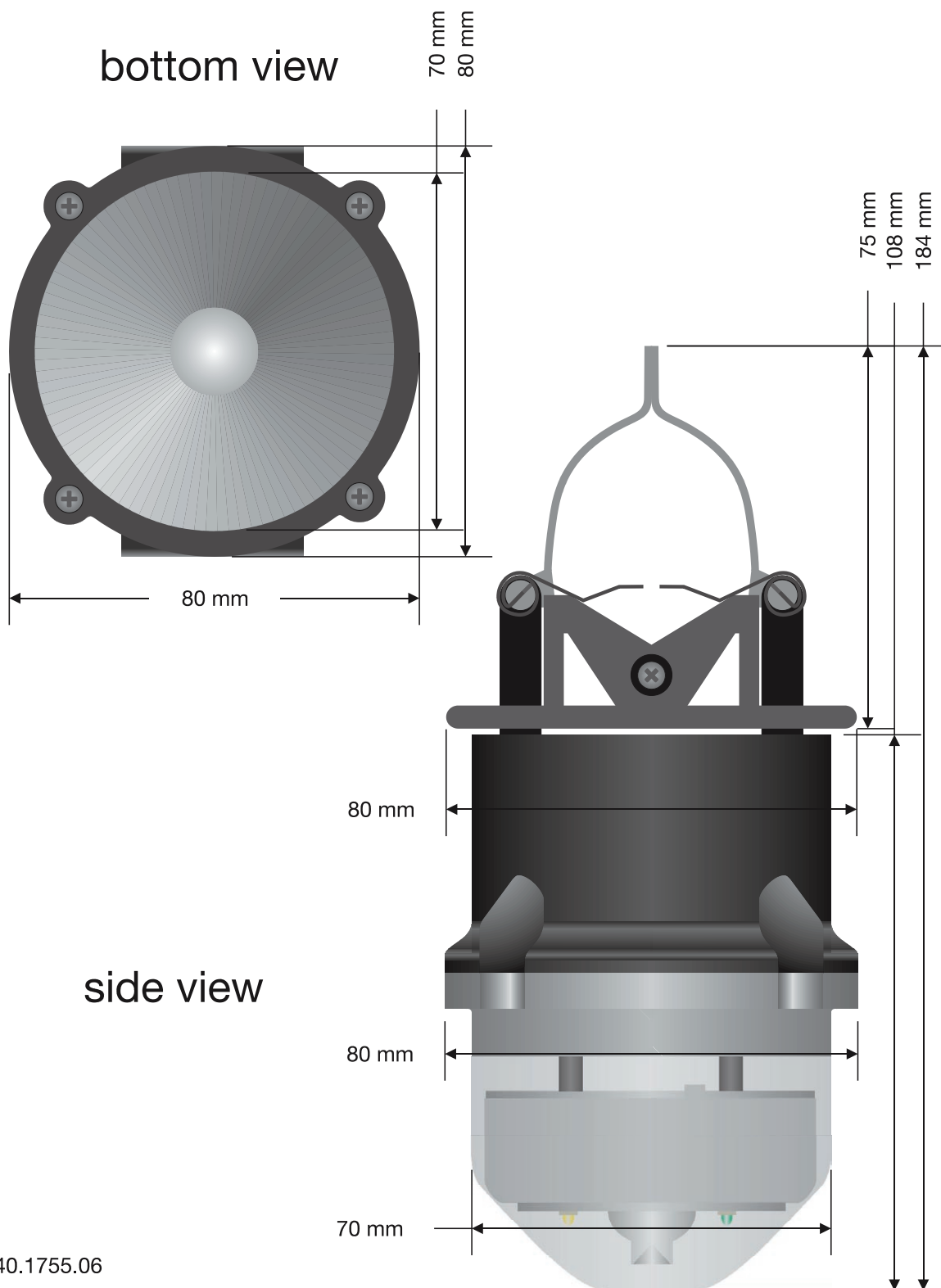
Advanced fault detection

The fault indicator type FLA3.1VL has two fault detection algorithms. It provides a short-circuit detection with a fixed or automatically calculated absolute current threshold as trip value. The short-circuit detection can also be switched off completely. Additionally the fault indicator type FLA3.1VL provides an earth-fault detection. This works with a di/dt measurement method that analyses the current load change within a certain time. The increase of the required current load change can be adjusted. A subsequent voltage loss is used as an additional criterion to detect earth-faults. Like the short-circuit detection, the earth-fault detection can be switched off completely.

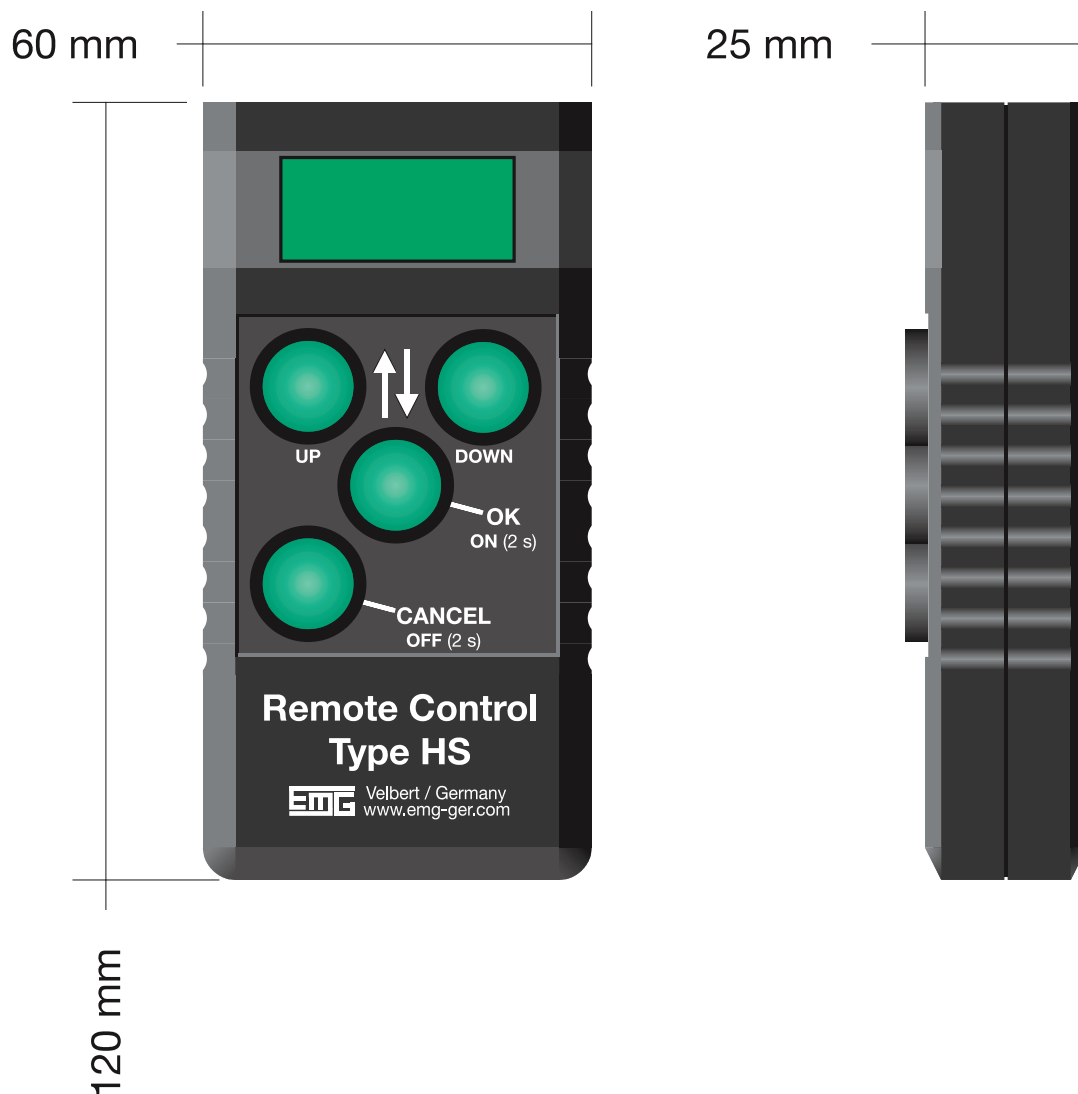


Subject	Value
trip current short-circuit (can be switched off completely)	a) Standard mode: fixed trip value 10A to 800A (in steps of 10A) b) Automatic mode: automatically adjusted 150% to 500% (in steps of 50%) of service current
trip current earth-fault (can be switched off completely)	a) di/dt measurement and subsequent voltage loss: di: 5A to 100A (in steps of 5A) dt: 20ms at 50Hz / 16ms at 60Hz
response delay	selectable between 40 and 300 ms (in steps of 20 ms)
voltage detection	selectable between 20% to 90% of U_n (in steps of 10%)
indication unit	suitable for installation on operating overhead lines
indication	ultra-bright red LED indication
status indication	yellow LED indication
temporary fault indication	additional green 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	0.550kg
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) 6 mm - 15 mm b) 10 mm - 28 mm c) 25 mm - 42 mm
power supply	2x lithium battery (LiSOCl ₂) type A / 3.6V / 3600 mAh
battery lifetime	approx. 10 years with 800 hours
blinking frequency	30 per minute (0.5 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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