Technical data sheet

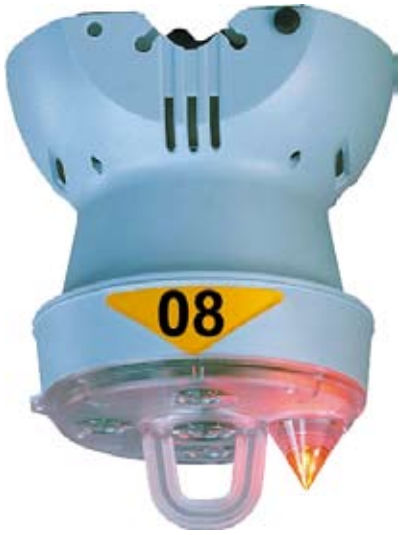
2008

MV network management - Easergy range

Flite 110-SA

Fault passage indicator for overhead network

PE41017



- **Detects both short-circuits and low current earth faults**
- **Self adaptation to network voltage and frequency**
- **Highly visible red flash light**
- **Indicates both permanent and transient faults**
- **User adjustable**

Advantages

■ **Flite 110-SA adjusts to the network voltage and frequency.**

Using fault detectors makes it easier to locate faults on distribution networks. The detector must adapt to the electrical network characteristics and be perfectly visible to allow maintenance teams to quickly detect faulty network sections.

■ **Flite 110-SA is configurable on site.**

An overhead fault detector must be coordinated with the upstream protection system whose trip threshold can vary according to its position on the MV network.

■ **Flite 110-SA indicates permanent and transient faults with the same indication light intensity.**

A fault detector always indicates permanent faults, but utilities companies often also want to find transient fault (a fault is considered to be “transient” when the upstream protection device eliminates the fault during its reclosing cycle).

■ **The indicator light is visible from a 360° angle.**

Fault detection

Flite 110-SA is fitted with two sensors, one measuring the magnetical field (image of the current) and one measuring the electrical field (image of the voltage).

Operation

Flite 110-SA is hooked directly onto the line without any specific tooling.

When installed on a live conductor, Flite 110-SA automatically adapts to the network voltage frequency, then activates the fault detection function.

Fault types: a fault is expressed either in terms of the exceeding of an absolute current threshold (Imax, phase-phase fault), or a variation in current over a given time (di/dt, phase-earth fault).

Flite 110-SA indicates both transient faults and permanent faults. The transient fault detection function can be disabled.

Fault confirmation: in order to avoid any indication errors, faults are confirmed by the lack of voltage after the upstream protection device has tripped.

Inrush current filter: when the line is energized, a time delay filters inrush currents due to transformer magnetization.

Resetting: permanent fault indication is automatically cleared when voltage returns to the MV line or following a time delay. Flite 110-SA checks that the MV supply has stabilized before resetting itself.

Change in transient faults: if a permanent fault occurs whilst the device is already indicating a transient fault, the flashing automatically changes from transient to permanent, thus enabling maintenance staff to deal with faults according to their priority level.

PE55565

Schneider Electric

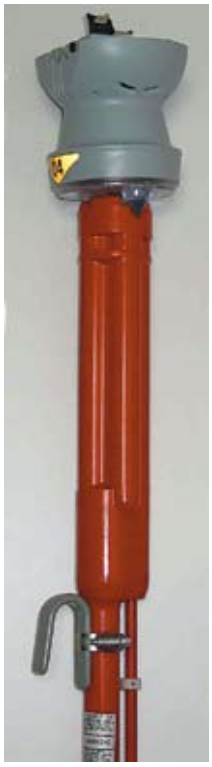
Characteristics

	Flite 110-SA
Application	
Distribution network voltage	7 kV to 69 kV (1)
Power frequency	50 Hz and 60 Hz
MV neutral arrangement	Impedant, solidly grounded
Conductor diameter	5 to 22 mm
Fault detection - parameters	
di trigger setting	6-12-25-60-90-120-160 A-Off
Imax trigger	100-200-500-800 A
Transient faults detection	On - Off
dt value for di/dt operation	30 ms ± 10 ms
Inrush restraint duration	3 s
Loss of voltage condition	U < 45% Un
Fault confirmation	Voltage drop within 70 s after fault detection
Reset (permanent faults)	
Automatic power return reset	Voltage presence during 70 s
Timer reset	2 - 4 - 8 - 16 hours
Manual reset	By magnet
Fault indication	
Indication	Red flash light
Light power	40 lumens
Visibility angle	360°
Flash period for permanent faults	1 flash every 3 s (0 to 2 h)
Flash period for transient faults	2 flashes every 12 s (0 to 8 h)
Standard total flash duration	800 hours
Power supply	
Lithium battery life expectancy	> 10 years
Environment	
Operation temperature	–40°C to +85°C
Storage temperature	–40°C to +85°C
Protection level	IP 54 IK 7
Mechanical	
Dimensions	130 mm x 130 mm
Net weight	360 g
Wind resistance	150 km per hour
Standards	
Short-circuit withstand	25 kA/170 ms (ANSI 495)
Dielectric test	125 kV/60 Hz (IEC 60060-1)
Vibrations and shocks test	IEC 68-2-6 and 68-2-29
EMI/EFI immunity	IEC 801-3 and FCC Part 15
Salty fog and humidity tests	IEC 68-2-11 and 68-2-30

(1) < 7 kV on request

Installation with shotgun hotstick

PE55562



PE55563

1 - Fixing the unit on the hook

2 - Pushing the unit onto the line

Installation tool with SICAME adapter

PE55564

Installation

Flite 110-SA is clipped on a live conductor:
■ either with a standard shotgun hotstick,
■ or with a hotstick fitted with a universal adapter and a Flite 110-SA installation tool (see references below).

Description	References
Flite 110-SA	59938
Replacement lithium battery	59982
Installation tool with SICAME adapter	59953
Installation tool with BOWTHORP adapter	59954
12 meter telescopic hotstick (20 kV insulated)	59955

Schneider Electric Industries SAS
89, boulevard Franklin Roosevelt
F-92505 Rueil-Malmaison Cedex
Tél. : +33 (0)1 41 29 85 00
www.schneider-electric.com
www.easergy.com

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