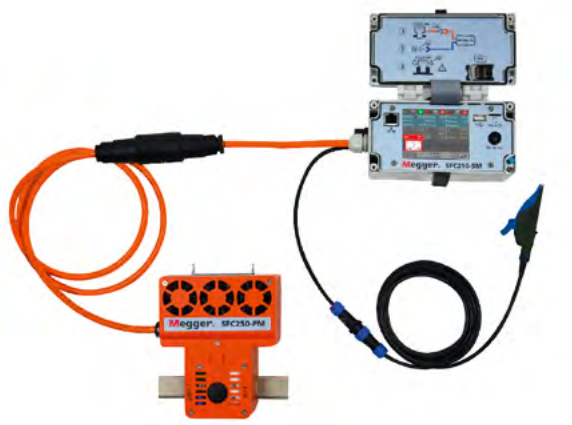
SFC250 – SmartFuse 250

Intelligent circuit-breaker system for monitoring and fault location in the low-voltage network



- **Most compact 3-phase system**
- **Early warning on grid overload**
- **Automatic restoration of power supply**
- **Cable fault location with households connected**
- **Highest safety standards for remote access via mobile data network**

DESCRIPTION

Is it possible to know in advance when a power failure will happen? Can you reduce outage times to a minimum? And: can you locate cable faults at all without disconnecting the consumers from the mains?
YES, Megger can. And so can you – with SmartFuse250 (SFC250). SmartFuse250, a multifunctional electronic circuit-breaker system for load currents up to 250 A is Megger's new solution for low voltage power grids.
SFC250 is so compact, also as a 3-phase fuse system, that the distribution cabinet can be closed after installation. Safety guards are not necessary. The circuit-breaker system replaces conventional HRC standard fuses and is compatible with most NH02 and NH03 fuse holders.

The SmartFuse250 monitors the current and voltage progression in real time, continuously records the data and reports events via the mobile phone network to the fault hotline. The use of the SmartFuse250 allows the low-voltage power supply to be safely separated and automatically restored in the event of faults and overload.
The consumer does not, as is the case for classic fault location using high voltage, have to be completely disconnected from the power supply network. This is often not even possible, for example because the residents are not accessible, leading to a risk of property damage to the household appliances and building wiring. Instead, the pre-location of faults can be carried out at mains voltage directly with the internal location algorithm (optional). Pulsed currents are used later to pin-point the fault.

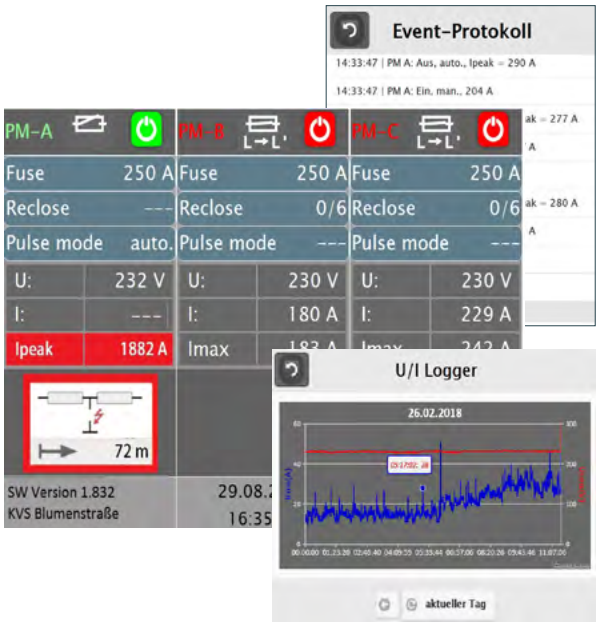
The system can be commissioned from a safe distance by remote control or tablet. Using encrypted mobile data connections, all system functions can also be controlled from a central control centre.

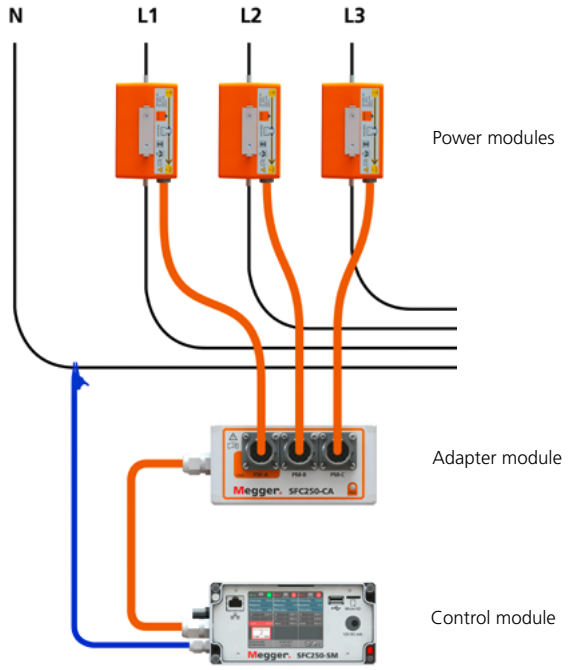
FEATURES AND BENEFITS

- Significant reduction of downtime due to automatic management of even the most difficult fault situations (such as transient faults)
- Automatic operation with consumers connected loads considerably reduces the operating times
- Full control through prompt notification via SMS/email and mobile remote access
- Automatic operation minimizes violations of legal working time regulations and at the same time increases your network charges
- Wear-free high-performance thyristor and web-based user interface save operating costs and software license fees
- Plan independently – the multi-phase system can be flexibly adapted to any fault situation (including phase-phase faults)
- Integrated intelligent location system requires no specific know-how – success is guaranteed!
- Maximum safety through remote control, proven shut-off mechanisms and encrypted access authorisation

Early warning and monitoring

When there is a threat of network overload, conventional fuses blow. The engineer must replace the fuse on site. If another overload occurs, the fuse blows again and the engineer has to head back to the site of the fault again. This time and cost can be avoided. If the current load reaches a level of, say, 75% of the maximum level, the user automatically receives a warning message. And that means the grid operator has enough time to initiate appropriate measures.





Automatic restoration of power supply

Transient faults often bring grid operators to despair. Fuses keep blowing at different times. The engineers constantly have to attend the site to replace the fuse before the process of locating the fault can start. Using SmartFuse250 does away with the need for such unnecessary trips to the fault location. The circuit-breaker system can automatically re-closes in the zero crossing, and locates the fault at the same time.

Prelocation

Normally fault location for high voltage can only occur if the households are disconnected from the mains. After entering a few cable parameters, SmartFuse250 allows you to find cable faults with the help of an internal locating algorithm without disconnecting the consumers from the mains.

Pinpointing

Once the SmartFuse250 causes the fault to flash over using the power available in the grid, the fault location can be precisely pinpointed with the aid of a surge wave receiver (for example, digiPHONE⁺) or the Fault Sniffer.

General	
Triggering threshold	20 A to 250 A
Reclose attempts	0 – unlimited
Waiting time until reclose	1 - 120 seconds
Surge energy control	2 - 50 half-waves
Operating and storage conditions: Operating temperature Operating humidity Storage temperature	 -20 °C to +50 °C 50% at +40 °C, 90% at +20 °C -25 °C … +70 °C
Memory for mains failure	Non-volatile event memory
Supply voltage for power and control module	Directly via power module 100 V … 240 V 50 Hz / 60 Hz
Power consumption	20 VA + 1 W/A load current
Overvoltage category	to EN 60664: CAT IV 300 V

Power module	
Load current	max. 250 A continuous current
Short-circuit/surge current	max. 9000 A
Internal fuses	Load circuit: 800 A HC-type; internal supply: 1.25 A F
Cut-out capacity	200 kA
Display	LED for indicating the switching status
Housing dimensions (L x W x H)	130 x 155 x 82 mm (excluding grip lugs)
Weight	3.0 kg
Protection rating	IP 20
Compatibility	Fuse holder NH02 or NH03 (B ≤ 82 mm)

Control module	
Control system	Colour touch display
Memory	Micro SD card, 16 GB
Display	Illuminated touch display (3.7 inches) LED for indicating the operating status (when the cover is closed)
Interfaces	- GSM/UMTS modem (SIM card required) - Integrated GPS receiver (external optional) - USB 2.0 - WLAN/LAN - Wireless module (remote control activation)
Housing dimensions (L x W x H)	160 x 103 x 97 mm
Weight	900 g
Protection rating	IP 42
Connections	- Neutral conductor connection - External trigger output (for reflectometer) - Connection coupling for power module

Adapter module	
Protection rating	IP 42
Dimensions (L x W x H)	160 x 80 x 90 mm
Weight	450 g

Remote control	
Power supply	2 alkaline batteries, 1.5 V/LR 6 (AA)
Protection rating	IP 40
Dimensions (L x W x H)	140 x 63 x 30 mm
Weight (with batteries)	150 g

Basis set 1-phase

1 control module
1 power module

Expansion set 2-phase

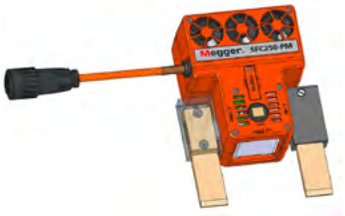
1 adapter module
1 power module

Expansion set 3-phase

1 adapter module
2 power modules

Ordering information

Product	Order no.
SFC250 base set, 1-phase (without fault location)	**1006509**
consisting of	
- Control module - Power module - Remote control - Transport case including accessories	
Expansion set, 2-phase (1 power module, 1 adapter module)	**1010753**
Expansion set, 3-phase (2 power modules, 1 adapter module)	**1010754**
Power module (single)	**1005787**
Adapter module (single)	**1009649**
Optional accessories	
Fault location (software license)	90015840
Remote control (tablet)	1008357
Fork adapter NH2/NH3 (for fuse rails B ≤ 82 mm)*	2009960
External GPS antenna	2007960
Spare parts and consumables	
Backup fuse 800 A (HC type)	90007524



* Fork adapter (2009960)

SALES OFFICES

Megger GmbH

Obere Zeil 2
D-61440 Oberursel
Tel. 06171 92987-0
Fax 06171 92987-19
E-mail info@megger.de

Seba Dynatronic
Mess- und Ortungstechnik GmbH
Dr.-Herbert-lann-Str. 6
96148 Baunach
Tel. 09544 68-0
Fax 09544 2273
E-mail team.dach@megger.de

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