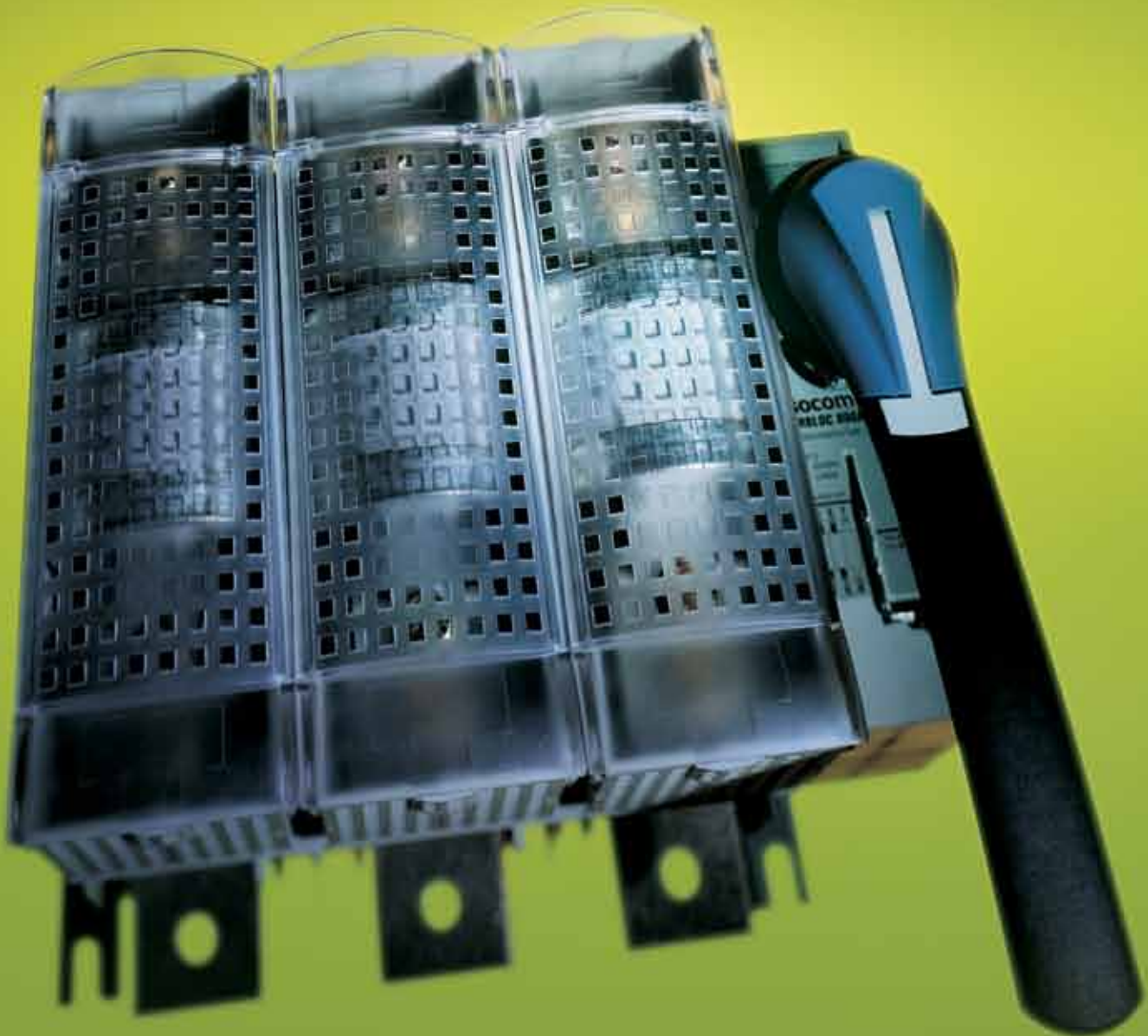


Fuse protection solutions



your energy
our expertise



socomec
Innovative Power Solutions

Your challenges

Accidents involving electricity occur mainly during maintenance operations on your low-voltage systems (cabinets, enclosures, electrical outlets, etc.).

Did you know that arc flash is responsible for 30 % of accidents of electrical origin ?

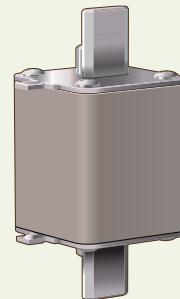
Low-voltage circuit breakers use air alone to extinguish the electric arc when interrupting the short circuit current. The high temperature of the electric arc ($> 2000\text{ }^{\circ}\text{C}$) will cause the volatilisation of the metal that the breaker's electrical contacts are made of. This will also cause a pressure increase inside the breaker, leading to degassing, i.e. the expulsion of conductive ionised gases and particles of melting conductive materials.

Following the degassing:

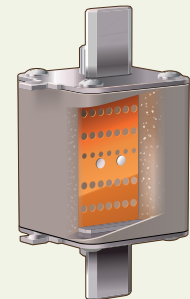
- the internal contacts of the breaker deteriorate,
- conductive dust spreads throughout the cabinet as well as inside the breaker,
- nearby equipment must be cleaned, and in some cases the cabinet must be completely replaced.

Choosing electrical protection with no sign of external manifestation when eliminating the fault increases protection of the electrical system and its users.

Our solutions



FUSIB 160 A



FUSIB 160 A

Over-current.



Melting.

Total reliability

Separate the protection and switch functions

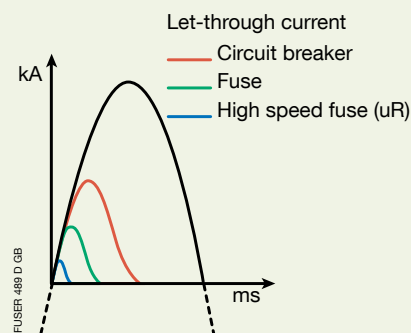
The fuse guarantees protection of the equipment against over-currents (overloads, short-circuits), while the switch guarantees a high number of load break operations and disconnection.

The separation of the protection and switching functions in Socomec devices ensures their reliability.



SITE 794 A

New 250 A breaker, of recent design tested at 18 kA 415 VAC.
Height of degassing spray: 3 m. - lcu of the tested breaker: 36 kA.



The thermal and mechanical consequences are considerable: an 80 kA short-circuit applied to the busbars and a

The fuse eliminates the fault

Video proof

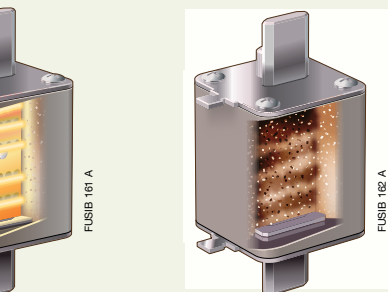
See what happens to a circuit breaker in the event of failure

bit.ly/profuse_arc

profuse
INTERNATIONAL



QR CODE 160 A

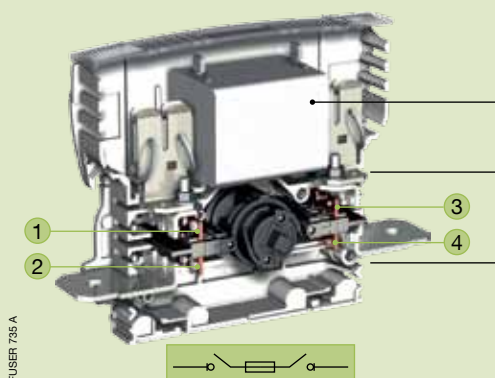


Extinction of the arc.

Maximum safety

Protect the user and the electrical system while avoiding any external manifestation when eliminating the fault

According to product standard requirement (EN 60269), the fuses do not allow any external sign during the fault elimination. The fuse technology guarantees containment of the electric arc within the body of the fuse. No flash will be visible in case of fault, nor smoke or material expell. The sand filler contained in the ceramic body of the fuse absorbs all of the energy generated during the arc extinction, thus avoiding the emission of ionised gases and melted material. This ensures maximum protection for the electrical system and its users.



Fuse protection

Against short-circuits and overloads.

Load break switch

Quadruple breaking per phase (1, 2, 3, 4) guarantees a high number of load break operations irrespective of the receiver (up to AC-23 A, 690 VAC as per IEC 60947-3 standard).

Top and bottom disconnection of the fuses ensures the safety of personnel.

effects of short circuits can be
t circuit is identical to a force of 59,000 N
any device supplied by it.

in less than 5 ms.

Guaranteed performance

Greatly limiting the short-circuit current and minimising its destructive effect on the equipment

No device can compete with the exceptional speed of the fuse with regard to limitation of short-circuit current and I^2t let-through energy. Several milliseconds are sufficient to completely eliminate a strong short-circuit current (up to 120 kA).

The uR (ultra-rapid) fuse is the only efficient device for protecting power electronics equipment: voltage up to 1000 VAC/1500 VDC, short-circuit current up to 200 kA.

Socomec, your best asset

Socomec, a family-owned manufacturer for over 90 years is an industrial group with a workforce of 3,200 employees around the world.

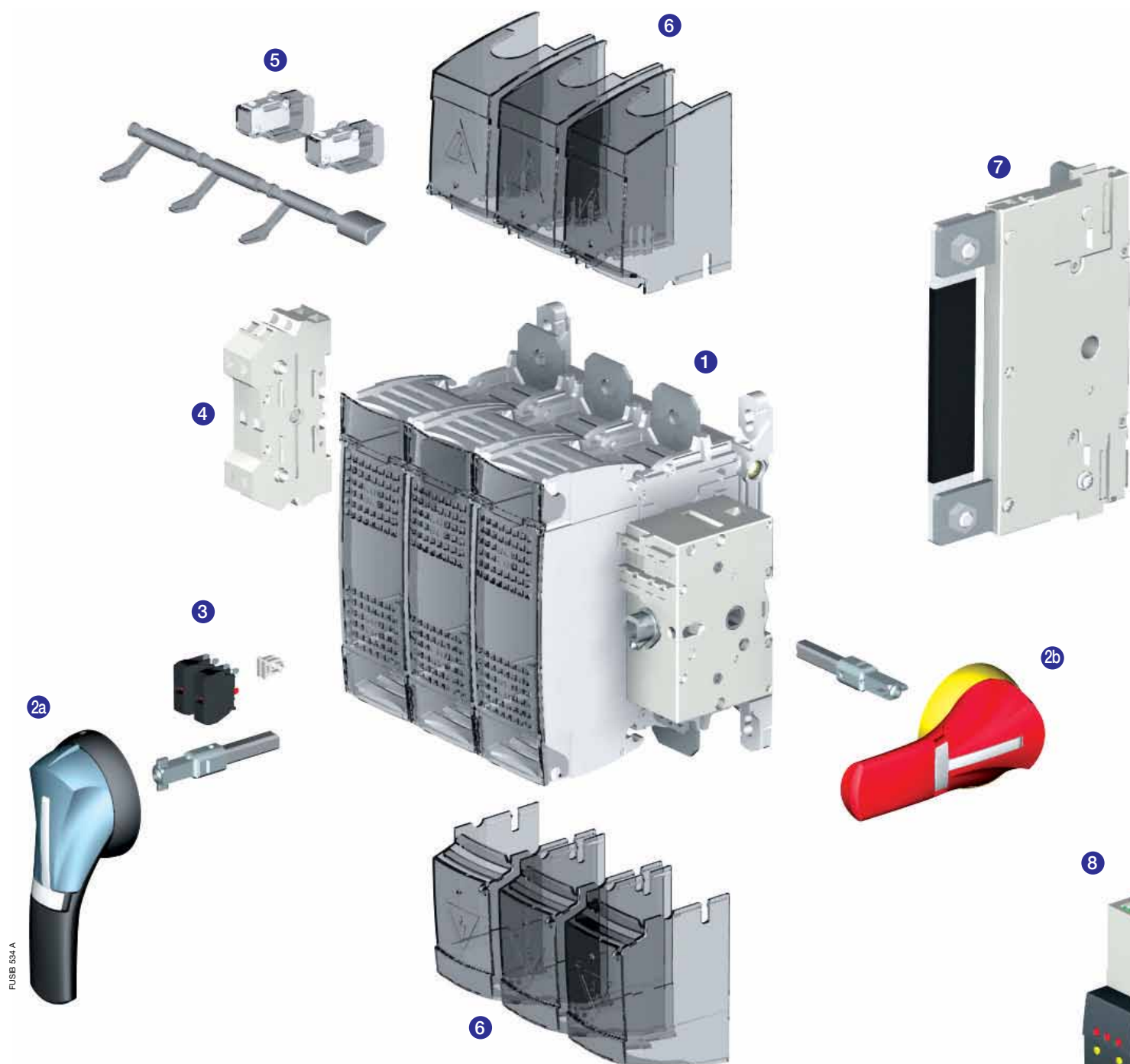
As specialists in providing solutions for power control, safety, performance and availability of low voltage energy, Socomec can fully meet the requirements of the industrial and large-scale service sector.

With nearly 10% of sales revenue ring-fenced for R&D, our company has a key asset: the capacity to offer custom products, solutions and services.



FUSERBLOC

The fuse combination switch solution:
ultimate safety in electrical protection



FUSB 534 A

A multi-standard line certified by independent agencies



LOVAG

EAC





**Total
security**



**Easy to
install**



**Adaptable
solution**



1 FUSERBLOC fuse combination switch

- Solution approved for use in the most severe applications: protection and disconnection of motors, unbalanced loads.
- Wide output terminals allow easy connection of high section cables.
- The modular concept guarantees complete double insulation between each phase and avoids any risk of internal arc.
- Double break per phase: top and bottom disconnection of fuses.
- TEST Position: allows auxiliary circuits to be tested (control circuits), without switching the power circuits and keeping it offload.

2a External front operation handle

2b External side operation handle

- Robust design guarantees protection up to IP66/IK08.
- Quick mounting from outside of the enclosure.
- Available in black/blue and red/yellow for safety applications.

3 Programmable U-type auxiliary contacts

- Pre-break and signalling of positions 0, I and Test.
- Front side mounted A.C. modules, comprised within the product footprint, practical for easy upgrading of the installation.

4 Auxiliary power contacts (up to 10 A/250 V)

- Simultaneous control of power demanding auxiliary equipment and main poles.

5 Mechanical fuse melting detector (DDMM)

- The DDMM remotely reports the status of fuses and prevents from risk of abnormal functioning of the electrical system and equipment.
- Integrated into the product footprint (optional).

6 Top or bottom terminal shrouds

- IP2X protective cover provides protection against direct contacts with live parts.

7 Integrated solid neutral link

- In case of non-distributed neutral or neutral combined with the PE (PEN conductor in TNC earth arrangements) and extra-flat neutral module mounted on the gearbox allows to have a three-pole switch fuse with solid neutral link within the same footprint as a standard three-pole device (+ 3 mm extra).

8 Electronic fuse melting detector (FMD)

Associated with the FUSERBLOC, fuse bases or fuse holders and compatible with DIN, BS88 and UL fuses, the FMD is more than an accessory, it provides:

- monitoring functions that are necessary to create a supervision or automatic alert system,
- visual LED signalling of the worked fuses,
- bi-stable relay for automation: alarm or triggering,
- compatible with single or three-phase installations,
- TEST button: verification at any time of the proper operation of the product,
- backplate, DIN rail or door mounting directly on the FUSERBLOC.

Fuse solutions adapted to your **specific applications**

FUSERBLOC uR

For high-speed fuses (uR)



Up to 1250 A.

- Optimal protection of power semiconductors (variable speed drives, inverters...), batteries, etc.
- Suitable for all shapes and types of connection of high-speed fuses.
- Allows manoeuvres under load and secure safety isolation.

FUSERBLOC LMDC

Protects variable speed drives under a common DC bus



Up to 1600 A.

- Multifunctional device for performing maintenance work on a branch of the electrical system while leaving the rest of the equipment energised.
- Load break switching, protection and triggering with pre-loading of capacitors, all in a single product.

FUSERBLOC transfer switch

For I-O-II switching applications with integrated fuse protection



From 20 to 400 A.

- Making energy distribution safe.
- Protection and disconnection of standby pumps or sensitive loads integrated within the overall dimensions of the manual transfer switch.

Multipolar FUSERBLOC

For multiple motors protection and control through a single handle



8 poles FUSERBLOC.

- Assembly of multi-pole devices with possibility to mix ratings from 50 to 1250 A.
- Protection of three or more AC or DC motors.
- Considerable space saving in electrical cabinets when compared to other solutions.

Also available

Fuse holders and bases



The fuse holders and bases are supports for cylindrical fuses (NFC) or knife-blade fuses (DIN). They protect the cables and equipment in control or distribution cabinets.

Enclosed solutions



Range of steel and polyester enclosures equipped with FUSERBLOC switches.

Fuse solutions adapted to your **distribution cabinets**



Plug-in FUSERBLOC

Fuse-combination switches connected directly to busbars (60 mm pitch) using contact clamps.

- Significant time savings during maintenance or installation extension operations.
- Front access for any operation.
- Simple, flexible and upgradable integration.
- Can respond up to IIS323 according to UTE 63429 guide.



Motor control.



Distribution panels.

FUSERBLOC

Fuse combination load break switches

- Protection against overcurrents provided by the fuses.
- Top and bottom disconnection of the fuses ensures the safety of workers.
- High number of load breaks regardless of the receiver (resistive, inductive, capacitive or mixed).

See page 5.



FUSOMAT

Manually operated fuse combination switches with remote tripping function.



- Provide protection against overloads and short-circuits.
- Can be associated with thermal relays, differential relays or other protective devices.

Socomec is on hand to help you choose and produce your electrical distribution panel

Socomec develops, manufactures and markets distribution cabinets (CADRYIS Line) and complete solutions for electrical panels (FLEXYS Line) dedicated to industrial uses in which enhanced safe operation is needed. FLEXYS SOFT software allows a rapid configuration of your FLEXYS board, respecting the construction rules of standard IEC 61439.



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