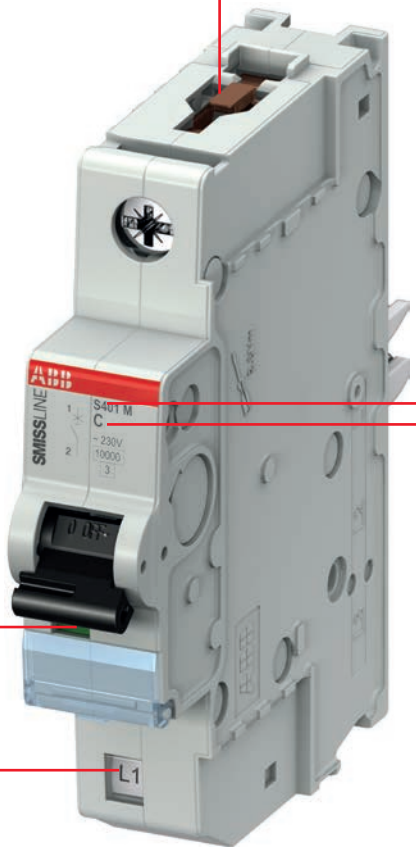
Miniature circuit breaker (MCB)

Electrical installation solutions for buildings

New, patented bidirectional terminal with captive screws for maximum comfort, safety and flexibility.
The connection takes place in two chambers (35 mm² and 10 mm²).
Two conductors with the same cross-section can be connected in each chamber.

Reliable recognition of the switching status through the new red/green position indicating device that shows the position of the inner contacts.



Laser printing for scratch- and solvent-resistant identification marking

Tripping characteristics B, C, D, K, UCC and UCZ.
Rated breaking capacity of 6 kA to 10 kA according to IEC/EN 60898-1 (B, C, D) and 6 kA to 25 kA according to IEC/EN 60947-2 (C and K)

For S400P
2…16 A, AC 240/415 V: 40 kA
20…40 A, AC 240/415 V: 30 kA
50…63 A, AC 240/415 V: 20 kA
according to IEC/EN 60947-2

Pole conductor indicator changes when the contact is moved to the rear of the device

Miniature circuit breaker (MCB)
Properties

General Information
The SMISSLINE miniature circuit-breaker is an energy-restricting circuit-breaker that has high performance values and that is equally suitable for the industrial sector, for commercial use and for installation at home.
If a short-circuit occurs, it guarantees excellent selectivity conditions to upstream overcurrent circuit breakers while the load on equipment that is connected downstream is limited to a minimum amount.

The most important features
- High rated breaking capacity of 6 kA and 10 kA acc. IEC/EN60989-1 and 25 kA, 30 kA and 40 kA acc. IEC/EN 60947-2
- Optimum ease of installation and connection
- The pole conductors are protected against accidental contact
- Tripping characteristic on B, C, D, K, UCZ/UCC

Miniature circuit-breaker in accordance with standard EN 60898-1
This standard is for electrical installation material for household installations and for similar purposes. It regulates the use of miniature circuit-breakers by the layman up to a maximum of 125 A, a voltage of 440 VAC and up to a maximum of 25 kA.

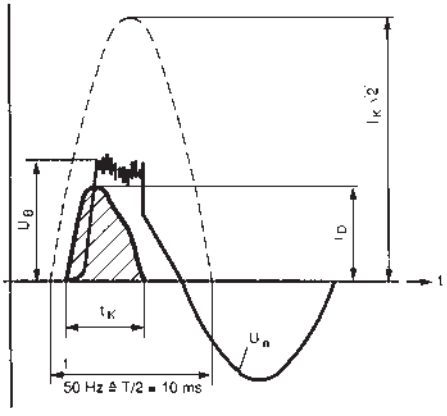
Miniature circuit-breaker in accordance with standard EN60947-2
This standard is for low-voltage material used for industrial purposes. It regulates the use of circuit-breakers (and not miniature circuit-breakers) by qualified personnel up to a maximum voltage of 1000 VAC or 1500 VDC. This standard does not recognise any maximum values when it comes to current and breaking capacity. In practice, the standard is also applied to miniature circuit-breakers.

Miniature Circuit Breaker SUP400 for branch circuit protection acc. to UL 489 File E312425
The miniature circuit breaker SUP400 is ABB's solution for UL 489 branch ircuit protection up to 480 Y/277 V AC. This circuit breaker is an all-round device applications for universal use in North American and global markets due to its approvals according standards UL489.

Brief description of tripping
The SMISSLINE miniature circuit breakers have a current-limiting operation. They have two different releases acting on the mechanism.
1. Thermal release, operating with a time delay, for overload protection
2. Electro-magnetic release plunger operated for short-circuit protection.

They offer: – high short-circuit breaking capacity
– high selectivity to the back-up fuse
– In the event of short-circuits, low electrodynamic and heating effects on the cable and the point of fault location due to the drastically limited let through energy $\int i^2 dt$.

Oscillogram of a short-circuit current interruption



$I_K \cdot \sqrt{2}$ = peak value of prospective short-circuit current
i_D = Max. peak let through current of circuit breaker S 400
U_n = Supply voltage
U_B = Arc voltage of circuit breaker
t_K = Total interruption time

Miniature circuit breaker (MCB) for UL489 277/480 VAC

SUP400M technical features

Technical Data

General Data	
Standards	UL 489, CSA 22.2 No. 5, IEC/EN 60947-2
Rated voltage	277/480 VAC
Poles	1P, 2P, 3P
Tripping characteristics	K
Rated current I_n	2 to 30 A
Rated frequency f	50/60 Hz
Short circuit current rating (acc. to UL 489)	10 kA
Overvoltage category	III
Pollution degree	3
Reference temperature for tripping characteristics	40 °C

Mechanical Data	
Contact position indication	Real CPI (green OFF / red ON)
L1/L2/L3 position indication	Yes
IP Code	IP20B, IP40 in enclosure with cover
Label holder	Yes
Endurance	Electrical endurance: 10000 ops Mechanical endurance: 10000 ops
Shock resistance acc. to IEC/EN 61373	5 g/30 ms, 3 shocks
Vibration resistance acc. to IEC/EN 60068-2-6	2 … 13.2 Hz/1 mm 13.2 … 100 Hz/0.7 g, 5 cycles 5 … 150 … 5 Hz/1 g, 4 sweeps
Environmental conditions (damp heat) acc. to IEC/EN 60068-2-30	28 cycles with 55 °C/90 … 96 % and 25 °C/95 … 100 %
Ambient temperature	–25 … +60 °C
Storage temperature	–40 … +70 °C

Installation	
Terminal at load side	Failsafe bi-directional cylinder-lift terminal with double slot 35/10 mm^2
Top terminal rigid IEC connections (solid/stranded)	– Single: 0.75 … 35 mm^2 (front slot), 0.75 … 10 mm^2 (rear slot) – Multiple: –
Top terminal flexible IEC connections	– Single: 0.75 … 25 mm^2 (front side), 0.75 … 6 mm^2 (rear slot) – Multiple: –
Top terminal UL connections	– Single: AWG 14…8, Cu only – Multiple: –
Torque	2.8 Nm, 25 in. lbs.
Stripping length	12.5 mm
Wire temperature	60/75 °C
Screwdriver	No. 2 Pozidrive
Terminal at line side	Movable plug-on terminal L1, L2, L3
Mounting	SMISSLINE TP socket system only
Mounting position	Any
Dimensions and weight	
Pole weight	120 g

The devices are suitable with
– S2C-H6RU (auxiliary contact)
– S2C-S6RU (signal/auxiliary contact)
– E210-DH (false pole 1/2 module)
– SA (locking device)

Summary

A brief overview and more useful information

SUP400 for branch circuit protection acc. to UL 489 File E312425

SUP 401

SUP 402

SUP 403

Order Codes

A brief overview and more useful information

The link provided here will redirect you to the **detailed product catalog**, where you can find more **information about the products and the order codes.**

https://library.e.abb.com/
public/0eb24d9b4a824dbab571106fb879ae53/9AKK107492A6192.pdf