Data Sheet

System pro *M* compact®
Miniature Circuit Breaker SU200 M
for branch circuit protection acc. to UL 489

The miniature circuit breaker SU200 M is ABB's solution for UL 489 branch circuit protection up to 480 Y/277 V AC and 96 V DC. This circuit breaker is an all-round device for AC and DC applications for universal use in North American and global markets due to its approvals acc. to the international standards UL, CSA and IEC. Moreover, SU200 M is fully compatible with System pro *M* compact® UL 489 accessories.

Features

- High performance MCB with 10 kA interrupting capacity acc. to UL 489 / CSA 22.2 No. 5 and 15 kA breaking capacity acc. to IEC/EN 60947-2
- Certified up to I_n = 40 A at 480 Y/277 V AC acc. to UL 489 / CSA 22.2 No. 5
- Certified for AC and DC use acc. to UL and CSA
- 40 °C reference temperature acc. to UL and CSA
- Current limiting acc. to UL 489
- Clear contact position indication in red/green ("real CPI")

Standards and approvals

Standards	
UL 489	
CSA 22.2 No. 5	
IEC/EN 60947-2	
Approvals	
UL 489	US
CSA 22.2 No. 5	CA
VDE	DE
CCC	CN

Miniature Circuit Breaker SU200 M
Technical data

General Data		
Standards		UL 489, CSA 22.2 No. 5, IEC/EN 60947-2
Poles		1P, 2P, 3P, 4P
Tripping characteristics		C, K, Z
Rated current I_n		0.2 - 63 A
Rated frequency f		50 / 60 Hz, DC (0 Hz)
Rated insulation voltage U_i acc. to IEC/EN 60664-1		250 V AC (phase to ground), 440 V AC (phase to phase)
Overvoltage category		III
Pollution degree		3
IEC/EN 60947-2		
Rated operational voltage U_e		1P: 230 V AC; 2P, 3P, 4P: 400 V AC
Max. power frequency recovery voltage U_{max}	AC	1P: 253 V AC; 2P, 3P, 4P: 440 V AC
Min. operating voltage		12 V AC, 12 V DC
Rated ultimate short-circuit breaking capacity I_{cu}		15 kA
Rated service short-circuit breaking capacity I_{cs}		≤ 40 A: 11.25 kA > 40 A: 7.5 kA
Rated impulse withstand voltage U_{imp} (1.2/50µs)		4 kV (test voltage 6.2 kV at sea level, 5 kV at 2,000 m)
Dielectric test voltage		2 kV (50 / 60Hz, 1 min.)
Reference temperature for tripping characteristics		30 °C
Electrical endurance		I_n < 30 A: 20,000 ops (AC), I_n ≥ 30 A: 10,000 ops. (AC); 1 cycle (2 s - ON, 13 s - OFF, I_n ≤ 32 A), 1 cycle (2 s - ON, 28 s - OFF, I_n > 32 A)
UL / CSA		
Rated voltage	AC	1P: 277 V AC up to 40 A for C, Z char.,
	AC	277 V AC up to 35 A for K char., 240 V AC
	AC	2P, 3P, 4P: 480 Y / 277 V AC up to 40 A for C, Z char.,
	AC	480 Y / 277 V AC up to 35 A for K char., 240 V AC
	DC	1P: 48 V DC; 2P: 96 V DC (2p in series)
Rated interrupting capacity acc. to UL 1077		–
Short-circuit current rating acc. to UL 489		10 kA
Application		–
Reference temperature for tripping characteristics		40 °C
Electrical endurance		6,000 ops (AC), 6,000 ops. (DC); 1 cycle (1 s - ON, 9 s - OFF)
Mechanical data		
Housing		Insulation group II, RAL 7035
Toggle		Insulation group II, black, sealable
Contact position indication		Real CPI (green OFF / red ON)
Protection degree acc. to DIN EN 60529		IP20*, IP40 in enclosure with cover
Mechanical endurance		20,000 ops.
Shock resistance acc. to IEC/EN 60068-2-27		25 g - 2 shocks - 13 ms
Vibration resistance acc. to IEC/EN 60068-2-6		5g - 20 cycles at 5…150…5 Hz with load 0.8 I_n
Environmental conditions (damp heat cyclic) acc. to IEC/EN 60068-2-30		28 cycles with 55°C/90-96% and 25°C/95-100%
Ambient temperature		-25 … +55°C
Storage temperature		-40 … +70 °C
Installation		
Terminal		Failsafe bi-directional cylinder-lift terminal
Cross-section of conductors (top/bottom)		solid, stranded: 35 mm² / 35 mm² flexible: 25 mm² / 25 mm² 18 – 4 AWG
Cross-section of busbars (top/bottom)		10 mm² / 10 mm² 18 – 8 AWG
Torque		2.8 Nm AWG 18-16: 13.3 in-lbs. AWG 14-10: 17.7 in-lbs. AWG 8-4: 39.8 in-lbs.
Screwdriver		No. 2 Pozidrive
Mounting		On DIN rail 35 mm acc. to EN 60715 by fast clip
Mounting position		any
Supply		optional
Dimensions and weight		
Mounting dimensions acc. to DIN 43880		Mounting dimension 3
Pole dimensions (H x D x W)		111 x 69 x 17.5 mm
Pole weight		approx. 125 g
Combination with auxiliary elements		
Auxiliary contact		Yes
Signal contact		Yes
Shunt trip		Yes

* Also fulfilling the requirements acc. to the protection degree IPXXB

Miniature Circuit Breaker SU200 M
Tripping characteristics

Tripping characteristics

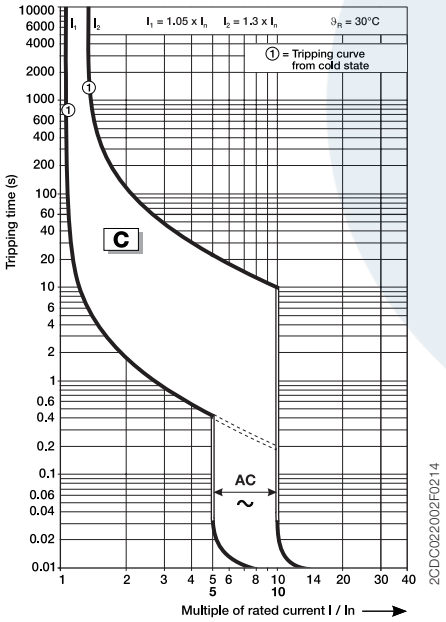
Acc. to	Tripping characte-ristics	Rated current	Thermal release [1]			Electromagnetic release [2]		
			Currents: conventional non-tripping current	conventional tripping current	Tripping time	Range of instantaneous tripping		Tripping time
		I_n	I_1	I_2				
IEC/EN 60947-2	C	0.5 to 63 A	$1.05 \cdot I_n$		> 1 h	$5 \cdot I_n$		> 0.2 s
				$1.3 \cdot I_n$	< 1 h [3]		$10 \cdot I_n$	< 0.2 s
	K	0.2 to 63 A	$1.05 \cdot I_n$		> 1 h	$10 \cdot I_n$		> 0.2 s
				$1.3 \cdot I_n$	< 1 h [3]		$14 \cdot I_n$	< 0.2 s
	Z	0.5 to 63 A	$1.05 \cdot I_n$		> 1 h	$2 \cdot I_n$		> 0.2 s
				$1.3 \cdot I_n$	< 1 h [3]		$3 \cdot I_n$	< 0.2 s

[1] The thermal releases are calibrated to a nominal reference ambient temperature of 30 °C.
In the case of higher ambient temperatures, the current values fall by approx. 6 % for each 10 K temperature rise.

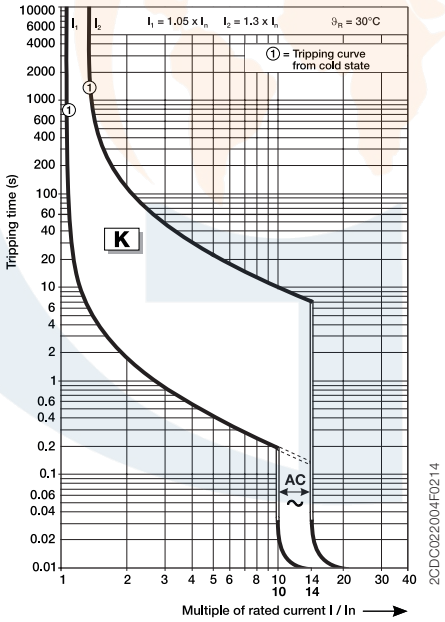
[2] The indicated tripping values of electromagnetic tripping devices apply to a frequency of 50/60 Hz. The thermal release operates independent of frequency.

[3] As from operating temperature (after I_1 > 1h)

C characteristic



K characteristic



Z characteristic