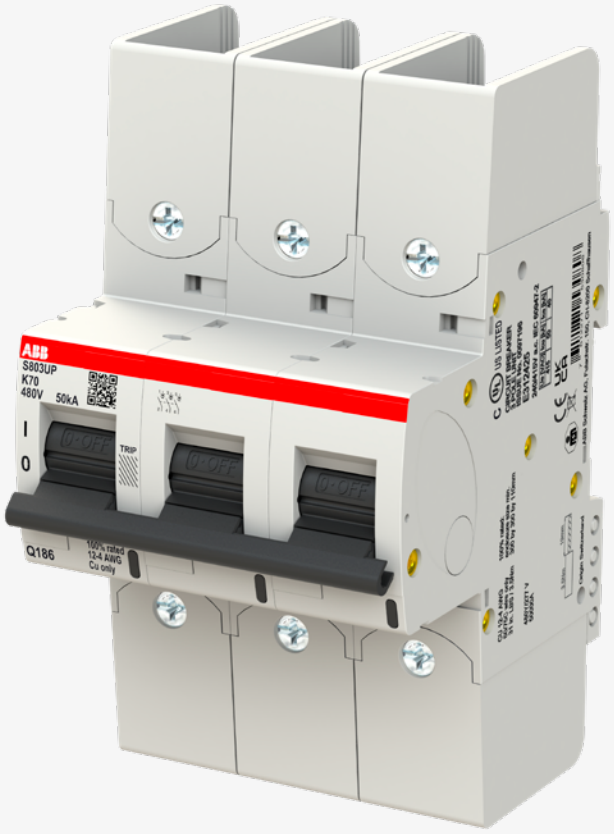


CATALOG 2026

S800UP

Powering what's next

- 100% rated acc. to UL 489 at 480Y/277 VAC
- Current limiting technology
- Compact and easy to install
- Compatible with accessories

ENGINEERED
TO OUTRUN

Our most powerful UL-certified High Performance Circuit Breaker in compact size with 3 poles in only 81 mm width.

The perfect solution for Critical Power infrastructures, Data Centers and Renewables where high performances are required.

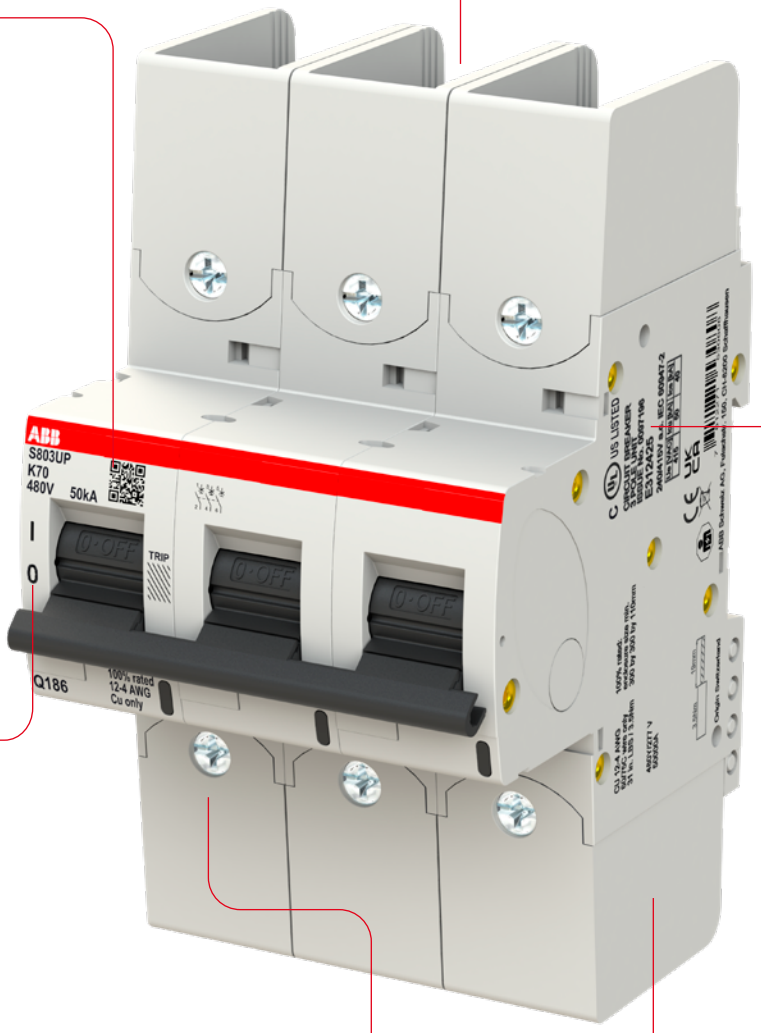
TABLE OF CONTENTS

S800UP

Product at a glance

Interchangeable terminals
Easy change from fail-safe cage terminals to ring-lug terminals, guaranteeing the highest flexibility in the installation.
Supply from top or bottom side

QR code
Quick access to ABB product page with all product details and relevant documentation



Product marking
Main technical features printed on front and lateral side, including UL 100% rated

Toggle Position Indication (TPI)
3 status ON-OFF-TRIP with TRIP position in the middle, easily identifying tripping cause due to overcurrent

Compatible with a wide range of accessories
Upgrading the installation adding extra features and functions to the product

Robust material
Designed with polycarbonate which complies with fire and smoke requirements of V0 acc. to UL94

S800UP

UL 489 certified at 50kA, at 480Y/277 V for maximum safety.
Compact design enables easy DIN-Rail installation without adapters.
Flexible connections and clear status indication ensure reliable, hasslefree operation.

01

UL 489, 100% rated

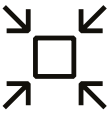
UL 489 certified with a 50 kA interrupting rating at 480Y/277 VAC and rated current up to 70 A.
UL 100% rated for continuous load at rated current, avoiding the need to upsize the MCB and cable section.

02

Current limiting technology

Two arc chambers per pole, reducing peak current and let-through energy during short circuit ensuring complete protection of downstream equipment.

03



Compact and easy to install

High breaking capacity with 3 poles in only 81 mm width (1.5 modules per pole) suitable for DIN-Rail installation with no need of adapter.
Flexible top and bottom supply with interchangeable kit for quick change from cage to ring terminals.

04

Compatible with accessories

Compatible with a wide range of accessories, upgrading the installation by adding extra features and functions to the product for improved monitoring and control.

S800UP series
Technical features

General Data		S800UP
Tripping characteristics		K
Standards		UL 489; IEC/EN 60947-2 (based on internal test)
Number of poles		3P
Rated current In	A	20 ... 70
Rated frequency f	Hz	50/60
Rated insulation voltage Ui acc. to IEC/EN 60664-1	V	AC 690
Rated impulse withstand voltage Uimp. (1.2/50 µs)	kV	8
Dielectric test voltage at ind. freq. for 1 min.	kV	2.4
Overvoltage category		IV
Pollution degree		3
Suitable for isolation		yes
Data acc. to IEC/EN 60947-2 (based on internal test only)		
Rated operational voltage Ue	V	AC 240/415
Min. operating voltage	V	AC 12
Rated ultimate short-circuit capacity Icu	kA	AC 415 V (3pole) = 50kA
Rated service short-circuit capacity Ics	kA	AC 415V (3pole) = 40 kA
Electrical and mechanical endurance	cycle (OFF-ON-OFF)	20...30A: 10000 electrical / 10000 mechanical 40...70A: 6000 electrical / 10000 mechanical
Data acc. to UL489		
Rated voltage	V	AC 480Y/277 V
Iinterrupting rating	kA	AC 480Y/277 V = 50kA
UL 100% rated		yes
Electrical and mechanical endurance	cycle (OFF-ON-OFF)	acc, to UL489 6000 electrical; 4000 mechanical
Series rating reaching full selectivity	kA	with XT4 = 50kA with XT5 = 50kA
Mechanical Data		
Housing		Material group I, RAL7035
Toggle		black, lockable
Plastic classification acc. to UL94		V0
Classification for the component requirement / hazard level acc. to EN45545-2		R26 / HL3; R22 / HL2
Protection degreee acc, to EN 60529		IP20; IP40 (under the cover frame)
Shock resistance acc, to IEC/EN 61373		5g / 30ms, Cat 1 / Class B
Shock resistance acc, to IEC/EN 60068-2-27		5g / 30ms, Test Ea
Vibration resistance acc, to IEC/EN 60068-2-6		5 - 13,2Hz /1 mm 13,2 - 100Hz / 0,7g with load 80% x Ie, Test Fc
Environmental conditions (damp heat) acc, to IEC/EN 60068-2-30	°C/RH	2 cycles: 12h 55°C @98% rh; 12h 25°C @93% rh
Environmental condition (dry heat) acc, to IEC/EN 60068-2-2	°C/RH	16 hours 70°C
Environmental condition (low temp) acc, to IEC/EN 60068-2-1	°C/RH	16 hours -40°C
Reference temperature for tripping characteristics	°C	40 (Char, K)
Ambient temperature (in accordance to the derating table)	°C	-40...+70
Storage temperature	°C	-40...+70

S800UP series
Technical features

General Data		S800UP
Installation		
Terminal		Failsafe cage or ringlug terminal
Connection (top/bottom) - Cu only	mm²	1 … 50 flexible 1 … 70 solid (rigid or stranded)
	AWG	20 - 30 A: 14 - 2 AWG 40 - 70 A: 1 - 8 AWG
Tightening torque	Nm	3.5
	in-lbs,	31
Wire stripping length	mm²	19
Screwdriver		POZI 2
Mounting type		any
Mounting position		any
Supply from		Top and bottom
Dimensions and weight		
Dimensions (H x L x W)	mm	142 x 82.5 x 81 (3 pole)
Weight	g	appr, 750 (3 pole)
Combination wih accessories		
Combination wih accessories		Signal and auxiliary contact: S800-AUX, S800 AUX/ALT Remote switching unit (motor operating device): S800-RSU Shunt trip: S800-SOR Undervoltage release: S800-UVR Rotary drive Padlock device

S800UP series
Characteristic

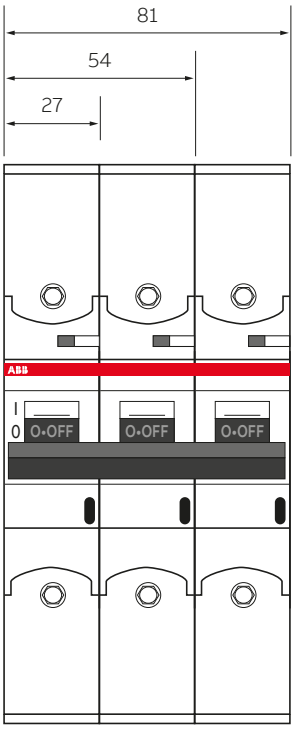
S800U-K characteristic
Function: protection and control of the circuits against overloads and short-circuits when a high breaking capacity is required at 480Y/277 VAC. UL 100% rated MCB

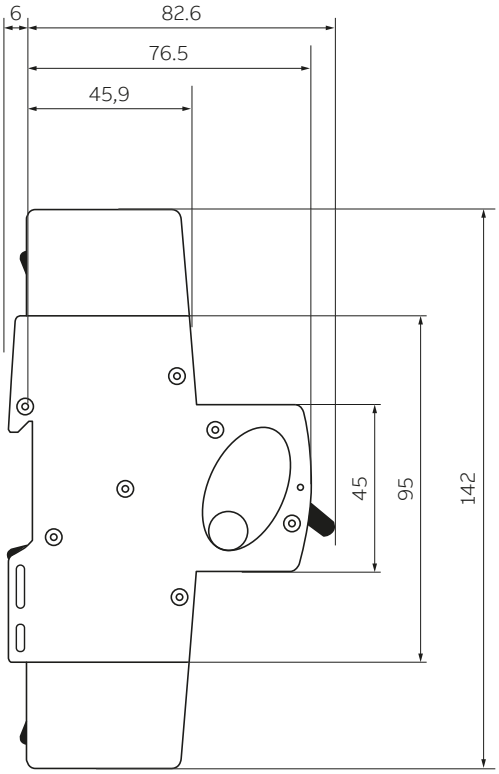
Application: commercial and industrial
Standard: UL 489
Interrupting rating = 50 kA

	Number of Poles	Tripping char	Rated current In A	Bbn 7612271 EAN	Type code	Order code	Weight 1 piece kg	Pack unit pc.
	3	K	20	530747	S803UP-K20	2CCG002501R0001	0.75	1
			25	530754	S803UP-K25	2CCG002502R0001	0.75	1
			30	530761	S803UP-K30	2CCG002503R0001	0.75	1
			40	530778	S803UP-K40	2CCG002504R0001	0.75	1
			50	530785	S803UP-K50	2CCG002505R0001	0.75	1
			60	530792	S803UP-K60	2CCG002506R0001	0.75	1
			70	530808	S803UP-K70	2CCG002507R0001	0.75	1

S800UP

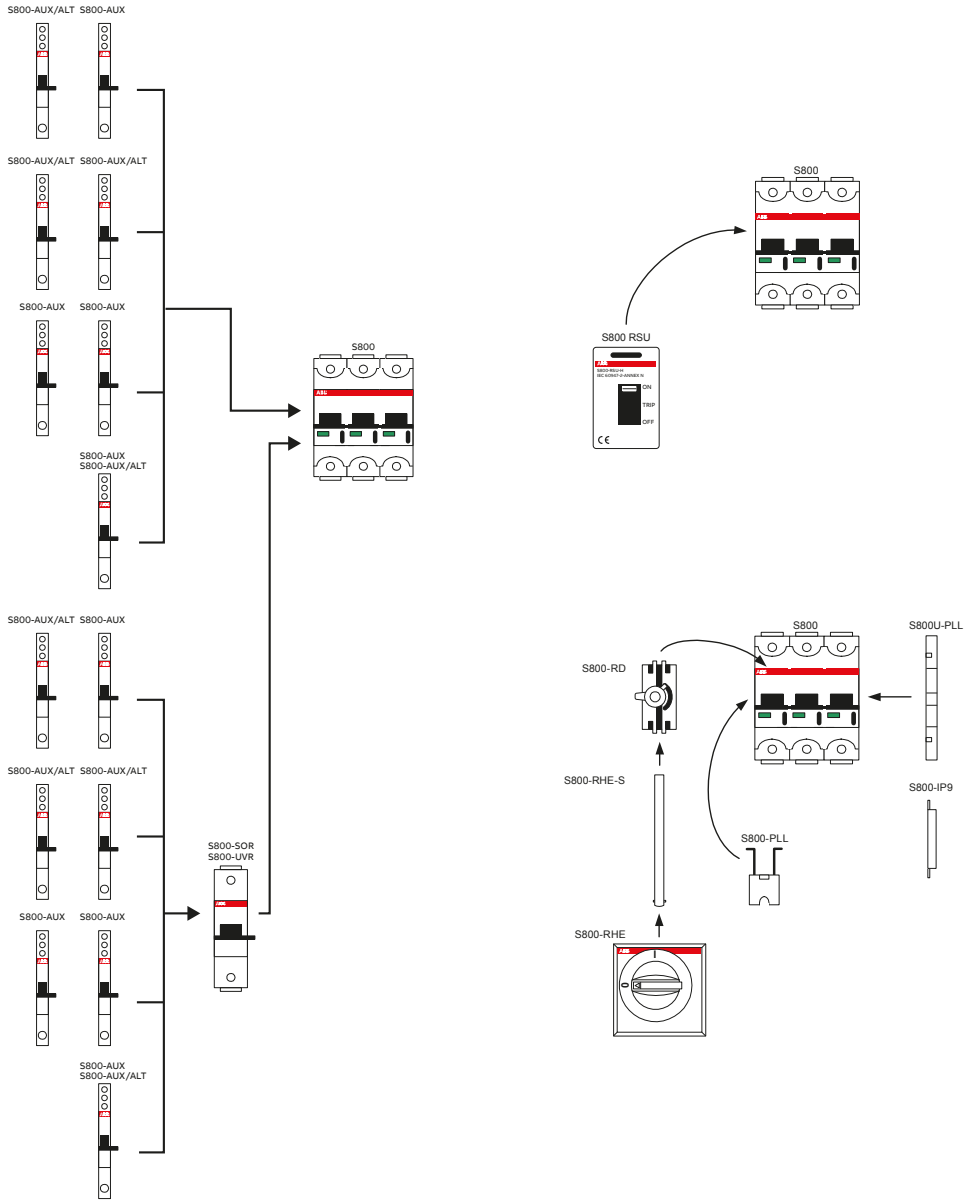
Dimension diagrams





S800UP

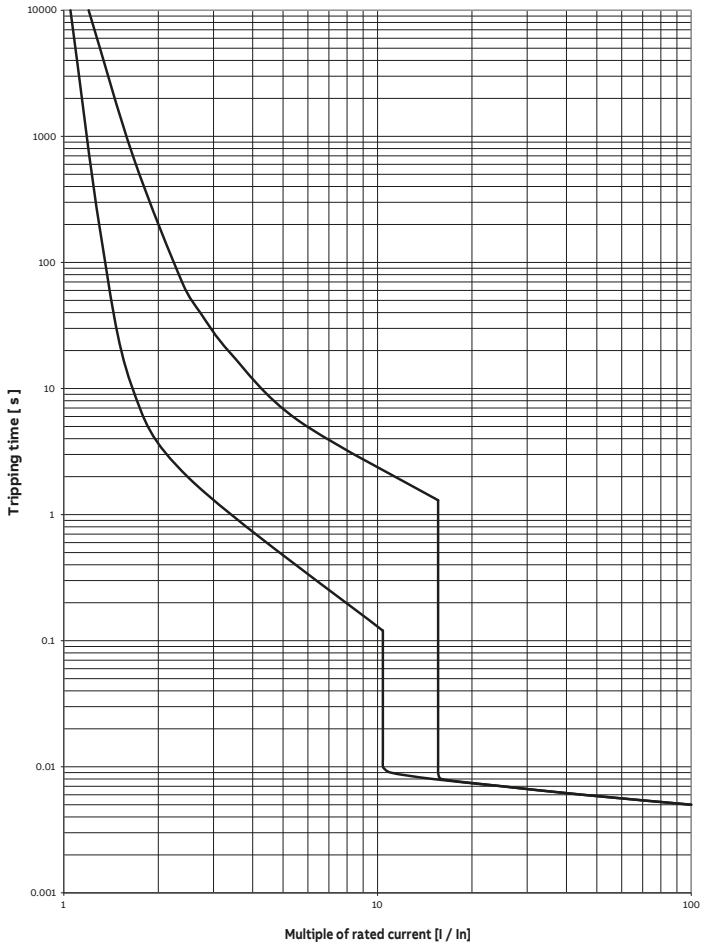
Combination with accessories



S800-AUX	Auxiliary contact for external display
S800-AUX/ALT	Combined auxiliary and signal contact for the external display
S800-SOR	Shunt opening release
S800RD	Rotary drive
S800-RHE	Rotary handle
S800-IP	Intermediate piece
S800-PLL/S800U-PLL	Padlock device/Locking device for American market
S800-UVR	Undervoltage release
S800-RSU	Remote switching unit (motor operating device)

S800UP series
Tripping charateristic

S800UP - K Characteristic



S800UP

Performance at different ambient temperature (Derating)

S800UP-K

	Ambient temperature T (°C)																						
I_n (A)	– 40	–35	–30	–25	–20	–15	–10	–5	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70
20A	25.6	25.2	24.9	24.6	24.3	24.0	23.7	23.3	22.9	22.6	22.2	21.8	21.5	21.1	20.7	20.4	20.0	19.6	19.3	18.9	18.5	18.2	17.8
25A	32.1	31.7	31.2	30.8	30.4	30.0	29.6	29.1	28.7	28.2	27.8	27.3	26.8	26.4	25.9	25.5	25.0	24.5	24.1	23.6	23.2	22.7	22.2
30A	39.0	38.4	37.8	37.2	36.7	36.1	35.5	35.0	34.4	33.8	33.3	32.7	32.2	31.7	31.1	30.6	30.0	29.4	28.9	28.3	27.8	27.3	26.7
40A	52.3	51.4	50.6	49.7	48.9	48.1	47.3	46.6	45.9	45.1	44.4	43.7	42.9	42.2	41.5	40.7	40.0	39.3	38.5	37.8	37.1	36.3	35.6
50A	64.8	63.8	62.9	61.9	61.0	60.1	59.2	58.3	57.3	56.4	55.5	54.6	53.7	52.8	51.8	50.9	50.0	49.1	48.2	47.2	46.3	45.4	44.5
60A	77.6	76.4	75.3	74.2	73.2	72.1	71.0	69.9	68.8	67.7	66.6	65.5	64.4	63.3	62.2	61.1	60.0	58.9	57.8	56.7	55.6	54.5	53.4
70A	90.5	89.2	87.9	86.6	85.3	84.1	82.9	81.6	80.2	79.0	77.7	76.4	75.2	73.9	72.5	71.3	70.0	68.7	67.5	66.2	64.8	63.6	62.3

S803UP

Power loss

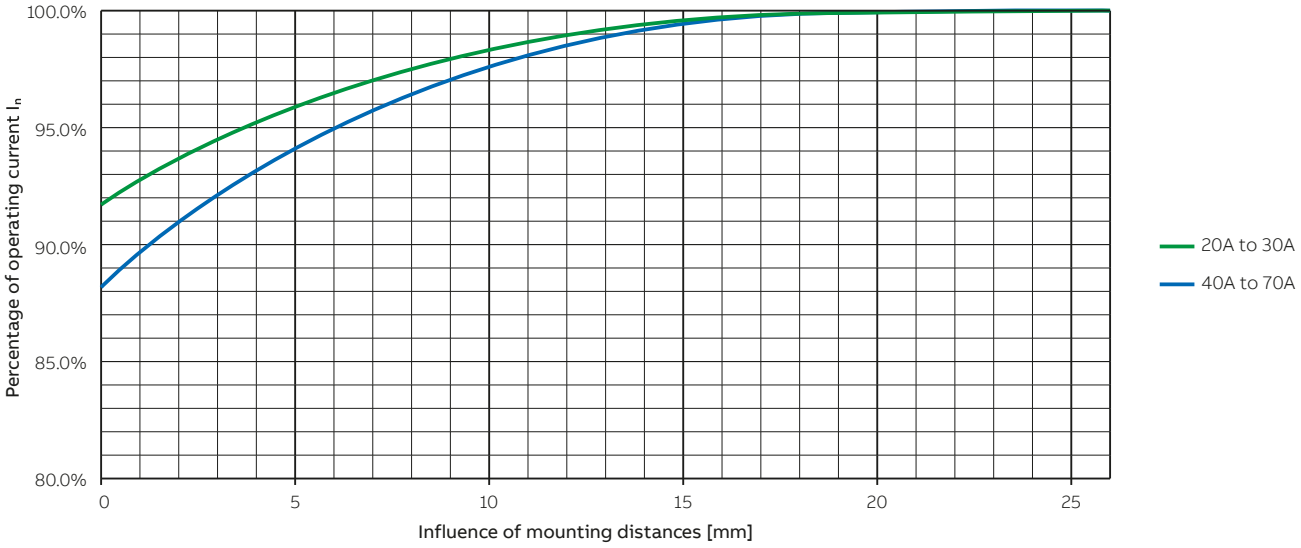
S800UP Typical internal resistances and power losses at 25 °C ambient temperature (per pole)

Rated current In [A]	Internal resistance Ri [mΩ]	Power loss Pv [W]
Char. K	Char. K	Char. K
20	8.7	3.5
25	6.8	4.25
30	3.1	2.79
40	2.3	3.68
50	1.7	4.25
60	1.6	5.76
70	1.6	7.84

S800UP
Influence of adjacent devices

Influence of adjacent devices for S800 series
The chart is showing the factors to consider when installing two or more devices next to each other or at a certain distance. When influence of mounting distance is 0mm, it means that devices are installed next to each other without any distance between them.
Increasing the distance, the derating factors change as in the chart.

Example:
2 or more S803UP-K70 at T = 40 °C (no temperature derating) with 5mm distance:
Derating factor is 94%
In = 70 A x 94 % = 65.8 A

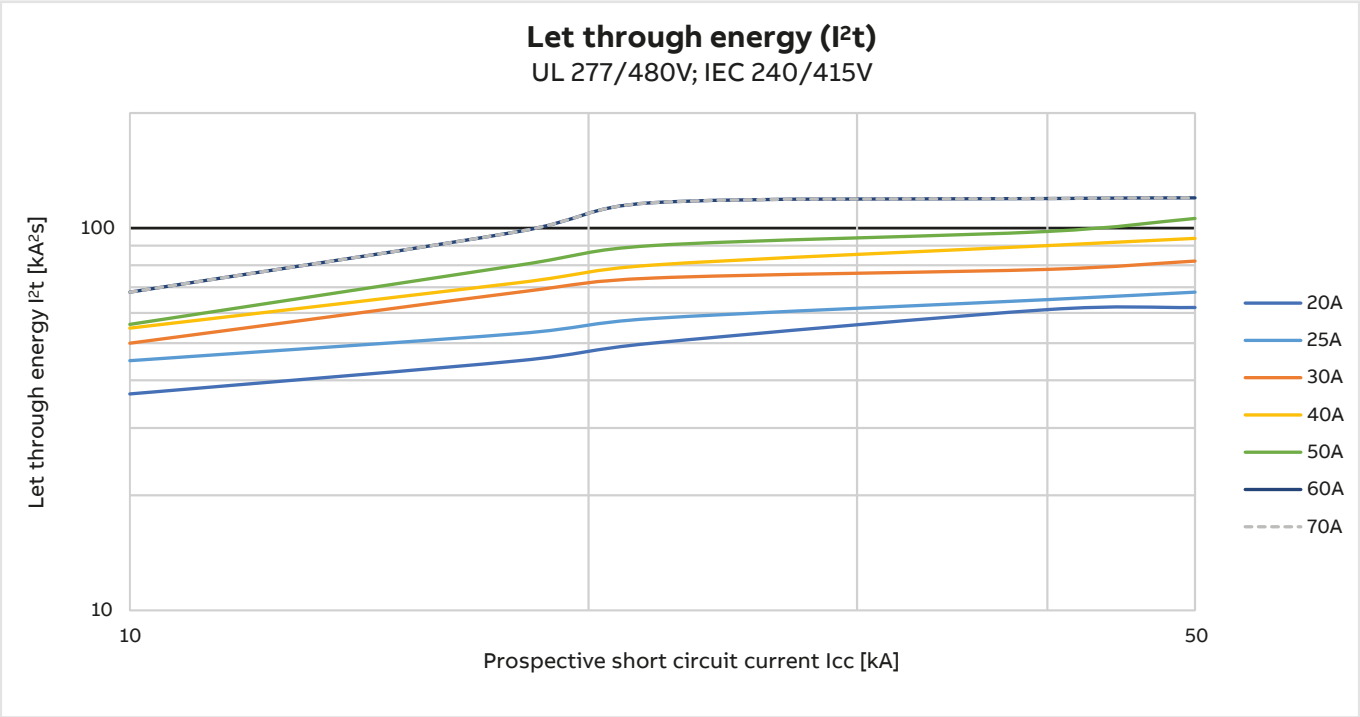


Further influencing factors, which can lead to a reduction of the maximum operating current, are:
- Shortening the cable lenght compared to IEC 60947-1/2
- Reducing the cable cross section compared to IEC 60947-1/2
- Accumulation of cables

S800UP

Limitation of specific let-through energy I^2t

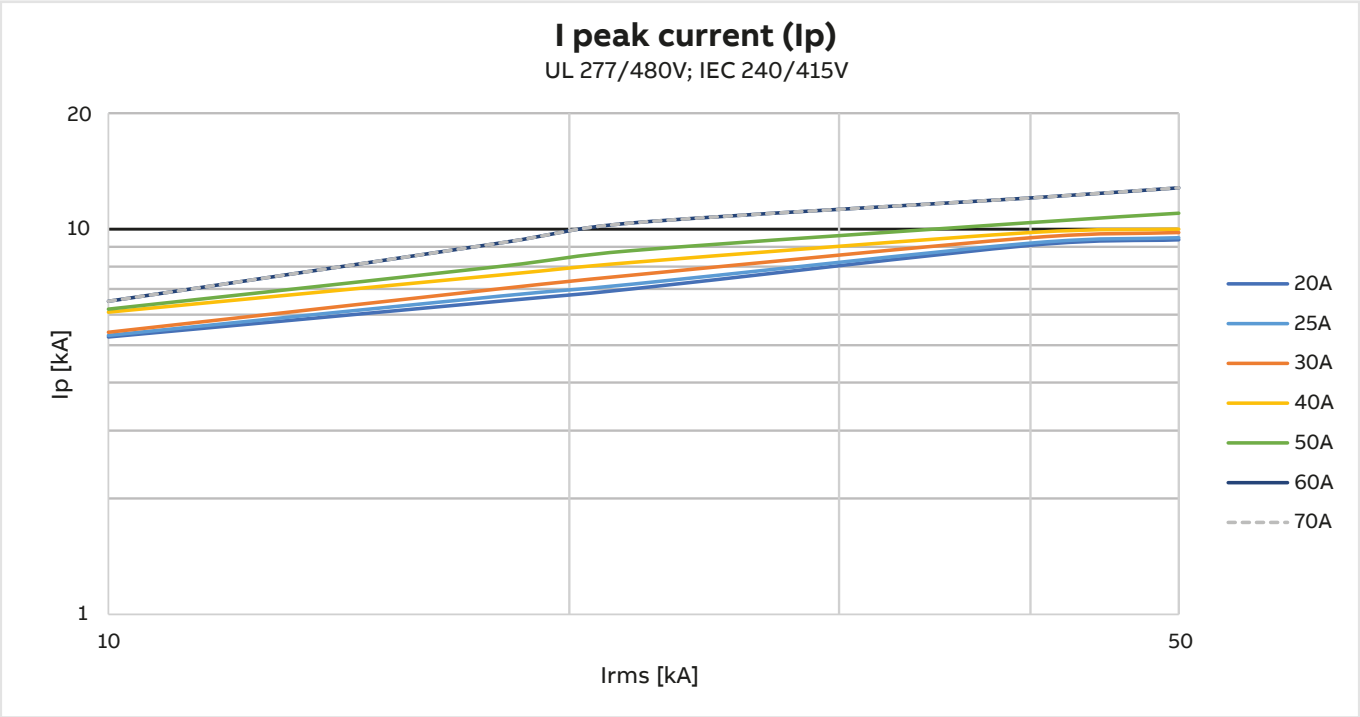
S800UP-K



S800UP

Peak current I_p

S800UP-K



S800UP
Use of MCBs in altitude

Performance in altitude of MCBs
Up to the height of 2000 m, MCBs do not undergo any alterations in their rated performances.
Over this height the properties of the atmosphere change in terms of composition, dielectric capacity, cooling capacity and pressure, therefore the performances of the MCBs undergo derating, which can basically be measured in terms of variations in significant parameters, such as the maximum operating voltage and the rated current.

Miniature circuit breaker

Altitude	[m]	2000	3000	4000	5000
Rated voltage U_n		U_n	0.887 x U_n	0.775 x U_n	0.676 x U_n
Rated current I_n		I_n	0.96 x I_n	0.93 x I_n	0.90 x I_n

Notes

new.abb.com/low-voltage

9AKK108472A2167 - Rev. A - 01.26