

MINIATURE CIRCUIT BREAKERS

S 200 80 A – 100 A for Australian markets

System pro M compact® miniature circuit breakers



The miniature circuit breakers of the System pro M compact® series S 200 provide state-of-the-art safety and comfort. They stand out due to their high performance and the wide range of accessories. The additional electrical currents 80 A and 100 A complement the current portfolio of the System pro M compact® and offer maximum performance in a single module width.

Features

- Clear contact position indication in red/green (“real CPI”)
- Unique, patented twin terminal with captive screws and an increased opening for cables up to max. 50 mm², finger-proof (IP20)
- Busbar slot in the back for best visibility during installation
- High performance in applications up to 6 kA at U_e = 415 V AC acc. to IEC/EN 60898-1
- Individual product identification code
- Approved acc. to IEC/EN 60898-1

Country approval

Approval mark	Description	Country
	RCM	Australia

Note:

For use in Australian markets only.

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Technical data

1) Also fulfilling the requirements acc. to the protection degree IPXXB

General Data			
Standards		IEC/EN 60898-1	
Poles		1P, 2P, 3P, 4P	
Tripping characteristics		B, C	
Rated current I_n	A	80 A, 100 A	
Rated frequency f	Hz	50 / 60 Hz	
Rated insulation voltage U_i acc. to IEC/EN 60664-1 (VDE 0110-1)	V	440 V AC	
Overvoltage category		III	
Pollution degree		2	
IEC/EN 60898-1 (VDE 0641-11)			
Rated operational voltage U_n	V	1P:	240/415 V AC
		2P, 3P, 4P:	415 V AC
Max. power frequency recovery voltage (U_{max})	V	1P:	253/440 V AC
		2P, 3P, 4P:	440 V AC
		1P:	48 V DC
		2P:	96 V DC
Min. operating voltage	V	12 V AC	
Rated short-circuit capacity I_{cn}	kA	6 kA	
Rated impulse withstand voltage U_{imp} (1.2/50 μ s)	kV	4 kV (test voltage 6.2 kV at sea level, 5 kV at 2,000 m)	
Dielectric test voltage	kV	2 kV (50/60 Hz, 1 min.)	
Reference temperature for tripping characteristics	°C	B, C: 30 °C	
Electrical endurance	ops.	10,000 ops. (AC); one cycle 2 s - ON, 28 s - OFF	
Mechanical Data			
Housing		Insulation group I, RAL 7035	
Toggle		Insulation group II, black, sealable	
Contact position indication		Real CPI (red ON/green OFF)	
Protection degree acc. to DIN EN 60529		IP20 ¹⁾ , IP40 in enclosure with cover	
Mechanical endurance	ops.	20,000 ops.	
Shock resistance acc. to DIN EN 60068-2-27		25 g, 2 shocks, 13 ms	
Vibration resistance acc. to DIN EN 60068-2-6		5 g, 20 cycles at 5...150...5 Hz at 0.8 I_n	
Environmental conditions (Damp heat cyclic) acc. to DIN EN 60068-2-30	°C/RH	28 cycles with 55 °C/90-96 % and 25 °C/95-100 %	
Ambient temperature	°C	-25 ... +55 °C	
Storage temperature	°C	-40 ... +70 °C	

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Technical data and tripping characteristics

Installation		
Terminal		Failsafe bi-directional cache clamp
Cross-section of conductors (top/bottom)	mm ²	solid, stranded: 50 mm ² / 50 mm ² flexible: 50 mm ² / 50 mm ²
Cross-section of busbars (top/bottom)	mm ²	16 mm ² / 16 mm ²
Torque	Nm	3.0 Nm
Screwdriver		No. 2 Pozidrive
Mounting		On DIN rail 35 mm acc. to EN 60715 by fast clip
Mounting position		any
Supply		any
Dimensions and weight		
Mounting dimensions acc. to DIN 43880		Mounting dimension 1
Pole dimensions (H x D x W)	mm	88.8 x 69 x 17.5 mm
Pole weight	g	approx. 126 g
Combination with auxiliary elements		
Auxiliary contact		Yes
Signal/auxiliary contact		Yes
Shunt trip		Yes
Undervoltage release		Yes
Motor Operating Device		Yes

Tripping characteristics

Acc. to	Tripping characteristics	Rated current I_n	Thermal release ¹⁾		Tripping time	Electromagnetic release ²⁾	
			conventional non-tripping current I_1	conventional tripping current I_2		Range of instantaneous tripping	Tripping time
DIN EN 60898-1 (VDE 0641-11)	B	80 up to 100 A	$1.13 \cdot I_n$	$1.45 \cdot I_n$	> 2 h < 2 h ³⁾	$3 \cdot I_n$ $5 \cdot I_n$	0.1 ... 90 s < 0.1 s
	C	80 up to 100 A	$1.13 \cdot I_n$	$1.45 \cdot I_n$	> 2 h < 2 h ³⁾	$5 \cdot I_n$ $10 \cdot I_n$	0.1 ... 30 s < 0.1 s

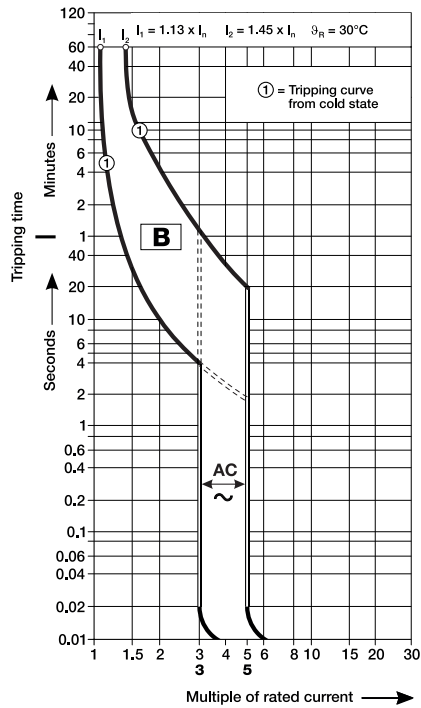
1) The thermal releases are calibrated to a nominal reference ambient temperature; for B and C the reference value is 30 °C. In the case of higher ambient temperatures, the current values fall by approx. 6 % for each 10 K temperature rise.

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

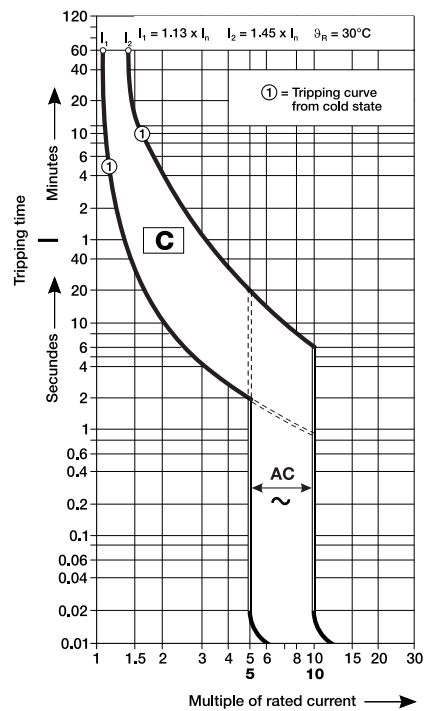
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Tripping characteristics

B characteristic



C characteristic



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Derating, internal resistance and power loss

Derating

Deviating ambient temperature

For installations of miniature circuit breakers at other temperatures than the reference value derating factors have to be considered. The rated value of the current of a miniature circuit breaker refers to a reference ambient temperature of 30 °C for circuit breakers with the characteristics B and C.

The following table contains the derating of the load capability at ambient temperatures from -40 °C to 70 °C for the characteristics B and C:

Characteristic	Rated current I_n A	Maximum operating current at ambient temperature T											
		°C											
		-40	-30	-20	-10	0	10	20	30	40	50	60	70
B, C	80	96.8	94.4	92.0	89.6	87.2	84.8	82.4	80.0	77.6	75.2	72.8	70.4
	100	121.0	118.0	115.0	112.0	109.0	106.0	103.0	100.0	97.0	94.0	91.0	88.0

Influence of adjacent devices

If several miniature circuit breakers are installed directly side by side with high load on all poles, a correction factor has to be applied to the rated current (see table). If distance pieces are used, the factor is not to be considered.

No. of adjacent devices	Factor F
1	1
2, 3	0.9
4, 5	0.8
≥ 6	0.75

Example

Installation of 8 adjacent miniature circuit breakers S201-C80 at 40 °C ambient temperature

Rated current $I_n = 80$ A

Max. operating current at 40 °C = 75 A

(see table above)

Factor F = 0.75 (see left table)

$I_n = 75$ A x 0.75 = 56.3 A

Result: The operating current can only add up to max. 56.3 A

Internal resistance and power loss per pole

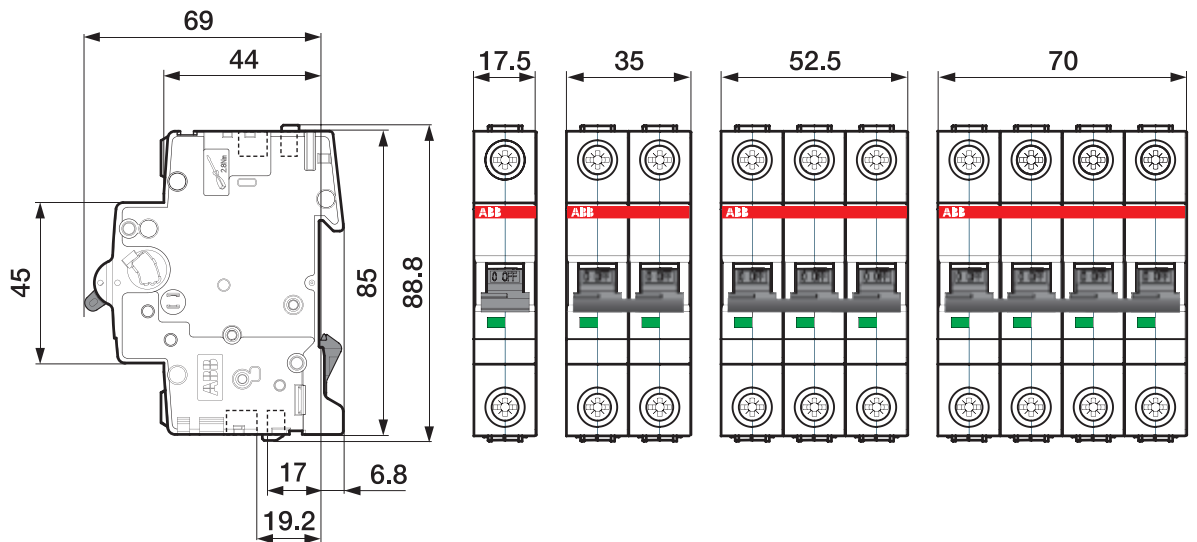
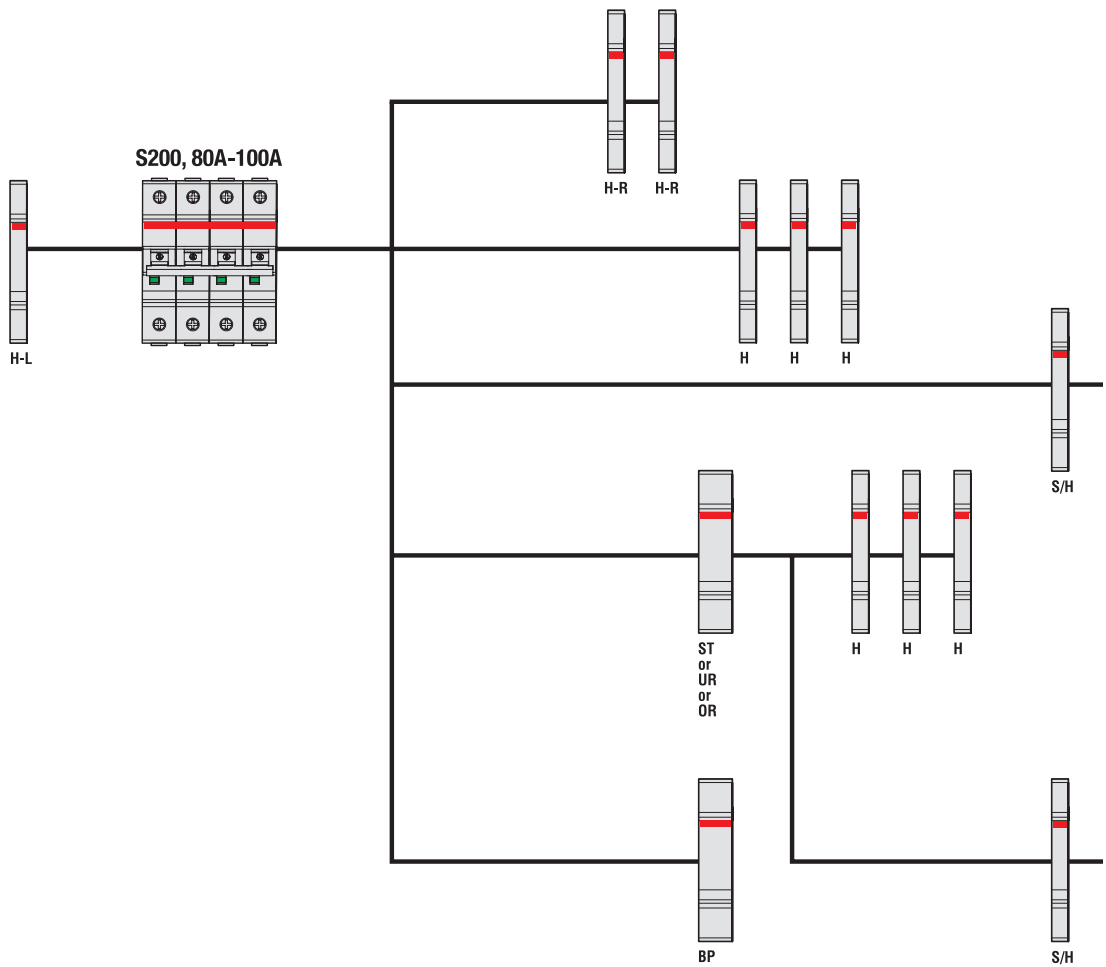
Tripping characteristic	Rated current I_n A	Internal resistance R_i mOhm	Power loss P_v W
B, C	80	0.9	8.1
B, C	100	0.8	9.8

Internal resistances are subject to application-specific and environment-specific conditions and are therefore to be considered as typical values.

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Accessories and dimensional drawing

- H:**
Auxiliary contact
(change-over contact)
(S2C-H6R)
- H-R:**
Auxiliary contact
(S2C-H6-...R)
- S/H:**
Signal/Auxiliary contact
(S2C-S/H6R)
- S/H (H):**
Signal/Auxiliary contact
used as auxiliary contact
(S2C-S/H6R)
- ST:**
Shunt trip
(S2C-A...)
- UR:**
Undervoltage release
(S2C-UA)
- OR:**
Oversvoltage release
(S2C-OVP)
- H-L:**
Auxiliary contact
(S2C-H...L)
- BP:**
Mechanical
tripping device
(S2C-BP)



Miniature Circuit Breaker S 200 80 A – 100 A for Australian markets

Ordering data



S 201 80-100A



S 202 80-100A



S 203 80-100A



S 204 80-100A

Number of poles	Rated current I _n [A]	EAN	Type code	Order code	Weight per PCE [kg]	Packing unit [PCE]
B characteristic						
1	80	4053546039726	S201-B80-240V	2CDS251240R0805	0.128	10
1	100	4053546041118	S201-B100-240V	2CDS251240R0825	0.128	10
2	80	4053546041125	S202-B80-415V	2CDS252240R0805	0.256	5
2	100	4053546041132	S202-B100-415V	2CDS252240R0825	0.256	5
3	80	4053546041149	S203-B80-415V	2CDS253240R0805	0.384	1
3	100	4053546041156	S203-B100-415V	2CDS253240R0825	0.384	1
4	80	4053546041163	S204-B80-415V	2CDS254240R0805	0.512	1
4	100	4053546041170	S204-B100-415V	2CDS254240R0825	0.512	1
C characteristic						
1	80	4053546041187	S201-C80-240V	2CDS251240R0804	0.128	10
1	100	4053546041194	S201-C100-240V	2CDS251240R0824	0.128	10
2	80	4053546041200	S202-C80-415V	2CDS252240R0804	0.256	5
2	100	4053546041217	S202-C100-415V	2CDS252240R0824	0.256	5
3	80	4053546041224	S203-C80-415V	2CDS253240R0804	0.384	1
3	100	4053546041231	S203-C100-415V	2CDS253240R0824	0.384	1
4	80	4053546041248	S204-C80-415V	2CDS254240R0804	0.512	1
4	100	4053546041255	S204-C100-415V	2CDS254240R0824	0.512	1

ABB Group
Electrification Products Division,
Business Unit Smart Buildings

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