

## Constant attention

Protection, selectivity and savings: ABB's mission for your home

Protecting the electrical system is an essential step to ensure safety and comfort to its users, as well as the correct economical and functional operation of the devices it supplies.

2



Protection aims at minimizing risks for people and devices due to abnormal conditions or faults that impair the electrical parameters of the installation and of the loads. In this context, an adequate coordination between the various protection devices (normally located on the sections of the system or on specific components) and an appropriate degree of selectivity enable to provide total safety of the installation. For the system to operate properly, protection has to allow quick identification and exclusion of the area affected by the problem, without hasty, inappropriate or untimely actions that may compromise the power supply to the unaffected areas. In case of tripping of a protection device, the maintenance personnel should have clear and essential information rapidly available in order to restore the service as quickly as possible. A protection system must also provide adequate flexibility and include reserve mechanisms, in case of malfunctioning of the main protection unit.

For a good compromise between reliability, simplicity and convenience, a protection system must be able to identify how and where the fault occurred, differentiating between abnormal but tolerable situations and actual situations. It is imperative to act as quickly as possible to minimize risks and damage (destruction, accelerated aging, etc.), safeguarding the continuity and stability of power supply. Along with their quality, ease of installation the modular products for DIN rail proposed by the ABB System pro *M compact*® catalogue combine features that enable to reconcile two seemingly conflicting needs: accurate identification of the fault and effectiveness of action. Although a marked selectivity of protective devices is rarely required by the applicable regulations and may seem unwarranted, designing a selective system means choosing a much more efficient, cost-effective solution, suited to the needs of the users and perfectly made, beyond the simple regulatory aspect.





# Miniature circuit-breakers

## S 200

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# MCB S 200. The details make the difference

## A range designed to ensure efficiency and protection

2

Twin terminal for separate feeding of busbar and conductor

IP20 - finger safety

Easy identification of the product and highly resistant laser marking

Safe your time – all important data available right away

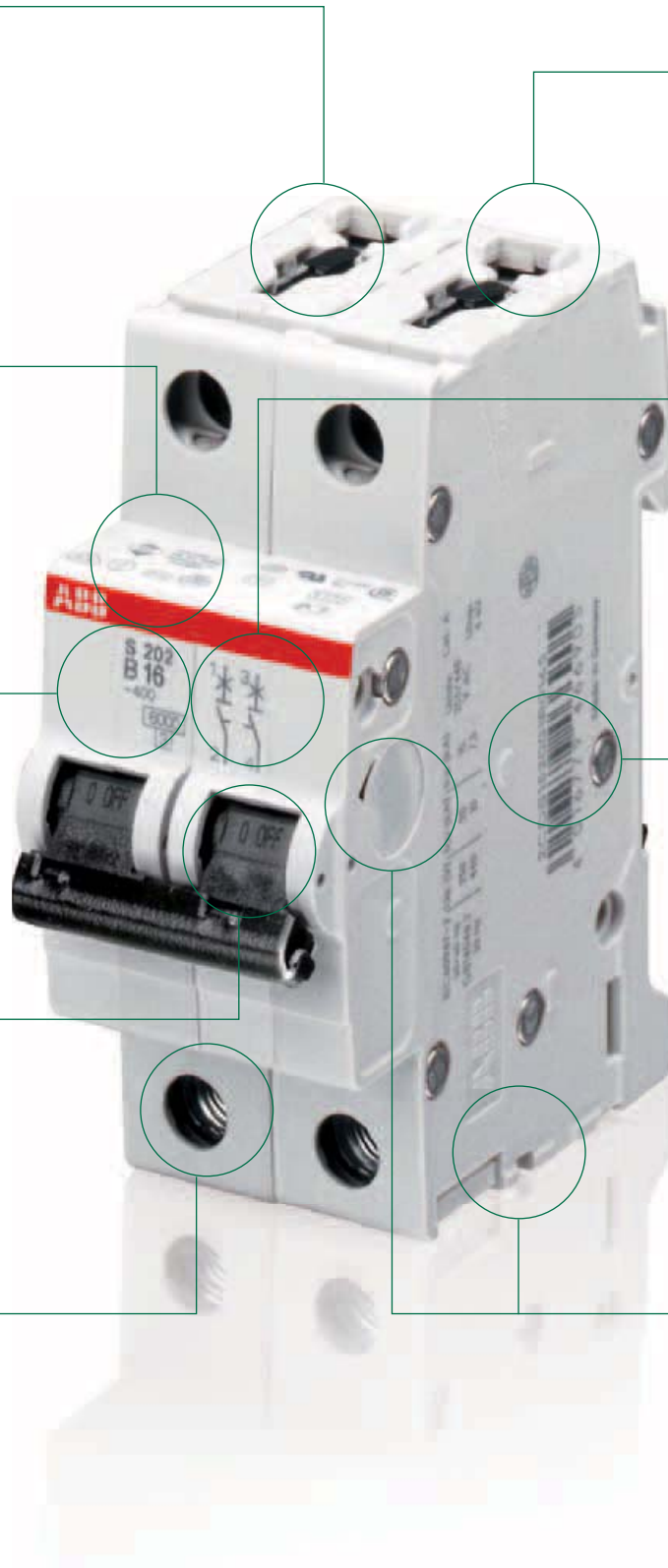
Easy product name, easy identification, easy life

Quick identification thanks to laser printed EAN marking

Contact position indication

Captive screws: don't lose what's important for you

Whatever your application need is – applicable with a wide range of accessories





**Contact position indication**

All System pro *M* compact® MCBs are suited with a contact position indication (CPI) on the toggle. You can easily identify, if the MCB is in the ON or the OFF position – **easy and safe maintenance work is possible.**



**Approvals printed on the dome**

S 200 and S 200 M MCBs comply to IEC/EN 60898 and IEC/EN 60947 and carry all relevant approval marks for each market and segment they are destined to. The certification markings are also printed on the dome of the MCB. Thus make it possible to see the markings also in the mounted position. **For control and acceptance procedure – certification marks visible on fitted devices on the dome.**



**Housing material**

By using the state-of-the-art housing material, ABB is taking care of the environment. With the latest generation of thermoplastics it's possible to recycle the MCBs – especially the thermoplastic housing-material can be re-used. By using the latest generation of thermoplastics the material stability of all System pro *M* compact® MCBs is improved. **S200 and S200M are 100% free of halogens – no environmental pollution.**



**Laser printing**

All printings of the S 200 and S 200 M MCBs, like the approvals on the dome and the product identification, are printed by a laser. The laser printing ensures a friction, scratch and solvent resistant marking on the MCBs.

**Easy identification of the products in case of maintenance or replacements due to safe laser printing.**



**Removal of the devices**

Special quick fastening for an easy removal of the devices from the assembly pressing upwards, both for MCBs S 200/S 200 M and RCCBs F 200.



**IP 20 - finder safe terminals**

The System pro *M* compact® MCB's are equipped with 35 mm<sup>2</sup> + 10 mm<sup>2</sup> cylinder lift twin terminals, a well proven and reliable technology - designed for sophisticated industrial use. The cross wiring can easily be done by inserting the System pro *M* compact® busbars into the rear terminal part and then the incoming wires into the front part of the terminal.

# Technical features table for miniature circuit-breakers S 200 Series

2

## General Data

Standards		
Poles		
Tripping characteristics		
Rated current $I_n$	A	
Rated frequency f	Hz	
Rated insulation voltage $U_i$ acc. to IEC/EN 60664-1	V	
Overvoltage category		
Pollution degree		
<b>Data acc. to IEC/EN 60898-1</b>		
Rated operational voltage $U_n$	V	
Max. power frequency recovery voltage ( $U_{max}$ )	V	
Min. operating voltage	V	
Rated short-circuit capacity $I_{cn}$	kA	
Energy limiting class (B, C up to 40 A)		
Rated impulse withstand voltage $U_{imp}$ (1.2/50 $\mu$ s)	kV	
Dielectric test voltage	kV	
Reference temperature for tripping characteristics	°C	
Electrical endurance	ops.	
<b>Data acc. to IEC/EN 60947-2</b>		
Rated operational voltage $U_n$	V	
Max. power frequency recovery voltage ( $U_{max}$ )	V	
Min. operating voltage	V	
Rated ultimate short-circuit breaking capacity $I_{cu}$	kA	
Rated service short-circuit breaking capacity $I_{cs}$	kA	
Rated impulse withstand voltage $U_{imp}$ (1.2/50 $\mu$ s)	kV	
Dielectric test voltage	kV	
Reference temperature for tripping characteristics	°C	
Electrical endurance	ops.	
<b>Data acc. to UL / CSA</b>		
Rated voltage	V	
Rated interrupting capacity acc. to UL 1077	kA	
Application		
Reference temperature for tripping characteristics	°C	
Electrical endurance	ops.	



2CSC400031 F0001



2CSC400031 F0001

**S 200**

**S 200 M**

IEC/EN 60898-1, IEC/EN 60947-2  
UL 1077, CSA 22.2 No. 235

IEC/EN 60898-1, IEC/EN 60947-2

1P, 2P, 3P, 4P, 1P+N, 3P+N

B, C

6...40 A

50 / 60 Hz

250 V AC (phase to ground), 500 V AC (phase to phase)

III

3

1P: 230/400 V AC; 1P+N: 230 V AC ; 2...4P: 400 V AC; 3P+N: 400 V AC

1P: 253 V AC; 1P+N: 253 V AC; 2P: 440 V AC; 3...4P: 440 V AC; 3P+N: 440 V AC; 1P: 72 V DC; 2P: 125 V DC

12 V AC - 12 V DC

6 kA

10 kA

3

4 kV (test voltage 6.2kV at sea level, 5kV at 2,000m)

2 kV (50 / 60Hz, 1 min.)

B, C: 30°C

$I_n < 32A$ : 20,000 ops. (AC),  $I_n \geq 32A$ : 10,000 ops. (AC); 1,000 ops. (DC); 1 cycle (2s - ON, 13s - OFF,  $I_n \leq 32A$ ), 1 cycle (2s - ON, 28s - OFF,  $I_n > 32A$ )

1P: 230 V AC; 1P+N: 230 V AC; 2...4P: 400 V AC; 3P+N: 400 V AC

1P: 253 V AC; 1P+N: 253 V AC; 2P: 440 V AC; 3...4P: 440 V AC; 3P+N: 440 V AC; 1P: 72 V DC; 2P: 125 V DC

12 V AC - 12 V DC

10 kA

$\leq 40 A$ : 15 kA  
50, 63 A: 10 kA

7.5 kA

$\leq 40 A$ : 11.2 kA  
50, 63 A: 7.5 kA

4 kV (test voltage 6.2kV at sea level, 5kV at 2,000m)

2 kV (50 / 60Hz, 1 min.)

B, C: 55°C

$I_n < 32A$ : 20,000 ops. (AC),  $I_n \geq 32A$ : 10,000 ops. (AC); 1,000 ops. (DC); 1 cycle (2s - ON, 13s - OFF,  $I_n \leq 32A$ ), 1 cycle (2s - ON, 28s - OFF,  $I_n > 32A$ )

480Y / 277 V AC

-

6 kA

-

Suppl. prot. for general use. Application Codes: TC2, OL0, SC: U1

-

B, C: 30°C

-

6,000 ops. (AC), 6,000 ops. (DC); 1 cycle (1s - ON, 9s - OFF)



# Technical features table for miniature circuit-breakers S 200 Series

2

## Mechanical Data

Housing		
Toggle		
Contact position indication		
Protection degree acc. to EN 60529		
Mechanical endurance		ops.
Shock resistance acc. to IEC/EN 60068-2-27		
Vibration resistance acc. to IEC/EN 60068-2-6		
Environmental conditions (damp heat cyclic) acc. to IEC/EN 60068-2-30		°C/RH
Ambient temperature		°C
Storage temperature		°C

## Installation

Terminal		
Cross-section of conductors (top / bottom)		mm <sup>2</sup> AWG
Cross-section of busbars (top / bottom)		mm <sup>2</sup> AWG
Torque		Nm in-lbs.
Screwdriver		
Mounting		
Mounting position		
Supply		

## Dimensions and weight

Mounting dimensions acc. to DIN 43880		
Pole dimensions (H x D x W)		mm
Pole weight		g

## Combination with aux. elements

Auxiliary contact		
Signal contact		
Shunt trip		
Undervoltage release		
Motor Operating Device		



ZCSC400031 F0001



ZCSC400031 F0001

**S 200**

**S 200 M**

Insulation group I, RAL 7035  
 Insulation group II, black, sealable  
 Marking on toggle (I ON / 0 OFF)  
 IP20\*, IP40 in enclosure with cover  
 20,000 ops.  
 30 g - 3 shocks - 11 ms  
 5g - 20 cycles at 5...150...5 Hz with load 0.8 I<sub>n</sub>  
 28 cycles with 55°C/90-96% and 25°C/95-100%  
 -25 ... +55°C  
 -40 ... +70°C

Failsafe bi-directional cylinder-lift terminal

25 mm <sup>2</sup> / 25 mm <sup>2</sup>	-
18 - 4 AWG	-
10 mm <sup>2</sup> / 10 mm <sup>2</sup>	-
18 - 8 AWG	-
2.8 Nm	-
25 in-lbs.	-
No. 2 Pozidrive	-
On DIN rail 35 mm acc. to EN 60715 by fast clip	-
any	-
optional	-

Mounting dimension 1

88 x 69 x 17.5 mm  
 ca. 125 g

Yes  
 Yes  
 Yes  
 Yes  
 Yes

# Ordering Information

## MCB S 200 Series - B characteristic

2



S201-B

2CSC400031F0002



S201-B...NA

2CSC400031F0003



S202-B

2CSC400031F0003



S203-B

2CSC400031F0004

The S 200 miniature circuit breaker is perfectly suitable for protecting lighting and power socket circuits that can be frequently found in residential areas. ABB used its years of experience with miniature circuit breaker to create this product by combining the optimum features for residential use alone.

The System pro *M* compact® range is versatile to provide the customer with the perfect solution for residential overcurrent protection. It is available in tripping characteristics B and C type; with breaking capacities between 6 and 10 kA. As usual for ABB miniature circuit breaker, S200 is available from one to four poles and additional in one & three pole plus Neutral. The rated currents are available from 0,5A up to 63A.

N. of poles	Rated current	N° module [17,5 mm]	Bbn 4016779	Order details			Weight 1 piece	Pack unit
	In A		EAN	Type code	Order code	Price	Kg	
1	6	1	464901	S201-B 6	2CDS251001R0065		0,125	10
	10	1	463805	S201-B 10	2CDS251001R0105		0,125	10
	13	1	465007	S201-B 13	2CDS251001R0135		0,125	10
	16	1	463904	S201-B 16	2CDS251001R0165		0,125	10
	20	1	465106	S201-B 20	2CDS251001R0205		0,125	10
	25	1	465205	S201-B 25	2CDS251001R0255		0,125	10
	32	1	465304	S201-B 32	2CDS251001R0325		0,125	10
	40	1	465403	S201-B 40	2CDS251001R0405		0,125	10
1+N	6	2	531580	S201-B 6 NA	2CDS251103R0065		0,250	5
	10	2	531597	S201-B 10 NA	2CDS251103R0105		0,250	5
	13	2	531603	S201-B 13 NA	2CDS251103R0135		0,250	5
	16	2	531610	S201-B 16 NA	2CDS251103R0165		0,250	5
	20	2	531627	S201-B 20 NA	2CDS251103R0205		0,250	5
	25	2	531634	S201-B 25 NA	2CDS251103R0255		0,250	5
	32	2	531641	S201-B 32 NA	2CDS251103R0325		0,250	5
	40	2	531658	S201-B 40 NA	2CDS251103R0405		0,250	5
2	6	2	466400	S202-B 6	2CDS252001R0065		0,250	5
	10	2	466608	S202-B 10	2CDS252001R0105		0,257	5
	13	2	466707	S202-B 13	2CDS252001R0135		0,257	5
	16	2	466905	S202-B 16	2CDS252001R0165		0,260	5
	20	2	467001	S202-B 20	2CDS252001R0205		0,270	5
	25	2	467100	S202-B 25	2CDS252001R0255		0,250	5
	32	2	467209	S202-B 32	2CDS252001R0325		0,250	5
	40	2	467407	S202-B 40	2CDS252001R0405		0,250	5
3	6	3	467506	S203-B 6	2CDS253001R0064		0,375	1
	8	3	467605	S203-B 8	2CDS253001R0084		0,375	1
	10	3	467803	S203-B 10	2CDS253001R0104		0,375	1
	13	3	467902	S203-B 13	2CDS253001R0134		0,375	1
	16	3	468008	S203-B 16	2CDS253001R0164		0,375	1
	20	3	468107	S203-B 20	2CDS253001R0204		0,375	1
	25	3	468206	S203-B 25	2CDS253001R0254		0,375	1
	32	3	468305	S203-B 32	2CDS253001R0324		0,375	1
40	3	468404	S203-B 40	2CDS253001R0404		0,375	1	



S203-B...NA

2CSC400031F0005



S204-B

2CSC400031F0005

N. of poles	Rated current	N° module [17,5 mm]	Bbn 4016779	Order details		Price	Weight 1 piece Kg	Pack unit
	In A		EAN	Type code	Order code			
3+N	6	4	532280	S203-B 6 NA	2CDS253103R0065		0,500	1
	10	4	532297	S203-B 10 NA	2CDS253103R0105		0,500	1
	13	4	532303	S203-B 13 NA	2CDS253103R0135		0,500	1
	16	4	532310	S203-B 16 NA	2CDS253103R0165		0,500	1
	20	4	532327	S203-B 20 NA	2CDS253103R0205		0,500	1
	25	4	532334	S203-B 25 NA	2CDS253103R0255		0,500	1
	32	4	532341	S203-B 32 NA	2CDS253103R0325		0,500	1
	40	4	532358	S203-B 40 NA	2CDS253103R0405		0,500	1
4	6	4	528955	S204-B 6	2CDS254001R0065		0,500	1
	10	4	528962	S204-B 10	2CDS254001R0105		0,500	1
	13	4	528979	S204-B 13	2CDS253403R0135		0,500	1
	16	4	528986	S204-B 16	2CDS254001R0165		0,500	1
	20	4	528993	S204-B 20	2CDS254001R0205		0,500	1
	25	4	529006	S204-B 25	2CDS254001R0255		0,500	1
	32	4	529013	S204-B 32	2CDS254001R0325		0,500	1
	40	4	529020	S204-B 40	2CDS254001R0405		0,500	1

# Ordering Information

## MCB S 200 Series - C characteristic

2



S201-C

2CSC400031F0002



S201-C...NA

2CSC400031F0003



S202-C

2CSC400031F0003



S203-C

2CSC400031F0004

N. of poles	Rated current	N° module [17,5 mm]	Bbn 4016779	Order details		Price	Weight 1 piece Kg	Pack unit
	In A		EAN	Type code	Order code			
1	6	1	464000	S201-C 6	2CDS251001R0064		0,125	10
	8	1	464109	S201-C 8	2CDS251001R0084		0,125	10
	10	1	464208	S201-C 10	2CDS251001R0104		0,125	10
	13	1	464307	S201-C 13	2CDS251001R0134		0,125	10
	16	1	464406	S201-C 16	2CDS251001R0164		0,125	10
	20	1	464505	S201-C 20	2CDS251001R0204		0,125	10
	25	1	464604	S201-C 25	2CDS251001R0254		0,125	10
	32	1	464703	S201-C 32	2CDS251001R0324		0,125	10
	40	1	464802	S201-C 40	2CDS251001R0404		0,125	10
1+N	6	2	531733	S201-C 6 NA	2CDS251103R0064		0,250	5
	8	2	531740	S201-C 8 NA	2CDS251103R0084		0,250	5
	10	2	531757	S201-C 10 NA	2CDS251103R0104		0,250	5
	13	2	531764	S201-C 13 NA	2CDS251103R0134		0,250	5
	16	2	531771	S201-C 16 NA	2CDS251103R0164		0,250	5
	20	2	531788	S201-C 20 NA	2CDS251103R0204		0,250	5
	25	2	531795	S201-C 25 NA	2CDS251103R0254		0,250	5
	32	2	531801	S201-C 32 NA	2CDS251103R0324		0,250	5
	40	2	531818	S201-C 40 NA	2CDS251103R0404		0,250	5
2	6	2	465502	S202-C 6	2CDS252001R0064		0,250	5
	8	2	465601	S202-C 8	2CDS252001R0084		0,246	5
	10	2	465700	S202-C 10	2CDS252001R0104		0,250	5
	13	2	465809	S202-C 13	2CDS252001R0134		0,257	5
	16	2	465908	S202-C 16	2CDS252001R0164		0,250	5
	20	2	466004	S202-C 20	2CDS252001R0204		0,250	5
	25	2	466103	S202-C 25	2CDS252001R0254		0,250	5
	32	2	466202	S202-C 32	2CDS252001R0324		0,250	5
	40	2	466301	S202-C 40	2CDS252001R0404		0,250	5
3	6	3	467506	S203-C 6	2CDS253001R0064		0,375	1
	8	3	467605	S203-C 8	2CDS253001R0084		0,375	1
	10	3	467803	S203-C 10	2CDS253001R0104		0,375	1
	13	3	467902	S203-C 13	2CDS253001R0134		0,375	1
	16	3	468008	S203-C 16	2CDS253001R0164		0,375	1
	20	3	468107	S203-C 20	2CDS253001R0204		0,375	1
	25	3	468206	S203-C 25	2CDS253001R0254		0,375	1
	32	3	468305	S203-C 32	2CDS253001R0324		0,375	1
	40	3	468404	S203-C 40	2CDS253001R0404		0,375	1



S203-C...NA

2CSC400031F0005



S204-C

2CSC400031F0005

N. of poles	Rated current	N° module [17,5 mm]	Bbn 4016779	Order details		Price	Weight 1 piece Kg	Pack unit
	In A		EAN	Type code	Order code			
3+N	6	4	532433	S203-C 6 NA	2CDS253103R0064		0,500	1
	8	4	532440	S203-C 8 NA	2CDS253103R0084		0,500	1
	10	4	532457	S203-C 10 NA	2CDS253103R0104		0,500	1
	13	4	532464	S203-C 13 NA	2CDS253103R0134		0,500	1
	16	4	532471	S203-C 16 NA	2CDS253103R0164		0,500	1
	20	4	532488	S203-C 20 NA	2CDS253103R0204		0,500	1
	25	4	532495	S203-C 25 NA	2CDS253103R0254		0,500	1
	32	4	532501	S203-C 32 NA	2CDS253103R0324		0,500	1
	40	4	532518	S203-C 40 NA	2CDS253103R0404		0,500	1
4	6	4	529174	S204-C 6	2CDS254001R0064		0,500	1
	8	4	529181	S204-C 8	2CDS254001R0084		0,500	1
	10	4	529198	S204-C 10	2CDS254001R0104		0,500	1
	13	4	529204	S204-C 13	2CDS254001R0134		0,500	1
	16	4	529211	S204-C 16	2CDS254001R0164		0,500	1
	20	4	529228	S204-C 20	2CDS254001R0204		0,500	1
	25	4	529235	S204-C 25	2CDS254001R0254		0,500	1
	32	4	529242	S204-C 32	2CDS254001R0324		0,500	1
	40	4	529259	S204-C 40	2CDS254001R0404		0,500	1

# Ordering Information

## MCB S 200 M Series - C characteristic

2



S201 M-C

2CSC400031F0002



S201 M-C...NA

2CSC400031F0003



S202 M-C

2CSC400031F0003



S203 M-C

2CSC400031F0004

N. of poles	Rated current	N° module [17,5 mm]	Bbn 4016779	Order details		Price	Weight 1 piece Kg	Pack unit
	In A		EAN	Type code	Order code			
1	6	1	549967	S 201 M-C 6	2CDS271001R0064		0,125	10
	8	1	549974	S 201 M-C 8	2CDS271001R0084		0,125	10
	10	1	549981	S 201 M-C 10	2CDS271001R0104		0,125	10
	13	1	549998	S 201 M-C 13	2CDS271001R0134		0,125	10
	16	1	550000	S 201 M-C 16	2CDS271001R0164		0,125	10
	20	1	550017	S 201 M-C 20	2CDS271001R0204		0,125	10
	25	1	550024	S 201 M-C 25	2CDS271001R0254		0,125	10
	32	1	550031	S 201 M-C 32	2CDS271001R0324		0,125	10
	40	1	550048	S 201 M-C 40	2CDS271001R0404		0,125	10
	1+N	6	2	550116	S 201 M-C 6 NA	2CDS271103R0064		0,250
8		2	550123	S 201 M-C 8 NA	2CDS271103R0084		0,250	5
10		2	550130	S 201 M-C 10 NA	2CDS271103R0104		0,250	5
13		2	550147	S 201 M-C 13 NA	2CDS271103R0134		0,250	5
16		2	550154	S 201 M-C 16 NA	2CDS271103R0164		0,250	5
20		2	550161	S 201 M-C 20 NA	2CDS271103R0204		0,250	5
25		2	550178	S 201 M-C 25 NA	2CDS271103R0254		0,250	5
32		2	550185	S 201 M-C 32 NA	2CDS271103R0324		0,250	5
40		2	550192	S 201 M-C 40 NA	2CDS271103R0404		0,250	5
2		6	2	550260	S 202 M-C 6	2CDS272001R0064		0,250
	8	2	550277	S 202 M-C 8	2CDS272001R0084		0,250	5
	10	2	550284	S 202 M-C 10	2CDS272001R0104		0,250	5
	13	2	550291	S 202 M-C 13	2CDS272001R0134		0,250	5
	16	2	550307	S 202 M-C 16	2CDS272001R0164		0,250	5
	20	2	550314	S 202 M-C 20	2CDS272001R0204		0,250	5
	25	2	550321	S 202 M-C 25	2CDS272001R0254		0,250	5
	32	2	550338	S 202 M-C 32	2CDS272001R0324		0,250	5
	40	2	550345	S 202 M-C 40	2CDS272001R0404		0,250	5
	3	6	3	550413	S 203 M-C 6	2CDS273001R0064		0,375
8		3	550420	S 203 M-C 8	2CDS273001R0084		0,375	1
10		3	550437	S 203 M-C 10	2CDS273001R0104		0,375	1
13		3	550444	S 203 M-C 13	2CDS273001R0134		0,375	1
16		3	550451	S 203 M-C 16	2CDS273001R0164		0,375	1
20		3	550468	S 203 M-C 20	2CDS273001R0204		0,375	1
25		3	550475	S 203 M-C 25	2CDS273001R0254		0,375	1
32		3	550482	S 203 M-C 32	2CDS273001R0324		0,375	1
40		3	550499	S 203 M-C 40	2CDS273001R0404		0,375	1



S203 M-C...NA

2CSC400031F0005



S204 M-C

2CSC400031F0005

N. of poles	Rated current	N° module [17,5 mm]	Bbn 4016779	Order details		Price	Weight 1 piece Kg	Pack unit
	In A		EAN	Type code	Order code			
3+N	6	4	550567	S 203 M-C 6 NA	2CDS273103R0064		0,500	1
	8	4	550574	S 203 M-C 8 NA	2CDS273103R0084		0,500	1
	10	4	550581	S 203 M-C 10 NA	2CDS273103R0104		0,500	1
	13	4	550598	S 203 M-C 13 NA	2CDS273103R0134		0,500	1
	16	4	550604	S 203 M-C 16 NA	2CDS273103R0164		0,500	1
	20	4	550611	S 203 M-C 20 NA	2CDS273103R0204		0,500	1
	25	4	550628	S 203 M-C 25 NA	2CDS273103R0254		0,500	1
	32	4	550635	S 203 M-C 32 NA	2CDS273103R0324		0,500	1
	40	4	550642	S 203 M-C 40 NA	2CDS273103R0404		0,500	1
4	6	4	550710	S 204 M-C 6	2CDS274001R0064		0,500	1
	8	4	550727	S 204 M-C 8	2CDS274001R0084		0,500	1
	10	4	550734	S 204 M-C 10	2CDS274001R0104		0,500	1
	13	4	550741	S 204 M-C 13	2CDS274001R0134		0,500	1
	16	4	550758	S 204 M-C 16	2CDS274001R0164		0,500	1
	20	4	550765	S 204 M-C 20	2CDS274001R0204		0,500	1
	25	4	550772	S 204 M-C 25	2CDS274001R0254		0,500	1
	32	4	550789	S 204 M-C 32	2CDS274001R0324		0,500	1
	40	4	550796	S 204 M-C 40	2CDS274001R0404		0,500	1



# Ordering Information

## MCB S 200 M Series - B characteristic

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2CSC400031F0002

S201 M-B



2CSC400031F0003

S202 M-B



2CSC400031F0004

S203 M-B



2CSC400031F0005

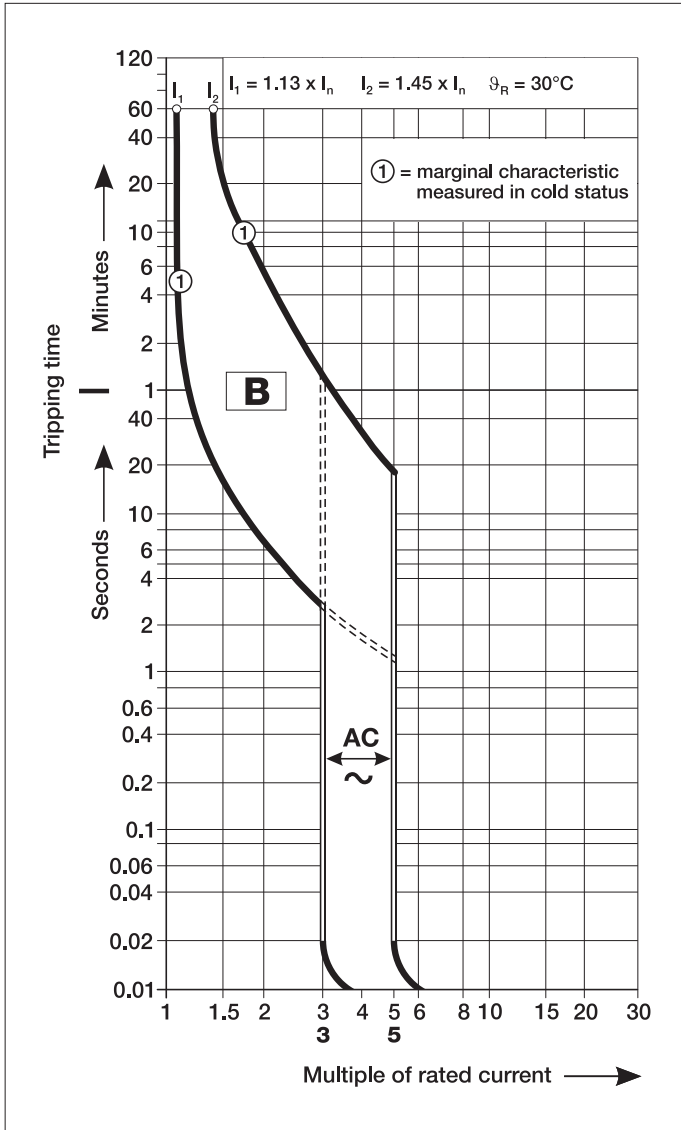
S204 M-B

N. of poles	Rated current	N° module [17,5 mm]	Bbn 4016779	Order details		Price	Weight 1 piece Kg	Pack unit
	In A		EAN	Type code	Order code			
1	6	1	549424	S 201 M-B 6	2CDS271001R0065		0,125	10
	10	1	549431	S 201 M-B 10	2CDS271001R0105		0,125	10
	13	1	549448	S 201 M-B 13	2CDS271001R0135		0,125	10
	16	1	549455	S 201 M-B 16	2CDS271001R0165		0,125	10
	20	1	549462	S 201 M-B 20	2CDS271001R0205		0,125	10
	25	1	549479	S 201 M-B 25	2CDS271001R0255		0,125	10
	32	1	549486	S 201 M-B 32	2CDS271001R0325		0,125	10
	40	1	549493	S 201 M-B 40	2CDS271001R0405		0,125	10
2	6	2	549585	S 202 M-B 6	2CDS272001R0065		0,250	5
	10	2	549592	S 202 M-B 10	2CDS272001R0105		0,250	5
	13	2	549608	S 202 M-B 13	2CDS272001R0135		0,250	5
	16	2	549615	S 202 M-B 16	2CDS272001R0165		0,250	5
	20	2	549622	S 202 M-B 20	2CDS272001R0205		0,250	5
	25	2	549639	S 202 M-B 25	2CDS272001R0255		0,250	5
	32	2	549646	S 202 M-B 32	2CDS272001R0325		0,250	5
	40	2	549653	S 202 M-B 40	2CDS272001R0405		0,250	5
3	6	3	549660	S 203 M-B 6	2CDS273001R0065		0,375	1
	10	3	549677	S 203 M-B 10	2CDS273001R0105		0,375	1
	13	3	549684	S 203 M-B 13	2CDS273001R0135		0,375	1
	16	3	549691	S 203 M-B 16	2CDS273001R0165		0,375	1
	20	3	549707	S 203 M-B 20	2CDS273001R0205		0,375	1
	25	3	549714	S 203 M-B 25	2CDS273001R0255		0,375	1
	32	3	549721	S 203 M-B 32	2CDS273001R0325		0,375	1
	40	3	549738	S 203 M-B 40	2CDS273001R0405		0,375	1
4	6	4	549820	S 204 M-B 6	2CDS274001R0065		0,500	1
	10	4	549837	S 204 M-B 10	2CDS274001R0105		0,500	1
	13	4	549844	S 204 M-B 13	2CDS274001R0135		0,500	1
	16	4	549851	S 204 M-B 16	2CDS274001R0165		0,500	1
	20	4	549868	S 204 M-B 20	2CDS274001R0205		0,500	1
	25	4	549875	S 204 M-B 25	2CDS274001R0255		0,500	1
	32	4	549882	S 204 M-B 32	2CDS274001R0325		0,500	1
	40	4	549899	S 204 M-B 40	2CDS274001R0405		0,500	1

# Technical details

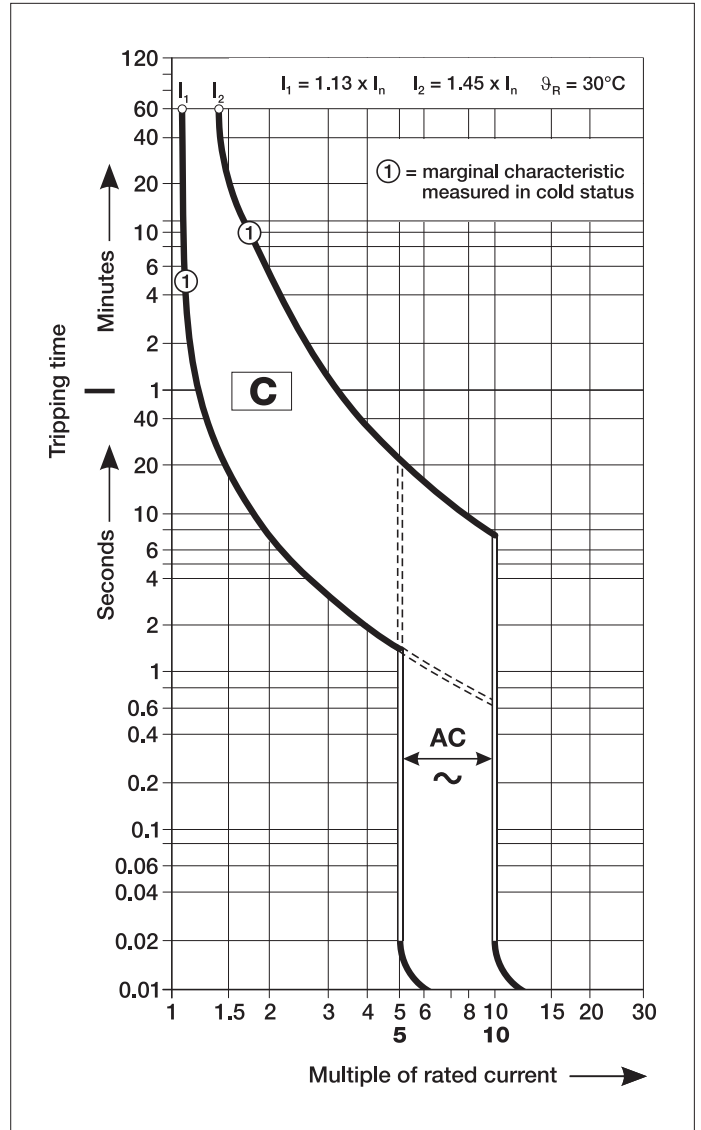
## Tripping diagrams

B characteristic



acc. to IEC/EN 60898-1  
 $I_n = 6 \dots 40 \text{ A}$   
 S200 / S200 M

C characteristic



acc. to IEC/EN 60898-1  
 $I_n = 6 \dots 40 \text{ A}$   
 S 200 / S 200 M

# Technical details

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## Internal resistances and power losses of the Miniature Circuit-Breakers

Rated current $I_n$ A	Device series B, C	
	m $\Omega$	W
6	55	2.0
8	15	1.0
10	13.3	1.3
13	13.3	2.3
16	7.0	1.8
20	6.25	2.5
25	5.0	3.2
32	3.6	3.7
40	3.0	4.8

Internal resistances per pole in m  $\Omega$   
Power losses per pole in W

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

## Tripping characteristics

acc. to	Tripping characteristic	Thermal trips <sup>1</sup>			Electromagnetic trips <sup>2</sup>		
		Test currents: conventional non-tripping current $I_1$	conventional tripping current $I_2$	Tripping-time	Test currents: hold current surges of	trip at least at	Tripping-time
IEC/EN 60898-1	B	$1.13 \cdot I_n$	$1.45 \cdot I_n$	> 1 h < 1 h <sup>3</sup>	$3 \cdot I_n$	$5 \cdot I_n$	0.1 s ... 45 s $\leq$ 32 A / 0.1 s ... 90 s $\geq$ 32 A < 0,1 s
	C	$1.13 \cdot I_n$	$1.45 \cdot I_n$	> 1 h < 1 h <sup>3</sup>	$5 \cdot I_n$	$10 \cdot I_n$	0.1 s ... 15 s $\leq$ 32 A / 0.1 s ... 30 s $\geq$ 32 A < 0,1 s

<sup>1</sup> Influence of ambient temperature see below.

<sup>2</sup> The tripping for the electromagnetic trip are valid for AC 50...60 Hz. For other frequencies see table below.

<sup>3</sup> From warm operating condition (After  $I_1 > 1$  h resp. 2 h).

## Influence of frequency on electromagnetic trips

	AC			DC
	100 Hz	200 Hz	400 Hz	
Factor approx.	1.1	1.2	1.5	1.5

The stated tripping values of the electromagnetic trips are valid for a frequency of 50... 60 Hz. In case of frequencies deviating from 50... 60 Hz as well as direct current the tripping values are changed by the factor mentioned below.  
**The tripping values of the thermal trips are independent of the frequency.**

## Influence of ambient temperature

The thermal trips are calibrated for an ambient temperature 30 °C for B- and C-characteristic.

In the case of temperatures deviating from these values the tripping values:

- are reduced in case of higher temperatures;
- are increased in case of lower temperatures.

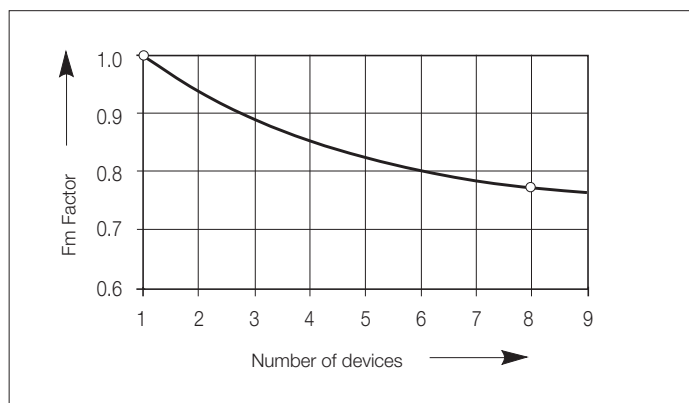
The electronic tripping is not dependent on temperature

## Derating of load capability of MCBs

Max. operating current depending on the ambient temperature of a circuit-breaker in load circuit of characteristics type B and C.

B and C In (A)	Ambient temperature T (°C)											
	-40	-30	-20	-10	0	10	20	30	40	50	60	70
6.0	8.0	7.7	7.5	7.2	6.9	6.6	6.3	6.0	5.7	5.3	4.9	4.5
8.0	10.7	10.3	10.0	9.6	9.2	8.8	8.4	8.0	7.5	7.1	6.5	6.0
10.0	13.3	12.9	12.5	12.0	11.5	11.1	10.5	10.0	9.4	8.8	8.2	7.5
13.0	17.3	16.8	16.2	15.6	15.0	14.4	13.7	13.0	12.3	11.5	10.6	9.7
16.0	21.3	20.7	20.0	19.2	18.5	17.7	16.9	16.0	15.1	14.1	13.1	11.9
20.0	26.7	25.8	24.9	24.0	23.1	22.1	21.1	20.0	18.9	17.6	16.3	14.9
25.0	33.3	32.3	31.2	30.0	28.9	27.6	26.4	25.0	23.6	22.0	20.4	18.6
32.0	42.7	41.3	39.9	38.5	37.0	35.4	33.7	32.0	30.2	28.2	26.1	23.9
40.0	53.3	51.6	49.9	48.1	46.2	44.2	42.2	40.0	37.7	35.3	32.7	29.8

## Influence of adjacent devices S200



### Correction factor Fm

No. of adjacent devices	Fm
1	1
2	0.95
3	0.9
4	0.86
5	0.82
6	0.795
7	0.78
8	0.77
9	0.76
>9	0.76

Example: S 202 C 16 with T=40 °C

Type of use	Values to use	Formula	Calculation	Result
Continuous load	$I_n$ (amb. t°) - see tables -, 0.9	$I_n$ (amb. t°) x 0.9	15.1 x 0.9	$I_n$ = 16 A
Continuous load with 8 adj. devices	$I_n$ (amb. t°) - see tables -, 0.9, Fm (0.77)	$I_n$ (amb. t°) x 0.9 x 0.77	15.1 x 0.9 x 0.77	$I_n$ = 12.23 A

# Technical details

## Coordination tables

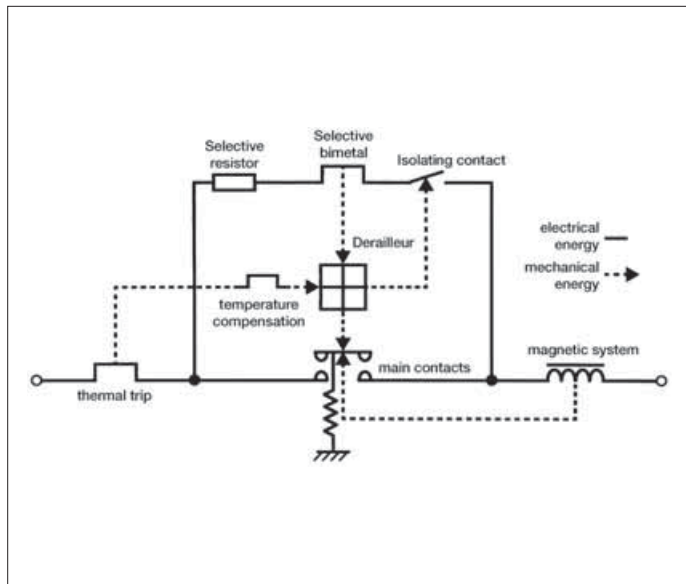
### Fuse gG, gL - MCB S 200, S 200 M

240 V Load s.	Supply s. Characteristic	In [A]	Fuse gG, gL
S200, S200 M	B	6	63
		10...20	100
		25...32	100
		40	125
		50...63	160
S200, S200 M	C	3...4	20
		6	40
		8	63
		10...20	100
		25...32	100
		40	125
		50...63	160

### MCB - MCB @ 240 V

Load s.	Char.	Supply s.		S200	S200M	S200P	S200P	S280	S290	S800S	25gL	40gL	50gL	63gL	80gL	100gL
		$I_{cu}$ [kA]	$I_n$ [A]	B-C	B-C	B-C	B-C	B-C	C-D	B-C-D-K						
SN201 L/DS201 L	B,C	6	2...40	20	25	40	25	20	25	50	35	25	20	15	10	10
SN201/DS201/DS202C	B,C,D	10	2...40	20	25	40	25	15	15	50	35	25	20	15	10	10
SN201 M/DS201 M/ DS202C M	B,C	10	2...40	20	25	40	25	15	15	50	35	25	20	15	10	10
S200	B,C,K,Z	20	0,5...63		25	40	25			50						
S200 M	B,C,D	25	0,5...63			40				50						
S200 P	B,C	40	0,5...25							50						
	D,K,Z	25	32...63							50						

### Functional diagram of selective main circuit breakers S 700



#### Back-up protection

Selective main circuit breakers of the S 700 series are capable of switching off short-circuit currents of up to 25 kA automatically in networks with a rated voltage of 230/400 V. Back-up protection is necessary only when the prospective short-circuit current may exceed 25 kA prosp. at the installation point. Further information on back-up protection on request.

#### Short circuit discrimination

When ABB miniature circuit-breaker are used in combination with the S 700, higher short-circuit currents can be disconnected than are indicated as permissible rated switching capacity of device. Considering the values given in the table, the S 700 operates selectively with respect to the combination with the final device. If other mcbs are used selectivity for 6 kA and 10 kA devices is available up to the rated switching capacity of the final device.

# Short circuit selectivity

MCBs



2

Load side	Supply side Char.	Icu [kA]	S 700										fuse									
			In [A]	E/K										gG								
				16	20	25	35	40	50	63	80	100	16	20	25	35	50	63	80	100		
S 200	C	6	m 2	>15	>15	>15	>15	>15	>15	>15	>15	>15	>15	>15	1	1.2	4	>15	>15	>15	>15	>15
			3	10	10	10	10	10	10	10	10	10	8	8	0.3	0.7	1.2	4.6	6	6	6	6
			4	10	10	10	10	10	10	10	10	8	8	0.3	0.6	0.9	2.8	6	6	6	6	
			B, C	6	10	10	10	10	10	10	10	8	8	0.2	0.5	0.8	2	3.3	5.5	6	6	
			C	8	10	10	10	10	10	10	10	8	8	0.2	0.4	0.7	1.7	2.8	4.5	6	6	
			B, C	10	10	10	10	10	10	10	10	8	8	0.2	0.4	0.7	1.5	2.5	3.5	5	6	
			13	10*	10	10	10	10	10	10	8	8			0.7	1.5	2.5	3.5	5	6		
			16		10*	10	10	10	10	10	8	8				1.3	2	2.9	4.1	6		
			20			10*	10	10	10	10	8	8					1.8	2.6	3.5	5		
			25				10*	10	10	10	8	8						1.8	2.6	3.5	5	
			32					10*	10	10	8	8							2.2	3	4	
			40						10*	10	8	8								2.5	4	
			50/63								8*	8									3.5	
S 200 M	C	6	m 2	>15	>15	>15	>15	>15	>15	>15	>15	>15	>15	1	1.2	4	>15	>15	>15	>15	>15	
			3	15	15	15	15	15	15	15	10	10	0.3	0.7	1.2	4.6	10	10	10	10		
			4	15	15	15	15	15	15	15	10	10	0.3	0.6	0.9	2.8	10	10	10	10		
			B, C	6	15	15	15	15	15	15	15	10	10	0.2	0.5	0.8	1.7	3.1	7	10	10	
			C	8	15	15	15	15	15	15	15	10	10	0.2	0.4	0.7	1.4	2.3	3.4	4.8	7.5	
			B, C	10	15	15	15	15	15	15	15	10	10	0.2	0.4	0.7	1.4	2.3	3.4	4.8	7.5	
			13	15*	15	15	15	15	15	15	10	10			0.7	1.4	2.3	3.4	4.8	7.5		
			16		15*	15	15	15	15	15	10	10				1.3	2	2.9	4.2	6		
			20			15*	15	15	15	15	10	10					1.9	2.7	3.8	5.6		
			25				15*	15	15	15	10	10						1.9	2.6	3.6	5.4	
			32					15*	15	15	10	10							2.4	3.2	4.2	
			40						15*	15	10	10								3.2	4.2	
			50/63								10*	10									3.8	

\* Limited overload selectivity

# Technical details

## Maximum permissible earth-fault loop impedance $Z_s$ at $U_0 = 230\text{ V}\sim$

Impedance  $Z_s$  at  $U_0 = 230\text{ V AC}^1$  to ensure compliance with the operation conditions pursuant to IEC 60364-4.

Operating time  $< 0.4\text{ s}$ ; at  $400\text{ V}\sim < 0.2\text{ s}$  and at  $> 400\text{ V}\sim < 0.1\text{ s}$

The instantaneous release of the MCB ensures an operating time of  $\leq 0.1\text{ s}$  (TN system).

Determined according to DIN VDE 0100-520 sheet 2:2002-11 (source impedance =  $300\text{ m}\Omega$ ,  $c = 0.95$  and conductor temperature  $70\text{ }^\circ\text{C}$  = factor 0.8). The internal resistance of the MCB is already included.

### S 200 and S 200 M

Rated current $I_n\text{ A}$	B max. $Z_s$ $\Omega$	C max. $Z_s$ $\Omega$
6	7.7	3.8
8	–	2.8
10	4.6	2.2
13	3.5	1.7
16	2.9	1.4
20	2.3	1.2
25	1.8	0.9
32	1.4	0.7
40	1.1	0.6

1)  $U_0$  = rated voltage against earthed conductor; for  $U_0 = 240\text{ V}\sim$  is  $Z_s \cdot 1.04$ ; for  $U_0 = 127\text{ V}\sim$  is  $Z_s \cdot 0.55$

### Take into account the voltage drop:

e.g. in the case of a  $1.5\text{ mm}^2$  conductor, protected by a B 16 circuit-breaker, the maximum cable length is 82 m. If the voltage drop is below 3%, this would result in a maximum cable length (2-strand) of 17 m. For more details on this topic, get your own copy of the technical information leaflet "Maximum cable lengths".

### Maximum cable length in case of different voltages and cross sections on request.

# Overall dimensions

## S 200, S 200 M

