MCB

Miniature Circuit Breakers S 200




ABB STOTZ-KONTAKT GmbH

Authorized value provider

ABB

MULTIPLE

Business For Development

MULTIPLE TRADING

89 Motijheel C/A, Lucky Chamber (3rd floor, Room #61), Dhaka-1000, Bangladesh. Tel: (02) 9559692, Fax: (02)9566596 E-mail: info@multipletrading.net

The ABB Line Protection Devices quality system is conforming with the ISO 9001 *Vision 2000* international Standard (model for quality assurance as regards design, development, construction, installation and service) and to the equivalent EN ISO 9001 European Standard.

ABB commitment to protecting the environment is also shown in concrete way by the Life Cycle Assessments of the products, which is being realized directly by ABB Research and Development.

All the products of Compact Home range are conforming to the European standards 2002/95/CE regarding the restrictions on the use of certain dangerous substances in the electrical and electronical equipments.

It is necessary to respect the local regulations concerning the elimination of the packaging materials and of the circuit-breakers and, if possible, to recycle them.

The symbol marked on the product means that the circuit breaker must not be eliminated together with the general litter.

Compact Home

All Compact Home devices comply to European and international product standards:

- IEC/EN 61008 (RCCBs)
- IEC/EN 61009 (RCBOs)
- IEC/EN 60898 (MCBs)
- IEC/EN 60947-3 (Switches)
- IEC/EN 60669-1 (Dimmers)
- IEC/EN 61643-11 (SPDs)
- IEC/EN 60730-1 (Timers)
- IEC/EN 61558-1-2-8 (Transformers)
- IEC/EN 60439-1 (Busbars)

They are also conforming to the following EC directives:

- Low Voltage Directives (LVD) no. 73/23 EEC
- Electromagnetic Compatibility Directive (EMC) no.89/336 EEC and 92/31 EEC

CE marking of Compact Home devices warrants free circulation and sale in European Union. It is realized on supplier's responsibility, in addition to this marks and approvals, guarantee functioning, compatibility and safety conforming to national and international Standards.

ABB Compact Home RCDs also obtained the following national and international approvals:

AENOR- ES APCER- PT SIRIM- MY

LCIE- FR GOST- RU TICKMARK- AU

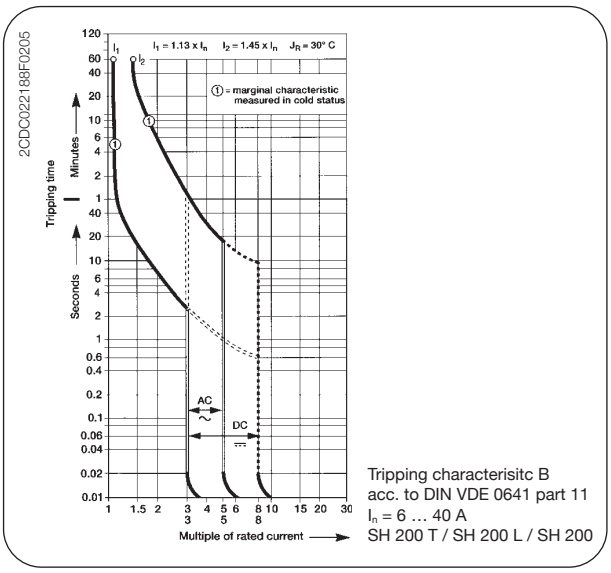
CCC- CN SABS - ZA PSB - SG

Thanks to these approvals, the devices can be used without restriction as devices for the world market.

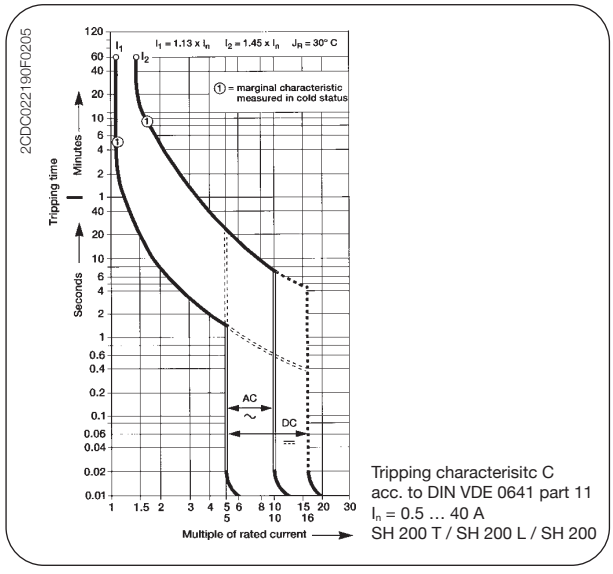
Technical Features of MCBs SH 200 series

				SH 200 T	SH 200 L	SH 200
Electrical features	Standards				IEC/EN 60898	
	Rated current in		A		6 - 40	
	Poles				1, 2, 3, 4, 1+NA, 3+NA	
	Rated Voltage Ue	IEC 1P, 1P+N	V		230	
		IEC 2P, 3P, 3P+N, 4P	V		230/400	
	Insulation voltage Ui		V		250	
	Max. operating voltage Ub max.	IEC AC	V		254/440	
	Min. operating voltage Ub min.		V		12 V AC - 12 V DC	
	Rated frequency		Hz		50…60	
	Rated breaking capacity acc. to IEC/EN 60898	ultimate Icn	A	3000	4500	6000
	Rated impulse withstand voltage (1.2/50) Uimp		KV		4 (test voltage 6,2. at sea level 5 at 2000 m)	
	Dielectric strength at power freq. for 1 min.		KV		2,5	
	Overvoltage category				III	
	Pollution degree				2	
	Thermomagnetic release	B: 3 In ≤ Im ≤ 5 In		•	•	•
	characterisitic	C: 5 In ≤ Im ≤10 In		•	•	•
Mechanical features	Toggle				black sealable in ON-OFF position	
	Electrical life				10000	
	Mechanical life/operations				20000	
	Protections degree/operations	housing			IP4X	
		terminals			IP2X	
	Mechanical shock resistance				30 g - 2 shocks - duration 11 ms	
	Resistance to vibrations acc. to IEC/EN 60060-2--6				5 g - 20 cycles at frequency 5…150…5 Hz with 0,8 x In	
	Tropicalization	humid heat	°C/RH		28 cycles with 55/95…100	
	acc. to IEC/EN 60068-2	constant climatic conditions	°C/RH		23/28 - 40/93 - 55/20	
		variable climatic conditions	°C/RH		25/95 - 40/95	
	Reference temperature for setting of thermal element		°C		30	
	Ambient temperature (with daily averages ≤ +35°C)	IEC	°C		-25…+55	
	Storage temperature		°C		-40…+70	
Installation	Terminal type				cage terminal	
	Terminal size top/bottom for cable	IEC	mm^2		25/25	
		UL/CSA	AWG		18-4	
	Tightening torque	IEC	N*m		2.5	
		UL/CSA	in-lbs.		22	
	Tool				Nr. 2 Pozidriv	
	Mounting				on DIN rail EN 60715 (35 mm) by means of fast clip device	
	Mounting position				optional	
	Connection				from top and bottom	
Dimensions and weigh	Pole dimensions (H x D x W)		mm		85 x 69 x 17.5	
	Pole weight		g		125	

Tripping diagrams



Tripping characterisitc B
acc. to DIN VDE 0641 part 11
I_n = 6 … 40 A
SH 200 T / SH 200 L / SH 200



Tripping characterisitc C
acc. to DIN VDE 0641 part 11
I_n = 0.5 … 40 A
SH 200 T / SH 200 L / SH 200

Internal resistances and power losses of the Miniature Circuit-Breakers

Internal resistances per pole in m
Power losses per pole in W

Type	Rated current A	Range SH 200 T B, C m	W	Range SH 200 L B, C m	W	Range SH 200 B, C m	W
SH 200	6	55	2.0	55	2.0	55	2.0
	8	15	1.0	15	1.0	15	1.0
	10	13.3	1.3	13.3	1.3	13.3	1.3
	13	13.3	2.3	13.3	2.3	13.3	2.3
	16	7.0	1.8	7.0	1.8	7.0	1.8
	20	6.25	2.5	6.25	2.5	6.25	2.5
	25	5.0	3.2	5.0	3.2	5.0	3.2
	32	3.6	3.7	3.6	3.7	3.6	3.7
	40	3.0	4.8	3.0	4.8	3.0	4.8

Tripping characteristics

acc. to	Tripping characterisitic	Thermal trips ① Test currents: Low test current I_1	High test current I_2	Tripping-time	Electromagnetic trips ② Test currents: hold current surges of	trip at least at	Tripping-time
IEC/EN 60898	B	1.13 · I_n	1.45 · I_n	> 1 h < 1 h ③	3 · I_n	5 · I_n	0.1 s … 45 s ≤ 32 A / 0.1 s … 90 s ≥ 32 A < 0,1 s
	C	1.13 · I_n	1.45 · I_n	> 1 h < 1 h ③	5 · I_n	10 · I_n	0.1 s … 45 s ≤ 32 A / 0.1 s … 30 s ≥ 32 A < 0,1 s

① Influence of ambient temperature see below.

② The tripping for the electromagnetic trip are valid for AC 50… 60 Hz. For other frequencies see table below.
③ From warm operating condition (After I_1 > 1 h resp. 2 h)

Influence of frequency on electromagnetic trips

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.

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

The tripping values of the thermal trips are independent of the frequency

Influence of ambient temperature

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

In the case of temperatures deviating from these values the tripp values

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

The electronic tripping is not dependent on temperature

C

SH 200 T C characteristic

Function: protection and control of the circuits against overloads and short-circuits; protection for resistive and inductive loads with low inrush current.

Applications: buildings, both residential and commercial

Standard: IEC/EN 60898

Icn=3kA

No. of poles	rated current I_n A	order details type code	order code	bbn 40 16779 EAN	price 1 piece	price group	w'ght 1 pc. kg	pack. unit pc.
1	6	**SH 201 T-C 6**	2CDS 231 001 R0064	**63191 4**			0.125	10
	8	**SH 201 T-C 8**	2CDS 231 001 R0084	**63193 8**			0.125	10
	10	**SH 201 T-C 10**	2CDS 231 001 R0104	**63194 5**			0.125	10
	13	**SH 201 T-C 13**	2CDS 231 001 R0134	**63196 9**			0.125	10
	16	**SH 201 T-C 16**	2CDS 231 001 R0164	**63198 3**			0.125	10
	20	**SH 201 T-C 20**	2CDS 231 001 R0204	**63200 3**			0.125	10
	25	**SH 201 T-C 25**	2CDS 231 001 R0254	**63202 7**			0.125	10
U_{Bmax} 440 V ~	32	**SH 201 T-C 32**	2CDS 231 001 R0324	**63204 1**			0.125	10
60 V ⎓	40	**SH 201 T-C 40**	2CDS 231 001 R0404	**63206 5**			0.125	10
2	6	**SH 202 T-C 6**	2CDS 232 001 R0064	**63225 6**			0.25	5
	8	**SH 202 T-C 8**	2CDS 232 001 R0084	**63227 0**			0.25	5
	10	**SH 202 T-C 10**	2CDS 232 001 R0104	**63228 7**			0.25	5
	13	**SH 202 T-C 13**	2CDS 232 001 R0134	**63230 0**			0.25	5
	16	**SH 202 T-C 16**	2CDS 232 001 R0164	**63232 4**			0.25	5
	20	**SH 202 T-C 20**	2CDS 232 001 R0204	**63234 8**			0.25	5
U_{Bmax} 440 V~	25	**SH 202 T-C 25**	2CDS 232 001 R0254	**63236 2**			0.25	5
125 V ⎓	32	**SH 202 T-C 32**	2CDS 232 001 R0324	**63238 6**			0.25	5
①	40	**SH 202 T-C 40**	2CDS 232 001 R0404	**63240 9**			0.25	5
3	6	**SH 203 T-C 6**	2CDS 233 001 R0064	**63242 3**			0.375	1
	8	**SH 203 T-C 8**	2CDS 233 001 R0084	**63244 7**			0.375	1
	10	**SH 203 T-C 10**	2CDS 233 001 R0104	**63245 4**			0.375	1
	13	**SH 203 T-C 13**	2CDS 233 001 R0134	**63247 8**			0.375	1
	16	**SH 203 T-C 16**	2CDS 233 001 R0164	**63249 2**			0.375	1
	20	**SH 203 T-C 20**	2CDS 233 001 R0204	**63251 5**			0.375	1
	25	**SH 203 T-C 25**	2CDS 233 001 R0254	**63253 9**			0.375	1
	32	**SH 203 T-C 32**	2CDS 233 001 R0324	**63255 3**			0.375	1
U_{Bmax} 440 V ~	40	**SH 203 T-C 40**	2CDS 233 001 R0404	**63257 7**			0.375	1
4	6	**SH 204 T-C 6**	2CDS 234 001 R0064	**63276 8**			0.5	1
	8	**SH 204 T-C 8**	2CDS 234 001 R0084	**63278 2**			0.5	1
	10	**SH 204 T-C 10**	2CDS 234 001 R0104	**63279 9**			0.5	1
	13	**SH 204 T-C 13**	2CDS 234 001 R0134	**63281 2**			0.5	1
	16	**SH 204 T-C16**	2CDS 234 001 R0164	**63283 6**			0.5	1
	20	**SH 204 T-C20**	2CDS 234 001 R0204	**63285 0**			0.5	1
U_{Bmax} 440 V ~	25	**SH 204 T-C25**	2CDS 234 001 R0254	**63287 4**			0.5	1
125 V ⎓	32	**SH 204 T-C32**	2CDS 234 001 R0324	**63289 8**			0.5	1
①	40	**SH 204 T-C 40**	2CDS 234 001 R0404	**63291 1**			0.5	1

① U_{Bmax} 125 V ⎓ with 2 poles connected in series

C

SH 200 C characteristic

Function: protection and control of the circuits against overloads and short-circuits; protection for resistive and inductive loads with low inrush current.

Applications: buildings, both residential and commercial

Standard: IEC/EN 60898

Icn=6kA

No. of poles	rated current I_n A	order details type code	order code	bbn 40 16779 EAN	price 1 piece	price group	w'ght 1 pc. kg	pack. unit pc.
1	6	**SH 201-C 6**	2CDS 211 001 R0064	**63057 3**			0.125	10
	8	**SH 201-C 8**	2CDS 211 001 R0084	**63059 7**			0.125	10
	10	**SH 201-C 10**	2CDS 211 001 R0104	**63060 3**			0.125	10
	13	**SH 201-C 13**	2CDS 211 001 R0134	**63062 7**			0.125	10
	16	**SH 201-C 16**	2CDS 211 001 R0164	**63064 1**			0.125	10
	20	**SH 201-C 20**	2CDS 211 001 R0204	**63066 5**			0.125	10
	25	**SH 201-C 25**	2CDS 211 001 R0254	**63068 9**			0.125	10
U_{Bmax} 440 V ~ 60 V ⎓	32	**SH 201-C 32**	2CDS 211 001 R0324	**63070 2**			0.125	10
	40	**SH 201-C 40**	2CDS 211 001 R0404	**63072 6**			0.125	10
2	6	**SH 202-C 6**	2CDS 212 001 R0064	**63103 7**			0.25	5
	8	**SH 202-C 8**	2CDS 212 001 R0084	**63105 1**			0.25	5
	10	**SH 202-C 10**	2CDS 212 001 R0104	**63106 8**			0.25	5
	13	**SH 202-C 13**	2CDS 212 001 R0134	**63108 2**			0.25	5
	16	**SH 202-C 16**	2CDS 212 001 R0164	**63110 5**			0.25	5
	20	**SH 202-C 20**	2CDS 212 001 R0204	**63112 9**			0.25	5
U_{Bmax} 440 V ~ 125 V ⎓ ①	25	**SH 202-C 25**	2CDS 212 001 R0254	**63114 3**			0.25	5
	32	**SH 202-C 32**	2CDS 212 001 R0324	**63116 7**			0.25	5
	40	**SH 202-C 40**	2CDS 212 001 R0404	**63118 1**			0.25	5
3	6	**SH 203-C 6**	2CDS 213 001 R0064	**63126 6**			0.375	1
	8	**SH 203-C 8**	2CDS 213 001 R0084	**63128 0**			0.375	1
	10	**SH 203-C 10**	2CDS 213 001 R0104	**63129 7**			0.375	1
	13	**SH 203-C 13**	2CDS 213 001 R0134	**63131 0**			0.375	1
	16	**SH 203-C 16**	2CDS 213 001 R0164	**63133 4**			0.375	1
	20	**SH 203-C 20**	2CDS 213 001 R0204	**63135 8**			0.375	1
	25	**SH 203-C 25**	2CDS 213 001 R0254	**63137 2**			0.375	1
	32	**SH 203-C 32**	2CDS 213 001 R0324	**63139 6**			0.375	1
U_{Bmax} 440 V ~	40	**SH 203-C 40**	2CDS 213 001 R0404	**63141 9**			0.375	1
4	6	**SH 204-C 6**	2CDS 214 001 R0064	**63172 3**			0.5	1
	8	**SH 204-C 8**	2CDS 214 001 R0084	**63174 7**			0.5	1
	10	**SH 204-C 10**	2CDS 214 001 R0104	**63175 4**			0.5	1
	13	**SH 204-C 13**	2CDS 214 001 R0134	**63177 8**			0.5	1
	16	**SH 204-C 16**	2CDS 214 001 R0164	**63179 2**			0.5	1
	20	**SH 204-C 20**	2CDS 214 001 R0204	**63181 5**			0.5	1
U_{Bmax} 440 V ~ 125 V ⎓ ①	25	**SH 204-C 25**	2CDS 214 001 R0254	**63183 9**			0.5	1
	32	**SH 204-C 32**	2CDS 214 001 R0324	**63185 3**			0.5	1
	40	**SH 204-C 40**	2CDS 214 001 R0404	**63187 7**			0.5	1

① U_{Bmax} 125 V ⎓ with 2 poles connected in series

Authorized value provider

ABB

MULTIPLE

Business For Development

MULTIPLE TRADING

89 Motijheel C/A, Lucky Chamber (3rd floor, Room #61), Dhaka-1000, Bangladesh. Tel: (02) 9559692, Fax: (02)9566596 E-mail: info@multipletrading.net