

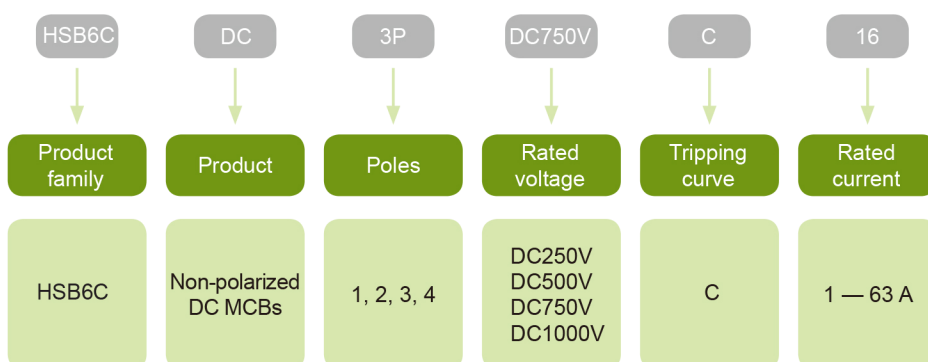
DC Miniature Circuit Breakers HSB6C-DC



- DC Miniature Circuit Breakers
- Non-polarized, suitable for photovoltaic applications
- Tested according to IEC / EN 60898-2
- Rated short circuit breaking capacity I_{cu} 4.5 kA
- Rated operating voltage U_e of 250VDC per pole
- Width 1 up to 4 modules
- Tripping characteristics C
- Rated current up to 63A

DC miniature circuit breakers HSB6C are designed for direct current applications. Thanks to their polarity independency are suitable for photovoltaic applications.

Type Key



Certification marks



DC Miniature Circuit Breakers HSB6C-DC

C-Characteristic, 1-pole, 250 V DC



Rated current	Width	Char.	Type	Packing
1A	1 MU	C	HSB6C-DC 1P DC250V C1	1/12/144
2A	1 MU	C	HSB6C-DC 1P DC250V C2	1/12/144
3A	1 MU	C	HSB6C-DC 1P DC250V C3	1/12/144
4A	1 MU	C	HSB6C-DC 1P DC250V C4	1/12/144
6A	1 MU	C	HSB6C-DC 1P DC250V C6	1/12/144
10 A	1 MU	C	HSB6C-DC 1P DC250V C10	1/12/144
16 A	1 MU	C	HSB6C-DC 1P DC250V C16	1/12/144
20 A	1 MU	C	HSB6C-DC 1P DC250V C20	1/12/144
25 A	1 MU	C	HSB6C-DC 1P DC250V C25	1/12/144
32 A	1 MU	C	HSB6C-DC 1P DC250V C32	1/12/144
40 A	1 MU	C	HSB6C-DC 1P DC250V C40	1/12/144
50 A	1 MU	C	HSB6C-DC 1P DC250V C50	1/12/144
63 A	1 MU	C	HSB6C-DC 1P DC250V C63	1/12/144

C-Characteristic, 2-pole, 500 V DC



Rated current	Width	Char.	Type	Packing
1A	2 MU	C	HSB6C-DC 2P DC500V C1	1/6/72
2A	2 MU	C	HSB6C-DC 2P DC500V C2	1/6/72
3A	2 MU	C	HSB6C-DC 2P DC500V C3	1/6/72
4A	2 MU	C	HSB6C-DC 2P DC500V C4	1/6/72
6A	2 MU	C	HSB6C-DC 2P DC500V C6	1/6/72
10 A	2 MU	C	HSB6C-DC 2P DC500V C10	1/6/72
16 A	2 MU	C	HSB6C-DC 2P DC500V C16	1/6/72
20 A	2 MU	C	HSB6C-DC 2P DC500V C20	1/6/72
25 A	2 MU	C	HSB6C-DC 2P DC500V C25	1/6/72
32 A	2 MU	C	HSB6C-DC 2P DC500V C32	1/6/72
40 A	2 MU	C	HSB6C-DC 2P DC500V C40	1/6/72
50 A	2 MU	C	HSB6C-DC 2P DC500V C50	1/6/72
63 A	2 MU	C	HSB6C-DC 2P DC500V C63	1/6/72

C-Characteristic, 3-module, 750 V DC



Rated current	Width	Char.	Type	Packing
1A	3 MU	C	HSB6C-DC 3P DC750V C1	1/4/48
2A	3 MU	C	HSB6C-DC 3P DC750V C2	1/4/48
3A	3 MU	C	HSB6C-DC 3P DC750V C3	1/4/48
4A	3 MU	C	HSB6C-DC 3P DC750V C4	1/4/48
6A	3 MU	C	HSB6C-DC 3P DC750V C6	1/4/48
10 A	3 MU	C	HSB6C-DC 3P DC750V C10	1/4/48
16 A	3 MU	C	HSB6C-DC 3P DC750V C16	1/4/48
20 A	3 MU	C	HSB6C-DC 3P DC750V C20	1/4/48
25 A	3 MU	C	HSB6C-DC 3P DC750V C25	1/4/48
32 A	3 MU	C	HSB6C-DC 3P DC750V C32	1/4/48
40 A	3 MU	C	HSB6C-DC 3P DC750V C40	1/4/48
50 A	3 MU	C	HSB6C-DC 3P DC750V C50	1/4/48
63 A	3 MU	C	HSB6C-DC 3P DC750V C63	1/4/48

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C-Characteristic, 4-module, 1000 V DC



Rated current	Width	Char.	Type	Packing
1A	4 MU	C	HSB6C-DC 4P DC1000V C1	1/3/36
2A	4 MU	C	HSB6C-DC 4P DC1000V C2	1/3/36
3A	4 MU	C	HSB6C-DC 4P DC1000V C3	1/3/36
4A	4 MU	C	HSB6C-DC 4P DC1000V C4	1/3/36
6A	4 MU	C	HSB6C-DC 4P DC1000V C6	1/3/36
10 A	4 MU	C	HSB6C-DC 4P DC1000V C10	1/3/36
16 A	4 MU	C	HSB6C-DC 4P DC1000V C16	1/3/36
20 A	4 MU	C	HSB6C-DC 4P DC1000V C20	1/3/36
25 A	4 MU	C	HSB6C-DC 4P DC1000V C25	1/3/36
32 A	4 MU	C	HSB6C-DC 4P DC1000V C32	1/3/36
40 A	4 MU	C	HSB6C-DC 4P DC1000V C40	1/3/36
50 A	4 MU	C	HSB6C-DC 4P DC1000V C50	1/3/36
63 A	4 MU	C	HSB6C-DC 4P DC1000V C63	1/3/36

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DC Miniature Circuit Breakers up to 63 A

Electrical parameters

Tested according to	IEC / EN 60898-2
Rated operating voltage U_e	250 (1P), 500 (2P), 750 (3P), 1000 (4P) V DC
Rated breaking capacity I_{cu}	4.5 kA
Rated current I_n	1 — 63 A
Tripping characteristics	C
Rated impulse withstand voltage U_{imp}	4 kV
Rated insulation voltage U_i	1 000 VDC
Mechanical service life	20 000 operation cycles
Electrical service life	2 500 operation cycles
Line voltage connection	arbitrary above or below

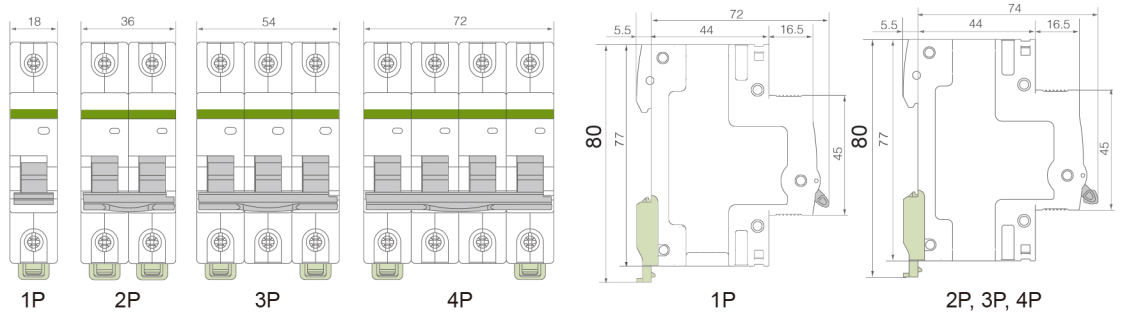
Mechanical parameters

Device width	18 mm (per pole/module)
Device height	77 mm (80 mm including rail clip)
Frame size	45 mm
Mounting	easy fastening onto 35 mm device rail (DIN)
Degree of protection	IP40, IP20 terminals
Terminals	combined lift + open mouthed
Terminal capacity	1 — 35 mm ²
Fastening torque of terminals	3.5 Nm
Busbar thickness	0.8 — 2 mm
Ambient temperature	-35 — +70 °C
Altitude	≤ 2 000 m
Relative humidity	≤ 95 % at 20°C, ≤ 50 % at 40°C
Resistance to humidity and heat	class 2
Pollution degree	3
Installation class	III

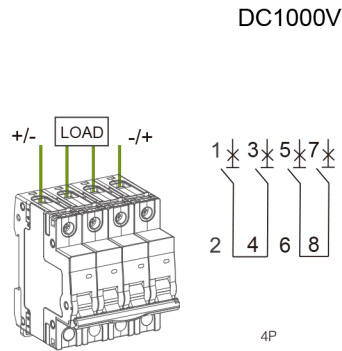
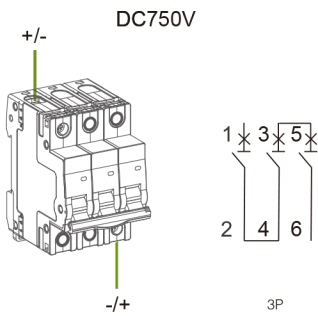
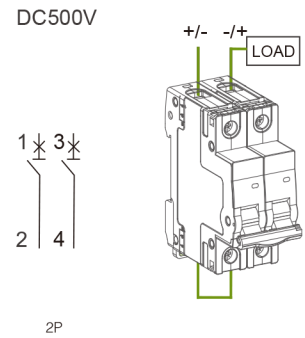
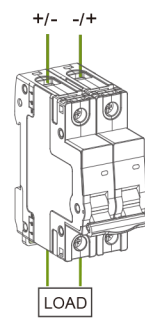
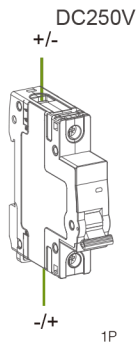
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DC Miniature Circuit Breakers up to 63 A

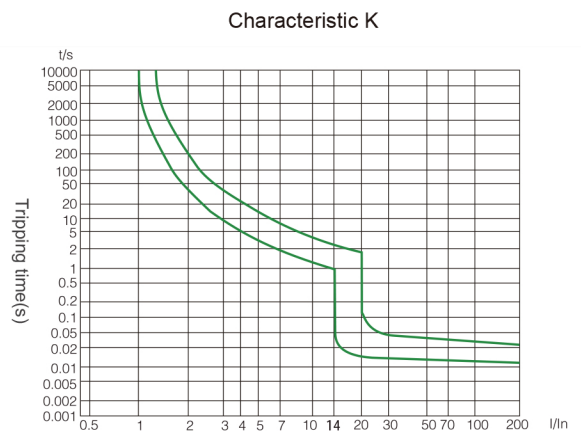
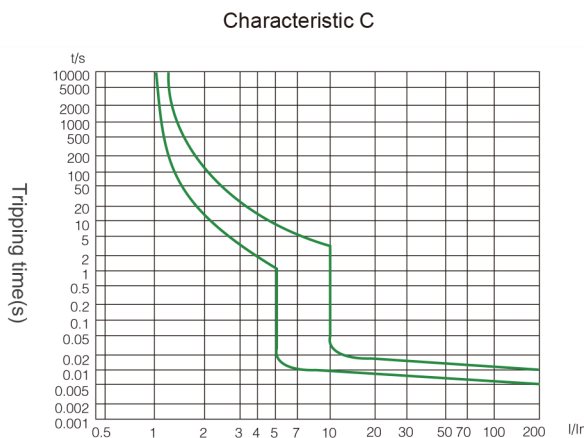
Dimensions



Wiring diagrams



Tripping characteristics



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DC Miniature Circuit Breakers up to 63 A

Dependence of tripping characteristics on ambient temperature

T [°C]	I _n (T) [A]												
	1A	2A	3A	4A	6A	10 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
-20	1.2	2.4	3.6	4.8	7.3	13.5	20.0	24.5	29.8	39.5	50.5	60.0	77.5
-15	1.2	2.4	3.5	4.8	7.2	13.3	19.8	24.3	29.7	39.3	50.4	59.8	76.3
-10	1.2	2.3	3.5	4.7	7.1	13.0	19.5	24.0	29.5	39.0	50.2	59.5	75.0
-5	1.2	2.3	3.4	4.7	7	12.7	19.2	23.8	29.3	38.8	50.0	59.2	73.0
0	1.1	2.2	3.4	4.5	6.8	12.5	19.1	23.7	29.2	38.6	48.8	59.0	71.8
5	1.1	2.2	3.3	4.4	6.6	12.3	18.8	23.5	29.0	38.4	48.6	58.8	70.6
10	1.1	2.1	3.3	4.3	6.5	12.1	18.6	23.3	28.8	38.2	48.4	56.5	69.0
15	1.1	2.1	3.2	4.3	6.4	12.0	18.5	23.1	28.6	38.0	48.1	55.0	67.5
20	1	2.1	3.2	4.2	6.3	11.8	18.3	22.8	28.4	37.8	47.8	54.5	66.2
25	1	2	3	4.1	6.2	11.5	18.0	22.6	28.2	37.5	47.0	52.5	64.5
30	1	2	3	4	6	10	16	20	25	32	40	50	63
35	0.99	2	3	3.9	5.9	9.9	15.7	19.7	24.6	31.5	39.2	48.8	61.5
40	0.97	1.9	2.9	3.9	5.8	9.8	15.4	19.3	24.3	31.1	38.8	47.0	58.7
45	0.95	1.9	2.8	3.8	5.7	9.8	15.1	18.8	24.0	30.8	38.3	45.5	55.8
50	0.93	1.9	2.8	3.7	5.6	9.6	14.9	18.5	23.8	30.1	38.0	44.0	53.5
55	0.91	1.8	2.8	3.6	5.5	9.5	14.7	18.2	23.5	29.5	36.5	42.5	51.7
60	0.91	1.8	2.7	3.5	5.4	9.0	14.5	17.8	23.0	28.5	35.0	41.5	49.2
65	0.91	1.8	2.7	3.5	5.3	8.6	14.0	17.5	22.0	27.5	34.0	40.5	47.9
70	0.91	1.8	2.7	3.5	5.3	8.0	13.8	17.3	21.5	27.0	32.5	38.0	46.8

Power loss per pole

I _n [A]	1 A	2 A	3 A	4 A	6 A	10 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
P [W]	1.5	2.0	1.8	2.0	2.2	1.5	1.8	2.0	2.2	2.6	2.9	3.8	4.4