



Solar DC Mini Circuit Breaker (DC MCB)



MDB-63

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Application

MDB-63 DC MCB supplementary protectors are designed to provide overcurrent protection within appliances or electrical equipment, where a branch circuit protection is already provided or not required. Devices are designed for direct current (DC) control circuit applications.

Specifications

SDB-63 Series Circuit Breaker		MDB-63			
Frame Degree Rated Current (A) 63					
Pole		1P	2P	3P	4P
Rated Operating Voltage (V DC)		250	550/800	750	1000/1200/1500
Rated Insulation Voltage U_i (V DC)		1200V			
Rated Current I_n (A)		3,6,10,16,20,25,32,40,50,63A			
Rated Impact Voltage U_{imp} (kV)		4			
Ultimate Breaking Capacity I_{cu} (kA)		6			
Run Breaking Capacity I_{cs} (% I_{cu})		100%			
Curve Type		C			
Trip Type		Thermal-magnetic			
Mechanical	Actual average value	7800			
	Standard value	7800			
Electric	Actual average value	200			
	Standard value	300(accord to TUV standard)			

Control and Indication

Shunt release (SHT)	Option
Undervoltage release (UNT)	
Auxiliary contact (AX)	
Alarm contact (AL)	

Condition and Installation

Wiring capacity (mm ²)	$I_n \leq 32A, 1-6, I \geq 40A, 10 \sim 16$				
Ambient temperature (°C)	40				
Altitude	≤ 2000				
Relative humidity	$\leq 95\%$				
Pollution Level	3				
Installation Environment	No obvious shock and vibration				
Installation category	Class III				
Installation	DIN Standard rail				
Dimensions(W)x(H)x(Deep)	W	18	36	54	72
	H	80	80	80	80
	Deep	71	71	71	71
Weight (kg)	0.12	0.24	0.36	0.48	

Connection

Pole	1P	2P	3P	4P
Connection				

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Over current tripping characteristic

Test	Test Current	Initial State	Limited Time	Expected Result	Remarks
a	1.05I _n	Cold state	t 1h	Non-tripping	
b	1.3I _n	Right after test number a	t < 1h	Tripping	The current is rising within 5s
c	7I _n	Cold state	t ≤ s	Non-tripping	
d	10I _n	Cold state	t 0.1s	Tripping	

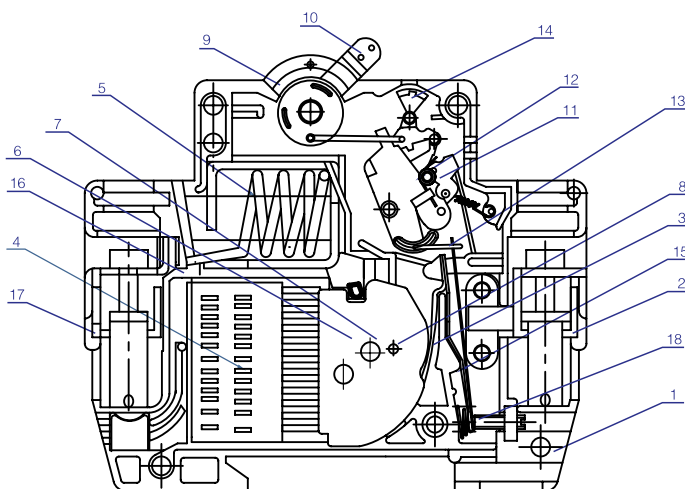
Current correction values used at different ambient temperatures

Fixed current(A) Rated Current (A)	Temperature											
	-35	-30	-20	-10	0	10	20	30	40	50	60	70
3A	3.9	3.78	3.69	3.57	3.42	3.3	3.12	3	2.88	2.79	2.64	2.49
6A	7.8	7.56	7.38	7.14	6.84	6.6	6.24	6	5.76	5.64	5.28	4.98
10A	13.2	12.7	12.5	12	11.5	11.1	10.6	10	9.6	9.3	8.9	8.4
16A	21.12	20.48	20	19.2	18.4	17.76	16.96	16	15.36	14.88	14.24	13.44
20A	26.4	26.4	25	24	23	22.2	21.2	20	19.2	18.6	17.8	16.8
25A	33	32	31.25	30	28.75	27.75	26.5	25	24	23.25	22.25	21
32A	42.56	41.28	40	38.72	37.12	35.52	33.93	32	30.72	29.76	28.16	26.88
40A	53.2	51.2	50	48	46.4	44.8	42.4	40	38.4	37.2	35.6	33.6
50A	67	65.5	63	60.5	58	56	53	50	48	46.5	44	41.5
63A	83.79	81.9	80.01	76.86	73.71	70.56	66.78	63	60.48	58.9	55.44	52.29

Current correction factor used at different altitudes

Rated Current (A)	Different altitude correction factors		
	≤ 2000m	2000~3000m	≥ 3000m
3,6,10,16,20,25,32,40,50,63A	1.0	0.9	0.8

Details



- | | |
|---------------------|------------------------|
| 1. Shell | 10. Handle |
| 2. Wiring board | 11. Lock catch knuckle |
| 3. Static contact | 12. Tripping chain |
| 4. Arc chamber | 13. Jump pin |
| 5. Copper coil | 14. Indicator |
| 6. Insulation plate | 15. Bimetal |
| 7. Moving contact | 16. Soft linking |
| 8. Fixed contact | 17. Wiring board |
| 9. Spring | 18. Adjusting screw |

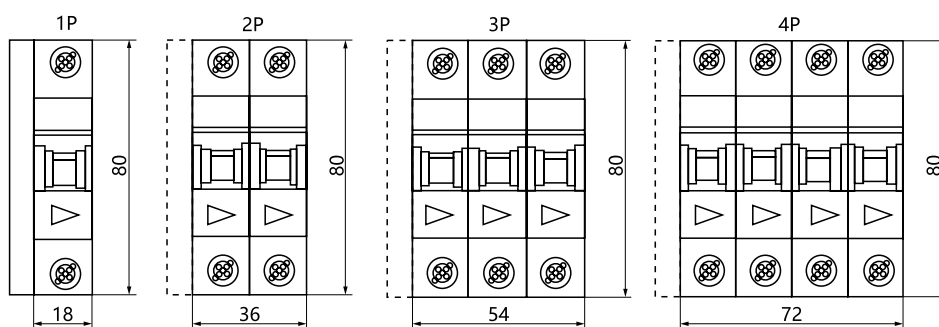
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• Wire connection terminals

Rated current I_n (A)	Copper wire nominal cross sectional area(mm ²)
3,6	1
10	1.5
16,20	2.5
25	4
32	6
40,50	10
63	16

• Dimension



• Dimension

MDB-63 Characteristic curve

