

**Overall dimensions of installation**

The circuit breaker is rail mounted, the overall dimensions of installation refer to Fig. 4.

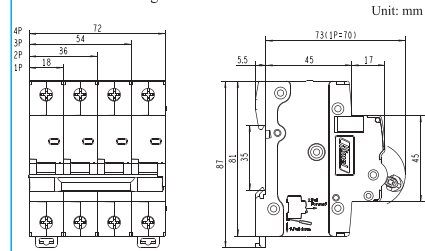


Fig. 4 Overall dimensions of installation

**Installation, use and maintenance**

●Before installing circuit breaker:

- (1)Check whether the technical data on the printing conform to use requirements.
- (2)Before use, employ 500V megameter to check the insulation resistance between the circuit breaker pole and pole (single pole excluded),pole and shell, pole and mounting rail, incoming and outgoing, shall be not less than 5MU. If it is less than 5MU, which means the product can not be used, shall contact the supplier for replacement immediately.
- (3)Make closing/ opening operation for several times to check whether there have clamping stagnation phenomenon to the operating mechanism of circuit breaker and the mechanism operation is reliable.
- (4)The reference temperature of MCB series is +30<sup>+5</sup>°C. If more than one circuit breaker is installed in a sealed cabinet, the cabinet

temperature will arise and the use current is 0.8 In.

(5)The cross-sectional area connecting to the conductor should match the rated current of circuit breaker, refer to Table 3.

Table 3 Rated current and cross-sectional area of conductor

Rated current, A	1, 2, 4, 6, 10	16, 20	25	32	40, 50	63
Cross-sectional area of conductor, mm <sup>2</sup>	1	1.5	2.5	4	6	10
Min. length of conductor, m	1	1	1	1	1	1

- (6)This series of MCB adopts TH35-7.5 steel rail to install.
- (7)The rated current should be corrected accordingly when ambient temperature is changed. Refer to Table 4 for the correction factor of rated current and temperature.

Table 4 Table of correction factor of rated current and temperature

Temp. (°C)	-30	-20	-10	0	10	20	30	40	50	60	70
Rated Current (A)											
1	1.26	1.22	1.18	1.14	1.09	1.05	1	0.95	0.90	0.84	0.78
2	2.49	2.42	2.34	2.26	2.18	2.08	2	1.92	1.84	1.74	1.59
4	5.18	5.00	4.82	4.63	4.43	4.22	4	3.77	3.52	3.26	2.97
6	7.59	7.35	7.10	6.84	6.57	6.29	6	5.69	5.37	5.02	4.65
10	13.63	13.09	12.54	11.95	11.34	10.69	10	9.26	8.45	7.56	6.55
16	20.44	19.77	19.07	18.35	17.60	16.82	16	15.13	14.22	13.23	12.17
20	25.30	24.49	23.66	22.80	21.91	20.98	20	18.97	17.89	16.73	15.49
25	31.74	30.72	29.67	28.57	27.43	26.24	25	23.69	22.30	20.82	19.23
32	40.48	39.19	37.86	36.49	35.05	33.56	32	30.36	28.62	26.77	24.79
40	50.89	49.24	47.54	45.77	43.93	42.01	40	37.88	35.64	33.24	30.66
50	64.00	61.89	59.70	57.43	55.06	52.59	50	47.27	44.36	41.26	37.90
63	82.09	79.22	76.26	73.17	69.94	66.56	63	59.22	55.19	50.84	46.08

**Unpacking inspection**

After unpacking, the user must check whether the product is intact, whether there is any rust on the exposed metal parts, and whether there is any defect that may be caused by improper transportation or storage. Once any of the aforesaid phenomena is found, the product can not be used, please contact the supplier in a timely manner to solve.

**HDB9-63**  
Series Miniature  
Circuit Breaker

**User Manual**

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Applicable standards: IEC60898-1  
Read carefully this user manual before installation and usage of the product.  
The user manual must be well kept for future use.



**Safety Notice**

Please read this Instruction for Use before installation, operation, running, maintenance and inspection, as well as install and use this product correctly according to the contents contained in this Instruction for Use.

⚠️ **Danger:**

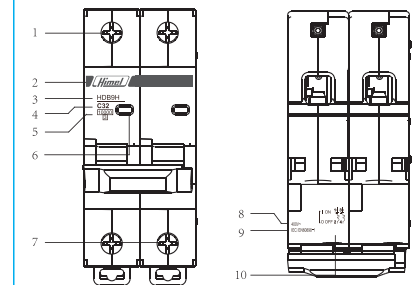
- Never operate circuit breaker with wet hands.
- Never touch conducting part during operation.
- Ensure product is not electrified during maintenance.
- Never test product through method of short circuit.

⚠️ **Caution:**

- Only the operator with professional competence is allowed to maintain and install this product.
- The characteristics of product have been set before ex-work, and no private disassembly and adjustment is allowed during product use.
- Please verify whether the working voltage, rated current, frequency and characteristics of product is in accordance with the working requirements.
- Should make insulation treatment to naked conductor and copper busbar at terminal port in order to prevent phase-to-phase short circuit.
- Should stop use and contact supplier immediately if any damage or abnormal noise is found to the product after unpacking.
- Please properly handle industrial wastes after the product is disused. Thanks for your cooperation.

**About HDB9 Series Miniature Circuit Breaker**

●Panel introduction



- Designation:**
1. Terminal post
  2. Company logo
  3. Product model (HDB9H, HDB9N)
  4. Tripping curve and rated current (refer to Table 1)
  5. Breaking capacity and current limiting level (refer to Table 1)
  6. Contact indication
  7. Terminal post
  8. Rated voltage
  9. Applied standard
  10. Certification mark

**Conditions of normal use, installation and transportation**

- Conditions of normal use and installation
- (1)The limited ambient temperature shall be lower than +70°C and higher than -30°C during normal use and installation, as well as the average temperature within 24 hrs. should not exceed +35°C.
- (2)The sea level of installation place should not exceed 2000 m
- (3)The relative humidity should not exceed 50% at a maximum temperature of +70°C; the relative humidity is allowed to increase

while under lower temperature, for instance 90% for temperature +20°C, but should take condensation into consideration when temperature is changed.

- (4)The external magnetic field closing to the installation place of circuit breaker should not exceed 5 times of geomagnetic field in any direction.
- (5)Should be installed in the environment without explosive media, containing air and dust that may cause metal corrosion and insulation damage
- (6)Should be installed in the place without obvious shocking and heavy rain & snow.
- (7)Pollution degree: Level 2
- (8)Utilization category : Type II & III
- (9)Should be installed in distribution pillar, cabinet or box.

●Conditions of normal storage and transportation

- (1)The limited ambient temperature shall be lower than +85°C and higher than -40°C during normal storage and transportation.
- (2)The relative humidity should not exceed 95% under 25°C.
- (3)The product should be handled properly, no upside down and should avoid violent collision.

**Main Technical Data**

●Main technical data of circuit breaker, refer to Table 1:

Table 1 Main technical data

Type of tripping release	Rated current, In A	Pole(s)	Rated voltage, U <sub>e</sub> V	Rated breaking capacity, I <sub>cn</sub> A
Type B	1, 2, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63	1	230/400	CDB9H: 10000A CDB9N: 6000A
		2, 3, 4	400	
Type C	1, 2, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63	1	230/400	400
		2, 3, 4	400	
Type D	1, 2, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63	1	230/400	400
		2, 3, 4	400	

●Overcurrent protection of circuit breaker, refer to Table 2:  
Table 2 Overcurrent protection of circuit breaker

Type of tripping release	Rated current, In A	Test current, A	Initial condition	Initial time	Result to be obtained	Remarks	Ref. Temp.
B, C, D	≤63	1.13In	Cold	t≤1h	No tripping	—	+30 <sup>+1</sup> °C
B, C, D	≤63	1.45In	Immediately following test	t<1h	Tripping	Current rises to specified value within 5s	
B, C, D	≤32	2.55In	Cold	1s<t<60s	Tripping	—	
B, C, D	>32	2.55In	Cold	1s<t<120s	Tripping	—	
B	≤63	3In	Cold	t≤0.1s	No tripping	Current established by closing an auxiliary switch	
C		5In					
D		10In					
B	≤63	5In	Cold	t<0.1s	Tripping	Current established by closing an auxiliary switch	
C		10In					
D		14In					

●Protection feature curve of circuit breaker. Refer to Fig. 1, 2 & 3 respectively

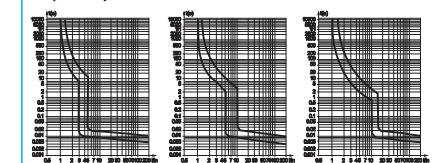


Fig.1 Type B

Fig.2 Type C

Fig.3 Type D