

DELIXI
ELECTRIC

CDB9Z-63

DC plastic shell circuit breaker

INSTRUCTIONS

NEW ERA



User's manual

Before installing and using the product, please carefully read the user manual and keep it properly for future use

Safety notification

Before installation, operation, operation, maintenance, and inspection, please read this manual carefully and accurately install and use this product according to the content in the manual.



Danger :

- It is strictly prohibited to operate the circuit breaker with wet hands;
- During use, it is strictly prohibited to touch conductive parts;
- During maintenance and upkeep, it is necessary to ensure that the product is not charged;
- It is strictly prohibited to use short circuits to test products;

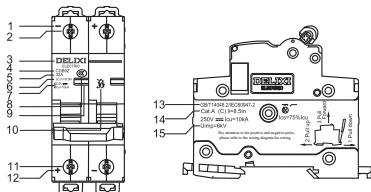


Attention:

- Installation, maintenance, and upkeep should be carried out by personnel with professional qualifications
 - During installation, the polarity of the "+" and "" marked on the product must be strictly followed for wiring, and reverse connections are not allowed
 - The various characteristics of the product have been set before leaving the factory, and cannot be disassembled or adjusted freely during use;
 - Please confirm whether the working voltage, rated current, and characteristics of the product meet the working requirements before use
 - To prevent phase to phase short circuits, insulation should be applied to exposed wires or copper busbars at the terminals
 - If there is damage or abnormal noise when the product is unpacked, it should be immediately stopped from use and the supplier should be contacted
 - When the product is scrapped, please handle the product waste properly.
- Thank you for your cooperation

Understanding the CDB9Z-63 DC Plastic Housing Circuit Breaker

● Panel Introduction



Explain:

Figure 1 Panel Introduction

- | | |
|---|----------------------------------|
| 1 Negative pole of circuit breaker | 2 Terminals |
| 3 Company Trademarks | 4 Product Models (CDB9Z) |
| 5 Rated current (see Table 1) | 6 Setting current (see Table 1) |
| 7 Rated voltage and breaking capacity (see Table 1) | 8 CCC marking |
| 9 Contact indication | 10 Wiring instructions |
| 11 Terminals | 12 Circuit breaker positive pole |
| 13 Reference Standards | 14 Usage categories |
| 15 rated impulse withstand voltage | |

Normal use, installation, and transportation conditions

●Normal use and installation conditions

- (1) The upper limit and lower limit of the ambient air temperature shall not exceed +70 °C and -30 °C, and the average temperature within 24 hours shall not exceed +35 °C
- (2) The elevation of the installation site shall not exceed 2000m;
- (3) When the maximum temperature is +70 °C, the relative humidity of the air shall not exceed 50%; Allow for significant relative humidity at lower temperatures, such as 90 % at +20 °C, taking into account condensation on the product due to temperature changes
- (4) The external magnetic field near the installation site of the circuit breaker should not exceed 5 times the geomagnetic field in any direction;

- (5) Installed in a medium without explosion risk, and free from gases and dust that are sufficient to corrode metals and damage insulation;
- (6) Install in a place without significant impact vibration or rain or snow invasion;
- (7) Pollution level: Level 2;
- (8) Installation category: Class II and III;
- (9) It should be installed in a distribution box, cabinet, or box;
- Normal storage and transportation conditions
- (1) The lower limit of temperature shall not be lower than -40°C , and the upper limit shall not exceed $+85^{\circ}\text{C}$;
- (2) The relative humidity (at 25°C) shall not exceed 95%;
- (3) During transportation, products should be handled with care and should not be placed upside down. Severe collisions should be avoided as much as possible.

Main technical performance parameters

The main technical parameters of the circuit breaker are shown in Table 1

Table 1 Main Technical Parameters

Setting current	Rated current In A	Pole	Rated voltage Ue V	Rated breaking capacity Icu KA
(B)Ii=5.5In	1、2、4、6、10、 16、20、25、32、 40、50、63	1	125V	10
		2	250V	
		1	250V	
		2	500V	
		4	1000V	6
(C)Ii=8.5In	1、2、4、6、10、 16、20、25、32、 40、50、63	1	125V	10
		2	250V	
		1	250V	
		2	500V	
		4	1000V	6

- The overcurrent protection characteristics of the circuit breaker are shown in Table 2

Table 2 Overcurrent Protection Characteristics of Circuit Breakers

Setting current	Rated current In A	Test current A	Initial state	Starting time	Expected results	Annex	Reference Temperature
(B)Ii=5.5In (C)Ii=8.5In	≤63	1.05In	Cold state	t≤1h	No trip	————	+30 ⁺⁵ ₀ ℃
(B)Ii=5.5In (C)Ii=8.5In		1.3In	Tightness test	t<1h	Tripping	The current rises to the specified value within 5s	
(B)Ii=5.5In		5.5In*80%	Cold state	t<0.2s	No trip	Close the auxiliary switch and turn on the power	
(C)Ii=8.5In		8.5In*80%					
(B)Ii=5.5In		5.5In*120%			Tripping		
(C)Ii=8.5In		8.5In*120%					

The protection characteristic curves of the reference temperature circuit breaker are shown in Figure 2 and Figure 3 respectively

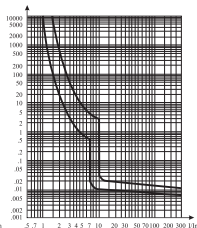
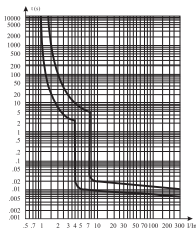


Figure 2 Type B thermal/electromagnetic tripping characteristic curve Figure 3 Type C thermal/electromagnetic tripping characteristic curve

Figure 2 B-type Thermal/Electromagnetic Tripping Characteristic Curve

Figure 3 C-type Thermal/Electromagnetic Tripping Characteristic Curve

Shape and installation dimensions

The circuit breaker is installed on the guide rail, and the shape and installation dimensions are shown in Figure 4.

Unit:mm

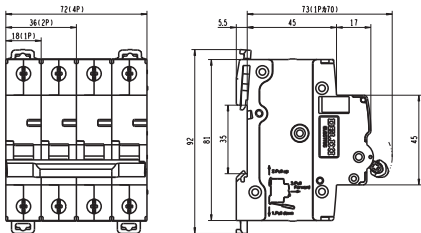


Figure4 Shape and installation dimensions

Installation, Use and Maintenance

Before installing the circuit breaker:

- (1) Check whether the technical parameters on the pad printing mark meet the requirements for use;
- (2) Before using the user, use a 500V megohmmeter to check the insulation resistance between poles (except for single poles), poles and shells, poles and mounting rails, incoming wires and outgoing wires of the circuit breaker, which should not be less than 5MQ, if the insulation resistance is less than 5MQ, the product cannot be used, you should contact the supplier and replace it in time;
- (3) Close and divide the circuit breaker several times to check whether the operating mechanism of the circuit breaker is stuck or not, and whether the action of the mechanism is reliable;

4) The base temperature of this series of circuit breakers is 30C. If multiple circuit breakers are installed in a sealed box at the same time, the temperature of the box will rise accordingly, and the operating current will be $0.8I_n$;

(5) The cross-sectional area of the connecting conductor should be compatible with the rated current of the circuit breaker, see Table 3;

Table 3 Rated current and cross-sectional area of connecting wires

Rated current A	1, 2, 4, 6	10	16, 20	25	32	40, 50	63
Conductor cross-sectional area mm	1	1.5	2.5	4	6	10	16
The shortest length of the connecting wire m	1	1	1	1	1	1	2

(6) This series of circuit breakers adopts the guide rail installation method, which is suitable for TH35-75 type steel installation guide rail;

(7) When the ambient temperature changes, the rated current value shall be corrected accordingly. See Table 4 for the temperature correction coefficient.

Table 4 Rated current temperature correction coefficient table

Temperature (°C) Current rating (A)	-30	-20	-10	0	10	20	30	40	50	60	70
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

When installing the circuit breaker, please install it according to the wiring method in Figure 5

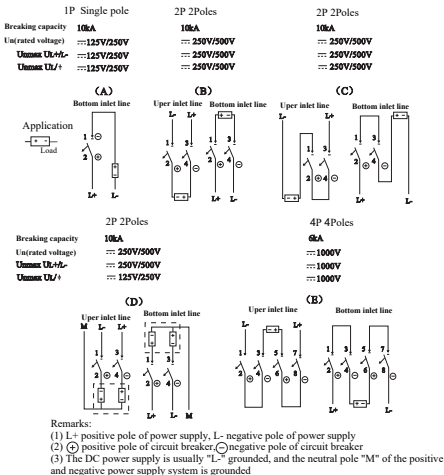


Figure 5 Wiring method

Open box to check

After opening the box, the user must check whether the product is intact, whether the exposed metal parts are rusted, and whether the product is defective due to improper transportation and storage. If the above phenomenon occurs, the product cannot be used. Please contact the supplier in time to solve it.

Company commitment

On the premise that the user abides by the use and storage

Conditions and the seal of the product is intact, within 36 months from the production date of the product, if the product is damaged or cannot be used normally due to manufacturing quality problems, the company is responsible for free repair or replacement. If it exceeds the warranty period, it needs to be

repaired for a fee. However, if the damage is caused by the following circumstances, paid repairs will be made even within the warranty period:

- (1) Due to improper use, maintenance and storage;
- (2) Self-modification and improper maintenance;
- (3) Damage due to falling or installation after purchase;
- (4) Force majeure such as earthquake, fire, lightning strike, abnormal voltage and secondary disasters.

Order

Users need to explain when ordering:

- a) The name, model and specification of the circuit breaker;
- b) The rated current and number of poles of the circuit breaker;
- c) Quantity.

Example: order CDB9Z-63 one-pole circuit breaker, type C, rated current 20A, quantity 1000 units.

It should be written as: CDB9Z-63/1P, C20, 1000 units.

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**Certificate
of
qualification**

DELIXI ELECTRIC LTD

Name: DC Plastic Case Circuit Breaker

Model: CDB9Z-63

**This product has passed the inspection
and is approved to delivery.**

Standard: GB/T 14048.2

Inspector:

06

Date of production: See box label