DELIXI
ELECTRIC
德力西电气

DZ47sZ-63
DC MOULDED CASE CIRCUIT BREAKER

NAVIGATOR Series
User Manual

德

Please read the product instructions carefully before the installation and use of the product, and keep those instructions properly for reference later.

DZ47sZ-63 DC MOULDED CASE CIRCUIT BREAKER
User Manual

Safety Notice

Please carefully read this manual before the installation, operation, run, maintenance, and inspection of the product, and install and operate this product properly according to the product instructions.

Danger:

- It is prohibited to operate the circuit breaker with your wet hands;
- t is prohibited to touch the conductive part during operation;
- Make sure that the product is de-electrified during the maintenance and repair;
- It is prohibited to use the short circuit method to test the product;

Caution

- The installation, maintenance, and repair shall be carried out by the qualified professionals;
- When installation, connect the wires according to the wiring method shown in Fig. 5 and the "+" and "-" poles marked on the product properly to prevent reverse connection;
- All characteristics of the product have been set in the factory, and the product cannot be disassembled without permission or adjusted at will during operation;
- Confirm that the operating voltage, rated current and characteristics of the product meet the working requirements before use;
- In order to prevent short circuit between the phases, the exposed wire or copper busbar at the terminal block shall be subject to the insulation treatment;
- If found any damage or abnormal sound when unpacking, please stop the product and contact the supplier;
- When scrapping the product, please dispose the industrial wastes properly. Thanks for your cooperation.

About DZ47sZ-63 DC Moulded Case Circuit Breaker

- **About panel**

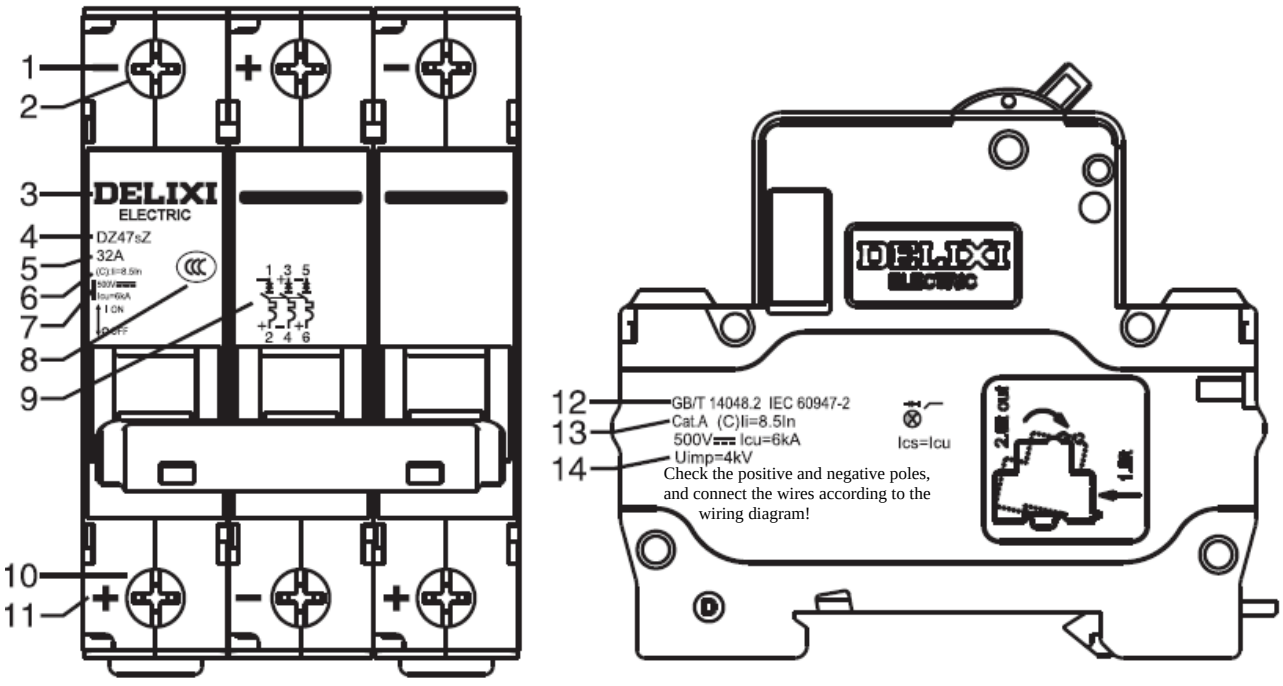


Fig. 1 Panel introduction

Legends:

1 Positive pole of circuit 2 Terminal block 3 Company logo 4 Product model (DZ47sZ)
5 Rated current (see Table 1） 6 Setting current (see Table 1） 7 Rated voltage and breaking capacity (see Table 1)
8 Certification mark 9 Wiring indication 10 Terminal block 11 Positive pole of circuit breaker
12 Reference standard 13 Use category 14 Rated impulse withstand voltage

Normal Operation, Installation and Transportation Conditions

● Normal operation and installation conditions

(1) The upper limit of the ambient air temperature shall not exceed +60°C, the lower limit shall not exceed -20°C, and the mean temperature shall not exceed +35°C within 24 hours;
(2) The altitude of the installation site does not exceed 2000m;
(3) When the maximum temperature is +40°C, the relative humidity of the air does not exceed 50%; a higher relative humidity is allowed at lower temperatures; for example, the relative humidity does not exceed 90% at +20°C. Special protection measures should be taken for condensation occurred occasionally due to temperature changes;
(4) The external magnetic field near the installation site of the circuit breaker should not exceed 5 times of the geomagnetic field in any direction;
(5) Installed in a medium without explosion hazard, and there is gas and dust sufficient to cause metal corrosion and damage to the insulation;
(6) Installed in places where there is no obvious impact and vibration and no rain and snow attacks;
(7) Pollution degree: Level 2;
(8) Installation category: Class II, Class III;
(9) The product shall be installed in a power distribution tank, distribution cabinet or box;
(10) When wiring, the power supply end must be connected to the positive pole of the circuit breaker, the load end must be connected to the negative pole of the circuit breaker, and reverse wiring connection is not allowed;

● Normal storage and transportation conditions

(1) The lower limit of temperature is not below -40°C, and the upper limit does not exceed +70°C;
(2) Relative humidity (at 25°C) does not exceed 95%;
(3) Please handle the product gently during transportation, do not upside it down, and prevent it from violent collision as much as possible.

Main technical performance parameters

● The main technical parameters of the circuit breaker are listed in Table 1.

Table 1 Main technical parameters

Setting current	Rated current In A	Number of poles	Rated voltage Ue V	Rated breaking capacity Icn kA
(B) Ii=5.5In	6, 8, 10, 13, 16, 20, 25, 32, 40, 50, 63	1	250V	6
		2, 3	500V	
(C) Ii=8.5In	1, 2, 3, 4, 5, 6, 8, 10, 13, 16, 20, 25, 32, 40, 50, 63	1	250V	
		2, 3	500V	

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

Table 2: Overcurrent protection characteristics of circuit breakers

Release type	Rated current In A	Test current A	Starting state	Test time	Expected results	Remarks	Reference temp.
(B) Ii=5.5In (C) Ii=8.5In	≤63	1.05In	Cold state	t≤1h	No trip	--	$+30^{+5}_{0}$°C
(B) Ii=5.5In (C) Ii=8.5In		1.30In	Followed by test	t<1h	Trip	The current rises to the specified value within 5s	
(B) Ii=5.5In		5.5Inx80%	Cold state	t≤0.2s	No trip	Turn on the aux. switch, and connect the power supply	
(C) Ii=8.5In		8.5Inx80%					
(B) Ii=5.5In		5.5Inx120%		t<0.2s	Trip		
(C) Ii=8.5In		8.5Inx120%					

- The protection characteristics curves of circuit breaker are illustrated in Fig. 2 and Fig. 3

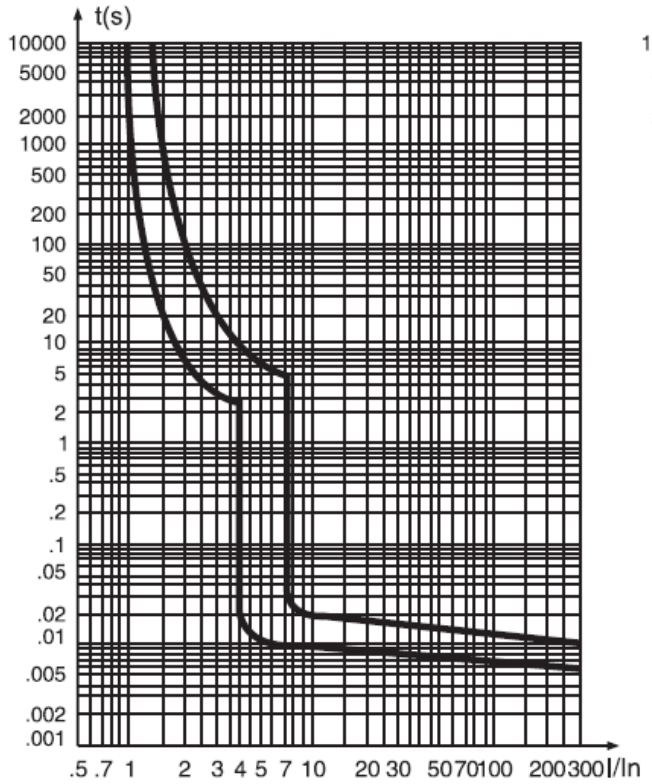


Fig. 2 B type thermal / electromagnetic trip characteristics curve

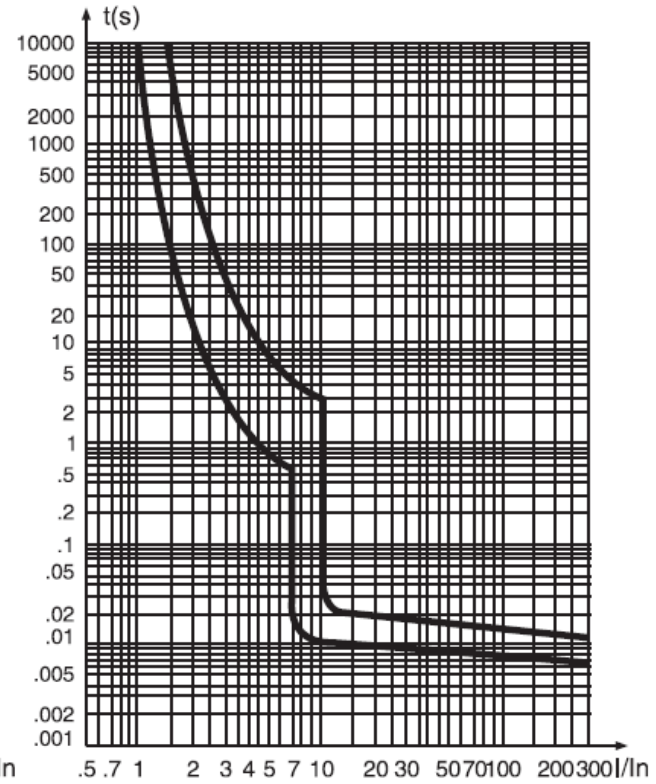


Fig. 3 C type thermal / electromagnetic trip characteristics curve

Outline and Installation Dimensions

The circuit is rail-mounted, and its outline and installation dimensions are shown in Fig. 4.

Unit: mm

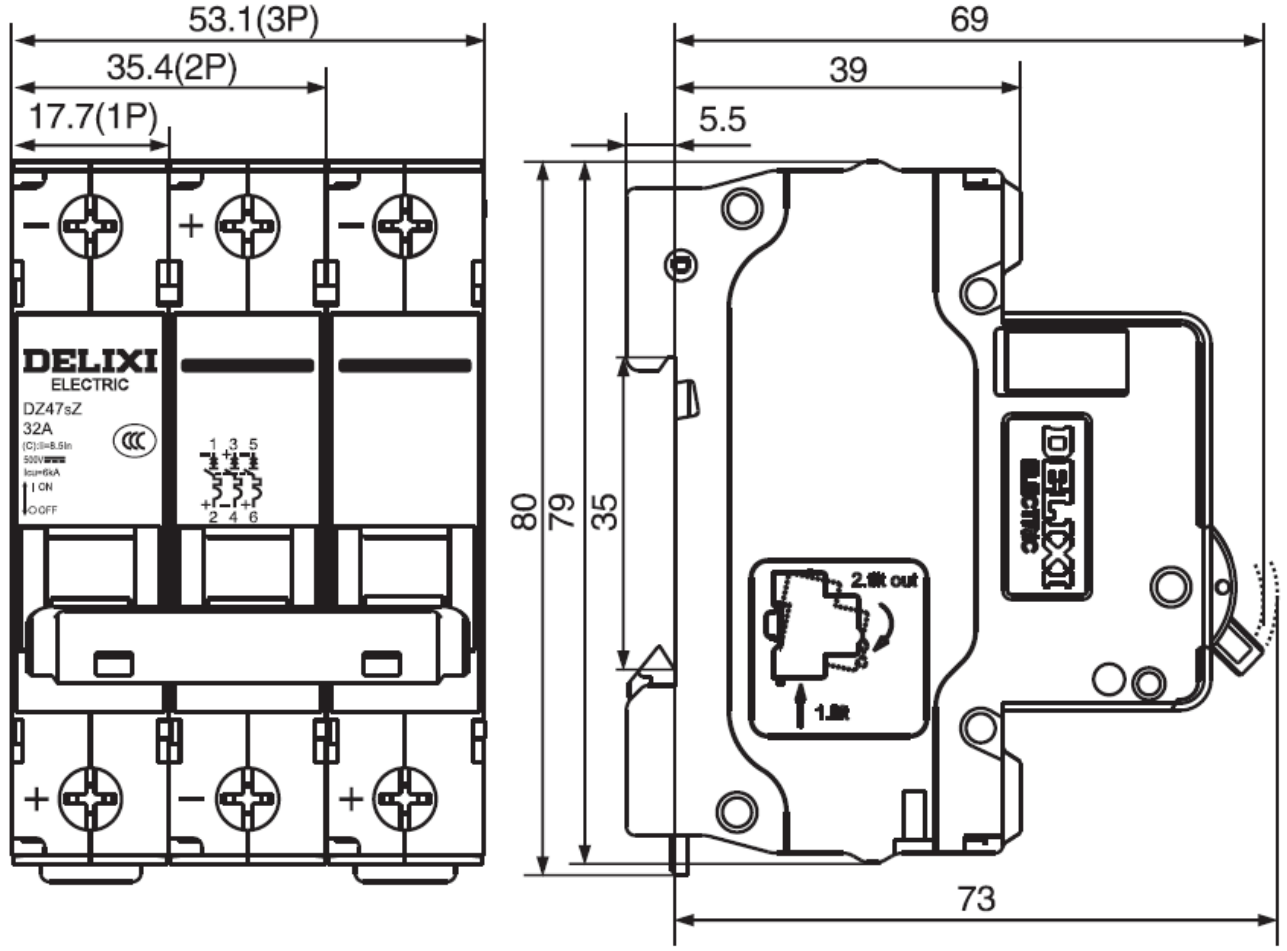


Fig. 4 Outline and installation dimensions

Installation, Operation and Maintenance

● Before installing circuit breaker:

(1) Check whether the technical parameters on the label meet the use requirements;

(2) Before use, the user should use a 500V megohmmeter to check that the insulation resistance between the poles (except for single pole), the poles and the shells, the poles and the mounting rails, and the inlet and outlet terminals of the circuit breaker should not be less than 5MΩ. If the insulation resistance is less than 5MΩ, stop the product and contact the supplier for replacement in time;

(3) Close and open the circuit breaker several times and check whether the circuit breaker operating mechanism is blocked and whether the mechanism works reliably;

(4) The reference temperature of this series of circuit breakers is $+30^{+5}_{0}$°C. If there are multiple circuit breakers in the sealed box, the temperature of the box will increase accordingly, and the working current is 0. 8In;

(5) The cross-sectional area of the connecting conductor should be adapted to 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, 3, 4, 5, 6	10, 13	16, 20	25	32	40, 50	63
Sectional area of wire mm^2	1	1.5	2.5	4	6	10	16
Min. length of connecting wire m	1	1	1	1	1	1	2

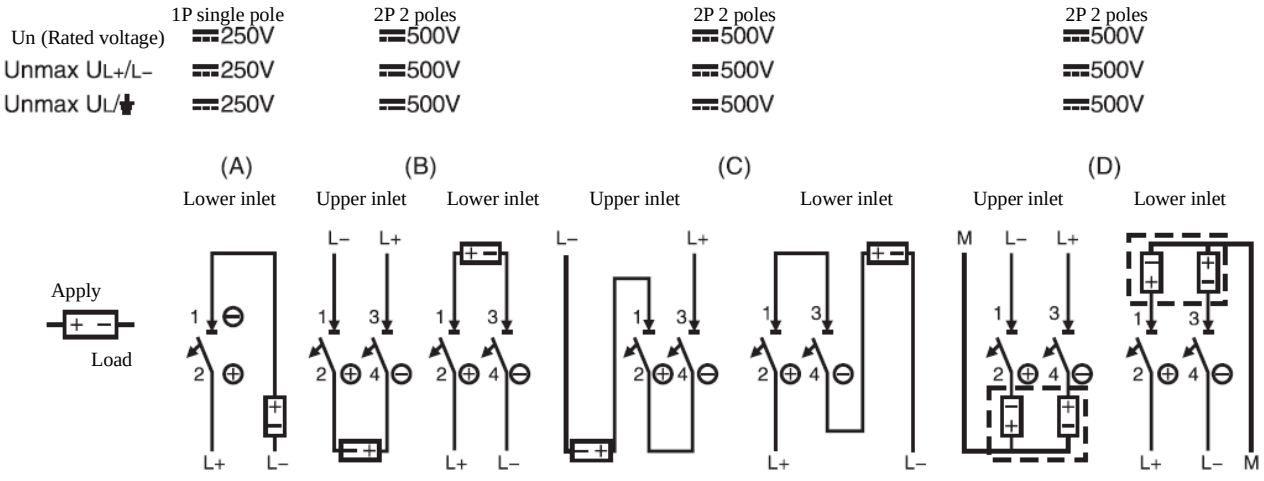
(6) This series of circuit breakers is of the rail-mounted type, suitable for TH35-7.5 steel mounting rails;

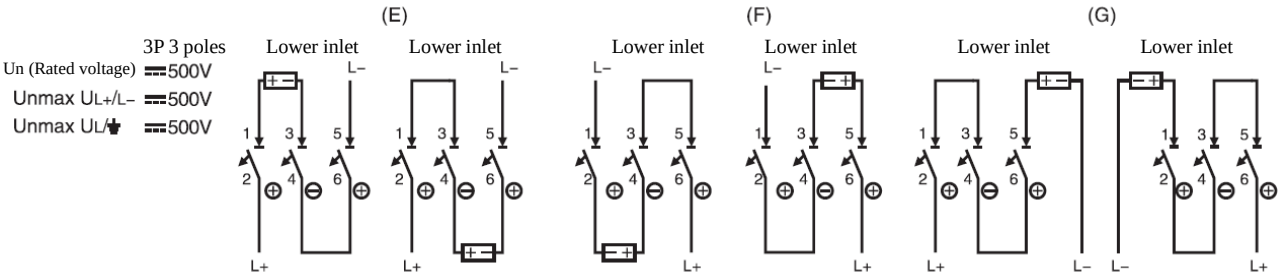
(7) When the ambient temperature changes, the rated current value shall be corrected accordingly. Temperature correction coefficients are listed in Table 4.

Table 4 Table of temperature coefficients for rated current

Rated current (A)	Rated current correction value A								
	−20℃	−10℃	0℃	10℃	20℃	30℃	40℃	50℃	60℃
1	1.22	1.18	1.15	1.10	1.05	1	0.94	0.90	0.84
2	2.43	2.31	2.25	2.17	2.06	2	1.93	1.85	1.63
3	3.68	3.57	3.43	3.29	3.18	3	2.82	2.63	2.57
4	4.89	4.75	4.67	4.48	4.24	4	3.98	3.52	3.25
5	6.21	5.98	5.83	5.77	5.42	5	4.85	4.57	4.19
6	7.33	7.05	6.84	6.62	6.30	6	5.64	5.42	5.06
8	9.78	9.44	9.15	8.51	7.98	8	7.1	6.92	6.75
10	12.25	11.87	11.64	11.15	10.62	10	9.30	8.96	8.48
13	15.78	15.34	14.83	14.22	13.75	13	12.10	11.75	10.93
16	19.49	18.72	18.06	17.98	16.96	16	15.04	14.42	13.47
20	24.35	23.68	22.82	22.47	21.20	20	18.80	17.85	16.78
25	30.52	29.61	28.78	28.09	26.50	25	23.25	22.52	21.02
32	38.96	37.68	36.62	35.96	33.92	32	30.08	28.81	26.84
40	48.85	47.13	46.32	45.80	42.80	40	36.80	36.21	33.5
50	61.58	59.52	57.35	55.04	52.59	50	46	44.25	42.36
63	76.86	74.25	71.18	69.13	67.41	63	58.59	56.83	52.93

- Install the circuit breaker according to the wiring method shown in Fig. 5;





Notes: (1) L+ is the positive pole of power supply, L- is the negative pole of power supply

(2) ⊕ is the positive pole of circuit breaker, and ⊖ is the negative pole of circuit breaker

(3) In the DC power supply, the "L-" is usually earthed, and the neutral pole "M" in the positive and negative power supply system is earthed.

Fig. 5 Wiring method

Unpacking Inspection

After unpacking, the user must check whether the product is intact, whether the exposed metal is rusty, and whether the product is defects due to poor transportation or storage. If found the above phenomenon, please stop the product, and contact the supplier timely for solution.

Company' commitment

The free repair or replacement will be provided by the company for damage or abnormal operation of the product produced by our company due to poor manufacturing quality within 36 months from the date of the production under the premise that the user conforms to the operation and storage conditions and that the product is well sealed. A paid repair is provided when the warranty period expires. However, the paid repair is provided for damage caused by one of the following situations even within the warranty period:

(1) Improper operation, maintenance, or storage;
(2) Modification without permission, or improper maintenance;
(3) Damage caused by falling off after purchase or occurred during the installation process;
(4) Irresistible nature disasters such as earthquakes, fires, lightning strikes, and abnormal voltages.

If you have any questions, please contact the dealer or the company's customer service department.

Customer service hotline: 400-826-8008

Ordering Notice

Please specify the following contents when ordering:

a) Name, model and spec. of circuit breaker;
b) Rated current and the number of poles of circuit breaker;
c) Qty.

For example, to order DZ47sZ-63 1-pole circuit, C type, rated current 20A, 1000 unit, please specify: DZ47sZ-63/1P, C20, 1000 units.

DELIXI
ELECTRIC
德力西电气

Certificate

DELIXI ELECTRIC LTD

Name: DC Moulded Case Circuit Breaker

Model: DZ47sZ-63

The product passes the inspection, and is allowed to be shipped.

Standard: GB/T 14048.2

Inspector: Check 06

Date of production: See the label in the inner box

DELIXI ELECTRIC LTD
Delixi Industrial Park, Liushi Town, Yueqing City, Zhejiang Province P/C.: 325604
Tel: (86-577)6177 8888
Fax: (86-577)6177 8000
Customer service hotline: 400-826-8008

www.delixi-electric.com
The first edition of this User Manual was issued in May, 2018.