a) The lower limit of the temperature shall not be lower than -40 ℃, and the upper limit shall not exceed +70 ℃;

b) Relative humidity (at 25 ℃) shall not exceed 95%;

c) Handle the product with care, do not put it upside down and avoid strong collision during the transportation.

5 Structural Features and Working Principle

5.1 Overall Structure and Its Working Principle

The DZ47MA single magnet molded case circuit breaker mainly consists of an operating mechanism, a short-circuit protection release, a contact system, an arc extinguishing system, a terminal block, a spring buckle and a molded case. This series of circuit breakers provides short circuit protection instead of overload protection. When the load current of the circuit protected by the circuit breaker is ≤ the rated current, and the electromagnetic attraction force generated by the current flowing through the coil is < the reaction force of spring, the iron core remains in place and the circuit breaker can work normally. When a short-circuit current is generated in the circuit protected by the circuit breaker, and the electromagnetic attraction force generated by the current flowing through the coil is > the reaction force of spring, the iron core will be attracted immediately and the circuit breaker can be opened in a short time to cut off the faulty circuit. See Figure 1 for the working diagram.

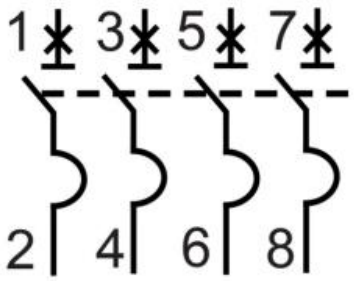


Figure 1 Working Principle Diagram

6 Technical Characteristics

6.1 Main Technical Parameters

The main technical parameters are detailed in Table 1.

Table 1 Main Technical Parameters

Setting current	Rated current In/A	Poles	Rated voltage Ue V	Rated breaking capacity Icu A
(C) Ii=8In	1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50 and 63	1	230	6000 (Ics=Icu)
		2, 3 and 4	400	
(D) Ii=12In	1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50 and 63	1	230	
		2, 3 and 4	400	

6.2 Main Technical Performance

a) See Table 2 for the overcurrent protection characteristics of the circuit breaker

Table 2 Overcurrent Protection Characteristics of Circuit Breaker

Release type	Test current A	Initial state	Test time	Expected result	Notes
C	8In×80%	Cold state	t≤0.2s	Non-release	Close auxiliary switch for power-on
D	12In×80%				
C	8In×120%	Cold state	t<0.2s	Trip	Close auxiliary switch for power-on
D	12In×120%				

If the value is lower than the rated instantaneous short-circuit current setting value, the circuit breaker cannot provide overcurrent protection for itself or the circuit. Instead, such protection should be provided separately.

b) Other technical parameters

1. Mechanical service life: 20,000 times;
2. Electrical service life: 10,000 times;
3. Rated impulse withstand voltage (Uimp): 4kV;

7 Appearance and Installation Size

See Figure 3 for the appearance and installation size of the circuit breaker

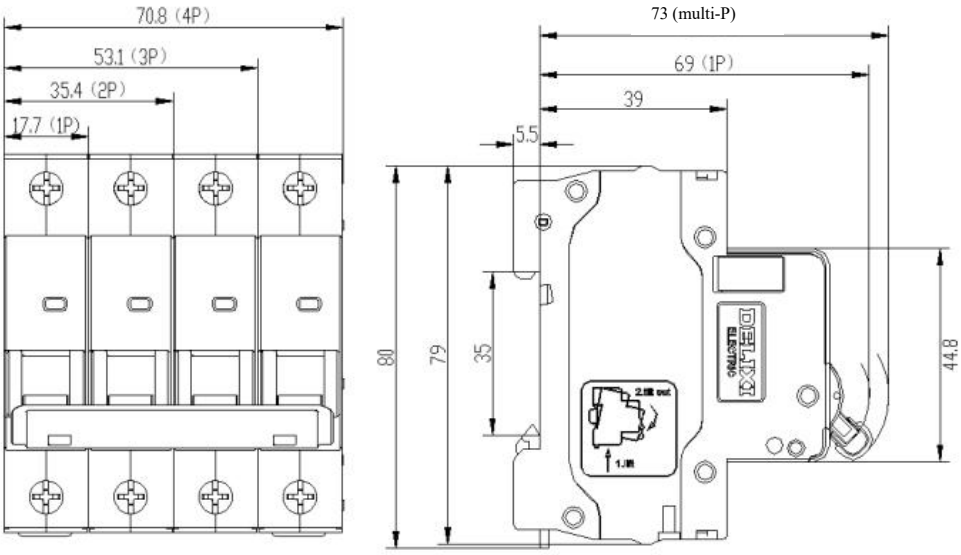


Figure 3 Appearance and Installation Size

8 Installation and Use (Maintenance)

Before installation: