



MEB3LE-125 1P+N



MEB3LE-125 2P



MEB3LE-125 3P



MEB3LE-125 3P+N



MEB3LE-125 4P

Application

MEB3LE-125 earth leakage circuit breaker (hereinafter referred to as circuit breaker) is mainly used for AC 50/60Hz, rated working voltage up to 380(400)V and below in the distribution line, rated current from 63A to 125A, for leakage, overload and short circuit protection in the distribution line, and also as infrequent on/off operation and conversion of the line.

The performance of the product conforms to GB/T14048.2 and IEC60947-2 standards.

Types and meanings

ME B 3 LE - 125 / □
 1 2 3 4 5 6

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|-------------------------|---|
| 1. Company code | 4. Earth leakage circuit breaker |
| 2. Circuit breaker | 5. Frame class rated current (A) |
| 3. Design serial number | 6. None: breaking capacity 6kA; H: breaking capacity 10kA |

Product Categories

- 3.1 By number of poles: a. 1P+N, b. 2P, c. 3P, d. 3P+N, e. 4P.
- 3.2 By rated current: 63, 80, 100, 125(A).
- 3.3 Rated working voltage: 230V/400V.
- 3.4 According to the wiring method: the circuit breaker is with screw fixed connection wiring terminal.
- 3.5 According to the instantaneous release: The circuit breaker decoupling type is motor protection type.
- 3.6 According to the installation mode: The circuit breaker is embedded in the installation rail.
- 3.7 According to the operation mode: this circuit breaker is manually operated.
- 3.8 According to the protection function: this circuit breaker in addition to leakage protection performance also has overload long delay and instantaneous short circuit protection.

Conditions of use

- 4.1 Ambient air temperature: a. Upper limit not exceeding +40 °C. b. Lower limit not less than -5°C. c. Average value of 24h not exceeding +35 °C.
- 4.2 The altitude of the installation site shall not exceed 2000 m.
- 4.3 The relative humidity of the atmosphere shall not exceed 50 % at a maximum temperature of +40 °C and may be higher at lower temperatures, e.g. up to 90 % at an average monthly temperature of +25 °C, taking into account condensation on the surface of the product due to temperature changes.
- 4.4 The pollution level of the location where the circuit breaker is used is class 3.
- 4.5 The installation category of the circuit breaker is normally class A.

Technical specifications

- 5.1 Leakage current protection characteristics.
 - a. Rated leakage current action value: $I_{\Delta n}$ =30mA or 50mA; 100mA or 300mA;
 - b. Rated leakage current inoperative value: 15mA or 25mA; 50mA or 150mA;
 - c. Maximum breaking time of rated leakage current: 0.1s;
 - d. Rated leakage current breaking capacity: 2000A;
- 5.2 Overcurrent release characteristics.
 - 5.2.1 The overcurrent release characteristics of circuit breakers for power distribution under normal installation conditions and at a reference ambient temperature of $30\pm 2^\circ\text{C}$ shall conform to the provisions of (Table 1). Table 1

Test	Set current	Rated time		Ambient temperature
		$I_n \leq 63\text{A}$	$63 < I_n < 630\text{A}$	$30\pm 2^\circ\text{C}$
Non-trip	$1.05I_n$	$\leq 1\text{h}$	$\leq 2\text{h}$	$\leq 2\text{h}$
Trip	$1.3I_n$	$< 1\text{h}$	$< 2\text{h}$	$< 2\text{h}$

- 5.2.2 The action time of the circuit breaker inverse time release shall be in accordance with the "Table of Equivalent Test Parameters for MECB Circuit Breakers".
- 5.2.3 The instantaneous tripping characteristics shall be in accordance with (Table 2). Table 2

Test	Set current	Rated time	Ambient temperature: room temperature
Instantaneous release	$12I_n \pm 20\%$	T	Cold state

Instantaneous release test current is equal to 80% of the short-circuit rated current, the detonator should not operate, the current duration is $t \leq 0.2\text{ s}$, the test current is equal to short-circuit. The test current is equal to 120% of the short-circuit rated current, and the duration of the current is $t < 0.2\text{ s}$.
 Remark: Instantaneous release can be carried out at any room temperature.

5.3 Rated short-circuit breaking capacity and flying arc distance of the circuit breaker (see Table 3) Table 3

Rated current (A)	Rated ultimate short circuit breaking capacity Icu(kA)	Rated operating short circuit breaking capacity Ics(kA)	COSΦ	Flying arc distance
63≤In≤125	6(H type 10)	6(H type 7.5)	0.65-0.70	50mm

5.4 Refer to (Table 4) for selection of wire cross-sectional area when using earth leakage circuit breakers. Table 4

Rated current (A)	63	80	100	125
Cross-sectional area of conductors(mm ²)	16	25	35	50

5.5 Mechanical and electrical life

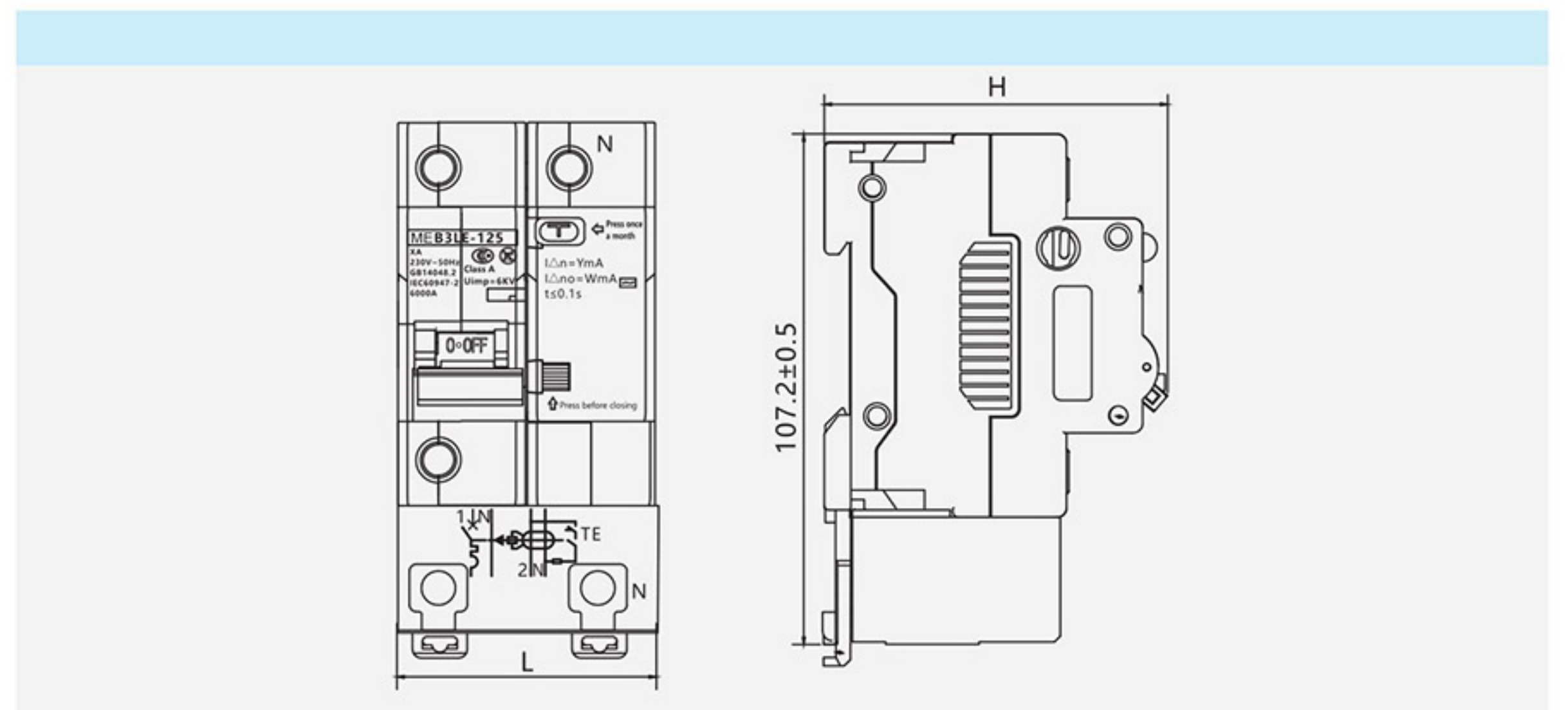
The circuit breaker turns on and breaks the rated current at the specified rated voltage with a power factor of 0.65-0.7 and a mechanical and electrical life is 15,000 times.

■ Structural characteristics and operating principle

6.1 This circuit breaker consists of contact and arc extinguishing system, electromagnetic release system, operating mechanism, zero sequence current transformer, electronic amplification line, leakage release device and other components. The electromagnetic system adopts precision type and resistance type thermal bimetal materials, the contacts adopt silver-graphite alloy contacts, and in addition, new materials such as enhanced wear-resistant plastics are selected to ensure product performance.

6.2 Working principle of the circuit breaker: Under the normal working condition of the circuit breaker, the operating mechanism is pressed to turn on the power supply, at this time the release mechanism is blocked and the contacts cannot be operated, when the current is too large, the bimetal sheet of the electromagnetic system is deformed and the latch is pushed, so that the iron core is sucked and the contacts are disconnected under the force of the release spring to complete the breaking protection of the circuit breaker. When the line leakage and electric shock accident occurs, the zero sequence current transformer output signal, so that the silicon controlled conductor, the leakage release iron core action, push rod to push the release action, so that the leakage circuit breaker in a short period of time to cut off power, so as to achieve the leakage protection function.

■ Outline and installation dimensions

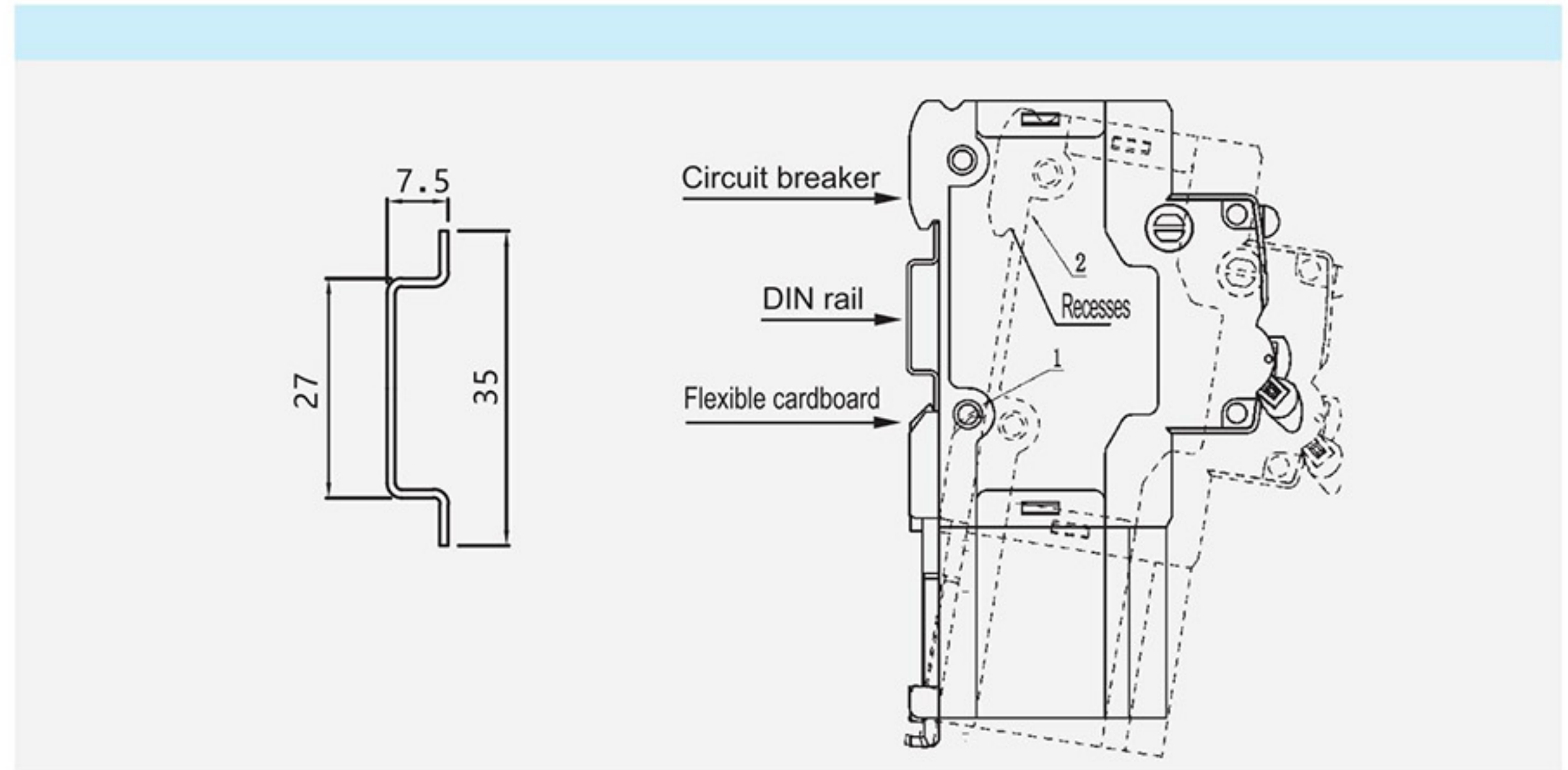


No. of poles	1P+N	2P	3P	3P+N	4P
L mm	54±0.37	81±0.435	108±0.435	108±0.435	135±0.50
H mm	71.7±0.37	74±0.37	74±0.37	74±0.37	74±0.37

■ Installation and adjustment

- 8.1 The following should be observed before the circuit breaker is installed.
 - a: Check the circuit breaker to ensure that it is in good condition and that it operates flexibly.
 - b: Check that the markings on the circuit breaker correspond to those of the product in normal conditions being used.
- 8.2 The circuit breaker should be installed with attention to the marking of the terminal block.
- 8.3 This circuit breaker can be used separately in addition to being installed in the distribution box. When installed, an earthed metal (or insulating material) protective panel should be installed to prevent electric shock.
- 8.4 The rectified current cannot be adjusted by yourself and should not be maintained by yourself.
- 8.5 Installation and dismantling method (see Figure 2)

Figure 2



8.5.1 Align the circuit breaker into the rail with the mounting catch rail (slightly angled to the right, see dotted line in Figure 2) so that the circuit breaker goes up in the direction of arrow 1. Push the foot and push the recess in the direction of arrow 2 to the upper end of the mounting rail and release the hand.

8.5.2 In the opposite direction to the installation process, remove the circuit breaker by pushing the foot upwards in the direction of arrow 1 and turning arrow 2 in the opposite direction.

■ Custody and maintenance

9.1 Circuit breakers (including products in packing lists) shall not be exposed to rain during transport and storage, and shall be placed in a warehouse free of rain and snow, with air circulation, monthly average relative humidity of not more than 90% (at $20\pm 5^{\circ}\text{C}$) and air temperature of not more than $+40^{\circ}\text{C}$ and not less than -25°C .

9.2 The circuit breaker should be checked regularly during operation to remove dust and dirt from incoming and outgoing lines and product surfaces.

9.3 Under the condition that the user observes the rules of storage and use, the factory will replace the product free of charge for the user if the product does not work properly due to poor manufacturing within 12 months from the date of installation, but not more than 18 months from the date of shipment from the factory.

■ Ordering specifications

When ordering circuit breakers, specify the following:

- Model number and name, e.g.: MEB3LE-125 series earth leakage circuit breaker.
- Number of poles of the circuit breaker, e.g. 2-pole, 3-pole, 4-pole.
- Rated current of the circuit breaker, e.g. 63A, 125A.
- Quantity ordered.