

# Terminal distribution

## HUM18-125

Series Miniature Circuit Breaker



### 1. Application range

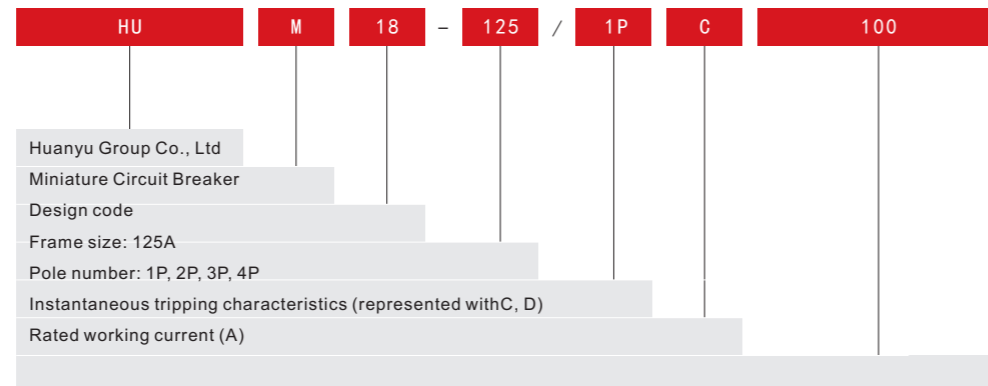
HUM18-125 series miniature circuit breakers (hereinafter referred to as circuit breakers) are mainly used in power facilities and electrical equipment circuit with AC 50Hz, rated voltage 230V/400V, rated current 125A for overcurrent protection, and it can also be used for infrequent on-off operation.

The product is reliable in performance, accurate in protection, high in breaking ability, small in volume, and beautiful in appearance. It is an ideal replacement product.

The product conforms to the standard: GB10963.1, IEC60898-1.



### 2. Model and Meaning



### 3. Normal working condition

3.1 The upper limit of ambient air temperature is not more than +40°C, the lower limit is not less than -5°C, and the average value of 24h is not more than +35°C.

3.2 Installation altitude ≤2000m.

3.3 The relative atmospheric humidity at the installation site does not exceed 50% at a maximum ambient temperature of 40°C, a higher relative humidity is allowed at a lower temperature and an average monthly maximum relative humidity is not more than 90%, while the average monthly temperature does not exceeds 25°C, and the condensation on the surface of the product caused by the temperature change should be taken into account.

3.4 Class of pollution: class 2.

3.5 Installation category: II, III.

3.6 The circuit breaker is installed with TH35-7. 5 standard rail, the breaker should be installed vertically, and the handle is turned upward to connect the current position.

3.7 There should be no obvious impact and vibration at the installation site.

### 4. Structure characteristics

The product adopts high precision bimetal material as an inverse time thermal protection element, with precise protection characteristics and reliable operation series mechanism. The contact system adopts two break point series structure and double arc extinguishing system, with low break point voltage and good current limiting performance under the condition of high breaking capacity.

The product skillfully sets the operating handle closing threshold, only when the operating force reaches a certain value, can the contact quickly close, and the contact closes at a fixed high speed. It relatively eliminated the influence of human factors on the contact closure speed, reducing electrical wear on the contacts when connected, and increasing the life and reliability of the circuit breaker.

The product has a clear indication of the position of the contact. The connection terminal uses a hoist frame structure, and the connection ability is 2.5mm<sup>2</sup> - 50mm<sup>2</sup>. The products can be equipped with shunt release, auxiliary contact and other accessories.

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### 5. Main technical parameters

#### 5.1 Basic technical parameters

Frame size	Rated voltage (Ue)	Rated current (In)(A)		Rated breaking capacity	Pole number	Life (times)		The type of instantaneous release and the current range	
		C type	D type			Mechanical life	Electrical life	C type	D type
125	50Hz 230/400V	63 80 100 125	63 80 100	I <sub>cs</sub> =7500A I <sub>cn</sub> =15000A	1P 2P 3P 4P	20000	10000	5I <sub>n</sub> ~10I <sub>n</sub>	10I <sub>n</sub> ~20I <sub>n</sub>

#### 5.2 Overcurrent release characteristics

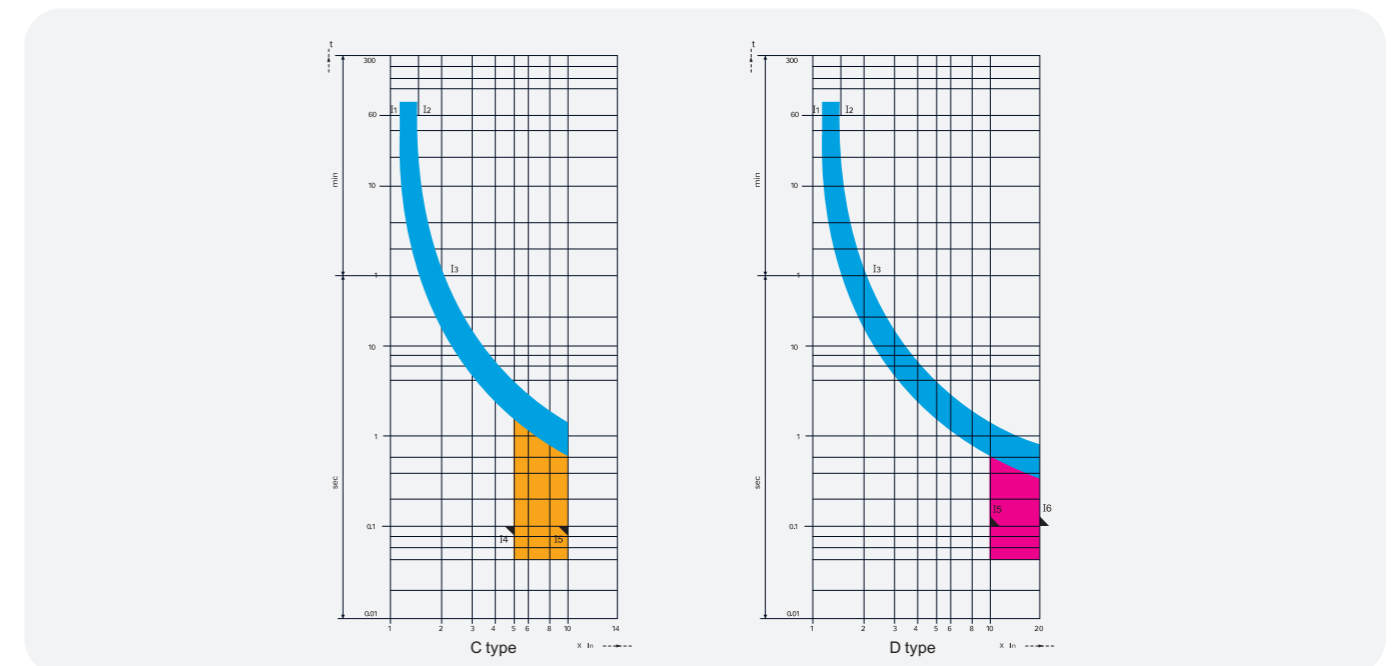
Release type	Rated current (In)	Start state	Testing current		Tripping time (t)	Expecting result	Datum temperature
			I <sub>1</sub>	I <sub>2</sub>			
Thermal release	C, D	Cold state	≤63	1.13I <sub>n</sub>	≤1h	Non-tripping	30°C
			>63	1.45I <sub>n</sub>	≤2h		
	Thermal state	≤63	1.45I <sub>n</sub>	<1h	Tripping		
		>63	1.45I <sub>n</sub>	<2h			
Magnetic release	C	Cold state	I <sub>4</sub>	5I <sub>n</sub>	≤0.1s	Non-tripping	Normal temperature
			I <sub>5</sub>	10I <sub>n</sub>	<0.1s		
	D	Cold state	I <sub>5</sub>	10I <sub>n</sub>	≤0.1s	Non-tripping	
			I <sub>6</sub>	14I <sub>n</sub>	<0.1s		

Note: The overcurrent protection (thermal tripping) in the table is based on the cross-sectional area of the corresponding cable at the ambient temperature of 30°C ~35°C, the expected results are obtained within the specified time, if the operating conditions is deviated from the above description, it should be compensated it is advised to choose corresponding cable as following table.

#### 5.3 Sectional area of copper conductor corresponding to circuit breaker

Rated current In(A)	63	80	100	125
Traverse sectional area (mm <sup>2</sup> )	16	25	35	50

#### 5.4 The tripping characteristic curve of the circuit breaker



## Terminal distribution

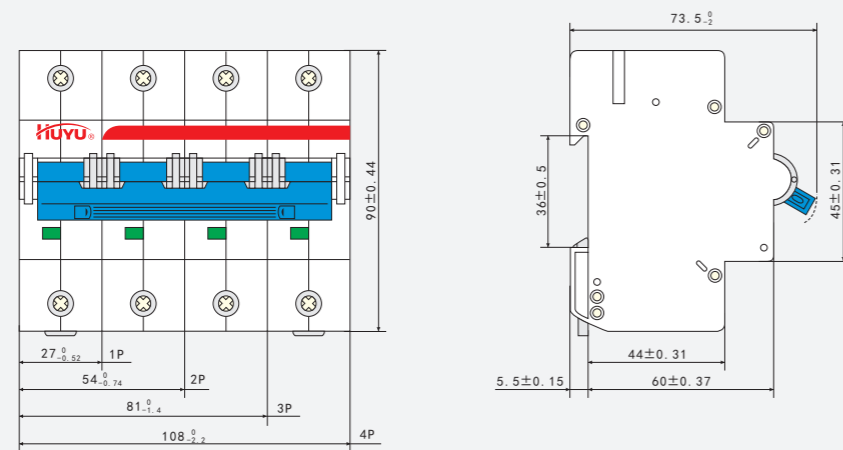
### HUM18-125

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5.5 Connection capacity

Screw size	Rated torque	Ultimate torque	National standard rated torque	Connection capacity
M6	3N·m	5N·m	2.5N·m	50mm <sup>2</sup> and below

### 6. Overall and mounting dimensions



### 7. Ordering information

When ordering, please explain the circuit breaker type, rated current value, release type, pole number and unit number.

For example:

HUM18-125 miniature circuit breaker with rated current 63A, release type C, 1P, 100 sets.

Can be express as: HUM18-125/1P C63 100 sets.

## Terminal distribution

### HUM18Z-50

Series Miniature DC Circuit Breaker



### 1. Application range

The HUM18Z-50 series miniature DC circuit breaker is a new product developed on the basis of the HUM18-63 series high breaking miniature circuit breaker. The product is with reliable performance, high breaking ability, accurate protection and small size. It is widely used in communications, electric locomotive and other industries. Circuit breakers are mainly used in power line and power equipment with DC rated voltage of 220V/440V, rated current to 50A for over current protection, and can also be used for infrequent on-off operation.

The product conforms to the standard: GB10963.2, IEC60898-2.

### 2. Model and Meaning

Model	Meaning
HU	Huanyu Group Co., Ltd
M	Miniature circuit breaker
18	Design code
Z	Direct-current
50	Frame size
/	Pole number: 1-1P, 2-2P
□	

### 3. Normal working condition

3.1 The upper limit of ambient air temperature is not more than +40°C, the lower limit is not less than -5°C, and the average value of 24h is not more than +35°C.

3.2 Installation altitude ≤ 2000m.

3.3 The relative atmospheric humidity at the installation site does not exceed 50% at a maximum ambient temperature of 40°C, a higher relative humidity is allowed at a lower temperature and an average monthly maximum relative humidity is not more than 90%, while the average monthly temperature does not exceeds 25°C, and the condensation on the surface of the product caused by the temperature change should be taken into account.

3.4 Class of pollution: class 2.

3.5 Installation category: II, III.

### 4. Structure characteristics

The circuit breaker adopts magnetic blowout, with short arcing time, high breaking capacity, accurate protection characteristics and reliable performance and has contact position indication. The terminal block adopts a frame structure, and the wiring is firm and reliable.

### 5. Main technical parameters

#### 5.1 Basic technical parameters

Frame size	Rated voltage (Ue)	Time constant	Rated current (In)(A)	Rated limit short circuit breaking capacity (Icn)(A)	Pole number	Release type
50	220V (1p) 440V (2p)	t ≤ 4ms	6, 10, 16, 20 25, 32, 40, 50	6000	1P 2P	B, C

#### 5.2 Tripping characteristic of the circuit breaker

Release type	B	C	Tripping time	Expecting result	Ambient temperature
Thermal release	I <sub>1</sub>	1.13I <sub>n</sub>	≤ 1h	Non-tripping	30°C ~ 35°C
	I <sub>2</sub>	1.45I <sub>n</sub>	< 1h	Tripping	
Magnetic release	I <sub>4</sub>	4I <sub>n</sub>	≤ 0.1s	Non-tripping	Normal temperature
	I <sub>5</sub>	7I <sub>n</sub>	< 0.1s	Tripping	