

Terminal distribution

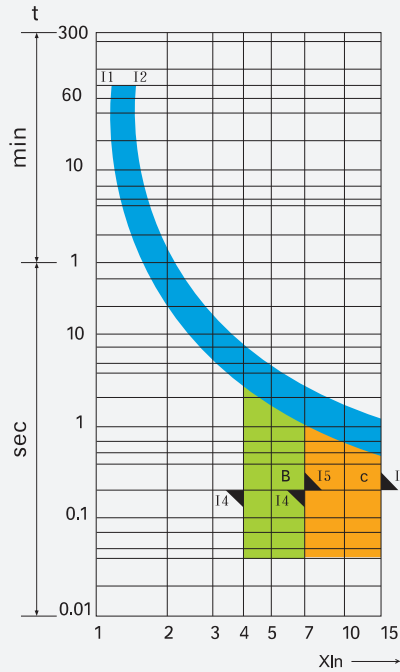
HUM18Z-50

Series Miniature DC Circuit Breaker

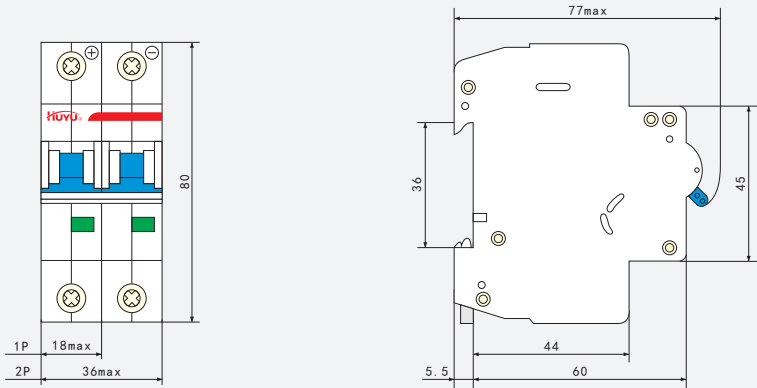
5.3 Sectional area of copper conductor corresponding to circuit breaker

Rated current I <sub>n</sub> (A)	≤6	10	16、20	25	32	40、50
Traverse sectional area (mm2)	1	1.5	2.5	4	6	10

5.4 The tripping characteristic curve of the circuit breaker



6.Overall and mounting dimensions



Note: Install with TH35-7.5 standard mounting rail

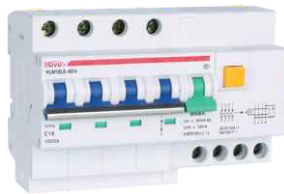
7.Ordering information

When ordering, please explain the circuit breaker type, rated current value, release type, pole number and unit number.  
For example:  
HUM18Z-50/1 miniature circuit breaker with rated current 32A, release type C, 1P, 100 sets.  
Can be express as: HUM18Z-50/1 C32 100 sets.

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HUM18LE

Series Miniature Leakage Circuit Breaker



1. Application range

HUM18LE series miniature leakage circuit breaker is a new product developed by our company. It is suitable for AC 50Hz, rated voltage 400V, rated current does not exceed 63A, neutral grounding power circuit, mainly for personal electric shock protection and line equipment on buildings and similar use of overcurrent protection, it can also be due to the electrical equipment insulation damage of ground fault current caused by the fire risk protection.  
Conform to the standard: GB16917.1, IEC61009-1.

2.Model and Meaning

HU	M	18	LE	-	□	/	□	G	□	A
Huanyu Group Co., Ltd	Miniature circuit breaker	Design code	Special derivation code (electronic leakage circuit breaker)	Frame size(40, 63)	Pole number: 1N-1P+N,2-2P,3-3P,3N-3P+N,4-4P	Special function code: G represents over-voltage protection function	Special for EN new energy	Leakage protection characteristics: Type A and Type AC (AC type is not marked)		

Note: (1) Only 1P+N and 2P can add overvoltage protection  
(2) Ambient air temperature range for new energy-specific products (EN): -40~70℃.

3.Normal working condition

- 3.1 The upper limit of ambient air temperature is not more than +40℃ , the lower limit is not less than -5℃ , and the average value of 24h is not more than +35℃.
- 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℃ , 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℃ , 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 HUM18LE series miniature leakage circuit breaker is a current operated electronic leakage circuit breaker, which is made up of the HUM18 high breaking miniature circuit breaker and the leakage release developed by our company. When there is a leakage or personal electric shock in the protected circuit, as long as the leakage current I<sub>Δn</sub> reaches the operating current value, the leakage circuit breaker will act immediately to cut off the power supply, thereby protecting the equipment from leakage and electric shock. At the same time, it can also play a protective role in overload and short circuit.

5.Main technical parameters

5.1 Residual current breaking time of leakage circuit breaker

Category	I <sub>Δn</sub> (mA)	I <sub>n</sub> (A)	Maximum (residual current) breaking time(s)			
			I <sub>Δn</sub>	2 I <sub>Δn</sub>	5 I <sub>Δn</sub>	250mA
Indirect contact	>30	Any value	0.2	0.1	0.04	—
Direct contact	≤30	Any value	0.1	0.1	—	0.04

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5.2 Basic technical parameters

Frame size	Pole number	With neutral line (normal open)	Rated current In(A)	Rated residual operating current IΔn(mA)	Rated residual non-operating currentIΔno(mA)	Voltage (V)	Rated breaking capacity	Rated residual connecting and breaking capacity(A)	Overcurrent instantaneous release type
							Breaking capacity		
63	1	N(Normal open)	6、10、16 20、25、32 40、50、63	30	15	230	10000A	3000	B、C、D
	2								
	3								
	3	N(Normal open)							
	4								
40	1	N (Normal open)	6、10、16 20、25 32、40	30	15	230	10000A	3000	C、D (In of D type is to 20A)

5.3 Sectional area of copper conductor corresponding to circuit breaker

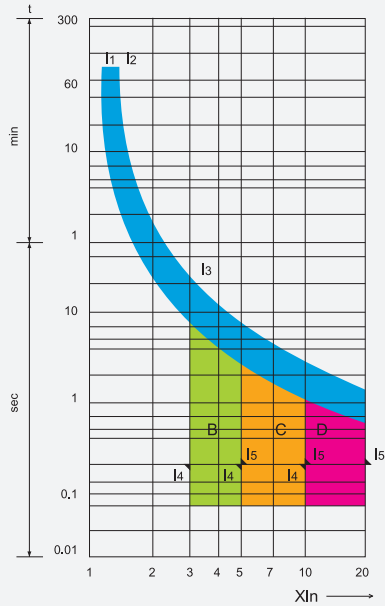
Rated current In(A)	≤6	10	16、20	25	32	40、50	63
Traverse sectional area (mm2)	1	1.5	2.5	4	6	10	16

5.4 Overcurrent release characteristics

Release type		B	C	D	Tripping time	Expecting result	Ambient temperature
Thermal release	I1	1.13In	1.13In	1.13In	≤1h	Non-tripping	30℃~35℃
	I2	1.45In	1.45In	1.45In	<1h	Tripping	
Magnetic release	I4	3In	5In	10In	≤0.1s	Non-tripping	Normal temperature
	I5	5In	10In	20In	<0.1s	Tripping	

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℃~35℃, 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.

5.5 The tripping characteristic curve of the circuit breaker



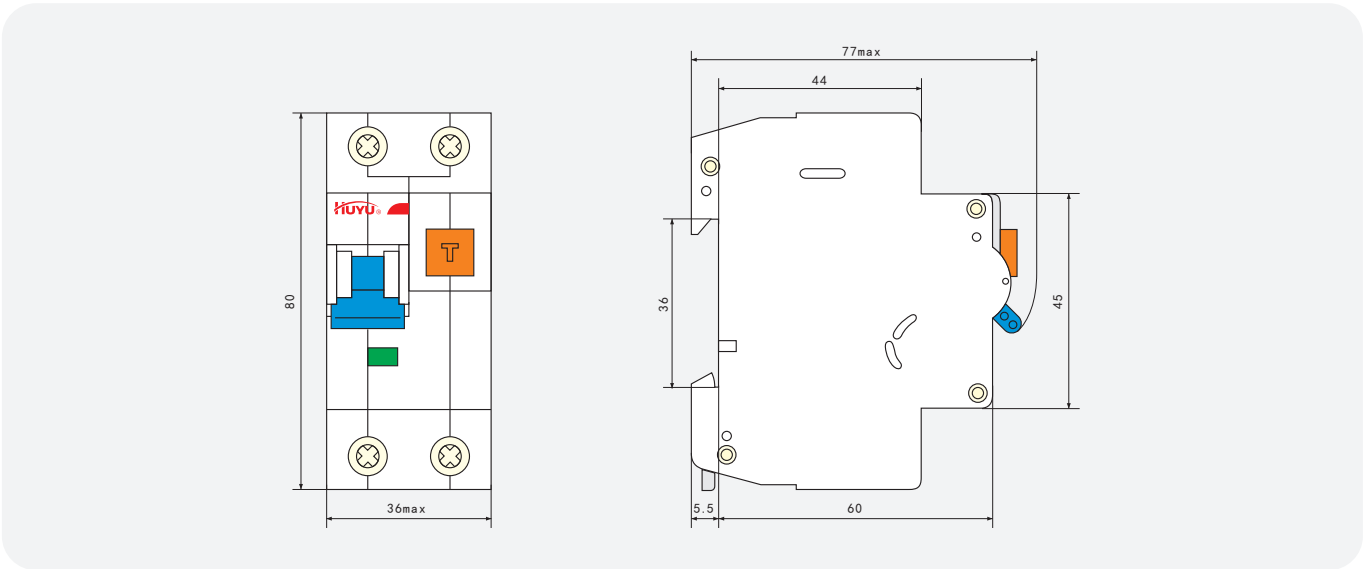
5.6 In addition to the leakage protection function, the leakage circuit breaker can also protect the overvoltage due to the fault of the power grid. The overvoltage setting value is Uvo=280V, and the setting range is Uvo±5% (only for the circuit with rated voltage of AC230V).
5.7 The accessories of the leakage circuit breaker are complete, and can be equipped with accessories such as shunt release, over voltage release, over under voltage release, under voltage release, auxiliary contacts and alarm contacts.

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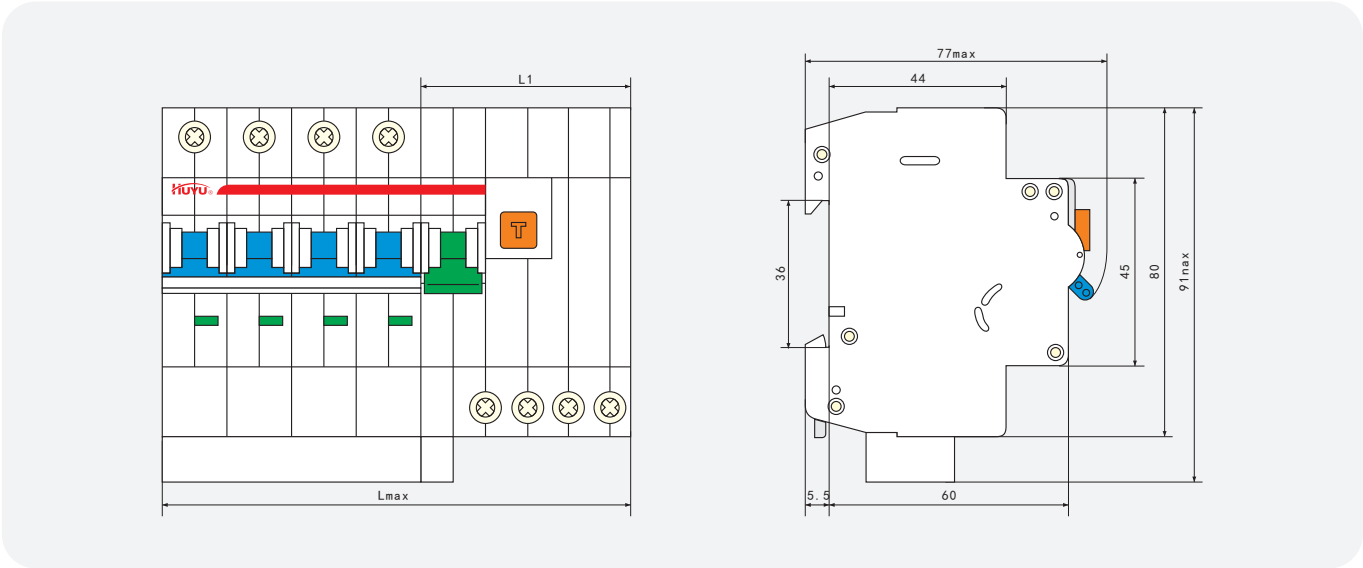
HUM18LE
Series Miniature Leakage Circuit Breaker

6.Overall and mounting dimensions

6. 1 HUM18LE-40/1N



6.2 HUM18LE-63



Note: The leakage circuit breaker is installed with the TH35-7.5 type standard mounting rail.

Width	Pole				
	1P+N	2P	3P	3P+N	4P
L1	35.5±0.5	35.5±0.5	46.5±0.5	58±0.5	58±0.5
Lmax	54	72	100	112	130

7.Ordering information

When ordering, it is necessary to explain the types of leakage circuit breaker, frame size, rated current value, rated residual action current, release type, pole number and number of units (Leakage circuit breaker with overvoltage protection must be specified when ordering, otherwise there will be no such function).
For example: 100 sets HUM18LE-63 leakage circuit breaker with rated current 40A, release type C, rated residual action current 30mA, three poles plus no breaking neutral pole. Can be represented as: HUM18LE-63/3N C40 30mA 100 sets.