

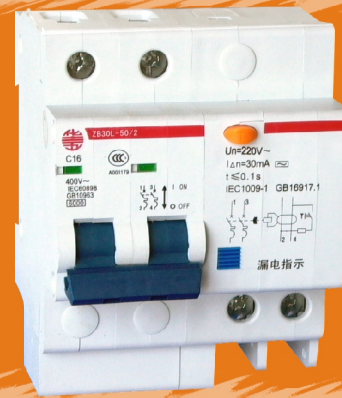
State High-tech Enterprise
State Exemption Products
Shanghai Famous Brand



ZB 30 Miniature Circuit-breaker

**ZB30L Miniature Residual
Current Circuit-breaker**

ZB30G Miniature Isolating Switch



- International Quality System Certification,
China Compulsory Certification。
- Conforms to:
Residential Design Standard;
Civil Construction Electricity Design Standard;
IEC60898 Standard
GB10963 Standard;
GB16917.1 Standard.
- High breaking capacity; Miniature; Easy installation.
- Reliable in safety; Action sensitive; Maintenance-free



SHANGHAI HUATONG ELECTRICITY CO., LTD.



Catalogue

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ZB30 Miniature circuit-breaker ZB30L Miniature residual circuit-breaker ZB30G Miniature isolating switch

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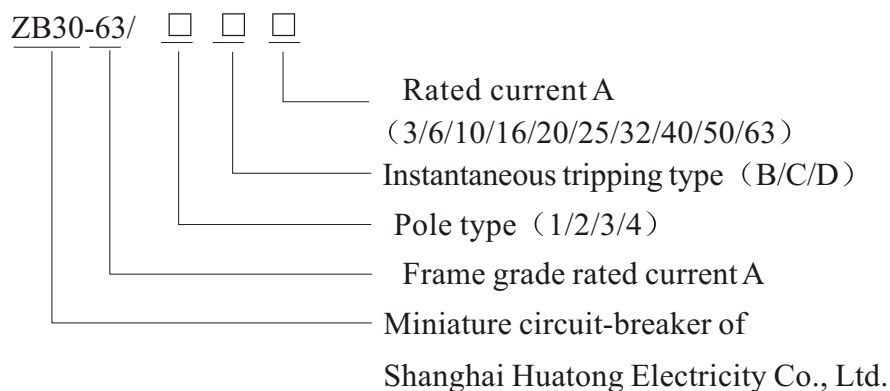


ZB30-63 Miniature Circuit-breaker

◆ Utilization

ZB30-63 Miniature circuit-breaker is applicable to the circuit of AC 50/60Hz, rated voltage 230/400V, rated current 3A to 63A to protect the line and electric device out of over-load and short-circuit damage, and also can be used in the non-frequent making/breaking operation. The breaker is suitable for non-professional to use and it is maintenance-free. The product is in conformity with standards of IEC60898 (GB10963).

◆ Model and meaning



◆ Technical parameters

- Rated current I_n : 3A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A。
- Breaking capacity: $I_n3 \sim 40A$ is 6000A; $I_n50 \sim 63A$ is 4500A。
- Service life: 10000 (ON-OFF) 。
- Instantaneous release type: B、C、D (see figure 3) 。
- The property curve of tripping see figure 3。
- Wiring: to use wiring terminal with clamp hoop, the cross-section area of cable may reach up to 25mm^2
- Installation: normally vertically installed on $35 \times 7.5\text{mm}$ lead rail
- Over-current tripping property see table 1。
- The overall and mounting dimensions see figure 1。
- The correction factor K of compensation relation between current-carrying capacity and ambient temperature see figure 2。



Table 1 Over-current protective property

Serial Number	Over-current instantaneous release type	Rated current (In) A	Experimental current A	Definite time t	Expectant result	Experimental ambient temperature	Initial state
a	B,C,D	≤63	1.13In	t ≥ 1h	Non-tripping	30°C~35°C	Cold
b	B,C,D	≤63	1.45In	t < 1h	Tripping	30°C~35°C	Hot
c	B,C,D	≤32	2.55In	1s < t < 60s	Tripping	30°C~35°C	Cold
		>32		1s < t < 120s			
d	B	≤63	3In	t ≥ 0.1s	Non-tripping	30°C~35°C	Cold
	C		5In				
	D		10In				
e	B	≤63	5In	t < 0.1s	Tripping	30°C~35°C	Cold
	C		10In				
	D		20In				
f	C, D	≤63	1.13In	t ≥ 1h	Non-tripping	-5 ± 2°C	Cold
g	C, D	≤63	1.90In	t < 1h	Tripping	-5 ± 2°C	Hot
h	C, D	≤50	1.0In	t ≥ 1h	Non-tripping	40 ± 2°C	Cold

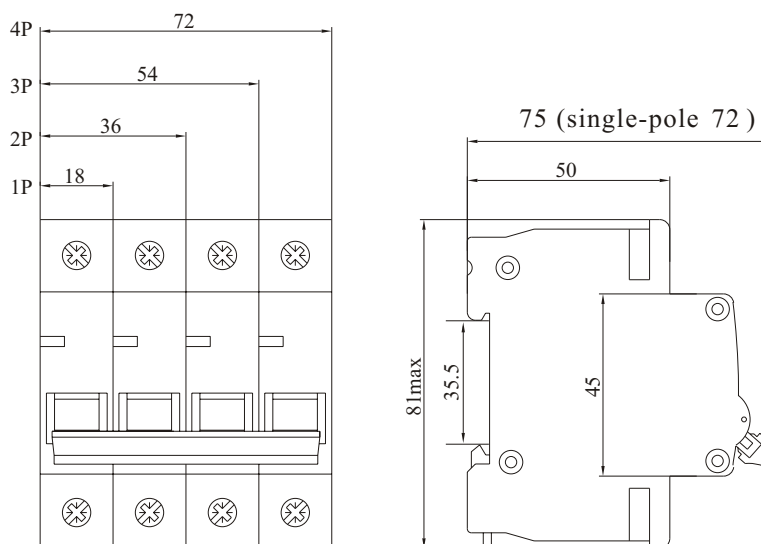


Figure 1

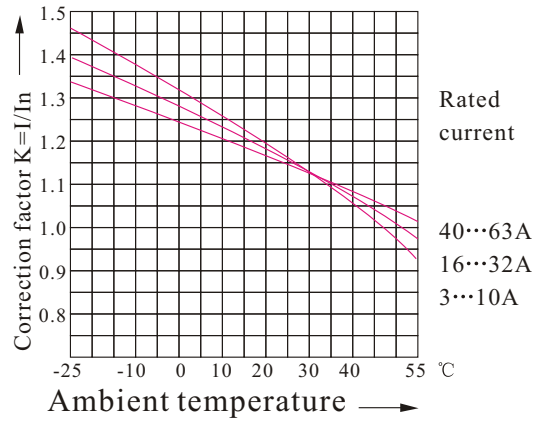


Figure 2

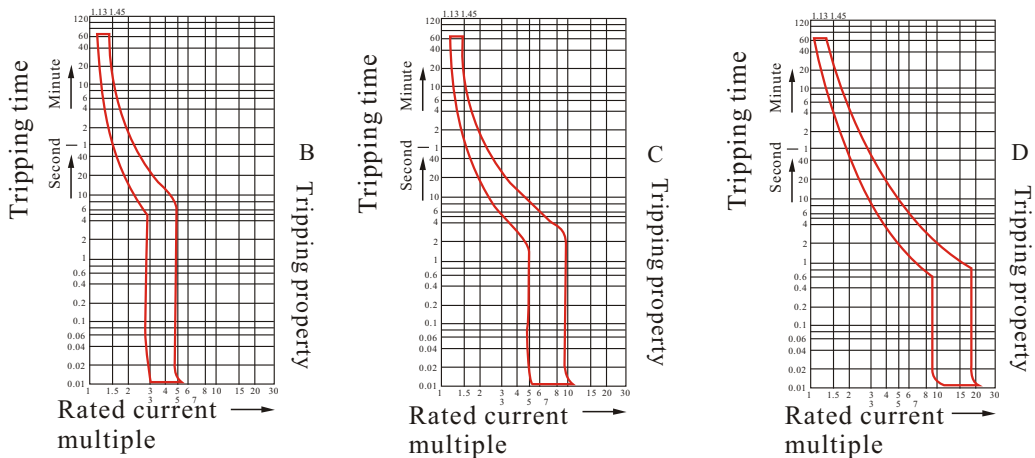


Figure 3

◆ Ordering notice

● Please annotate when ordering the breaker:

- a. Name、 Model、 Pole type;
- b. Instantaneous release type (B/C/D) ;
- c. Rated current;
- d. Sum.

For example: frame grade current 63A, 3 pole, C type characteristic, In is 20A, 25 Pcs. Note as: ZB30-63/3C20, 25 Pcs.



ZB30-32 Miniature circuit-breaker

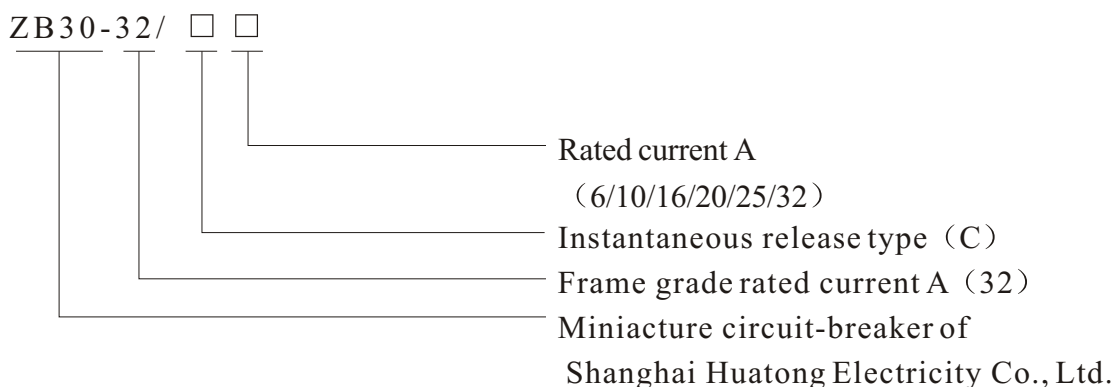
◆ Utilization

ZB30-32 Miniature circuit-breaker is applicable to the circuit of AC 50/60Hz, rated voltage 230V, rated current 6A to 32A to protect the line and electric device, and also can be used in non-frequent operation of making and breaking. Its characteristic is: the zero line and live wire break at same time so as to avoid the danger to human body caused by the counter-connection of the phase line and zero line, or by the voltage of the zero line to grounding.

The breaker is suitable for the non-professional to use and unnecessary to maintain. The product is in conformity with standards of IEC60898 (GB 10963).



◆ Model and meaning



◆ Technical parameters

- Rated current I_n : 6A、10A、16A、20A、25A、32A。
- Breaking capacity: 4500A。
- Service life: 10000 times (ON—OFF)。
- Instantaneous release type: C type. (see ZB30-63 type sample book)。
- Tripping property curve see ZB30-63 type sample book.
- Wiring: the wiring terminal is with clamp hoop, the cross-section area of the cable can be up to 10mm^2 。
- Installation: it is installed on standards of $35 \times 7.5\text{mm}$ lead rail, normally in vertical way (see figure 4)。
- Structure feature: the inner components of breaker is in dual-pole structure, and one of the pole set with protection(over-load, short-circuit) , another is without protection to “one knife two disconnection”
- The thickness is 18mm

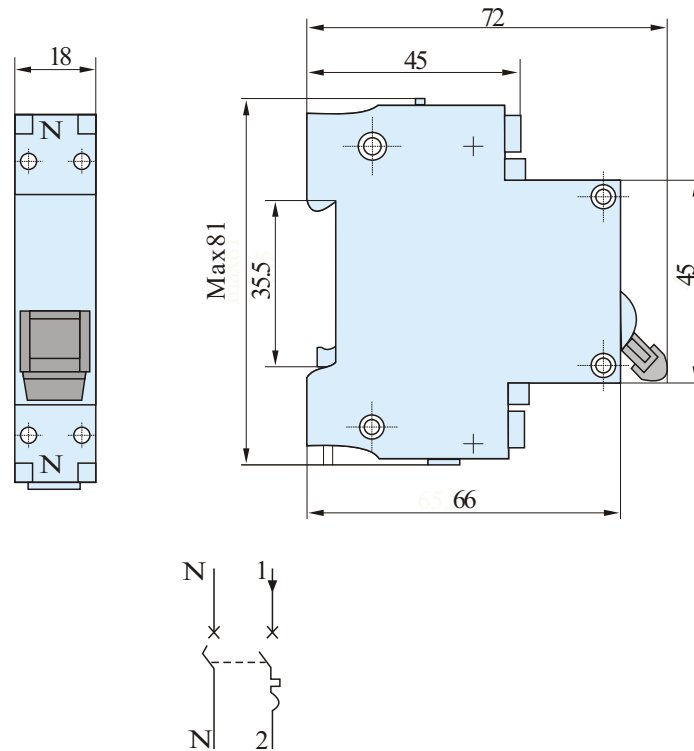


Figure 4

◆ Ordering notice

● Please annotate when ordering the breaker:

- A. Name、 Model;
- b. Instantaneous release type ((C)) ;
- c. Rated current;
- d. Sum.

For example: frame grade current 32A, IP + N, C type characteristic,

In is 16 A, 25 Pcs. Note as: ZB30-32/INC16, 25 Pcs.:

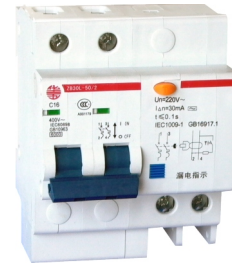


ZB30L Miniature residual current circuit-breaker

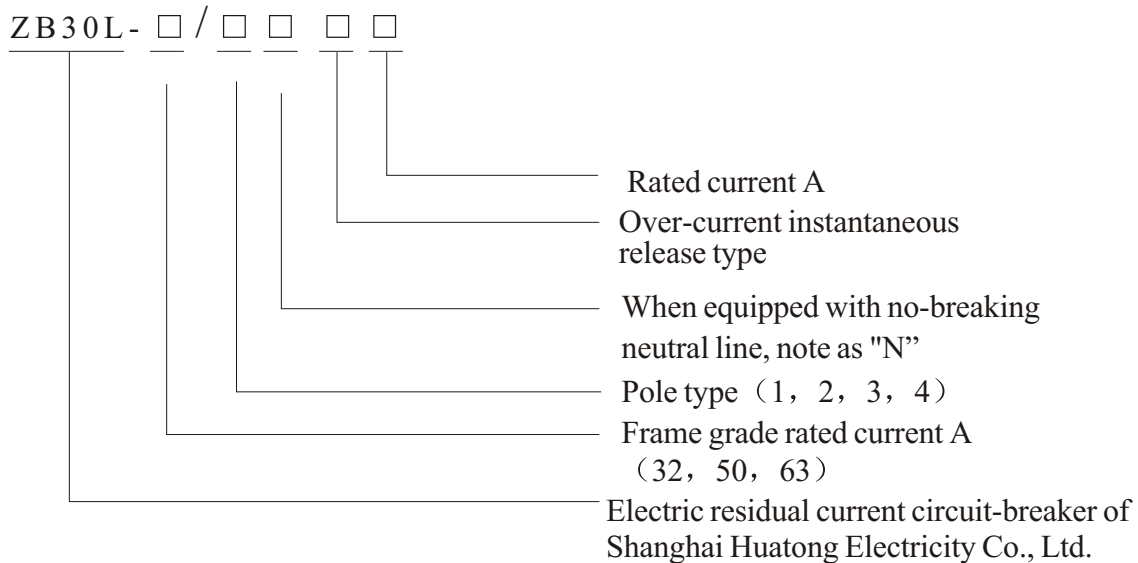
◆ Utilization

ZB30L Miniature residual current circuit-breaker is applicable to the circuit of AC 50Hz, rated voltage 230/400V, rated current 3 A to 63A, meanwhile it can detect the leakage, and compare the residual current with residual motion current when the former one is over than the latter one, it will break the circuit which is protected, and also can make, load-carry, and break the over-current under the defined condition.

The product is in conformity with standards of GB16917.1、GB10963.



◆ Model and meaning





◆ Technical parameters

- Rated current I_n : 3A、6A、10A、16A、20A、25A、32A、
→ corresponding frame grade current $I_{nm}=32A$;
 I_n : 40A、50A→corresponding frame grade current $I_{nm}=50A$;
 I_n : 63A→corresponding frame grade current $I_{nm}=63A$;
- Rated residual motion current $I_{\Delta n}$: 30mA、50mA。
- Breaking capacity: when $I_n 3\sim 32A$ is 6000A;
When $I_n 40\sim 63A$ is 4000A。
- Service life: 10000 times (making—breaking) 。
- Instantaneous release type: C type or D type。 (see ZB 30 breaker sample).
- Wiring: the wiring terminal is with clamp hoop , the cross-section area of conductor :
when $I_{nm}=50A$ and 63A, can be $25mm^2$ and below,
when $I_{nm}=32A$, can be $10mm^2$ and below.
- Installation: it can be installed on $35\times 7.5mm$ standard lead rails
Normally is in vertical way, the installation and wiring
parameters see table 2。
- Tripping property curve is same with ZB30-63 Miniature circuit-breaker 。

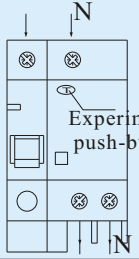
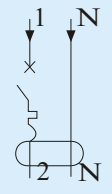
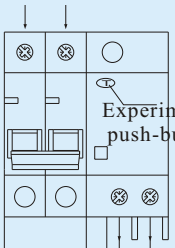
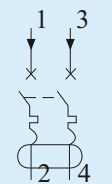
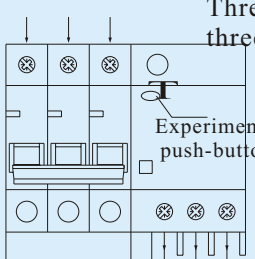
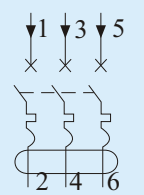
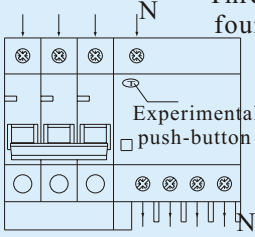
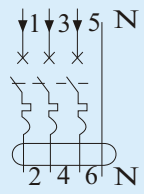
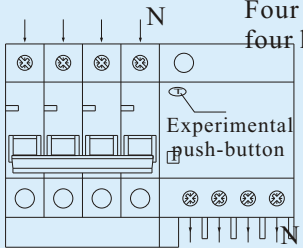
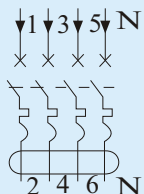
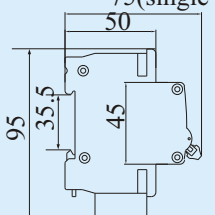
◆ Ordering notice

- When ordeing the residual current breaker please note as below:
 - a. Name、 Model、 Pole type
 - b. Rated current;
 - c. Instantaneous release type;
 - d. Sum.
 - E. Rated residual motion current value(30mA-50mA)

For example: frame grade current 32A, 4 pole, C type characteristic, 30mA,
 I_n is 20A, 25 Pcs. Note as: ZB30L-32/4C20,30mA,, 25 pieces.



Table 2

 <p>Single-pole two lines</p> <p>Experimental push-button</p>	Single -pole two lines	Thickness mm
		Inm: 63A,50A ----- 18+36=54 Inm: 32A ----- 18+27=45
 <p>Two -poles two lines</p> <p>Experimental push-button</p>	two -poles three lines	Thickness mm
		Inm:50A 63A ----- 36+36=72 Inm:32A ----- 36+27=63
 <p>Three-poles three lines</p> <p>Experimental push-button</p>	Three -poles three lines	Thickness mm
		Inm:50A 63A ----- 54+49=103 Inm:32A ----- 54+36=90
 <p>Three-poles four lines</p> <p>Experimental push-button</p>	Three -poles four lines	Thickness mm
		Inm:50A 63A ----- 54+63=117 Inm:32A ----- 54+45=99
 <p>Four -poles four lines</p> <p>Experimental push-button</p>	Four -poles four lines	Thickness mm
		Inm:50A 63A ----- 72+63=135 Inm:32A ----- 72+45=117
Overall and Mounting dimensions  <p>75(single pole 72) 50 95 35.5 45</p>	Mounting type	Attention
	II、III	The inverse inlet wiring is not allowed when installation.
	Pollution grade	
	Two-poles	



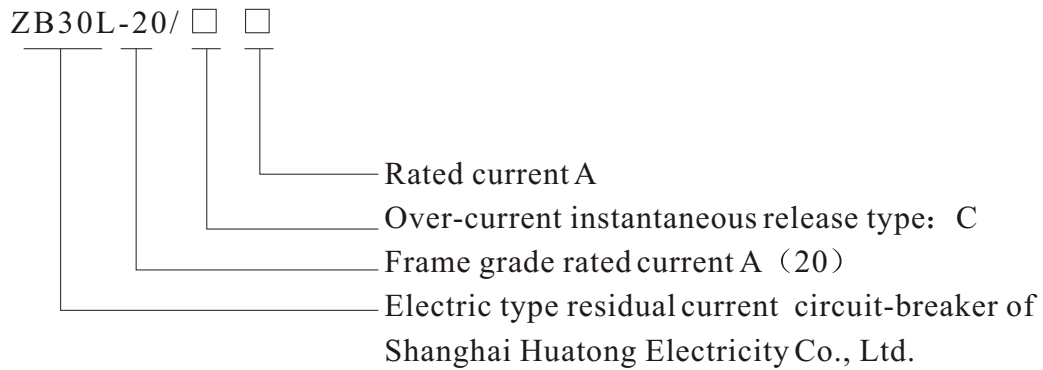
ZB30L-20 Miniature residual current circuit-breaker

◆ Utilization

ZB30L-20 Miniature residual current circuit-breaker is applicable to the circuit of AC 50Hz, rated voltage 230V, rated current 6A to 20A, meanwhile it can detect the residual current, and compare the residual current with residual motion current, when the former is over than the latter, it can break the circuit which is protected, and also can make, load-carry, and break over-current under the defined conditions. The product is in conformity with standards of GB16917.1、GB10963.



◆ Model and meaning



◆ Technical parameters

- Rated current In: 6A、10A、16A、20A。
- Rated leakage motion current $I_{\Delta n}$: 30mA。
- Breaking capacity:4500A。
- Service life: 10000 times (ON—OFF)。
- Instantaneous release type: C type
- Wiring: the wiring terminal is with clamp hoop. The cross-section area of conductor can reach up to 10mm²。
- Installation: it can be installed on 35×7.5mm standards lead rail, normally in vertical way, see figure 5.
- Tripping property curve is identical to ZB30-63type Miniature circuit-breaker。

● Structure feature: the residual current breaker is consisted of two parts: one is ZB30-32 type Miniature circuit-breaker, another is residual current device, the Miniature residual current circuit-breaker features with thin thickness (36mm) and with that the phase line , neutral line break at same time.

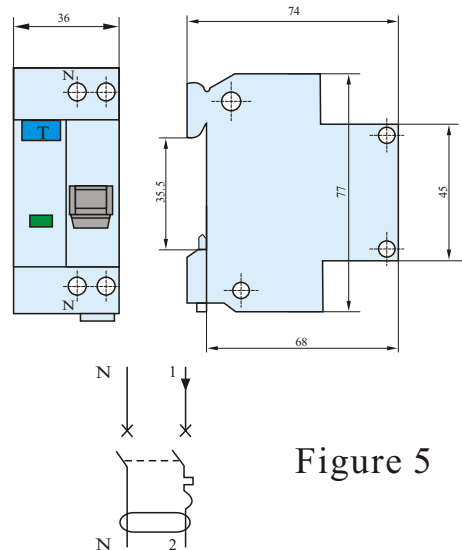


Figure 5



◆ Ordering notice

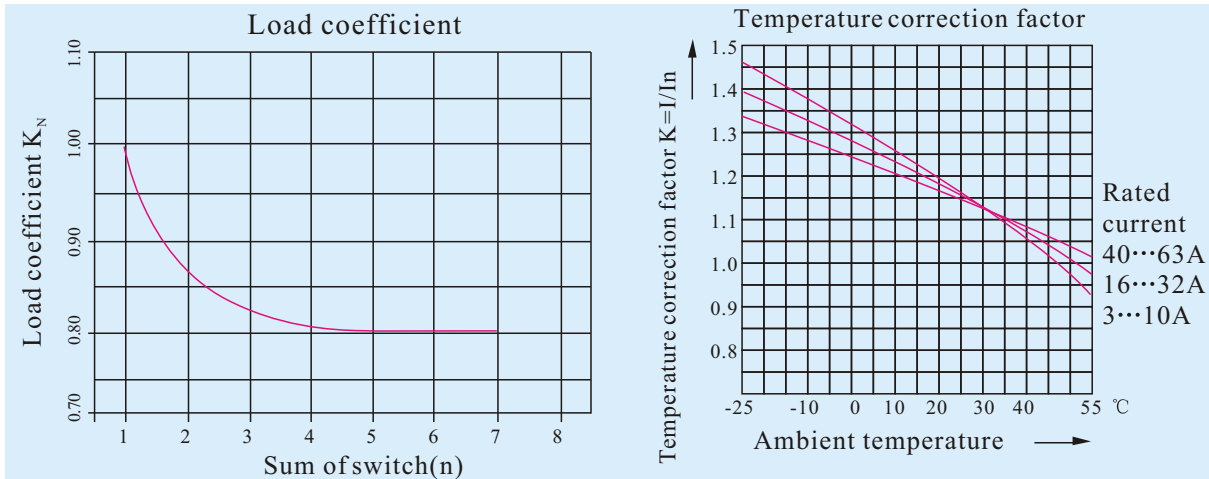
● When ordering please annotate:

- A. Name、 Model;
- B. Instantaneous release type (C);
- C. Rated current;
- D Sum.
- E. Rated residual motion current.

Example: frame grade current 20A, C type characteristic, In 16A, 30mA, 25 pieces, note as: ZB30L-20/C16, 30mA, 25 pieces.

◆ Users' utilization notice

● The calculation of load when install many breakers in parellel way (within the corresponding temperature)

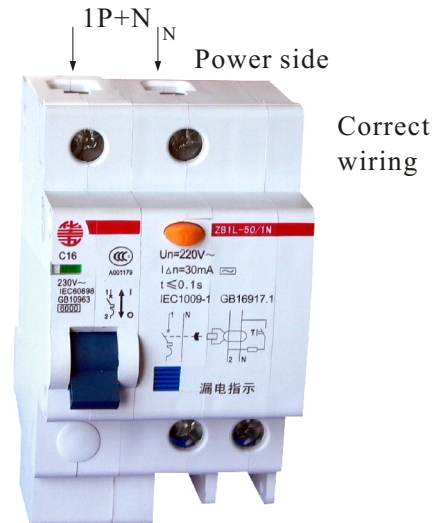


The load I_{DL} permitted under the situation of several switches working together in parellel way in corresponding temperature. $I_{DL} = I_n \times K \times K_N$ (A); I_n is single-pole switch rated current (A).

● When use the residual current circuit-breaker

The switch is not allowed inverse inlet wiring, only allowed 2000V/1min withstand voltage frequency test between the phases of inlet terminals, or between the inlet terminals and the enclosure when the breaker breaks.

For example:





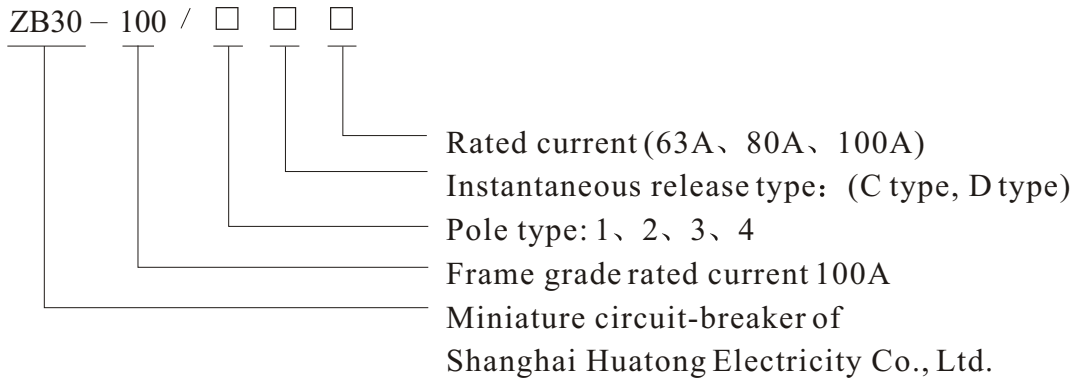
ZB30-100 Miniature circuit-breaker

◆ Utilization

ZB30-100 Miniature circuit-breaker is applicable to the circuit of AC 50/60Hz, rated voltage 230/400V, rated current 63A to 100A to protect the circuit and electric device out of over-load and short-circuit damage, and also can be used in the non-frequent making/breaking operation. The breaker is suitable for non-professional to use and it is maintenance-free. The product is in conformity with standards of IEC60898 (GB10963).



◆ Model and meaning



◆ Technical parameters

- Rated current In: 63A、80A、100A
- Breaking capacity: 10KA
- Service life: 10000 times
- Instantaneous release type: C type、D type (same with ZB30-63 type)
- Wiring: the wiring terminal is with clamp hoop and the cross-section area of cable can reach up to 50mm²
- Installation: it is installed on 35×7.5 standard mounting lead rail.



◆ Motion property curve

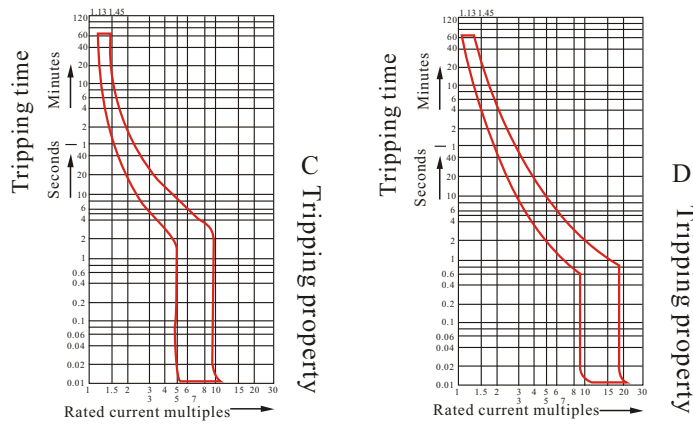
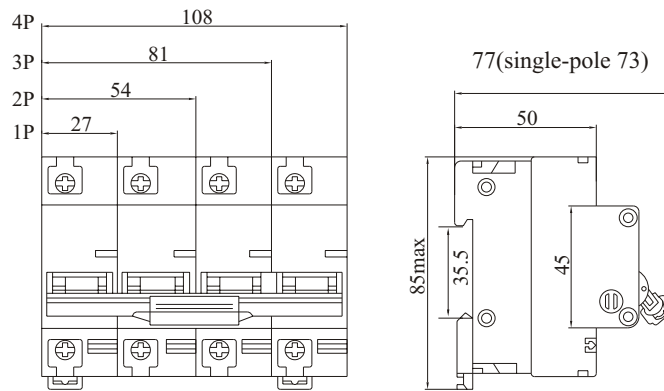


Figure 3

◆ Overall dimensions



ZB30-100 overall dimensions

◆ Ordering notice

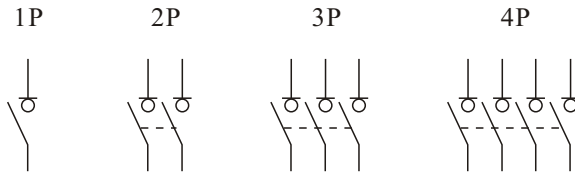
● When ordering the breaker please annotate as below:

- A. Name、 Model、 Pole type;
- B. Instantaneous release type;
- C. Rated current;
- D. Sum.

For example: when order 80A, 3-pole C type characteristic 50 pieces
note as: ZB30-100/3 C80 50 pieces.

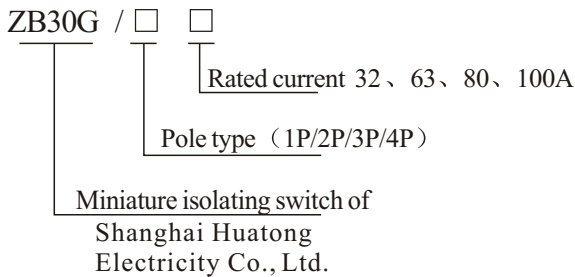
ZB30G Miniature isolating switch (32~100A)

Symbol:



Pole type: 1P、2P、3P、4P。

Model:



Conformed standards: IEC 60947-3;
GB 14048.3.

Rated voltage: 1P: 230V, 50Hz;
2P、3P、4P: 400V, 50Hz。

Rated current: 32A, 63A。
Service life: no-load 20000 times
+ with load 5000 times.

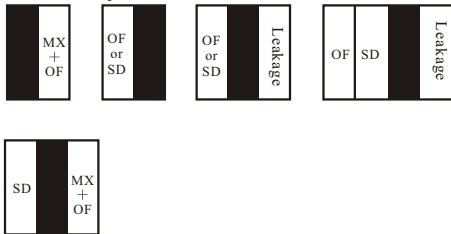
Use type: AC-22A。

Wiring: Wiring cable cross-section area
can reach up to 50mm²。

Short-time withstand current : 20In, 1s。
(The overall dimensions is identical to
the one of ZB30-63)

ZB30-63 electric auxiliary devices

Auxiliary devices combination



Shunt-release unit (MX+OF) SD alarm connection point.

Width
(9mm's multiples)

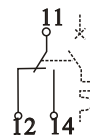
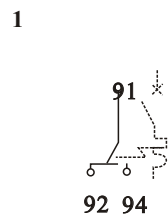
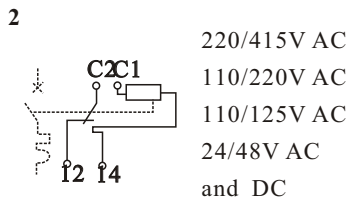
Voltage

Width
(9mm's multiples)

OF auxiliary connection point

Width

(9mm's multiples)
1(NO-NC)



Auxiliary device's technical data

■ The connection point's
making/breaking capacity

380/415V AC, 3A

220/240V AC, 6A

250V DC, 0.4A

125V DC, 1A

48V DC, 2A

24V DC, 6A

■ Connection: screw-clamp
terminal

2 cables: 1.5mm²

1 cable: 2.5mm²