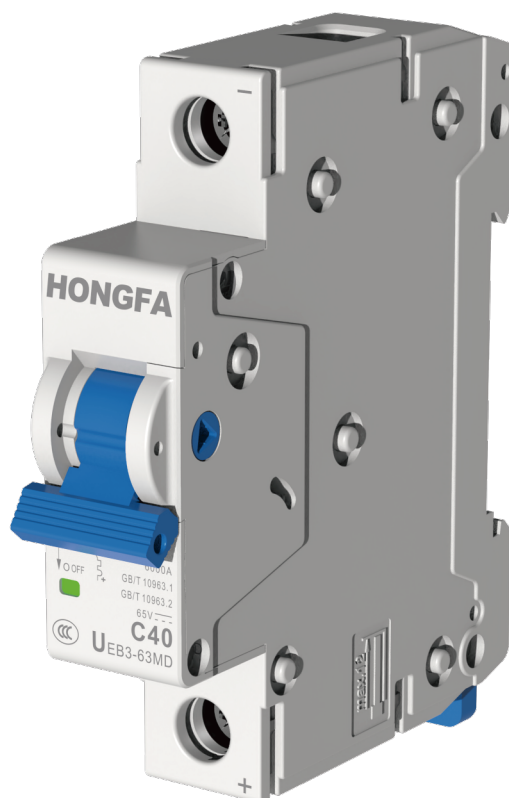


# DC Miniature Circuit Breaker

## UEB3-63MD Series



# INTRODUCTION

Hongfa, (Shanghai Stock Exchange: 600885), founded in 1984, has been adhering to the enterprise spirit of “persevere for progress, strive for excellence”, and has built a complete industry system with complete categories and supporting facilities. At present, Hongfa has more than 30 subsidiaries and has established three districts of R & D and production bases. Its products cover various categories, such as medium and low voltage products, relays, high and low voltage switchgear, capacitors, precision parts and automation equipment.

Xiamen Hongfa Electrical Safety & Controls Co., Ltd. is a wholly-owned subsidiary of Hongfa, which specializes in R & D, design and manufacture medium and low voltage products. Its distribution apparatus, terminal apparatus, control apparatus and other products are widely used in real estate, electric power, new energy, industry, HVAC, transportation, information and other fields.

In the United States, Europe, Southeast Asia and other regions, Hongfa has established localized marketing and service networks with global market operation and technical service. Relying on professional and rigorous technical support, fast response and all-round service, safe and reliable product quality and high cost performance, Hongfa has reached business cooperation relationship with many global top 500 enterprises and other well-known enterprises, such as Enel, GE, Honeywell, Carrier, Trane, Johnson Controls, Danfoss, State Grid, China Southern Power Grid, CRRC, China Mobile, China Unicom, etc.



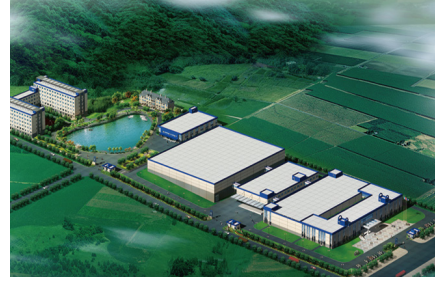
Sunban Industrial Park



Donglin Industrial Park



Haicang Industrial Park



Zhongjiang Industrial Park



Zhangzhou Industrial Park



Zhoushan Industrial Park



Xi'an Factory

In terms of technology R & D and manufacturing, taking the national enterprise technology center as the platform, Hongfa has set up postdoctoral research workstation, academician and expert workstation. Now it has developed into a leading scientific research and production base in the industry. From product development, mold manufacturing, parts manufacturing, automated product assembly and online testing, Hongfa has successfully built an integrated whole industry chain of medium and low voltage products. In terms of product testing, Hongfa testing center has passed the certification of VDE, UL, CNAS and other international organizations, and has complete testing and analysis equipment for low-voltage products, such as 50kA ultimate short circuit test, 8kA electrical life test, 80kA characteristic test, mechanical simulation and testing system, electro-magnetic simulation and testing system.

Hongfa always adheres to the policy of "focused on the market, winning through quality", and has a completed quality assurance system. Its products have passed UL / CUL, VDE, CQC, CCC and other international safety certification. In the process of quality management, Hongfa actively implements the advanced quality concept, constantly improves the quality management system, continuously promotes the product process quality control and testing, strengthens the supply chain management, and is committed to providing each customer with high-quality products and creating greater value.

Advanced technology and strict quality control have created Hongfa's brand strength. Hongfa is willing to work hand in hand with global customers to share the convenience and well-being brought by science and technology.

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## Production Overview

### Scope of Application

UEB3-63MD DC miniature circuit breaker is mainly used in the circuit of rated voltage DC65V (1P)/DC125V (2P)/DC180V (3P)/DC250V (4P), with up to rated operational current 63A. Its purpose is to protect the circuit and electric installation from over current, short circuit and insulation function, and can be used for infrequent on/off operations.

### Product Features

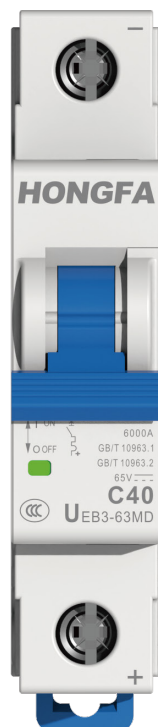
#### Provide safe use and protection

- Red and green indicating window to indicate the opening and closing status of the contact
- Level 2 electric shock protection for safer operation



#### Provide reliability

- Withstand wiring torques higher than national standards, making connections more reliable
- Equipped with overload and short circuit protection function

### Product Appearance



## Standard

<b>CB</b>	<b>CB</b>	IEC 60898-2 (1P/2P)	IEC 60947-2 (3P/4P)
	<b>CCC</b>	GB/T 10963.2 (1P/2P)	GB/T 14048.2 (3P/4P)
<b>CE</b>	<b>CE</b>	EN 60898-2 (1P/2P)	EN 60947-2 (3P/4P)
	<b>UKCA</b>	BS EN 60898-2 (1P/2P)	BS EN 60947-2 (3P/4P)

## Standard Operation And Installation Conditions

- Operation temperature: -35°C ...+70°C
- Storage temperature: -40°C ...+85°C
- Altitude:< 2,000m
- Pollution degree: II
- Mounting category: II / III .
- Mounting condition: 35mm DIN rail, the inclination between the mounting and the vertical surfaces shall not exceed  $\pm 5^\circ$

## Ordering Information

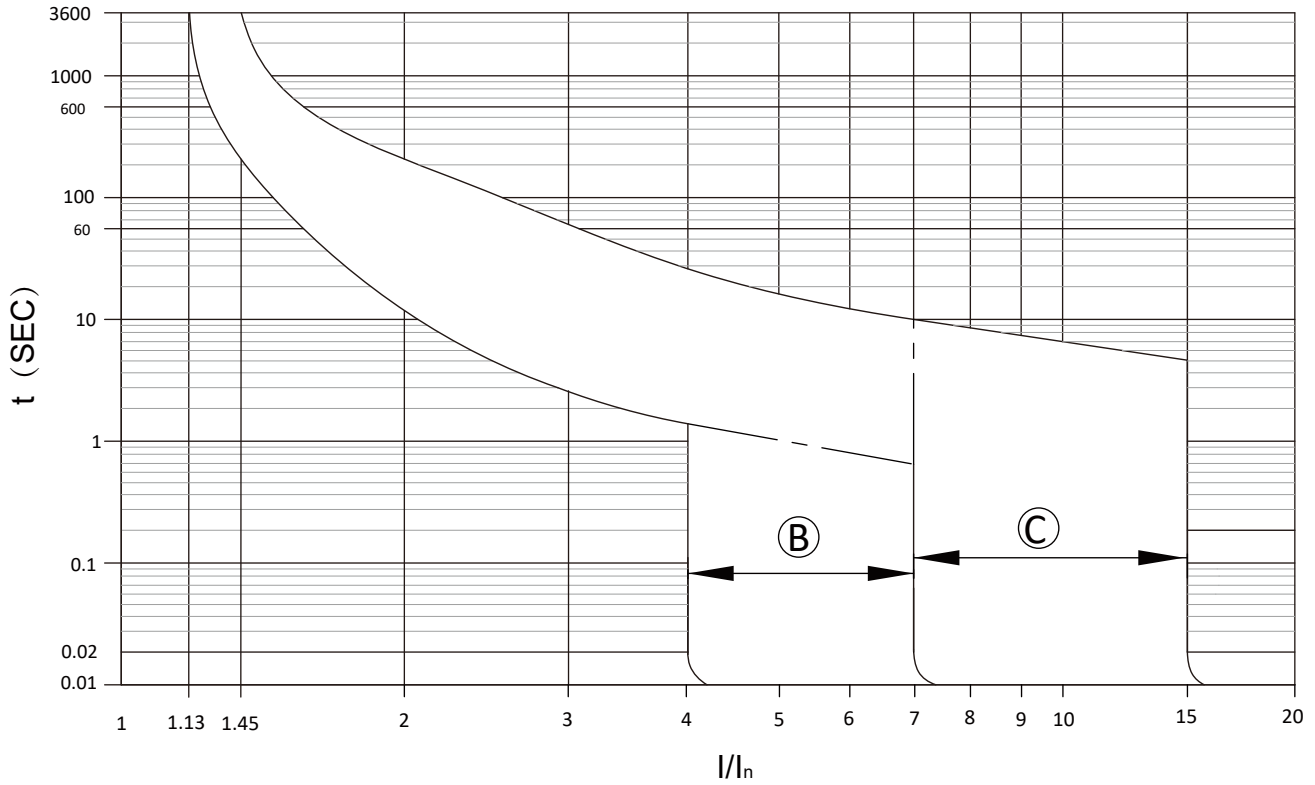
	<b>UE</b>	<b>B</b>	<b>3</b>	<b>- 63</b>	<b>MD</b>	<b>/C</b>	<b>06</b>	<b>1</b>
<b>Company:</b>	Hongfa Electrical Safety & Controls Co., Ltd.							
<b>Product:</b>	Miniature Circuit Breaker Series							
<b>Design sequence:</b>	3							
<b>Frame size:</b>	63: 63A							
<b>Breaking capacity:</b>	MD: DC breaking capacity 6kA							
<b>Instantaneous tripping characteristics:</b>	1P/2P: B: 4In ...7In      C: 7In ...15In 3P/4P: C: 6.4In... 9.6In    K: 8In ...12In							
<b>Rated current:</b>	01: 1A; 02: 2A; 03: 3A; 04: 4A; 06: 6A; 10: 10A; 16: 16A; 20: 20A; 25: 25A; 32: 32A; 40: 40A; 50: 50A; 63: 63A							
<b>Number of poles:</b>	1: 1P; 2: 2P; 3: 3P; 4: 4P							

## Main Technical Data

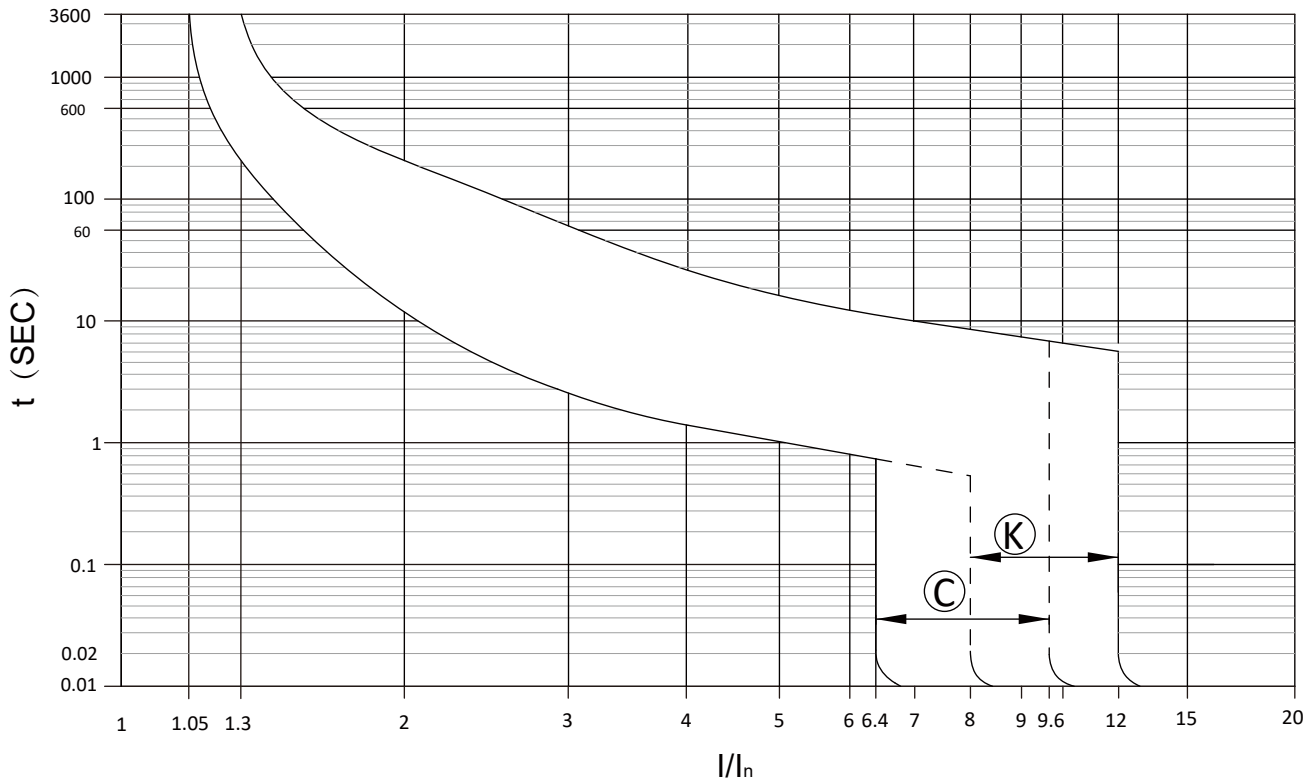
<b>Electrical Characteristics</b>		
Number of poles	1P, 2P, 3P, 4P	
Instantaneous tripping characteristics	1P/2P: B: 4I <sub>n</sub> ...7I <sub>n</sub> C: 7I <sub>n</sub> ...15I <sub>n</sub> 3P/4P: C: 6.4I <sub>n</sub> ...9.6I <sub>n</sub> K: 8I <sub>n</sub> ...12I <sub>n</sub>	
Short-circuit capacity kA	I <sub>cn</sub> =I <sub>cs</sub> = I <sub>cu</sub> =6	
Rated current I <sub>n</sub> A	1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63	
Rated voltage U <sub>e</sub> V/DC	65 (1P)、125 (2P)、180(3P)、 250(4P)	
Rated insulation voltage U <sub>i</sub> V	500	
Rated impulse withstand voltage U <sub>imp</sub> kV	4	
Power frequency withstand voltage kV	2	
<b>Mechanical Characteristics</b>		
Mechanical endurance cycles	10,000	
Electrical endurance cycles	4,000	
Protection degree	IP20	
Contact indicator	OFF = Green ON = Red	
Damp & heat resistance (GB/T 2423.4)	28 cycles (55°C/90%-96% RH, 25°C/95%-100% RH)	
Resistance to mechanical shock (GB/T 2423.5)	150 m/s <sup>2</sup> , lasting for 11 ms with a half wave, for 18 impacts	
Anti vibration (GB/T 2423.10)	25~150Hz, 50 m/s <sup>2</sup> , 90mins in total 35Hz, 60 m/s <sup>2</sup> , 45mins in total	
<b>Others</b>		
Weight (g)	1P	95
	2P	194
	3P	289
	4P	380
Product packaging	Carton 430mm×290mm×260mm	
Wiring method	Wiring according to specified polarity	

## Characteristic Curve

1P/2P Tripping characteristic B,C  
GB/T 10963.2 (IEC/EN 60898-2)



3P/4P Tripping characteristic C,K  
GB/T 14048.2(IEC/EN 60947-2)

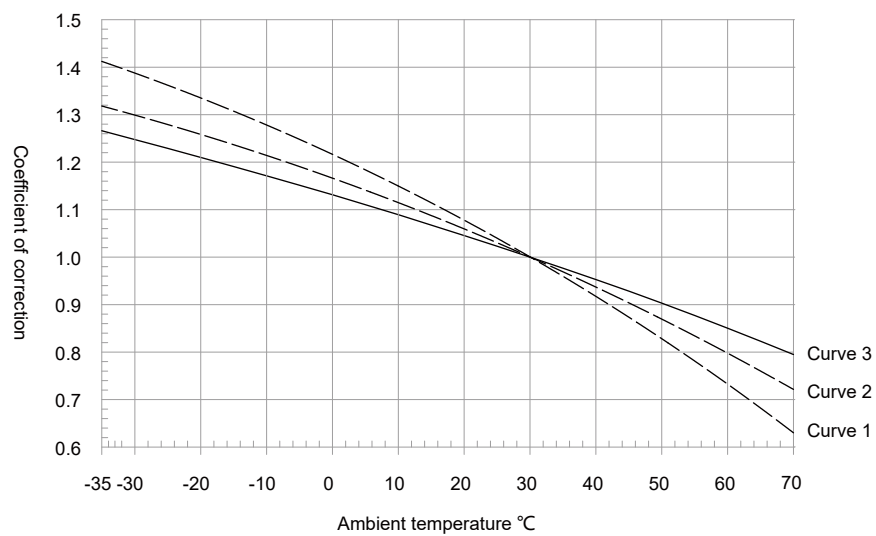


## Derating Coefficient

### Temperature Compensation Coefficient

At different ambient temperature, the rated value of the equipment normally should not exceed the corresponding supplement coefficient of the overload tripping current.

The curve of the correction coefficient													
Rated current (A)	01	02	03	04	06	10	16	20	25	32	40	50	63
B	1	1	1	1	1	1	2	2	2	2	2	2	3
C	1	1	1	1	1	1	2	2	2	2	2	2	3



### Derating Coefficient In High Altitude Area

Altitude (m)	2,000	3,000	4,000	5,000
Rated current I <sub>n</sub>	1	0.97	0.91	0.86
Rated insulation voltage U <sub>i</sub>	1	0.90	0.82	0.76
Power-frequency withstand voltage	1	0.90	0.82	0.76
Rated impulse withstand voltage U <sub>imp</sub>	1	0.90	0.82	0.76
Rated breaking capacity I <sub>cn</sub>	1	0.87	0.77	0.67
Electrical endurance (cycles)	1	0.87	0.77	0.67

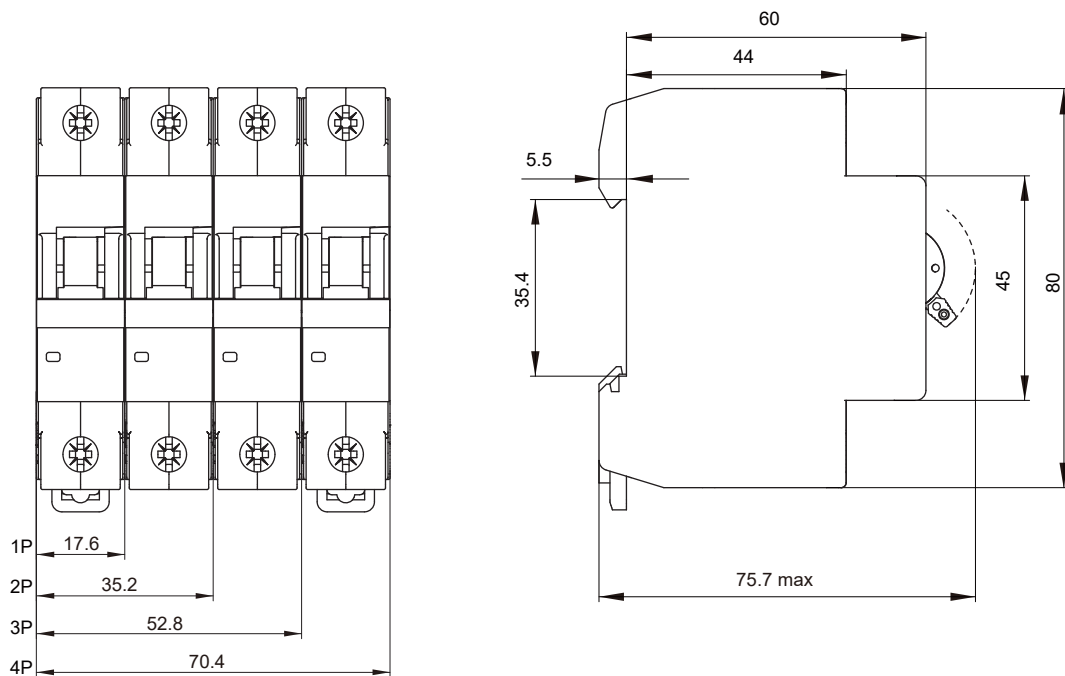
## Wiring Capability

Press wiring connection to 0.75mm<sup>2</sup> ... 35mm<sup>2</sup> wire.

Terminal screw specification	Rated torque	IEC standard torque	Solid wire	Stranded copper wire
M5	2.0N·m	2.0N·m	0.75mm <sup>2</sup> ...35mm <sup>2</sup>	0.75mm <sup>2</sup> ...25mm <sup>2</sup>

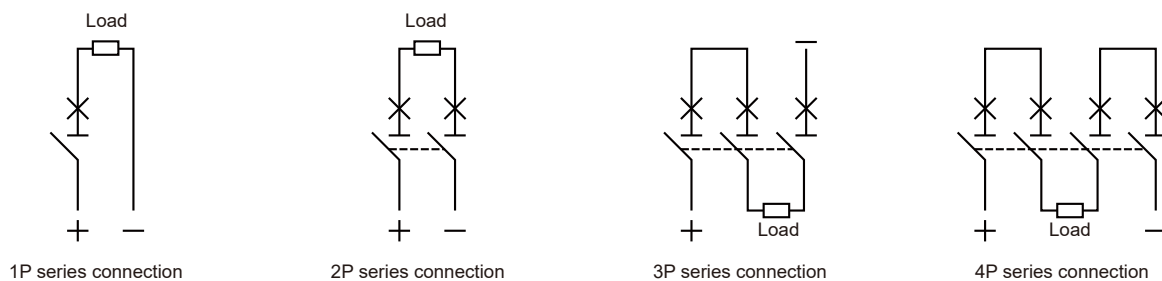
## Dimensions

Unit: mm



Note: The tolerance for width is  $\pm 0.4$  (1P/1PN/2P),  $\pm 0.8$  (3P/3PN/4P), and the remaining tolerance is  $\pm 1$

## Schematic Diagram Of Wiring



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