

# DC Switch-disconnector

## UEW6DHG 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.



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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

UEW6DHG-2500 switch-disconnector is suitable for the power system rated operating voltage within DC1500V and rated operating current up to 2500A for connecting and disconnecting of the main circuit for the purpose of isolation.

### Product Features

- **Low temperature rise:** the ambient temperature is up to 55 °C without derating
- **Unipolar critical load current:** Unipolar critical load current up to 1500V
- **Short arc:** greatly improve safety and save space in the cabinet
- **Small size:** 70% size of similar products
- **Module:** Modular design, expandable to AC 3-pole and 4-pole switches
- **Eco-friendly:** The product is fully RoHS 2.0 compliant

### Standards

	CCC	GB/T 14048.1, GB/T 14048.3
	CB	IEC60947-3
	TUV	EN60947.3

# Product Introduction

## Product structure introduction

UEW6DHG-2500 Front

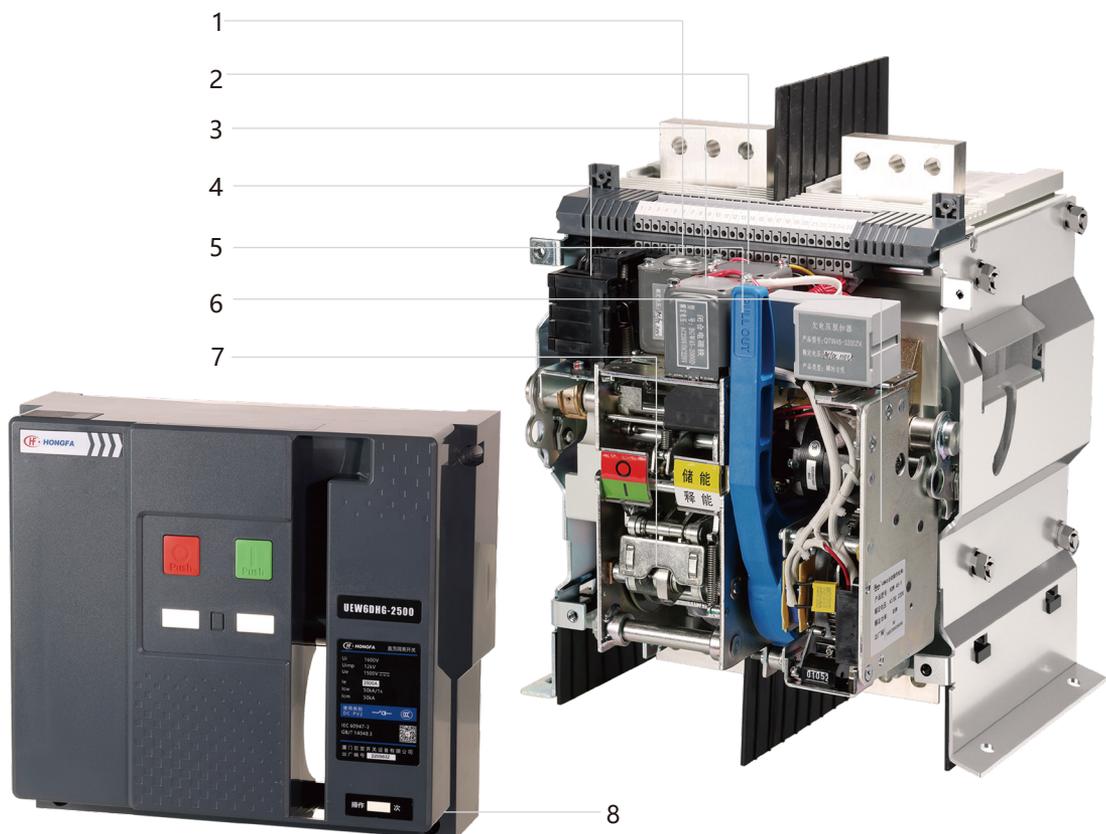


- |                        |                                  |
|------------------------|----------------------------------|
| 1. Interphase Barriers | 6. Energy Storage Handle         |
| 2. Terminal Busbar     | 7. Charged\Discharged Indicator  |
| 3. Secondary Terminals | 8. Close (I) \Open (O) Indicator |
| 4. Open Button (O)     | 9. Counter Window                |
| 5. Close Button (I)    | 10.Side Panel                    |

## Product Introduction

### Product structure introduction

UEW6DHG-2500 Internal



- 1. Under-voltage Release
- 2. Shunt Release
- 3. Closing Electromagnet
- 4. Auxiliary Contact

- 5. Energy Storage Handle
- 6. Energy Storage Motor
- 7. Operation Mechanism
- 8. Cover

## Standard Operation and Installation Conditions

- The ambient air temperature is - 40 °C~+70 °C, and the average value within 24h shall not exceed+35 °C. If the temperature exceeds 55 °C, derating should be applied.
- If the altitude of the installation site exceeds 4000m, the break capacity shall be derating for use.
- Atmospheric conditions: - At an ambient air temperature of +40°C, the relative humidity of the atmosphere does not exceed 50%. Higher relative humidity is allowed at lower temperatures, for example, at +20°C, the relative humidity of the atmosphere can be 90%. Dehumidification or corresponding measures should be taken for condensation due to temperature changes.
- Pollution degree: III
- The installation category of main circuit of switch-disconnector is IV, and that of auxiliary circuits and control circuits is III.
- The vertical inclination of switch-disconnector shall not exceed 5 °.
- The switch-disconnector shall be installed in a place where there is no explosion hazard, conductive dust, corrosion of metal and damage of insulation board.
- Storage conditions: ambient air temperature - 40 °C~+80 °C.

## Technical Parameters

### Ordering Information

<b>UE</b>	<b>W</b>	<b>6</b>	<b>DH</b>	<b>G</b>	<b>-2500</b>	<b>/□</b>	<b>2</b>	<b>G</b>	<b>□</b>	<b>□</b>	<b>□</b>	<b>E</b>	<b>□</b>	<b>□</b>	<b>□</b>	<b>-□</b>
<b>Company code:</b> HESC																
<b>Product code:</b> ACB																
<b>Design code</b>																
<b>Subseries code :</b> DC high voltage																
<b>Subseries code :</b> Derivative switch-disconnector																
<b>Frame rating:</b> 2500																
<b>Rated current:</b> 800:800A    1000:1000A    1250:1250A 1600:1600A    2000:2000A    2500:2500A																
<b>Number of poles:</b> 2P																
<b>Installation method:</b> fixed type																
<b>Control voltage (built-in shunt release, closing electromagnet, motor):</b> 1: AC220    2: AC380    3: DC110    4: DC220																
<b>Aux contact:</b> 1: 4 change-over    2: 6 change-over    4: 4NO4NC    6: 6NO6NC																
<b>Wiring method:</b> 1: Horizontal																
<b>Busbar type:</b> E: Standard bus bar																
<b>Ambient temperature:</b> 1: Normal temperature (-5°C~70°C)    2: Low temperature (-40°C~70°C)																
<b>Under voltage release:</b>																
0: no under voltage																
1: AC220 instantaneous    2: AC220 time delay 1s    3: AC220 time delay 3s																
4: AC220 time delay 5s    5: AC380 instantaneous    6: AC380 time delay 1s																
7: AC380 time delay 3s    8: AC380 time delay 5s    A: AC220 voltage loss 1s																
B: AC220 voltage loss 3s    C: AC220 voltage loss 5s    D: AC380 voltage loss 1s																
E: AC380 voltage loss 3s    F: AC380 voltage loss 5s																
<b>clapboard:</b> 0: No Interphase Barriers    2: Interphase Barriers																
<b>Accessories (optional):</b> B: Button locking    F: 1 lock 1 key (opening lock)    G: 2 lock 1 key    H: 3 lock 2 key I: 5 lock 3 key    J: counter    K: terminal barrier																

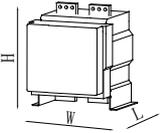
Note1 : If Optional Configuration is not selected, replace the placeholder with 0.

Note2 : Attachments can be multi-selected, and are described in alphabetical order when multi-selected, for example: BJK, FJ.

Note 3 :If you have special specifications, please consult us.

## Technical Parameters

### Main technical parameters

Model type		UEW6DHG-2500	
Max. Frame current $I_{nm}$ (A)		2500	
Rated current $I_n$ (A)		800、1000、1250、1600、2000、2500	
Rated voltage $U_e$ (V)		DC1500	
Rated insulation withstand voltage $U_i$ (V)		DC1600	
Rated impulse withstand voltage $U_{imp}$ (kV)		12	
Poles		2	
Rated short current making capacity $I_{cm}$ (kA)	DC1500V	50	
Rated short-time withstand current $I_{cw}$ (kA/1s)	DC1500V	50	
Full breaking time (no additional delay)		< 120ms (63A or more) < 300ms (63A or less)	
Closing time (ms)		maximum 70	
Utilization categories		DC-PV2	
Operation performance	Electrical endurance	DC1500V	500
	Mechanical endurance	Maintenance-free	10000
	Dimension W×H ×L (mm)		389×346×343

## Derating Coefficient

### Ambient temperature derating factor

Allowable continuous current		+55°C	+60°C	+65°C	+70°C
Allowable continuous current	800 A	1I <sub>n</sub>	1I <sub>n</sub>	1I <sub>n</sub>	1I <sub>n</sub>
	1000A	1I <sub>n</sub>	1I <sub>n</sub>	1I <sub>n</sub>	1I <sub>n</sub>
	1250A	1I <sub>n</sub>	1I <sub>n</sub>	1I <sub>n</sub>	1I <sub>n</sub>
	1600A	1I <sub>n</sub>	1I <sub>n</sub>	1I <sub>n</sub>	1I <sub>n</sub>
	2000A	1I <sub>n</sub>	1I <sub>n</sub>	1I <sub>n</sub>	1I <sub>n</sub>
	2500A	1I <sub>n</sub>	0.99I <sub>n</sub>	0.94I <sub>n</sub>	0.89I <sub>n</sub>

### Altitude derating factor

Altitude (m)	2000	3000	4000	5000
Maximum rated operating voltage	1500V	1500V	1500V	1500V
Operating current correction factor	1	1	1	0.97

## Accessories

### Accessories Parameter

#### Shunt Release

	Rated voltage (V)	AC220	AC380	DC110	DC220
	Instantaneous current (A)	2.2	2.1	5.2	2.7
	Operating voltage (V)	(0.7 ~ 1.1) U <sub>e</sub>			
	Breaking time (ms)	No more than 30ms			

#### Closing Electromagnet

	Rated voltage (V)	AC220	AC380	DC110	DC220
	Instantaneous current (A)	2.2	2.1	5.2	2.7
	Operation voltage (V)	(0.85 ~ 1.1) U <sub>e</sub>			
	Breaking time (ms)	No more than 70ms			

#### Spring-Charging Motor

	Rated voltage (V)	AC220	AC380	DC110	DC220
	Power consumption (VA/W)	85			
	Operating voltage (V)	(0.85 ~ 1.1) U <sub>e</sub>			

#### Auxiliary Contact

	Conventional Thermal Current (A)	I <sub>th</sub> =16			
	Rated Insulation Voltage (V)	U <sub>i</sub> =400V			
	Capacity	AC-12:400V 10A		DC-12:250V 1A	
		AC-15:400V 2A		DC-13:250V 0.3A	

#### Open position lock

	Lock the switch in open position, to ensure it can't be closed
	One lock one key: a switch with a lock and a key

#### Interphase Barriers

	This protection device can increase the insulation distance between adjacent phases
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## Accessories

### Accessories Parameter

#### Under-voltage Release



Rated Voltage (V)	AC220	AC380
Transient power consumption (VA)	150	180
Stable power consumption (VA)	26	30
Operating Voltage (V)	(0.35~0.7) Ue	
Reliable Closing Voltage	(0.85~1.1) Ue	
Reliable No Closing Voltage	≤0.35 Ue	
Delay Time	Instantaneous, 1s, 3s, 5s	

Note: When the voltage is lower than 0.35 Ue, the delay undervoltage release will act instantaneously. If power off delay is required, the no voltage delay release shall be selected

1.4Ue can be powered on for 3s without overvoltage protection. If the voltage exceeds 1.4Ue, it will be burnt if it is powered on for a long time

#### Voltage Loss Release



Rated Voltage (V)	AC220	AC380
Transient power consumption (VA)	150	180
Stable power consumption (VA)	26	30
Operation voltage (V)	(0~0.65) Ue	
Reliable Closing Voltage	(0.85~1.1) Ue	
Reliable No Closing Voltage	≤0.35 Ue	
Delay time	1s, 3s, 5s	

1.4Ue can be powered on for 3s without overvoltage protection. If the voltage exceeds 1.4Ue, it will be burnt if it is powered on for a long time

#### Mechanical counter



Record the opening and closing times of the switch-disconnector

#### Button Lock



Lock The open/close button on the cover to prevent misoperation  
(Note: The padlock is provided by the user.)

#### Terminal Barrier

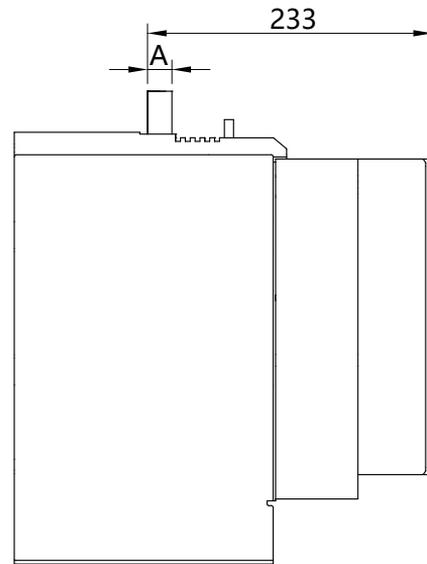
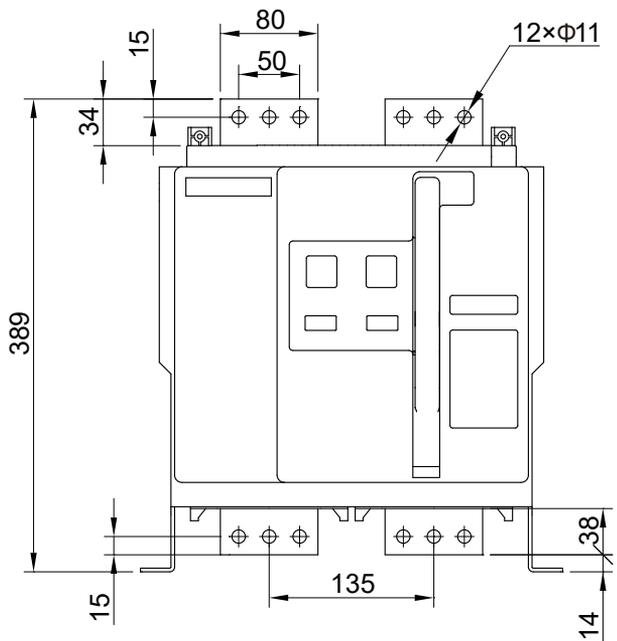
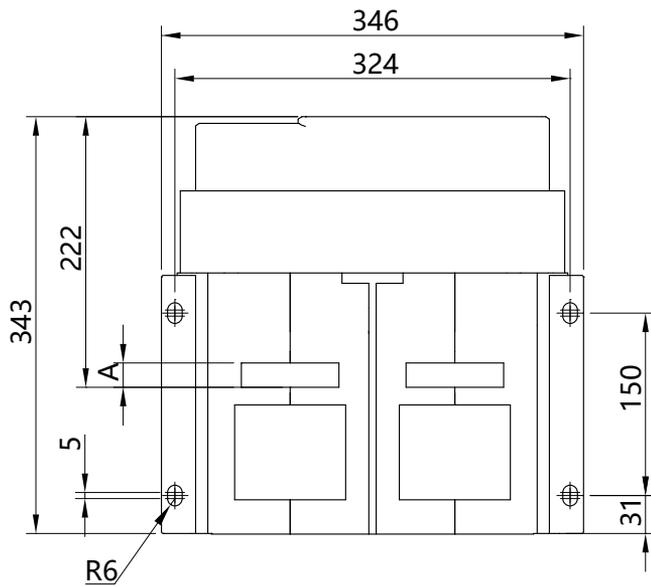


This accessory can reduce the risk of direct contact with live parts of the product

# Outline and Mounting Dimension

## UEW6DHG-2500

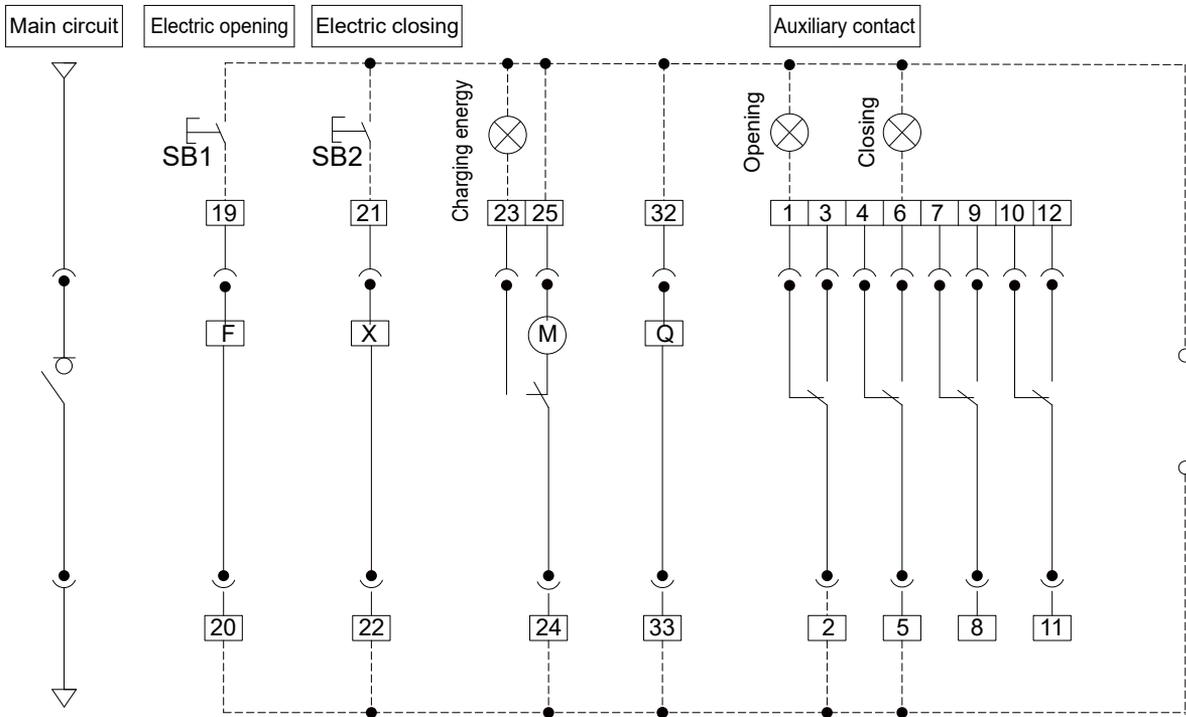
Unit: mm



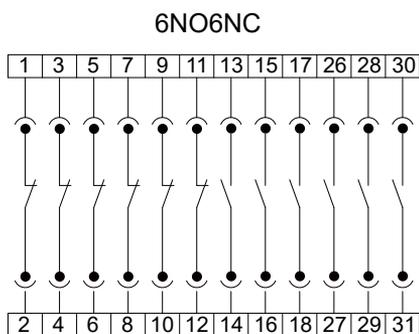
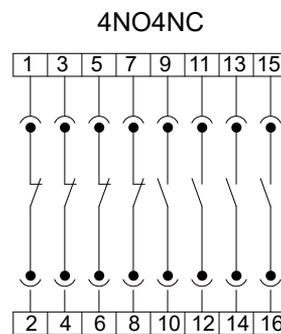
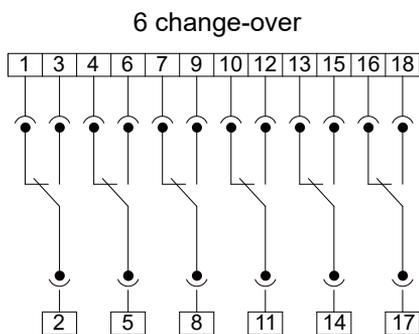
$I_n$	A(mm)
800-1250	10
1600-2000	15
2500	20

# Electrical Wiring Diagram

## UEW6DHG-2500



Note: Above figure shows 4 change-over SB1 Shunt button (Self-prepared) SB2 Closing button (Self-prepared )  
 X Closing electromagnet F Shunt release  
 M Energy storage motor Q Under-voltage release



## Requirement For The Copper Bar Connected To The Switch-Disconnecter

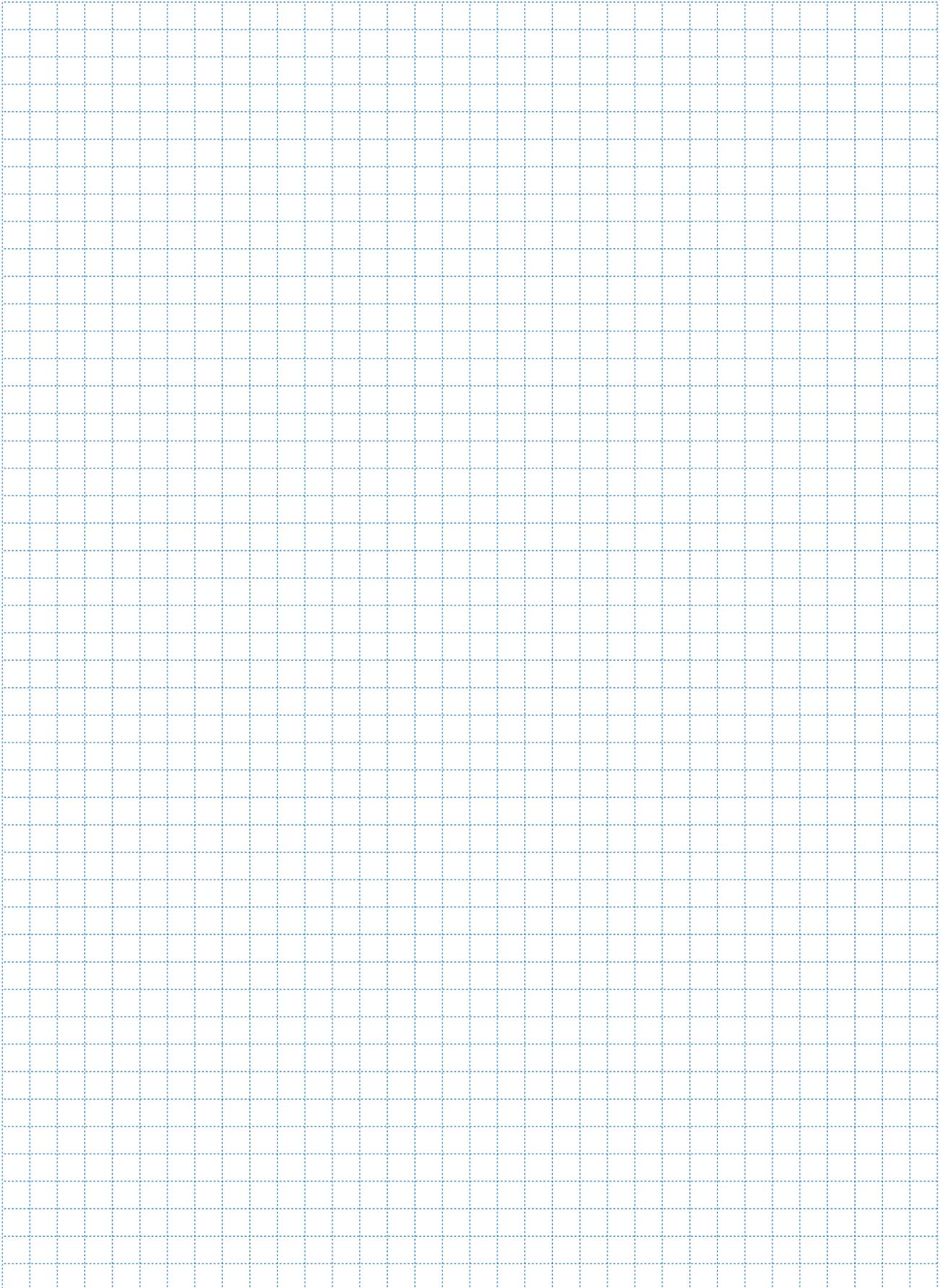
Frame rating	Rated current	Copper bar specification	
		Quantity	Size
UEW6DHG-2500	800	1	80×5
	1000	2	80×5
	1250	2	100×5
	1600	2	100×5
	2000	3	100×5
	2500	4	100×5

- Note: 1: The overlapping interface between cabinet busbar and switch busbar shall not be less than 30mm.  
 2: The specifications in the table are for the circuit breaker which is installed in open condition meeting the heating conditions in IEC 60947-3, where the maximum ambient temperature is 40 °C.

## Product Mounting Screws and Torque Requirements

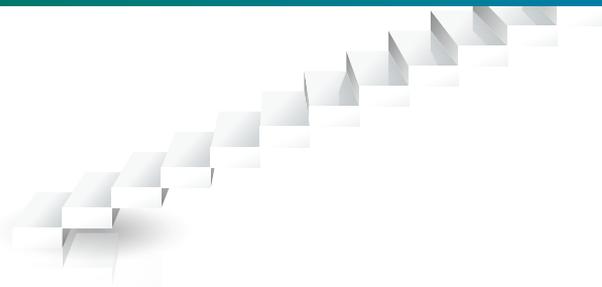
1. Tightening torque of screw for secondary circuit: 0.3N. m~0.4N. m.
2. The recommended specification of busbar mounting bolts and switch anchor bolts is M10 grade 8.8, and the tightening torque is 37.5N. m.





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## Xiamen Hongfa Electroacoustic Co. Ltd

ADD: No.560-578, Donglin Rd., Jimei North Ind. Dist., Xiamen, China

TEL: +86-592-6106688

FAX: +86-592-6106678

E-mail: marketing@hongfa.com

## Marketing & Sales Network

### Hongfa Europe GmbH

ADD: Marie-Curie-Ring 26, D-63477  
Maintal, Germany

TEL: +49-6181-4306-0

E-mail: info@hongfa-europe.com

### Hongfa America, Inc.

ADD: 20381 Hermana Circle, Lake  
Forest, CA92630, USA

TEL: +1-714-669-2888

E-mail: sales@hongfaamerica.com

### KG Technologies, Inc.

ADD: 6028 Stat Farm Drive  
Rohnert Park, CA 94928, USA

TEL: +1.888.513.1874

E-mail: info@kgtechnologies.com

### Hongfa Italy Srl

ADD: C/O Regus Business Center, Via  
Senigallia 18/2 Torre A, 20161  
Milan, Italy

TEL: +39-02-64672-325

E-mail: info@hongfa-europe.com

### Hongfa Electroacoustic (Hongkong) Co., Ltd.

ADD: Rm 1810-12, 18/F., Shatin Galleria,  
18-24 Shan Mei St., Fotan, N.T., HongKong

TEL: +852-2947-7889

E-mail: hongkong@hongfa.com

### Shanghai Hongfa Electroacoustic Co., Ltd.

ADD: NO.51.341, Jiuxin Rd., Jiuting  
Town, Songjiang Dist., Shanghai

TEL: +86-21-37693111

E-mail: shanghai@hongfa.com

### Beijing Hongfa Electroacoustic Relay Co., Ltd.

ADD: 111Bldg, Phase IV Westside of Lian  
-dong U Valley, Tongzhou Dist., Beijing

TEL: +86-10-56495556

E-mail: beijing@hongfa.com

### Sichuan Hongfa Relay Co., Ltd.

ADD: 12F, Hongfa Building, No.6 Wuxing 4th  
Road, Wuhou District, Chengdu

TEL: +86-28-86627550

E-mail: sichuan@hongfa.com

### Hongfa India Branch

ADD: #1001 Archana Mansion, 3rd Main,  
B.S.K 3rd Stage, Hoskerekhalli,  
Bangalore-560 085, India

TEL: +91-80-26422678/+91-98453 47993

E-mail: amarnath@hongfa.com

### Hongfa Korea Branch

ADD: RM302, Samwoo B/D, 286-4  
Gaebugong, Guro-gu,  
Seoul, Korea

TEL: +82-10-5355-4899/+82-10-8704-4706

E-mail: korea@hongfa.com /  
khlee@hongfa.com

### Hongfa Brazil Branch

TEL: +86-0592-6196714 (Non-automotive relay project)  
+55-11-949697906 (Automotive relay project)

E-mail: southamerica@hongfa.com  
(Non-automotive relay project)  
mauro-loyola@hongfa.com  
(Automotive relay project)

### Hongfa Philippine Branch

TEL: +639177189352 / +639175780846

E-mail: nia-videna@hongfa.com

### Hongfa Turkey Branch

TEL: +90-535-0221881

E-mail: info-turkey@hongfa.com

The relevant information on the products contained is for reference only.  
For details, please consult our business staff.

Headquarter's Marketing & Sales Center  
ADD: No.566-578, Donglin Rd., Jimei North Ind. Dist., Xiamen  
E-mail: marketing@hongfa.com

SALES SERVICE HOTLINE  
**400-600-1502**



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