



PRODUCT MANUAL version 2022-04EN

COMPACT SUBSTATION

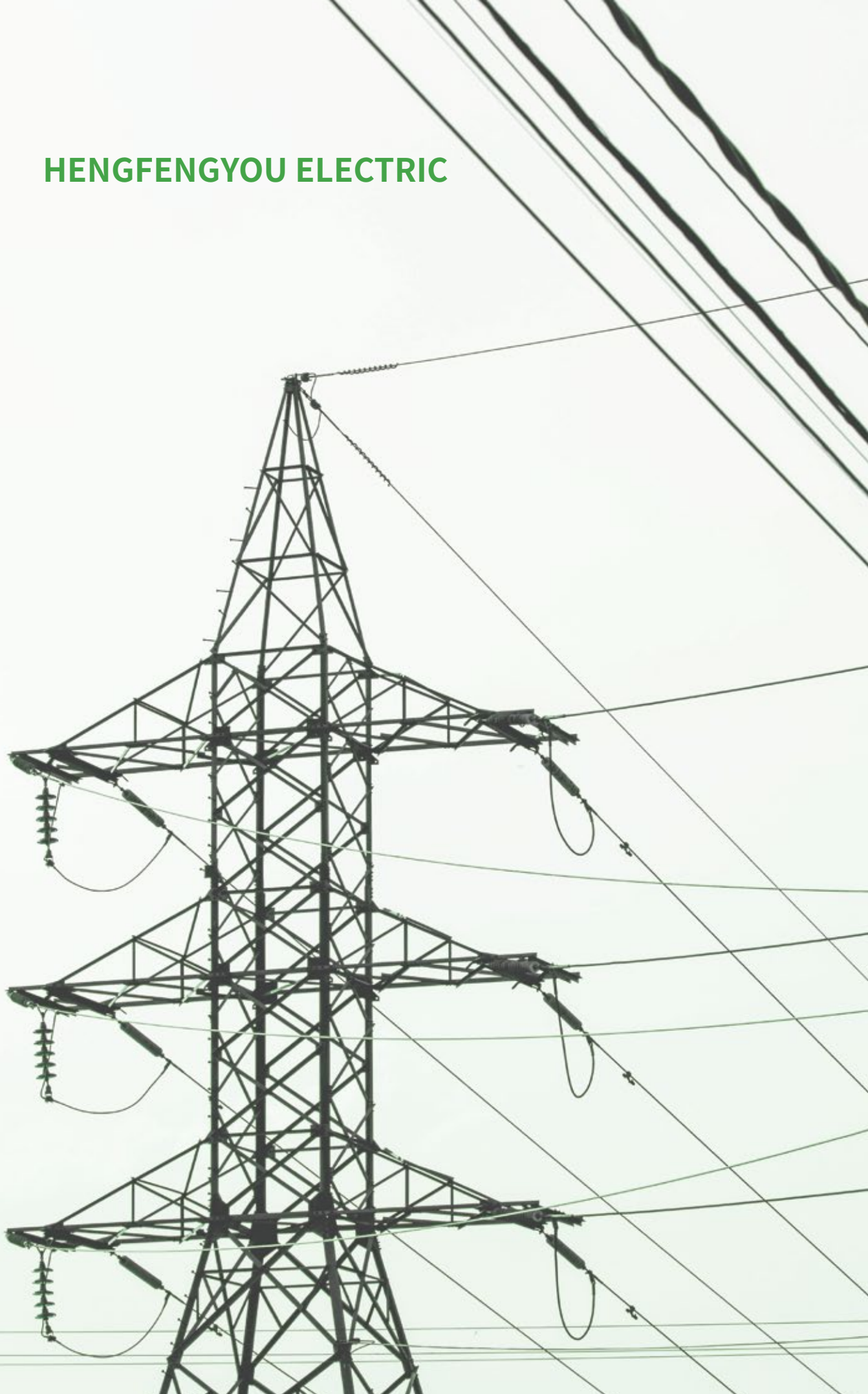


HENGFENGYOU ELECTRIC

Smart Electric Global Service provider
Make life better!



HENGFENGYOU ELECTRIC



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ABOUT HENGFENGYOU ELECTRIC

HENGFENGYOU ELECTRIC belongs to Hengfengyou electric Group, It is a power transformer products as the main business, set product research and development, design, production and sales of enterprises, designated suppliers for the world's top 500 enterprises. We are committed to providing the best distribution transformer solutions for global customers.

Key figures

Founded: 1990
2018 revenue: 635 million RMB
350 employees 30 electrical engineers
4 production locations in China
6% of revenues are invested in research and development

Power distribution solutions that drive the global energy transition

With energy demand expanding in both developed and emerging countries, the challenge for HENGFENGYOU Group is to connect energy with people. The group's teams work as closely as possible with projects and decision makers and design and propose technical and process solutions based on global user needs.

• The team energy

The HENGFENGYOU team achieves synergy within the team to develop and produce specific solutions that meet all customer needs.

Our equipment is designed and researched by R&D services according to each country's electrical standards and helps manage your distribution network for optimal efficiency.

HENGFENGYOU's state-of-the-art production workshop and production equipment will produce high quality products according to your specifications.

HENGFENGYOU has a certified quality control laboratory where electrical products are tested out of factory to ensure the reliability and optimal life of our products.

• Business area

HENGFENGYOU designs, manufactures and sells global solutions and equipment for public utilities and private medium and low voltage distribution networks.

HENGFENGYOU Group's business area is global power distribution equipment demand, fully meet the different power distribution equipment demand of more than 100 countries around the world.

• Innovative development

For more than 30 years, HENGFENGYOU has been designing innovative power distribution solutions to improve network security, optimize facility efficiency and become more environmentally friendly.

HENGFENGYOU constantly innovates and develops new products, and is committed to energy transformation and digitalization for all.

Every year, Hengfengyou Group spends 6% of its revenue on research and development and innovation of energy saving development of distribution transformers, intelligent switch cabinets, switchboards and substations. The R&D division has more than 30 engineers and technicians dedicated to designing and deploying new electrical solutions. Continuously meet the global demand for energy saving and intelligent electrical.

• Grow business with Hengfengyou

Our goal is to become the world's leading manufacturer of electrical equipment. The business, experience and technology accumulated over the years have benefited customers in more than 50 countries around the world. Once our customers establish a cooperative relationship, they are long-term trusted customers, because Hengfengyou always insists on providing you with our best electrical products and services.

Qingdao Hengfengyou Electrical Engineering Co., Ltd

Smart Electric Global Service provider, Make life better!

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PRODUCT OVERVIEW



- Compact Substation, mini Substation, prefabricated substation can replace the traditional indoor substation, can meet the user's electricity metering, reactive power compensation, high and low voltage schemes and other configuration requirements, representing the development direction of small and medium-sized substations
- Rated AC frequency 50Hz/ 60Hz, maximum working voltage to 35kV, maximum working current to 5000A
- This product is suitable for industrial and mining enterprises, docks, public places, high-rise buildings and residential areas
- Products are mainly sold to Asia, Africa and other regions, provide OEM/ODM services
- Implementation standard: IEC60067 GB 17467-2010, etc

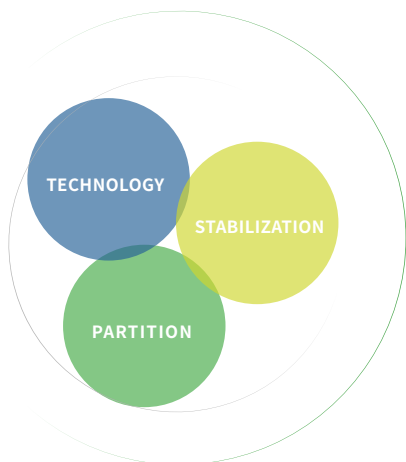


pad-mounted transformer for solar power generation

TECHNICAL PARAMETERS

NO.	ITEM	UNIT	HIGH VOLTAGE UNIT	TRANSFORMER	LOW VOLTAGE UNIT
1	RATED VOLTAGE	KV	10-33	6-33/0.4	0.4
2	RATED CAPACITY	KVA		30-2500	100-3200
3	RATED CURRENT	A	200/400/630		
4	RATED CUTTING CURRENT	KA	50		15-63
5	RATED SHORT TIME WITHSTAND CURRENT	KA/s	20/3		
6	RATED PEAK VALUE WITHSTAND CURRENT	KV/s(peak)	50		30/1
7	RATED CLOSING CURRENT	KA	50		63
8	POWER FREQUENCY WITHSTAND VOLTAGE	KV/min	Phase-earth and phase-phase:42/1	35/1	2.5/1
			Across open contacts:48/1		
			10kV Cable AC withstand voltage phase-earth:25/15		
9	LIGHTNING IMPULSE WITHSTAND VOLTAGE	KV(peak)	Phase-earth and phase-phase:75	75	
			Across open contacts:85		
10	PROTECTION CLASS		IP65		
11	NOISE LEVEL	dB		≤55	
12	STANDARD	IEC 61330/IEC 62271-1/IEC62271-200/ IEC62271-202/IEC60076/ IEC61439/IEC/TR62271-208/IEC60529/IEC62262/IEC60721			

PRODUCT ADVANTAGE



>Transformer room-800KVA

> Busbar system

- Adopt three-phase four-wire system or three-phase five-wire system
- High quality three-phase tin bus copper bar, high mechanical strength, good heat dissipation

> The shell

- The box shell has the characteristics of firm, heat insulation and ventilation, stable performance (anti-corrosion, dustproof and waterproof) and beautiful appearance
- There are many choices of shell materials, such as steel plate, composite plate, stainless steel plate, cement plate and other protection grade (IP67)

> Leading technology

- Fully enclosed, fully insulated structure, safe and reliable operation
- Easy to operate, maintenance-free, low equipment cost



>Low voltage room-800KVA



>High voltage room-800KVA

> **Functional units**

- It is divided into three independent areas: high voltage room, low voltage room and transformer room
- High pressure chamber XGN15, HXGN17 or (SF6) switch cabinet
- The low-voltage side adopts the panel type or cabinet mounted structure to form the power supply scheme required by users, which can meet the functions of power distribution, lighting distribution, reactive power compensation, energy metering and so on. The main switch is generally universal circuit breaker or intelligent circuit breaker, which is flexible to install and easy to operate
- The transformers can be fully sealed oil-immersed transformers or dry transformers made by Hengfengyou Electric



2500KVA/33KV-0.4KV (Export to Africa Ethiopia)

PRODUCT ADVANTAGE

QUALITY CONTROL

- HENGFENGYOU has formulated strict workflow and ISO standards to ensure to provide customers with first-class compact substation and the best service.
- The HENGFENGYOU team works collaboratively within the team to develop and produce compact substation solutions that meet all customer needs.
- Our compact substations are designed and studied by R & D services according to the electrical standards of each country and help manage your distribution network for optimal efficiency.



PRODUCT ATTRIBUTES

- The ambient air temperature shall not exceed a maximum of 45 ° C and a minimum of -45 ° C
- The altitude is not more than 1000m, and can reach 4000m if special custom transformers and low-voltage components are used
- The vertical inclination is not more than 5°, and there is no violent vibration and no impact
- Air humidity not greater than 90% (+25°C)
- No conductive dust, no explosion hazard, no corrosive metal and electrical components in the gas place
- Outdoor wind speed should not exceed 35m/s
- The above normal operating environment conditions, customers can be customized with Hengfengyou Electric to solve



2500KVA/33KV-0.4KV (Export to Africa Ethiopia) ▲

STANDARD

The actual measurement of products is better than GB and IEC standards

IEC CB CCC COC KEMA STL SABS certification

Implementation standards:

IEC 60076 series, IEC 6013, IEC 6024-1, IEC 60296

GB 1094-1996, GB/T 6451-2008, GB/ T 7537-2007

"SMART ELECTRICAL GLOBAL SERVICE PROVIDER, MAKE LIFE BETTER"

HENGFENGYOU ELECTRIC always provides the best Compact Substations solutions for users all over the world, continuously improves product quality, reduces production costs, improves service level, and strives to become a world-class electrical service provider!

TEST

1. General inspection

- 1.1 appearance inspection
- 1.2 circuit connection inspection
- 1.3 electrical clearance
- 1.4 creepage distance

2. Mechanical characteristic test

- 2.1 mechanical operation of switch:
- 2.2 the detection of transformer temperature and liquid level is convenient and correct.
- 2.3 the fuse is easy to replace.
- 2.4 interlocking operation of high voltage switchgear

3. Effectiveness inspection of grounding circuit and correctness inspection of wiring

- 3.1 high voltage chamber door to main grounding point
- 3.2 low voltage room door to main grounding point
- 3.3 transformer room door to main grounding point
- 3.4 measurement cabinet door to main grounding point

4. Wiring correctness inspection

- 4.1 connect the secondary circuit according to the drawing requirements and operate according to the drawing requirements.
- 4.2 automatic temperature control system of transformer room
- 4.3 lighting system of each unit room

5. Power frequency voltage withstand test

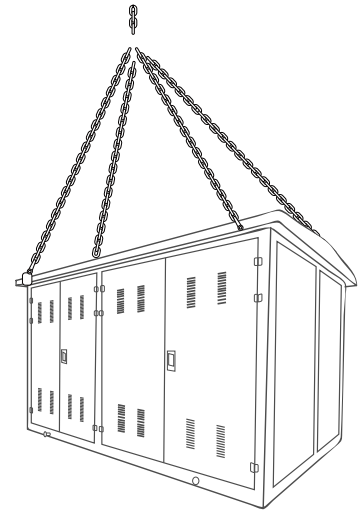
- 5.1 high voltage circuit (including cable and excluding transformer)
- 5.2 high voltage winding of transformer
- 5.3 low voltage circuit
- 5.4 auxiliary circuit



800KVA/15KV-0.4KV Dry Transformer (Export to Africa Ethiopia)

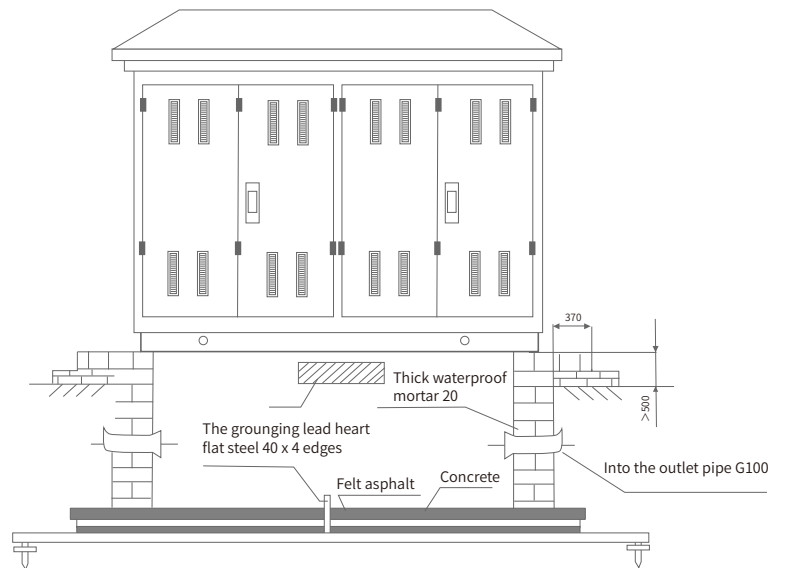
INSTALLATION

1. The on-site hoisting of box transformer shall ensure the correct installation method and high quality standard. The hoisting shall be carried out by professional hoisting workers and shall refer to the product installation and operation instructions.
2. Before the installation of Substation, the user shall make the foundation in advance. The foundation civil construction drawing can be designed by hengfengyou electric.
3. Basic method of Foundation (the foundation is made by the user on site, and the method can refer to the instructions of hengfengyou Substation)
4. The cable with the foundation squatting at least 600mm above the ground and the way of entering and leaving the shallow is downward. It is recommended to use the directly buried cable or follow the relevant power supply specifications. If the incoming and outgoing methods are upward, the user shall make an empty line frame in advance.
5. During the installation of main bus, the overlapping surface shall be repaired and leveled, cleaned, coated with neutral Vaseline or other measures, and then fastened with bolts.
6. For the installation of box transformer, professional personnel shall connect the incoming and outgoing cables. All wiring shall be accurate and reliable, the marks shall be complete and clear, and the insulation shall meet the requirements.
7. Inspection after installation:
 - Check and clean the switch cabinet and remove all sundries in the cabinet;
 - Check whether the bolts are loose, especially in the busbar and grounding system;
 - Close the holes reserved in the shell due to special needs but no longer needed;
 - The no-load operation of the switch shall be flexible and reliable without jamming;



Hoisting drawing of Substation

CARRY&PACKAGE



Installation drawing of Substation



OUR FACTORY

THE CORNER OF OUR FACTORY

CUSTOMER-ORIENTED CREATE VALUE FOR CUSTOMERS



▲ 800KVA DRY TRANSFORMER COMPARTMENT



▲ FACTORY DISPLAY

Hengfengyou Electric has 22000 square meters of modern plant, with a monthly delivery capacity of up to 200 Compact Substation, and has fully passed the ISO9001, ISO14001, SA8000, BSCI and other market access standards reviewed and issued by international certification bodies. At present, the company has 10 senior engineers, 30 senior technicians and more than 300 employees, with an annual output value of US \$100 million

MAKE FRIENDS ALL OVER THE WORLD



▲ SUBSTATION FOR SOLAR POWER GENERATION

CASE

Hengfengyou Electric has always been committed to providing the best quality Compact Substation products for global customers



▲ Installation site of landscape Compact Substation

Constantly enhancing product quality, reducing production costs, improving service level, and striving to become a world-class electrical service provider!



▲ Ethiopian box transformer installation site

Case show

make life better

SMART ELECTRIC GLOBALSERVICE PROVIDER

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MAKE LIFE BETTER

CERTIFICATE

QUALIFICATION CERTIFICATION



OUR PARTNER

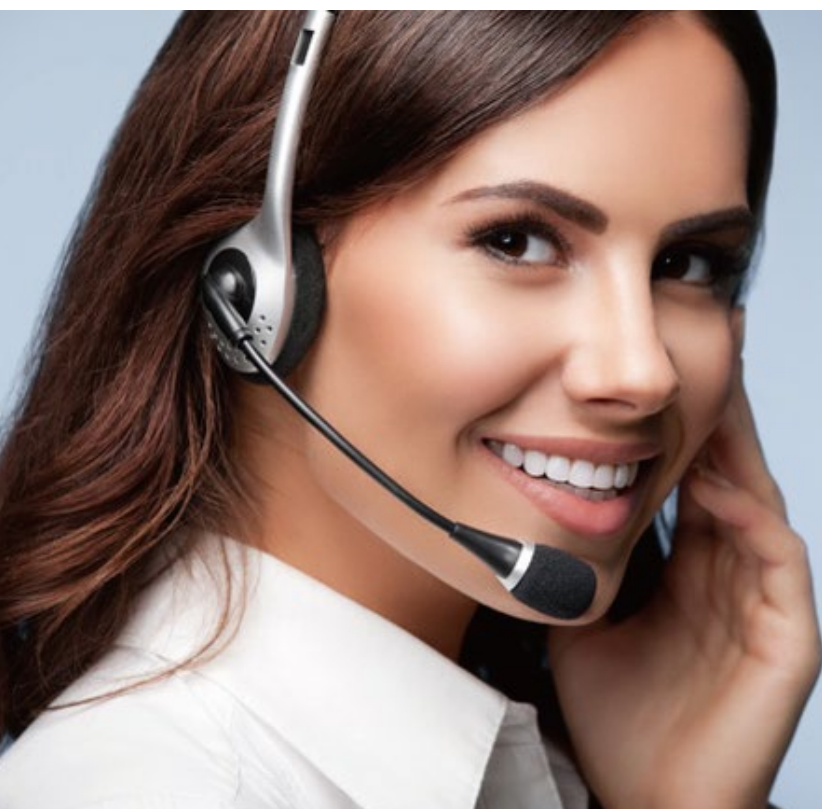


PRE-SALE SERVICE:

1. ISO certified excellent Manufacturer
2. Third-party authoritative certifications: CE, CB, SASO, CCC, KEMA etc
3. Flexible payment: T/T, LC, O/A
4. Sufficient inventory, fast delivery time and long validity of the price
5. The whole process of picture tracking can be realized in production and transportation
6. Experienced professional sales team and a strong technical team
7. Sincerely invite customers to visit the company for guidance

AFTER-SALES SERVICE:

1. If there is any quality problem after receiving the goods, you can return the goods free of charge or ship new products
2. We provide our customers with a 1-year product warranty
3. Provide 24-hour, 365-day technical guidance worldwide
4. The VIP customers enjoy our promotional activity
- trained by management consultants, is able to provide professional solutions for customers.
5. Our customer service team ensures on time delivery.



Call Us For Details



HENG FENGYOU

· Make Life Better ·

青岛恒丰友电气工程有限公司

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