



PRODUCT MANUAL version 2022-05EN

PAD MOUNTED COMPARTMENTAL TYPE TRANSFORMER

*ANSI/IEEE-C57.12.00;C57.12.34
CSA-C227.4



HENGFENGYOU ELECTRIC GROUP
Smart Electric Global Service provider
Make life better!

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ABOUT HENGFENGYOU ELECTRIC GROUP

HENGFENGYOU ELECTRIC GROUP, is an electrical enterprise with transmission and distribution industry as its main business, integrating product research and development, manufacturing and trade. Designated suppliers for the world's top 500 enterprises. Its main products include power transformers, medium and low voltage switchgear, distribution panel, circuit breakers, transmission tower, Cable and other power distribution equipment. The group has five departments: Transformer department, Panel department, power transmission tower department, cable department and electrical engineering department. HENGFENGYOU ELECTRIC GROUP has been working hard to provide the best transmission, distribution solutions for users all over the world.

Key figures

- Since: 1990
- Revenue in 2018: 635 million yuan
- 550 employees and 30 Electrical Engineers
- 6 production sites in China
- 6% of revenue is invested in R & D

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.



HENGFENGYOU ELECTRIC

• Business area

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

Hengfengyou Electric Group's business area is global power distribution equipment demand, fully meet the different power distribution equipment demand of more than 50 countries around the world.

• 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 ELECTRIC GROUP 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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Website: <http://www.hengfengyou.com>

Sales: hfy@hengfengyou.com

Service: service@hengfengyou.com

• The team energy

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

• Innovative development

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

Every year, HENGFENGYOU ELECTRIC GROUP spends 6% of its revenue on research and development and innovation of energy saving development of distribution transformers; Intellectualization of distribution boards and substations; Research, development and improvement of transmission tower and cable materials. 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.

Qingdao International academician port Qingdao MINGSI is introduced as the strategic partner of Technology Co., Ltd. to provide smart power consumption solutions for global users. Through the intelligent monitoring of the Internet of things system, it can realize the remote monitoring, early warning, control and management of enterprise power transmission and distribution equipment and power consumption equipment, and finally achieve the goal of reducing fire accidents, reducing operating costs, and improving enterprise management efficiency.

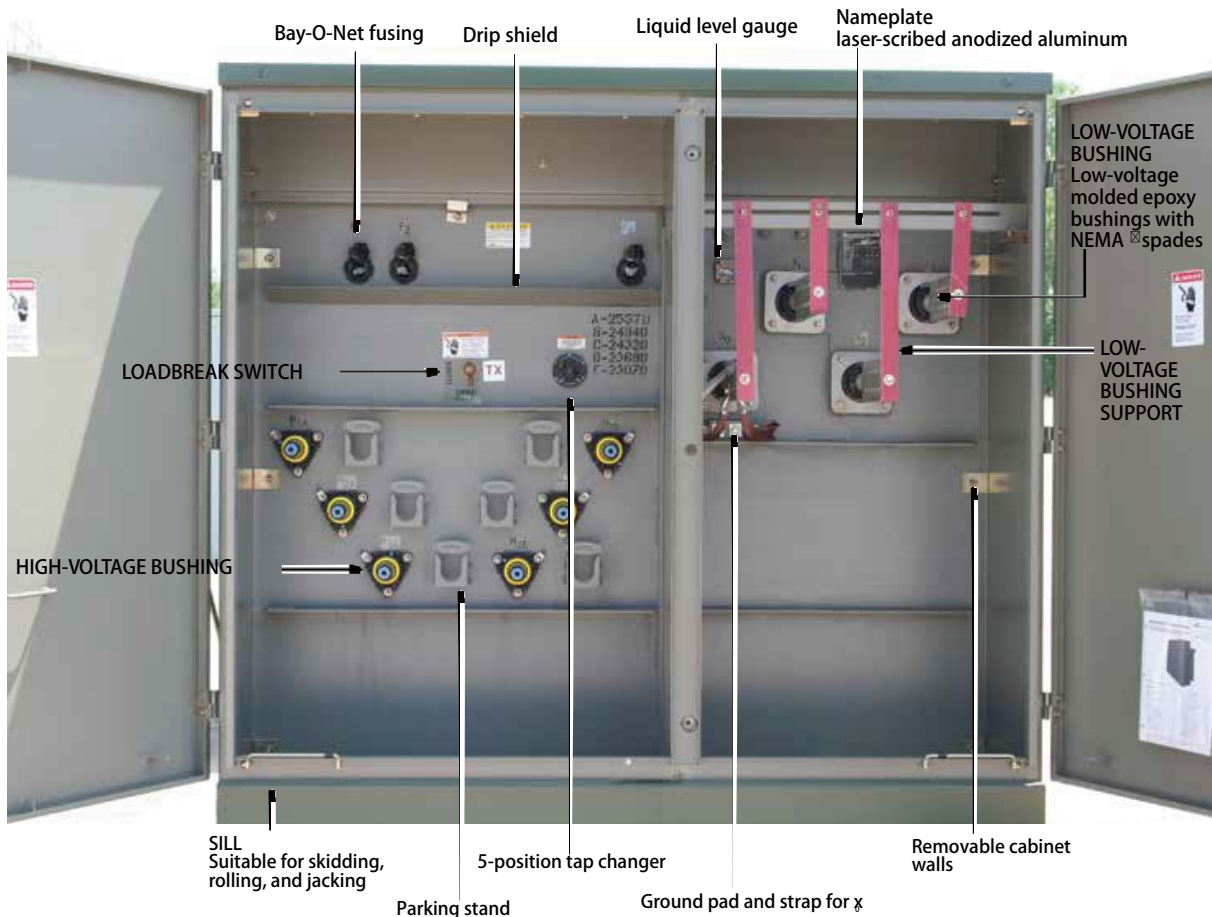
PRODUCT OVERVIEW

At HENGFENGYOU ELECTRIC, we are constantly striving to introduce new innovations to the Distribution transformer industry, bringing you the highest quality, most reliable transformers. HENGFENGYOU’ s Pad Mounted Transformer Products are ISO 9001 IEEE. ANSI DOE compliant, emphasizing process improvement in all phases of design, manufacture, and testing.

· Base kVA	45 kVA to 12,000 kVA
· Primary voltage	2400 V to 46,000 V
· Secondary voltage	120 V to 24,940 V
· Basic Impulse Level (BIL)	30kV to 250kV
· STANDARDS	ANSI/IEEE-C57.12.00 and C57.12.34; CSA-C227.4
· NEMA (sound level)	NEMA TR-1
· Third-party approval/recognition	FM Global (Indoor & Outdoor), UL/cUL – available for most ratings

From fabrication of the tanks and cabinets to winding of the cores and coils, to production of arresters, switches, tap changers, expulsion fuses, current limit fuses, bushings (live and dead) and molded rubber goods, HENGFENGYOU does it all.

*Three-phase pad-mounted compartmental type transformer structure



TECHNICAL PARAMETERS

RatedPower(KVA)	H.V(KV)	L.V(V)	Loss(W)		Dimension(mm)			Weight(KG)	
			No-loadloss (W)	On-loadloss (W)	W	D	H	Oil Weight	Total Weight
75KVA	7.62KV 7.2KV	240V480V 480Y/277V 600Y/347V	180	1250	1390	910	1430	120	645
112.5KVA			200	1500	1420	920	1430	138	729
150KVA			280	2200	1510	980	1530	201	989
225KVA			400	3050	1600	1000	1660	230	1195
300KVA			480	3650	1660	1080	1680	260	1415
500KVA			680	5100	1810	1160	1790	325	1905
750KVA			980	7500	2030	1300	2030	535	2755
1000KVA			1150	10300	1651	1549	1854	650	3235
1500KVA			1640	14500	2210	1470	2150	748	5835
2000KVA			2160	20645	2380	1600	2220	950	6430
2500KVA	2680	27786	2480	1650	2330	1020	8865		

*Executive standards:ANSI/IEEE-C57.12.00 and C57.12.34; CSA-C227.4

RatedPower(KVA)	H.V(KV)	L.V(V)	Loss(W)		Dimension(mm)			Weight(KG)	
			No-loadloss (W)	On-loadloss (W)	W	D	H	Oil Weight	Total Weight
75KVA	13.8KV 13.2KV 12.47KV 19.92kv	416/240v	171	1240	1400	1250	1500	120	950
112.5KVA			218	1726	1400	1350	1580	138	1160
150KVA			275	2167	1400	1400	1650	201	1250
225KVA			406	3258	1400	1450	1700	230	1420
300KVA			459	3669	1450	1500	1750	260	1560
500KVA			680	5410	1500	1500	1800	325	1810
750KVA			923	7066	1600	1500	1850	535	2480
1000KVA			1150	10300	1700	1650	1900	650	3050
1500KVA			1559	13758	2200	1800	2000	748	4380
2000KVA			1940	18300	2500	2100	2000	950	4930
2500KVA			2300	21200	2780	2150	2000	1020	5500

TECHNICAL PARAMETERS

Rated Power(KVA)	H.V(KV)	L.V(V)	Loss(W)		Dimension(mm)			Weight(KG)	
			No-loadloss (W)	On-loadloss (W)	W	D	H	Oil Weight	Total Weight
75KVA	24.9kv 34.5kv	416/240v	171	1310	1500	1250	1680	280	1150
112.5KVA			220	1800	1560	1330	1750	330	1320
150KVA			280	3270	1600	1500	1790	385	1480
225KVA			380	3130	1630	1580	1850	460	1620
300KVA			460	3840	1650	1600	1880	520	1760
500KVA			680	5660	1700	1660	1900	570	2180
750KVA			930	7770	1740	1700	1950	680	2820
1000KVA			1150	11330	1800	1730	1980	760	3250
1500KVA			1550	15140	2250	2000	2080	1120	4550
2000KVA			1950	19140	2800	2100	2200	1420	5650
2500KVA			2430	22300	3200	2200	2450	1600	6300

STANDARD COMPONENTS

Standard features

Connections and neutral configurations

- Delta - Wye: Low voltage neutral shall be a fully insulated X0 bushing with removable ground strap.
- Grounded Wye-Wye: High voltage neutral shall be internally tied to the low voltage neutral and brought out as the H0X0 bushing in the secondary compartment with a removable ground strap.
- Delta-Delta: Transformer shall be provided without a neutral bushing.
- Wye-Wye: High voltage neutral shall be brought out as the H0 bushing in the primary compartment and the low voltage neutral shall be brought as the X0- bushing in the secondary compartment.
- Wye-Delta: High voltage neutral shall be brought out as the H0 bushing in the primary compartment. No ground strap shall be provided (line to line rated fusing is required).

High and low voltage bushings

- 200 A bushing wells (15, 25, and 35 kV)
- 200 A, 35 kV Large Interface
- 600 A (15, 25, and 35 kV) Integral bushings (dead-front)
- Electrical-grade wet-process porcelain bushings (live-front)

Tank/cabinet features

- Bolted cover for tank access (45-2500 kVA)
- Welded cover with hand hole (>2500 kVA)
- Three-point latching door for security
- Removable sill for easy installation
- Lifting lugs (4)
- Stainless steel cabinet hinges and mounting studs
- Steel divider between HV and LV compartment
- 20" Deep cabinet (45-1000 kVA)
- 24" Deep cabinet (1500-7500 kVA)
- 30" Deep cabinet (34.5/19.92 kV)
- Pentahead captive bolt
- Stainless steel 1-hole ground pads (45-500 kVA)
- Stainless steel 2-hole ground pads (750-10,000 kVA)
- Parking Stands (dead-front)

Valves/plugs

- One-inch upper filling plug
- One-inch drain plug (45-500 kVA)
- One-inch combination drain valve with sampling device in low voltage compartment (750-10,000 kVA)
- Automatic pressure relief valve

Nameplate

- Laser-scribed anodized aluminum nameplate

OPTIONAL FEATURES

High and low voltage bushings

- 200 A (15, 25 kV) bushing inserts
- 200 A (15, 25 kV) feed thru inserts
- 200 A (15, 25 kV) (HTN) bushing wells with removable studs
- High-voltage 600A (1,25,35kV) deadbreak one-piece bushings
- Low voltage 6-, 8-holes spade
- Low voltage 12-, 16-, 20-holes spade (750-2500 kVA)
- Low voltage bushing supports

Tank/cabinet features

- Stainless steel tank base and cabinet
- Stainless steel tank base, cabinet sides and sill
- 100% stainless steel unit
- Service entrance (2 inch) in sill or cabinet side
- Touch-up paint
- Copper ground bus bar
- Bus duct cutout

Special designs

- Factory Mutual (FM)
- UL[®] Classified
- Triplex
- High altitude
- Step-up
- Modulation transformers

Switches

- One, two, or three On/Off loadbreak switches
- 4-position loadbreak T-blade switch
- Delta-wye switch
- 3-position V-Blade selector switch
- 100 A, 150 A, 300 A tap changers
- Dual voltage switch
- Visible break with VFI interrupter interlock
- External visible break (15, 25, and 35 kV, up to 3 MVA)
- External visible break with gauges (15, 25, and 35 kV, up to 3 MVA)

Gauges and devices

- Liquid level gauge (optional contacts)
- Pressure vacuum gauge (optional contacts and bleeder)
- Dial-type thermometer (optional alarm contacts)
- Cover mounted pressure relief device (optional alarm contacts)
- Ground connectors
- Hexhead captive bolt
- Molded case circuit breaker mounting provisions
- External gauges in padlockable box

Overcurrent protection

- Bay-O-Net fusing (Current sensing, dual sensing, dual element, high amperage overload)
- Bay-O-Net expulsion fuse in series with a partial range under oil ELSP current limiting fuse (below 23 kV)
- Cartridge fusing in series with a partial range under-oil ELSP current limiting fuse (above 23 kV)
- Interrupter with ELSP current-limiting fuse
- Vacuum Fault Interrupter (VFI)
- Fuse/switch interlock

Valves/plugs

- Drain/sampling valve in high-voltage compartment
- Globe type upper fill valve

Overvoltage protection

- Distribution-, intermediate-, or station-class surge arresters
- Elbow arresters (for dead-front connections)

Metering/fan/control

- Full metering package
- Current Transformers (CTs)
- Metering Socket
- Control box (optional stainless steel)
- Fan Packages

Coatings (paint)

- ANSI[®] Bell Green
- ANSI[®] #61 Light Gray
- ANSI[®] #70 Sky Gray
- Special paint available per request

Nameplate

- Stainless steel nameplate

Decals and labels

- High voltage warning signs
- Mr. Ouch
- Bi-lingual warning
- DOE compliant
- Customer stock code
- Customer stenciling
- Shock and arc flash warning decal

PRODUCT ADVANTAGE

> Leading technology

- Fully enclosed, fully insulated structure, safe and reliable operation
- Low loss, low noise, low temperature rise, strong load capacity over fixed capacity, strong resistance to sudden short circuit
- Flexible wiring mode, can be used for terminal system, also can be used for ring network system, convenient conversion, improve the power supply reliability
- Easy to operate, maintenance-free, low equipment cost

> Enclosure

- Made of cold rolled high quality hot dip galvanized sheet
- The surface is treated by electrostatic spray, and the paint can not be taken off for 50 years
- Laser numerical control equipment cutting, drilling, bending, to ensure the processing accuracy
- The transformer is a low loss oil-immersed transformer produced by Hengfeng You Electric

> Processing and assembly

- Assembly workers have been trained for at least 6 months
- Secondary wiring is fully automatic equipment cutting to ensure reliable wiring
- Use power tools to ensure proper torque for bolting reinforcement
- The copper bus is CNC punching and bending
- All kinds of experimental tests before leaving the factory to ensure normal operation



>Structure diagram of Pad Mounted Transformer



TEST

01

General inspection

- 1.1 appearance inspection
 - 1.2 circuit connection inspection
 - 1.3 electrical clearance
-



02

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.
-



03

TESTING

- 3.1 Customer test witness
- 3.2 Customer final inspection
- 3.3 Zero Sequence Impedance Test
- 3.4 Heat Run Test
- 3.5 ANSI[®] Impulse Test
- 3.6 Audible Sound Level Test
- 3.7 RIV (Corona) Test
- 3.8 8- or 24-Hour Leak Test



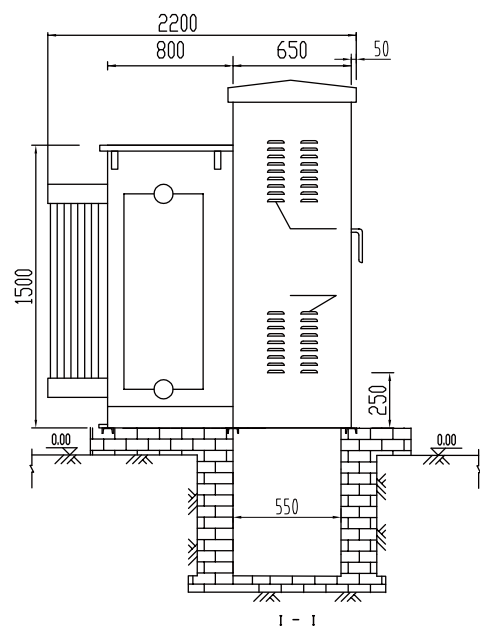
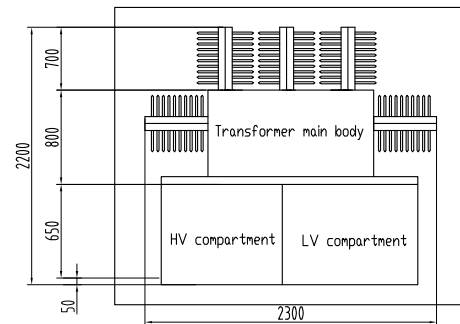
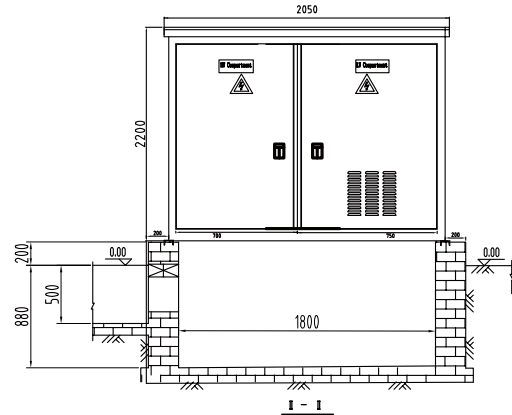
INSTALLATION

1. Hoisting with crane or elevator

- The rear part of the pad mounted transformer is heavy and the front part is light. Improper use of the hook or crane may cause serious damage to the transformer or its accessories or personal injury.
- Check its weight and the bearing capacity and service condition of all hooks or lifting equipment. Do not use worn or damaged steel cables or lifting rings. Do not use lifting equipment with lifting capacity less than the weight shown on the nameplate of the box transformer.
- Do not use the cable chain ring to bolt the equipment or lifting lug to lift the transformer. The angle between the lifting steel cable and the vertical line shall not exceed 30 °

2. Installation of pad mounted transformer cable accessories

Transformer accessories can be attached with one-way bushing joint, two-way bushing joint, 200A elbow cable head, T-shaped cable head, one-way joint, two-way joint, elbow lightning arrester, live display, fault indicator, insulating cap, etc.



CARRY&PACKAGE



THE CORNER OF OUR FACTORY

CUSTOMER-ORIENTED CREATE VALUE FOR CUSTOMERS



▲ FACTORY DISPLAY

Hengfengyou Electric has 22000 square meters of modern plant, with a monthly delivery capacity of up to 200 Pad Mounted Transformer, 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



▲ 2500KVA PAD MOUNTED TRANSFORMER ARE EXPORTED TO THE UNITED STATES

CASE

Hengfengyou Electric Group has always been committed to providing the best quality Pad Mounted Transformer products for global customers



Case show

make life better

REDWOOD FALLS PROJECT IMPROVES EQUIPMENT SAFETY AND AESTHETICS OF DOWNTOWN AREA



CERTIFICATE

QUALIFICATION CERTIFICATION



OUR PARTNER

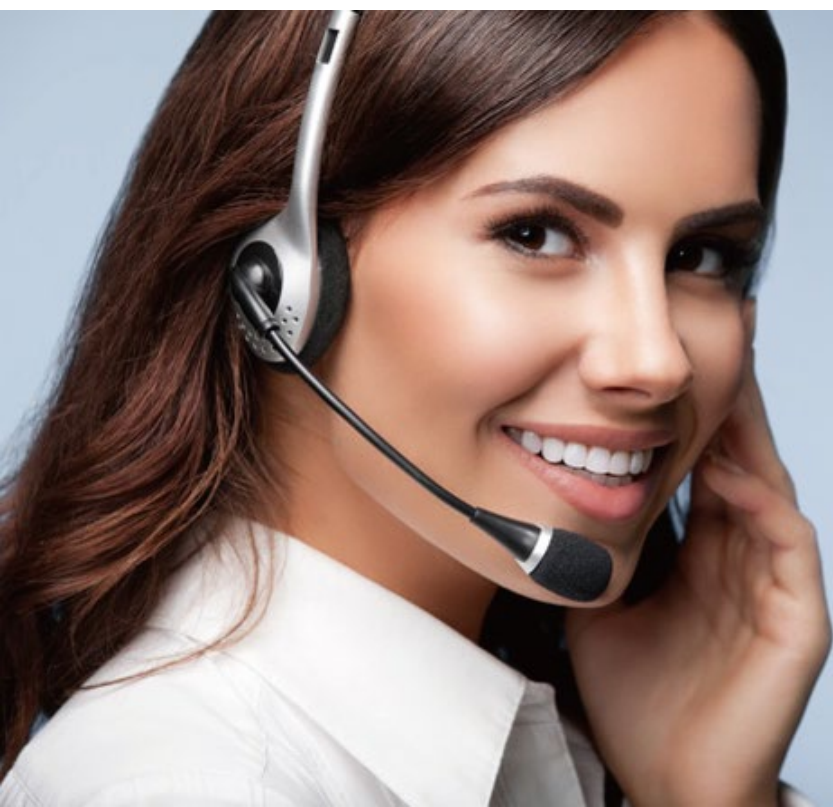


PRE-SALE SERVICE:

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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