

YLUXD(XXX)KE Integrated DC charging station

(with European standard & 2 outlets)

Installation manual V1.5





Revision record

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Catalog

Notice

This document contains information about T-power charging stations and may include a description of or a reference to one or more standards that may be generally relevant to the T-power charging stations.

The presence of any such description of a standard or reference to a standard is not a representation that all of the T-power products referenced in this document support all of the features of the described or referenced standard. In order to determine the specific features supported by a particular T-power charging station, the user should consult the product specifications(datasheet) for the particular T-power products.

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This installation manual is for T-power charging station YLUXD(XXX)KE,includes charging station 50kW,60kW,80kW,100kW,120kW,150kW,160kW,180kW,240kW. The document and parts thereof must not be reproduced or copied without written permission from T-power, and the contents thereof must not be imparted to a third party nor used for any unauthorized purpose.

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1. Introduction

Thank you for purchasing this t-power EV Base charging station for electric vehicles.. Tpower Pty Ltd.is a leading technology company in electric vehicle charging and renewable energy industry. We have leading R&D and manufacturing capability in EV charging module, EV charging infrastructure and battery energy Storage Inverter in China. With more than 460 employees, of which nearly 200 expertise engineers are R&D engineers, T-power has accumulated more than 100 invention patents. We are the contributing member of national standardization of EV charging module and EV charger/station in China. At the same time, T-power also participated in formulation of the unified CHAOJI high-power DC fast charging standard by China Electricity Council and Japan Electric Vehicle Fast Charger Association (CHAdeMO).

This installation and user manual tells you how to install and use the T-power YLUXD Charging station. We advise you to read the contents of this manual carefully, to ensure a safe and proper installation and enable you to use all the advanced features of this product to the full.

Support

Only qualified electricians or equivalent may install the T-power. If you have any questions, please contact your service partner.

Please have the following information ready to hand to speed up the process: Article number and serial number which you can find on the identification label of the charging station.

Should your local distributor be unable to help you, or you have a suggestion for us, you can contact t-power at: info@t-power.com.au.

T-power Pty Ltd.

factory 1/7 Technology cct, Hallam 3803 VIC, Australia.

W: www.t-power.com.au T: (+61) 03 8566 7671

2. Safty instrutions

General safety precautions

In order to ensure personal and equipment safety, please follow the equipment identification and all safety precautions mentioned in operation manual during system installation, operation, test and maintenance.

"Caution", "warning" and "danger" in the instructions do not represent all safety precautions that should be observed, but only serve as a reminder and supplement to safety precautions.

Signs

The following signs are used on the equipment and in this manual:





Personnel requirements

Before equipment installation, test, operation and maintenance, the personnel must be strictly trained, familiar with various safety precautions and master the correct operation methods.

- Only allow qualified personal to install, test, operate and maintain the equipment.
- Only the equipment supplier or authorized personnel are allowed to replace parts and upgrade software.
- The test and operation personnel shall timely report the faults or errors that may lead to safety problems to the project leader.

Grounding requirements

The following requirements apply only to equipment that requires grounding

- Grounding the charging station before equipment installation;
- Remove the grounding wire at last, when removing the equipment;
- Destruction to the equipment grounding conductor is forbidden
- To operate the equipment without grounding conductor is forbidden;
- The equipment should be permanently grounded;
- the electrical connection shall be checked before operating the equipment to ensured that the equipment has been reliably grounded.

Personal safety

- Before operating the equipment, technicians should wear high-voltage insulated protective shoes and anti-static gloves;
- It is not allow to wear conductive jewelry for equipment operation to avoid electric shock or burns;
- In case of fire, leave the equipment area or building quickly, and press the fire alarm or dial the fire alarm telephone. It is strictly forbidden to enter the fire area again.

Equipment safety

- The equipment shall be reliably fixed on the base before operation;
- Do not touch the cabinet components when system is running;

- It is forbidden to open the equipment protection door for any internal operation after the equipment is powered on;
- The equipment protection door can be opened only after the equipment is powered off;
- When installing the panel, please use the corresponding tools to tighten the fixing screws and fasten the buckle;
- Clean the packaging materials in the equipment area after equipment installation.

Electrical safety

Danger:

It is forbidden to install or remove the power cable with electricity. The generated arc or electric spark may cause fire or personal injury.

- It is forbidden to install or remove the power cable with electricity. The generated arc or electric spark may cause fire or personal injury.
- Before installing or removing the power cable, disconnect the power switch on the input side;
- Confirmed that the power cable is connected correctly before connecting the power cable to the equipment;
- If the "Large Leakage Current" sign appears on the power supply terminal of the equipment, the protective ground terminal of the equipment case must be grounded before connecting the input power supply to prevent the leakage current of the equipment from causing electric shock to the human body;
- It is forbidden to operate any electronic equipment in flammable and explosive environment.

Mechanical safety



When handling the equipment by hand, wear protective gloves to avoid cutting. Forklifts or other mechanical tools are recommended for equipment handling.

Cable laying

Attention:

Signal cable should be bound separately form power cable and high voltage cable; avoid violent impact and vibration during cable laying.

- All cables should be laid within appropriate ambient temperature and humidity, refer to 1.7 technical parameters;
- Gently handle the cable outside the cabinet, especially during construction in low temperature environment, any nonstandard operation is forbidden, such as pushing the cable from the vehicle to the ground.

Note: the electric cables are not provided. Prior to any installation, we remind you that a calculation note according to the characteristics of the power grid, the distance between electrical cabinet and charging station is always necessary in order to use the appropriate cable setion.

3. Preparing the installation

3.1 Charging station dimensions

The dimensions of the Winline Charging stations depend on the product configuration. Please confirm the dimension of your product according to the product datasheet of each model. The following figure shows the dimensions of 240kW integrated dual-outlet DC charger for example.

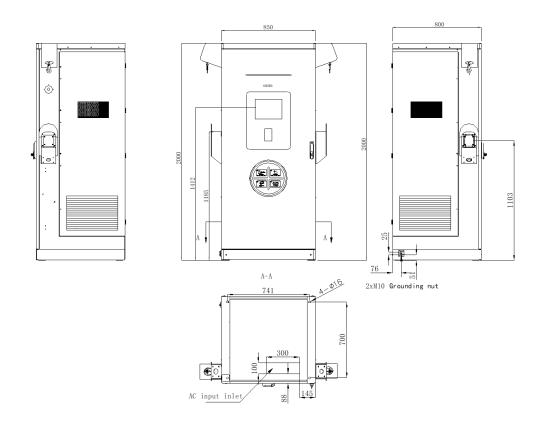


Figure 3-1 appearance and installation dimension drawing

3.2 Required space for placing and maintaining

The surrounding space for installation of charging station must satisfy the followings:

- Front side 900mm, in order to open the front door.
- Left and right side 700mm, in order to open the left and right door.
- Backside 50mm, in order to guarantee an unimpeded air flow.

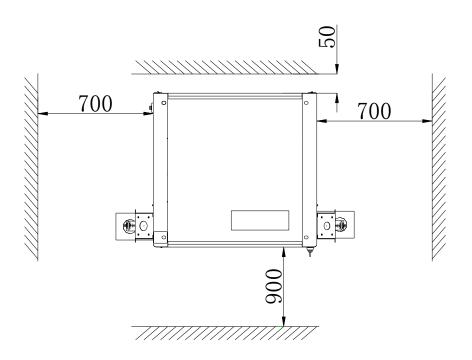


Figure 3-2 reserved space for installation

3.3 Conductor and cable diameter

• Cable type: 3P+N+PE, shielded cables are optional if required by local law. Please confirm the cable length refer to the datasheet of charging station of corresponding power.

For example 240kW charging station, it is recommended that the cable length are 560mm, 560mm, 560mm, 560mm and 460mm from installation surface respectively for Cable A,B,C,N,PE.

- Optional cable shielding must be attached to the PE Rail at both ends of the cable.
- The diameter of the cable conductor must be determined by your contractor / electrician.

We suggest that single hole or double holes type conductor can be selected for three-phase A, B, C, N and PE.

rippeurance and parameters of easie conductor of double notes.					
Name	A1	B1	C1	D1	φ1
Double hole conductor	40	15	35	158	13

Appearance and parameters of cable conductor of double holes:

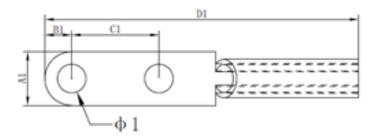


Figure 3-3 cable conductor of double hole

Appearance and parameters of cable lug of single hole:

Name	A2	B2	D2	φ2
Sigle hole conductor	≤25	≤15	≤50	11

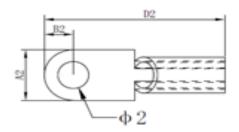


Figure 3-4 cable conductor of single hole

- The PE conductor of the power cable must have the same diameter as the phase conductors.
- Recommended power cable: ZRC-YJV22-0.6/1kv, Please confirm the cable dimension refer to the datasheet of charging station of corresponding power.

power	40kW	60 kW	80 kW	120 kW	150 kW	160 kW	180 kW	240kW
Power cable AC	5*25	4*50+ 1*25	4*95+ 1*50	4*120+ 1*70	4*150+ 1*70	4*150+1 *70	4*185+ 1*95	4*240+ 1*120

Table 1 power cable AC dimension

3.4 Prepare the mounting foundation

The charger must be installed on the customized concrete cement (No. \geq C20) base.

- The installation base should be no less than 200mm higher than the horizontal ground if you select base type foundation; or select base type trench, the charging station will be level to the ground. The dimension details please find in the datasheet of charging station of corresponding power.
- installation vertical inclination is $\leq 5\%$;
- The grounding resistance must be $\leq 4 \Omega$;
- four M12 * 110 bolts are embedded in the cement foundation;
- The thread is 50 \pm 3mm above the ground, and fixed firmly with four M12 nuts and elastic flat pads, with a tightening torque of 60Nm.
- There are 2 options when the charger is placed on soil: trench and foundation type

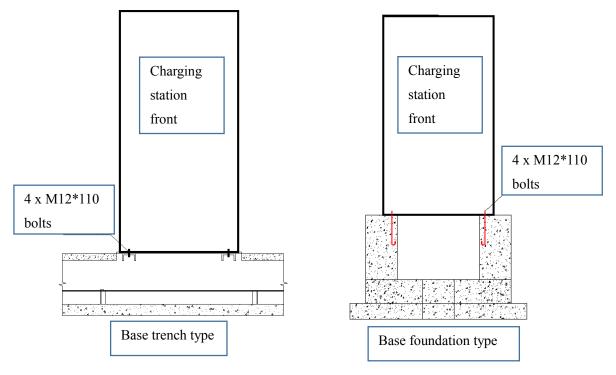


Figure 3-5 Base type , left trench, right foundation

3.5 Transport charging station

It is recommended to use a forklift to handle the charger. Make sure that the charger is placed stabilized, Shown in Figure below.

Attention: No swivel eye bolts or bolts with lifting loops on the charging station.



Figure 3-6 handling with forklift

- 1. Move the forks of the forklift truck in the gaps at the side of the charging station.
- 2. Move the charging station carefully to its location.

3.6 Installation tools (recommended)

Name	Specifications	Quantity	Sample
Slotted screwdriver	6*150mm	1	255mm
Cross screwdriver	6*100mm	1	
Cross screwdriver	8*200mm	1	

Force calibration spanner	Screw above M5	1	
knife	small	1	° 155mm
M19 open end spanner	Open end 19mm	2	
M5 screw with column	Bag hanging in the front door inside	1	

Table 2 tools list

4 Installation and activation

Installation advices:

- Fixing the charger station: the position of the charger foundation should be selected in higher surrounding terrain. After selecting a good position, the entrance of the input cable should be reserved before installing the charging station. The entrance of the input cable is located at the bottom of the charger. The base part of the charger should be completely buried in the ground foundation to ensure the stability of the charging station.
- Basic circuit inspection: according to the primary circuit design, circuit inspection is mainly used to prevent collision damage during transportation to avoid short circuit caused by accidents;
- External power supply line: connect the three-phase cable embedded in the charger foundation to the input end of the charger body. Pay attention to the connection method of the four lines. The line colors at both ends should correspond, and should correspond to the text on the charger station. Connect the ground wire to the charging station grounding bar;
- Installation of power modules: The number of power modules is adjusted according to the actual situation of output demand;
- The small striker on lightning arrester or indicating window should be checked frequently during use. When the striker protrudes or the indicating window turns red, the lightning arrester is damaged and should be replaced immediately.

4.1	Unpacking wooden box	
-----	----------------------	--

step	Instructions	Illustration
1	Pry up the fixing buckle of the packing wooden box: Use a slotted screwdriver to pry up the fixing buckles around the packing box	
2	Remove the packing wooden box: First remove the upper cover plate ① of the packing wooden box upward, then remove the front and rear cover plates ② (wider), and remove the remaining two cover plates ③ in the end	

step	Instructions	Illustration
3	Remove the PE plastic bag, PE film and pearl cotton layer on the surface of the charger: use a paper knife to cut the PE film which is wrapped on the surface of the charger, and then remove the PE plastic bag, PE film and pearl cotton layer on the surface of the charger.	
4	Open the front door charger: Open the front door with the key bound on the front door, then pull up the limit bar of the front door to fix the front door	<image/>

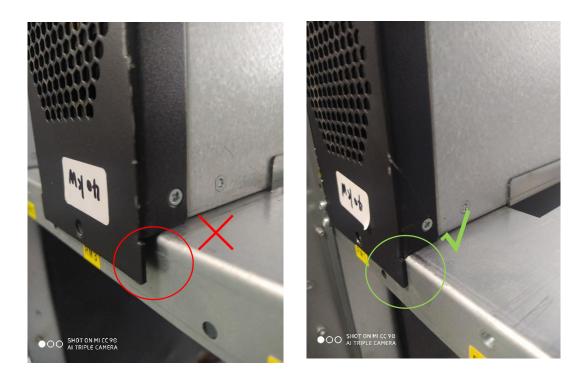
step	Instructions	Illustration
5	Remove the protective plate under the inside of the charging station and the front and rear sealing plates of the base: With a cross screwdriver, remove the 4 fixing screws from the protective plate under the charger and the 4 fixing screws from the front and rear sealing plate of the base (all M4 * 12 external hexagonal combination screw). Reserve all the screws for installation of protective plate.	
6	Remove the wood base fixing screws: The charger station and the wooden base are fixed with four M19 screws and nuts, which need to be removed, before move the charger station.	

4.2 Charging module installation

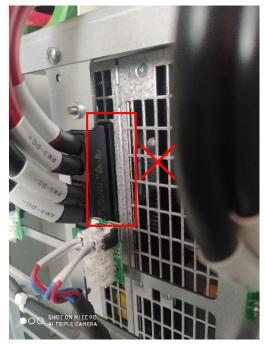
Charging module can be installed before or after the charging station mounting on the ground.

step	Instructions	Illustration
1	Remove the carton package	
2	Remove the plastic protection profiles.	
3	Open the right side door and remove the anti-theft screw *4 on the door	Side door screw
4	 Insert the charging module into the station cabinet, no specific oder. Note: 1. module installation direction: the handle of module towards the door; 2. gentle deal with charging module ,no violent installation. 3. Tighten the module screws 	

Attention: After the modules installed, please confirm if each module was properly installed in place. It should be no gap between modules and cabinet from the front of the charging module, as the pictures below show.



From the interface side of charging module to check if correct installed, as pictures show below.





4.3 Balancer group installation (optional)

step	Instructions	Illustration
1	The balancer group should be installed on both sides of the charging station. 8 anti-theft screws M * 12 for fixing. Note: fix the top two screws first.	
2	Hang the charging outlets on the balancer	M8 * 30 external hexagonal stainless steel screws, + M8 stainless steel flat washer and + M8 stainless steel nuts.

4.4 Mounting the charging station

step	Instructions	Illustration
1	The charging station is lifted on the top of the base foundation and the bolts are pre- embedded.	Installation hole on the base Pre-embedded bolts in the foundation
2	The charging station vertically hoisted on the concrete foundation and all the base fixing holes are aligned with the concrete pre- embedded bolts, tighten the nuts	four M12 nuts and elastic flat pads, with a tightening torque of 60Nm
3	Install the front and rear sealing plates of the base.	M4 * 12 external hexagonal combination screw

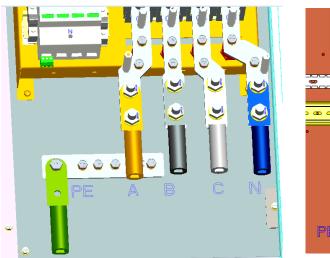
4.5 Incoming power cable installation

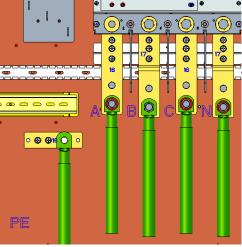
Connect each supply cable to the correct terminal block indicated with A(L1), B(L2), C(L3), N with torque 30Nm and PE with torque 14Nm. Reconfirm the grounding resistance must be $\leq 4 \ \Omega$. For power cable dimension and conductor please refer to chapter 3.3.



DANGER Hazardous voltage

Make sure that the main switch of the power supply group for the product is set to the OFF position. Perform a voltage check and make sure that the electrical power is disconnected from the system.





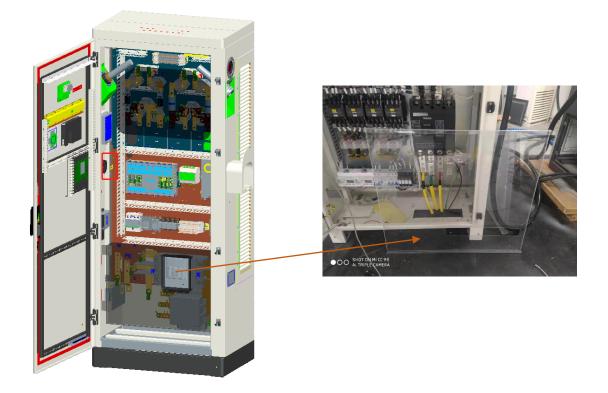
Note: the position PE may be different with different charging station.





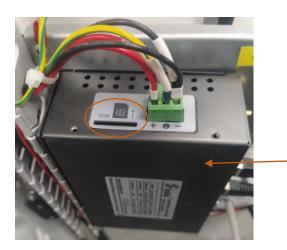
4.6 Install the protective plate

After power cable installation should the protective plate be reinstalled, with 4 fixing screws, M4 *12, 2.5Nm



4.7 SIM card installation

SIM card insert into the router behind the front door of charging station. Note: SIM card is not in the scope of delivery, user need to purchase a local SIM card. If the network connection via SIM card fails, please contact Winline.





4.8 Check after installation

Note:

- 1. Clean charging station inside, seal the incoming electrical cable;
- 2. Check whether the circuit and components are loose or damaged;
- 3. Confirm that circuit breakers QF0 and QF2 are OFF;
- 4. Check whether the three-phase insulation resistance to ground is normal;

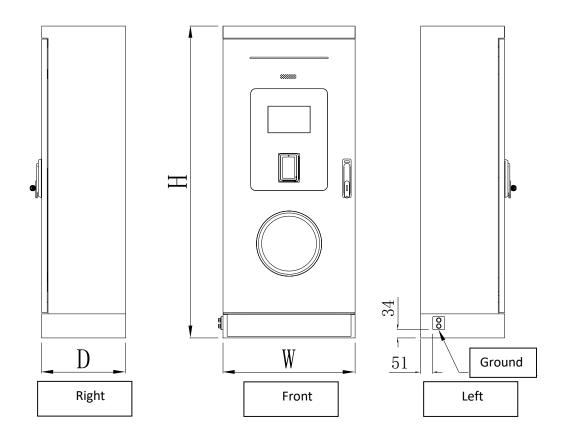
It can be carried	out according to	the following checklist:	

Items	Standard	Result	Qualified or
	Standard	ittisuit	Not
Side door anti-theft screw torque	3.0 Nm		
protective plate screw torque	2.5 Nm		
Cable A, B, C, N screws torque	30.0 Nm		
Ground screw torque	14.0 Nm		
Between three-phase AC air switch	No short circuit		
terminals, and between AC			
contactor terminals			
AC input cable (including N and	Inserted and		
PE)	reliable		
Between each control circuit,	No short circuit		
between closing circuit, between			
positive and negative bus bar			
Between input and output integrated	No short circuit		
terminals, between air switch AC			
input terminals of the charging			
module			

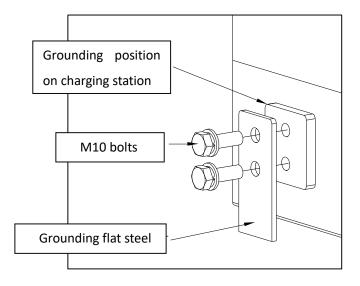
Table3 check list

4.9 Grounding

The cabinet of charging station must be grounded. The Grounding position is on the left side of charging station when user faces the charging station.



It is recommended to use a galvanized flat steel (W*D: 40x4 mm or 50x5mm), to connect the charging station shell and the earth, with two bolts (M10, stainless steel).



The grounding flat steel must be long enough to deep underground, please refer to local requirements. And other safe grounding methods are allowed, according to the local requirements and standard.

4.10 Battery

Please confirm if there is a button battery inside the TCU of charging station. It may not be within the scope of delivery. Customer could check and should install a new button battery (CR2032, 3.0V, 210mAh) if missing.

step	Instructions	Illustration
1	Remove the four screws, and remove the cover.	
2	Install the button battery, and reinstall the cover and screws	

5 Charging station commissioning

Commissioning is required after the installation of charging stations; normal operation is allowed only after commissioning.

5.1 Initial commissioning

To ensure the safety of equipment and personnel, the commissioning steps must be strictly followed when the equipment is powered on. In case of abnormal phenomena, shut it down immediately, and commissioning can be continued only when the causes of the abnormal are found out.

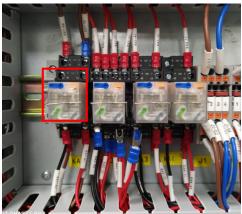
- 1. Check before power on: ensure that there is no short circuit between the input and output of the system .Refer to the table 4.
- Initial adjustment of AC distribution: ensure that the AC input voltage ranges 400VAC±10%.
- 3. Initial adjustment of charging module: the working output is within the set voltage and current range.
- 4. Turn on QF0 AC incoming switch and the equipment enters position in readiness.

Classification	No	Items	Qualification standard
AC distribution	1	Between three-phase AC air switch terminals, and between AC contactor terminals AC incoming line (including zero	No short circuit Accessible and
DC distribution	3	line and ground line) Between each control circuit, between closing circuit, between positive and negative bus bar	reliable No short circuit
Charging module	4	Between input and output integrated terminals, between air switch AC input terminals of the charging module	No short circuit of AC input The contact pin shall be free of bending and deformation.

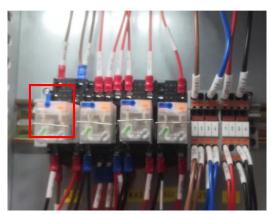
	Address setting	See step 12: module
5		dialing address setting

Table 4 check items before equipment powered on

Note: After charging station powered, the modules would be powered for a while, customer could then set up the module. If the modules power off, please close the Relay showed under, and open it again after Module setting.



Normal status, "open"



Setting status, "close"

5.2 Module address setting

Module parameters can be set through the module key interface: module address and module group number (the module group number can only be changed by pressing the key when the module is in standby mode and the grouping mode is dynamic grouping). The module parameter setting interface is shown in the figure below:



Figure 5-1 module setting interface

Setting operation is as follows:

- 1. Press (\blacktriangle) or (\triangledown), to switch the information interface;
- To change the interface information, press (▲) or (▼) and hold for about 3 seconds;
- Press (▲) or (▼) to change the setting value when the displayed information flashes;
- 4. To save the new data, press (\blacktriangle) or (\triangledown) and hold for about 3 seconds.

Note:

The address allocation of module is fixed by default. The module address can be set by pressing the key. The address setting range is $0x00 \sim 0x3E$. The module address must be set as shown on the label in the charging station(figure below). The module RM1 address is 0x00, the RM2 0x01, the RM3 0x02, the RM4 0x03, the RM5 0x04, the RM6 0x05.

Set the address allocation mode to dynamic allocation through monitoring. At this time, the module group number can be set by pressing the key. The group number setting range is $0x00 \sim 0x07$ and displayed on the panel.



Figure 5-2 module label

For example:

Modify the module address form 0x00 to 0x04:

- 1. Press ($\mathbf{\nabla}$) to display page 3, and the interface of 00 appears;
- 2. Press (\blacktriangle) or (∇), and hold for about 3 seconds;
- 3. The interface flashes, and then press (\blacktriangle) to interface 04;

4. Press (\blacktriangle) or (∇), and hold for about 3 seconds.

Modify the module group address form 0x000 to 0x 004 :

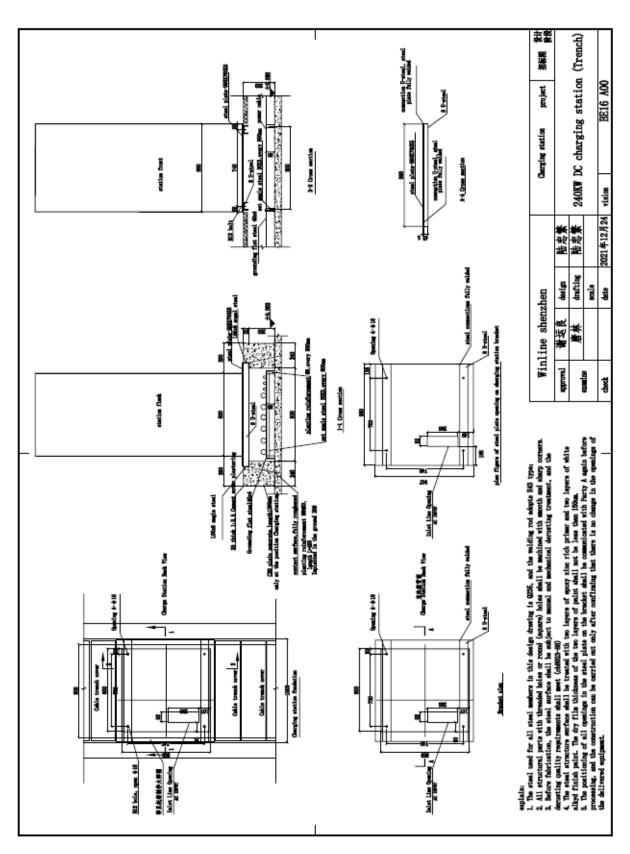
- 1. Press ($\mathbf{\nabla}$) to display page 4, and the interface of 000 appears;
- 2. Press (\blacktriangle) or (∇), and hold for about 3 seconds;
- 3. The interface flashes, and then press (\blacktriangle) to interface 04;
- 4. Press (\blacktriangle)or(∇), and hold for about 3 seconds.

Notice: Module LED screen displays "000" (voltage) after a few seconds when no operation, which is a normal situation and do not affects further operations.

6 Certifications

CE certification

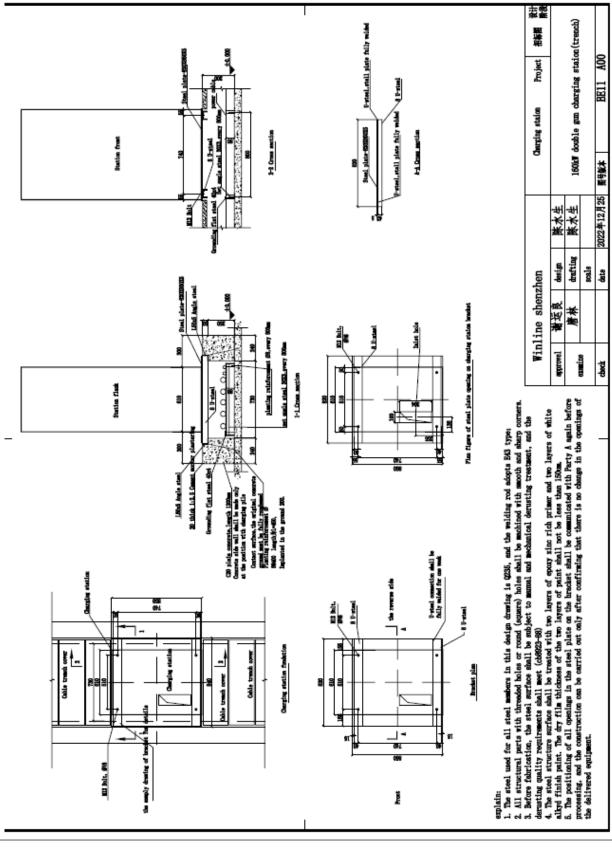
Trade name:	Uichnology
Type/Model:	UXR100030, UXR100040, UXR75050
Ratings:	AC 285~475V, 50/60Hz
Manufactured by:	ShenZhen Winline Technology Co., Ltd. 604 Shangjing BLDG., No.2 Baolong seventh RD., Baolong Community, Baolong Subdistrict, Longgang District, Shenzhen, Guangdong Province, P.R.China
Requirements:	IEC 61851-21-2: 2018 FprEN 61851-21-2: 2017
Trade name:	Winling
Type/Model:	UXR100040, UXR100030, UXR75050
Ratings:	See model list
Manufactured by:	ShenZhen Winline Technology Co., Ltd 604 Shangjing BLDG., No.2 Baolong seventh RD., Baolong Community, Baolong Subdistrict, Longgang District, Shenzhen, Guangdong Province, P.R.China
Requirements:	IEC 61851-23:2014 + IEC 61851-23:2014/COR1:2016 for use in conjunction with IEC 61851-1:2010 EN 61851-23:2014 + EN 61851-23:2014/AC:2016 for use in conjunction with EN 61851-1:2011

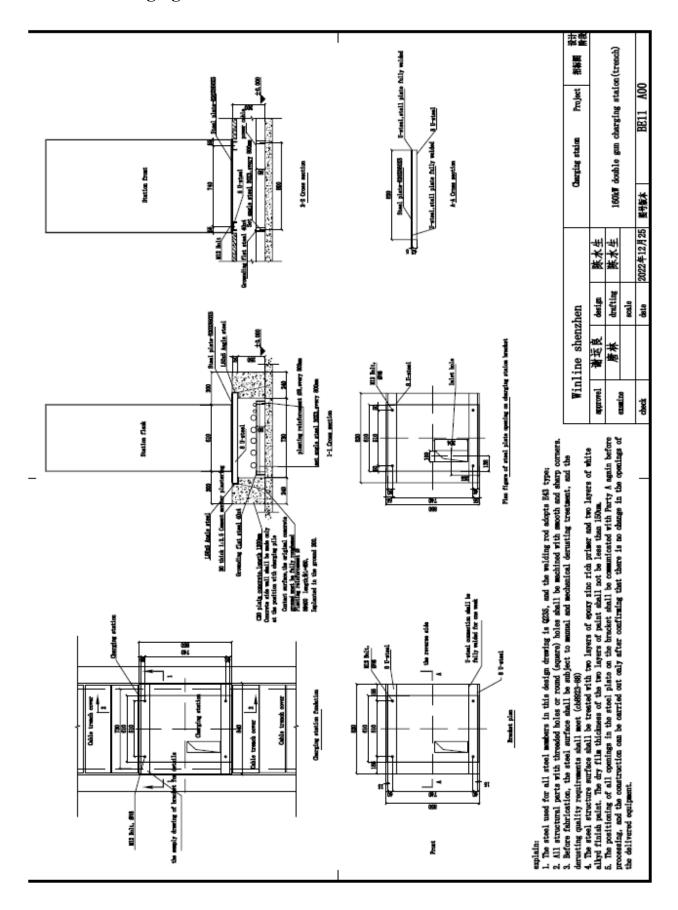


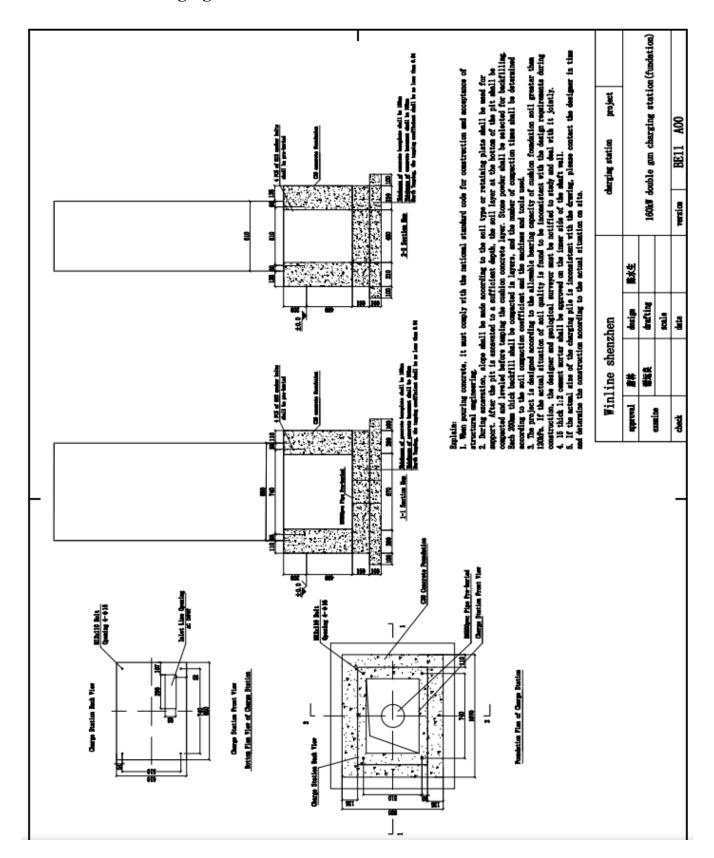
7 Appendix Concrete foundation

A. Charging station 240KW

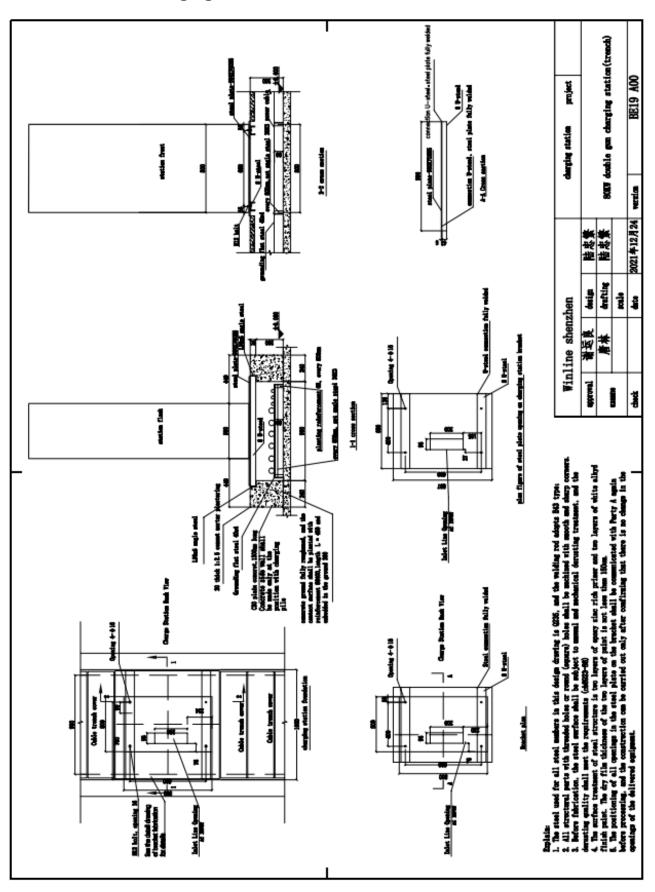
YLUXD240KE Trench

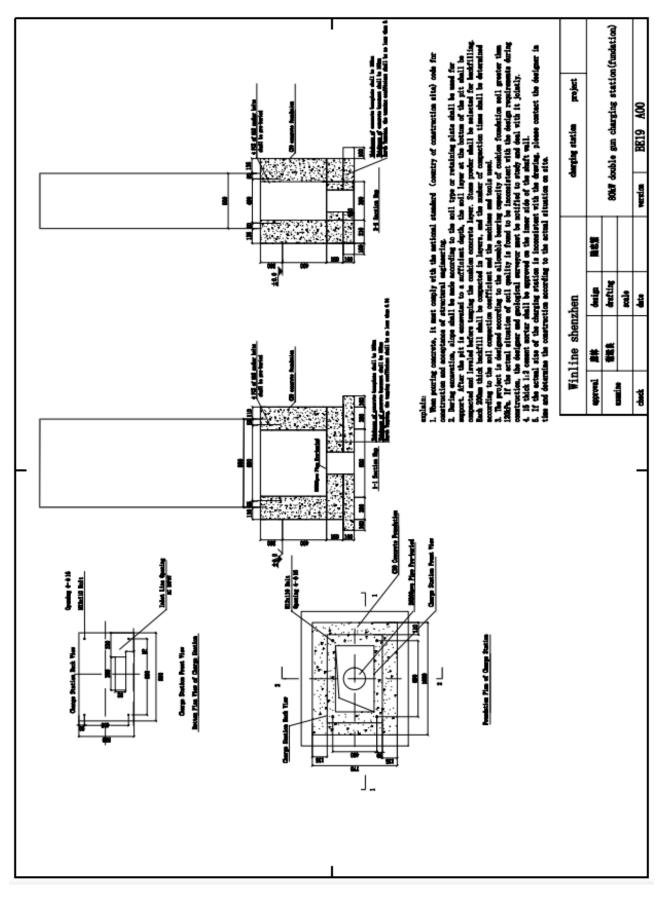






D. Charging station 160KW YLUXD160KE Foundation





F. Charging station 80KW YLUXD80KE Foundation