CHARGETRONIX

INSTALLATION GUIDE

Models : TP-V2G-20-480

DC quick charging stations Installation and operating instructions.
Please read all the instructions before installation and save them for future reference.

CHARGETRONIX

MANY THANKS!

Dear customer!

Thank you for purchasing the ChargeTronix product. Before using or operating this product, please read this manual carefully and keep it safely. The Company is not liable for any accidents caused by a breach of safety precautions or instructions in this manual. This product is live and should only be opened by instructed service personnel or a qualified electrician for service, maintenance or repair and fault handling to avoid electric shock.

ATTENTION

Our company will not assume any responsibility for power damage, personal injury, property loss or damage of charger caused by installation not in accordance with the instructions of this manual.

CONFIDENTIALITY

WARNING

This unit is a high-powered electrical device and can be hazardous if improperly installed, serviced, or operated. Failure to follow procedures in this manual could result in extreme hazard to personnel and/or damage to the equipment and related infrastructure. In addition, the installation, service, and maintenance need to comply with local codes and the Authority Having Jurisdiction (AHJ).

ELECTRIC SHOCK! - This charging station may be fed by more than one circuit breaker. The potential for lethal electrical shock exists whenever you access the interior of the station. Before opening the enclosure be sure that you disconnect all the correct breakers that feed power to the unit.

GROUNDING: This charging station must be connected to the service panel ground bar via an equipment-grounding conductor run with the circuit conductors and connected to the grounding block in the station.

OPERATING CAUTIONS: Ensure that the charging coupler is in the holster and the charging cord is positioned so it will not be stepped on, tripped over, or subjected to damage or stress. The charging station should be supervised by an adult when used around children. Do not put fingers into the charging coupler.

ADVERSE OPERATING CONDITIONS: Do not operate this charging station when the station or cable is loose, or visibly damaged. In this case contact an authorized Representative for service immediately. Do not use the charging station in temperatures outside its operating range of -4°F to 131°F (-20°C to 55°C).

CHARGETRONIX

CRITICAL SAFETY

READ THE ENTIRE MANUAL BEFORE DESIGNING OR INSTALLING EQUIPMENT

SERVICE WARNING

There are no serviceable items inside the equipment. There is high voltage inside the equipment which could cause severe injury or death. Do not attempt to repair the charge station yourself. This can only be performed by factory qualified personnel.

CHARGING CABLE DAMAGE

Do not operate the charger if the charging cable is damaged or if here are exposed wires in the charging cord assembly. Shut off power at the electrical disconnect or at the breaker. Then immediately contact ChargeTronix service. If there are any questions, please contact customer service.

SAFETY INSTRUCTIONS

Read the entire installation instructions before designing the installation and prior to installation. This equipment should be installed by a journeyman level electrician. Local building codes need to be complied with. In most jurisdictions the installation of this equipment requires plan check, building and electrical permits. Verify with the local Authority Having Jurisdiction prior to starting construction. The charging station relies on the grounding system for safety. All grounding instructions should be strictly adhered to as prescribed in this manual and any applicable electrical safety requirements, all local electrical safety codes, and NEC.

CRITICAL SAFETY READ THE ENTIRE MANUAL BEFORE DESIGNING OR INSTALLING EQUIPMENT

HIGH VOLTAGE EQUIPMENT:

This charging system should only be installed by a qualified electrician trained to work with high voltage, high current systems.

ADDITIONAL CAUTIONARY NOTES

WARNING

Do not have power on while any of the maintenance doors are open unless proper personnel protection equipment is worn.
Only trained personnel should be working in this equipment while the doors are open, and the unit is powered on.

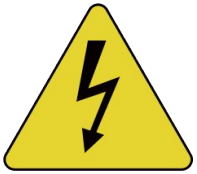
WARNING

There are high voltage and high-capacity energy storage components on this system. There are components and circuits that remain charged for some time (1 to 2 minutes) with high voltage power, even after main power is disconnected. Always test with a voltmeter before any maintenance or service is performed.

Only ChargeTronix authorized personnel are allowed to perform product repairs.

CHARGETRONIX

SAFETY INSTRUCTIONS: MARKING OF WARNINGS AND NOTES SYMBOLS AND SIGNAL WORDS.

	**DANGER**	High voltage danger label to keep people safe from electrical discharge, which could result in injury or potential death.
	WARNING	Warning icon represents hazard, that could result in severe injury or possibly death.
	GENERAL CAUTION	Caution icon represents a potential hazard or unsafe practice that could result in injury.

PRODUCT INTRODUCTION

Properties - Structure

- To control the charging process, a Linus computer with Intel Atom processor is used. Real-time communication, display, 32-bit high-performance embedded industrial processor as the control board are main characteristics.
- Multifunction smart meter (MID-compliant AC side), for measuring the amount of energy Contactless RFID card reader for authentication and sharing of charging
- OCPP 1.6 compliant
- CCS1 charging plug with approx. Five meters of cable
- Communication interface via Ethernet, GPRS (optional) for real-time communication with a backend server:
    - Network and manage charging stations
    - Administration of users, user groups, operators, institutions, hotels, etc.
    - Accounting - Settlement - Payments - Prepayment Management

CHARGETRONIX

PRODUCT FEATURES

Fast

- Max 20kW.Output amperage adjustable from 0A to 40A.

Smart

- Dynamic load balancing.

Simple

- Optimized installation and maintenance costs.
- Remote firmware update and troubleshooting.

Easy to use

- Easy to install, easy to maintain.

Reliable

- Considerate safety design in every situation.
- Reliable Charging in all scenes.
- IP54 protection from water and dust. (Only for cable version)

Profitable

- 7 inch high-definition screen.
- Payment by card.

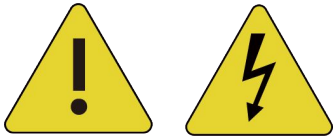
FEATURE DETAIL

Charging modules for AC-DC voltage conversion are connected to the control computer via a CAN interface. Soft switching technology, high efficiency, good electromagnetic compatibility, with input / overvoltage protection, output overcurrent protection, output overvoltage protection, output short-circuit protection, over-temperature protection and alarm function are the main features. The power modules can be interconnected in n+1 parallel operation.

CABLE CROSS SECTIONS AND ELECTRICAL CONNECTION

The cable cross-sections for the 3-phase AC input comply with the usual VDE installation instructions.

It is recommended to use copper wire,the wire should not less than 5*10mm² ,the protective earth cable must have a section,at least of 10 mm² or according to local codes.



Danger! The electrical connection may only be carried out by qualified personnel - danger to life!

CHARGETRONIX

TECHNICAL PARAMETERS

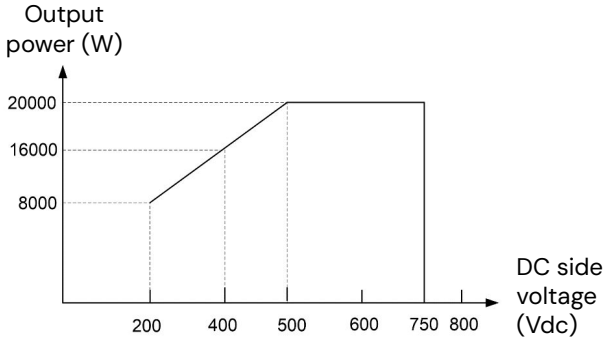
Product Number			TP-V2G-20-480
Environment	Operating Temperature		-4°F to 131°F (-20°C to 55°C)
	Working || Storage humidity		≤ 95% RH || ≤ 99% RH (Non-condensing)
	Altitude		< 6600ft (2000m)
	Cooling System		Air cooling fans
	Protective Class		NEMA 3S (IP54), IK 10
Charging mode	Input	AC input (V)	304Vac~485Vac((3P+N+PE),50Hz/60Hz
		FLA/Breaker	32A || 40A
		Power Factor	>0.98
		I THD	<5%
		Connector Options	CCS1 or CCS2
		Maximum Power	20KW
	Output	Output Voltage	200~750Vdc
		Output Current	0~40A
		Efficiency	>94% at nominal output power
		Charging Protocol	Mode 4, ISO-15118, DIN 70121
		Length of charging cable	16ft (5m)

TECHNICAL PARAMETERS

Product Number		TP-V2G-20-480	
Discharging mode	Input	DC input (V)	200～750VDC
	Output	AC output (A)	40A Max
		AC output (V)	304Vac～485Vac
		Frequency	50Hz/60Hz ±5%
		Efficiency	>94%
Other	Access Control		ISO ‖ IEC 14443A/B
	Dimensions (L x D x H)		26.38″×11.82″×29.53″
	Weight		90 kg
	Display		7″ Touch Screen
	Communication		Ethernet, Wi-Fi, 4G
	Interface protocol		OCPP 1.6J
	Surge protection		20 kA

CHARGETRONIX

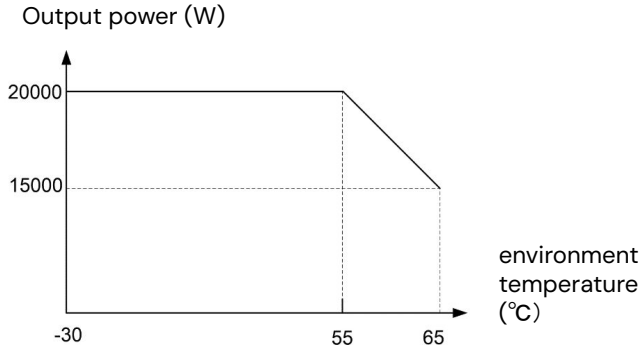
TECHNICAL PARAMETERS

Product Number	TP-V2G-20-480	
Electrical Safety	Electrical Safety General	Over Voltage, Under Voltage, Over Current, Missing Ground
	Electrical Safety: Output Short	Output power disabled when output is short circuited
	Electrical Safety Temperature	Temperature Sensors @ Charge Coupler and Power Electronics
	Emergency Stop	Disables output power with emergency stop button
Regulations	Compliance	UL-2202,UL2231-1/-2 || IEEE 1547 || EMC: EN 61000-6-1:2007, EN 61000-6-3:2007/A1:2011/AC:2012
Output constant power characteristics	The relationship between the output power of the charging pile and the DC side voltage.	

CHARGETRONIX

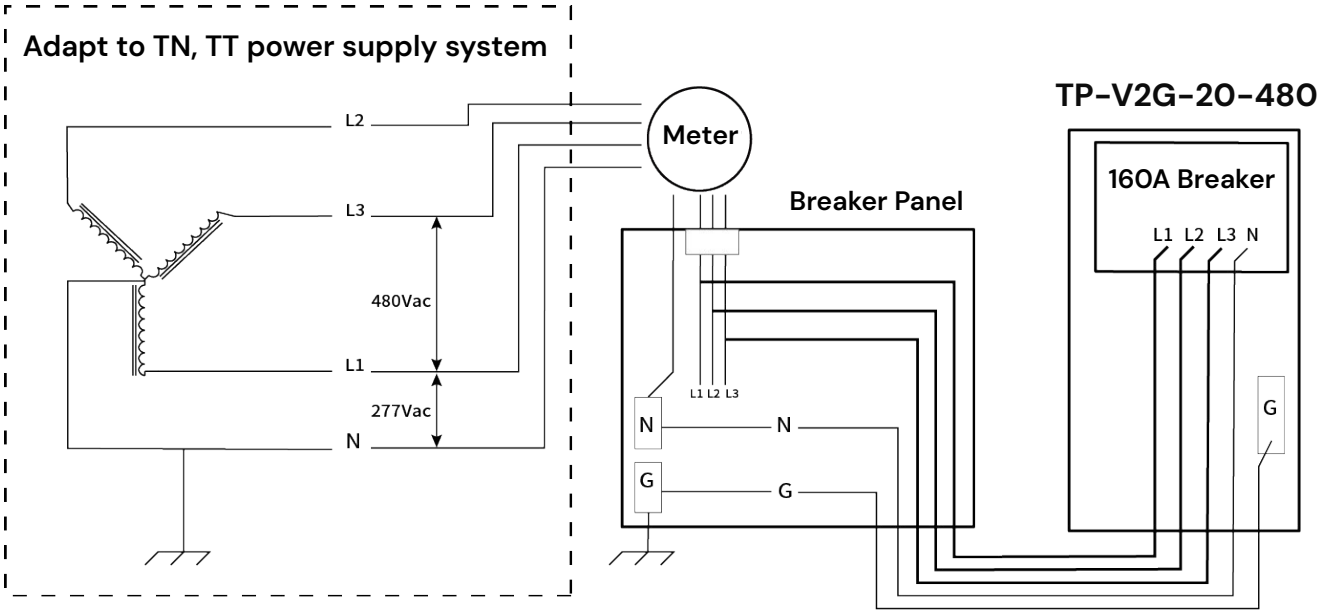
Modem Specs

Model	Region (Operator)	Network Type	<WMNN>: Cellular Type & Module	<WLAN/ NA>: WI-FI	<IO/S/NA>
IR302-FQ78-<WLAN/ NA>-<IO/S/NA>	North America AT&T, Verizon	LTE CAT4	FDD: B2/B4/B5/B12/ B13/B14/B66/B71 WCDMA: B2/B4/B5	WLAN: Wi-Fi <NA>: no Wi-Fi	IO: 2*IO S: 1*RS232 <NA>: no interface

Product Number	TP-V2G-20-480	
Temperature Derating Characteristics	Charging pile over-temperature derating curve.	

CHARGETRONIX

ADAPTED GRID SYSTEM



INSTALLATION CONDITIONS

1. The distance to other equipment should be at least 1 meter.
2. The device must be mounted on a concrete pad.
3. Installation Environment-4°F to 131°F (-20°C to 55°C).
4. Air relative humidity 5% - 95%.
5. Altitude: < 6600ft (2000m).
6. Weight: 90 KG.

UNPACKING

Before unpacking, make sure that the charger is in the direction indicated on the on the box.	Confirm that all components are in the package.	When unpacking, please handle with care.

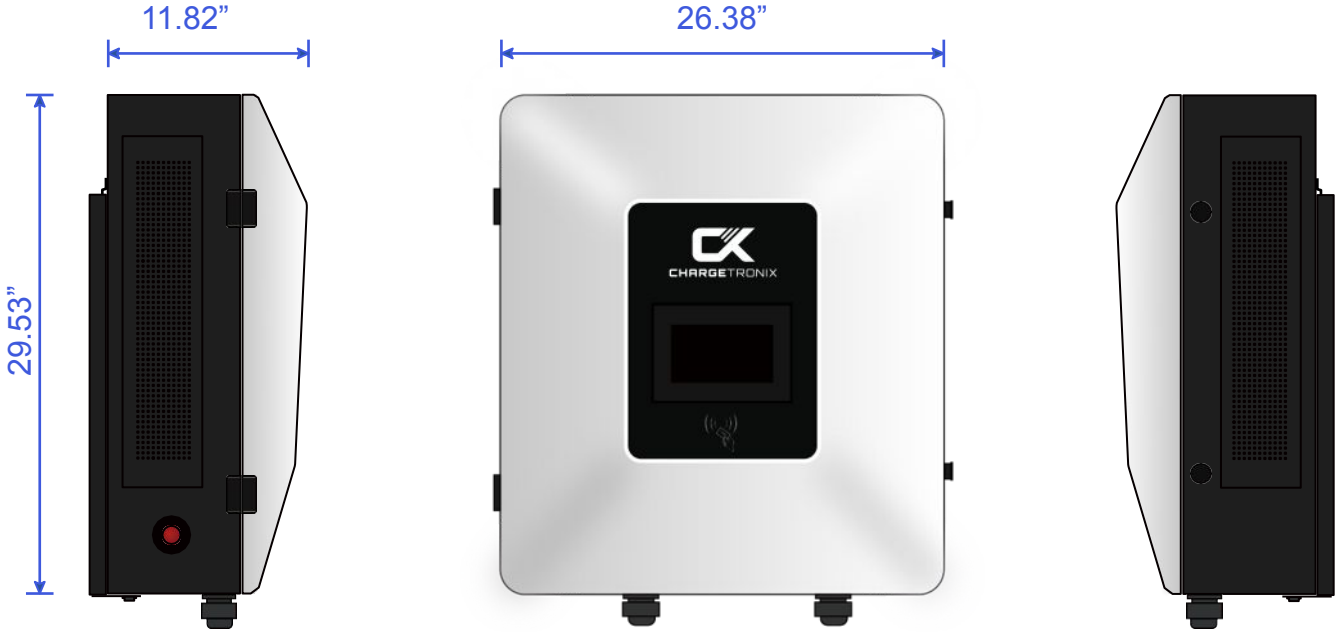
TRANSPORT

The transport equipment used must be able to support the weight of the loader.

Note During transport, make sure to keep the charger in the direction indicated on the case, never tilted or upside down.

CHARGETRONIX

OUTLINE OF DRAWING



BOX CONTENTS

Item	Quantity
Intelligent charger	1
Charging gun holder	1
Cable winder	1
Bolt M10 *120	6
Bolt M8 *70	4
Flat Head Screws M6*16	4
screw nut	4
Key	2
Charging Card	3
Certificate	1
Factory Test Report	1

Charging gun holder

Cable winder

Bolt M10 *120

Bolt M8 *70

Flat Head Screws M6*16

Screw Nut

Key

Charging Card

Certificate

Factory Test Report

CHARGETRONIX

INSTALLATION TOOL

The following tools may be needed

- Short driver handle (for standard bits).
- Right-angle driver ratchet (for standard bits).
- Set of SAE wrenches.
- Hole cutting drill bits to match conduit size.
- Spirit Level.

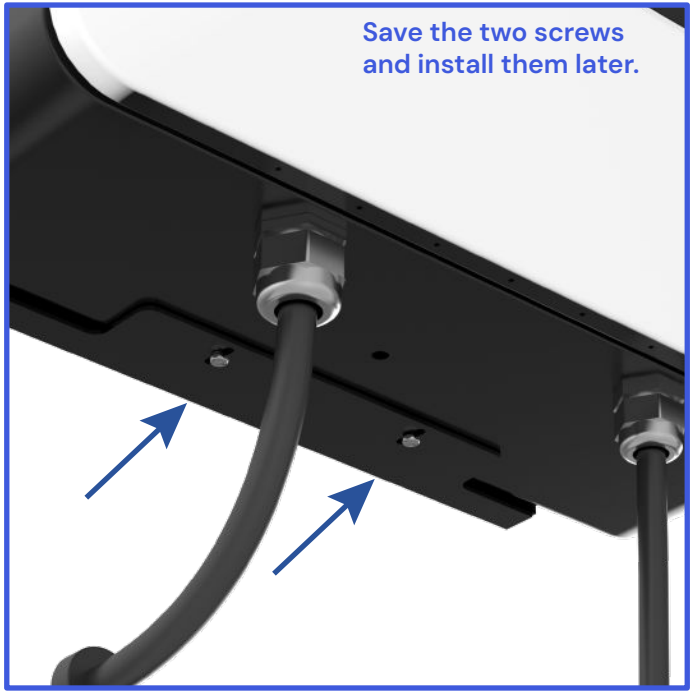
The following hardware may also be needed

- Wall anchors and fasteners.
- Washers.
- Pad mount concrete anchors.
- Anchor security hardware.

BOX CONTENTS

Step 1

After opening the package, unscrew the bottomtwo screws to remove the back panel.



Step 2

Fix the charging gun seat on the winder.

M6*16 flat head screws and nuts.

CHARGETRONIX

INSTALLATION TOOL

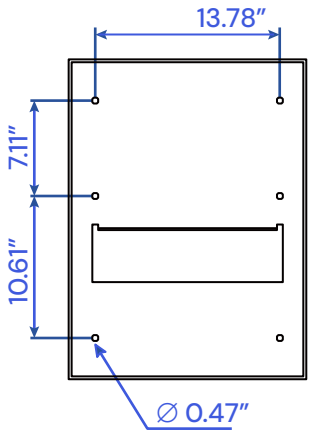
Step 3

Drill holes on the wall according to the hole position of the backplane and the cable winder.

Step 4

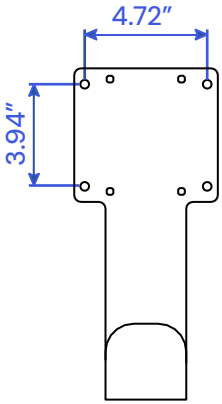
Fix the backboard and the cable winder on the wall, and tighten the expansion bolts.

Bolt M10*120



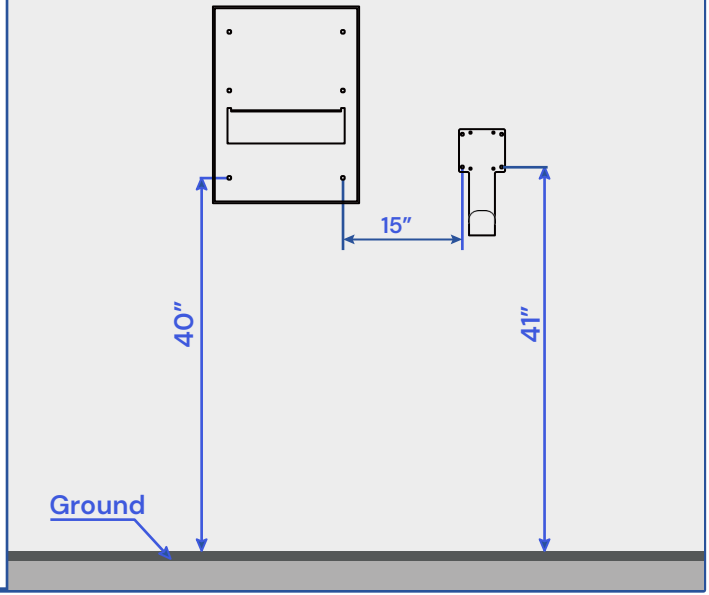
Drill a 0.47" diameter, 5.12" deep hole in the wall.

Bolt M8*70



Drill a 0.4" diameter, 3.15" deep hole in the wall.

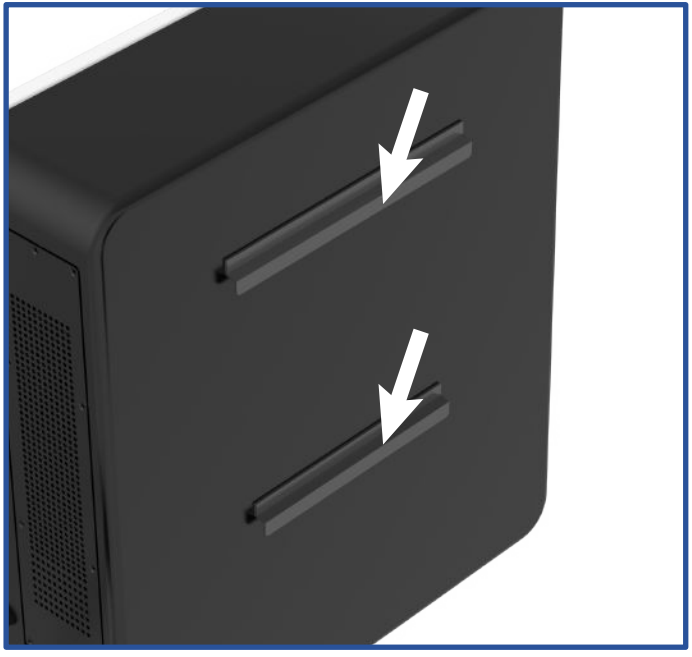
Recommended installation distance between backplane and cable winder.



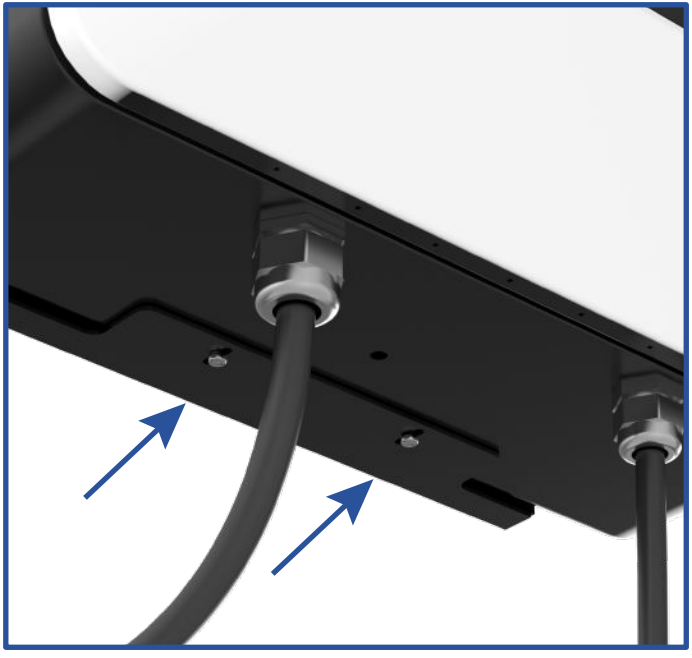
INSTALLATION TOOL

Step 5

Hang the charging pile on the back panel and align it with the upper hole.



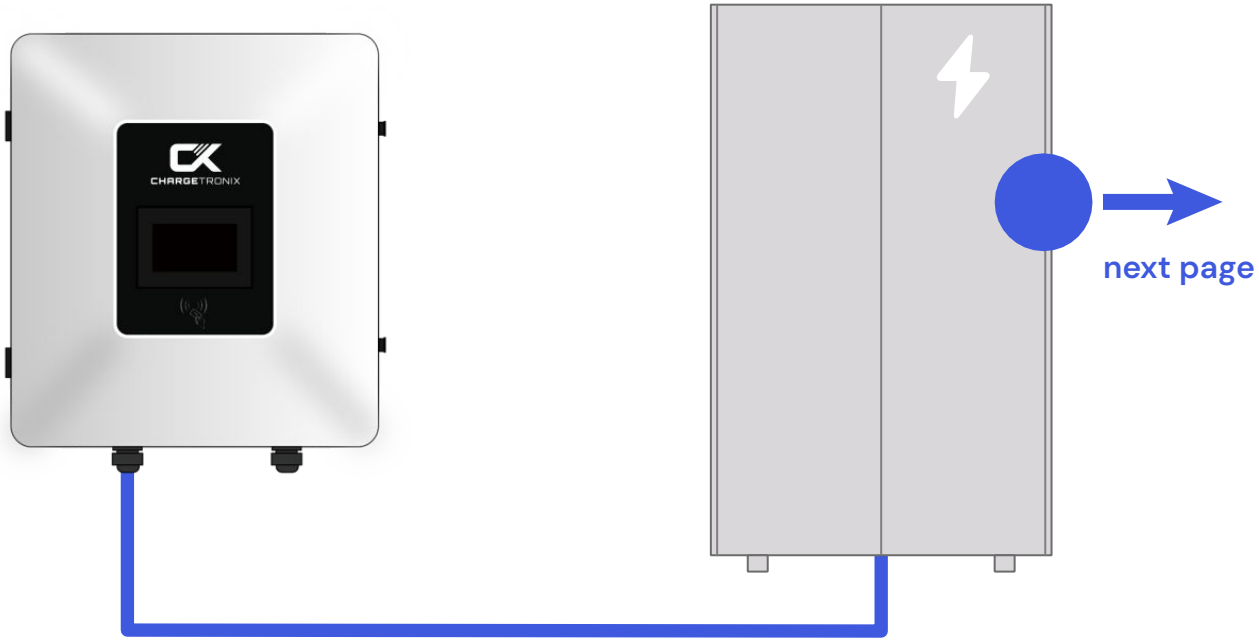
The bottom is fixed with the original screws.



INPUT CABLE INSTALLATION

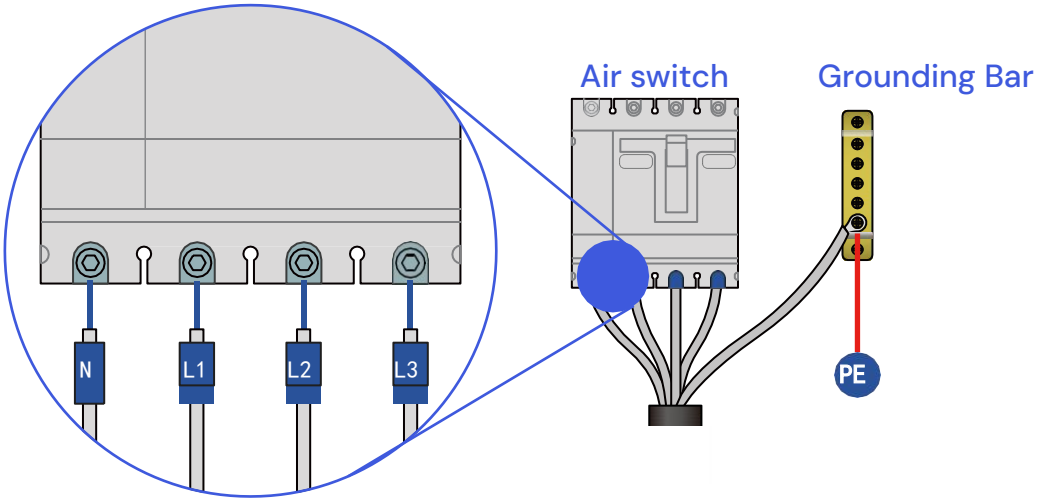
Step 5

The input cable is connected to the plastic case circuit breaker and grounding copper bar in the charging pile from the local power distribution network.



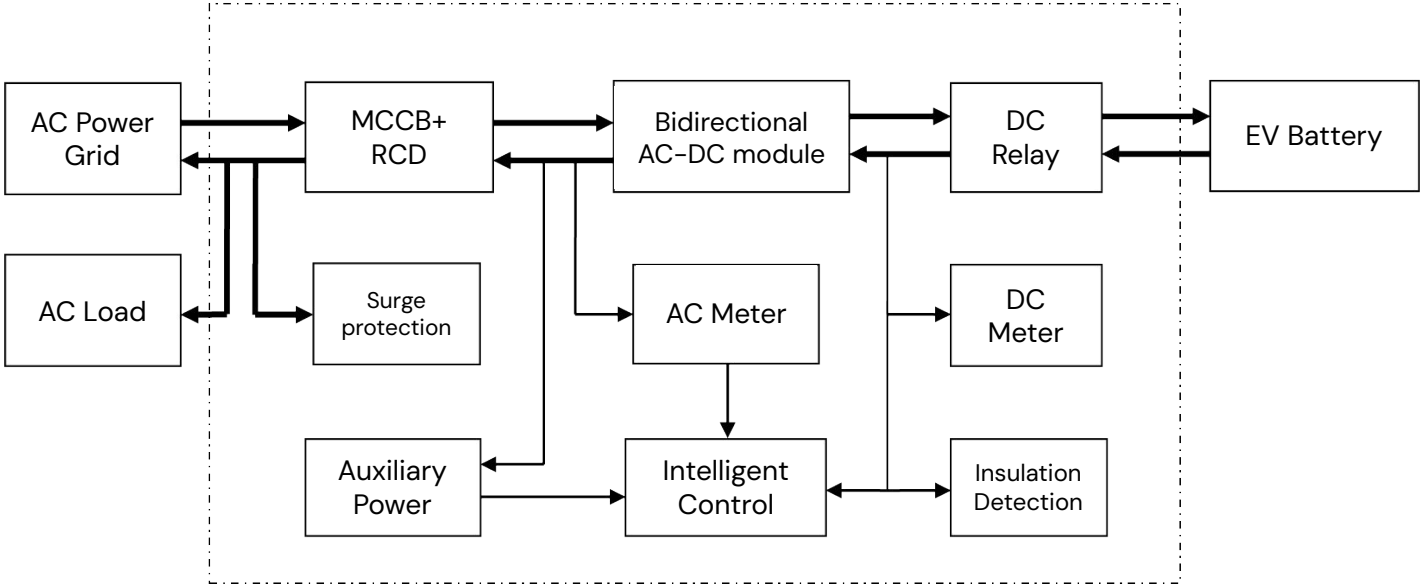
INPUT CABLE INSTALLATION

A 40A circuit breaker is used in the power distribution cabinet, and the wire diameter is greater than or equal to 8AWG.

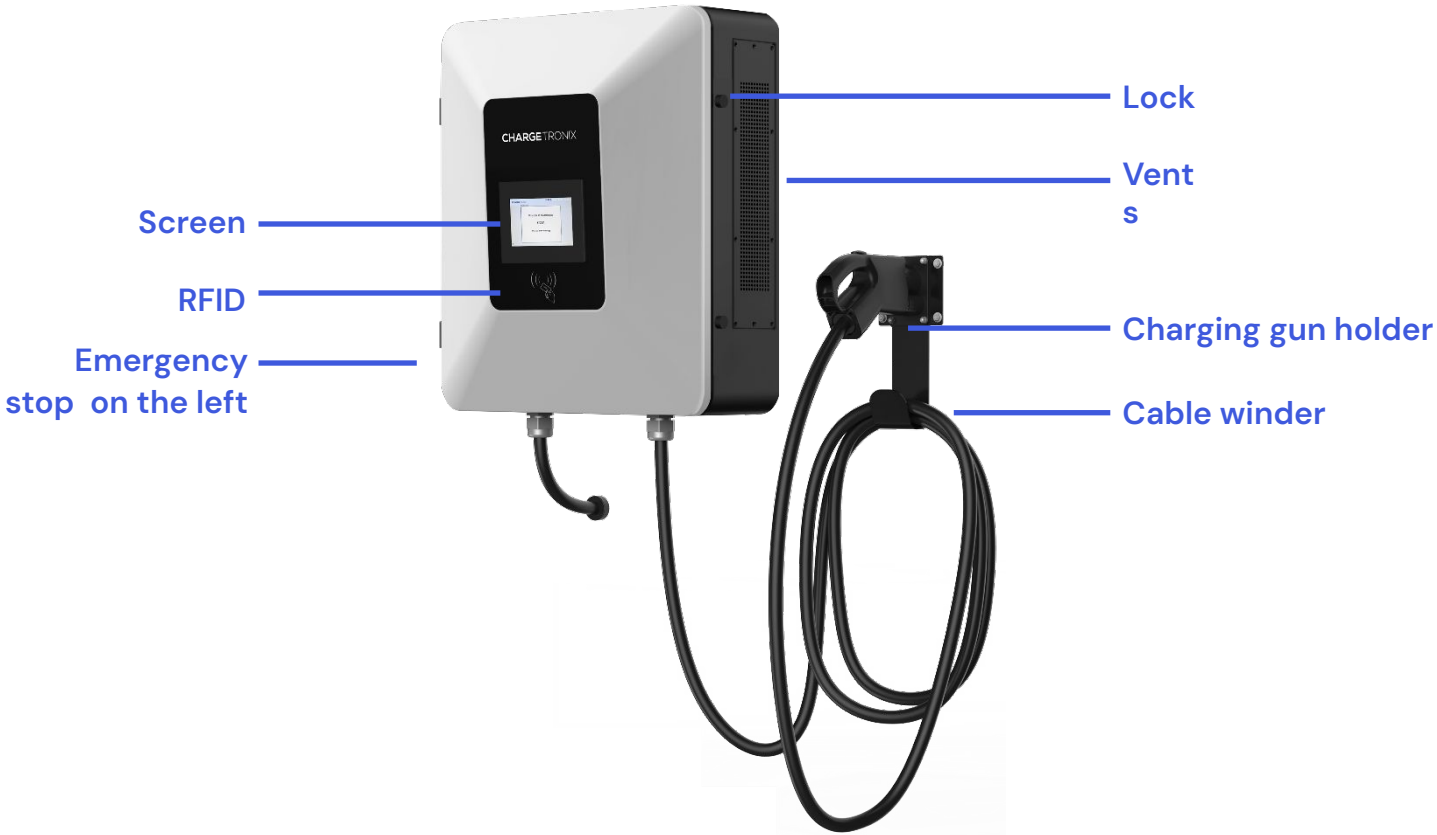


CHARGETRONIX

INTERNAL SCHEMATIC



FUNCTION DESCRIPTION



CHARGETRONIX

FUNCTION DESCRIPTION

Main control

1. **DC Charging Control:** During the DC charging process, the main control board dynamically adjusts the charging parameters (voltage, current, etc,) according to the data set by the vehicle's battery management system.
2. **Charging information:** During charging, the user will be shown data on how many volts and amps are being charged, the kilowatt hours already charged, as well as the current charging status of the vehicle' s battery and remaining charging time.
3. **Discharge information:** During the discharge process, the user will see the vehicle battery voltage, SOC, discharge current, discharged kWh, discharge time and other data.
4. **Fault monitoring:** Both input and output faults such as e. Over-undervoltage, overload current, main switch, contactor, charging current and charging voltage, fault currents as well as separation monitoring of the charging connection, communication interruption, etc.
5. **Security protection:** Charger has a leakage current monitoring and lightning protection monitoring.

Control board functions

1. Display of the output function:

a. Real-time display of charging or discharging process
b. Displays error messages.
c. Can display the relevant user information during the loading process（only when connected to a back-end management system)

FUNCTION DESCRIPTION

2. OCPP communication interface.

The Linux control unit communicates with a connected backend system via OCPP 1.6 protocol.

3. Parameter settings.

Underutilized service personnel, password-protected, can configure the machine parameters in the settings environment.

4. Self-test.

a. The charging station performs a self-test at power-on which checks the power supply, system units anda.communication intertaces, if the charging station is connected to a backend server, the time is also svnchronized with the server and the stored charging information is transmitted to the server and stored.

b. Detected error information is stored.

5. Data transmission and storage.

a. Data transmission

The charging station optional 4G, which stores the charging status and the cache data when connected to a backend server transmits to the backend server via OCPP 1.6

b. Storage

The transaction data is recorded in the internal memory.

6. Billing function (optional).

The charging station sends the consumption information to the server in order to be able to create billing when using the ChargeTronix backend system.

CHARGETRONIX

FUNCTION DESCRIPTION

7. Control function

The load monitoring unit provides a variety of control functions, e.g. constant current limit, voltage, power, etc.

8. Event logging feature

List of loading errors, start/end time, etc. are real-time recordings, data memory with hold function in case of power failure.

9. Administrator

The charging station can be parameterized by the administrator-password protected. Setting parameters. Eg IP address, charging current limit, voltage limitation etc.

10. Zeitsynchronisation

List of loading errors, start / end time, etc. are real-time recordings, data memory with hold function in case of power failure.

Operating instructions

- If the charging station indicates a fault, charging is not possible, Please contact the employees of the manufacturer or operator.
- In networked mode, the system detects if the RFID user card has enough credit, If there is not enough crediton the card, this message will be shown on the display and charging will be denied.

FUNCTION DESCRIPTION

- Please pay attention to the instructions of the charger
- The charging cable can only be removed from the vehicle charging socket if it has been unlocked on the vehicle before.
- In an emergency, press the emergency stop switch! The charging process is interrupted immediately and a message appears on the screen.

Emergency Stop Switch Instructions

- For initial start-up, check that the emergency stop switch is not activated.
- If an abnormal condition occurs, such as Fire or electric shock, immediately press the emergency stop button.

CHARGETRONIX

CONFIGURATION PARAMETERS

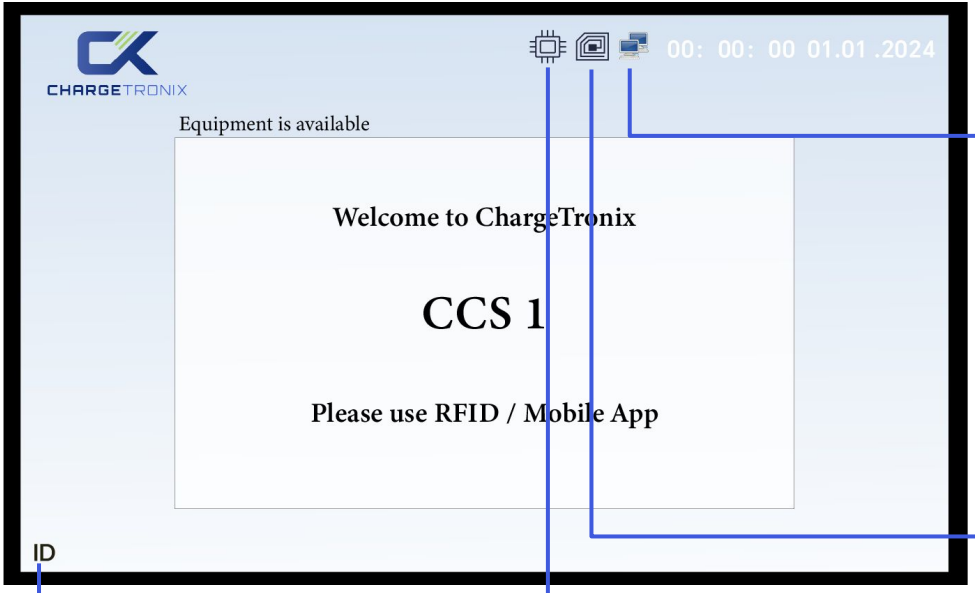
During the initial installation, the setting parameters must be set by the manufacturer, the operating partner or the service partner. Changes may only be made by trained specialist personnel.

Table 3: Parameter settings Description table

Configuration items	Description	Remarks
Server IP	IP address of the server	for backend connection
Server port number	The port number of the server	for backend connection
Devices IP	IP address of the device	for backend connection
Local router parameter configuration	Specify the router gateway, subnet mask	/
QR code	For payment app	For payment app
serial number	/	factory set
language selection	Configure the device language	English、Spanish

CONFIGURATION PARAMETERS

For models with touchscreen is configured via this: (only after previous training by the manufacturer)



Click the "logo" to enter the background login interface.

The icon indicates if the cradle is connected to a server network if no network is connected, the station works as a stand-alone device with ChargeTronix RFID cards.

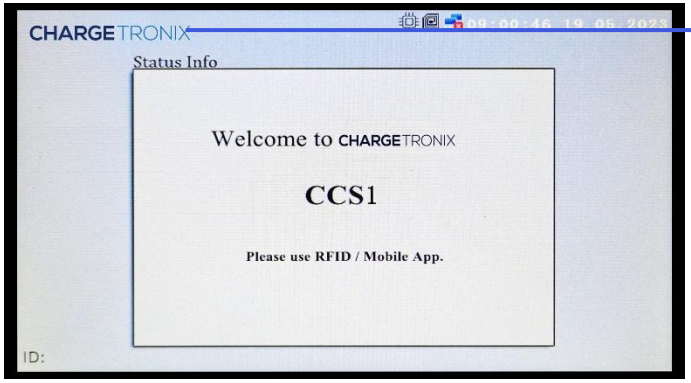
The network is connected, it can only be unlocked with registered RFID cards.

Card version

CM board

The lower left corner of the screen shows the device number.

CONFIGURATION PARAMETERS

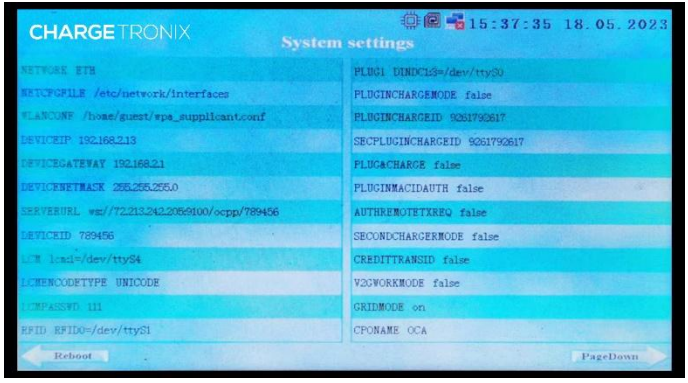


Click the "logo" to enter the background login interface.

Enter the password "111" to enter the background configuration parameter page.

CONFIGURATION PARAMETERS

Click "System Settings" to start configuring parameters.



CHARGETRONIX

CONFIGURATION PARAMETERS

- If you need to connect to other platforms, you need to change the following items, and change the corresponding parameters according to your needs.
- DEVICEID : Refer to charging pile nameplate.

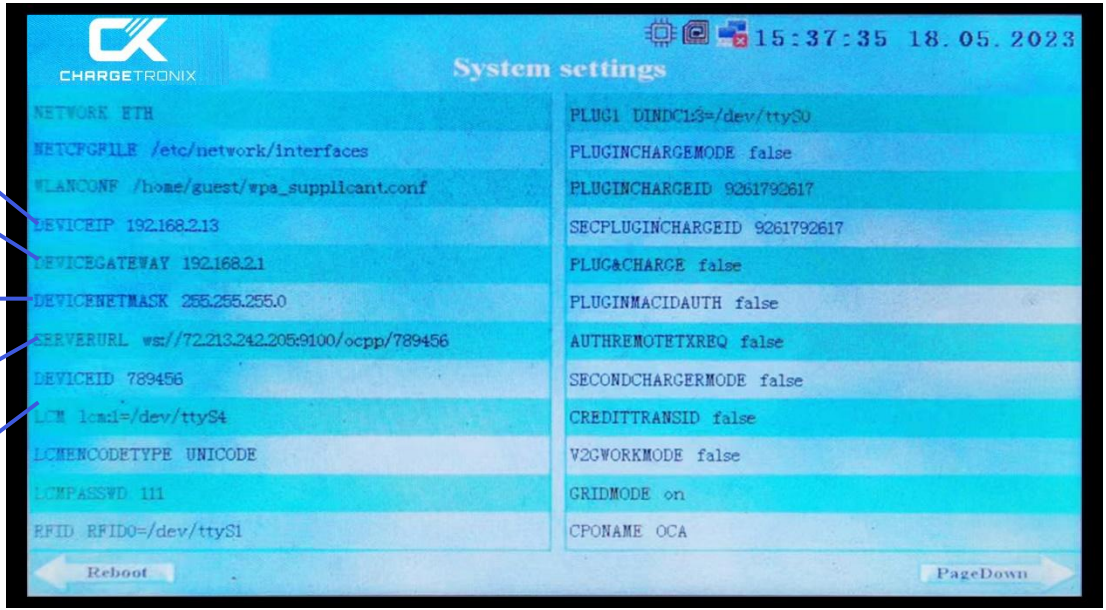
DEYICEIP

DEYICEGATEWAV

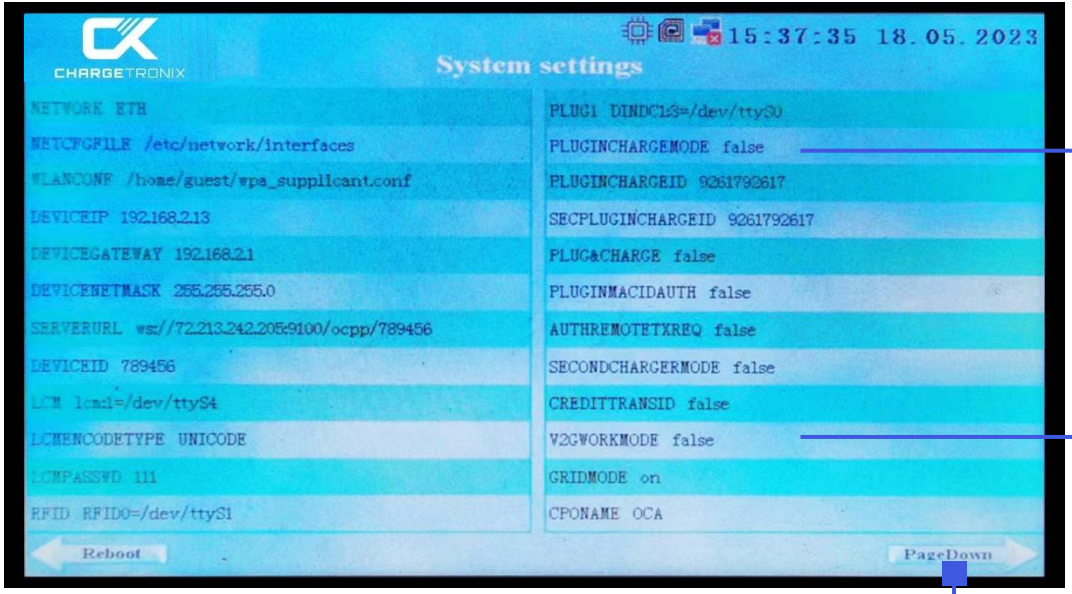
DEYICENETMASK

SERYERURL

DEYICEID



CONFIGURATION PARAMETERS



PLUGINCHARGEMODE

You can choose to open or close. If you choose to open you need to click and enter “true” and then click “reboot” in the lower left corner to write successfully.

V2GWORKMODE

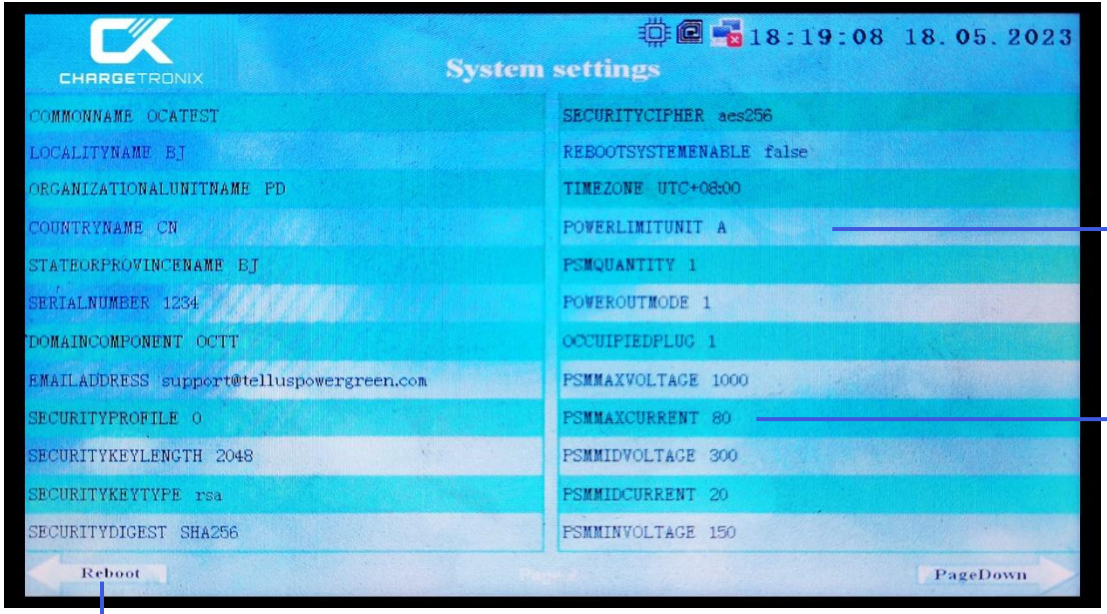
You can choose to open or close. If you choose to open, you need to click and enter“true”and then click ”reboot ”in the lower left corner to write successfully.

Click “PageDown”

CHARGETRONIX

CONFIGURATION PARAMETERS

Two ways to limit power——Limit current



1 Limit current

Click “POVERLIMITUNIT”

▼

Enter the capital letter "A"

▼

Click “PSMMAXCURRENT

(limit the maximum current according to the parameters written on the nameplate of the charging pile)

▼

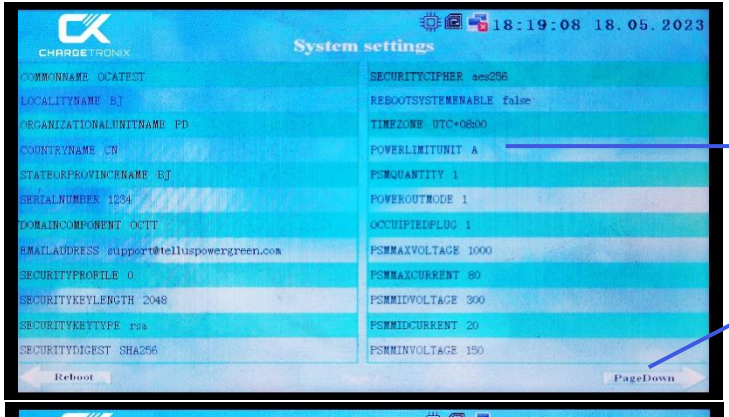
Click "reboot"

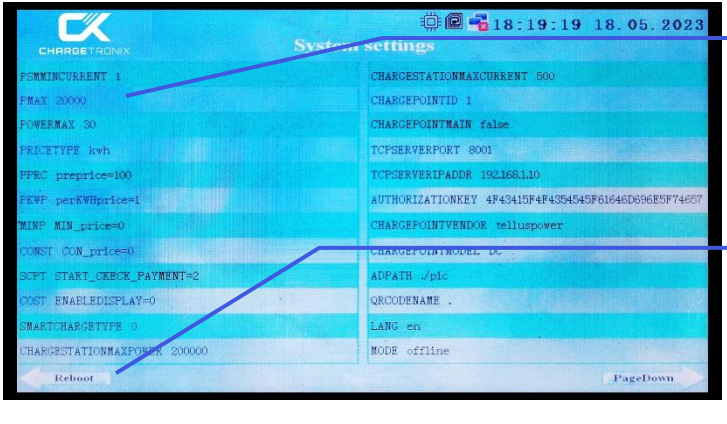
▼

Write successfully.

CONFIGURATION PARAMETERS

Two ways to limit power——Limit power





2 Limit power

Click “POVERLIMITUNIT”

▼

Enter the capital letter“W"

▼

Click “PageDown”

▼

Click “PMAX”

(Set specific parameters according to the charging pile module. Note that the unit is W).

▼

Click "reboot"

▼

Write successfully.

CHARGETRONIX

ERROR MESSAGES

Error Code	Error	Action
0	The emergency stop button is pressed.	Check if the emergency stop button is pressed, if this is the case please follow the instructions above on the screen
1	Insulation check failed	Check whether there is a short circuit or water in the gun head or the car end interface.
2	Insulation monitor communication abnormal	Check whether the auxiliary power supply is stable.
6	Smart meter communication error	Please check the parameter settings. If necessary, enter the address again and restart the charging station.
11	Connector head overheated	Check the connection between the connector and the car. Make sure they are properly connected.
/	AC input overvoltage / undervoltage	Please check the AC input side. Check if the parameters are set correctly.
/	DC output overvoltage / overcurrent	Please check whether the output voltage and the current are in the range of the parameterization. If not, please check whether the parameterization makes sense.

ERROR MESSAGES

Error Code	Error	Action
/	Charging process can not be stopped	Please stop charging on the vehicle side - depending on the vehicle. B. via the fuel filler flap unlocking or a loading button in the center console.
/	Card reader does not work	The card reader is wired incorrectly or the card reader is disabled.
/	Screen inactive	Check whether the communication line to the graphics calculator is correct.
/	Charging cable connection error	Please check if the charging cable is connected.

Danger! The electrical connection may only be carried out by qualified personnel-danger to life!

- Remove the charging station from the mains.
- Check the cable connections from the control board to the power modules for proper fit.
- Put the charging station back into operation.

CHARGETRONIX

WARRANTY

Warranty and Service Plan

ChargeTronix DC chargers comes with the 1 years parts only standard warranty(actual warranty length is subject to sales contract). However, we offer service plans which covers parts and labor as well for an additional add-on fee. We can train your operators or engineers and equip with basic understanding of the troubleshooting and part replacement to make sure the equipment downtime as well as total cost of ownership is minimized.

Warranty Terms

LIMITED WARRANTY: Subject to the exclusions from warranty coverage set forth below, ChargeTronix warrants that the Product will be free from any defects in materials and/or workmanship (the "Limited Warranty") for a period of one year after 30 days from the date of shipment or from date of the initial installation whichever is earlier (the "Warranty Period"). If the Product becomes defective in breach of the Limited Warranty, ChargeTronix will, upon written notice of the defect received during the Warranty Period, either repair or replace, at ChargeTronix's choice, the Product if it proves to be defective. ChargeTronix will also pay for shipping charges for the failed part. If the returned part has not failed the customer will pay for shipping charges for the replacement part and the associated returned part. Under this guarantee, ChargeTronix liability is limited to repair or replacement of the product with the same or equivalent, or reconditioned product warranted for the original warranty period. The warranty will not include removal costs, reinstallation costs, loss of charging station revenue, nor loss or damage of any kind whatsoever, whether incidental, consequential, or otherwise.

WARRANTY

Exclusions From Limited Warranty

IMPORTANT: The Limited Warranty and on your Product shall not apply to defects, or service repairs, resulting from any of the following:

- Damages due to normal wear and tear to charging cords, connectors, LCD/LED display, Touch Screen, or any product alteration or modification, misuse, abuse, accident, vandalism, acts of nature, power surges, or use of software, parts, or supplies not supplied by ChargeTronix, and causes other than manufacturing defects not covered by the warranty.
- Force Majeure – any occurrence or extraordinary event or circumstance beyond the control of ChargeTronix that is an act of God or whether that occurrence is caused by war, riot, storm, (such as hurricane, flooding, earthquake, volcanic eruption, etc.), or other natural forces, including high input voltage from generators or lightning strikes or acts of nature or other causes.
- Any Alteration or Modification of the Product in any way not approved in writing by ChargeTronix.
- Abuse, damage or otherwise being subjected to problems caused by negligence (including but not limited to physical damage from being struck by a vehicle) or misapplication, or misuse of the Products by customers or end users.
- Any damage to the EV charger cord, unless such damage is caused by a manufacturing defect in the cord or connector assembly.

CHARGETRONIX

WARRANTY

Exclusions From Limited Warranty

- Improper site preparation or maintenance. That has been improperly installed, operated, handled, or used, including use underconditions for which the product was not designed, use in an unsuitable environment, or use in a manner contrary to the ChargeTronix Installation and Operations Manual or applicable laws or regulations.
- Damage because of accidents, extreme power surge, extreme electromagnetic field.
- Use of the Product with software, interfacing, parts or supplies not supplied by ChargeTronix.
- ChargeTronix disclaims any liability for damage to product, property, or personal injury resulting in whole or in part, from improper installation, maintenance or use that is not in accordance with ChargeTronix installation and maintenance procedures.
- Maintenance or use that is not in accordance with ChargeTronix installation and maintenance procedures.
- That has been subjected to incidental or consequential damage caused by defects of other components of the electrical system.

CUSTOMER RESPONSIBILITIES

1. To operate the charge station with the required protective devices such as MCBs and switches and proper cables installed.
2. The operator/owner/customer is cautioned that any changes or modifications not approved by ChargeTronix shall void ChargeTronix warranty policy.
3. To write an emergency plan that instructs people what to do in case of emergency.
4. To locate and prepare the site as per the instructions laid out in this document.
5. To make sure that there is sufficient space around the charger to carry out any regular maintenance work.
6. To appoint a trained person(s) responsible for the safe maintenance/service of the charge station.
7. Neither ChargeTronix nor any of its affiliates shall be liable to the operator/owner/customer of this product or third parties for damages, losses, costs, or expenses incurred by as a result of: an accident, misuse or abuse of this product or unauthorized modifications, repairs or alterations to this product, or failure to strictly comply ChargeTronix operating and maintenance instructions.

CHARGETRONIX

CONTACT US

This document is Property of ChargeTronix and should not be copied, reproduced, or used as the basis for sale or manufacture of apparatus without the written permission of ChargeTronix.

For any support on installation and commissioning, please contact below:

+(1)949-694-1644
www.chargetronix.com
support@chargetronix.com

3587 Harbor Blvd
Costa Mesa, CA 92626