ETEC

OCPP-1.6J Protocol Controller

EKEPC3 Charging Station

USER MANUAL

Ver. 3.0.1

ZHEJIANG ETEK ELECTRICAL TECHNOLOGY CO.,LTD.

1 Summary

1.1 This product is designed with three working modes: master mode, slave mode, and master-slave mode, which can be freely switched. Software upgrades can only be performed in either master mode or master-slave mode. The product model is EKEPC3-MS.

1.2 Cloud communication protocols can be selected to support: OCPP-J-1.6/OCPP-J-2.0.1(The current controller is not currently supported.), three network connection protocols: HTTP (TCP/IP) FTP and MQTT can be switched, with HTTP being the default. The network connection methods are: WIFI, Ethernet, 2G/4G signal strength can be displayed intuitively, and support Bluetooth connection to APP or mini program functions.
Backend connection: WS or WSS station.

1.3 All versions of the software must be backward compatible, with regular automatic retrieval of the latest version and automatic downloading and upgrading functions. The software should be updated every 24 hours (00:00 every day) or after each startup and restart to automatically check if there is a new version number in the background. If there is, it should be downloaded and updated automatically. Updating is not allowed during charging, and the device can only be updated and restarted when it is in the "Available" state.

1.4 Can be connected to SECC (PLC) and can run the ISO15118 protocol.The current controller is not currently supported.

1.5 The local settings of this product also include various customization options such as intelligent charging and appointment charging Intelligent charging solution.

1.6 This product is energy-efficient, environmentally friendly, easy to use, highly intelligent, fully functional, and user-friendlyBy configuring your charging habits and other advantages, the product has a wide range of applications and is safe and reliable.

1.7 Working power supply: AC 170V-260V 50/60Hz, power consumption ≤3W.

1.8 Working temperature range: -25°C~55°C degrees.

1.9 Relative humidity: <95%.

1.10 Sea level: 2000m.

2 About the manual

2.1 Instruction for use
The instructions contain all the information need for debugging and using the controller only the staff with electrical technology can.

2.2 This manual is valid for all parts of the charging pile controller

2.3 This product is based on international standards IEC61851 and SAEJ1772.

2.4 Note:SAEJ1772 is a standard for electric vehicle chargers proposed by the Society of Automotive Engineers.

2.5 The material of the controller has environmental compatibility and can be recycled. In order to meet the environmental protection requirements, please contact a certified professional company that specializes in handling such waste to deal with electronic waste.

3 Safety instruction

3.1 Note: please follow the safety instructions and legal guidelines.

3.2 Due to the different installation requirements in different countries and regions, the installation personnel are responsible for ensuring that the product installation can meet the local legal requirements.

3.3 Contact with live components will cause serious injury. Please cut off the power supply of all systems and devices before operation.

3.4 Warning: improper fusing may cause heat or fire, The internal self-resetting fuse is only used to protect the controller, and the installation personnel are responsible for the safety of the circuit.

3.5 It is not allowed to repair, and the defective device shall be disposed (abandoned) under the condition of meeting the environmental protection requirements.

3.6 Warning: opening the device without permission can cause danger.

3.7 Opening the device without permission may cause harm to the user or cause significant damage or property loss.

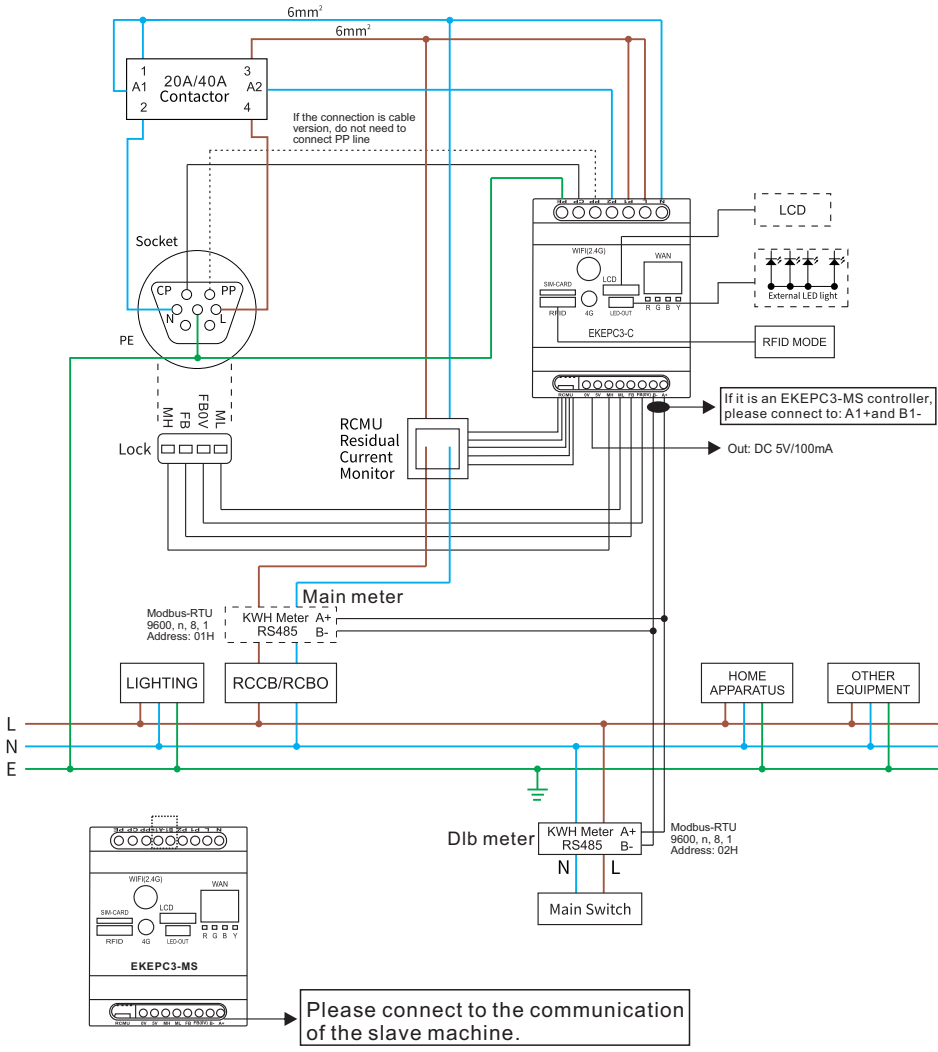
3.8 Note: if the device is changed in violation of regulations, the manufacturer's warranty will be invalid.

3.9 Any unauthorized changes will void the warranty.

4 Application schematic diagram

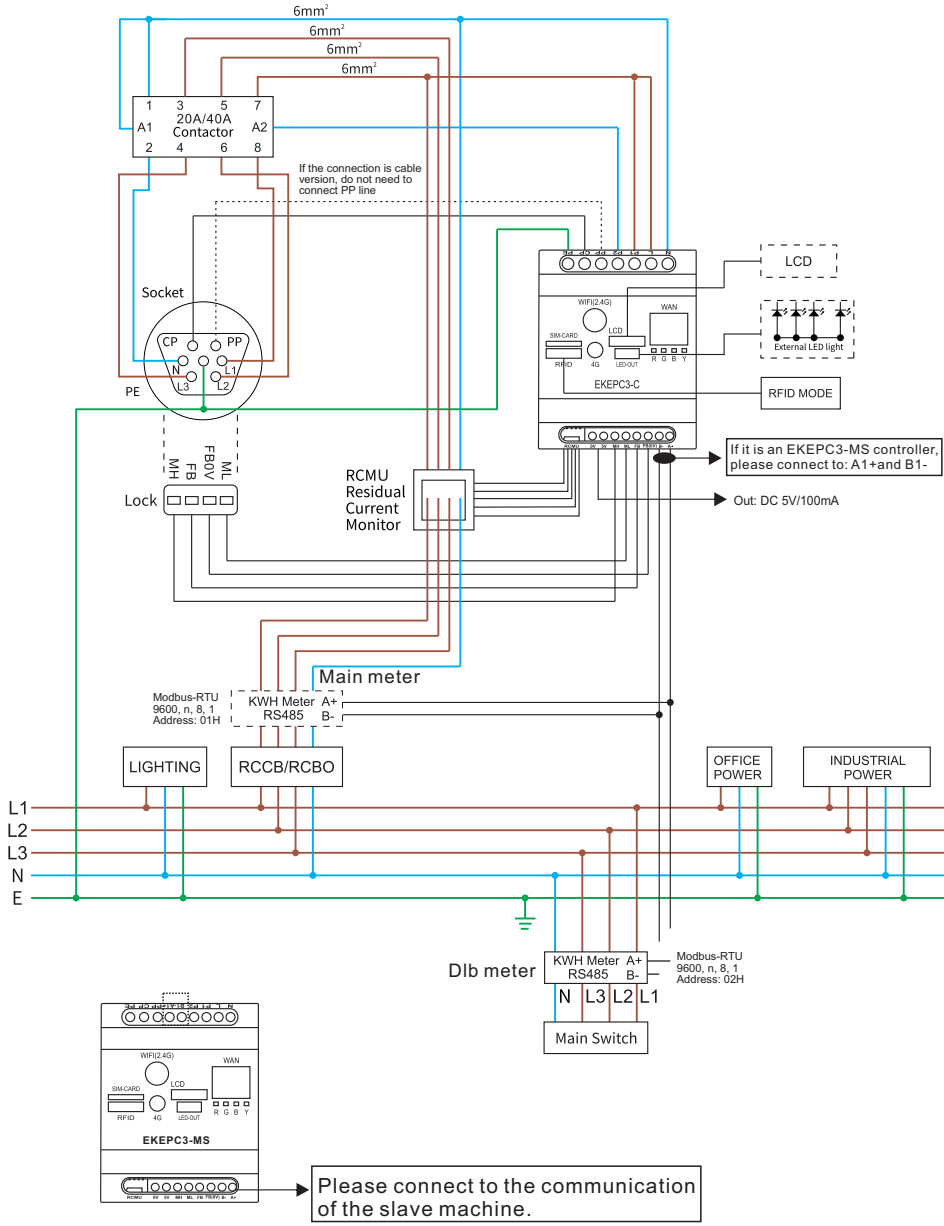
Single Phase

Wiring example 230V AC

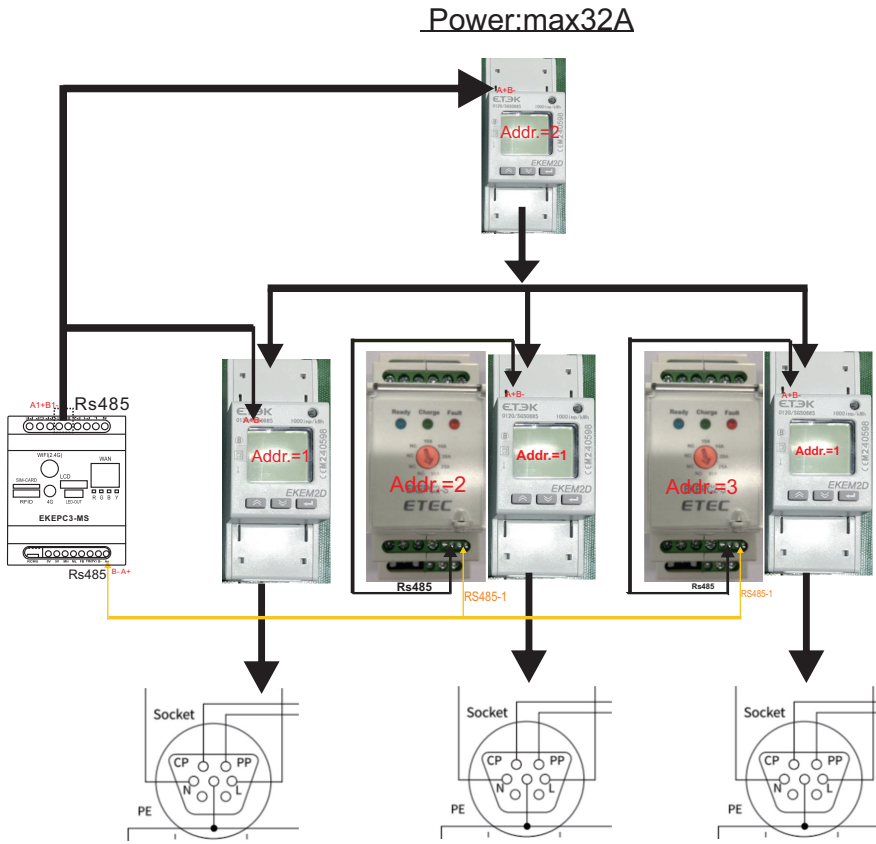


Three Phase

Wiring example 400V AC



EKEPC3-MS communication connection diagram for master-slave mode



Socket:1# Socket:2# Socket:2#

When the DLM function is turned on, the charging power is automatically distributed. If two charging ports work at the same time, the output current is evenly distributed!

The operating current of One charging port is:max32A

The operating current of Two charging port is:16A

The operating current of Three charging port is:10A

5 Guidelines for using the controller EKEPC3

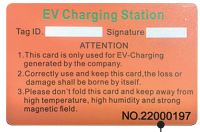
5.1 Connect the circuit correctly, connect the product power, and turn on the power. It takes about 20 seconds to start. After startup, flash the network configuration dedicated card so that the controller device can generate hotspot signals. If you lose this card, please contact the manufacturer or dealer.

5.2 The IC cards supported by this controller are non-contact IC cards, 13.56MHz, and the protocol standard is ISO14443AM1, IC-UID, IC-CUID, IC-FUID, IC-UFUID and other types of cards.

5.3 If a card issued by our company is used, the TagID number of the card has been written on the card when it leaves the factoryMark the written TagID number (9-digit decimal).

5.4 If you are using your own blank IC card, The RFID module will read the fixed serial number inside the cardAs a TagID number (7-bit/8-bit/14 bit hexadecimal card number).

5.5 If RFID function is used on your controller, it needs to be installed locally on the device or in yourAdd the TagID you use on the OCPP operation backend to add it to your TagID list.

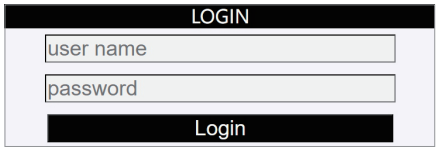


TagID

Swipe card

5.6 Use devices that can receive wireless network signals (such as mobile phones, laptops, etc.) to searchfor a wireless local area network (name: **OCPP_XXXX**, password: **88888888**)

5.7 Open the browser and enter the address bar in the browse IP adress:192.168.4.1,enter the local webpage login interface.

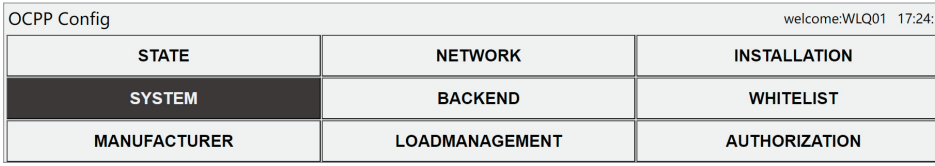


Enter the local web page access rights, the factory default is

User	User name	Password
Manufacturer permissions	WLQ01	40000003
Dealer privileges	etec	88888888
General user privileges	user	88888888

5.8 Login operation page

5.8.1 The interface of the local webpage logged in as a manufacturer is described in sections 5.1.8.1.1~5.1.8.1.9



5.8.1.1 This page shows the working status of the charging pile and the relevant operating parameters.

STATE

Chargepoint ID Chargepoint identifier.	etec03
Backend State Connection with the backend.	Connected
Chargepoint state State of the charging point (Available; Charging...).	Charging
Charging Time Actual charging time (hh:mm).	03:09:19
WLAN IP Assigned IP address for the wireless connection.	192.168.1.10
LAN IP Assigned/Static IP address for the lan connection.	192.168.1.232
Access point operator 4G Access point operator name.	"3gnet","",""
Voltage L1 (V) Phase L1 Voltage in Volts measured by OCPP meter.	236.1
Voltage L2 (V) Phase L2 Voltage in Volts measured by OCPP meter.	0.0
Voltage L3 (V) Phase L1 Voltage in Volts measured by OCPP meter.	0.7
Current L1 (A)	-1.0
Current L2 (A) Phase L2 Current in Amperes measured by OCPP meter.	-1.0
Current L3 (A) Phase L2 Current in Amperes measured by OCPP meter.	-1.0
Power (W) Computed power consumption in Watt from OCPP meter.	-1
Energy (kWh) Computed energy consumption in kWh.	-1.0
Output current limit (A) The maximum charging current in Amperes set by the operator.	32
Signaled Current (A) Signaled current from the charge point to the vehicle.	32
DLB Max (A) The maximum current of the second meter set by the operator.	45
Dlb(A-L1)(A) Phase L1 Current in Amperes measured by DLB meter.	0.0
Dlb(A-L2)(A) Phase L2 Current in Amperes measured by DLB meter.	0.0
Dlb(A-L3)(A) Phase L3 Current in Amperes measured by DLB meter.	0.0
Temperature (C°) Current temperature measured by the charge controller.	30
Contactor Cycles Total number of contactor switchings.	29
Plug Cycles Number of times the plug has been inserted.	27
Charge contoller serial Chargepoint serial number.	FC107E010000122C180C

Import & Export | Save & Restart | Save

5.8.1.2 Please select the correct network environment you are connected to

NETWORK

Ethernet (LAN) Enable/Disable Ethernet communication.	Enable
Wifi (WLAN) Enable/Disable Wireless communication.	Enable
SIM - 4G Enable/Disable GSM communication.	Enable
DHCP Mode for ethernet configuration.	AUTO → ①
Static IP Address Static IP address.	192.168.1.100
Subnet Mask Subnet mask.	255.255.255.0
Default Gateway Default gateway.	192.168.1.1
DNS DNS.	192.168.1.101
SSID Wifi network name.	ETEC8888
SSID Password Wifi password.	
APN 4G Access point name format:"APN","UserName","Password"	"3gnet","",""

② → (Static IP Address, Subnet Mask, Default Gateway, DNS)

① If you want to specify the IP address for the Ethernet connection, please select Static IP

② These options are only required when DHCP selects StaticFill in correctly and completely

5.8.1.3 Determine the main parameters of the installation of the charging pile

INSTALLATION

Chargepoint type Type of chargepoint.	Public → ①
Chargepoint connection mode The connection mode of the chargepoint. When there are multiple chargepoints connected, there is only 1 master. If only one chargepoint is connected it is always a master.	Master → ②
SlaveNumber If it is a master-slave mode controller, the number of external slaves needs to be set.	1
Phases connected Phases connected to the chargepoint.	1P+N230V
Output Current Limit (A) Maximum current in ampères the chargepoint can deliver set by the operator.	40
Max output current (A) Maximum current in ampères the chargepoint can deliver.	32
Permanently locked cable If 'Enabled' is selected, the type 2 socket locking mechanism stays locked permanently once a charging cable is inserted.	Disable
Check for car overload If set to Enabled, the current consumed by the vehicle will be checked against the signaled current. If the overload is above 10% the signaled current will be decreased by 10%. If the overload is above the configured percentage limit the charging will be stopped.	Disable → ③
Stop Limit (%) When the charging current reported by the internal meter exceeds the signaled current by this percentage, charging will be stopped.	120 → ④

① If your charging station is operating on an OCPP server, please select Public

② If you need to work in Master Slave or Slave mode, please choose the EKEPC3-MS controller.If it is necessary to convert the RS485 (A+) of two or more EKEPC3-MS controllers When connecting to work, please set the option of one controller to Master Slave and the other controllers to Slave, and then set all RS485 (A+ B -) Connect and work together.

Attention: If firmware upgrade is required, please connect RS485 (A+) to the device before firmware upgrade Remove the connection cable on the B -) interface and set the working mode to Master before starting the software upgrade.

③ If this option is enabled, overcurrent protection will be generated when the charging current exceeds the set minimum current value

④ When the charging station detects that the charging current is greater than 120% of the set value, the charging station will stop charging within 10 seconds after detecting overcurrent.

5.8.1.4 This option is an operation on a software system

SYSTEM

Software Version Software version number	v1.6.1.12_B5E5
Charge contoller serial Charge controller serial number.	FC107E010000122C180C
Manufacturer login Manufacturer Login.	WLQ01
Manufacturer password Manufacturer password.	••••••••
Operator login Operator Login.	etec
Operator password Operator password.	
User login User Login.	user
User password User password.	
Log password Set the password for the downloadable log zip file.	
Firmware update url URL address of the firmware you want to update.	→ ①
Restore to factory settings Attention, for safety, import your settings first.	
Soft reset Restart charging station.	→ ②

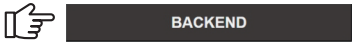
① If a software update is required, please enter the URL of the firmware in the box on the right, and then click the button on the left. The system will automatically connect to our server backend to obtain the latest firmware version and upgrade automatically. If the upgrade is successful, the system will automatically restart.
If the LCD is 2.8 inches, please enter: https://ocpp.etekcn.com/binFile/OCPP_en.bin
If the LCD is 2.8 inches, please enter: https://ocpp.etekcn.com/binFile/OCPP_lcd160_en.bin
If the EKEPCB2 charging station please enter: https://ocpp.etekcn.com/binFile/OCPP_lcd160_C5_en.bin
If the EKEPCB3 charging station please enter: https://ocpp.etekcn.com/binFile/OCPP_lcd160_C5_3P_en.bin

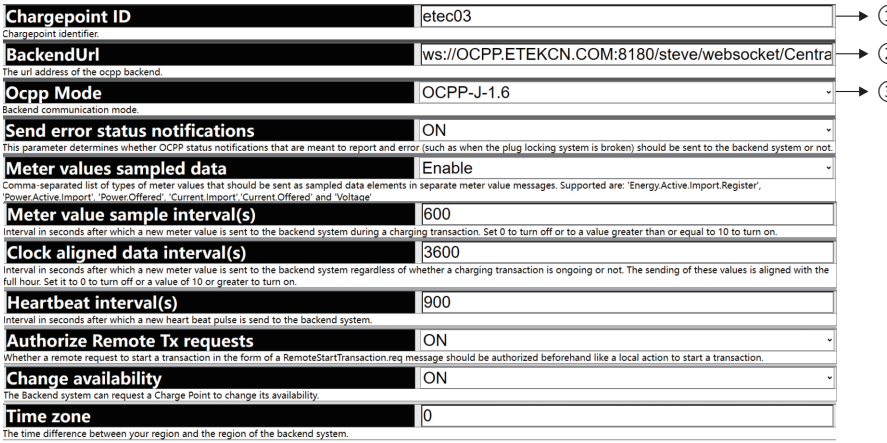
② If you forget any other parameters you have set, please press this button.
Attention: Please operate this button with caution! If you save this operation, all the parameters you previously set will be restored to the factory settings

5.8.1.5How to use your phone for setup and software upgrades when you are not connected to the Internet

Turn on your phone:
Set up--->Personal Hotspot--->Set a username and password and turn on the hotspot--->
Turn on the charging station-->Swipe the IC card to be configured-->
Wait for about 10s for all indicators to flash-->Turn on your phone and search for Wi-Fi （OCPP_XXXX） --->
Connect to this LAN (password: 88888888)--->Open your browser--->
Enter 192.168.4.1 in the address bar--->Open the controller local web page--->
Enter the username and password of the hotspot in SSID and SSID Password--->Save and restart--->
After about 30s, the controller is connected to the hotspot of the phone--->
Look for the IP address of the connected hotspot through your phone again--->
Again, enter the IP address of the connected hotspot in the address bar of your browser---->
Re-enter the controller's local web page----->You'll be able to update the firmware and set up other parameters

5.8.1.6



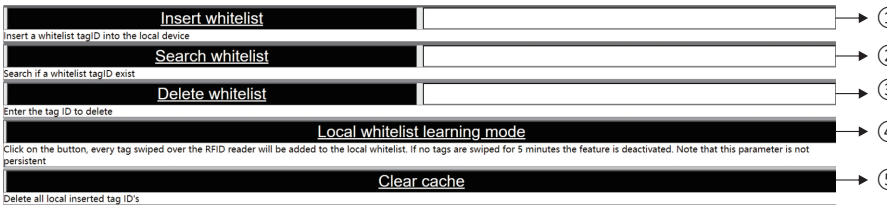


① Please set your charging station ID correctly. This ID usually needs to be generated by the backend before filling in this setting box

② Your backend URL address, the correct format is ws://XXXXXXX/or ws://XXXXXXXX/

③ At present, the communication protocol of our controller is only: OCPP-J-1.6

5.8.1.7



① First, enter the tagID number you want to bind in the box on the right, then press the button on the left, and the system will save your input tagID number

② First, enter the tagID number you want to search for in the box on the right, then press the button on the left. At this time, the system will search for the existence of the tagID number you entered in the saved tagIDs

③ Enter the tagID number you want to delete in the box on the right, then press the button on the left. The system will delete the tagID number you entered. If the box on the right is empty, the system will delete all tagID information

④ If you do not know the tagID information, you can press this button and swipe the card within 40 seconds. When the swipe is successful, the system will automatically save the tagID information in the system flash

⑤ After pressing this button, the system will clear the used tagID information in the cache and it cannot be recovered

5.8.1.8

MANUFACTURER

Chargepoint vendor Mandatory, identifies the vendor of the ChargePoint.	Ampere Solutions
Chargepoint model Mandatory, identifies the model of the ChargePoint.	EKEPC3-C
Chargepoint serial number Mandatory, identifies the serial number of the ChargePoint.	FC107E010000121C160C
Cable or Socket version Fixed cable or socket.	Cable
RCMU Enable or disable the Residual current monitoring unit	Disable
Function code internal meter Select the Modbus protocol function code for reading the internal meter: 03 or 04, the adress of the meter must be set to address '1'.	04
Format(V) Voltage value register data format	Float
RegisterAddress(V-L1) Register number of the corresponding data for the internal meter with address 1.	21248
RegisterAddress(V-L2) Register number of the corresponding data for the internal meter with address 1.	21250 → ①
RegisterAddress(V-L3) Register number of the corresponding data for the internal meter with address 1.	21252 → ②
Format(A) Currnet value register data format	Float
RegisterAddress(A-L1) Register number of the corresponding data for the internal meter with address 1.	21262
RegisterAddress(A-L2) Register number of the corresponding data for the internal meter with address 1.	21262 → ③
RegisterAddress(A-L3) Register number of the corresponding data for the internal meter with address 1.	21264 → ④
Format(Total-W) Power value register data format	Float
RegisterAddress(W) Register number of the corresponding data for the internal meter with address 1.	21288
Format(Total-KWH) Energy value register data format	Float
RegisterAddress(kWh) Register number of the corresponding data for the internal meter with address 1.	21300
Voltage monitoring Enables monitoring of over- and undervoltage on mains.Requires that the internal meter providing voltage readings.	Enable
Max voltage (V) The maximum allowed voltage in volts.	265
Min voltage (V) The minimum allowed voltage in volts.	180
Temperature calibration Temperature correction, coëfficient X 10.	-50
High voltage hysteresis threshold (V) When recovering from a high voltage error, assure the voltage is below this threshold for more than 60 seconds before resolving the error state and allowing charging.	250
Low voltage hysteresis threshold (V) When recovering from a low voltage error, ensure that the voltage is above this threshold for more than 60 seconds before resolving the error state and allowing charging.	200
Temperature threshold 1 (C°) Temperature threshold necessary to start decreasing the current.	70
Charging current to reduce temperature (%) Charging current in ampères in case of over-temperature treshold 1.	10
Temperature threshold 2 (C°) Temperature threshold necessary to stop the charging process.	90
Pause/prevent charging in state D If set to On, charging transactions are paused in case State D (overheating)is detected. While state D is detected an error is reported to the user.	OFF → ⑤
ContactorLifeTime Maximum number of operating cycles the contactor.	10000
PlugLifeTime The maximum number of times the plug of the type2 socket can be plugged in safely.	30000
LCD1602 set to on if LCD1602 display is used.	OFF

Written offer address Configures the postal address of the manufacturer(Multiple lines can be separated by commas.)	Moscow
Manufacturer URL Configures the uniform resource locator (URL) of the manufacturer. The manufacturer URL is used by various network services such as the SEMP interface.	wss://ocpp.eketcn.com/steve/websocket/CentralSystem
SimulateSwipeCard Please enter the card number of the simulated swipe card	
DEBUG DEBUG	

①②③④ If your charging station is single-phase, please set it to 65535

⑤ If the charging car does not require a ventilated environment, set this option to ON.
When the signal status on the car end is D, the charging station will continue to charge without sending an error message to the rear end

5.8.1.9

LOADMANAGEMENT

Dlb function Enable or disable the dynamic load balancing function, the second meter address needs to be set to address 2.	DLB	
Dlb maximum current (A) Dynamic load balancing maximum current in ampères.	45	
PID coefficient adjustment When the DLB function is selected, adjust the PID adjustment coefficient（500，1800，10）.	500,1800,10	①
Installation maximum current (A) Maximum current in ampères of the main site, building, house.	32	
Function code Dlb meter Select the Modbus protocol function code for reading the internal meter: 03 or 04, the adress of the meter must be set to address '2'.	03	
Format(DLB-L1/L2/L3) A-L1/L2/L3, Please Select data format	Float	
RegisterAdress(DLB-L1) Register number of the corresponding data for the External meter, the adress of the meter must be set to address '2'. If no external meter is used set the register address to 65535.	2318	
RegisterAdress(DLB-L2) Register number of the corresponding data for the External meter, the adress of the meter must be set to address '2'. If no external meter is used set the register address to 65535.	65535	②
RegisterAdress(DLB-L3) Register number of the corresponding data for the External meter, the adress of the meter must be set to address '2'. If no external meter is used set the register address to 65535.	65535	③
Dlb kwh meters list url url to kwh meters file	https://snigg.be/DLB_registerlist.pdf	
SetZero Sets internal meter to zero		
Download register list with compatible DLB kWh meters Shows the list with all compatible kWh meters with their corresponding registers.		

① This parameter is only for adjustment with DLB function. If your output current fluctuates when DLB function is enabled in the background, you need to adjust this parameter appropriately. For specific adjustment methods, please refer to other explanatory documents

②③ If your charging station is single-phase, please set it to 65535

Just one step away, you need to save all the parameters once, please don't forget! Click on it


Save

Alternatively, you can have the system restart while saving, please click on it


Save & Restart

5.8.2 The permissions for logging in with different identities vary, as described in the following list

Permissions: **R** Read **W** Write **RW** Read & Write **UV** Unvisibele

STATE				
Label	Operation	Manufacturer	Operator	User
Chargepoint ID	ETEC12345	R	R	R
Backend State	Connected OR Not Conne	R	R	R
Chargepoint state	Charging	R	R	R
Charging Time	1:25:31	R	R	R
WLAN IP	192.168.0.100	R	R	R
LAN IP	192.168.0.106	R	R	R
Access point operator	CMNET	R	R	R

STATE				
Label	Operation	Manufacturer	Operator	User
Voltage L1 (V)	220.0V	R	R	R
Voltage L2 (V)	220.0V	R	R	R
Voltage L3 (V)	220.0V	R	R	R
Current L1 (A)	32A	R	R	R
Current L2 (A)	32A	R	R	R
Current L3 (A)	32A	R	R	R
Power (W)	22000W	R	R	R
Energy (kWh)	565WH	R	R	R
Output current limit (A)	32A	R	R	R
Signaled Current (A)	31.9A	R	R	R
DLB Max (A)	45	R	R	R
Dlb(A- L1)(A)	43	R	R	R
Dlb(A- L2)(A)	44	R	R	R
Dlb(A- L3)(A)	45	R	R	R
Temperature (°C)	35°C	R	R	R
Contactor Cycles	100	R	R	R
Plug Cycles	95	R	R	R
Charge contoller serial	14FE73010000134E280C	R	R	R

5.8.2.1

AUTHORIZATION

Rfid reader Enable or disable the rfid card reader.	Enable
Free charging Allows charging without authorization via RFID. Charging is started immediately after a vehicle is connected.	OFF
Free charging tag ID The Tag ID that is send as authorization request to the backend system. Works only if Free Charging is ON and Free Charging Mode is set to WITH OCPP.	123
Free charging autorization mode Works only if free charging is ON. WITH OCPP: An authorization request is send to the backend, A valid Free charging Tag ID must be set. WITHOUT OCPP: No autorization request is send to the backend system.	With ocpp
Start time charging Start a charging session at the preset time.	00:00
Stop time charging Stops a charging session at the preset time.	00:00
Charging reservation Starts or stops the planned charging session, according to the set start and stop time.	OFF
Sart charging delay Starts a charging session after a random startdelay.	OFF
Time delay (s) The maximum time delay in seconds to start an delayed start transaction.	600
Stop transaction mode This allows to modify the behavior of the charger at the end of a transaction. IC card: Transaction stops only when present the card. IC card/Pull charging plug. Transaction stops by the use of the IC card or by pull out the plug on EV side.	IC Card/Pull Charging Plug
Restart transaction after power loss Set to ON if a transaction that was interrupted by a power loss shall be continued once the power is restored. If set to OFF the authorization needs to be done again by the user and the a new ransaction will be started.	OFF
Enable local whitelist Local whitelist of RFIDs independent of a backend connection.	Disable
Tag ID function The way the TagID is stored. BE (default Big Endian) or LE (Little Endian).	Disable
Ocpp whitelist expire mode The assumed expiry date of cache entries when OCPP expiry date has not been set explicitly by the backend. The default setting for such cache entries is the largest allowable system time: 2038	Enable
If in doubt allow charging This parameter determines whether a client is allowed to charge in case its authorization cannot be processed because the backend is offline or not reachable. If set to ON, the client is llowed to charge even if it cannot get authenticated from the backend.	OFF
Local pre authorize Sets if the Charge Point, when online, will start transactions for locally authorized identifiers without requesting an Authorize.conf from the Central System.	OFF
Local authorize if offline Sets if the Charge Point, when offline, will start transactions for locally authorized identifiers	OFF
Dissallow charging if ocpp queue is full When set, a full OCPP message queue will cause an error state. Charging will be terminated.	OFF
Authorization cache enabled Indicates whether the charging station has an Authorization Cache or not.	ON

① If you want to set it to plug and play charging mode, or to complete charging without swiping card authorization, please set this option to "Disabled"

② If you have set it to free charging mode and it is a public version of the charging station, you need to enter a tagID in the box on the right, and this tagID needs to be marked as free on your backend

5.8.2.2 How to save and manage your customized configuration scheme

Import and export your customized recipe file, which allows for quick configuration of all parameters

Import & Export

NETWORK				
Label	Operation	Manufacturer	Operator	User
Ethernet (LAN)	Enable/ Disable	RW	RW	R
Wifi (WLAN)	Enable/ Disable	RW	RW	RW
SIM-4G	Enable/ Disable	RW	R	R
DHCP	Auto/ Static	RW	RW	RW
Static IP Address	192.168.0.100	RW	RW	RW
Subnet Mask	255.255.255.0	RW	RW	RW
Default Gateway	192.168.0.1	RW	RW	RW
DNS	192.168.0.101	RW	RW	RW
SSID	Wifi Name	RW	RW	RW
SSID Password	Password	RW	RW	RW
APN	CMNET	RW	RW	R

INSTALLATION				
Label	Operation	Manufacturer	Operator	User
Chargepoint type	Home/ Public	RW	RW	R
Chargepoint connection mode	Master/ Slaver	RW	RW	R
Phases connected	1P+N230V, 3P+N400V	RW	RW	R
Output Current Limit (A)	32A	RW	RW	RW
Max output current (A)	32A	RW	R	R
Permanently locked cable	Enable/ Disable	RW	RW	RW
Check for car overload	Enable/ Disable	RW	RW	R
Stop Limit (%)	120	RW	RW	R

SYSTEM				
Label	Operation	Manufacturer	Operator	User
Software Version	v1.6.0.29_CF11	R	R	R
Charge controller serial	14FE73010000134E280C	R	R	R
Firmware update url	http://ocpp.etekcn.com /binFile/OCPP_en.bin	RW	RW	RW
Restore to factory settings	Button	RW	RW	R
Soft reset	Button	RW	RW	RW
Restart	Button	RW	RW	RW
Manufacturer login	WLQ01	RW	UV	UV
Manufacturer password	40000003	RW	UV	UV
Operator login	ETEC01	RW	RW	UV
Operator password	88888888	RW	RW	UV
User login	User	RW	RW	RW
User password	88888888	RW	RW	RW
Log password	88888888	RW	RW	UV

BACKEND				
Label	Operation	Manufacturer	Operator	User
Chargepoint ID	ETEC12345	RW	RW	R
Backend url	WS OR WSS	RW	RW	R
Ocpp Mode	OCPP-J-1.6/ OCPP-J-2.0	RW	RW	R
Send error status notifications	ON/ OFF	RW	RW	R
Meter values sampled data	Meter values sampled data	RW	RW	R
Meter value sample interval (s)	0 OR>10s	RW	RW	R
Clock aligned data interval(s)	86400	RW	RW	R
Heartbeat interval (s)	600	RW	RW	R
Authorize Remote Txrequests	ON/ OFF	RW	RW	R
Change availability	ON/ OFF	RW	RW	R
Time zone	0	RW	RW	RW

WHITELIST				
Label	Operation	Manufacturer	Operator	User
Local whitelist learning mode	Button	RW	RW	RW
Insert whitelist	Button & Text	RW	RW	RW
Search whitelist	Button & Text	RW	RW	RW
Delete whitelist	Button	RW	RW	RW
Clear cache	Button	RW	RW	RW

LOADMANAGEMENT				
Label	Operation	Manufacturer	Operator	User
DLB function	Disable/ DLB/ DLM	RW	RW	R
DLB maximum current (A)	45	RW	RW	R
Installation maximum current (A)	32	RW	RW	R
Function code DLB meter	03/ 04	RW	RW	UV
Register Address (DLB-L1)	2334	RW	RW	UV
Register Address (DLB-L2)	2334	RW	RW	UV
Register Address (DLB-L3)	2334	RW	RW	UV
Format (DLB-L1/ L2/ L3)	float/ int16/ int16*0.1/ int16*0.01/ int16*0.001/ int32/ int32*0.1/ int32*0.01/ int32*0.001/ int32*0.0001	RW	RW	UV
Set Zero	Button	RW	RW	UV
Download register list with compatible DLB kWh meters	Button	RW	RW	UV
DLB kWh meters list url		RW	UV	RW

MANUFACTURER				
Label	Operation	Manufacturer	Operator	User
Chargepoint vendor	ETEC	RW	R	R
Chargepoint model	EKEC1- C	RW	R	R
Chargepoint serial number	ETEC12345	RW	R	R
Cable or Socket version	Cable/ Socket	RW	UV	UV
RCMU	Enable/ Disable	RW	R	R
Function code internal meter	03/ 04	RW	UV	UV
Register Address (V-L1)	0	RW	UV	UV
Register Address (V-L2)	2	RW	UV	UV
Register Address (V-L3)	4	RW	UV	UV
Register Address (A-L1)	6	RW	UV	UV
Register Address (A-L2)	8	RW	UV	UV
Register Address (A-L3)	10	RW	UV	UV
Register Address (W)	52	RW	UV	UV
Register Address (kWh)	342	RW	UV	UV
Format (V-L1)	float/ int16/ int16*0.1/ int16*0.01/ int16*0.001/ int32/ int32*0.1/ int32*0.01/ int32*0.001/ int32*0.0001	RW	UV	UV
Format (V-L2)		RW	UV	UV
Format (V-L3)		RW	UV	UV
Format (A-L1)		RW	UV	UV
Format (A-L2)		RW	UV	UV
Format (A-L3)		RW	UV	UV
Format (Total-W)		RW	UV	UV
Format (Total-KWH)		RW	UV	UV
Voltage monitoring	Enable/ Disable	RW	R	R
Max voltage (V)	265	RW	R	R
Min voltage (V)	165	RW	R	R
Temperature calibration	-50	RW	UV	UV
High voltage hysteresis threshold (V)	250	RW	R	R
Low voltage hysteresis threshold (V)	190	RW	R	R
Temperature threshold 1 (°C)	85	RW	R	R
Charging current to reduce temperature (%)	120%	RW	R	R
Temperature threshold 2 (°C)	100	RW	R	R
Pause/ prevent charging in state D	Enable/ Disable	RW	R	R
Contactor Life Time	30000	RW	R	R
Plug Life Time	10000	RW	R	R
LCD1602	ON/ OFF	RW	UV	UV
Written offer address	China ZheJiang	RW	R	R
Manufacturer URL	URL	RW	R	R

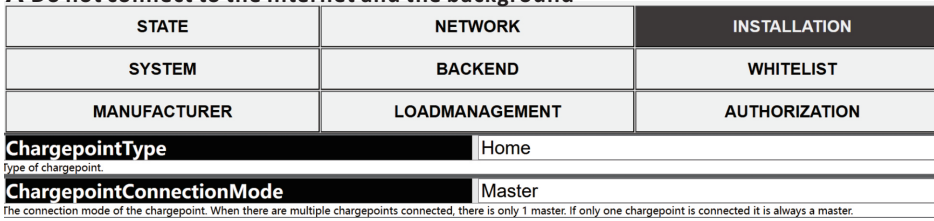
AUTHORIZATION				
Label	Operation	Manufacturer	Operator	User
Rfid reader	Enable/ Disable	RW	RW	R
Free charging	ON/ OFF	RW	RW	R
Free charging tag ID	123456	RW	RW	R
Free charging autorization mode	With ocpp/ without ocpp	RW	RW	R
Start time charging	13:14	RW	RW	RW
Stop time charging	14:13	RW	RW	RW
Charging reservation	ON/ OFF	RW	RW	RW
Sart charging delay	ON/ OFF	RW	RW	RW
Time delay (s)	600	RW	RW	RW
Stop transaction mode	IC card/ pull charging plug	RW	RW	R
Restart transaction after power loss	ON/ OFF	RW	RW	R
Enable local whitelist	Enable/ Disable	RW	RW	R
Tag ID function	Enable/ Disable	RW	RW	R
Ocpp whitelist expire mode	Enable/ Disable	RW	RW	R
f in doubt allow charging	ON/ OFF	RW	RW	RW
Local pre authorize	ON/ OFF	RW	RW	RW
Local authorize if offline	ON/ OFF	RW	RW	R
Dissallow charging if ocpp queue is full	ON/ OFF	RW	RW	R
Authorization cache enabled	ON/ OFF	RW	R	R

There are a few common ways to set it up:

A Do not connect to the Internet and the background
A.1 No need to swipe the card, plug and charge.
A.2 Swipe any card to charge.
A.3 Swipe the local whitelist card to charge.
B Connect to the Internet and the background
B.1 Swipe the local cached and local whitelist tagID card to charge (background authorization required)
B.2 Plug & Charge (Free card number needs to be bound in the background)
B.3 Swipe the card allowed in the background to charge
B.4 Swipe the local whitelist card to charge (background authorization required)
B.5 Charging cannot be started during the network disconnection and background disconnection
B.6 Only local whitelist cards are allowed to charge during network disconnection and background disconnection
B.7 Allow any card to charge during the network disconnection and background disconnection

Please refer to pages 17-22 for a detailed description.

A Do not connect to the Internet and the background



A.1 No need to swipe the card, plug and charge.

STATE	NETWORK	INSTALLATION
SYSTEM	BACKEND	WHITELIST
MANUFACTURER	LOADMANAGEMENT	AUTHORIZATION

RfidReader :nable or disable the rfid card reader.	Disable
FreeCharging Allows charging without authorization via RFID. Charging is started immediately after a vehicle is connected.	ON
FreeChargingTagID The Tag ID that is send as authorization request to the backend system. Works only if Free Charging is ON and Free Charging Mode is set to WITH OCPP.	123
StopTransactionMode This allows to modify the behavior of the charger at the end of a transaction. IC card: Transaction stops only when present the card. IC card/Pull charging plug. Transaction stops by the use of the IC card or by pull out the plug on EV side.	ICCard/PullChargingPlug
RestartTransactionAfterPowerLoss Set to ON if a transaction that was interrupted by a power loss shall be continued once the power is restored. If set to OFF the authorization needs to be done again by the user and the a new transaction will be started.	OFF
EnableLocalWhitelist Local whitelist of RFIDs independent of a backend connection.	Disable
TagIDFunction The way the TagID is stored, BE (default Big Endian) or LE (Little Endian).	Disable
OcppWhitelistExpireMode The assumed expiry date of cache entries when OCPP expiry date has not been set explicitly by the backend. The default setting for such cache entries is the largest allowable system time: 2038	Enable
IfInDoubtAllowCharging This parameter determines whether a client is allowed to charge in case its authorization cannot be processed because the backend is offline or not reachable. If set to ON, the client is llowed to charge even if it cannot get authenticated from the backend.	OFF
LocalPreAuthorize Sets if the Charge Point, when online, will start transactions for locally authorized identifiers without requesting an Authorize.conf from the Central System.	OFF
LocalAuthorizeIfOffline Sets if the Charge Point, when offline, will start transactions for locally authorized identifiers	OFF
DissallowChargingIfOcppQueueIsFull When set, a full OCPP message queue will cause an error state. Charging will be terminated.	OFF
AuthorizationCacheEnabled Indicates whether the charging station has an Authorization Cache or not.	ON

A.2 Swipe any card to charge.

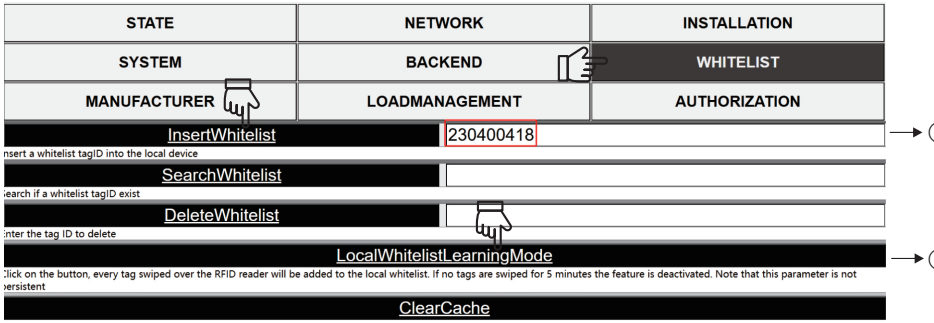
STATE	NETWORK	INSTALLATION
SYSTEM	BACKEND	WHITELIST
MANUFACTURER	LOADMANAGEMENT	AUTHORIZATION

RfidReader :nable or disable the rfid card reader.	Enable
FreeCharging Allows charging without authorization via RFID. Charging is started immediately after a vehicle is connected.	ON
FreeChargingTagID The Tag ID that is send as authorization request to the backend system. Works only if Free Charging is ON and Free Charging Mode is set to WITH OCPP.	123
FreeChargingAutorizationMode Works only if free charging is ON. WITH OCPP: An authorization request is send to the backend, A valid Free charging Tag ID must be set. WITHOUT OCPP: No autorization request is send to the backend system.	WithoutOcpp

A.3 Swipe the local whitelist card to charge.

STATE	NETWORK	INSTALLATION
SYSTEM	BACKEND	WHITELIST
MANUFACTURER	LOADMANAGEMENT	AUTHORIZATION

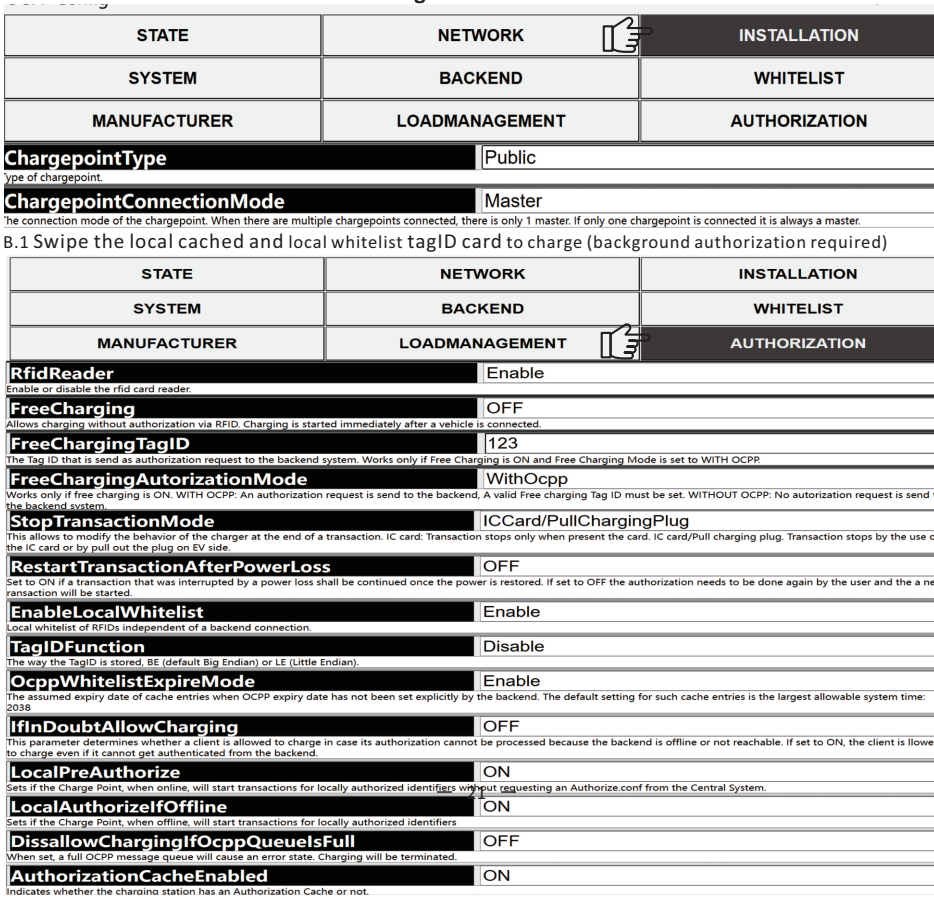
RfidReader Enable or disable the rfid card reader.	Enable
FreeCharging Allows charging without authorization via RFID. Charging is started immediately after a vehicle is connected.	OFF
FreeChargingTagID The Tag ID that is send as authorization request to the backend system. Works only if Free Charging is ON and Free Charging Mode is set to WITH OCPP.	123
FreeChargingAutorizationMode Works only if free charging is ON. WITH OCPP: An authorization request is send to the backend, A valid Free charging Tag ID must be set. WITHOUT OCPP: No autorization request is send to the backend system.	WithoutOcpp



① Please enter the tagID number you know in the red box and press the button "InsertWhitelist" on the left. This will prompt successful!

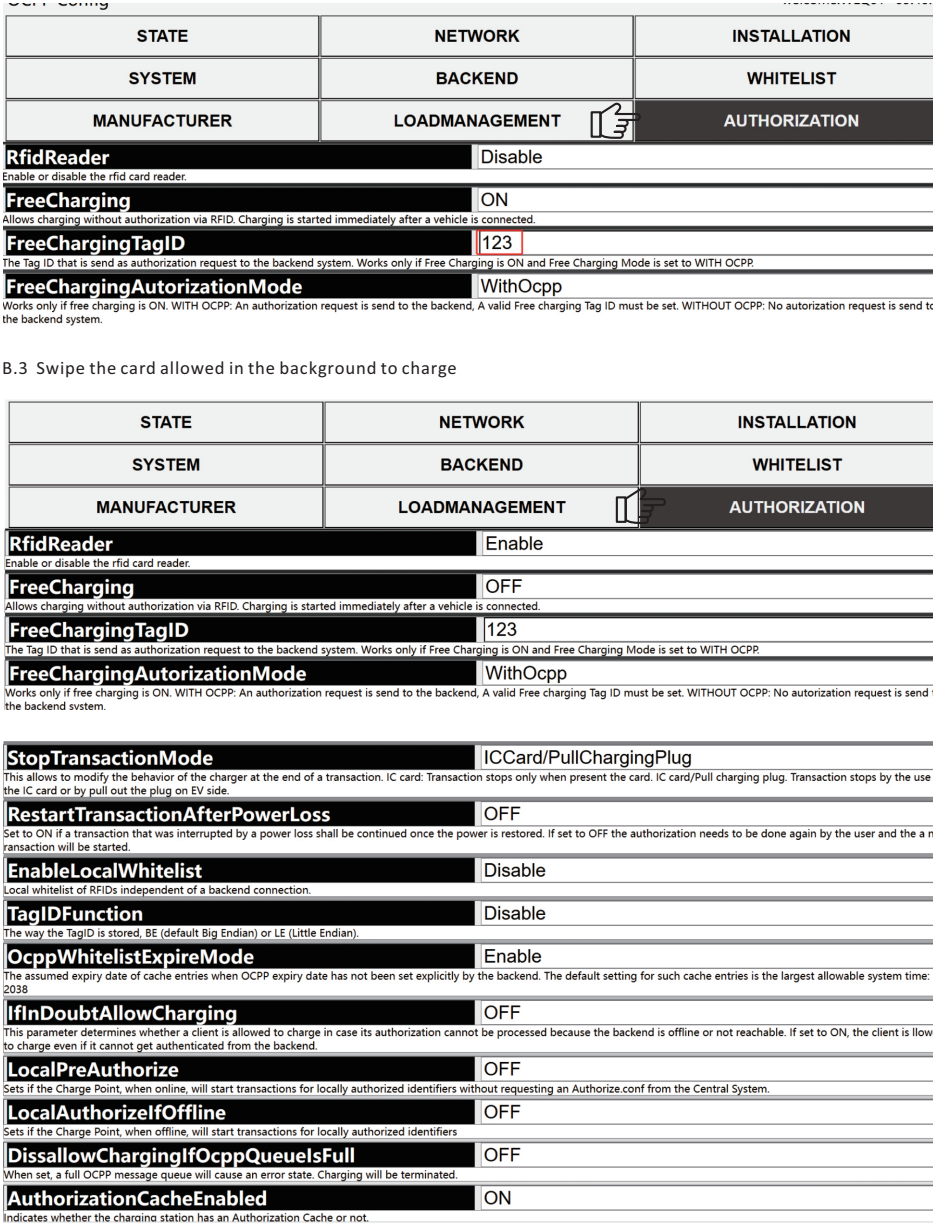
② If you don't know the tagID number, please press the "LocalWhitelistLearningMode" button and swipe the card you want to bind to the local whitelist within 30 seconds. You can bind up to 1000 tagID numbers

B Connect to the Internet and the background

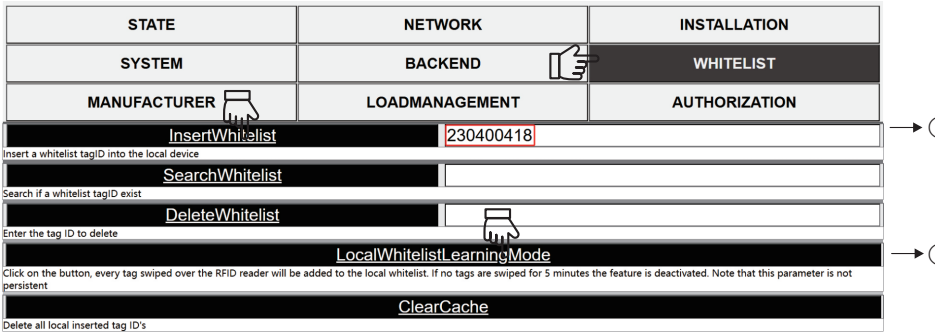


B.1 Swipe the local cached and local whitelist tagID card to charge (background authorization required)

B.2 Plug & Charge (Free card number needs to be bound in the background)



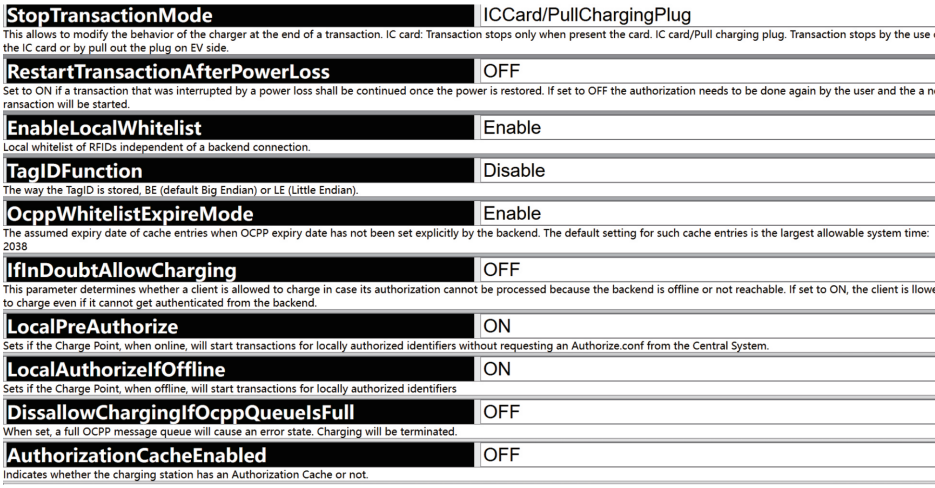
B.3 Swipe the card allowed in the background to charge



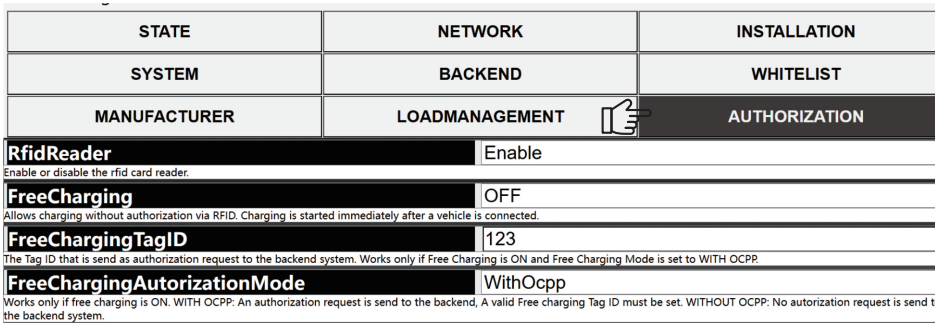
① Please enter the tagID number you know in the red box and press the button "InsertWhitelist" on the left. This will prompt successful!

② If you don't know the tagID number, please press the "LocalWhitelistLearningMode" button and swipe the card you want to bind to the local whitelist within 30 seconds. You can bind up to 1000 tagID numbers

B.4 Swipe the local whitelist card to charge (background authorization required)



B.5 Charging cannot be started during the network disconnection and background disconnection



StopTransactionMode	ICCard/PullChargingPlug
This allows to modify the behavior of the charger at the end of a transaction. IC card: Transaction stops only when present the card. IC card/Pull charging plug. Transaction stops by the use of the IC card or by pull out the plug on EV side.	
RestartTransactionAfterPowerLoss	OFF
Set to ON if a transaction that was interrupted by a power loss shall be continued once the power is restored. If set to OFF the authorization needs to be done again by the user and the a new ransaction will be started.	
EnableLocalWhitelist	Disable
Local whitelist of RFIDs independent of a backend connection.	
TagIDFunction	Disable
The way the TagID is stored, BE (default Big Endian) or LE (Little Endian).	
OcppWhitelistExpireMode	Disable
The assumed expiry date of cache entries when OCPP expiry date has not been set explicitly by the backend. The default setting for such cache entries is the largest allowable system time: 2038	
IfInDoubtAllowCharging	OFF
This parameter determines whether a client is allowed to charge in case its authorization cannot be processed because the backend is offline or not reachable. If set to ON, the client is llowed to charge even if it cannot get authenticated from the backend.	
LocalPreAuthorize	OFF
Sets if the Charge Point, when online, will start transactions for locally authorized identifiers without requesting an Authorize.conf from the Central System.	
LocalAuthorizeIfOffline	OFF
Sets if the Charge Point, when offline, will start transactions for locally authorized identifiers	
DissallowChargingIfOcppQueueIsFull	OFF
When set, a full OCPP message queue will cause an error state. Charging will be terminated.	
AuthorizationCacheEnabled	OFF
Indicates whether the charging station has an Authorization Cache or not.	

B.6 Only local whitelist cards are allowed to charge during network disconnection and background disconnection. Same as B.3 settings.

B.7 Allow any card to charge during the network disconnection and background disconnection

STATE	NETWORK	INSTALLATION
SYSTEM	BACKEND	WHITELIST
MANUFACTURER	LOADMANAGEMENT	AUTHORIZATION

RfidReader	Enable
Enable or disable the rfid card reader.	
FreeCharging	OFF
Allows charging without authorization via RFID. Charging is started immediately after a vehicle is connected.	
FreeChargingTagID	123
The Tag ID that is send as authorization request to the backend system. Works only if Free Charging is ON and Free Charging Mode is set to WITH OCPP.	

StopTransactionMode	ICCard/PullChargingPlug
This allows to modify the behavior of the charger at the end of a transaction. IC card: Transaction stops only when present the card. IC card/Pull charging plug. Transaction stops by the use of the IC card or by pull out the plug on EV side.	
RestartTransactionAfterPowerLoss	OFF
Set to ON if a transaction that was interrupted by a power loss shall be continued once the power is restored. If set to OFF the authorization needs to be done again by the user and the a new ransaction will be started.	
EnableLocalWhitelist	Disable
Local whitelist of RFIDs independent of a backend connection.	
TagIDFunction	Disable
The way the TagID is stored, BE (default Big Endian) or LE (Little Endian).	
OcppWhitelistExpireMode	Disable
The assumed expiry date of cache entries when OCPP expiry date has not been set explicitly by the backend. The default setting for such cache entries is the largest allowable system time: 2038	
IfInDoubtAllowCharging	ON
This parameter determines whether a client is allowed to charge in case its authorization cannot be processed because the backend is offline or not reachable. If set to ON, the client is llowed to charge even if it cannot get authenticated from the backend.	
LocalPreAuthorize	ON
Sets if the Charge Point, when online, will start transactions for locally authorized identifiers without requesting an Authorize.conf from the Central System.	
LocalAuthorizeIfOffline	ON
Sets if the Charge Point, when offline, will start transactions for locally authorized identifiers	
DissallowChargingIfOcppQueueIsFull	OFF
When set, a full OCPP message queue will cause an error state. Charging will be terminated.	
AuthorizationCacheEnabled	OFF
Indicates whether the charging station has an Authorization Cache or not.	

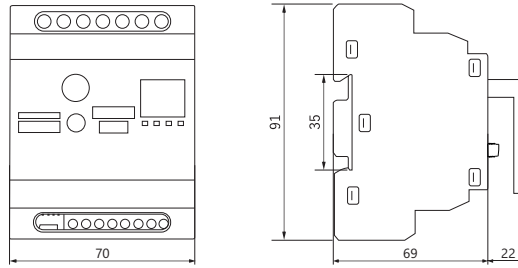
6 LED LCD display the description

States	Blue	Green	Red	Yellow	LCD Display
Starting	Flash slow				Starting up...
Local web settings	Flash fast				
Firmware upgrade in progress	Running				Firmware update...XXX%
Not network	O	O	O	●	E/W/G LCD1602
Network connected	O	O	O	Flash fast	
Backend connected	O	O	O	O	OCPP
Available	O	●	O	O	Available
Authorization unconnected vehicle	O	Flash fast	O	O	SuspendedEV
Unauthorized connected vehicle	O	Flash slow	O	O	Preparing
Start charging	Breathing	O	O	O	Charging
State D	O	O	Flash slow		Need Ventilation
CP-PE Short Circuit	O	O	●	O	Please check the CP line
Diode short circuit	O	O		O	EV-Charing Socket Fault
PP Disconnect	O	O		O	SPLIT PP wire Please check the PP line
Lock fault on or off	O	O		O	Lock error/Unlock error
DLB Protection	O	O		O	Circuit overload DLB Mode activated
RCMU Protection	O	O		O	RCMU leakage or self-inspection failure
OvervoltageProtection	O	O		O	Overvoltage or undervoltage
OverCurrentProtection	O	O		O	Check current
Contactor Overrun Protection	O	O		O	Contactor exceeds the upper limit
Plug ON or OFF Protection	O	O		O	Gun insertion exceeds the upper limit
Temperature too high	O	O		O	Temperature protected

For communications between the OCPP and OCPP servers, see the “Open Charge Point Protocol 1.6” document, as revised by the OCA committee.

7 Common faults and explanations of charging stations

8 Dimensional drawings (mm)



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