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Leading The Charge

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1. Safety Information

Important safety instructions: this document contains important instructions and warnings that must be followed when installing and maintaining the Liffey EV Charger.

Warning

- A Read this entire mandatory document before installing or using the Liffey EV Charger.
- ▲ Unsupervised children should not be allowed near the EV Charger.
- ▲ The Liffey EV Charger must be grounded through a permanent wiring system or an equipment grounding conductor.
- ▲ Do not install or use the EV Charger near flammable, explosive, harsh, or combustible materials, chemicals, or vapors.
- Use the EV Charger only within the specified operating parameters.
- Never spray water or any other liquid directly onto the EV Charger. Never spray any liquid into the Type 2 socket on the charger.
- ▲ Do not use the EV Charger if it is defective, appears cracked, frayed, broken, or otherwise damaged, or fails to operate, or continue operation.
- ▲ Do not attempt to disassemble, repair, tamper with, or modify the EV Charger. The EV Charger is not user serviceable, contact BPE for any repairs or modification.
- Please take care while transporting the EV Charger. Do not subject it to drops or any impact, crushing, tangle, dragging or water. This is important to prevent damage to it or any components.
- ▲ Do not touch the EV Charger's Type 2 socket with any sharp metallic objects, such as wires, tools, or needles.
- ▲ Do not forcefully fold or apply pressure to any part of the EV Charger or damage it with sharp objects.
- ▲ Do not insert foreign objects into any part of the EV Charger.
- ▲ Use of the EV Charger may affect or impair the operation of any medical or implantable electronic devices, such as an implantable cardiac pacemaker or an implantable cardioverter defibrillator. Check with your electronic device manufacturer concerning the effects that charging may have on such electronic devices before using the EV Charger.

1. Safety Information

Cautions

- ▲ Do not use private power generators as a power source for charging.
- ▲ Incorrect installation and testing of the EV Charger could potentially damage either the vehicle's Battery and/or the EV Charger itself. Any resulting damage is excluded from New Vehicle Limited Warranty and the EV Charger Limited Warranty.
- ▲ Do not operate the EV Charger in temperatures outside its operating range of -25°C to +50°C
- Type 2 to Type 1 adapter leads are not allowed to be used.

Notes

- Ensure that the EV Charger's charging cable is positioned so it will not be stepped on, driven over, tripped on, or subjected to damage or stress.
- ▲ Do not use cleaning solvents to clean any of the EV Charger's components. The outside of the EV Charger, the charging cable, and the connector end of the charging cable should be periodically wiped with a clean dry cloth to remove any accumulation of dirt or dust.
- Be careful when removing front fascia, do not use a screw driver as this will damage it. Use the included Fascia Removal Tool in the box.

2. Product Introduction

2.1. Product Appearance



Number	Description
1	Emergency Shutdown Button (When the button is pressed, the EV Charger will stop charging, then rotate the button to pop it up and reset it.)
2	LCD Screen
3	DC Leakage Test Button (For WPS connection and leakage test.)
4	RFID card reader
5	Type 2 socket
6	LED light

2. Product Introduction

2.2. Parameter table

BPE Liffey Dual Socket	BPE-LFY-Dual-22kW
Maximum Power	2 x 22kW
Input voltage/Output voltage	400VAC 3-Phase
Input frequency	50Hz/60Hz
Tethered/Socket	2 x Socket
Meter	2 x MID Meter
Display	LCD Screen + LED Lights
Rate Charging Current	6-32A
Standby Power Consumption	4G:<8W Wi-Fi:<6W
Operating Temperature	-25°C ~ 50°C
Operating Humidity	5%-95%
IP Protection	IP55
Safety Protection	Leakage Protection、Over Current Protection、Ground Protection、Over Voltage Protection、Under Voltage Protection、Contactor Adhesion Protection、Neutral and Live Wire Reverse Connection Protection、Over Temperature Protection、CP Signal Abnormal Protection、Lightning Protection
Operating Altitude	<2000M
Charger Dimension	Height: 470mm Width: 225.3mm Depth: 177.3mm
Gross Weight	9.8KG
Leakage Detection	TYPE A+DC6mA leakage sensor built-in

2. Product Introduction

2.3. Product Features

- Open Cover Detection: If the cover is opened, the Charger will display red light alarm and stop any charging session. A warning message will also appear in the App
- LCD Display
- Two built-in MID meters
- Motion Detector: When a person is close to the Charger, the LCD screen will light up, this can reduce the standby consumption and extend the service life
- Double socket: Charge two EVs at the same time with up to 22kW per socket
- OCPP 1.6: Able to connect to any OCPP software on the market.
- Integrated PEN Fault Detection: No need for installing an Earth rod
- IP55: Waterproof and ideal for outdoor installations
- Leakage Protection: Built-in Type A RCD + 6mA DC leakage sensor
- Over Temperature Detection: In the event that the temperature rises to unsafe levels, the charger will cease operating
- WPS Wi-Fi connection: Simplifies the Wi-Fi connection process

2. Product Introduction

2.4. Protection Functions





Warning

▲ This BPE EV charger must be grounded via a permanent electrical system or equipment grounding conductor.

3. Installation Instructions

3.1. Installation Considerations

 Note: Throughout the manual, "conduit" is used as the standard term for the protective tubing that houses the service wiring. In regions where conduit is not used (Europe for example), a cable comprised of service wiring enclosed in a protective jacket may be substituted for conduit if allowed by local regulations.

Here are some additional guidelines:

- Conduit needs to be metal and flame retardant.
- Use an appropriate circuit breaker.
- To keep the housing weatherproof, use cable glands.

3.2. SIM Card Installation

• Note: If you need to use 4G mode, please install a Micro SIM card into the circuit board located inside of the charger.

3.3. Minimum Installation Requirements

Installation of the wall charger requires that you:

- Calculate the existing electrical load to determine the maximum operating current available for the EV charger.
- Calculate the cable run distance to ensure minimal voltage drop.
- Obtain any necessary permits from the local authority that has jurisdiction and confirm that
- all regulations are adhered to throughout the installation.
 Use only copper conductors.
- Use copper wire that meets the specifications of local wiring regulations. The selected cable
- must be capable of withstanding continuous loads of up to 40A at all times. The selected circuit protection device must incorporate an appropriate wall-mounted residual current device (RCD) and corresponding electrical load over current protection.

3.4. Installation Position

- Ensure that the parking space is within reach of the charging cable.
- Ensure there is enough clearance around the charger for the installation and maintenance to be carried out.
- For outdoor installations, weather protection is recommended but not mandatory.
- Install in a well-ventilated space. Avoid installation in enclosed boxes or close to high power appliances.
- Do not select an installation site that is near explosive, flammable or any other hazardous material.

3.5. Installation Height

- Maximum height (indoor and outdoor): 1.5 m
- Recommended height: ~1.2 m

3.6. Power Supply

400V three-phase power supply with neutral line

• All three phases (L1, L2 and L3) and the neutral line should be connected to the charger and the voltage of each phase to the neutral should be 230V.



3. Installation Instructions

3.7. Accessories List



3.8. Installation Step

3.8.1. Step-by-step Installation Instructions (bottom entry wiring)



Step 1

Positioning Ensure the bottom of the positioning plate is 1.2 m (recommended) off the ground.

Drilling pilot holes

Drill the holes according to the instructions on the position template for different installation and wiring types.



(bottom entry wiring)

3. Installation Instructions

3.8.1. Step-by-step Installation Instructions

Step 3

Install the EV Charger to the Mounting Bracket

Align the side holes of EV charger to the bracket's side holes.

Installation

Use the 4pcs M6*8 screws to fix the EV charger to the mounting bracket as shown in the diagram (Screws torque 1.5NM-2.0NM).

Wall Screwdriver Mounting Bracket 8*40 Expansion Bolts

Step 2

Installing the Mounting Bracket

Insert the 8*40 Socket head screw anchors into the holes and use the screw driver fix the Mounting Bracket onto the wall.



Step 4

Wiring

Note: It is the installer's responsibility to identify whether additional grounding is required to ensure that local regulations are met. Grounding must be installed at the power source and not at the cable entry to the EV Charger.

Using a screwdriver, loosen the screws on the EV charger cover and remove it. Wire the cable into the terminal according to the diagram.

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3.8.2. Step-by-step Installation Instructions (rear entry wiring)



Step 1

Positioning Ensure the bottom of the positioning plate is 1.2 m (recommended) off the ground.

Drilling pilot holes

Drill the holes according to the instructions on the position template for different installation and wiring types.



(rear entry wiring)

3. Installation Instructions

3.8.2. Step-by-step Installation Instructions

Step 3

Install the EV Charger to the mounting bracket

Find the knock-out hole on the back of the EV charger and use a drill to remove it.

Use the 4pcs M6*8 screws to fix the EV charger to the mounting plate as picture shows (Screws torque 1.5NM-2.0NM).

Screwdriver Mounting Bracket 8*40 Expansion Bolts

Step 2

Installing the Mounting Bracket

Insert the 8*40 Socket head screw anchors into the holes and use the screw driver fix the Mounting Bracket onto the wall.



Single Cable (13 sq/mm to 16 sq/mm)

Dual Cables (6 sq/mm)

diagram (wiring from the left to the right) Step 4

Wiring

Note: It is the installer's responsibility to identify whether additional grounding is required to ensure that local regulations are met. Grounding must be installed at the power source and not at the cable entry to the EV Charger.

Using a screwdriver, loosen the screws on the EV charger cover and remove it. Wire the cable into the terminal according to the diagram.

4.1. Connection Configuration

4.1.1. Enter the Configuration Mode

When the charger is powered on for the first time, it will automatically enter the Configuration Mode. If you experience any issues during the setup, you can always reset the charger by:

1) Power OFF the charger

2) Hold down the Emergency Stop Button and the small red button at the same time3) Power ON the charger



4.1.2. Connect to the Wi-Fi Network

(You can reset the password to default: Power ON the charger; find the hard reset button on the PCB inside of the EV charger. Press it and hold for 5s.)



4. Web configuration

4.1.3. Accessing the Charger through a Browser

Open your browser and type 192.168.1.1 into the URL bar at the top. We recommend using Google Chrome for better compatibility.

B OCP	P Charge Point Configu	×	+	
\cap	Q 192.168.1.1			

4.1.4. Enter the Configuration Page

Go to the configuration page, here you can change the charger's settings

EV Charger firmware version:1.0.18
Necessary configuration :Wi-Fi information Open The Network Configuration Interface
2. Necessary configuration :Central System Hostname , Charge Point Identity Open The Central System Configuration Interface
3. Optional configuration :Grounding Detection , Max Current Option The Param Configuration Interface
4. Optional configuration :DLB Enable , DLB Mode Open The DLB Configuration Interface
5. Optional configuration :RFID UniqueID Open The RFID Configuration Interface
6. Optional configuration :Wi-Fi AP Password Open The Password Configuration Interface
7. Exit the Wi-Fi AP mode and EV charger will start connecting to the server.

4.1.5. OCPP User Configuration

Enter the network information.
Note: Wi-Fi supports only 2.4 GHz.
Note: If "Wi-Fi WPS" is selected, the Wi-Fi router should support WPS.
Note: WEP encryption is not supported.
Note: WPA2 Enterprise encryption is not supported.
© Wi-Fi WPS ○ Wi-Fi Custom ○ 4G ○ Ethernet
Note: If "Wi-Fi WPS" is selected, Wi-Fi information below is not required to enter.
Wi-Fi SSID:Wi-Fi Password:
LTE APN:
submit
back

Configuration Parameters	Explanation	Maximum Length
Wi-Fi WPS / Custom / 4G / Ethernet	Network connection 2.4G Wifi,4G,Ethernet	
Wi-Fi SSID	The name of the EV charger connected to WIFI Special characters are not supported	30
Wi-Fi password	Password for EV charger to connect to WIFI Special characters are not supported	30
LTE APN	4G Network Access Point Name	
LTE APN User	The name of the EV charger connected to 4G Special characters are not supported	30
LTE APN Password	Password for EV charger to connect to 4G Special characters are not supported	30

4. Web configuration

4.2. OCPP Server Configuration

Enter the server configuration information.
O SSL Enable
SSL Unable
Central System Hostname:
Central System Port:
Charge Point Identity:
Charge Point Path:
O HTTP Basic Authentication Enable
HTTP Basic Authentication Unable
Authorization Username:
Authorization Password:
Charge Point Model:
Charge Point Vendor:
No.1 QR code:
No.2 QR code:
submit
back

Explanation	Maximum Length
Choose whether to enable encrypted communication (select this according to the OCPP platform)	
Server domain name or IP address	50
Server port, range 1-65535	
Charging point number	30
The location of the charging point in the URL	50
Choose whether to enable HTTP Basic Authentication	
HTTP identity verification username is generally consistent with Charging Point Identity	50
HTTP authentication key	20
Custom device model	50
Customize device manufacturer name	20
Configure the QR code according to the server	50
naming convention	50
	Explanation Choose whether to enable encrypted communication (select this according to the OCPP platform) Server domain name or IP address Server port, range 1-65535 Charging point number The location of the charging point in the URL Choose whether to enable HTTP Basic Authentication HTTP identity verification username is generally consistent with Charging Point Identity HTTP authentication key Custom device model Customize device manufacturer name Configure the QR code according to the server naming convention

4.3. The Parameter Configuration

Enter the param configurati	on.	
The maximum current of the	one connector: 32	
The maximum current of the	whole EV charger: 64	
MeterValueSampleInterval: 60)	
● Ground Fault Detection En ○ Ground Fault Detection Un	able able	
Authorization Cache Enabl O Authorization Cache Unable	e	
submit		
back		
back		
back		
Configuration Parameters	Explanation	
Configuration Parameters The maximum current of the one connector	Explanation EV charger single gun charging maximum current	
Configuration Parameters The maximum current of the one connector The maximum current of the entire EV charger	Explanation EV charger single gun charging maximum current The total current draw of both sockets on the EV charger	
Configuration Parameters The maximum current of the one connector The maximum current of the entire EV charger MeterValueSampleInterval	Explanation EV charger single gun charging maximum current The total current draw of both sockets on the EV charger Set the interval time for the meter to report logs during the charging period. The minimum setting time is10 seconds.	
Configuration Parameters The maximum current of the one connector The maximum current of the entire EV charger MeterValueSampleInterval Ground Fault Detection Enable / Unable	Explanation EV charger single gun charging maximum current The total current draw of both sockets on the EV charger Set the interval time for the meter to report logs during the charging period. The minimum setting time is10 seconds. Configure the ground detection function on or off	

4. Web configuration

4.4. DLB Box Configuration

The EV charger can be equipped with a DLB box to achieve dynamic load balancing or photovoltaic energy management functions. For specific functions, please refer to the "DLB Manual". The configuration items on this page can configure the DLB function of the EV charger.

When the "DLB WebConfig Enable" function is turned on, the configuration set by the DLB box through the buttons will no longer take effect, and will be replaced by the configuration content on this page.

Enter the DED configuration.			
O DLB Enable			
DLB Unable			
ODLB WebConfig Enable			
DLB WebConfig Unable			
Extreme Mode Enable			
Extreme Mode Unable			
Normal DLB .			
Max Grid Current: 40			
Solar DLB .			
○ Solar mode full charge at night Ena	ble		
Solar mode full charge at night Una	able		
Only PV Mode			
O Hybrid Mode			
O Full Speed Mode			
O Full Speed Mode Max Grid Current In Hybrid Mode:			
O Full Speed Mode Max Grid Current In Hybrid Mode: DLB DataTransfer Interval:			

Configuration Parameters	Explanation
DLB Enable / Unable	DLB function master switch
DLB WebConfig Enable/DLB WeConfig Unable	Whether DLB uses the configuration of the web page
Normal mode Extreme Mode Enable / Unable	Normal DLB extreme mode EV charger may be suspended due to DLB restrictions when turned on
DLB Normal Mode Max Current	Ordinary DLB overload current setting, setting range 6-99A
PV mode full charge at night Enable / Unable	After turning on the photovoltaic mode, it will automatically switch to full-speed charging from 8:00 pm - 6:00 am
Only PV Mode/Hybrid Mode /Full Speed Mode	Select the working mode of photovoltaic DLB Only PV Mode: Will use photovoltaic energy to charge the EV charger as much as possible. Hybrid Mode: Allows a certain amount of utility power to charge the EV charger. Full Speed Mode: Maximum rate charging.
Hybrid Mode Max Grid Current	Hybrid Mode: The maximum current value allowed to flow into the grid under the setting, the setting range is 1-98A
DLB Date Transfer Interval	Set the interval time for DLB to report logs during the charging period. The minimum setting time is 10 seconds.

4. Web configuration

4.5. Enter the RFID configuration

Enter the RFID configuration.	
○ RFID is only used offline	
RFID can be used at any time	
O RFID Unique Enable	
RFID Unique Unable	
RFID UniqueID:	
○ RFID Custom Enable	
RFID Custom Unable	
RFID Custom Block: 0	
RFID Custom Password:	
submit	
back	

Configuration Parameters	Explanation	Maximum Length
RFID is only used offline/RFID can be used at any time	When the charger is online after configuration, the RFID card swiping function will be prohibited.	
RFID Unique Enable/ RFID Unique Unable	Enable a unique RFID card to be used with the charger	
RFID Unique ID:	Card number configuration	20
RFID Custom Enable/ RFID Custom Unable	Whether to enable Custom Card Reading Model	
RFID Custom Block:	Card number storage address	63
RFID Custom Password:	Card password must be 12 characters	0-9 , a-f,A-F

4.6. Reset the Password

Enter a correct password. The maximum lengt	h is 10 bytes.
This password is also the password for the Wi	Fi AP.
Old Password: New Password:	
Reset the password	
back	
When you forget the password, you can restore the password by holding down the reset button inside the EV charger.	to the default
To restore the charger to be default settings, after press the emergeset button for 20S to achieve.	ency stop button and long press the

4. Web configuration

4.7. WPS Connection Method

	4	Enter the WEB	configuration mode
Ready for WPS connection		Enter the network information. Note: Wi-Fi supports only 2.4 GHz. Note: If "Wi-Fi WPS" is selected, the V	W-Fi router should support WPS.
_		Note: WEP encryption is not support Note: WPA2 Enterprise encryption is	xd. not supported.
•		Note: If "Wi-Fi WPS" is selected, Wi-Fi Wi-Fi SSID:	i information below is not required to enter.
The default of the charger is WPS connection mode, please confirm whether it is currently in WPS connection mode	No	Wi-Fi Password:	
Yes			
Press and hold the leakage test button for 5s until you hear a beep from the EV charger.			
Yes			The first green light flashes slowly
		CCC	OFF for 1 second,
Start the WPS function of the router within 120 seconds.			
WPS matching The first green light flashes quickly (ON for 0.25 seconds, OFF for 0.25 seconds)	WPS pairing times out		
WPS pairing is successful			
The first green light breathing green.			

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4.8. Exit AP Mode

After the setting is completed, click the "Exit the Wi-Fi AP mode" button, and the EV charger will automatically connect to the server according to the set parameters.

5.1. Button Functions

• Electric Leakage Test Button

short press	light up the LCD screen
	Choose which charging gun to use. (When the screen is on)
Press the emergency stop reset button, and then press the leakage test button.	leakage test
hold down	WPS paring (need to be without network, and under the WPS mode)

Note: The charging gun cannot be inserted into the car during the leakage test.

• Emergency Button Switch

press	emergency stop
press and rotate	reset

- Press the emergency button and hold down the reset button for 20 seconds, to restore factory setting.
- Hold down the reset button for 5 seconds,to restore default password.
- Hold down the leakage test button and emergency button to power up the Charger, to enter Web configuration mode.

5. Operating instructions

5.2. Buzzer

Enter into WEB configuration mode successfully	Long buzzing once
WEB configured successfully	Long buzzing once
WEB configured failed	Long buzzing twice
RFID card/remote authentication failed	Short buzzing 5 times
RFID card/remote authentication start	Short buzzing once
RFID card/remote authentication stop	Short buzzing twice
Start the leakaeg test	Long buzzing once
Restore the password successfully	Long buzzing once
Restore the factory setting	Long buzzing once

5.3. LED Lights Display

Normal Status				
LED Behavior	LED Status	Status Description	Potential Cause	Solution
\bigcirc	Lights OFF	No power supply	No power	Check the power source
	All lights ON, Yellow and Green lights are blinking till green lights breathing magenta.	Running Self Test		
	The first green light fast blinking (ON for 0.25 seconds, OFF for 0.25 seconds)	Enter WPS configuration	In WPS configuration status	Recheck the configuration
	The first green light slow blinking (ON for 1 second, OFF for 1 second)	Network is not connected	WIFI connection failure or wrong password	1.5G or WPA 2_ Enterprise is not available for charger 2.Ensure password is correct 3.Restart the App
C	All green light breathing	Standby		
	The 1-5 green lights slow blinking (ON for 1 second, OFF for 1 second)	The charger is reserved		
	The 1-5 green lights ON, brightness decreases from top to bottom	Charger authorized, waiting for the Charging Connector plug in		

5. Operating instructions

	Normal Status				
LED Behavior	LED Status	Status Description	Potential Cause	Solution	
	Green lights up and down	The Charging Connector is plugged in, waiting for RFID card authentication			
	Green lights end in the middle	Waiting for the car start to charge			
	Green lights extend from the middle to the ends	Charging			
(All green lights ON	Charging finished			
	No. 1 and No. 2 green lights flash alternately	Waiting for updating the firmware			
	No. 1-5 green lights are moving and flashing	Updating the firmware			
	Yellow lights flashing	Charger is remotely disabled or not registered	Charger is not configured	Configure the charger	

Fault Status				
LED Behavior	LCD Screen/LED Light	Status Description	Potential Cause	Solution
(Internal contactor failure	Contactor failure	Contactor adhesion or tripping	Check whether the vehicle charging module is normal
$\left(\right)$	Conector 1	Emergency stop protection	Emergency stop button is pressed	Rotate the emergency stop button Pop-up reset
(Conector 1	Grounding abnormality	The ground wire is not wired or the neutral wire is reversed	Check whether the grid connection and charger wiring is correct
C	Conector 1	Over Voltage	Power supply has short circuit or unstable	1.Check the power supply 2.Check the wire of power supply
(Conector 1	Under Voltage	Power supply voltage is insufficient	1.Check the power supply 2.Check the wire of power supply
(Consector 1	Leakage fault	Leakage happening	1.Reset with emergency stop button 2.Check the charger connector or vehicle for leakage
(Conector 1	Over current	Short circuit may happen	Call for technical support
(Conactor 1	Over temperature alarm	High temperature	1.Wait for charger to cool 2.Ensure the wiring of charger terminal is not loose

5. Operating instructions

Fault Status				
LED Behavior	LCD Screen/LED Light	Status Description	Potential Cause	Solution
C	Conactor 1	Abnormal CP signal	The connection between the charger and the vehicle is loose	1.Check if the connector is with water leakage in 2.Ensure the connector is matched with EV
C	Conector 1	Abnormal CC signal	The connection between the charger and the vehicle is loose	Check whether the charger connector is firmly inserted
(Conector 1	Open fault	The cover is opened or not fastened	Check if the cover is opened and fasten the cover
	Yellow light ON triple	LED board is offline	LED board is fault or loosing	Open the charger cover and check whether the LED board cable is connected correctly and firmly
	Yellow light flash 4 times	RFID offline		
	Yellow light flash 3 times	Meter offline		
	Red light flash 4 times	The car is over temprature, stop charging		
	Yellow light light up for 5 seconds	Firmware update fialed		



