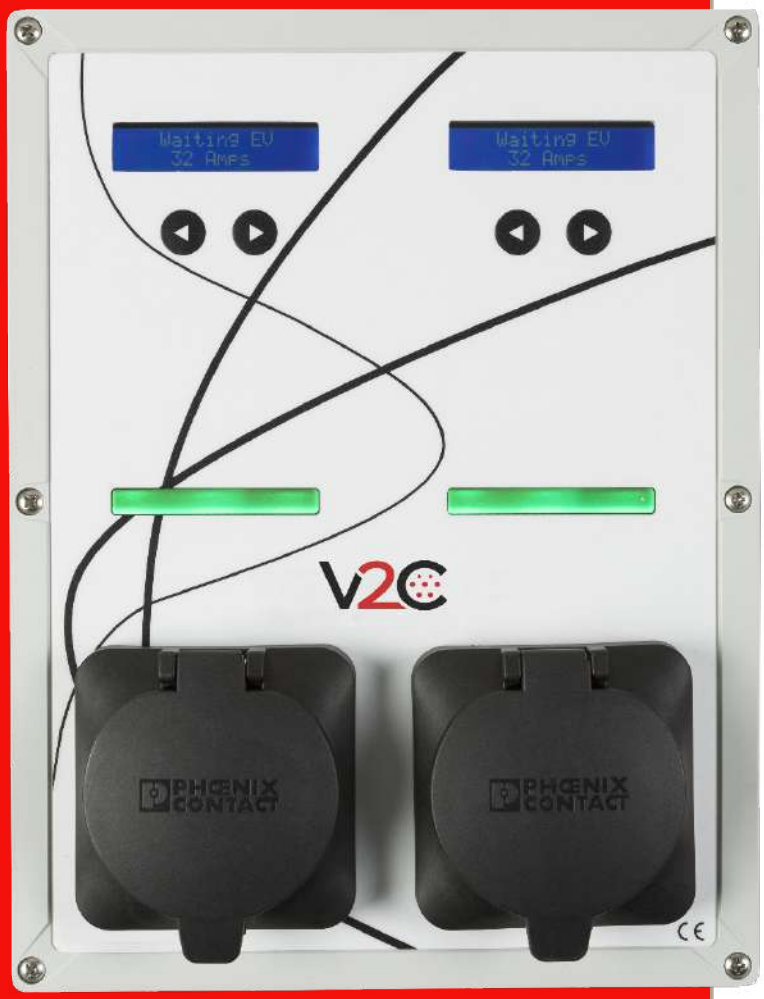
PLUS

INSTALLATION MANUAL



USER MANUAL

View this manual online
www.v2charge.com/man

V2C bears the CE mark. The corresponding Declarations of Conformity are located at V2C.

This product meets the requirements of the ROHS Directive (2011/65/CE). The corresponding Declarations of Conformity are located at V2C.

Disposal Information

The above symbol, the crossed-out trash container, indicates that electric appliances and electronic devices including accessories (EEE), the electrical and electronic equipment of the electric charging station, as well as its accessories, shall be disposed of separately from general household waste. You will find more information about this in the operating manual or in the packaging of the product. The materials are recyclable according to their labelling. Reuse, material recycling and other forms of recycling used equipment contribute considerably to protecting our planet.

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Dear customer, V2C team wants to thank you for buying one of our electric vehicle charging box. Our passion in design and innovation makes our charging points leaders in technology and design. Do not hesitate to contact us at info@v2charge.com if you have any suggestion. We hope you enjoy your product.

Best regards, **The V2C Team**

1 IMPORTANT INFORMATION

1.1 SAFETY INSTRUCTIONS

¡¡WARNING!!

Not observing the safety instructions can result in risk of death, injuries and damage to the device! V2C assumes no liability for claims resulting from this!

• Electrical hazard / fire hazard!
Never use damaged, worn or dirty charging plugs. The first time tuning on the electrical charging station must be carried out exclusively by competent and qualified technical personnel, fully responsible for compliance with the installation regulations and existing standards.

Never use damaged, worn or dirty charging connectors.
• The owner must ensure that the charging station is only ever operated in perfect conditions:
- Repair work to the charging station is forbidden and may only be performed by the manufacturer (the charging station must be replaced)!

- Do not carry out any unauthorized conversion work or modifications to the charging station!

- Do not remove any notices on the device, such as safety symbols, warning notices, rating plates, nameplates or cable markings!

• The charging station does not have its own power switch! The RCD circuit breaker and the line circuit breaker of the building installation serve as main connectors.

• No extension cables are permitted for connecting an electric vehicle to the power supply device for electric vehicles.

Only electrical vehicles or their chargers may be connected. No connection of other loads is permitted (electric tools etc.)!

• Read the information and the instructions for your vehicle carefully before you charge the vehicle using the charging station.

• Ventilation: A number of vehicles require an external ventilation system in the interior areas due to the possible creation of toxic or explosive gases during the charging procedure.

• Unplug the charging cable by pulling on the connector, never on the cable.

• Risk Damage! Never clean the charging station with a jet of pressurized water (from a hose, high-pressure cleaner etc).

INTENDED USE [Capte la atención de los lectores mediante una cita importante extraída del documento o utilice este espacio para resaltar un punto clave. Para colocar el cuadro de texto en cualquier lugar de la página, solo tiene que arrastrarlo.]

1.2 INTENDED USE

PLUS is a "charging station" for the indoor and outdoor area at which electrically operated vehicles can be charged (e.g. electric automobiles).

The electric charging station has been designed for being built in a wall.
The respective national regulations must be observed with regard to the installation and connection of the charging station.

The device was developed, manufactured, inspected and documented in compliance with the relevant safety standards. Therefore, the products do not pose any danger to the health of persons or a risk of damage to other property or equipment under normal circumstances, if the instructions and safety precautions relating to the intended use have been observed properly.

The instructions contained in this manual must be strictly observed in all circumstances. Failure to do so could result in the creation of potential sources of danger or the disabling of safety devices. Regardless of the safety instructions given in this manual, the safety precautions and accident prevention measures appropriate to the situation in question must also be observed.

1.3 ABOUT THIS MANUAL

This manual is valid for devices of the type: PLUS.

This manual is intended for the following people:
• End customers (user of the electrical charging point) Electric Technicians

2 GENERAL OVERVIEW AND VERSIONS

1 Outlet Socket

2 Outlets Hose

2 Outlets Hose + Socket

1 Outlet Hose

2 Outlets Socket

1 OUTLET CHARGING POINT

Compatible with:

- V2C Cloud
- Dynamic power control
- Balancing between charging points (Internet connection required)

2 OUTLETS CHARGING POINT

Compatible with:

- Dynamic power control
- Balancing between charging points

Equipment configuration	**1 outlet socket**	**1 hose**	**2 outlets socket**	**2 hoses**	**1 socket + hose**
Input voltage	230 / 400 VAC	230 / 400 VAC	230 / 400 VAC	230 / 400 VAC	230 / 400 VAC
Frequency of input	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Tolerance	10%	10%	10%	10%	10%
Output power per tap	2,2 – 22 kW	2,2 – 22 kW	2,2 – 22 kW	2,2 – 22 kW	2,2 – 22 kW
Output current	6 – 32 A	6 – 32 A	6 – 32 A	6 – 32 A	6 – 32 A
Power control	Mode 3 PWM control, according to ISO/IEC 61851	Mode 3 PWM control, according to ISO/IEC 61851	Mode 3 PWM control, according to ISO/IEC 61851	Mode 3 PWM control, according to ISO/IEC 61851	Mode 3 PWM control, according to ISO/IEC 61851
Recharge status	Display LCD LED backlight	Display LCD LED backlight	Display LCD LED backlight	Display LCD LED backlight	Display LCD LED backlight
Recharge point management software	V2C OCPP (Optional)	V2C OCPP (Optional)			
Type of connector	IEC 62196	IEC 62196 SAE J1772	IEC 62196	IEC 62196 SAE J1772	IEC 62196 SAE J1772
Operating ambient temperature	-10º to 50º	-10º to 50º	-10º to 50º	-10º to 50º	-10º to 50º

3 USING THE CHARGING STATION

3.1 ELECTRIC CHARGING BOX WITH CABLE

1. Switch on the charging box (Normal operation of the charging point: always activated)

2. The charging box will start a self-test mode for a few seconds. Immediately, the backlight will turn green.

Start the Charge

1. **Select Amp Rated.** Use the arrows to select the required recharge intensity. The recharge intensity cannot be changed during the charging process (for exception see 4.3) and will remain in the storage.

2. **Connect the recharging hose to the car.** The recharging point will turn white. The white color of the backlight will be activated while the car is connected to the recharging point and the car does not authorize the charging.

3. Once the car authorizes starting the charging process the color will turn blue and the charging will begin. The screen will always inform about the state of charge.

Ending the charging procedure

The charging procedure will end when unplugging the charging cable from the vehicle. For details, please refer to the instructions of the vehicle manufacturer.

1. **Unplug the charging cable from the vehicle**

Do not use force to pull out a mechanically locked plug!

Keep save charging connector / charging cable. You can roll the charging cable and leave it in the holder assigned to that purpose.

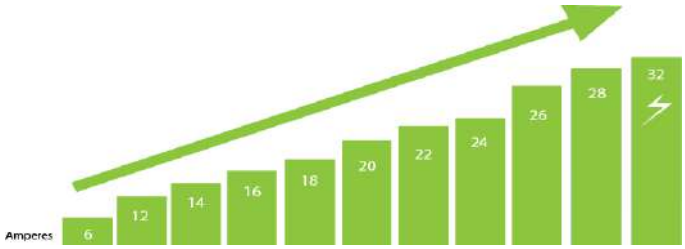
The EVSE is connected and waits to be connected to the electric vehicle.

The EVSE is ready to charge. It waits the authorization of the car to start the charging.

The EVSE is charging. The cable is connected to the vehicle.

3.2 CHARGE AMPS SELECTION

The vehicle will charge at that recharging speed or at a lower speed depending on the maximum recharging capacity of the vehicle and the percentage of load it is in. The maximum speed selected must be in accordance with the installation performed.



An electrical specialist technician must select the circuit breaker you need to install and the supply section.

3.3 ACCESS TO THE CHARGER MENU

In the charger menu a number of parameters can be modified.
We will follow the following procedure in order to access the menu:
Without connecting the electric vehicle (idle mode) press the 2 buttons simultaneously until you access the menu. It takes 3-4 seconds.

Press 3-4 seconds until the menu is accessed.

You can scroll through the menu with the right – left buttons. To exit the menu simply press the button on the right until you automatically exit the menu.

1st Parameter: The equipment does not allow modifying the load intensity while the car is charging by default. By changing this parameter, you will be able to modify the curve of load intensity while the EV is charging.

The load intensity is fixed by default. To change to NO press the right button for 3-4 sec.

2nd Parameter: It allows you to change the language of the screen product.

Press the right button for 3-4 sec to change the language.

3rd Parameter: It allows you to turn off the LED lighting of the equipment. The LED lighting is activated by default. If deactivated, no load status will be seen in the LEDs.

Press for 3-4 sec the right button in order to activate/ deactivate the LED lighting according to your wish.

3.4 EQUIPMENT WITH DYNAMIC CONTROL AND BALANCE OF LOADING

Plus allows the balance of load between sockets (in case there are more than two connectors) and the dynamic control of the recharge with regard to the installation.
In the case of the load balance between sockets, the system is regulated automatically. If two vehicles are connected at the same time, the intensity will be reduced to the half – on the other hand, if you are going to use the Dynamic Power Control consult the respective manual.

4 TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE - SOLUTION
LED does not light up	• No voltage supply. • Check the residual current circuit-breaker and the thermal breaker and, if necessary, connect them. • Faulty: contact your service representative.
Charging procedure does not start	The plug is not plugged in properly: •Pull out the plug and insert it again. •The connector in the locking area may be dirty or damaged: clean the connector or have it replaced. •The vehicle doesn't need power or has a failure check on the vehicle. •Vehicle is scheduled to start the charge at a later start time.
Vehicle not fully charged **Long charge time**	• Reduced current due to high temperature because of the vehicle or the electric charging station. •Protect the vehicle and charging station from direct sunlight during the charging process. •Visual check of dirt, wear or damage on the connecting device. If necessary, contact your service representative. •Incorrect authorisation due to an external control device (power supply, photovoltaic system, etc.)
The connector can't be unplugged from the car	The charging process hasn't been completed by the vehicle: please complete the charging process according to the vehicle manufacturer's manual. Eventually the connector cannot be unlocked under traction: push the connector inwards and reconnect it to the vehicle. Then complete the charging process again.

5 INSTALLATION

5.1 GENERAL CRITERIA FOR THE SITE SELECTION

The charging station was constructed for the indoor and outdoor area. Therefore, it is necessary to ensure the installation conditions and the protection of the device at the installation area.

- Respect the local regulations in force for electrical installations, fire prevention and accident prevention, as well as emergency exits at the location.
- Only qualified personnel must carry out the installation.

- Installation of the charging point in hazardous areas is forbidden.
- Do not mount the electric charging station in the direct path of people so that no one can trip over the plugged-in charging cable and that no flow of pedestrians can step on or cross the charging cable.
- Do not mount the electric charging station in a place exposed to ammonia or ammonia gas (e.g. near to stables)
- The mounting surface must be firm enough in order to withstand mechanical load.
- Do not install the charging station in places where objects could fall and damage the equipment (e.g. ladders or hanging hires)
- Do not subject the equipment to direct water jets (e.g. due to the proximity to car wash stations or high-pressure cleaners).
- The device should be protected from direct rain as far as possible to prevent icing, hail damage or similar.
- The device should be installed in a way that it is protected from direct sunlight as far as possible to prevent reduction of the charging current or interruption of the charging due to excessive temperatures of the charging station components.
- In case of an outdoor installation (e.g. outdoor parking) please switch off the charging point if the temperature reaches unacceptable values.

Observe the internationally valid installation standards (e.g. IEC 60364-1 and IEC 60364-5-52) and comply with the nationally applicable installation standards and regulations.

5.2 ELECTRICAL CONNECTION INSTRUCTIONS

Selection of differential circuit breaker:

Each charging station must be connected to a separate differential circuit breaker. Other current circuits cannot be connected to this differential circuit breaker. A suitable rated current IN must be selected for the set circuit breaker.

Sizing of the head-end thermal magnetic switch:

The increase of the ambient temperature in the control cabinet must also be taken into consideration for the sizing of the thermal circuit breaker. Calculate the rated current according to the chosen charging power and the supply line.

Disconnection device:

The Charging Station hasn no power switch available. The differential switch and the magneto-thermal switch of the power supply line operate as a mains connection device. The Charging Point can always be turned on and will only be switched off if it isn't used very often.

Sizing of overvoltage devices:

If national legislation requires it, the installation of an overvoltage device must be designed according to the maximum intensity of the charging station.

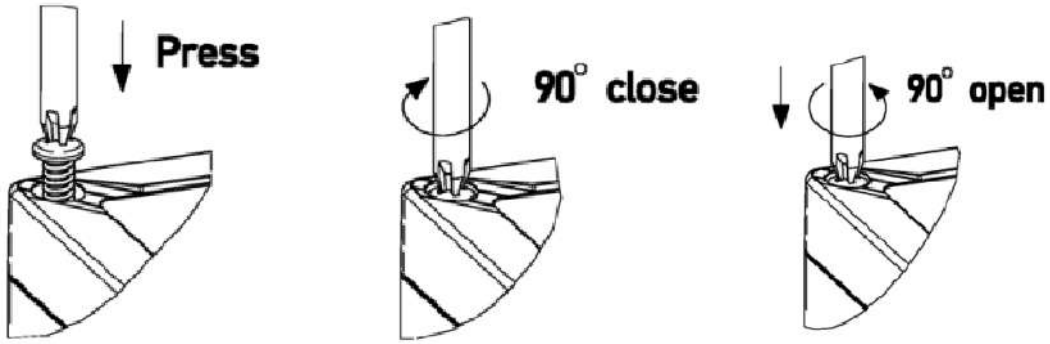
Determine the rated current according to the data on the nameplate in compliance with the selected load capacity and the supply line.

Sizing of the power supply line:

When designing the installation, do it according to current state regulations. If the cable is exposed to high temperatures take into account the temperatures that it can suffer inside the charging point. Select the cable of sufficient section for the chosen automatic switch.

5.3 CHARGING STATION PLACEMENT

The screws are spring-loaded, which require only a 90º turn to open.



1. Mark four holes in the wall, taking into account the measurements indicated behind the box. 138mm x 130mm

2. Fixing materials are not included in the recharging point. Those that are considered most suitable for the material to be fixed should be used. In case of concrete or brick, it is recommended to use a block and a screw.

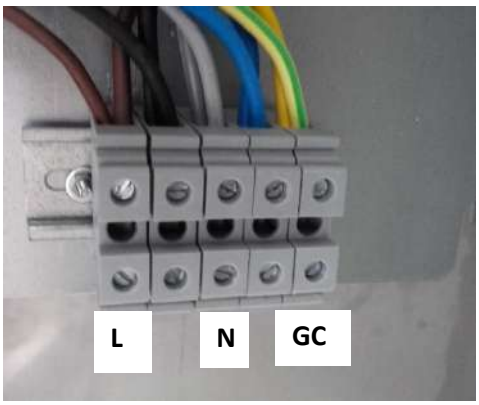
3. Fix the EVSE to the wall.

5.4 ELECTRICAL CONNECTION

Take the electric hose to the recharge point through the supplied press. Make sure it is securely fastened. Peel the hose leaving the phases exposed.
Every recharging point comes with gray colored terminals and or a contactor (in case of three-phase).
Calculate the distance so that you can easily enter and cut the excess cable.
The terminals allow up to 16 mm2 of section.

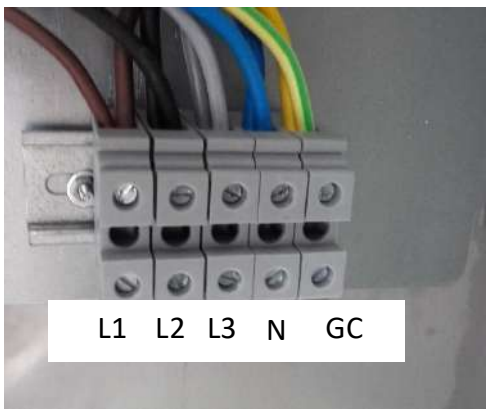
SINGLE-PHASE CONNECTION.

Connect only L1 (Brown color), Neutral (Blue color) and Ground connection (Yellow and Green).



THREE-PHASE CONNECTION.

Connect L1 (Brown), L2 (Black), L3 (Gray), Neutral (Blue) and Grounding (Yellow and Green).



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