

## PC03X+, PC04X+, PC05X+ SMART Portable EV Charging Stations

### USER MANUAL



### INTRODUCTION

METRON PC03X+, PC04X+ and PC05X+ are extremely compact & light weight “adaptor style” smart portable EV charging stations designed to charge electric vehicles from any household outlet (e.g. Schuko) or industrial socket (e.g. 1 or 3-phase CEE sockets) using standard Type2-Type2 or Type2-Type1 charging cables that are used for charging EVs from regular wall mounted or standalone charging stations.

PC03/4/5X+ smart portable EV charging stations actually convert any power outlet/socket to EV charging station with maximum user safety features and smart charging capability through built-in Metron proprietary Wireless Dynamic Power Control system and also a user friendly WiFi Metron Charge Control application. This truly unique design saves space and weight and can totally replace regular cable type portable chargers and also regular&smart wall-box type charging stations.

Any other use is not allowed and is regarded as improper use.

Before using the smart portable EV charging station, please thoroughly read this manual and follow the instructions provided therein. Please keep the manual for future use. If you are unsure about the proper usage, please contact the manufacturer or your dealer before usage.

### IMPROPER USE

Improper use can lead to property damage or personal injury. In such cases, the manufacturer and retailer accept no liability. Warranty will be voided in case of improper use. You must not:

- modify/manipulate the smart portable EV charging station!
- drive over the smart portable EV charging station!
- connect unsuitable plugs and cables!
- draw more than maximum specified charging current from the smart portable EV charging station!
- use the smart portable EV charging station if damaged!

### GENERAL SAFETY INSTRUCTIONS



- Carefully read this security instructions before using the product!
- Never draw more than maximum specified charging current from the smart portable EV charging station!
- Children are not allowed to use the smart portable EV charging station.
- Keep animals away while using the smart portable EV charging station.
- Avoid liquids entering the smart portable EV charging station. Never use the portable EV charging station if the socket or plug are wet.
- Only connect undamaged, designated and labelled plugs & cables to the smart portable EV charging station.

### SYMBOLS USED

The following symbols are used in this manual and on the product:

	This symbol indicates a danger with a risk of causing serious injury or death or damage if not avoided.		Please read the manual before using the smart portable EV charging station.
	CE symbol is a mark of conformity indicating that a product complies with European Union directives and regulations.		Risk of electric shock due to dangerous voltage when used incorrectly.
	This symbol signifies the requirement for separate disposal of electrical and electronic waste. See chapter disposal.	T <sub>amb</sub>	Do not use and store the smart portable EV charging station below or above the specified temperature.

### GET STARTED



- Check the portable EV charging station before use. Do not use the smart portable EV charging station if damaged!
- Never draw more than maximum specified charging current from the smart portable EV charging station!
- Only connect undamaged, designated and labelled plugs & cables to the smart portable EV charging station.
- Do not use the smart portable EV charging station if the socket and plug are wet.
- Don't unplug during charging process.
- Always operate in the specified order of steps.
- Socket will provide a high voltage (230/400 V)!
- Avoid using multiple adapter/power strips as they can lead to overload.

First plug the portable EV charging station in the wall outlet. Immediately STATUS LED starts blinking: number of blinks tells you what is the saved charging power/speed setting (see the next page). Afterwards status LED glows constantly till AC power is present indicating standby/ready status. Then insert the male side of your charging cable into portable EV charging station's Type 2 socket and the other side of charging cable into vehicle's charging socket. When everything is connected STATUS LED starts blinking slowly what means the vehicle is charging. When your electric vehicle is fully charged the STATUS LED glows constantly again.

If wireless Metron Dynamic Power Control system that offers smart charging is installed the SIGNAL LED glows what indicates the charging power is dynamically controlled in order to not blow main house fuses; this system is also smartly taking into account the solar/wind/hydro power plant if house has it installed [see chapter "METRON Wireless Dynamic Power Control" for more info]. Advanced users can also via WiFi connect to built-in Metron Charge Control application which offers possibility to change charging power, delay charging start, see charging&house&solar power & energy, activate solar SURPLUS charging and much more [see chapter "USING THE WiFi METRON Charge Control application" for more info].

## SETTING THE DESIRED CHARGING CURRENT/POWER without WiFi connection

METRON portable EV charging stations allow users to set desired charging current/power before being plugged in the electric vehicle charging socket. Procedure is simple:

- Press and hold the push button: STATUS LED switches off immediately.
- After 5 seconds STATUS LED starts blinking slowly.
- Releasing the push button after a certain number of blinks determines charging current/power as follows:

### PC03X+

Number of LED blinks	Charging current/power
1	6 A / 1,4 kW
2	8 A / 1,8 kW
3	10 A / 2,3 kW
4	13 A / 3,0 kW
5	16 A / 3,7 kW*

### PC05X+


Number of LED blinks	Charging current/power
1	3 x 6 A / 4,1 kW
2	3 x 8 A / 5,5 kW
3	3 x 10 A / 6,9 kW
4	3 x 13 A / 9,0 kW
5	3 x 16 A / 11,0 kW

### PC04X+

Number of LED blinks	Charging current/power
1	6 A / 1,4 kW
2	8 A / 1,8 kW
3	10 A / 2,3 kW
4	13 A / 3,0 kW
5	16 A / 3,7 kW
6	20 A / 4,6 kW
7	25 A / 5,8 kW
8	32 A / 7,4 kW

\* 16 A available only in case wall plug contains a temperature sensor.





**New charging current/power setting is stored in the memory and it stays the same (even after the power supply is not present anymore) until the next setting change is performed.**

## USING THE WiFi METRON Charge Control application

Smart portable EV charging stations PC03X+, PC04X+ and PC05X+ have a built-in WiFi access point with web server what enables users to connect to it wirelessly by any smart phone, tablet or laptop PC. As there is a web server inside with preloaded METRON Charge Control application you don't need to install any additional program/application on your device because the METRON Charge Control simply runs in your favorite web browser (Google Chrome, Microsoft Edge, Mozilla Firefox...) on any operating system (Google Android, Apple iOS, Microsoft Windows, Huawei HarmonyOS, Linux...) you have on your smart phone, tablet or laptop PC.

Using the web-based METRON Charge Control application user can:

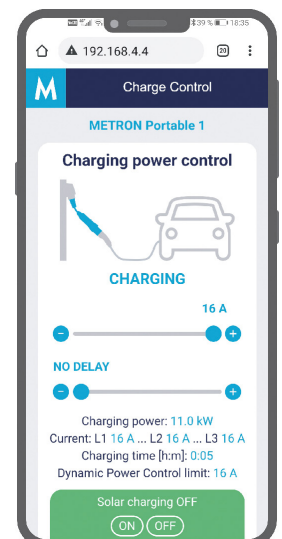
- Set the desired charging current and delay charging start.
- Turn on/off solar SURPLUS charging if solar power plant is installed.
- See all the real time measurements of charging power, charging current and charging energy.
- Change WiFi password and WiFi name [ssid].
- Connect the charging station to local WiFi network and also set the charging station internet access in the WiFi router [advanced users].
- OTA [over-the-air] install UPDATES for application firmware via WiFi.
- If METRON Dynamic EV Charging Unit for SMART charging with house main fuse protection is installed the user can also see house load, house energy consumption, solar power and solar energy production.

In order to connect to the WiFi METRON Charge Control application you need to do the following:

- Make sure the charging station is energized [connected to power].
- Go to WiFi menu in your smart phone, tablet or laptop PC and search for WiFi networks.
- Find "METRON Portable 1" (default) network and connect to it; enter the WiFi password 12345678 (this is default - it is recommended that you change it in the METRON Charge Control application).
- Scan QR code you find on the station and follow the link [it will open your default web browser and launch the Metron Charge Control automatically]; OR open your favorite web browser and type in the following IP address: <http://192.168.4.4>
- The METRON Charge Control application will be loaded immediately. Up to 5 users [devices] at a time can be wirelessly connected to the station and all connected devices will automatically receive all the latest data; for example, if one user changes the charging current with the slider all others will see that on their screens.

If you forget the WiFi password you've set, you need to do the following:

- Disconnect the station from power, press the "Push Button" and keep it pressed.
- Connect the station to power.
- The blue STATUS LED starts blinking 2 times.
- After 30 seconds the STATUS LED will turn-on for 3 seconds and then turn-off.
- Release the "Push Button" and WiFi name [ssid] & password are reset to default values.



The METRON Charge Control application is intuitive and usually doesn't need more instructions to be used; just browse and explore the functions. Where the additional user info is required important user instructions are explained under "notes". If you don't understand something please feel free to contact Metron.

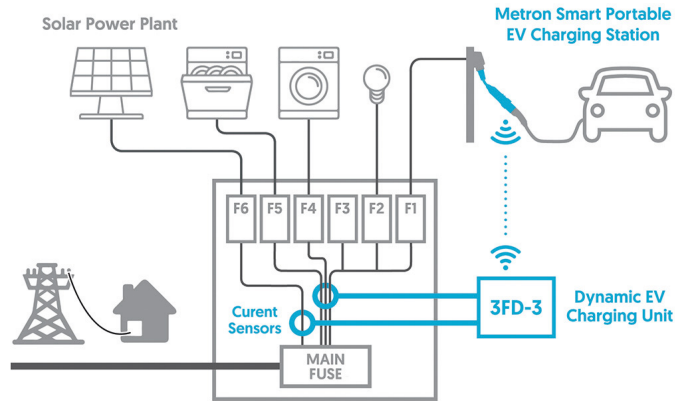
# METRON Wireless Dynamic Power Control

Smart portable EV charging stations PC03X+, PC04X+ and PC05X+ are equipped with Wireless Dynamic Power Control system that is always monitoring the load at house main fuse with electric current sensors and dynamically adjusting (lowering or rising) the charging current/power of your electric vehicle in the way the main house fuse never gets overloaded (never blows-up). If the house has a solar (or wind/hydro) power plant installed this system allows higher current/power charging than would be allowed by the main fuse and it also enables the possibility of user activated solar SURPLUS charging what means the vehicle will be charged only with excess solar power without taking any energy from the grid. METRON Wireless Dynamic Power Control system is designed to work with 1-phase and 3-phase power systems.

To be short, METRON Dynamic Power Control system enables users to charge their electric vehicle without worrying about the load other household appliances might draw from the in-house grid.

Beside owning the PC03X+, PC04X+ or PC05X+ all you need is 1 pcs METRON Dynamic EV Charging Unit (model 3FD-3) and current sensors. This way up to 30 Metron portable AND/OR wall-box style EV charging stations can be controlled and main fuses with rated currents up to 250A are supported.

Note: Wireless signal has an open-air space range of 500m with built-in antenna and up to 2000m with additional antennas on the METRON Dynamic EV Charging Unit (model 3FD-3). If the system is installed within one house usually no additional antenna is needed.



Detailed schematics for installing METRON Dynamic Power Control system are located in a separate installation manual, intended for qualified installers only.

## STATUS NOTIFICATION BY LED BLINKS

### STATUS LED state

### NOTIFICATION

Slow blinking when power supply is applied	Indicating previous saved current setting
Constantly on when not plugged in	Stand-by/Ready to charge
Slow blinking when plugged in	Charging
Constantly on when plugged in	Electric vehicle fully charged
Slow blinking 2 times when plugged in	Electric vehicle requests room ventilation (no charging)
Slow blinking 3 times (plugged in or not plugged in)	Portable charger overheated (no charging); restarts charging automatically when it cools down
Slow blinking 5 times (plugged in or not plugged in)	Wall plug overheated (no charging); restarts charging automatically when it cools down; applies only to versions with wall plug integrated over-temperature protection
Slow blinking 6 times (plugged in or not plugged in)	Leakage current detected by built-in RCD (charging stopped); unplug to reset
Slow blinking 7 times (plugged in or not plugged in)	RCD self test failed (charging not allowed), station fault
Slow blinking 8 times (plugged in or not plugged in)	One or more power contact welded (charging not allowed), station fault
Rapid blinking (plugged in or not plugged in)	Station or vehicle fault



Household 16 A Schuko wall sockets must be designed for constant 16 A current!

### SIGNAL LED state

### NOTIFICATION

Constantly ON	Wireless signal from METRON Dynamic EV Charging Unit is GOOD, ALL SMART charging features enabled
Constantly OFF	NO Wireless signal from METRON Dynamic EV Charging Unit, REGULAR charging activated

## TECHNICAL SPECIFICATIONS

### PC03X+

### PC04X+

### PC05X+

EV Side Socket Type	Type 2 (IEC 62196) Female Socket	Type 2 (IEC 62196) Female Socket	Type 2 (IEC 62196) Female Socket
Wall socket/grid side Standard Plug Types	Type F/E (Schuko), CEE, Type G (UK), Type J, Type H, Type B, ...	CEE 32 A (3-phase/3P+N+E), CEE 32 A (1-phase/1P+N+E), ...	CEE 16 A (3-phase/3P+N+E), CEE 32 A (3-phase/3P+N+E)
Max. Charging Current	16 A for Schuko with overtemp. prot. & CEE plug (1-phase); 13 A for all other plugs (1-phase)	32 A (1-phase)	3 x 16 A (3-phase) or 1 x 16A (1-phase)

Possible charging current settings	6/8/10/13/16 A or 6/8/10/13 A	6/8/10/13/16/20/25/32 A	6/8/10/13/16 A
Max. Charging Power	3,7 kW or 3,0 kW	7,4 kW	11 kW [3-phase]; 3,7 kW [1-phase]
Rated Voltage	230 Vac [1-phase]	230 Vac [1-phase]	400 Vac [3-phase], 230 Vac [1-phase]
Operating voltage/frequency range	from 90 V to 270 V [50/60 Hz]	from 90 V to 270 V [50/60 Hz]	155 V to 470 V [3-phase] [50/60 Hz] 90 V to 270 V [1-phase]
Wall plug integrated OVER-TEMPERATURE PROTECTION	optional	optional	optional
Internal self-resettable overtemperature protection	yes	yes	yes
Integrated ground fault protection device [RCD]	30 mA AC + 6 mA DC	30 mA AC + 6 mA DC	30 mA AC + 6 mA DC
Automatic RCD self-test	yes	yes	yes
Power contactor weld detection (although very unlikely to occur due to special contact weld protection system)	yes	yes	yes
Wireless Dynamic Power Control system	yes	yes	yes
WiFi Metron Charge Control app.	yes	yes	yes
Supported WiFi standards	IEEE 802.11b/g/n	IEEE 802.11b/g/n	IEEE 802.11b/g/n
WiFi speed	up to 150 Mbit/s	up to 150 Mbit/s	up to 150 Mbit/s
WiFi security	WPA2	WPA2	WPA2
WiFi signal range	up to 20 m	up to 20 m	up to 20 m
UV resistance	yes [all parts]	yes [all parts]	yes [all parts]
Operating Ambient Air Temperature Range	from -30°C to +50°C	from -30°C to +50°C	from -30°C to +50°C
Drive-over proofness	yes	yes	yes
IP Rating	IP67 [100% water proof]	IP67 [100% water proof]	IP67 [100% water proof]
IK Rating	IK10 [impact/shock proof]	IK10 [impact/shock proof]	IK10 [impact/shock proof]
Weight/Dimensions	1 kg/47 cm x 7 cm max.	1 kg/47 cm x 7 cm max.	1 kg/47 cm x 7 cm max.

Smart portable charging station models PC03X+, PC04X+ and PC05X+ can have some additional designation next to the number such as PC03xyz, PC04xyz and PC05xyz, where "x" and "y" and "z" may be any alphanumeric character or blank, representing a color or wall plug type, or lower than standard charging current limit or factory version, or any possible future product differentiations, which do not have an impact on general technical specifications.



It is only allowed to use Metron original charging adaptors in combination with PC03X, PC04X or PC05X portable EV charging stations.

## WHAT IS RCD AND HOW DOES IT WORK?

RCD is an acronym for Residual Current Device - sometimes it can be called also Earth Leakage Circuit Breaker or Safety Switch. Its purpose is to prevent you from getting a fatal electric shock if you touch live part, such as a bare copper wire under high voltage. RCDs offer a level of personal protection that ordinary fuses/circuit-breakers cannot provide. RCD constantly monitors the electric current flowing through one or more circuits which it protects. If it detects electricity flowing down an unintended path, such as through a person who has touched a live part, the RCD will switch the circuit off very quickly, significantly reducing the risk of death or serious injury. Every smart portable charging station has integrated Type A 30mA AC + 6mA DC RCD what ensures maximum possible level of personal protection as it protects users from AC, pulsating DC and pure DC leakage currents.

## CLEANING & STORAGE

Use only a dry or damp cloth for cleaning the unplugged smart portable EV charging station. Do not use cleaning detergents. Please secure smart portable EV charging station while transporting it in your vehicle to avoid damage. Store at a dry place.



- Smart portable EV charging station must be completely unplugged before cleaning!
- Secure smart portable EV charging station while transporting!
- Avoid water getting to contact parts!

## DISPOSAL



The symbol "crossed-out trash can" signifies the requirement for separate disposal of electrical and electronic waste. These devices may contain hazardous and environmentally harmful substances. Please take such devices to a designated collection point for the recycling of electrical and electronic equipment and do not dispose of them in regular household waste. You can obtain further information from local waste disposal services or the company from which you purchased the product.

## GREEN PRODUCTION

All our products are produced in a carbon neutral way by using "Sustainable energy cycle" method. Production plant where we make charging cables and portable charging stations is the first fully sustainable production facility for EV charging cables. All energy needed for the heating and cooling of the building, production process and for transportation of goods and employees (except deliveries of heavy materials by trucks), is produced by 2 photovoltaic power plants and stored in 4 storage batteries. Almost all of the raw materials we use (cables, plugs) are produced in EU, to shorten supply routes and support local economy. [Buying our products helps developing sustainable economy.](#)

## LIMITED WARRANTY

METRON warrants its product to the original consumer purchaser that it will repair, or replace, any product that is determined to be defective for the following terms: **Two (2) years from date of purchase on all components.** To be eligible for repair or replacement under this warranty, the product in question must be sent back to METRON within the warranty period and the original consumer purchaser must comply with the following conditions: The product thereof must not have been modified or altered in any way by an unauthorized source; The product thereof must have been used in accordance with the user manual. This limited warranty does not cover: Damage due to improper use; Accidental or intentional damage; Misuse, abuse, corrosion, or neglect; Product impaired by severe natural conditions, such as excessive hail storms, lightning strikes, tornados, flooding, ice or other natural occurrences; Damage due to improper packaging on return shipment.

Any and all labor charges for troubleshooting, removal or replacement of the product are not covered by this warranty and will not be honored by METRON. All shipping costs regarding repair or replacement of the product is to be pre-paid by the original consumer purchaser.