METRON

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PC05T PORTABLE CHARGER for TESLA electric vehicles

USER MANUAL

Integrated REMOTE CHARGE PORT OPENER & PLUG UNLOCKER

»BOXLESS« portable charger design

3-phase 11 kW

INTRODUCTION

11 kW 3-phase METRON EV portable charger PC05T is designed to charge TESLA electric vehicles equipped with Type 2 charging sockets (European standard) from **3-phase 16A CEE sockets** (or any other 1 or 3 phase outlets by using appropriate adapter). PC05T features **integrated REMOTE CHARGE PORT OPENER & PLUG UNLOCKER** that works with all TESLA brand cars.

It also offers possibility to set desired charging current/power with a simple button press. Where's the heavy in-line "bulky box"? **It doesn't exist, miniaturized portable charger electronics is placed inside METRON Type 2 charging plug itself!** This makes METRON portable charger PC05T lighter, easier to install/connect and easier to store in a carrier case.

GET STARTED

First plug the PC05T portable charger in the wall outlet. Immediately blue signal LED starts blinking: number of blinks indicates saved power setting (see the next page). Afterwards, LED glows constantly till AC power is present indicating standby/ready status. Next, press the "3-function" button to remotely open TESLA charge port and insert PC05T Type 2 plug into the vehicle's Type 2 charging socket.

Blue LED starts blinking slowly which means the vehicle is charging. When your electric vehicle is fully charged the blue LED glows constantly. To unplug PC05T press and hold the "3-function" button for a second. The TESLA car will unlock the plug (only if car is unlocked/owner nearby!) and you can unplug PC05T without touching the smart phone or central screen.

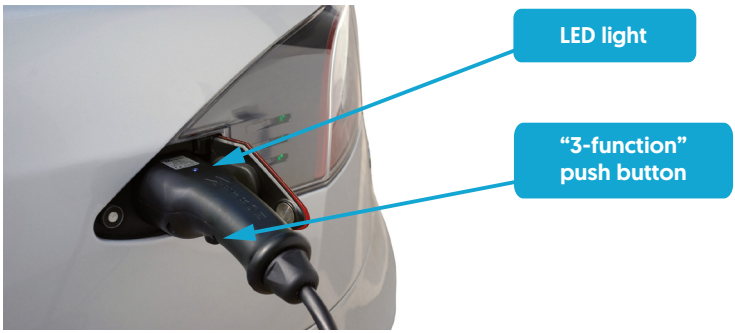
REMOTE CHARGE PORT OPEN & PLUG UNLOCK

When PC05T is plugged into the wall outlet/socket (power applied) pressing a "3-function" button sends a remote-control signal to your TESLA vehicle charge port which then opens remotely. Signal range is usually between 3 and 15 meters. This feature eliminates user "touching" the smart phone or Tesla central screen in order to open the charge port.
To unplug PC05T while still charging or when charging completed press and hold the "3 function" button for a second. The car will unlock the plug (only if car is unlocked/owner nearby!) and then you can unplug PC05T. This feature once again eliminates the need for user "touching" the smart phone or Tesla central screen in order to unlock PC05T plug from Tesla charge port.
These are two functions of the "3-function" push button. Third one is described in the next chapter below.

SETTING THE DESIRED CHARGING CURRENT/POWER

PC05T portable charger allows user to set desired charging current/power before it's plugged in the TESLA electric vehicle Type 2 socket or even while the vehicle is charging! Procedure is simple:

- press and hold the "3 function" push button: LED turns off immediately,
- after **5 seconds** LED starts blinking slowly,
- releasing the push button after a certain number of blinks determines charging current/power as follows:



Number of LED blinks	Charging current/power	
1	3 x 6 A / 4,1 kW	(6 A / 1,4 kW – single phase mode)
2	3 x 8 A / 5,5 kW	(8 A / 1,8 kW – single phase mode)
3	3 x 10 A / 6,9 kW	(10 A / 2,3 kW – single phase mode)
4	3 x 13 A / 9,0 kW	(13 A / 3,0 kW – single phase mode)
5	3 x 16 A / 11,0 kW	(16 A / 3,7 kW – single phase mode)

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.

All Tesla vehicles also allow users to set charging current manually on the Tesla central screen or smart phone application. But if you set PC05T charging current to e.g. 10A that would immediately LIMIT the max. charging current setting to 10 A also on Tesla central screen or smart phone application.

STATUS NOTIFICATION BY LED BLINKS

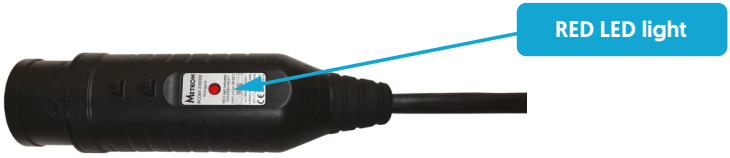
LED STATUS	NOTIFICATION
Slow blinking when power supply is applied	Indicating previous saved current setting
Constantly on when not plugged in	Stand-by / Ready to charge
Slow blinking when plugged in	Charging
Constantly on when plugged in	Electric vehicle fully charged
Slow blinking 2 times when plugged 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
Rapid blinking (plugged in or not plugged in(	Fault

⚠ 3-phase portable charger PC05T can also charge from any domestic wall socket (e.g. Schuko) or 1-phase 16 A CEE "camper" socket if proper adapter is used. In such case PC05T behaves like a regular 1-phase portable charger (same charging current/power).

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.

PC05T is equipped with Metron RCD Type B device called RCDB1-316CEE which represents maximum possible level of personal protection as it protects users from AC, pulsating DC, pure DC and also high frequency AC leakage currents. In order to ensure "BOXLESS" design of PC05T portable charger RCD is packed inside 3-phase 16 A CEE plug itself what eliminates even the smallest unsafe section found on other portable chargers where there is at least 30 cm of unprotected cable between wall plug and "bulky" in cable control box.



Red LED light indicates RCD cut-off the power because of leakage current detection.
To reset just unplug, wait a second, and plug it in again.

⚠ **On request PC05T can be also supplied without RCDB1-316CEE. The use of PC05T portable charger version without RCD protection is allowed exclusively on the installations protected by RCD.**

⚠ **In the event the cable has been damaged the product should be removed from use immediately!**

TECHNICAL SPECIFICATIONS

EV Side Plug Type	Type 2 (IEC 62196) Female Plug
Wall socket/grid side Standard Plug Types	CEE 16 A (3-phase/3P+N+E)
Max. Charging Current	3x16 A (3-phase) or 1x16 A (1-phase)
Possible charging current settings	6/8/10/13/16 A
Max. Charging Power	11 kW (3-phase) 3,7 kW (1-phase)
Rated Voltage	400 Vac (3-phase) 230 Vac (1-phase)
Operating voltage/frequency range	155 V to 470 V (3-phase) (50/60 Hz) 90 V to 270 V (1- phase) (50/60 Hz)
Cable length	5 m to 12 m (or on request)
PREMIUM quality polyurethane compound cable (Made in Germany)	yes
Type B ground fault protection device (RCD)	Yes, 30 mA, integrated inside 3-phase CEE 16 A plug (optionally PC05T can be supplied without RCD)
UV resistance	yes (all parts)
Operating Ambient Air Temperature Range	from -30°C to +50°C
IP Rating	IP54 (rain water resistant)
Weight	With RCD: 2,3 kg (5 m cable) + 0,22 kg per each additional meter of cable Without RCD: 1,9 kg (5 m cable) + 0,22 kg per each additional meter of cable

NOTE: Tesla Model 3 vehicle on-board charger is phase sequence sensitive, what means that the phases have to be in a proper sequence 1-2-3 at wall socket. If they are not, the car will not charge.

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.