

## CC01, CC02, CC03, CC03T, CC04, CC04T, CC04HD, CC05, CC05T, CC05HD, CC06, CC06T, CC06TL, CC06HD, CS01, CS02, CS03, CS03T, CS04, CS04T, CS05, CS05T, CS06, CS06T, CS06TL

Electric vehicle charging cables & charging pigtails for charging stations

### USER MANUAL



### INTRODUCTION

METRON EV charging cables purpose is to charge electric and plug-in vehicles. Different models are provided for different situations and marked by the first two letters:

- CC are designed for charging electric and plug-in hybrid vehicles from any public or home charging station.
- CS replacement cables for Charging stations "pig-tail" (CS) can replace the attached cable at charging stations / wallboxes.

The two numbers describe the technical specifications; please refer to the section "Technical Specifications."

Trailing letters indicate special features or variants:

- T for Tesla vehicles we offer versions with the additional feature of an integrated Tesla remote charge port opener and charging plug unlocker (Models with T). Tesla versions also work with any other EV/Plug-in.
- HD Heavy duty charging cables (8 years warranty) are especially resistant and designed for e.g. commercial use.

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

Before using the charging cable, 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.

### ADVANTAGES OF METRON EV CHARGING CABLES

**SMALL & LIGHT PLUGS**

- ▶ very suitable for electric motorcycles
- ▶ space saving

**100% REDUNDANCY FOR STATION-VEHICLE COMMUNICATION**

- ▶ less probable charging cable failure as there are 2 communication wires inside instead of standard single one

**SILVER PLATED POWER AND COMMUNICATION PINS**

- ▶ ensures best contact and oxidation resistance

**THE PLUGS ARE MADE OF NATURALLY UV RESISTANT PLASTIC**

- ▶ no additives to achieve acceptable UV resistance

**2 PART PLUGS ARE SCREWED TOGETHER WITH STAINLESS STEEL SCREWS**

- ▶ ensures dismantling and repairing if necessary

**VERY MASSIVE CABLE GLAND MADE OF SILICONE RUBBER**

- ▶ ensures resistance to virtually anything and no degradation in 30 years+

**MADE IN GERMANY CABLE**

- ▶ 100% in compliance with IEC/EN 50620 standard
- ▶ extremely pure copper
- ▶ premium quality insulation materials

**TESLA REMOTE PORT OPENER AND PLUG UNLOCKER (OPTIONAL)**

- ▶ electronics is protected by special military grade 2K potting material
- ▶ replaceable battery
- ▶ charging port unlock function works even when the battery is empty

**SILVER PLATED MULTYCONTACT INSERTS**

- ▶ ensures best possible contact and minimal heat dissipation

**ALL PINS ARE DESIGNED AND TESTED TO WITHSTAND 20.000 PLUG/UNPLUG CYCLES**

- ▶ 10.000 is required by the standard

**MALE/FEMALE PROTECTIVE CAPS MADE FROM UV RESISTANT RUBBER (OPTIONAL)**

- ▶ fixing wire is short and nicely fits to the plug

**ALTERNATIVELY THE PINS CAN BE PROTECTED BY SIMPLY PLUGGING MALE AND FEMALE PLUGS TOGETHER**

- ▶ no need to use protective caps

## IMPROPER USE

Improper use can lead to personal injury or property damage, including electric shock, short circuit or fire. In such cases, the manufacturer and retailer accept no liability. Warranty will be voided in case of improper use. **You must NOT:**

- Drive over the charging cable!
- Drive over the charging plug!
- Shake the charging cable while charging!
- Walk on the charging cable while charging!
- Walk on the charging plug!
- Handle the charging plug with wet hands!
- Put your fingers or any other objects into the contact parts!
- Use the charging cable if damaged!
- Stretch the charging cable while charging!
- Wrap the charging cable around your neck!
- Pull the charging cable when it is plugged into the vehicle or charging station!
- Spill water on the charger plug!
- Intertwine the charging cable!
- Pass the charging cable by throwing it in the air!
- Hit the charging cable against the ground!
- Have a tangled cable while charging!
- Dry the charging cable plug with a hairdryer!
- Leave the vehicle side charging plug on the floor when the charging cable is plugged into the charging station!
- Squeeze the cable of the EV charging cable!
- Tow or pull something with the cable!
- Submerge the plugs!

## GENERAL SAFETY INSTRUCTIONS



- Carefully read this security instructions before using the product!
- Children are not allowed to use the charging cable.
- Keep animals away while using the charging cable.
- Avoid liquids entering the charging cable. Never use the charging cable if plugs are wet.
- Keep insects and other dirt away from the contact parts!
- Do not use the charging cable in a potentially explosive atmosphere.



### Pig tail / Wallbox & Charging station replacement cables:

- Note the cable cross-section: For 22 kW wallboxes, we recommend a 6 mm<sup>2</sup> cable, even if your electric car is currently only charging at 11 kW.
- Only suitable for wallboxes with permanently installed cables.
- Professional installation: Observe installation regulations and consult a qualified electrician if necessary.
- Please consult the charging station manuals for replacement instructions!
- Communication wire is redundant by purpose -Do not separate!
- T-Version are supposed to bring the Tesla features to regular charging stations but cannot replace the cable of Tesla's own charging stations!

## 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.
	CE symbol is a mark of conformity indicating that a product complies with European Union directives and regulations.
	This symbol signifies the requirement for separate disposal of electrical and electronic waste. See chapter disposal.

	Please read the manual before using the charging cable.
	Risk of electric shock due to dangerous voltage when used incorrectly.
Tamb	Do not use and store the charging cable below or above the specified temperature.

## GET STARTED



- Check charging cable before use.
- Do not use the charging cable if damaged!
- Do not use the charging cable if the socket and plug are wet.
- Don't unplug before turning off the charging.
- Always operate in the specified order of steps.

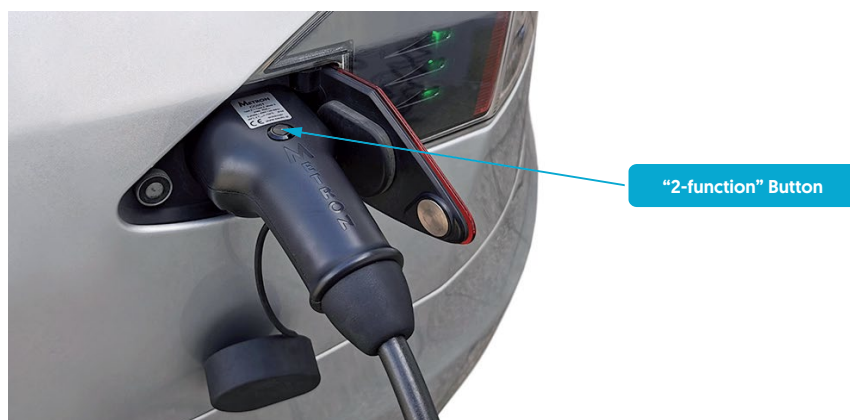
1. First remove the protective cap (if present).
2. Then insert the male side of your charging cable into EV charging station's Type 2 socket and the other side of the charging cable into vehicle charging socket.
3. When everything is connected the vehicle should start charging.
4. When your electric vehicle is fully charged you can end the charging process by first unplugging the charging cable from your vehicle and then from EV charging station.

## REMOTE CHARGE PORT OPEN & PLUG UNLOCK for TESLA electric vehicles

To open the chargeport, press the Tesla button while being close to your Tesla.

The plug sends a remote-control signal to your TESLA vehicle charge port which then opens. Signal range is usually between 3 and 15 meters. This feature eliminates user "touching" the phone or Tesla central screen in order to open the charge port. Remote-control signal also wakes-up the Tesla vehicle from sleep - sometimes the button needs to be pressed several times to wake-up the vehicle.

To unlock the plug and/or stop the charging process of your Tesla press and hold the Tesla button for a second. The car will unlock the vehicle plug (only if car is unlocked/owner nearby! (mobile phone, Key FOB, RFID Card)) and then the cable can be unplugged. This feature once again eliminates the need for user "touching" the phone or Tesla central screen in order to unlock the cable plug from Tesla charge port.



### Trouble Shooting: Charge port can no longer be opened, but unlocking works:

After several years, the battery may be flat. This can be easily replaced. Instructions are available on the manufacturer's website [www.eauto.si](http://www.eauto.si). If you have any questions, please contact your dealer or the manufacturer. Please follow local regulations for working on electric devices. Only work on non-powered not connected plugs/cables!

## TECHNICAL SPECIFICATIONS

### Charging cables CC01, CC02, CC03, CC03T, CC04, CC04T, CC04HD, CC05, CC05T, CC05HD, CC06, CC06T, CC06TL, CC06HD

### Charging pigtails for charging stations CS01, CS02, CS03, CS03T, CS04, CS04T, CS05, CS05T, CS06, CS06T, CS06TL

Vehicle side plug type	CC01, CC02.....Type 1 (SAE J1772) female plug All others.....Type 2 (IEC 62196) female plug	CS01, CS02.....Type 1 (SAE J1772) female plug All others.....Type 2 (IEC 62196) female plug
Charging station side plug type	Type 2 (IEC 62196) female plug	None (pigtail) brown wire.....L1 (phase 1) black wire.....L2 (phase 2) grey wire.....L3 (phase 3) blue wire.....N (neutral) yellow-green wire..... PE (earth/ground) red & white wires.....CP (control pilot)
Max. charging current	CC01, CC03xx.....20 A [1-phase] CC02, CC04xx.....32 A [1-phase] CC05xx.....3 x 20 A [3-phase] CC06TL.....3 x 30 A [3-phase] CC06xx.....3 x 32 A [3-phase]	CS01, CS03xx.....20 A [1-phase] CS02, CS04xx.....32 A [1-phase] CS05xx.....3 x 20 A [3-phase] CS06TL.....3 x 30 A [3-phase] CS06xx.....3 x 32 A [3-phase]
Maximum charging power	CC01, CC03xx.....4,6 kW [1-phase] CC02, CC04xx.....7,4 kW [1-phase] CC05xx.....13,8 kW [3-phase] CC06TL.....20,7 kW [3-phase] CC06xx.....22 kW [3-phase]	CS01, CS03xx.....4,6 kW [1-phase] CS02, CS04xx.....7,4 kW [1-phase] CS05xx.....13,8 kW [3-phase] CS06TL.....20,7 kW [3-phase] CS06xx.....22 kW [3-phase]
Rated voltage	230 Vac [max. 250 Vac] [1-phase versions] 400 Vac [max. 480 Vac] [3-phase versions]	230 Vac [max. 250 Vac] [1-phase versions] 400 Vac [max. 480 Vac] [3-phase versions]
Tesla remote for opening charge port and unlocking the plug – integrated in Type 2 plug	Only models that contain letter "T", Powered from replaceable battery CR2032 3V [battery lasts 3 years+ on average]	Only models that contain letter "T", Powered from replaceable battery CR2032 3V [battery lasts 3 years+ on average] or from 5-15V power supply in the charging station
Protective cap for vehicle side plug	optional UV resistant rubber cap	optional UV resistant rubber cap
Protective cap for charging station side plug	optional UV resistant rubber cap	N/A (pigtail)
Cable specification	Straight [any length] or SPIRAL Premium quality according to EV charging cable standard EN 50620	Straight [any length] or SPIRAL Premium quality according to EV charging cable standard EN 50620
Cable cross section	CC01, CC03xx.....3 x 2,5mm <sup>2</sup> + 2 x 0,5mm <sup>2</sup> CC02, CC04xx.....3 x 6,0mm <sup>2</sup> + 2 x 0,5mm <sup>2</sup> CC05xx.....5 x 2,5mm <sup>2</sup> + 2 x 0,5mm <sup>2</sup> CC06TL.....5 x 4,0mm <sup>2</sup> + 2 x 0,5mm <sup>2</sup> CC06xx.....5 x 6,0mm <sup>2</sup> + 2 x 0,5mm <sup>2</sup>	CS01, CS03xx.....3 x 2,5mm <sup>2</sup> + 2 x 0,5mm <sup>2</sup> CS02, CS04xx.....3 x 6,0mm <sup>2</sup> + 2 x 0,5mm <sup>2</sup> CS05xx.....5 x 2,5mm <sup>2</sup> + 2 x 0,5mm <sup>2</sup> CS06TL.....5 x 4,0mm <sup>2</sup> + 2 x 0,5mm <sup>2</sup> CS06xx.....5 x 6,0mm <sup>2</sup> + 2 x 0,5mm <sup>2</sup>

## Charging cables CC01, CC02, CC03, CC03T, CC04, CC04T, CC04HD, CC05, CC05T, CC05HD, CC06, CC06T, CC06TL, CC06HD

## Charging pigtails for charging stations CS01, CS02, CS03, CS03T, CS04, CS04T, CS05, CS05T, CS06, CS06T, CS06TL

IP Rating	IP44 (rain proof)	IP44 (rain proof)
Color	Black or Orange (other colors on request)	Black or Orange (other colors on request)
UV resistance	Yes (all parts)	Yes (all parts)
Operating Ambient Air Temperature Range	from -40°C to +50°C	from -40°C to +50°C
Storage temperature	from -40 °C to +70 °C	from -40 °C to +70 °C
Weight	Depends on cable size and length	Depends on cable size and length

The charging cables are IP44 rated, what means that they are waterproof during usage. Nevertheless, please avoid the plugs to get wet and do not use the charging cables if the plugs are wet.



- Never draw more than specified current from the charging cable!
- Do not use if plugs are wet!

## CLEANING & STORAGE

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



- The charging cable must be completely unplugged before cleaning!
- Avoid water getting to contact parts!
- Secure charging cable while transporting!

## 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.

Since our Tesla cables may contain batteries, we are required to inform you of the following:

Batteries and rechargeable batteries may not be disposed of in household waste, but you are legally obliged to return used batteries and rechargeable batteries. Used batteries may contain harmful substances that can damage the environment or your health if not stored or disposed of properly. However, batteries also contain important raw materials such as iron, zinc, manganese or nickel and can be recycled. You can return the batteries after use either to us or in the immediate vicinity (eg in stores or municipal collection points) free of charge. The return of batteries to retail outlets is limited to the usual quantities for end consumers and to those used batteries that the distributor carries or has carried as new batteries in its product range.

Batteries or rechargeable batteries that contain harmful substances are labelled with the symbol of a crossed-out waste bin symbol and must be disposed of separately.



## GREEN PRODUCTION

All our products are produced in a carbon neutral way by using "**Sustainable energy cycle**" method. The production plant where we make charging cables and portable charging stations is the first fully sustainable production facility for portable EV charging equipment. All energy needed for the heating / cooling of the building, production process, as well as 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.