EASE-OF-MAINTENANCE MANUAL

ROLEC

ULTRACHARGE 180

Intelligent ultra-rapid EV charging station

Stocked in the UK by ROLEC

Contents

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Preventive Maintenance

To ensure the safe and reliable operation of the ULTRACHARGE 180, it is essential to perform regular preventive maintenance. Preventive maintenance and safety checks of the charging station are required to maintain optimal performance and safety standards. Depending on the installation location and environmental conditions (such as dirt, moisture, and other influences), shorter maintenance intervals may be necessary. Regular inspections are highly recommended to identify and address potential issues before they lead to significant problems. By adhering to these preventive maintenance guidelines, you can prolong the life of the charging station and ensure its continuous and efficient operation.

Find on the following table the preventive maintenance periods and actions to be performed:

Action	Description	Interval
Cable	Replacement of the CCS charging cables, including its connectors	10.000 cycles
External Visual Checking	Visual checking of: • Metallic charging housing • Connector, including its power and communication pins • Locks and handles • Connector's holders • POS Machine and its display • AD Screen • HMI Screen • Front glass • Vertical LED beacons If any of these components is broken or presents excessive worn or any sign of having suffered overheating (for example, in case of the connectors), it should be replaced or repaired in the shortest possible period.	6 months
External Test	Test the correct operation of: • Both connector's cable management system • 4 x HMI's buttons 6 months • RFID Reader • POS Machine • Emergency stop button • Locks and handles	6 months

Action	Description	Interval
Internal Visual Checking	Visual checking of: • Main AC input • Front of DC Output Modules If any of these components is broken or presents excessive worn or any sign of having suffered overheating (for example, in case of the connectors), it should be replaced or repaired in the shortest possible period.	
Internal Test	Test the correct operation of: • MCCB • RCBO, including its “test” button	6 months
Inlet and Outlet Air Filters	Replace the air filters	6 months
Screws	Check of the high-power screw’s torque	6 months
Cleanliness and Condensation	Check the cleanliness and condensation inside the charger	6 months

It’s important to follow the preventive maintenance of the charger to preserve its warranty.

Components Replacement

Whether it’s because it has been broken, stolen, or just because it must be replaced according to the maintenance schedule, it’s important to know how the most important components of the DC 180 can be replaced.

Disconnection & Connection procedure

Before proceeding with any replacement, it's crucial to review all the instructions and guidelines in the service chapter of this manual. It's also advisable to thoroughly check and understand the charger's diagram, which is included in this manual.

Please follow the steps below before undertaking any replacement or repair on the charger that involves manipulating any of its internal components.

De energizing procedure

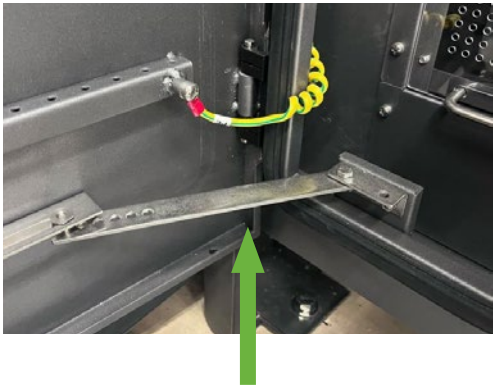
1. Finish any ongoing charging session
2. Open the front door of the charger by turning the handle counter-clockwise close to 90 degrees and pulling from it.
3. Open the door to approximately 80 degrees, up to the point that it'll be automatically held by the mechanism located on the lower left edge of the junction between the door and the charger's body.
4. Disarm the RCBO located on the middle right of the front side of the charger.
5. Proceed with the same instructions 2 and 3 to open the left door of the charger.

Each door of the DC 180 charger is equipped with a tamper sensor that instantly detects any unauthorized opening. When the sensor is triggered, the charger immediately switches to error mode to prevent any potential damage.

6. Disarm the MCCB located on the lower zone of the charger.
7. Disarm the charger up-stream's MCCB.
8. Proceed with the same instructions 2 and 3 to open the right door of the charger.
9. Check that the voltage between the lines and the neutral to the earth on the main AC input is 0.

Re-energising procedure

1. Assure that the charger maintains its original condition in terms of internal connections, components installed, etc.
2. Arm the up-stream's MCCB.
3. Check that the voltage between the different lines, the neutral and the earth, is correct.
4. Rearm the main MCCB located on the left side of the charger.
5. Rearm the RCBO located on the middle right of the front side of the charger.
6. Wait for some seconds until the charger is fully turned on.
7. Check that the display is showing not other error than the doors open.
8. Close all the doors taking care of pulling up the door open locking mechanism.



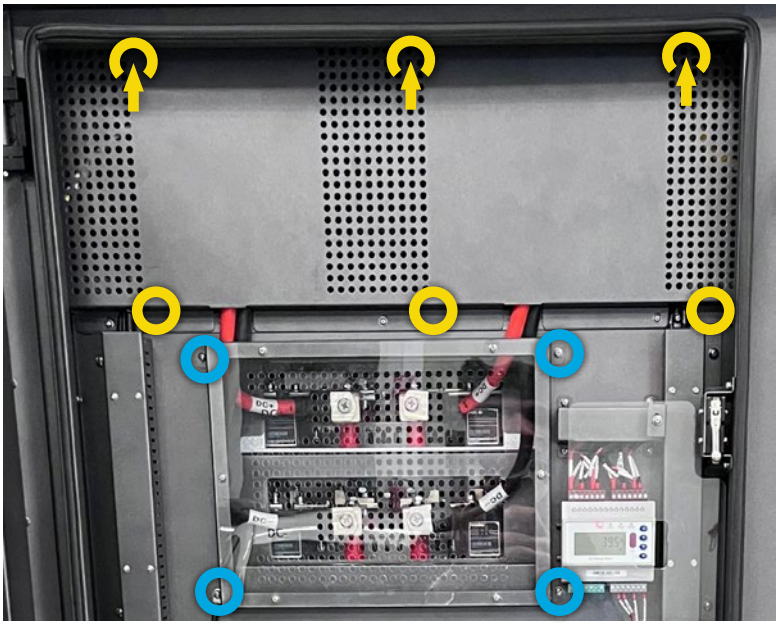
Cable & Connector replacement

Before proceeding with the cable and connector replacement, please follow the de energizing procedure.

Disassembling the cable and connector

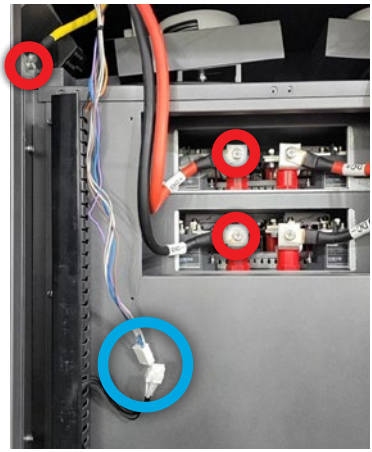
1. Remove the metallic cover located at the top of the front side of the charger by unscrewing its 6 screws, shown in yellow in the picture below.

2. Remove the frame of the plastic cover, including the plastic cover itself, located in the central zone of the front side of the charger by unscrewing its 4 screws, shown in blue in the image below.



3. Detach Power Connections: Remove the screws attaching the earth, DC+, and DC- connections, as shown in red in the image.

4. Disconnect the communications wires shown in blue in the image.



5. Remove the two screws of the cable clamp, shown in red in the image.

6. Remove the two screws of the cable clamp from the cable management system, shown in red in the image.

7. Pull out the entire cable and connector from the charger.

Assembling the cable and connector

1. Feed the new cable into the charger.
2. Reinstall all screws in the reverse order, starting with the cable management system's clamp and finishing with the attachment of the power cables, including the earth connection.
3. Reattach the metallic frame and cover as indicated in steps 2 and 1, respectively.

After completing the replacement procedure, please follow the re-energizing procedure. If you need to replace Connector B, follow the same procedure for Connector B.

Test the cable and connector after finishing the replacement procedure.

Power Module replacement

Before proceeding with the Power Module replacement, please follow the de energizing procedure.

The same procedure indicated beginning at the “Power Module’s installation” point of this instructions must be followed when installing a new Power Module.

Power Module’s address

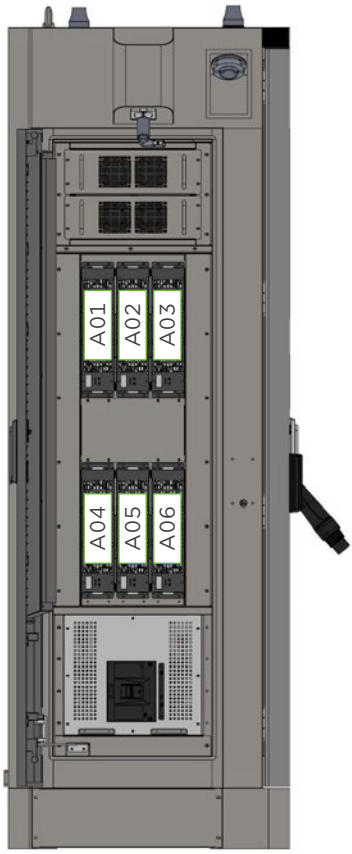
Each Power Module has its own unique address related to its location inside the module’s bay. Find below the default address for each of the Power Modules:

Checking address

The Power Module address can be checked by pressing repeatedly each of the control buttons located below the display, until the moment that you see the text “AXY”, where XY corresponds to the module’s address.

Modifying the address

To modify the address, just press for a few seconds the button pointing right until the displayed text is flashing. This must be done when the address is displayed on the screen. After that, adjust the address using both buttons, increasing or decreasing it. Press again the button pointing right for a few seconds to set the address.



The Power Module’s address can only be checked or modified with the module energized. Always be careful when interacting with the non de energised charger.

Power Module's extraction

1. Unscrew the four screws indicated in the image.
2. Pull from the handles of the power module to extract it.

Each power module weights more than 15 kg. Although they can be managed and manipulated by just one person, be careful when performing this action considering its weight.

Power Module's installation

1. Install the Power Module on its location.
2. Screw back the four screws indicated in red in the image.
3. Re-energise the charger
4. Set the corresponding address to the power module

Air filter replacement

Before proceeding with the air filter replacement, please follow the de energizing procedure.

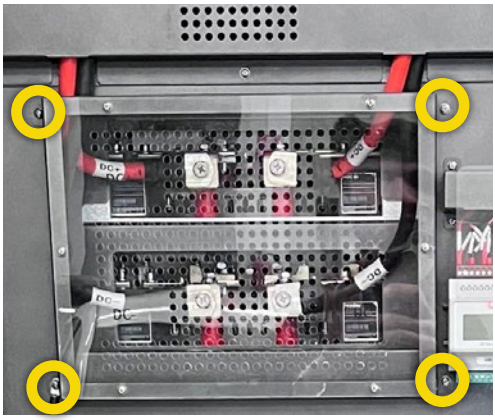
1. Locate the filter behind the left charger's side door.
2. Unscrew the six screws indicated in the image.
3. Open the frame that holds the filter.
4. Pull out the filter.
5. Install the new filter.
6. Close the frame to held the filter.
7. Install back the six screws.

It's recommended to use a slightly damp cloth to clean the openings on the outer side of the filter's compartment, and to remove any remaining dust or undesired dirt that might have accumulated on the openings, such as leaves, insects, etc.

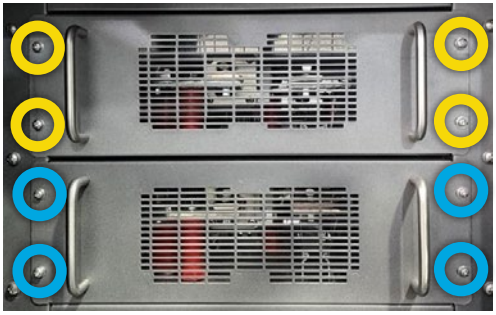
DC Modules replacement

Before proceeding with the DC Module replacement, please follow the de energizing procedure.

1. Remove the frame of the plastic cover, including the plastic cover itself, located in the central zone of the front side of the charger by unscrewing its 4 screws, indicated in the image.



2. Remove the screws attaching the DC+ (indicated in yellow in the image) or DC- (indicated in blue in the image) connections, depending on if the DC+ or the DC- module needs replacement.



3. Depending on which module is needed to replace, DC+ or DC-, remove the indicated in yellow (DC+) or indicated in blue (DC-) screws on the image.
4. Extract the old DC module.
5. Insert the new DC module.
6. Install back the screws removed on instruction 3.
7. Install back the connections removed on instruction 2.
8. Install back the covers removed on instruction 1.

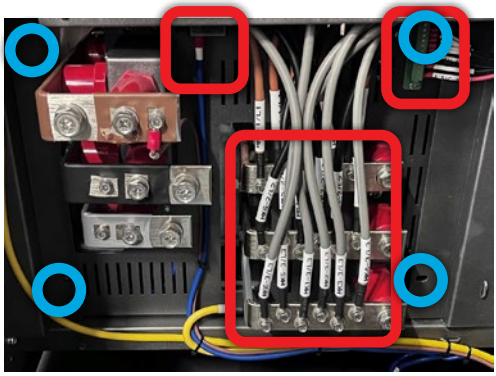
Re-energise the charger and perform a real charging test to check that everything's working well.

Although being externally equal, DC+ and DC- differ internally. It's very important to take this into account when replacing any of these modules, as these modules are not interchangeable between them, so DC+ will not work on DC- location and vice versa. Installing a DC module in the wrong location could cause damage to the DC 180.

AC Input Module replacement

Before proceeding with the input module replacement, please follow the de energizing procedure.

1. On the lower part of the right side of the charger, remove all the wires indicated in red in the image.
2. Remove all the screws indicated in blue in the image.



3. On the lower part of the left side of the charger, remove all the screws indicated in yellow in the image.
4. Extract the input power module
5. Install the new power module
6. Install all the screws removed from the instructions 3, 2, and 1.

Re-energise the charger and perform a real charging test to check that everything's working well.

THIS DOCUMENT CONTAINS INFORMATION THAT IS SUBJECT TO CHANGE WITHOUT NOTICE.

The latest version of this publication can be downloaded at https://www.rolecserv.com/downloads-ev-charging

Illustrations of the product and user interface are for marketing purposes only.

EVUC80QMM-V01-R0 UltraCharge 180 Quick Maintenance Manual

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