

E-Series Wall Plates – Continuity Test.

To avoid damage to the E-Port Controller the installer must make certain that there is no possibility of any short circuits in the wallplate. A short circuit can occur between the wallplate terminals or even the terminals on the socket that the charger is plugged into. A short circuit can also occur in the wiring of the charging circuit on the rear of the wallplate if the insulation is damaged or crushed.

If an installation develops problems that results in controllers failing then the wallplate must be checked for a short circuit. **A continuity test must be performed before the wallplate is removed from the wall. Refer to the notes below.**

Possible causes of a short circuit are swarf, crushing of wiring when screwing the wallplate to the wall, stray wires from re-terminated motor looms, contact with metal used in the wall construction.

Swarf: Aluminium swarf can be caught in the flute of a drill bit that has been used to during the installation process. This may drop into the rear of the wallplate when it is installed and short across the wallplate terminals.

Crushing of wire when screwing the wallplate to the wall: If the wiring in the motor loom is not routed carefully and located in the correct position then it can be crushed by the terminals on the back of the wallplate when it is screwed to the wall. This can cut through the wire insulation and cause a short circuit to occur. There is no room between the wallplate and the wall for storage of excess cable. All excess cable must be stored in the wall cavity. A hole or cavity must be made by the installer to hold any excess cable from the motor

Stray wires from re-terminated motor looms: If the motor loom is re-terminated care must be taken to ensure that there are no stray wires protruding. These can touch the terminals on the back of the wallplate when it is installed and cause a short circuit.

Contact with metal used in the wall construction: Some walls may use metal in their construction and care must be taken to avoid contact with the terminal on the back of the wallplate.

Penetration of the motor loom with a screw: If the motor loom is run through the guides there is a potential to penetrate it with one of the screws used to fix the guide in place. This could cause a short circuit.

When the wallplate is being installed a continuity test must be performed to check that a short circuit situation does not exist. The battery charging circuit of the wallplate is connected to the outer two terminals, with the positive on the left, and the negative on the right. The two wires from the motor loom are connected to the two inner terminals.

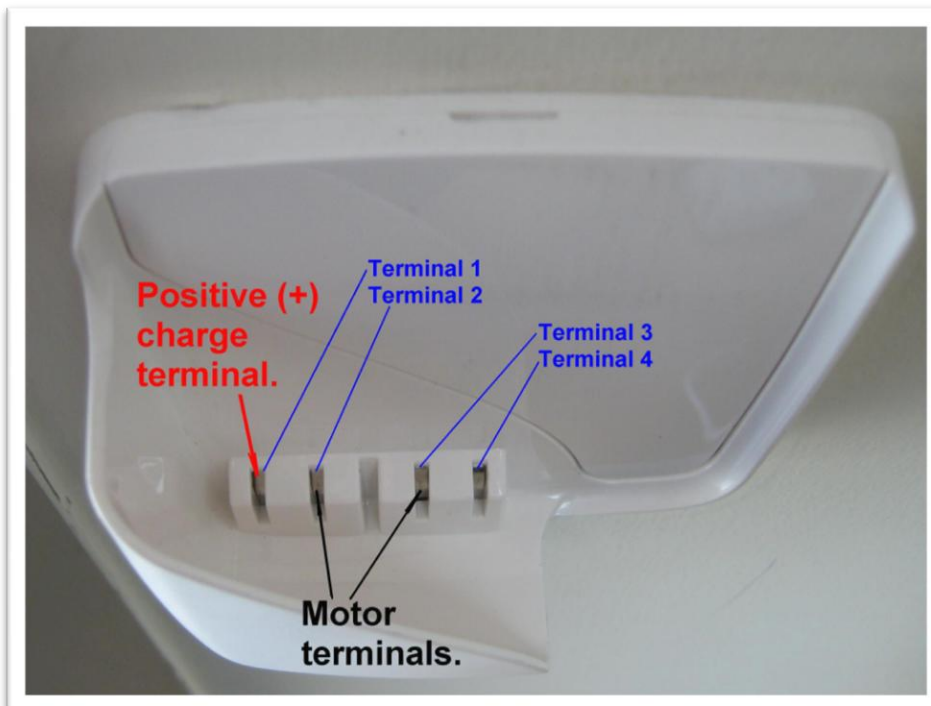
To perform the continuity test a multi-meter must be used to check for a short circuit between the terminals of the charge circuit and both the motor terminals.

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To perform the continuity test please follow these steps:

- 1) **Ensure that there are no chargers connected to the wallplate.** The charger may be either the in wall type or connected to the wallplate socket.
- 2) Set the multimeter to test continuity.
- 3) Check the continuity of Terminal 1 by placing one of the multimeter probes on Terminal 1. Ensure that good contact is made with each terminal being tested and that they can be seen to be moving when pushed with the multimeter probe. Standard multimeter probes may not fit in the gaps in the wallplate. They may need to be filed down to allow them to touch the wallplate terminals.
- 4) Place the second probe on Terminal 2. Again ensure that good contact is made. No continuity should register on the multimeter.
- 5) Repeat the test by moving the second probe to Terminal 3.
- 6) Once again, repeat the test by moving the second probe to Terminal 4.
- 7) Next check the continuity of Terminal 4 by placing the first of the multimeter probes on Terminal 4.
- 8) Place the second probe on Terminal 1.
- 9) Repeat the test by moving the second probe to Terminal 2
- 10) Again, repeat the test by moving the second probe to Terminal 3.

This has now tested the continuity of Terminal 1 with Terminals 2, 3, and 4. It has also tested the continuity of Terminal 4 with Terminals 1, 2, and 3. No continuity should register on the multimeter for any of these tests.



If any continuity is detected check for any of the short circuit scenarios which are detailed above.