

# Insulation Testing of Type 2 and CCS Inlet Connectors of Electric Vehicles

## Insulation Testing for Type 2 and CCS Connectors in Electric Vehicles.

During servicing, maintenance and repair of Electric and Hybrid Vehicles (EV/PHEV) there is a requirement to conduct insulation tests of cables, connectors, motors, generators and battery packs. One of the difficulties is to create a safe and reliable connection at the point of test. Use of handheld probes or crocodile clips is clumsy, unreliable and potentially unsafe.

To assist a technician in this insulation resistance testing process Electro-PJP have designed and created new socket connector test leads to make the testing process easier, safer and hands free.

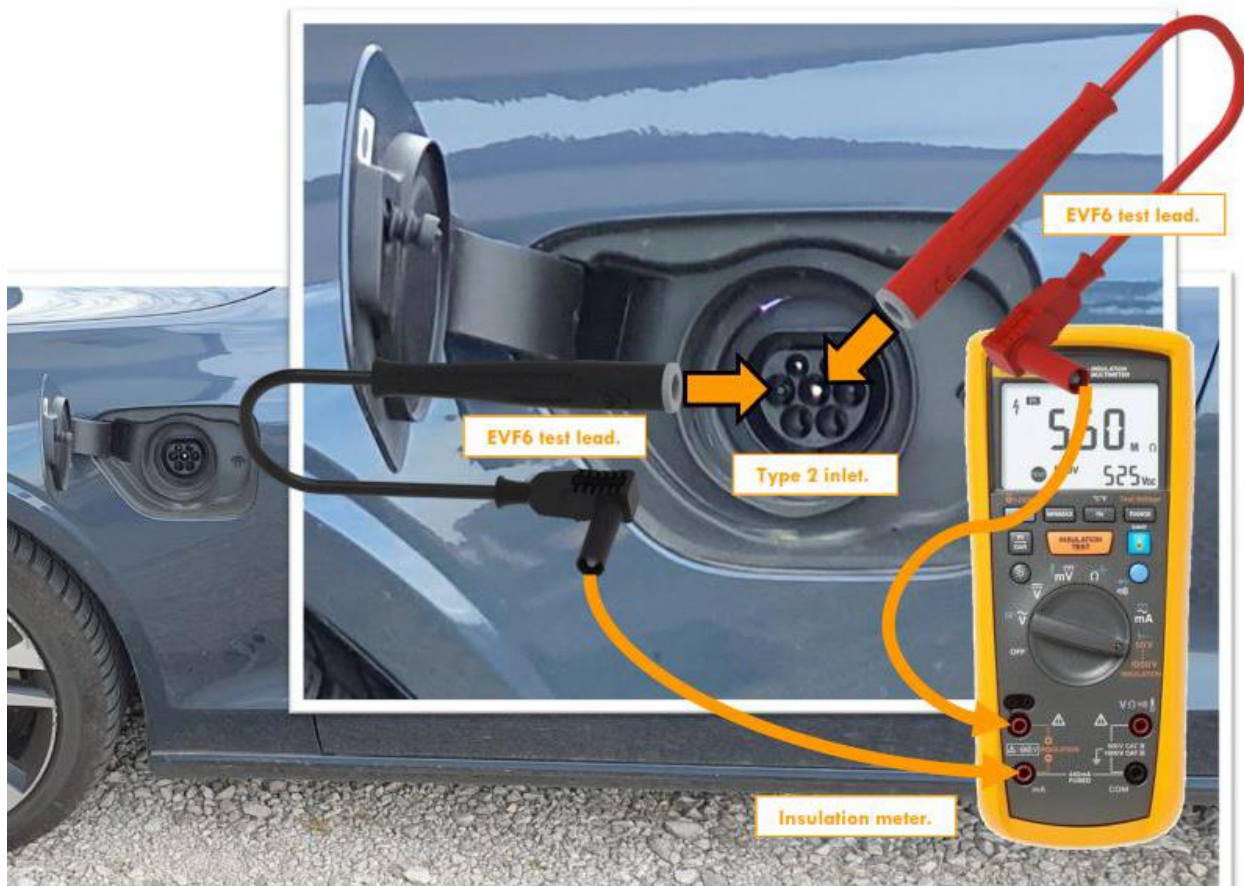


### How To Conduct And Insulation Resistance Test Of A Type 2 Inlet Connector

- Using [EVF6 Insulation Test leads](#) connect one lead to the centre Protective Earth and another to either a Phase or Neutral pin of the Type 2 inlet connector.
- Connect the test leads to an Insulation tester.
- Conduct the insulation test using the appropriate test voltage.

- Repeat for the other Phase pins.

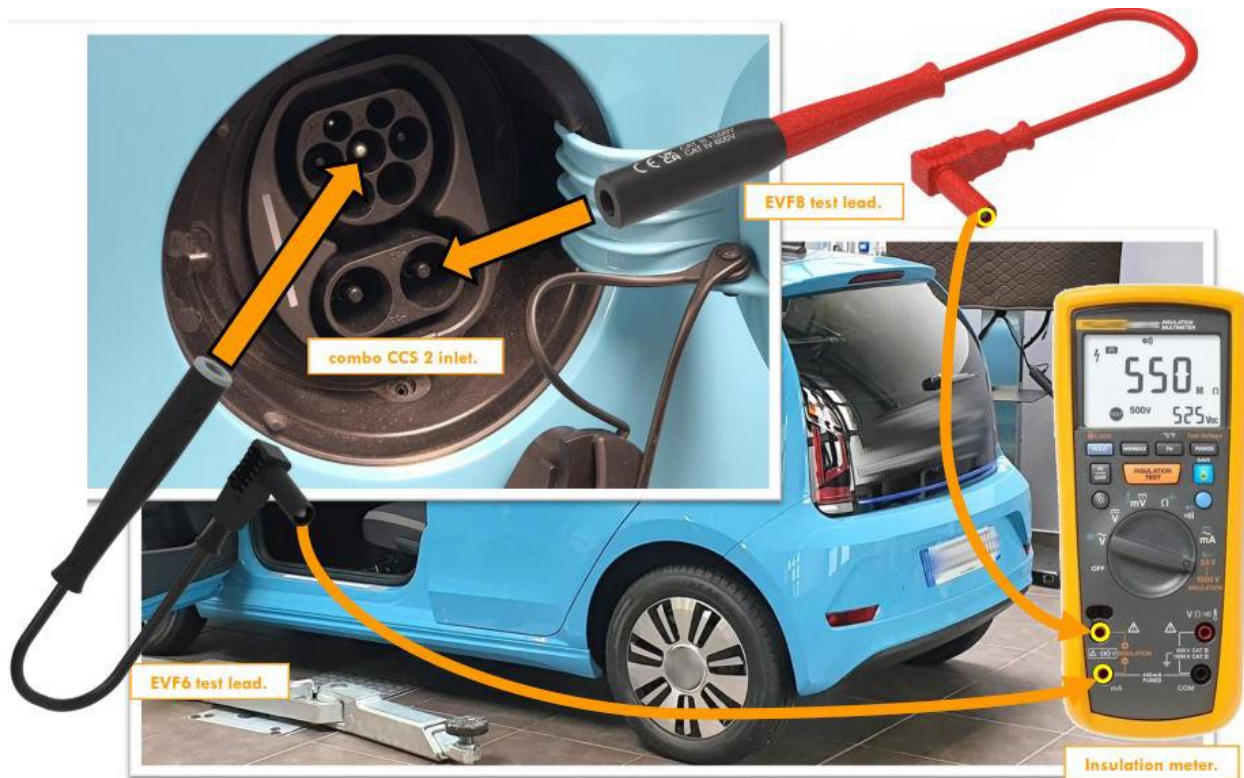
Note that using the EVF6 test leads allows you to conduct the test hands free.



### How To Conduct And Insulation Resistance Test Of A Type 2/CCS Combo Inlet Connector

- Using [EVF6 Insulation Test leads](#) conduct the insulation resistance tests of the Type 2 inlet of the Type 2/CCS combo connector as described above.
- Once the Type 2 element is complete, connect an EVF6 Insulation Test Lead to the centre Protective Earth of the Type 2 inlet and then an [EVF8 Insulation Test Lead](#) to either the DC+ or DC- pin of the CCS inlet.
- Connect the test leads to an Insulation tester.
- Conduct the insulation test using the appropriate test voltage.
- Repeat for the other CCS pin.

Note that using the EVF6/EV8 test leads allow you to conduct the test hands free.



## How To Conduct And Insulation Resistance Test Of A CCS Inlet Connector

- Conduct the insulation resistance tests of the Type 2/CCS combo connector as described above.
- Once complete, connect EVF8 Insulation Test Leads to the DC+ and DC- pins of the CCS inlet.
- Connect the test leads to an Insulation tester.
- Conduct the insulation test using the appropriate test voltage.

Note that using the EV8 test leads allow you to conduct the test hands free.





### Additional Testing

Using the EVF6 and EVF8 Insulation Test Leads a technician can also conduct continuity resistance testing to check the electrical bonding between the centre Protective Earth pin of the Type 2 connector or combo CCS inlet and any metal frame or accessible conductive parts of the vehicle.

To do so requires connection to the centre Protective Earth pin using an EVF6 Insulation Test Lead and additional test probe which is then touched against conductive parts of the vehicle.



**[EVF6-2410-IEC-150  
Insulation Test Lead](#)**



**[EVF8-2410-IEC-150  
Insulation Test Lead](#)**

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