

EVIE Charging

No Earth Rod Required Statement



The EVIE range Charge Point hardware contains proprietary technology that allows direct connection to a PME (Protective Multiple Earthing) supply. We have taken a different approach to providing protection against the PEN (Protective Earth and Neutral) conductor, negating the need for an earth rod.

1

Type B RCDs can detect sinusoidal AC and pulsating DC, which is a multi-frequency composite including a smooth DC residual current. Type B RCDs are intended to be used for loads with a three-phase rectifier, including variable speed drives, PV systems and EV charging stations.

The requirement for RCDs (Residual Current Device) used in EV charging installations is given in Regulation 722.531.2.101. This Regulation requires that protective measures must be taken against DC fault currents, meaning that the RCD must be either Type B or Type A.

An RCD Type B constantly monitors the electric current flowing through one or more of the circuits it is used to protect. If it detects electricity flowing down an unintended path, the RCD will switch the circuit off very quickly, significantly reducing the risk of death or serious injury.

Protection is provided for DC 6mA and above, protection on the AC supply side 30mA and above, and protection DC 6mA +AC 30mA and it can protect against these dual events.

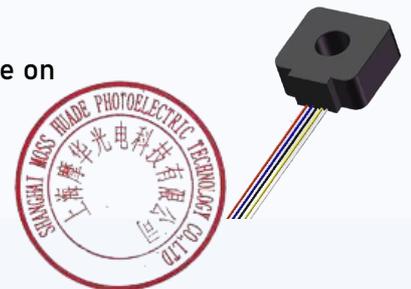


2

The EVIE includes an independent RCMU (Residual Current Monitoring Unit) to provide detection for the PE (Protective Earth) line against the earth leakage current, both from the power source & from EVIE.

3

The RCMU connects to the motherboard. The RCMU detects the earth leakage on the PE line and sends a signal to the motherboard, which instructs the independent AC Contactor to cut off the power to the L/N/PE lines .



4

The motherboard will isolate all conductors between input and output, including the signal wires CP (Capability Process) & PP (Process Performance), and resets the charger once the fault is cleared.

5

EVIE already includes a Master Control Board, which integrates multiple protections including Over Voltage/Under Voltage/Over Current/Overheat. This guarantees the safety of EVIE and users during the charging process. The RCMU provides: detection of Type A/B/TYPE AC and DC 6mA , AC 30mA, DC6mA + AC 30mA.



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