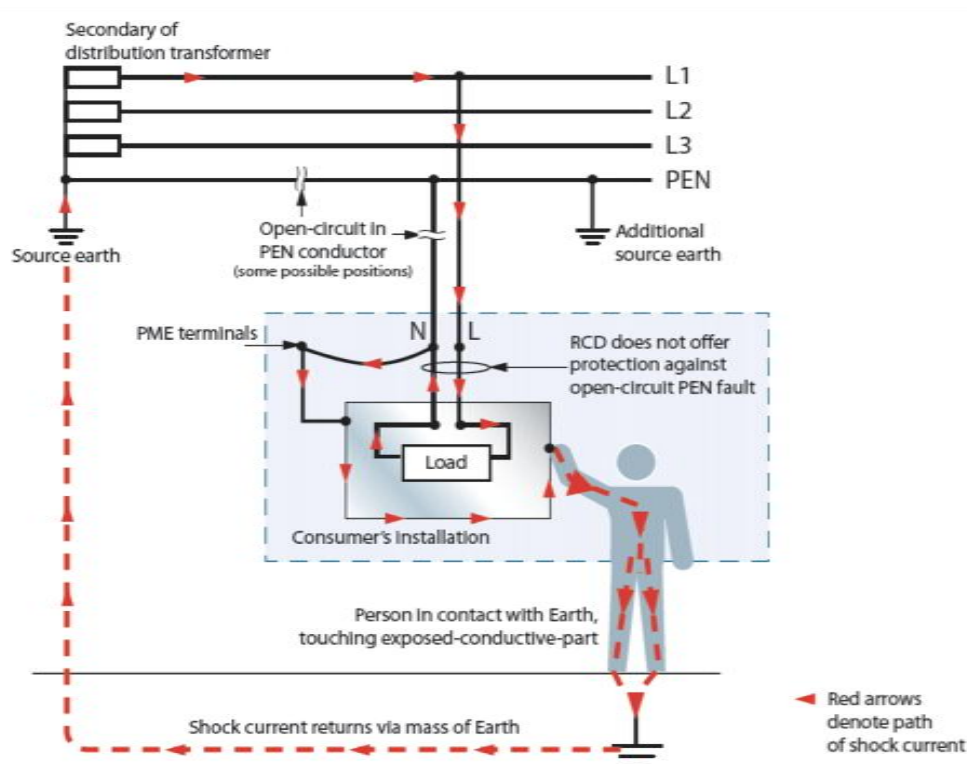


ATESS pro-earth charger saves your earthing cost

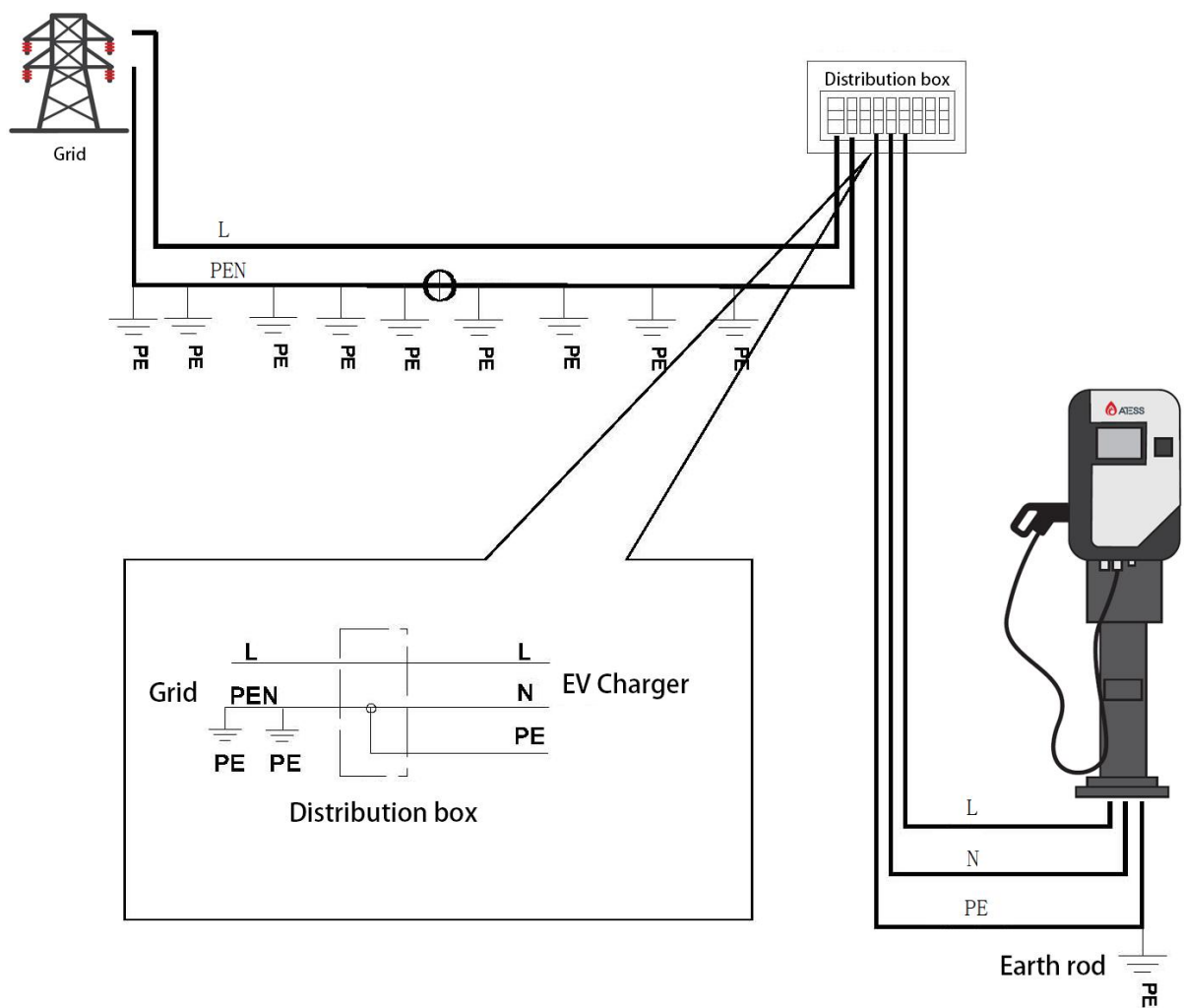
1. Why earth rods

In certain areas with the TN-SC power grid such as the UK, Earthing for EV chargers has always been a pain due to the high cost. The neutral line and the system grounding protection line are combined into a PEN line. The PEN line applies a multi-point grounding method in the transmission line. If the PEN line is disconnected, it will produce voltage between the PEN break point and the earth. When an EV charger is connected at the end, equivalently there is a voltage difference between its metal shell and the earth. When the voltage difference exceeds the safety voltage to human body, the user is under high risk of shock hazard when touching the shell. Therefore, current regulation requires that an earth rod should be fitted next to the charge point to make sure the PE terminal reliably grounded when the PEN is disconnected. Yet doing this will significantly increase the installation cost. So when using the conventional EV charger, it's really challenging to fit the earth rods.



2. ATESS solution

The ATESS intelligent charger design-Pro earth charger, removes the need for earth rods by adding relays. Its protection circuit includes L, N, PE input/output terminal, first and second relay; L, N, PE input are separately connected to the power supply terminal on the distribution box; The first and second relay are respectively in the middle of the L/N and PE input and output terminals. When the charging system detects that the voltage between L and N output terminal is less than the preset voltage value, or when the current at the output terminal is greater than the preset current value, the second relay is controlled to be cut off, the output terminal is then disconnected to avoid electric shock. Also, the built-in earthing arrangement means no costly groundwork, holes in driveways or any additional mess for your EV charger installation.



3. Case reference

Location: UK

Capacity: 22Kw

Brief Introduction: Floor-standing pro earth charging station installed for a parking lot in UK

Charger Model: ATESS EVA-22D-SE 5 units Date of Operation: 2019/2

