

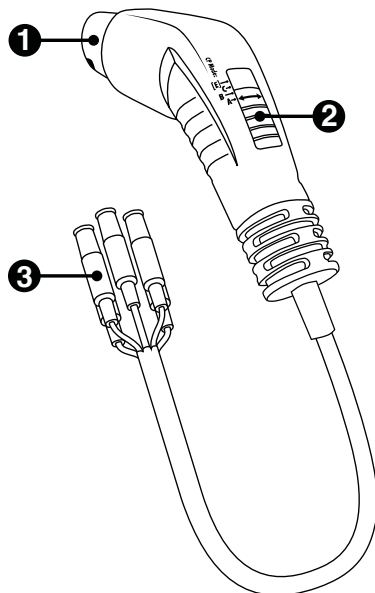
TL305EV ELECTRIC VEHICLE CHARGER ADAPTER

1. Description

The Martindale TL305EV Test Lead is an accessory to allow connection of a Multifunction Tester (MFT) to an EVSE charging point (Type-2 connector) and allow the MFT to support all relevant measurements via the standard measurement inputs. The following connections of the charging connector are available: L1, L2, L3, N and PE. This allows the performance of typical MFT measurements: Voltage, frequency, phase indication, phase sequence, various RCD tests and measurements, insulation resistance, low ohm measurements, line and loop impedances.

Switches and connectors

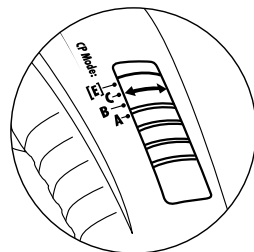
1. Type-2 Electric Vehicle charger plug
2. Slider switch for CP Mode selection
3. Test leads with 4mm plugs for L1, L2, L3, N and PE



2. Operation

2.1 Test procedure

- Connect the 4mm test plugs of the Martindale TL305EV Test lead to the MFT.
- Select CP Mode "A" with the slider switch.
- Connect Martindale TL305EV test plug to the Type 2 connector of the charging point.
- Select CP Mode "B" with the slider switch, the charging point should show "ready to charge".
- Select CP Mode "C" with the slider switch, the charging point starts charging.
- Perform all measurements while the charging point is active (voltage and similar).
- After completion of all measurements select CP Mode "A" with the slider switch to stop charging.
- Unplug Martindale TL305EV test plug from the charging point.



2.2 Control Pilot (CP) state (vehicle simulation)

With the CP mode slider switch, various vehicle states can be simulated. Vehicle states are simulated with different resistances connected between CP and PE conductors. Correlation between resistance and vehicle states is shown in the table below.

Vehicle State	State description	CP-PE Resistance	CP Terminal Voltage
A	Electric vehicle not connected	Open (∞)	$\pm 12V$ @ 1KHz
B	Vehicle connected, not ready to charge	2.74k Ω	+9V/-12V @ 1KHz
C	Electric vehicle connected ready to charge, ventilation not required	882 Ω	+6V/-12V @ 1KHz
[E]	CP Error "E"	0 Ω	0V

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