

EV Home Charger Wiring Guide (3.3 kW & 7.4 kW)

The cable size, MCB and protection a home EV charger needs — for 3.3 kW and 7.4 kW units.

Overview

A home EV charger is a continuous, high-current load, so it needs a dedicated circuit with the right cable, breaker and earth-leakage protection. This guide covers the two common single-phase ratings.

	3.3 kW charger	7.4 kW charger
Approx. current	~16 A	~32 A
Copper cable	4 sq mm	6 sq mm
MCB	20 A	40 A
RCD protection	30 mA RCCB/RCBO	30 mA RCBO (Type A)
Circuit	Dedicated	Dedicated

Always use a dedicated circuit with proper earthing and residual-current protection. Size cable for the run with the wire-size calculator, and confirm the install with a licensed electrician.

Guidance only. Figures follow common Indian domestic practice (IS 732 / IS 694), assume copper conductors unless stated, and depend on run length, grouping, ambient temperature and installation. Always have the final design confirmed by a licensed electrician.