INDIA · 2026 GUIDE

How EV Chargers Work in India

Understand AC and DC charging, Indian connector standards, charger selection, and network management.



EV charging, explained · India

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THE FIRST DISTINCTION

Charging starts with one key distinction: AC or DC



AC charging

The vehicle’s onboard charger converts grid AC into DC for the battery.

CONVERSION HAPPENS IN THE VEHICLE



DC charging

The charger bypasses the onboard unit and feeds DC directly to the battery.

POWER GOES DIRECTLY TO THE BATTERY

Read the complete EV charging guide

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AC CHARGING

AC charging fits the daily routine

- 3.3 kW single-phase to 22 kW three-phase.
- Best for overnight home charging and workplace top-ups.
- Lower installation cost and minimal grid infrastructure.

See how AC charging works



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DC FAST CHARGING

DC fast charging is built for the highway

- 30 kW to 240 kW power levels.
- Most EVs can move from 20% to 80% in 20–45 minutes, depending on the vehicle and charger.
- Best for long-distance travel, fleets, and commercial operations.



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CONNECTOR STANDARDS

India’s connector map is easier than it looks



Type 2

The standard AC connector, up to 22 kW.



CCS2

The main DC fast-charging standard.



CHAdeMO

A Japanese DC standard still found on older EVs.

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CHARGER SELECTION

Choose charger power by dwell time

Use case	Recommended range	Why
Home	3.3–7.4 kW AC	Overnight charging
Commercial	22–60 kW	Match dwell time
Highway	120–240 kW DC	Rapid turnaround

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NETWORK MANAGEMENT

OCPP keeps the charger network flexible

Open Charge Point Protocol lets chargers communicate with management software across manufacturers.



Open communication

Connect chargers and software across manufacturers.



Network integration

SpiderEV chargers support OCPP 1.6J for network integration.

Explore the OCPP and charger-network details

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THE CHARGING SESSION

What happens inside an EV charging session?

01

The charger connects safely to the vehicle and checks compatibility.

02

AC charging hands conversion to the onboard charger; DC charging sends power directly to the battery.

03

The vehicle and charger manage power flow until the target state of charge is reached.

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THE SYSTEM VIEW

India’s charging ecosystem needs the right mix



AC coverage

AC chargers cover predictable, longer dwell times.



DC confidence

DC chargers unlock route confidence and faster turnaround.



Network scale

Connector compatibility and OCPP support matter as networks scale.

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THE DECISION RULE

Start with the use case, then choose the charger

For home, prioritize overnight AC charging. For commercial and highway sites, size DC power around dwell time, traffic, and turnaround.

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