

Charging SOP – How to Charge Safely and Efficiently (v1.0)

Why it matters:

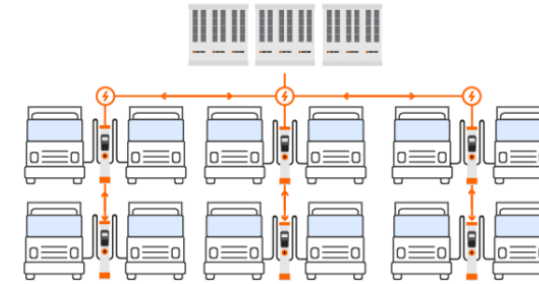
- Charging errors are the #1 cause of early downtime in EV fleets.
- Standardizing routines avoids safety incidents, charger faults, and underutilization.
- This SOP defines “who does what” and “how to charge right, every time.”



Roles and Responsibilities

➤ Who does what?

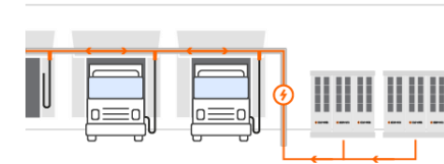
Role	Responsibility
Driver / Operator	Perform pre-/post-charge checks and initiate charging.
Fleet Supervisor	Enforce schedule, review charger logs, manage exceptions.
Technician / Maintenance	Inspect, reset, and maintain charger functionality.
HSE Lead	Oversee electrical safety and emergency response.



Overnight

Depots,
Truck Stops

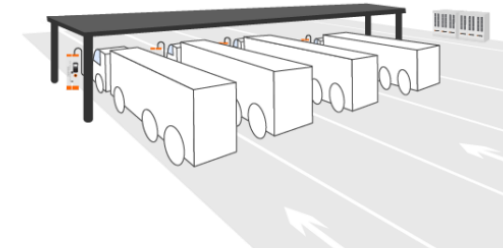
Charging availability: 6-8h
Power: 50-100 kW
Plug: CCS*



Destination

Warehouses,
Distribution Centers

Charging availability: 30min-2h
Power: 150-400 kW
Plug: CCS*



On-the-Move

Urban Nodes,
Highways

Charging availability: 45min
Power: 500-1200 kW
Plug: CCS & MCS

Clear accountability reduces charger misuse and downtime.

Pre-Charging & Charging Steps

➤ How to Charge – Step by Step

Pre-checks

Checkpoint	Status
Inspect cable and plug for damage	☐
Confirm charger ID and SOC level (<30%)	☐
Ensure park brake & key off	☐
Wear PPE, clear area	☐

Charging Procedure

Checkpoint	Status
1 Plug in and authenticate (RFID/app)	☐
2 Verify charging begins (display or telematics)	☐
3 Monitor progress (SOC, power, ETA)	☐
4 Stop at 100% (overnight) or 80% (mid-shift)	☐
5 Unplug, coil cable, inspect bay	☐

Always check SOC and confirm the charge completed before moving the truck.

Faults & Emergencies

➤ If Charging Fails or an Error Occurs

- ❌ Charger unresponsive or flashing error
- ❌ No initiation / interrupted session
- ❌ Connector won't unlock
- ❌ Breaker trip or grid fault

- 1 Press STOP (if safe)
- 2 Do not force unplugging
- 3 Call maintenance / HSE contact
- 4 Tag charger "Out of Service"
- 5 Move truck to alternate bay

Escalation path:



Never open charger cabinets or attempt repairs. Electrical safety first.

Smart Charging & Load Management

➤ Manage the Power, Not Just the Plug

Checkpoint	Status
Follow charging window (e.g., 20:00–05:00)	☐
Use telematics timers for load balancing	☐
Avoid >25% fleet charging concurrently	☐
Prioritize low-SOC and early departures	☐
Track utilization via platform or dashboard	☐

Smart charging ensures uptime without overloading the depot grid.

Safety, Maintenance & Reporting

➤ Keep It Safe, Keep It Working

Safety Do's and Don'ts:

- ✓ Dry ground only – no standing water
- ✓ Maintain 1.5 m clear zone
- ✓ No smoking or open flames
- ✗ Never repair or open chargers
- ✗ Never bypass RFID / safety systems

Maintenance Routine

Frequency	Task	Owner
Weekly	Inspect cables, signage	Technician
Monthly	Firmware update	Vendor/CPO
Monthly	Electrical safety check	HSE Lead

Reliable charging starts with consistent routines.