

11kW EV DC Charger

Specification



The 11kW EV DC Charger is a high efficiency high speed charger for CCS2 compliant vehicles that converts 11kW of AC to DC quickly recharging the vehicle battery without requiring a heavy, costly, high power on-board charger in the vehicle.

Maximum efficiency exceeds 95%.

Designed for wall or pole mounted installation, the 11kW EV DC Charger is ideal for garages, carports, shopping centres, parking areas and the like. The 11kW 3 phase means that it can be connected to a location's AC typical power supply without the costly need to upgrade it to higher power level (assuming 3 phase is available).

A side cable holder and plug receptacle allow a low wall profile.

A state-of-charge indicator shows overall progress and the charger pulses blue while charging.

A Wi-Fi connection and Smartphone App provide a convenient user interface. User access to the charger is gained by means of an RFID tag. Up to 25 unique tags can be registered per charger simultaneously. (Tags can be duplicated without limit.)



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Detailed specifications at 400V_{AC} in, 400V_{DC} out, 25°C, unless otherwise stated

Input 380, 400, 480V_{AC}

Voltage requirement:

Three phase, 4 wire (no neutral) nominal range:
380, 400, 480V_{AC};
Voltage tolerance: 340 – 530V_{AC};
Frequency: 45-66Hz

Maximum input current:

16A RMS max

Power factor:

Greater than 0.99 at full load; 0.98 at half load

Harmonic distortion of input current:

Less than 5% at full load; 10% at half load

Voltage withstand test:

2828V_{DC} input to chassis for 1 minute

Protection:

Overvoltage: operates to 535V_{AC} typically
Undervoltage: operates to 320V_{AC} typically
Surge protection to 6kV/3kA
Fuses provided at the input but an upstream magnetic circuit breaker is required.

Startup:

Inrush less than 100% input current

Output 200V_{DC} – 450V_{DC}

Voltage:

Adjustment range: 200 – 450V

Current:

Up to 32A_{DC} as demanded by vehicle

Charging type:

Mode 4

Connector type DC:

CCS type 2 per IEC 62196-3

Isolation:

IT isolation
2828V_{DC} output to chassis for 1 minute

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Standards

Features and Safety:

Designed to IEC61851-1: 3rd Ed 2017, and IEC61851-23: 1st Ed 2014

EMC Emissions and Immunity:

Designed to IEC 61851-21-2: 1st edition 2018.

Mechanical

Width:	350mm main body, 470mm unplugged, 600mm with cable in holder
Height:	1105mm
Depth:	131mm
Mass:	<32kg approximately (charger module only)

Acoustic Noise: ≤ 55dB (A Weighted)

Environment

Operating range:	-30°C to +50°C, ≤90% RH
IP rating:	44
Environment:	For Indoor or Outdoor use
Storage and transport:	-40°C to +70°C, ≤95% RH
Altitude:	2000m max, de-rating 5°C per 1000m

Interfaces

Installation:	Wall mounting (or optional round pole) mounting. A mounting base is attached to the wall, and the EV DC Home Charger mounts on the base. AC power is automatically connected when the charger is installed on the base.																		
Input:	Junction box at top of mounting plate for direct top entry cable, or bottom entry via conduit.																		
Output:	CCS Type 2 plug with 3.5m cable, secure plug holder.																		
Network Interface:	Wi-Fi connection and Smartphone App Optional OCPP1.6 integration																		
User Access:	Granted by holding RFID tag next to symbol on front panel By using a master RFID key, any 125kHz EM4100 compliant RFID tag to can be added to the list of recognised tags, up to a maximum of 25 unique tags simultaneously. Tags can only be erased all at once.																		
User interface:	Edge of front panel – illumination pattern: <table><tr><td>Flashing yellow:</td><td>Charger starting up after AC power up</td></tr><tr><td>Slowly pulsing green:</td><td>Available for use via RFID access</td></tr><tr><td>Slowly pulsing blue:</td><td>User RFID access granted. Ready to charge.</td></tr><tr><td>Flashing blue:</td><td>Cable connected / charge cycle Stopped / battery full</td></tr><tr><td>Blue:</td><td>Pre- and post-charge procedures busy</td></tr><tr><td>Breathing blue:</td><td>Busy charging</td></tr><tr><td>Yellow:</td><td>AC power fault</td></tr><tr><td>Flashing red:</td><td>Internal fault</td></tr><tr><td>State of charge:</td><td>A 5-segment battery symbol mirrors the vehicle battery state of charge.</td></tr></table>	Flashing yellow:	Charger starting up after AC power up	Slowly pulsing green:	Available for use via RFID access	Slowly pulsing blue:	User RFID access granted. Ready to charge.	Flashing blue:	Cable connected / charge cycle Stopped / battery full	Blue:	Pre- and post-charge procedures busy	Breathing blue:	Busy charging	Yellow:	AC power fault	Flashing red:	Internal fault	State of charge:	A 5-segment battery symbol mirrors the vehicle battery state of charge.
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