

# EV2c: Utility-Controlled EV Charging

The first line of defense for demand response and load shedding

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Aclara's EV2c is a Level 2 EVSE that offers utilities real time visibility and control of electric vehicles by utilizing an integrated meter that communicates over secure AMI networks. As EV adoption continues to grow so does the load on the grid. More than 85% of EV charging will take place at home using Level 2 EVSEs, which will be the largest residential load. It is common for EVs to charge at 11.5 kW, effectively tripling the peak demand of many homes. To improve grid reliability and protect existing infrastructure (like distribution transformers), utilities need both real-time charging intelligence and the ability to control EV load, which is inherently flexible. Aclara's EV2c empowers utilities to monitor and dynamically control EV charging, leveraging factors such as time of day, location, and real-time grid conditions. This enables utilities to balance the load on their systems, optimizing and safeguarding existing grid infrastructure.

## **Level 2 Charging** - Provides charging support to any battery electric or plug-in hybrid vehicle

The EV2c comes with a standard J1772 connector and provides up to 11.5 kW of power. The connector is compatible with Tesla's NACS adapters (North American Charge Standard).

## **User Charging Data** - Learn when and where EV owners are charging their vehicles

Utilities can monitor and collect real time data on when vehicles are charging and how much power they are using. This data can be integrated with existing operational software to help utilities to understand and actively respond to loading issues across their distribution network and improve load forecasting and system planning.

## **Revenue Grade Metering** - Metrology is based on existing Aclara technology, so accuracy is guaranteed

All data collected can be seamlessly integrated with utility EV programs, such as Time-of-Use rates, to ensure safe, reliable charging and guarantee accurate customer billing.

## **EV Charging Control** - Offers immediate load management control

Whether you are implementing a Demand Response program or accommodating Emergency Load Shed needs, the EV2c can provide immediate control to reduce the strain on the distribution grid during peak times. It can integrate with existing load management solutions to help remove up to 11.5 kW of load per vehicle during an event.

## **AMI Communications** - Collects billing data quickly and efficiently

Regardless of whether data is collected for analysis or billing, it needs to be done in a timely manner. The EV2c communicates over a utility's existing AMI network where connectivity is assured and does not rely on residential Wi-Fi networks, which may not be reliable or secure.

## Specifications

- Type: Level 2 EVSE
- Charging connector: SAE J1772 designed to withstand 10,000+ charging cycles
- Charging cable: 7.62 m / 25' commercial grade cable
- Cable management: Included
- Charging power: 3.3 kW to 11.5 kW
- Power measurement Accuracy: 0.50%
- Interval lengths: 1 Min to 60 min aligned to the hour
- Automated output control: on/off
- Demand response opt-out: Physical button
- Local indicators:
  - Power
  - Plug state
  - Charging
  - Utility Control
  - Faults
  - Opt-out

## Communications

- Interface: AMI RF and Cellular
- External antenna: Optional accessory
- Firmware updates: Over-the-air

## Electrical Design

- Voltage: 208V to 240V @ 60Hz
- Rated current settings (A): 16, 24, 32, 40, 48
- Installation: NEMA 6-50P plug. NEMA 14-50P plug, or hardwired (installations should be completed by a qualified electrician)
- Safety features: Integrated GFCI 20mA

## General Design

- Environmental design: indoor & outdoor, NEMA 3R
- Limited warranty: 3 years

## Weight

- < 25lbs including the cable

## Operating Temperature

- -30°C to 50°C (-22°F to 122°F)

## Operating Humidity

- 5% to 95% Relative Humidity

## Size

- H = 24.4", W = 10.2", D = 5.5"  
(Does not include cable)

## Elevation

- 6,562 Feet (2,000 Meters)

## Certificates & Standards

- UL 991
- UL 1998
- UL 2231-1 & UL 2231-2
- UL 2251
- UL 2594

## Conformity

- ANSI C12.1-2014 (limited) & C12.20-2015 (limited)
- ANSI C12.18 & C12.19
- SAE J1772

## Supported Use Cases

- EV charging: Level 2
- Usage data/events: Yes
- Emergency load shed: Yes
- Demand response: Yes
- Revenue grade billing data: 0.50%

