

Eaton's Pow-R-Station Level 2 electric vehicle charging station

The most robust, flexible offering of EVSE on the market



Overview

Plug-in electric vehicles offer improved fuel economy, lower emissions and strong acceleration with quiet operation—all from a domestic energy source. Therefore, it is no surprise that automakers are bringing plug-in electric vehicles to the mass market. In fact, industry forecasts predict an annual volume of 400,000 battery electric vehicles in North America by 2020. These electric vehicles will require a substantial residential, commercial and public infrastructure to support them.

Eaton® provides the most robust, flexible offering of electric vehicle supply equipment (EVSE) on the market. Eaton's Pow-R-Station family of solutions is the electric transportation industry's premier EVSE.

Eaton's Pow-R-Station electric vehicle charging stations supply the connection to the grid where vehicles park—street-side, garage or parking lot—and provide the car's onboard charger with the electricity it needs to refill the battery.

Flexibility for an emerging market

Whether you have a fleet of electric vehicles or you are plugging in while away from home, Eaton has an electric vehicle charging station targeted to meet your commercial needs.

The Level 2 Pow-R-Station electric vehicle charging station is NEMA® 3R rated—suitable for indoor or outdoor use—and is housed in a heavy-duty aluminum enclosure with a powder-coat paint finish for durability and long life. The charging station can be wall-mounted for commercial garage installations, or it can be configured as a freestanding pedestal. The Level 2 AC stations are equipped with a device panel to easily upgrade later with the addition of a payment or authorization peripheral.

How it works

When the driver connects the J1772™ connector to the electric vehicle, the Level 2 Pow-R-Station EV charging station confirms that it is an electric vehicle by “waking it up” through one of the pins in the connector. Once the station has confirmed the connection the charging station will respond by indicating its available line current (ALC). The ALC is the maximum current the electric vehicle is allowed to draw, depending on the circuit size or the commands of a load-management system and/or the requirements of a utility.

Depending on the battery size, the Level 2 charging station will easily fill a depleted electric vehicle battery in as little as four hours while the owner is at work or play.



Powering Business Worldwide



User safety

The various communications between the electric vehicle and the Pow-R-Station EV charging station are in place to ensure user safety. These safety checks verify that there is no chance of injury to the user or the equipment. For example, until the vehicle has confirmed it is connected to an EVSE, the five pins on the connector have no AC power.

In addition, the charging station has completed certification testing to the applicable UL® and CSA® standards for EVSE.

Installation

Installation of the Level 2 Pow-R-Station EVSE can be performed easily by any qualified electrician. The wall-mount design is much like the installation for an electric stove circuit, and the pedestal is comparable to the installation of a lighting bollard circuit. An electrician can also verify whether the size of the branch circuit is correct per NFPA® 70 and NEC® 625.14 standards.

Eaton manufactures all products that may be needed to support an electrical system upgrade, if it is required for installation. For commercial installations, Eaton's Electrical Services and Systems (EESS) team of electrical engineers is available nationwide and can be augmented by Eaton's network of national, local and specialty certified electrical contractors.

Communication features

The Level 2 Pow-R-Station EVSE is equipped with native RS-485 communications, allowing an Application Programming Interface (API) to be accessed via Modbus® RTU. The Modbus protocol allows for integration into a building's energy management system (EMS) to manage the charging station's deployment with status and usage statistics for the whole facility.

Remote management and control

Optionally the station can be networked with other power stations using Eaton's Network Manager software. With Network Manager, the power stations can be operated or managed by one entity, a group of users or a third-party via an easy-to-use web-based portal or via a secure public API.

Eaton's Pow-R-Station Network Manager Software provides remote-management and control services for the charging station or network. Network Manager Software allows a user or a fleet manager to check the status of the station, including if it is idle or in use, the amount of power flowing to the vehicle, and any required preventative maintenance. Further, the user is able to gather usage data and reports, manage and control how fast charging takes place, and access maps of where each station is located, all from Internet portal dashboards.

Authentication

To meet your application needs, Eaton can interface with third-party authentication systems including but not limited to:

- Outdoor-rated credit card swipe
- Secure access RFID
- RFID with user identification ¹
- Synchronous-code keypads

Further, the optional integrated synchronous-code keypad can be used in conjunction with parking lot management systems commonly deployed today to provide a method for both enabling payment and restricting access to the charging stations.



For more information, visit www.eaton.com/plugin, call 1-855-ETN-EVSE (1-855-386-3873), or call your local Eaton sales office.

¹ When used with Eaton's Network Manager software

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