Electric Car

I N S I D E R

COMMERCIAL EVSE BUYERS GUIDE

INDEPENDENT REVIEWS

Comprehensive Specifications

EVBox
Iqon

EverCharge
EV Connector

Contents
2020 Q4

FEATURES

SERVICE PROVIDERS

EV CHARGER BUYERS GUIDE

EV Charger Matrix
Specification Quick Reference

Mfg	Model	Yr Intro	Volts	Amps	kW	MSRP Base	Hardwire	Page
ABB	Terra DC Wallbox	2020	150-920	60	24	**On Request**	Yes	45
BEAM	EV ARC 2020	2020	208-240	18	4.3	**On Request**	N/A	14
Blink	IQ 200	2020	208-240	80	19.2	**On Request**	Yes	26
BTC Power	70A	2020	208-240	70	16.8	**On Request**	Yes	24
ChargePoint	CT4000	2013	240	16-30	3.8- 7.2	**$8k-$12,000**	Yes	39
Clipper Creek	HCS40R	2020	208-240	32	7.7	**$665**	Yes	20
EDF Renewables	PowerFlex	2015	208-240	32-80	19.2	**$6,000/yr**	Yes	10
Efacec	Public Charger	2010	208-240	16-32	3.7-7.4	**$4,920**	Yes	40
Enel X	Juice Box Pro	2020	208-240	40	9.6	**$1,399**	Yes	29
EVBox	BusinessLine	2016	208-240	16, 32	3.8-7.7	**$1,795-$4,640**	Yes	18
EVBox	Iqon	2020	208-240	30	7.2	**$5,795**	Yes	44
EVBox	Troniq	2020	500	200	100	**$43,250**	Yes	47
Evercharge	EV Connector	2013	208-240	30-80	7.2-19.2	**On Request**	Yes	17
Freewire Tech.	Mobi EV Charger	2015	240	32	11	**On Request**	No	31
JuiceBar	Gen 3 Series	2020	208-240	32-80	6.6-19.2	**$5,200-$6,818**	Yes	12
Liberty Plugins	Hydra	2013	110-240	32	7.7	**On Request**	N/A	25
Phillips & Temro	EVOCHARGE	2012	208-240	32	7.7	**$479, $679**	N/A	23
PowerCharge	Pro-Lightning	2020	208-240	16-32	3.8-7.7	**On Request**	Yes	16
Siemens	VersiCharge	2020	208-240	40-48	2.8-11.5	**On Request**	Yes	22
SemaConnect	Series 6 EV Chrg	2011	208-240	30	7.2	**On Request**	Yes	42
Tellus Power	Level 2	2015	208-240	30	7.2	**$2,899**	Yes	38
Tesla	Wall Connector	2012	208-240	12-48	2.8-11.5	**$500**	Yes	36
Tritium	RT50	2020	380-480	100	50	**On Request**	Yes	46
Webasto	TurboDX	2019	208-240	16, 32	3.8, 7.7	**On Request**	Yes	28

Dashes in the matrix represent specs not available at time of printing.
Not all suppliers participate in the Supplier Quick Contact System. To contact suppliers not listed, please refer to the Internet.

2020
SIEMENS
VersiCharge AC Series

Siemens recently released the 3rd generation VersiCharge AC series charger building on over ten years of experience in the charging business. The new edition received a significant design refresh, which provides a modern look and feel when either wall or post mounted. In addition, it offers advanced communication capabilities, easy startup and interoperability with cloud or control systems. The configurable 2.8 kw -11.5 kw power feature allows the charger to conform to load or panel limits in applications like charger replacements or retrofit applications. Connecting directly to building management or control systems, such as Siemens Desigo CC and 3rd Party systems, has never been easier with the Modbus TCP & RTU protocols provided in the new VersiCharge units. Additional communication ability is provided with the Open OCPP protocol allowing secure back-end system connection with any open cloud service provider. The new VersiCharge Parent - Child architecture allows for one point of communications to a bank of chargers. The Child charger will support Wi-Fi, Ethernet and Serial communications, while the Parent adds on cellular, providing a totally integrated network with no external hardware. To ensure the industries highest accuracy energy measurement, the VersiCharge products include ANSI C12.20 metering. A new end user mobile app for the iPhone or Android is provided to allow easy startup, monitoring and control while the new design offers open payment options like RFID, and cloud-based services to manage your charging infrastructure.

ACQUISITION
MSRP	**Upon Request**
Availability	**2020**
Warranty	**3 years**

RATING
Volts	**208/240V**
Amps	**40-48A**
Watts	**2.8-11.5kW**

WIRING
Hardwire	**Yes**
Plug Type	**Hardwire**
Breaker	**50-60A**

CABLE
Connector	**J1772**
Cord Length (ft)	**20 ft**

USER INTERFACE
Interface Type	**Screen**
Comm	**Eth, WiFi, Modbus / LTE**
Software	**OCPP 1.6, 2.0, App**

DIMENSIONS
Dimen.	**16.2"Hx7.09"Wx3.78"D**
Weight	**17 lbs**
Enclosure	**NEMA 4**
Rating	**Indoor/Outdoor**
Temperature	**-31F to +122F**

Story: Christopher Alan, Photos: Siemens

ACQUISITION

MSRP **$479, $679**
Availability .... **Contact Mfg**
Warranty .... **3 years**

RATING

Volts **208/240VAC**
Amps **32A**
Watts **7.7kW**

WIRING

Hardwire .... **HW or Plug**
Plug Type .... **NEMA 6-50**
Breaker **40A**

CABLE

Connector **J1772**
Cord Length (ft) .... **18-25 ft**

USER INTERFACE

Interface Type .... **Networked**
Communications ...... **WiFi, OCPP**
Software .... **App**

DIMENSIONS

Dimension **11"H x 7.5"W x 3.2" D**
Weight **14 lbs (18ft), 16 lbs (25ft)**
Enclosure .... **NEMA 4**
Rating .... **Indoor/Outdoor**
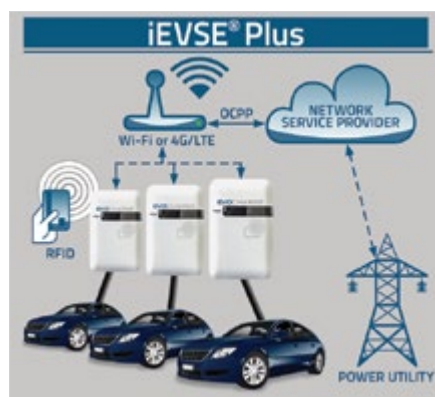Temperature .... **-40F to +122F**

2012-2020
PHILLIPS & TEMRO
EVOCHARGE EVSE & iEVSE

The EVOCHARGE line is a trio of Level 2 chargers from Phillips & Temro industries. The chargers supply 32A of current and 7.7kW of power, which translates to about 25-35 miles of charge per hour depending on vehicle efficiency. The chargers' amperage can be adjusted from 16-32A to support multiple circuit ratings. The unit ships standard with an 18-foot cable and offers a 25-foot option. With the EVOREEL cable management system, you can fit the unit with either a 22ft or 30ft option.

The EVOCHARGE EVSE and iEVSE have a smooth rectangular case with dimensions smaller than a letter-size sheet of paper. The charging stations' slim 3.2-inch depth allows them to lay nearly flat against any surface. Installation is simple. A universal mounting bracket secures the charger to a wall, pedestal, or other structure. A mountable holster is used to store the charge port and wrap the cable. The chargers are NEMA 4 certified for outdoor use and UL listed.

EVOCHARGE chargers come in both networked and non-networked configurations. The standard EVOCHARGE EVSE is non-networked while the iEVSE can be connected to WiFi and OCPP networks to perform local load management and demand response to adjust electricity consumption. The iEVSE Plus adds an RFID reader for selective access granting and 4G-LTE cellular. To lower acquisition costs, Phillips & Temro's web site helps connect customers to information about federal, state, and utility incentive programs.

Story: Christopher Alan, Photos: Phillips & Temro

Access Controls

Provisioning, Security and Revenue

BY RICK DURST

Some access controls are physical, while others are software- or app-based. Examples of access controls include switches, cards, keypads, & smartphones.

SYSTEM TYPES

A charging station's access controls refer to the different ways that users can obtain the ability to utilize or otherwise manipulate the charger. There are owner-specific and customer-specific access controls. Some access controls are physical, while others are software- or app-based. Examples of access controls include switches, cards, keypads, and smartphones. For details regarding each access control method, see below.

OWNER MANUAL CONTROLS

Manual controls consist of simply turning off the power that supplies the charger or locking the charger up by some physical means.

Adding a relay that can be controlled by a switch near the front desk could be expensive if the front desk is quite a distance from the path of the power flow between the electric panel and where the charger is located.

CHARGING EQUIPMENT VENDOR SUPPLIED CONTROLS

MANUAL CONTROLS

At least one vendor offers a simple key switch mounted on the charging station to turn on and off the control mechanism. With the key switch off, the charger will not supply power to the vehicle.

SOFTWARE-RELATED ACCESS CONTROLS

Many EV Charging vendors offer access controls using various types of controls, from card access and Bluetooth™ to kiosk and Smartphone network apps. Some vendors can lock the charging cord in place on the charger and allow it to be unlocked or released from the holder when a charging session is activated.

Registering with a Network Operator can enhance your charging experience by providing features and notifications such as charge status (complete, charging, interrupted, etc.) energy consumption, charging duration.

Radio Frequency Identification (RFID) Cards

RFID cards have a small electronic chip inside. Holding this card up to a charger allows the charging station to read the chip and, if authorized, grant access. There are different types of RFID cards. Check with your security or IT department if you

plan to use employee or tenant access cards to see if they are compatible with the type of equipment you wish to purchase. Some vendors can sync chargers to pre-existing employee id cards. (This method will typically require coordination between the network provider and the security department.)

Magnetic Stripe Cards

Swipe cards can be special cards by a certain vendor or regular credit and debit cards. Card compatibility is determined by the type of card reader used by the station. Typically, these cards are used with a back-end payment system by a Network Operator (see section on Network Operators).

Payment Kiosk/Keypad

As an alternative to having each individual station use its own payment card and communications connected to a back-end network, a payment kiosk may be used. Users access a central payment kiosk that controls the operation of each individual charger. A payment kiosk may use a variety of different payment mechanisms such as cash or credit card and is comparable to those used for parking payments. The station is then activated with a code provided at the Kiosk using the keypad on the charger.

Smartphone Apps

Bluetooth™ controls: Controlling the operation of charging equipment using Bluetooth via computer or smartphone is a simple, low-cost method of managing access to chargers without a monthly access fee. Bluetooth™ allows an owner to program a series of access codes to grant to select users. Users then enter the codes into their charging app to access the charger. Codes can be changed an unlimited number of times and added or removed from each charger as desired.

Vendor Apps: Most network providers have their own in-house app to find and control in-network charging stations. While some vendors display other

charging spots in the area, they can only control the chargers within their specific network.

Pay with PlugShare: Plugshare is an app that is used to locate chargers along a route, in a given vicinity, or anywhere a driver selects. Plugshare has teamed up with network providers to facilitate payment via the PlugShare app. This allows users to pay with PlugShare and avoid the need to join a specific network provider.

Apple Pay™: AppleMaps™ shows Chargepoint charging stations that can be activated using the ApplePay™ service.

Paypal: Certain vendors provide the ability to pay with Paypal using their apps.

Make a Phone Call: If you lack a smartphone or misplaced your network card, most networked stations will allow you to make a call to the network support number on the charger to start a charge session. If you do not have an account with that vendor, you might need to make a payment with a credit card or join their network.

Fleet Operator Fuel Payment Cards: A few vendors can support Fleet Operator Fuel Payment cards. If you are a fleet user and want to track fueling on your electric fleet vehicles, then select one of these vendors. ◗

Bluetooth™ allows an owner to program a series of access codes to grant to select users. Users then enter the codes into their charging app to access the charger.

Plugshare has teamed up with network providers to facilitate payment via the PlugShare app. This allows users to pay with PlugShare and avoid the need to join a specific network provider.

EV Educational Resources

Supporting EV Adoption from Awareness to Advocacy

Electric Car INSIDER

EV & EVSE Buyers Guides

Comprehensive, full page profiles of the best EVs and EV chargers.

Electric Car Guest Drive

Test drive the latest electric cars and learn from EV owners at a no-pressure social event.

Discount Pricing Guide

The app that can save you thousands of dollars on EV and EVSE purchases. Customizable for utilities and AQMDs.

Educational Pillars

Large scale interactive exhibits for indoor and outoor events.

Mobile EVSE Classroom

ECI will deploy a mobile classroom – towed by a Cybertruck – througout the US in 2021.

EV Navigator

Online, interactive app to guide prospective EV drivers on the path to ownership and advocacy.

ECI creates electric vehicle educational resources for utilities, AQMDs, automakers and EVSE manufacturers, integrators and installers.

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