ROBOTIC PARKING SYSTEMS

AUTOMATED ELECTRIC VEHICLE CHARGING TECHNICAL SPECIFICATIONS

Robotic Parking Systems Inc. optionally provides fully software-controlled Level 2 charging stations for electric vehicles inside our garages. Our intelligent software automatically controls the routing of charging vehicles inside the facility to optimize demand in the event there are more charging vehicles than charging stations available.

To activate charging, patrons must select “Charging Required” and “Hours” at the entry kiosk while parking the vehicle.

Level 1 vs Level 2 vs Level 3 EV Charging Stations

There are three types of chargers.

Level 1

These charging stations use a normal 120-volt connection which uses any standard household outlet. The downside is that charging times can be slow, 1 to 3 miles/hour. Many electric vehicle owners will find that they typically don’t deplete more of the battery than can be replenished overnight using a basic 120V connection. A Mercedes B Class 250e, for example, can take 20 hours to fully charge (87 miles of range) with a standard 120-volt charging station (Level 1).

Level 2

These EV chargers use a higher output 240-volt power source like the ones used for your oven or clothes dryer. Charging times are much faster, 10 to 25 miles/hour. A 240-volt Level 2 charger can fully charge a Mercedes B Class 250e in 3 hours.

Level 3 / DC Fast Charging

Level 3 charging, also called DC Fast Charging, is the quickest system of charging. Level 3 can bring a given EV’s battery back up to 80 percent of its capacity in around 30-60 minutes, depending on the vehicle and the ambient temperature (a cold battery charges slower than a warm one.) However, routinely using a Level 3 charger can ultimately hurt your car’s battery. Additionally, these chargers are extremely expensive.

Specifications

Electric Vehicle Charging Stations	30 Amp Charging Station	40 Amp Charging Station
Catalog Number	EVR30-B1C	EVR40-B2C
Electrical Specifications		
Amperage	30 A 60 Hz	40 A 60 Hz
Breaker	2 Pole, 40 A Breaker on Dedicated Circuit, Non-GFCI Type	2 Pole, 50 A Breaker on Dedicated Circuit, Non-GFCI Type
Voltage	240 VAC Single Phase and 208 VAC 3-Phase Y	240 VAC Single Phase and 208 VAC 3-Phase Y
Charge Connector Cord	SAE J1772 Charge Connector	SAE J1772 Charge Connector
Output Rating	7.2 kW (30 A @ 240 V) 6.2 kW (30 A @208 V)	9.6 kW (40 A @ 240 V) 8.3 kW (40 A @ 208 V)
Phantom Power	< 7.5 W	< 7.5 W
Number of Phase/Wire	L1, L2 and Ground, Bottom Feed	L1, L2 and Ground, Bottom Feed
Short Curcuit Current Rating	20 mA CCID per UL 2231	20 mA CCID per UL 2231
Station Operating Temperature	-22°F to +122°F / -30°C to +50°C	-22°F to +122°F / -30°C to +50°C
Environmental Specifications		
Charging Cable Operating Temperature	SAE J1772 Connector Cord : -40°F to +122°F (-40°C to +50°C)	
Operating Humidity	< 95% Relative Humidity, Non-Condensing	
Cooling	Natural Cooling	
Altitude	Up to 6,500 ft. (2,000 m)	
Material Specifications		
Enclosure Rating	NEMA Type 3R	
Enclosure Cover Material	Plastic (PC+PBT)	
Status Indicators	Power Present, Charging, Fault	
Charge Connector Cord	UL Type EV	
Mechanical Specifications		
Charging Cable Length	18 Ft (5.5 m)	25 Ft (7.62 m)	25 Ft (7.62 m)
Product Features		
Cover Locking Mechanism	Torx Screw to Prevent Unauthorized Access / No Padlock Option	
Card Reader	—	ISO/IEC 14443 Type A/B RFID For User Authentication	—
Standards & Certifications		
Certificates/Compliance	SAE J1772; UL 991; SAE J2953; NEC Article 625; UL 2594; CSA C22.2; No. 107.1; UL 2231-1; FCC; UL 2231-2; UL, cUL; UL 1998; RoHS	
Warranty		
Term	2-Year Limited Warranty	

Pedestal System	
Component	Material Specifications
Pole/Base	Powder Coated Steel
Charge Connector Docking Bracket	Valox® PBT & Powder Coated Steel
Mounting Hardware	Stainless Steel

The charging time for various vehicles using Level 2 chargers are as follows.

LEVITON

Electric Vehicle Charge Time Comparison

Battery Electric & Plug-In Hybrid Vehicles

BATTERY ELECTRIC VEHICLES

Type of Vehicle	On-Board Charger (kW)	Battery Capacity (kWh)	Level 1 (12 A) Charge Time (Hours) Auto Manufacturer Supplied	Level 2 (30 A) Charge Time (Hours) Leviton EVR30-B1C	Level 2 (40 A) Charge Time (Hours) Leviton EVR40-B2C
BMW ActiveE	7	32	23	4.5	4.5
BMW i3 ('14-'16)	7.4	23	16.5	3	3
BMW i3 2017 (60 Ah Battery)	7.4	23	16.5	3	3
BMW i3 2017 (90 Ah Battery)	7.4	32	23	4.5	4.5
Chevrolet Bolt	7.2	60	43	8.5	8.5
Chevrolet Spark	3.3	23	16.5	7	7
Fiat 500E	6.6	24	17	3.5	3.5
Ford Focus EV	6.6	23	16.5	3.5	3.5
2017 Ford Focus EV	6.6	33.5	24	5	5
Hyundai Ioniq	6.6	28	20	5	5
Kia Soul	6.6	27	19.5	4	4
Mercedes B Class B250e	9.6	28	20	3.5	3
Mitsubishi i-MIEVE	3.3	16	11.5	5	5
Nissan Leaf (3.3 kW)	3.3	24	17	7.5	7.5
Nissan Leaf (6.6 kW)	6.6	24	17	3.5	3.5
2016-2017 Nissan Leaf (SL & SV)	6.6	30	21.5	4.5	4.5
2017 Nissan Leaf (3.3 kW)	3.3	30	21.5	9	9
2017 Nissan Leaf (6.6 kW)	6.6	30	21.5	4.5	4.5
Tesla Model S 60	9.6	60	43	8	6.5
Tesla Model S 70	9.6	70	50	9	7.5
Tesla Model S 85	9.6	85	60.5	11	9
Tesla Model S 90	9.6	90	64.5	11.5	9.5
Tesla Model S 100	9.6	100	71.5	13	10.5
Tesla Model X	9.6	100	71.5	13	10.5
Toyota RAV 4	9.6	41.8	30	5.5	4.5
VW e-Golf (3.6 kW)	3.6	24	17	6.5	6.5
VW e-Golf (7.2 kW)	7.2	24	17	3.5	3.5
Zenith 350 Van	9.6	62.5	44.5	8	6.5

COMPARISONS FOR PLUG-IN HYBRID VEHICLES FEATURED ON THE NEXT PAGE »

PLUG-IN HYBRID VEHICLES

Type of Vehicle	On-Board Charger (kW)	Battery Capacity (kWh)	Level 1 (12 A) Charge Time (Hours) Auto Manufacturer Supplied	Level 2 (30 A) Charge Time (Hours) Leviton EVR30-B1C	Level 2 (40 A) Charge Time (Hours) Leviton EVR40-B2C
Audi A3 E-Tron	3.3	8.8	6.5	2.5	2.5
Audi Q7 E-Tron	7.2	17.3	12.5	2.5	2.5
BMW 330e	3.6	7.6	5.5	2	2
BMW 530e	3.6	9.2	6.5	2.5	2.5
BMW 740e	3.6	9.2	6.5	2.5	2.5
BMW i8	3.6	7.1	5	2	2
BMW X5 xDrive-40e	3.6	9	6.5	2.5	2.5
Cadillac CT6	3.6	18.4	13	4.5	4.5
Cadillac ELR	3.3	16.5	12	4	4
Chevrolet Volt	3.3	16.5	12	4	4
Chevrolet Volt 2016/2017	3.6	18.4	13	4.5	4.5
Chrysler Pacifica	6.6	16	11.5	4	4
Fisker Karma	3.3	16	11.5	4	4
Ford C-Max Energi	3.3	7.6	5.5	2	2
Ford Fusion Energi	3.3	7.6	5.5	2	2
Honda Accord	6.6	6.7	5	1	1
Kia Optima	6.6	9.8	7	3	3
Hyundai Sonata	3.3	9.8	7	3	3
Mercedes C350 Hybrid	3.3	6.2	4.5	2	2
Mercedes GLE 550e	3.3	8.8	6.5	2.5	2.5
Mercedes 5550 Hybrid	3.3	8.7	6	2.5	2.5
Mini Cooper S E Countryman ALL4	3.3	7.6	5.5	2.5	2.5
Mitsubishi Outlander	3.3	12	8.5	3.5	3.5
Porsche Cayanne S E-Hybrid	3.6	10.8	7.5	3	3
Porsche Cayanne S E-Hybrid Upgrade	7.2	10.8	7.5	1.5	1.5
Porsche Panamera S E-Hybrid	3.6	9.4	6.5	2.5	2.5
Porsche Panamera S E-Hybrid Upgrade	7.2	9.4	6.5	1.25	1.25
Porsche Panamera 4 E-Hybrid	3.6	14.1	10	4	4
Porsche Panamera 4 E-Hybrid Upgrade	7.2	14.1	10	2	2
Porsche 918 Spyder	3.6	6.8	5	2	2
Toyota Prius EV	3.3	4.4	3	1.5	1.5
Toyota Prius Prime EV	3.3	8.8	6.5	2.5	2.5
Volvo V60	3.3	11.2	8	3.5	3.5
Volvo XC90 T8	3.3	9.2	6.5	3	3

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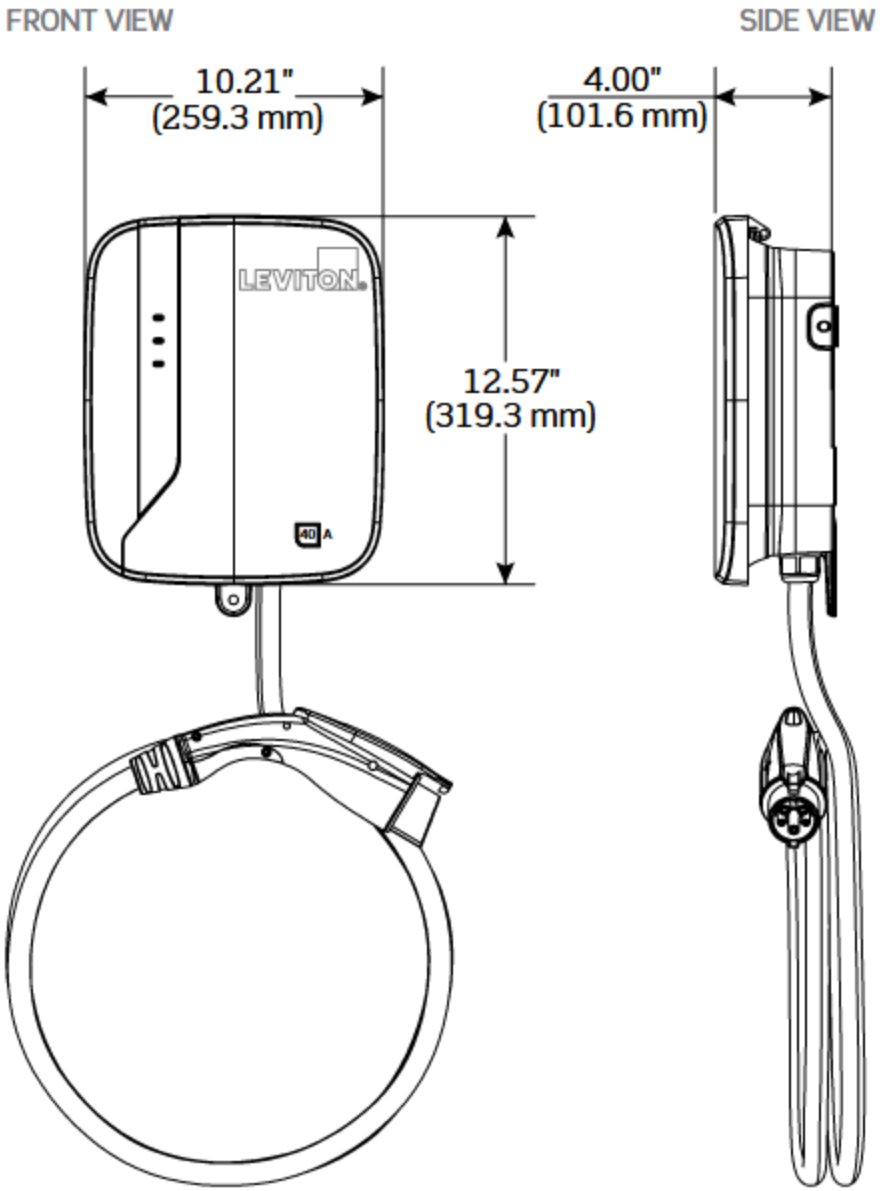
Dimensions

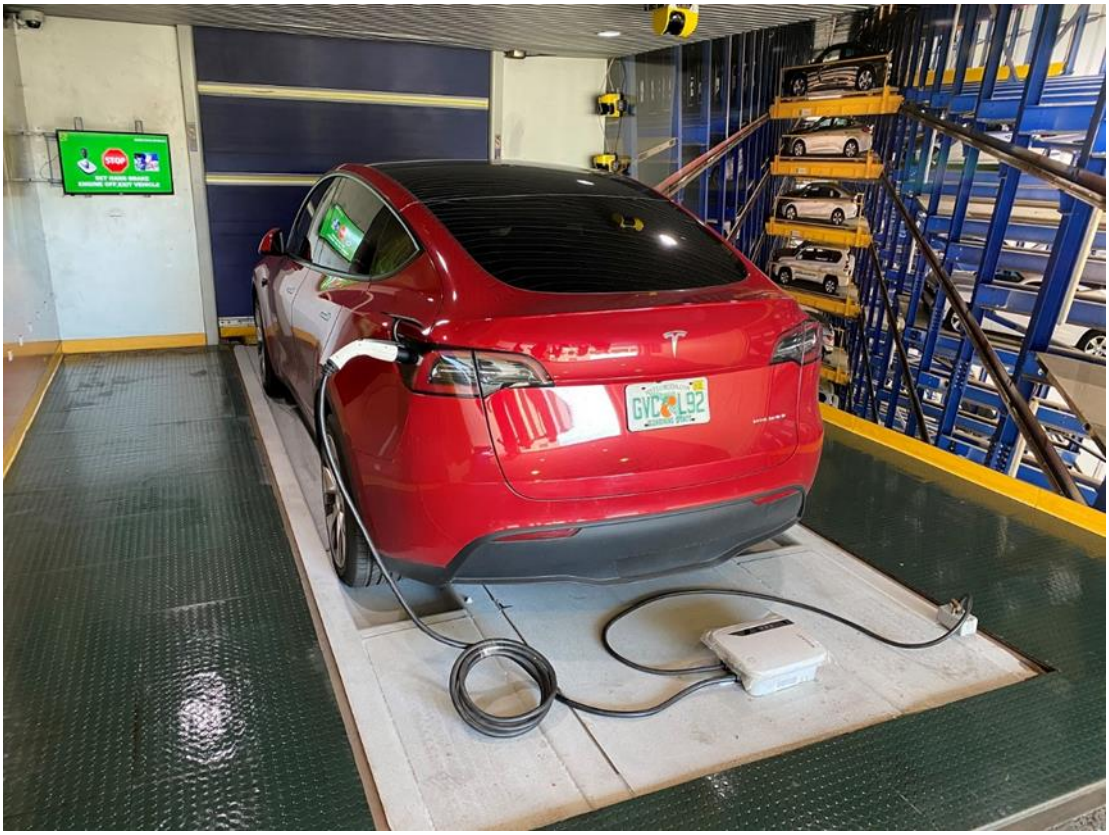
Charging Stations



Charging unit fully assembled (patent pending).

Direct charging for vehicles with SEA J1772 adaptor.

Tesla requires an adaptor in between for charging as shown below.



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Always Ahead.