

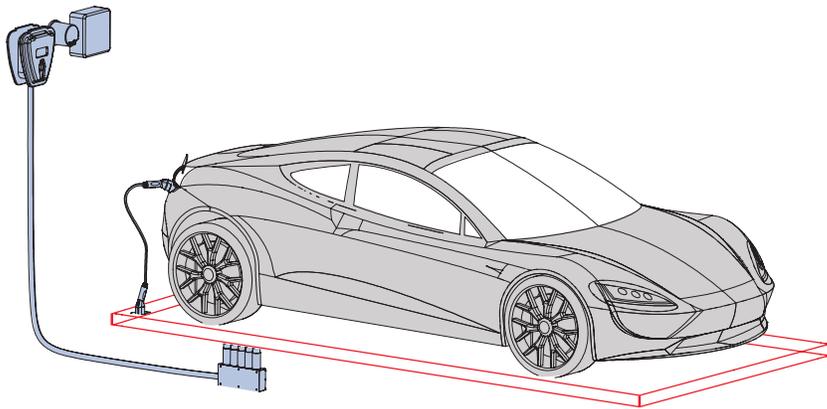
SPEC SHEET

Version 07.2020

PARKPLUS PPEVC EV CHARGING SYSTEM

Patents Pending

Page 1 of 6



PARKPLUS Electric Vehicle Charging (**PPEVC**) is an integrated solution to provide project-specific EVC capacity to **PARKPLUS** Automated (APS) and Semi-Automated Parking Systems (SAPS).

The **PPEVC** solution is designed for pallet-based parking systems and parking platforms that include power for manual connection when parking. Charging power is connected upon manual connection (SAPS), or when platform arrives at designated parking space in the garage (APS). Parking spaces allowing for EV charging are dedicated for individual owners. EVC spaces can be metered, billing and reimbursement is direct from building to tenant based on a monthly subscription.

Coordination with project and base building engineers must consider the number of EV charging stations.

Suitable for

- **PARKPLUS** Lift-Slide Semi-Automated Parking System
- **PARKPLUS** AGV Automated Parking System
- **PARKPLUS** Rack & Rail Automated Parking System

PPEVC works with all SAE J1772-compliant vehicles and Tesla vehicles via adapter provided by Tesla.

System Components

- 1 Charging Station
- 2 Electrical Conduit
- 3 Power Dock
- 4 Parking Platform*
** See system-specific pages for product application.*
- 5 Charging Port
- 6 Charging Cable

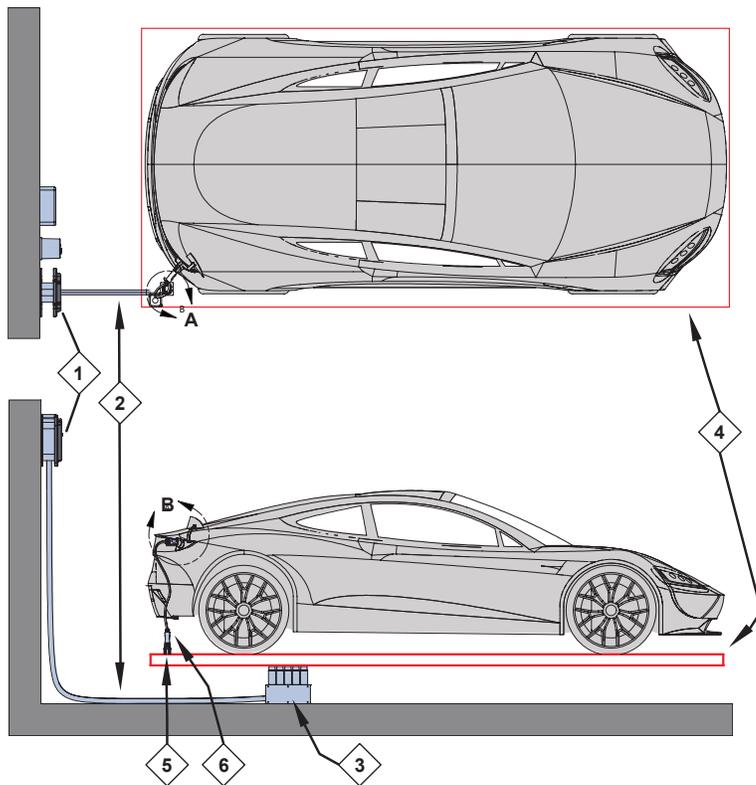
Power Requirements

EVC Power is separate from Parking System power. EVC power is provided by the base building and designed around quantity of EV Charging Stations required. Typically, electrical requirement is a multiple of power requirements of each charging station (i.e. X times 7.2KW plus electrical reticulation). Multi-channel control units can decrease power requirements, see page 3.

Operation

User parks vehicle on Parking Platform/Tray and connects vehicle to platform using Charging Cable. No further action required by driver. For SAPS, charging power is automatically connected. For APS, charging power is connected on arrival of platform at designated parking space in garage storage vault.

Vehicle shown is 2019 Tesla Model 3



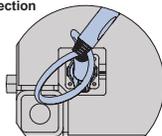
Pages 1-3
Overview
EVC Station
Multi-Channel

Page 4
Lift-Slide

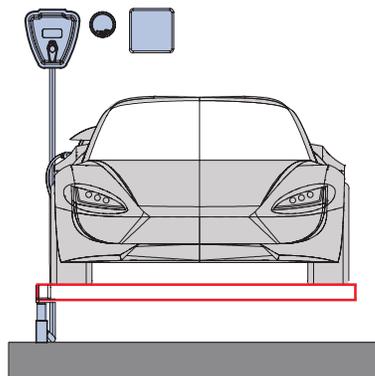
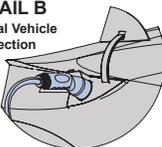
Page 5
AGV

Page 6
Rack & Rail

DETAIL A
Typical Platform
Connection



DETAIL B
Typical Vehicle
Connection



Charging Station: Siemens VersiCharge



The **Siemens VersiCharge Electric Vehicle AC Charging Station** is a Level 2 (240 VAC) hardwired charging station that provides automatic charging when connected to an electric vehicle. The VersiCharge is typically post-mounted for SAPS and wall-mounted for APS. The EVSE (Electric Vehicle Supply Equipment) power output can be adjusted to match available electrical infrastructure at installation site.

The VersiCharge works with all SAE J1772-compliant vehicles and Tesla vehicles via adapter provided by Tesla. The charging station establishes communication with the vehicle, determines it is safe to allow power to flow through the cord, and removes power from the cord when charging is done. This ensures the charge cable is only energized when necessary and safe.

Technical Information

	Attribute	Standard-Hardwired	Smart Grid (SG)
Essentials	Part Number	VC30GRYHW	VCSG30GRYUW
	Amperage	30 Amps	
	Input Voltage	208-240V	
	Wall Weight	12.5 lbs	14.5 lbs
	Dimensions	14.5" W x 16.0" H x 6.5" D	
	Output Power	1.8 kW to 7.2 kW	
	Enclosure	NEMA 1	NEMA 4
	Plug in Installation	No	Yes
	Permanent Installation	Yes	
	Electrical	Circuit Requirement	40 Amperes*
Input Power Connections		Line 1, Line 2, Earth Ground	
Recommended Branch Breaker		40 Ampere double pole (Siemens: Q240 plug in type, 8240 bolt on type)	
Mechanical	Connector/Coupler	SAE J1772	
	Standards Compliance	UL, CSA, SAE 1772, NEC 625	UL, SAE 1772, NEC 625
Safety & Operational	EMC	FCC Part 15 Class B	
	Operating Temperature	-22° F to 122° F	
	Storage Temperature	-40° F to 140° F	
	Operating Humidity	Maximum 95% non-condensing	
	Ground fault detection	5 mA CCID with auto retry	

* Adjustment of amperage output possible via dial in unit, will affect power output of charger

Siemens VersiCharge SG App

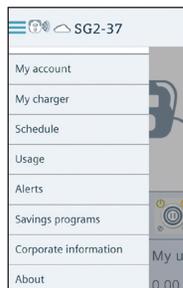
The VersiCharge SG App is iOS and Android compatible and available via a web browser. Available on the App Store and Google Play, the App is compatible with iPhone 4,5,6, on iOS 8 or newer, and all Android phones and tablets.

VersiCharge Smart Grid (SG) Connectivity	
Communication Hardware	CEA2045 compliant module (included)
Network Connection	Wi-Fi
Radio	High Performing 2.4 GHz IEEE 802.11 b/g/n
Connectivity	Communicates through local wireless network to VersiCharge SG Cloud
Metering Accuracy	+/- 0.5% standard (custom precision variant available)
Reporting Parameters	Power Consumption, Energy, Events
Demand Response Compatible	Yes, with Opt-in

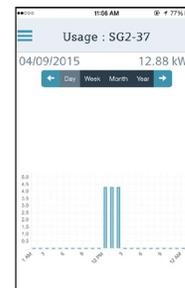
- Pages 1-3**
Overview
EVC Station
Multi-Channel
- Page 4**
Lift-Slide
- Page 5**
AGV
- Page 6**
Rack & Rail



User can monitor and control charging status, schedule, and power level remotely through VersiCharge SG App or web pages.



User can actively engage to shape and shift EV power consumption.



Kilowatt usage displayed in daily, weekly, monthly, and yearly format in real time.

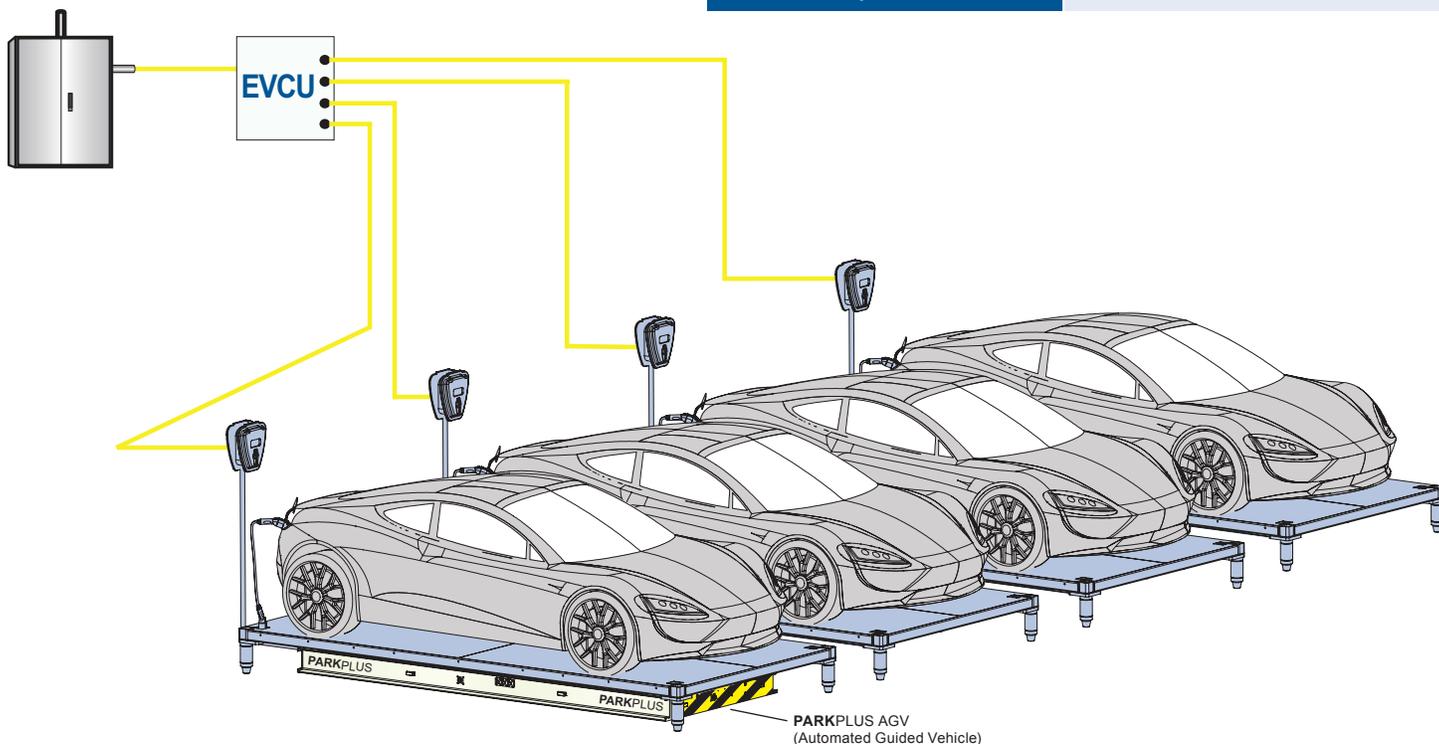
4-Channel Electric Vehicle Control Unit (EVCU)

The **EV-Control Unit** sequentially channels single input power to feed up to 4 individual EV Charging Stations. The device cycles through the 4-channel switching process according to default or user-defined parameters, allowing up to 4 electric vehicles to be charged from 1 power source.

The EVCU is installed into a UL-compliant electrical box, onto a back panel assembly with busbar and electrical wire. The device is network-enabled to allow communication over a computer network.

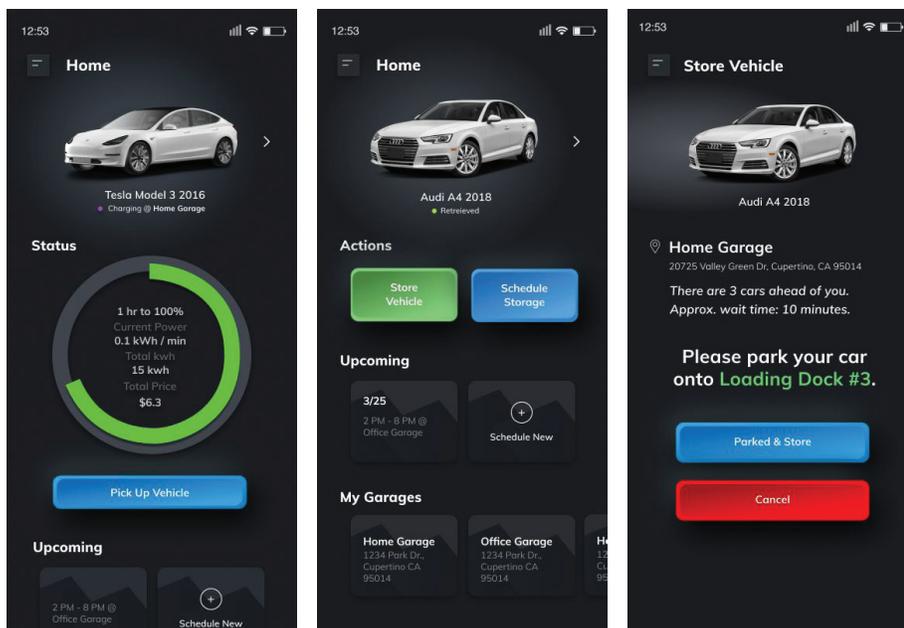
EVCU is compatible with Siemens VersiCharge Standard-Hard-wired (Part Number VC30GRYHW) and any other non-networked chargers.

Part Number	EC1107
Certifications	UL916, Energy Management Equipment CAN/CSA 22.2 No. 205-12, Standard for Signal Equipment
Output Ratings	240V, 30A; 250 Vac 2 hp, Motor Load; 40A/240 Vac
# of Stations	4: 7.7kw to 9.6kw Level 2; 8: 3.8kw Level 2
Input Power	208/240V - 40A
Switched Output Power	208/240V - 40A



PARKPLUS PPEVCU App

The **PARKPLUS PPEVCU App** is iOS and Android compatible and available via a web browser. The App integrates with EV-Control Unit to manage and schedule charging. Additionally, the App can be integrated with **PARKPLUS APS App** (AGV and Rack & Rail) to manage the scheduling, storage and retrieval of vehicles.



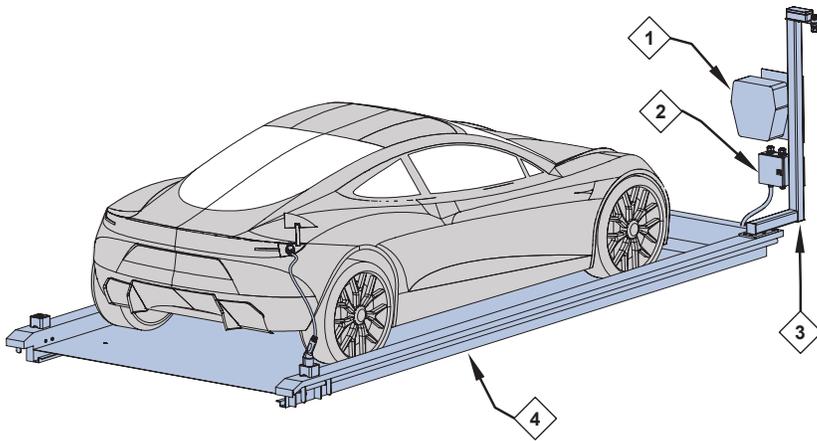
Pages 1-3
Overview
EVC Station
Multi-Channel

Page 4
Lift-Slide

Page 5
AGV

Page 6
Rack & Rail

PPEVC for PARKPLUS Lift-Slide Semi-Automated Parking System

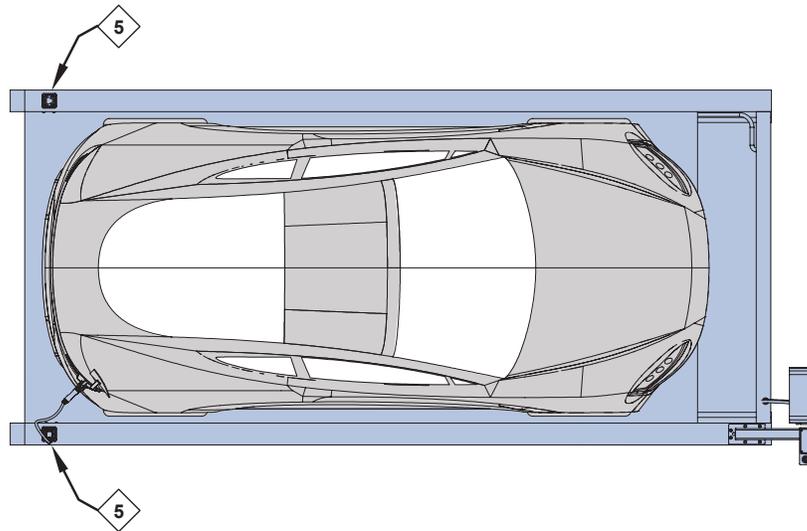


The **PARKPLUS** Semi-Automated Lift-Slide Puzzle Parking System is a multi-level customizable vehicle storage and retrieval system for storing cars in vertical and horizontal arrays. The Lift-Slide uses Programmable Logic Control (PLC) software to move stacked cars on platforms to receive and present vehicles at grade, providing direct access to stacked vehicles without removing other vehicles from the system.

Entire assembly comes pre-welded and is assembled in the field. System is designed to be mounted on grade with an engineered foundation. System can be designed to stack up to 5 vehicles above grade and up to 2 vehicles below grade, with a maximum vertical stacking capacity of 7 vehicles in the space usually occupied by a single vehicle. There are no horizontal limitations to the system.

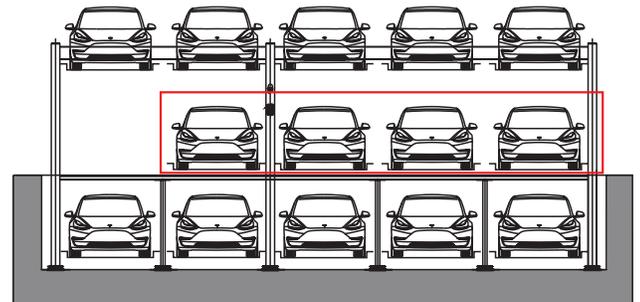
The **PARKPLUS** Lift-Slide Puzzle Parking System is designed to be installed indoors and outdoors. System can be customized with external cladding/siding, garage doors and roof, per project specifications.

Lift-Slide EV Charging System shown travels with platform. Charging Station can also be wall-mounted without post.

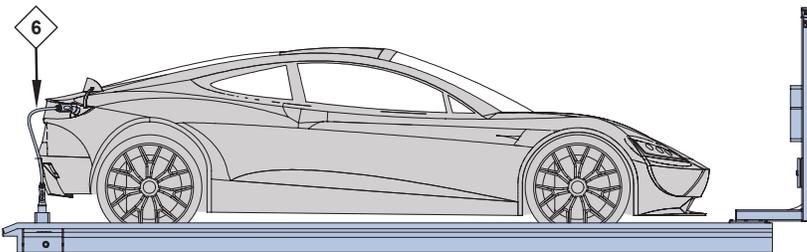


Lift-Slide EVC Components

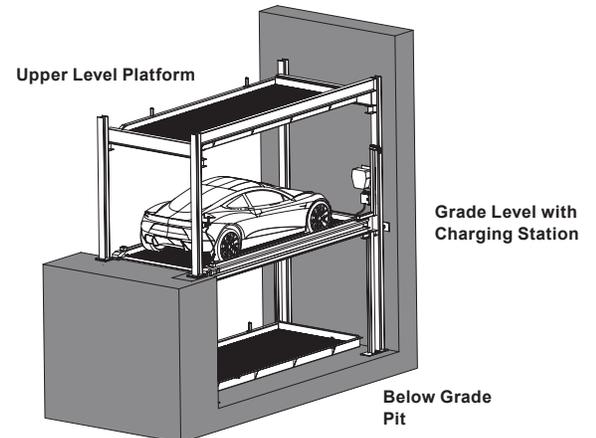
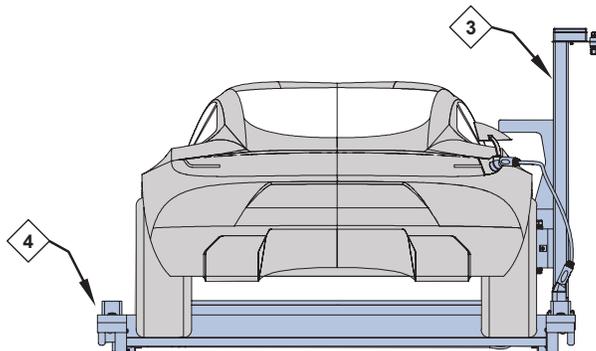
- ❖ **Charging Station**
- ❖ **Connection Box**
- ❖ **Charging Post**
- ❖ **Lift-Slide Parking Platform**
- ❖ **Charging Port Options**
- ❖ **Charging Cable**



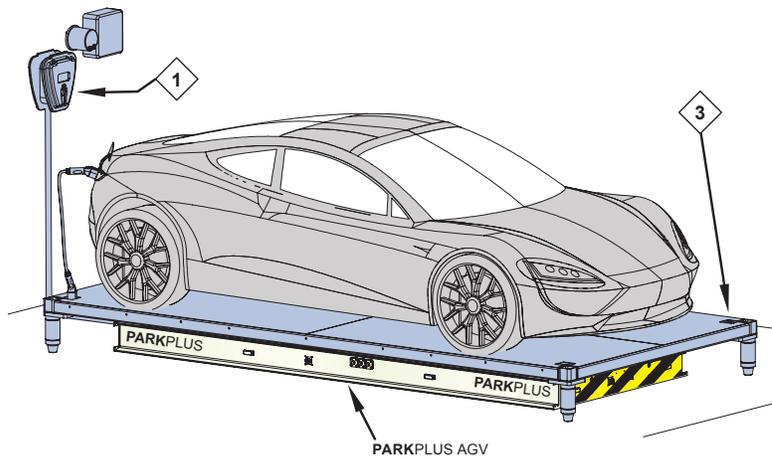
PPEVC for PARKPLUS Lift-Slide is currently available for all grade-level parking spaces.



- Pages 1-3**
Overview
EVC Station
Multi-Channel
- Page 4**
Lift-Slide
- Page 5**
AGV
- Page 6**
Rack & Rail



PPEVC for PARKPLUS AGV (Automated Guided Vehicle) Automated Parking System

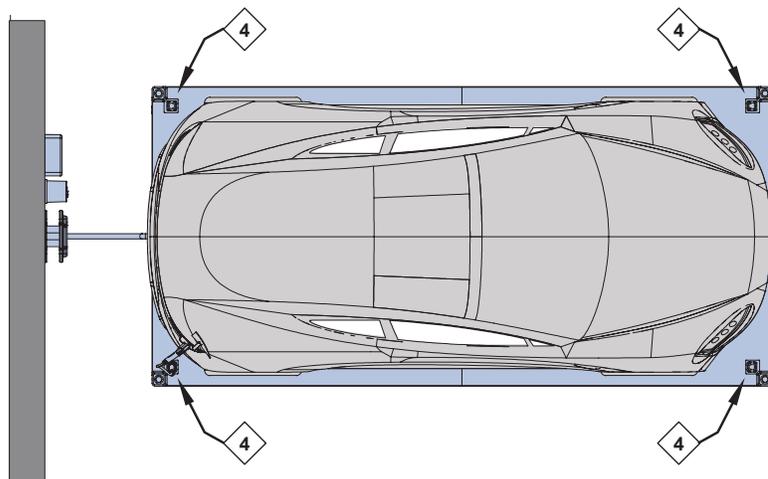


The **PARKPLUS** Automated Guided Vehicle (AGV) Parking System consists of free-roaming, battery-operated, omni-directional robots using traffic management software, markers, vision systems and lasers for self-guidance to manage the automated storage and retrieval of vehicles.

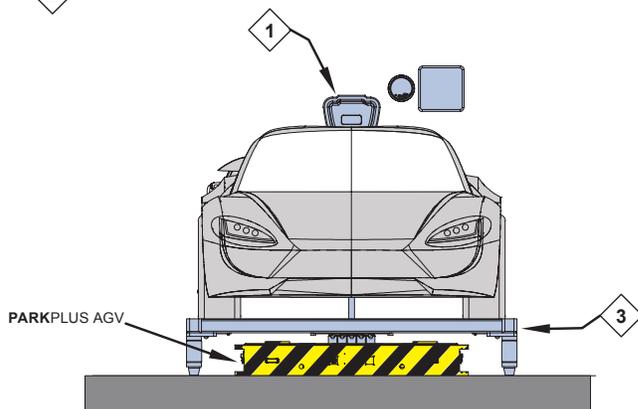
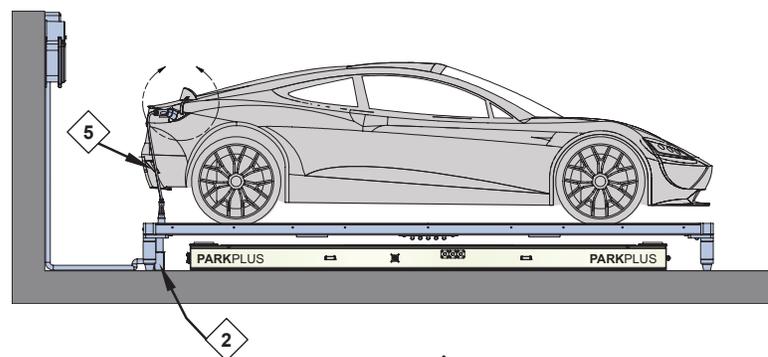
The **PARKPLUS** AGV Parking System is designed to be installed in an enclosed parking vault. The system can be installed in multiple regular and irregular configurations on multiple levels above, on and below grade to maximize parking efficiencies. Basic system design and components are determined by peak demand throughout requirements of the parking system. ADA requirements can be accommodated.

AGV EVC Components

- 1 Charging Station
- 2 Power Dock
- 3 AGV Parking Tray
- 4 Charging Port Options
- 5 Charging Cable



PPEVC for PARKPLUS AGV is currently available for all garage-wall parking spaces.



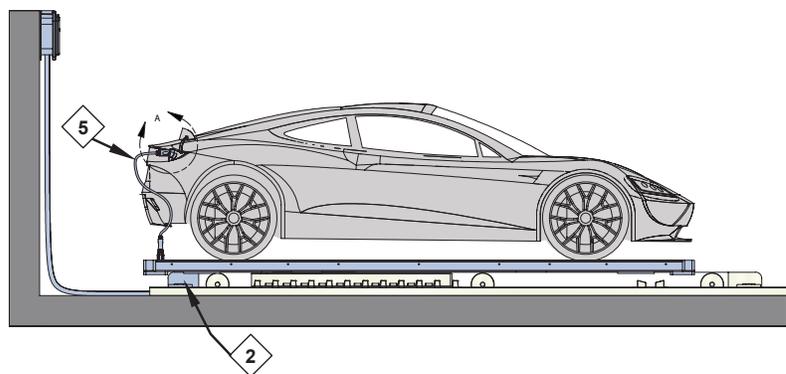
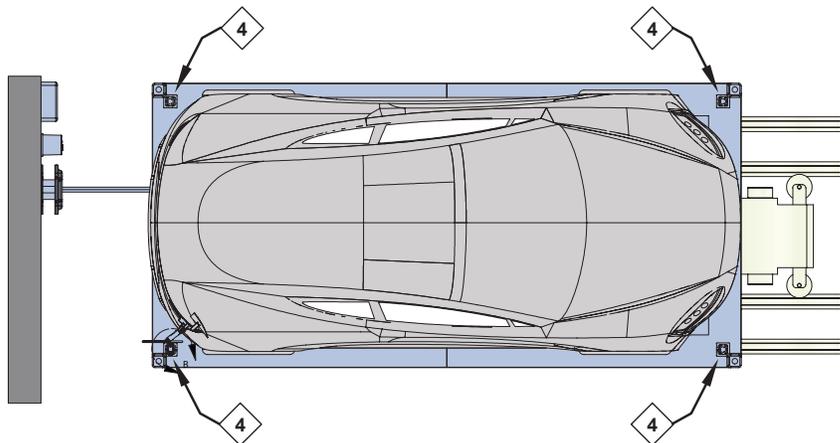
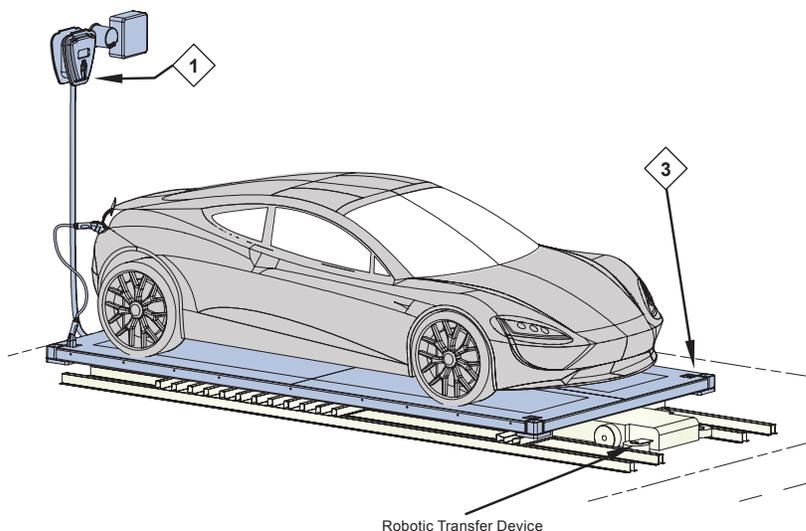
Pages 1-3
Overview
EVC Station
Multi-Channel

Page 4
Lift-Slide

Page 5
AGV

Page 6
Rack & Rail

PPEVC for PARKPLUS Rack & Rail Automated Parking System



The **PARKPLUS** Automated Rack & Rail Parking System consists of fixed-rail robotic shuttle units using proprietary handling mechanisms, traffic management software, limit switches and lasers to manage the automated storage and retrieval of vehicles with or without trays.

The **PARKPLUS** Rack & Rail Parking System is designed to be installed in an enclosed parking vault on an approved foundation system with steel or slab on metal deck racking structure. The system can be installed in multiple regular configurations on multiple levels above, on and below grade to maximize parking efficiencies. Basic system design and components are determined by peak demand throughout requirements of the parking system. ADA requirements can be accommodated.

Rack & Rail EV Charging System includes EV-specific pallets. Non-EV spaces do not require pallets.

Rack & Rail EVC Components

- 1 Charging Station
- 2 Power Dock
- 3 Rack & Rail Parking Pallet
- 4 Charging Port Options
- 5 Charging Cable



PPEVC for PARKPLUS Rack & Rail is currently available for all parking spaces.

Pages 1-3
Overview
EVC Station
Multi-Channel

Page 4
Lift-Slide

Page 5
AGV

Page 6
Rack & Rail

