Electric Vehicle Solar Charge Station

Solar Powered - Electric Vehicle Charge Station

ATR is excited to announce the debut of its “Solar Power Pole:” a small-footprint electric vehicle charging station that features tracking solar panels. The first Solar Power Pole was installed in Bethesda, Maryland in the summer of 2011.

This system represents a new generation of possibilities for ***Clean Energy*** and low-carbon footprint transportation! The station pole is an attractive design. It occupies a minimal footprint on the ground and can be easily integrated into different parking lot configurations, islands designs, and many other hardscape and landscape features.

A 1,410 watt, 6 panel solar array is mounted on top of the charger station and rotates to follow the path of the sun to maximize the power captured during each day. Solar power is converted to grid-tied AC power and fed into the utility grid. This system will qualify for State and Federal solar rebates as a renewable energy generator.

One or two SemaConnect electric car chargers (or customer-selected modules) are mounted on the pole and provide Level II fast charging. These chargers are powered from the utility grid so that vehicle charging can be performed day or night, regardless of the solar power collection status. System monitoring keeps track of the solar power generated and electrical power supplied to vehicles. The station owner has network-enabled tools to establish access, charge fees, and full statistical usage reporting.

EVCG-1410 Car Charger

High Performance Sun Tracking Solar Array

Electrical Characteristics

Motech 1,410 watt array (6 solar panels)

Power	6 @ 235W
Type of cell	Polysilicon
Max Power Voltage	30.7 VDC
Max Power Current	7.7 A

EnPhase grid-tied inverters

Voltage output to grid	208/240 VAC
Static MPPT effiency	99.6%
Peak inverter efficiency	96.3%

Overall Size

Pole diameter at base	10"
Overall Height (includes solar array)	18' 4"
Array height and width	8' (apparent) x 11.5'
Clearance under array	10' 4"

Operating Conditions

High strength pole designed for max wind gust	90 MPH
Temperature operating range	-40C to +65C

Warranted against defects in material and workmanship

Mount mechanism, controller, motor	- 5 yr limited warranty
Grid-tied inverters	- Manufacturer's warranty
Solar panels	- Manufacturer's warranty

Installation Method

Engineered footer drawing – Contact ATR for spec drawing
Bolt pole to footer anchor bolts
Electrical Integration
- 2 conduits @ 1.5" diameter
- Wire per local code
- (call for name of qualified installer in your area)

Tracking Control system – Active Sun Tracking

Microprocessor-based true position sun tracking
GPS enabled for automatic initialization
High accuracy tracking
Fail-safe return to due South
No batteries to replace
Efficient controller with low power consumption

System Performance

30+ % improvement in energy collection
+/- 100 degree collection sweep

System Reliability

Steel construction with powder coat surface treatment
Heavy-duty sealed bearing slew drive
No scheduled maintenance required

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