

SOLAREDGE HD-WAVE INVERTER WITH EV CHARGER

The first inverter-integrated EV charger

Increase your revenue by offering homeowners a SolarEdge HD-Wave inverter with integrated EV charger. It offers users the ability to charge electric vehicles up to six times faster than a standard Level 1 charger through an innovative solar boost mode that utilizes grid and PV charging simultaneously. This product is the first PV inverter-integrated EV charger.

By installing the SolarEdge HD-Wave inverter-integrated EV charger, your customers benefit from the reduced hassle of installing a separate standalone EV charger and a PV inverter. Furthermore, you benefit by eliminating the need for additional wiring, conduit and a breaker installation. By installing an EV charger that is integrated with an inverter, an additional dedicated circuit breaker is not needed, saving space and eliminating a potential main distribution panel upgrade.

Whether your customer owns an EV now or just wants to be EV-ready, drive your business into the future with SolarEdge.

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KEY BENEFITS



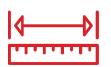
Combines sun and grid power for charging up to six times faster than standard EV chargers using existing electricity infrastructure



Reduces workload and costs of installing a standalone EV charger and a PV inverter



12-year warranty⁽¹⁾, extendable to 20 or 25 years



Saves space on main distribution panel to avoid potential upgrade



Fully integrated with SolarEdge monitoring platform



Built-in meter enables separate tracking of EV power usage for visibility and control



Optional built-in Revenue Grade Meter (RGM)



Demand-Response ready

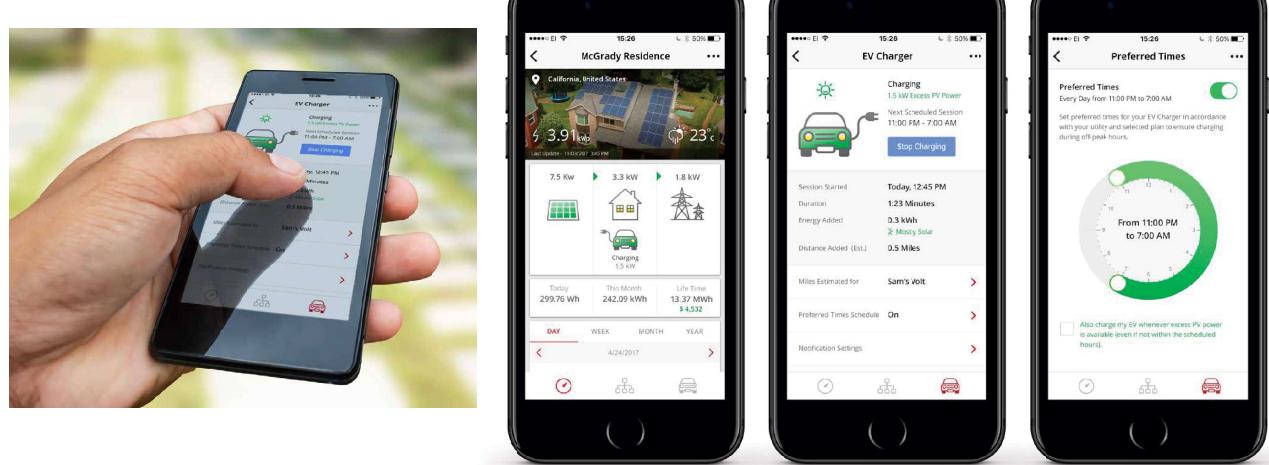


FULL VISIBILITY AND CONTROL

The SolarEdge EV charger supports full network connectivity and integrates seamlessly with the SolarEdge monitoring platform. Homeowners can track their charging status, control vehicle charging, and set charging schedules.

FEATURE HIGHLIGHTS

- > Smart-scheduling for use with Time of Use (TOU) rates — charge from the grid during off peak hours or when grid rates are lower
- > Track PV, EV, and grid consumption for visibility and control of household energy usage
- > Remote operation via mobile app — turn charging on and off directly from your smartphone
- > View charging duration, charge energy, and percent charge from PV



EV CHARGING COMPARISON

	EV Charger Level 1 (1.44 kW 12A@120Vac)	SolarEdge EV Charger Level 2 with solar boost mode
Added miles per 1 hour of charging ⁽³⁾	5 miles	25 to 30 miles
Charge time needed to meet average daily mileage ⁽³⁾	6.5 hours	1.5 to 1 hour

⁽¹⁾ Cable and connector are not included

⁽²⁾ Check your car manual for maximum charge rate

⁽³⁾ Assuming 3 miles/kWh and with a US household average driving distance of 29 miles per day (source: www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/subject_areas/national_household_travel_survey/daily_travel.html)



Single Phase Inverter with EV Charger

for North America SE7600H-US

	SE3800H-US	SE7600H-US	
OUTPUT — AC (LOADS / GRID)			
Rated AC Power Output	3800	7600	VA
Max. AC Power Output	3800	7600	VA
AC Output Voltage Min. – Nom. – Max.	211 – 240 – 264	Vac	VAC
AC Frequency (Nominal)	59.3 – 60 – 60.5 ⁽¹⁾	Hz	Hz
Maximum Continuous Output Current @240V	16	32	A
GFDI Threshold	1	1	A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes	Yes	
OUTPUT — AC (EV CHARGER)			
Charging Level	AC Level 2	AC Level 2	
Rated AC Power Output	9600	W	
Nominal AC Output Voltage	240	Vac	VAC
Nominal AC Frequency	60	Hz	Hz
Maximum Continuous Output Current @240V	40	Aac	AAC
Ground Fault Detection Threshold	5	mA	mA
INPUT — DC			
Maximum DC Power	5900	11800	W
Transformer-less, Ungrounded	Yes	Vdc	VDC
Maximum Input Voltage	480	Vdc	VDC
Nominal DC Input Voltage	380	Adc	ADC
Maximum Input Current @240V	10.5	20	Adc
Max. Input Short Circuit Current	45	%	%
Reverse-Polarity Protection	Yes	600Ω Sensitivity	
Ground-Fault Isolation Detection	Yes	99.2	%
Maximum Inverter Efficiency	99	99	%
CEC Weighted Efficiency	< 2.5	W	
Nighttime Power Consumption			
ADDITIONAL FEATURES			
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)		
Revenue Grade Data, ANSI C12.20	Optional ⁽²⁾		
Rapid Shutdown – NEC 2014 and 2017 690.12	Automatic rapid shutdown upon AC grid disconnect		
EV Charger Status LEDs, Fault Indicator	Yes		
EV Charger Unplugging Detection	Yes, current termination according to SAE J1772		
EV Charger Ground Connection Monitoring	Yes, continuous		
STANDARD COMPLIANCE			
Safety – Inverter	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07		
Safety – EV Charger ⁽³⁾	UL2594, UL2231-1, UL2231-2, NEC Article 625 compliant		
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (HI)		
Emissions	FCC Part 15 Class B		
INSTALLATION SPECIFICATIONS			
AC Output Conduit Size / AWG Range	Minimum 0.75" Conduit / 14-6 AWG		
DC Input Conduit Size / # of Strings / AWG Range	Minimum 0.75" Conduit / 1-2 strings / 14-6 AWG		
EV Charger Connector	SAE J1772-2009		
Dimensions with Safety Switch (H x W x D), without Charging Cable	17.7 x 14.6 x 6.8 / 450 x 370 x 174	in / mm	
Charging Cable Length ⁽⁴⁾	25 / 7.6 (15 / 4.6 option)	ft / m	
Weight with Safety Switch, without Charging Cable	22 / 10 (29.7 / 13.5 for 15ft)	lb / kg	
Weight with Safety Switch and Charging Cable	34.5 / 15.7 (33.9 / 15.4 for 15ft / 4.6m option)	lb / kg	
Noise	<25 dBA		
Cooling	Natural Convection	Natural convection and internal fan (user replaceable)	
Operating Temperature Range	-13 to +140 / -25 to +60 ⁽⁵⁾ (-40°F / -40°C option) ⁽⁶⁾	°F / °C	
Protection Rating	NEMA 3R (inverter with safety switch)		

⁽¹⁾ For other regional settings please contact SolarEdge support

⁽²⁾ Revenue grade inverter P/N: SExxxxH-US000xxW2

⁽³⁾ Pending certification

⁽⁴⁾ EV Charger holder and cable ordered separately

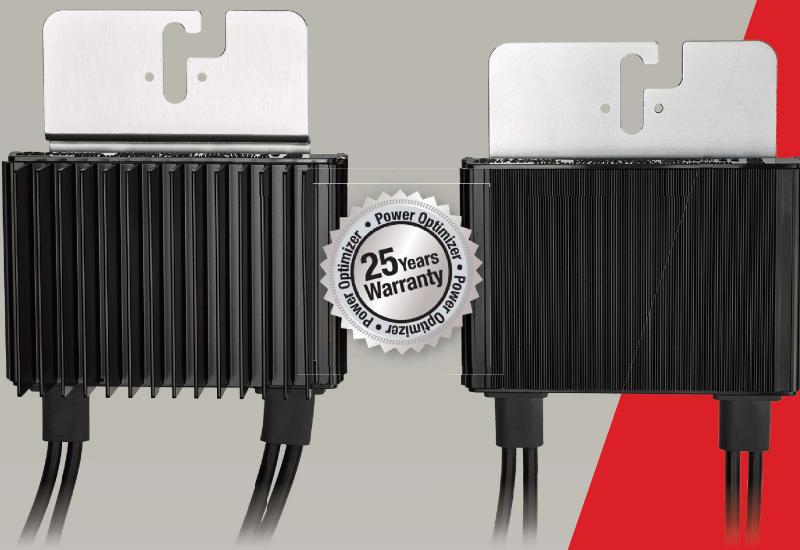
⁽⁵⁾ Power de-rating from 50°C

⁽⁶⁾ -40 version P/N: SExxxxH-US000xxV4 (W4 for revenue grade inverter)



Power Optimizer

P320 / P370 / P400 / P405 / P505



PV power optimization at the module-level

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Fast installation with a single bolt
- Next generation maintenance with module-level monitoring
- Compliant with arc fault protection and rapid shutdown NEC requirements (when installed as part of the SolarEdge system)
- Module-level voltage shutdown for installer and firefighter safety

POWER OPTIMIZER

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Power Optimizer

P320 / P370 / P400 / P405 / P505

OPTIMIZER MODEL (typical module compatibility)	P320 (for high-power 60-cell modules)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P405 (for thin film modules)	P505 (for higher current modules)	
INPUT						
Rated Input DC Power ⁽¹⁾	320	370	400	405	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	48	60	80	125	83	Vdc
MPPT Operating Range	8 - 48	8 - 60	8 - 80	12.5 - 105	12.5 - 83	Vdc
Maximum Short Circuit Current (Isc)	11			10.1	14	Adc
Maximum DC Input Current		13.75		12.63		Adc
Maximum Efficiency				99.5		%
Weighted Efficiency			98.8			%
Overvoltage Category				II		
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREDGE INVERTER)						
Maximum Output Current			15			Adc
Maximum Output Voltage		60		85		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR SOLAREDGE INVERTER OFF)						
Safety Output Voltage per Power Optimizer			1 ± 0.1			Vdc
STANDARD COMPLIANCE						
EMC			FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3			
Safety			IEC62109-1 (class II safety), UL1741			
RoHS			Yes			
INSTALLATION SPECIFICATIONS						
Maximum Allowed System Voltage			1000			Vdc
Compatible inverters		All SolarEdge Single Phase and Three Phase inverters				
Dimensions (W x L x H)	128 x 152 x 28 / 5 x 5.97 x 1.1	128 x 152 x 36 / 5 x 5.97 x 1.42	128 x 152 x 50 / 5 x 5.97 x 1.96	128 x 152 x 59 / 5 x 5.97 x 2.32		mm / in
Weight (including cables)	630 / 1.4	750 / 1.7	845 / 1.9	1064 / 2.3		gr / lb
Input Connector		MC4 ⁽²⁾				
Output Wire Type / Connector		Double Insulated; MC4				
Output Wire Length	0.95 / 3.0		1.2 / 3.9			m / ft
Operating Temperature Range		-40 - +85 / -40 - +185				°C / °F
Protection Rating			IP68 / NEMA6P			
Relative Humidity			0 - 100			%

⁽¹⁾ Rated STC power of the module. Module of up to +5% power tolerance allowed.

⁽²⁾ For other connector types please contact SolarEdge

PV SYSTEM DESIGN USING A SOLAREDGE INVERTER ⁽³⁾⁽⁴⁾	SINGLE PHASE HD-WAVE	SINGLE PHASE	THREE PHASE 208V	THREE PHASE 480V
Minimum String Length (Power Optimizers)	P320, P370, P400 P405 / P505	8	10	18
Maximum String Length (Power Optimizers)		6	8	14
Maximum Power per String	25		25	50 ⁽⁵⁾
Parallel Strings of Different Lengths or Orientations	5700 (6000 with SE7600-US - SE11400- US)	5250	6000	12750
			Yes	

⁽³⁾ For detailed string sizing information refer to: http://www.solaredge.com/sites/default/files/string_sizing_na.pdf.

⁽⁴⁾ It is not allowed to mix P405/P505 with P320/P370/P400/P600/P700/P800 in one string.

⁽⁵⁾ A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement

