
StorEdge™ Single Phase Inverter

for North America

SE3800A-US / SE7600A-US



STOREDGE™

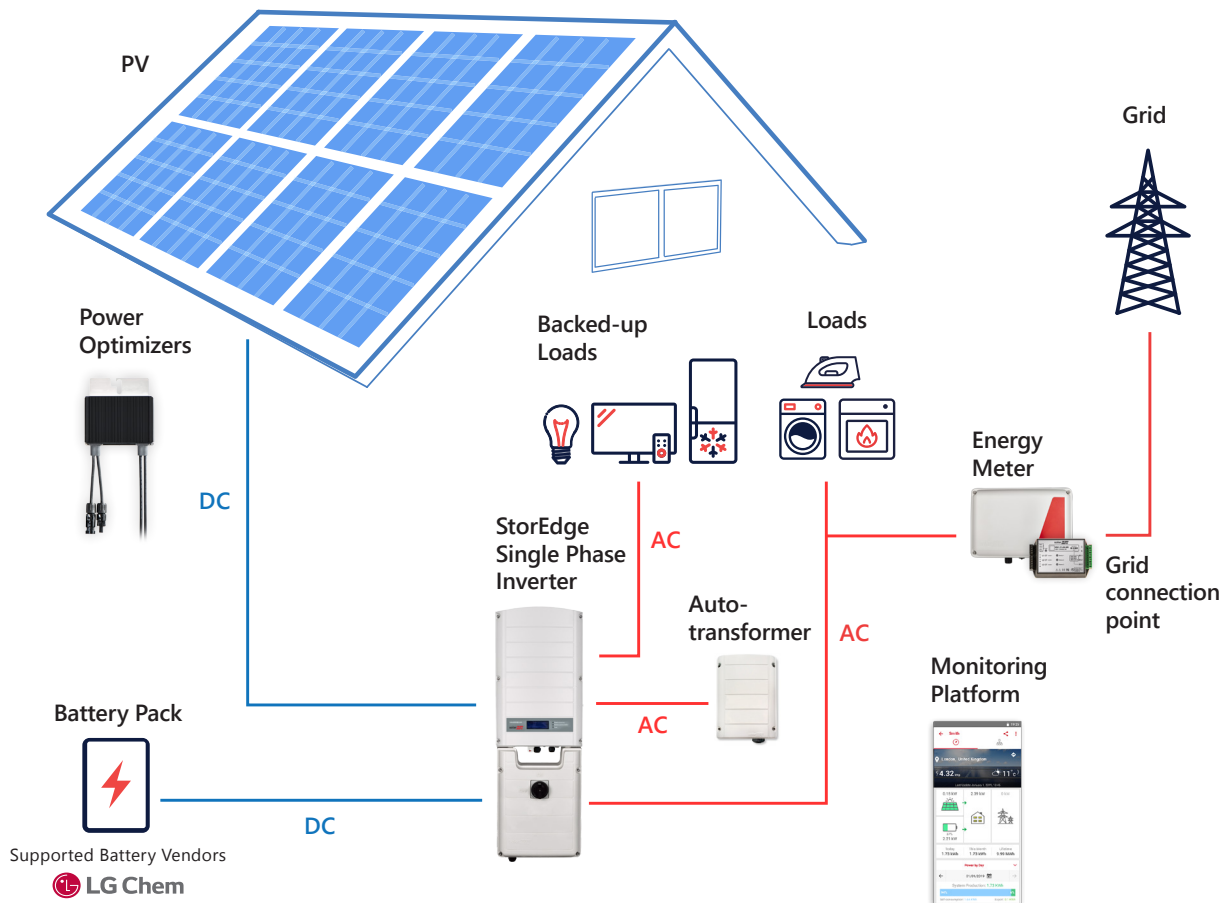
StorEdge™ Inverter Benefits:

- More Energy - DC-coupled architecture stores PV power directly to the battery without AC conversion losses
- Enhanced Safety - no high voltage during installation, maintenance or firefighting
- Simple Design & Installation - single inverter for PV, battery storage, grid-tied and backup applications
- Full Visibility - monitor battery status, PV production, remaining backup power and self-consumption data

/ StorEdge™ Single Phase Inverter for North America

StorEdge™ Features:

- Smart Energy Management - export control, time-of-use shifting, maximized self-consumption, demand response and peak shaving capabilities
- Backup power - automatically provides power to backed-up loads in the event of grid interruption
- All-in-one solution uses a single DC optimized phase inverter to manage and monitor both PV generation and energy storage
- Compatible with the LG Chem RESU battery



SolarEdge StorEdge™ Inverter for North America - Product Selector

	Grid-tied solar, backup power and smart energy management	Grid-tied solar and backup power	Grid-tied solar and smart energy management
StorEdge Single Phase Inverter	✓	✓	✓
Auto-transformer	✓	✓	
Energy Meter	✓		✓
Battery	✓	✓	✓

/ StorEdge™ Single Phase Inverter for North America

SE3800A-US⁽¹⁾, SE7600A-US⁽¹⁾

- // Single inverter for PV, grid-tied storage and backup power
- // Includes the hardware required to provide automatic backup power to backed-up loads in case of grid interruption
- // Includes all interfaces needed for battery connection
- // UL1741 SA certified, for CPUC Rule 21 grid compliance

	SE3800A-US	SE7600A-US	
OUTPUT - AC (LOADS/GRID)			
Rated AC Power Output	3800	7600	VA
Max AC Power Output	4175	8350	VA
AC Output Voltage Min-Nom-Max (L-L) ⁽²⁾	211-240-264		Vac
AC Frequency Min-Nom-Max ⁽²⁾	59.3 - 60 - 60.5		Hz
Maximum Continuous Output Current @240V	16	32	A
GFDI	1		A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes		
Charge Battery from AC (if Allowed)	Yes		
THD	<3		%
Typical Nighttime Power Consumption	<5		W
OUTPUT - AC (BACKUP POWER)⁽³⁾			
Rated AC Power Output	5000 ⁽⁴⁾		VA
Max AC Power Output - Surge	7000 ⁽⁴⁾		VA
AC Output Voltage Min-Nom-Max (L-L)	211-240-264		Vac
AC Output Voltage Min-Nom-Max (L-N)	105-120-132		Vac
AC Frequency Min-Nom-Max	55 - 60 - 65		Hz
Maximum Continuous Output Current @240V - Backup Mode	21		A
Max Continuous Output Current per Phase @120V	25		A
GFDI	1		A
AC Circuit Breaker	Yes		
THD	<5		%
Automatic switchover time	<2		sec
INPUT - DC (PV and BATTERY)			
Transformer-less, Ungrounded	Yes		
Max Input Voltage	500		Vdc
Nom DC Input Voltage	400		Vdc
Reverse-Polarity Protection	Yes		
Ground-Fault Isolation Detection	600kΩ Sensitivity		
Maximum Inverter Efficiency	98		%
CEC Weighted Efficiency	97.5		%
INPUT - DC (PV)			
Maximum DC Power (STC)	5100	10250	W
Max Input Current ⁽⁵⁾	13	23	Adc
2-pole Disconnection	Yes		
INPUT - DC (BATTERY)			
Supported Battery Types	LG Chem RESU10H		
Number of Batteries per Inverter	1 or 2 ⁽⁶⁾		
Continuous Power	5000		W
Peak Power	7000		W
Max Input Current	17.5		Adc
2-pole Disconnection	Yes		
DC Fuses on Plus and Minus	25A (field replaceable)		
ADDITIONAL FEATURES			
Supported Communication Interfaces	RS485 for battery, RS485, Ethernet, Cellular, ZigBee (optional)		
Revenue Grade Data, ANSI C12.20	Optional ⁽⁷⁾		
Integrated AC, DC and Communication Connection Unit	Yes		
AC Disconnect	Yes		
Manual Inverter Bypass Switch	Yes		
DC Voltage Rapid Shutdown (PV and Battery)	Yes, according to NEC 2014 and 2017 690.12 ⁽⁸⁾		
Auto-transformer thermal protection	Yes		

⁽¹⁾ These specifications apply to inverters with part numbers SExxxxA-USS2 and connection unit model number BCU-1PH-USS

⁽²⁾ For other regional settings please contact SolarEdge Support

⁽³⁾ Not designed for standalone applications and requires AC for commissioning

⁽⁴⁾ The rated AC power output is the minimum between the AC Power Output and the battery continuous peak power

⁽⁵⁾ A higher current source may be used; the inverter will limit its input current to the values stated

⁽⁶⁾ When connecting two LG Chem batteries, each battery must have a different part number; supporting SolarEdge firmware required

⁽⁷⁾ Revenue grade inverter P/N: SExxxxA-USS20NH2

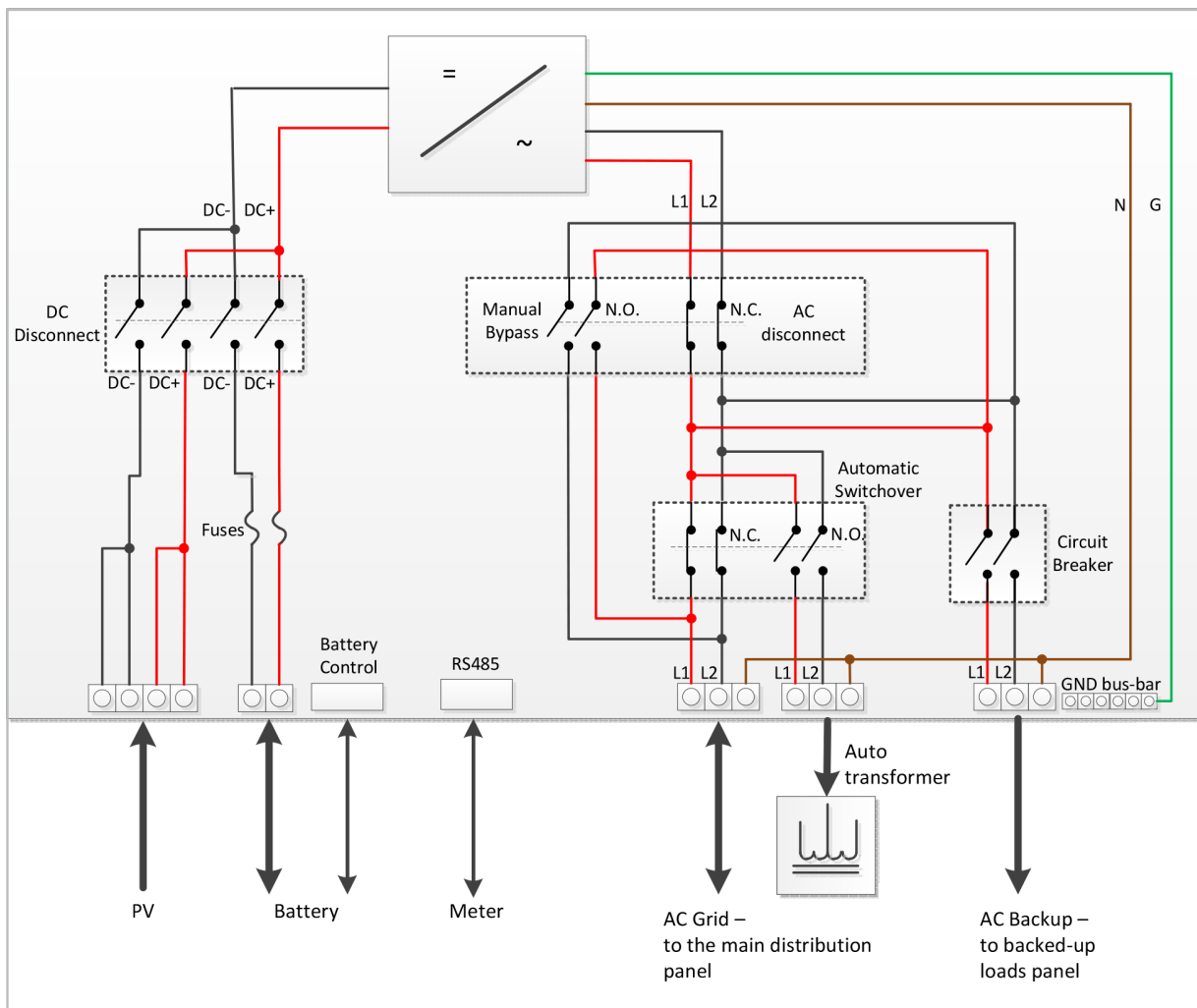
⁽⁸⁾ In case the inverter is not located in an accessible location for emergency responders (according to NEC 2017), use inverters with P/N SExxxxA-USS2Rxxxx; for more information refer to: https://www.solaredge.com/sites/default/files/storedge_backup_installation_guide_NA.pdf

/ StorEdge™ Single Phase Inverter for North America

SE3800A-US, SE7600A-US

	SE3800A-US	SE7600A-US
STANDARD COMPLIANCE		
Safety	UL1741, UL1741 SA, UL1699B, UL1998, UL9540, CSA 22.2	
Grid Connection Standards	IEEE1547, Rule 21, Rule 14H	
Emissions	FCC part15 class B	
INSTALLATION SPECIFICATIONS		
AC Output (Loads/Grid) conduit size / AWG range	1" / 14-6 AWG	
AC Output (Backup) conduit size / AWG range	0.75-1" knockouts / 14-6 AWG	
AC Input (Auto-transformer) conduit size / # of Strings / AWG range	0.75-1" / 14-6 AWG	
DC Input (PV) conduit size / AWG range	0.75" / 1-2 Strings 14-8 AWG	
DC Input (Battery) conduit size / AWG range	0.75" / 12-10 AWG	
Dimensions with Connection Unit (HxWxD)	37 x 12.5 x 7.2 / 940 x 315 x 184	
Weight with Connection Unit	58.5 / 26.5	
Cooling	Natural convection and internal fan (user replaceable)	
Noise	<50	
Min - Max Operating Temperature	-13 to +140 / -25 to +60	
Protection Rating	NEMA 3R	

Inverter Interface



/ SolarEdge Auto-transformer

SEAUTO-TX-5000

SEAUTO-TX-5000

ELECTRICAL RATINGS

Rated Power - Continuous	5000	VA
Rated Power - Peak	7600 for 10sec	VA
Output Voltage	120/240V Split Phase	
Max Continuous Output Current per Phase @120V	25	A
Split Phase Imbalance (@Rated Power)	Yes, up to 25A difference between phases	
Thermal Protection	Yes	

INSTALLATION SPECIFICATIONS

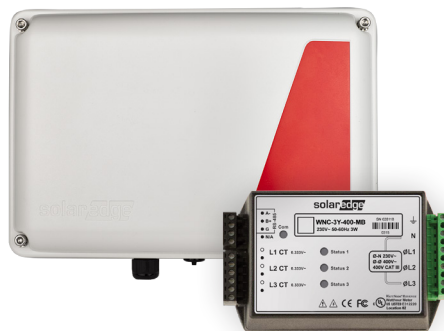
AC Output conduit size / AWG range	0.75" / 14-6 AWG	
Dimensions (HxWxD)	6.7 x 7.9 x 5.5 / 170 x 200 x 140	in / mm
Weight	29.7 / 13.5	lb / kg
Min - Max Operating Temperature	-13 to +140 / -25 to +60	°F / °C
Protection Rating	NEMA 3R	
Installation	Wall mounted	



/ SolarEdge Energy Meter for North America

SE-MTR240-0-000-S2

For meter specifications refer to: https://www.solaredge.com/sites/default/files/se_electricity_meter_na.pdf



Power Optimizer

For North America

P320 / P340 / P370 / P400 / P405 / P485 / P505

POWEROPTIMIZER



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
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- Module-level voltage shutdown for installer and firefighter safety

/ Power Optimizer

For North America

P320 / P340 / P370 / P400 / P405 / P485 / P505

Optimizer model (typical module compatibility)	P320 (for 60-cell modules)	P340 (for high-power 60-cell modules)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P405 (for high-voltage modules)	P485 (for high-voltage modules)	P505 (for higher current modules)		
INPUT									
Rated Input DC Power ⁽¹⁾	320	340	370	400	405	485	505	W	
Absolute Maximum Input Voltage (Voc at lowest temperature)	48		60	80	125 ⁽²⁾		83 ⁽²⁾	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			12.5		17.5		Adc	
Maximum Efficiency	99.5								%
Weighted Efficiency	98.8						98.6		%
Overvoltage Category	II								
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)									
Maximum Output Current	15								Adc
Maximum Output Voltage	60				85				Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE 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								
Material	UL94 V-0, UV Resistant								
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)	129 x 153 x 27.5 / 5.1 x 6 x 1.1			129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 159 x 49.5 / 5.1 x 6.3 x 1.9		129 x 162 x 59 / 5.1 x 6.4 x 2.3	mm / in	
Weight (including cables)	630 / 1.4			750 / 1.7	845 / 1.9		1064 / 2.3	gr / lb	
Input Connector	MC4 ⁽³⁾					Single or dual MC4 ⁽³⁾⁽⁴⁾	MC4 ⁽³⁾		
Input Wire Length	0.16 / 0.52								m / ft
Output Wire Type / Connector	Double Insulated / MC4								
Output Wire Length	0.9 / 2.95		1.2 / 3.9	1.2 / 3.9	1.2 / 3.9		1.2 / 3.9	m / ft	
Operating Temperature Range ⁽⁵⁾	-40 - +85 / -40 - +185								°C / °F
Protection Rating	IP68 / NEMA6P								
Relative Humidity	0 - 100								%

⁽¹⁾ Rated power of the module at STC will not exceed the optimizer "Rated Input DC Power". Modules with up to +5% power tolerance are allowed

⁽²⁾ NEC 2017 requires max input voltage be not more than 80V

⁽³⁾ For other connector types please contact SolarEdge

⁽⁴⁾ For dual version for parallel connection of two modules use the P485. In the case of an odd number of PV modules in one string, installing one P485 dual version power optimizer

⁽⁵⁾ For ambient temperature above +85°C / +185°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details.

PV System Design Using a SolarEdge Inverter ⁽⁶⁾⁽⁷⁾	Single Phase HD-Wave	Single phase	Three Phase for 208V grid	Three Phase for 277/480V grid	
Minimum String Length (Power Optimizers)	P320, P340, P370, P400	8	10	18	
	P405, P485, P505	6	8	14	
Maximum String Length (Power Optimizers)		25	25	50 ⁽⁸⁾	
Maximum Power per String	5700 (6000 with SE7600-US - SE11400-US)	5250	6000 ⁽⁹⁾	12750 ⁽¹⁰⁾	W
Parallel Strings of Different Lengths or Orientations	Yes				

⁽⁶⁾ For detailed string sizing information refer to: http://www.solaredge.com/sites/default/files/string_sizing_na.pdf

⁽⁷⁾ It is not allowed to mix P405/P485/P505 with P320/P340/P370/P400 in one string

⁽⁸⁾ A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement

⁽⁹⁾ For 208V grid: it is allowed to install up to 6,500W per string when the maximum power difference between each string is 1,000W

⁽¹⁰⁾ For 277/480V grid: it is allowed to install up to 17,550W per string when the maximum power difference between each string is 2,000W