

# Three Phase Inverter with Synergy Technology

For the 277/480V Grid for North America

SE80KUS / SE100KUS / SE110KUS / SE120KUS



## Powered by unique pre-commissioning process for rapid system installation

- Pre-commissioning feature for automated validation of system components and wiring during the site installation process and prior to grid connection
- Easy 2-person installation with lightweight, modular design (each inverter consists of 2 or 3 Synergy units and 1 Synergy Manager)
- Independent operation of each Synergy unit enables higher uptime and easy serviceability
- Built-in thermal sensors detect faulty wiring, ensuring enhanced protection and safety
- Built-in arc fault protection and rapid shutdown
- Built-in PID mitigation for maximized system performance
- Monitored\* and field-replaceable surge protection devices, to better withstand surges caused by lightning or other events
- Built-in module-level monitoring with Ethernet or cellular communication for full system visibility

\*Applicable only for DC and AC SPDs

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MODEL NUMBER	SE80KUS	SE100KUS	SE110KUS	SE120KUS	
APPLICABLE TO INVERTERS WITH PART NUMBER	SExxK-USx8lxxxx				UNITS
<b>OUTPUT</b>					
Rated AC Active Output Power	80000	100000	110000	120000	W
Maximum AC Apparent Output Power	80000	100000	120000	120000	VA
AC Output Line Connections	3W + PE, 4W + PE				
Supported Grids	WYE: TN-C, TN-S, TN-C-S, TT, IT; Delta: IT				
AC Output Voltage Minimum-Nominal-Maximum <sup>(1)</sup> (L-N)	244 – 277 – 305				Vac
AC Output Voltage Minimum-Nominal-Maximum <sup>(1)</sup> (L-L)	422.5 – 480 – 529				Vac
AC Frequency Min-Nom-Max <sup>(1)</sup>	59.5 – 60 – 60.5				Hz
Maximum Continuous Output Current (per Phase, PF=1)	96.5	120	144.3		Aac
GFDI Threshold	1				A
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes				
Total Harmonic Distortion	≤ 3				%
Power Factor Range	+/-0.2 to 1				
<b>INPUT</b>					
Maximum DC Power (Module STC) Inverter / Synergy Unit	140000 / 70000	175000 / 58300	210000 / 70000		W
Transformer-less, Ungrounded	Yes				
Maximum Input Voltage DC+ to DC-	1000				Vdc
Operating Voltage Range	850 – 1000				Vdc
Maximum Input Current	2 x 48.25	3 x 40	3 x 48.25		Adc
Reverse-Polarity Protection	Yes				
Ground-Fault Isolation Detection	167kΩ sensitivity per Synergy Unit <sup>(2)</sup>				
CEC Weighted Efficiency	98.5				%
Nighttime Power Consumption	< 8	< 12			W
<b>ADDITIONAL FEATURES</b>					
Supported Communication Interfaces <sup>(3)</sup>	2 x RS485, Ethernet, Wi-Fi (optional), Cellular (optional)				
Smart Energy Management	Export Limitation				
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi access point for local connection				
Arc Fault Protection	Built-in, User Configurable (According to UL1699B)				
Photovoltaic Rapid Shutdown System	EC 2014, 2017 and 2020, Built-in				
PID Rectifier	Nighttime, built-in				
RS485 Surge Protection (ports 1+2)	Type II, field replaceable, integrated				
AC, DC Surge Protection	Type II, field replaceable, integrated				
DC Fuses (Single Pole)	25A, integrated				
<b>DC SAFETY SWITCH</b>					
DC Disconnect	Built-in				
<b>STANDARD COMPLIANCE</b>					
Safety	UL1699B, UL1741, UL1741 SA, UL1741 SB, UL1998, CSA C22.2#107.1, Canadian AFCI according to T.I.L. M-07				
Grid Connection Standards	IEEE 1547-2018, Rule 21, Rule 14 (HI)				
Emissions	FCC part 15 class A				

(1) For other regional settings please contact SolarEdge support.

(2) Where permitted by local regulations.

(3) For specifications of the optional communication options, visit the [Communication product page](#) or the [Resource Library](#) to download the relevant product datasheet.

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APPLICABLE TO INVERTERS WITH PART NUMBER	SExxK-USx8lxxxx			UNITS
INSTALLATION SPECIFICATIONS				
Number of Synergy Units per Inverter	2	3		
Ac Max Conduit Size	2 1/2"			in
Max AWG Line / PE	4/0 / 1/0			
DC Max Conduit Size	1 x 3"; 2 x 2"			in
DC Input Inverter/ Synergy Unit	8 / 4 pairs; 6-12 AWG	12 / 4 pairs; 6-12 AWG		
	2 pairs / 1 pair, Max 2 AWG; copper or aluminum	3 pairs / 1 pair, Max 2 AWG; copper or aluminum		
Dimensions (H x W x D)	Synergy Unit: 22 x 12.9 x 10.75 / 558 x 328 x 273 Synergy Manager: 14.17 x 22.4 x 11.6 / 360 x 560 x 295			in / mm
Weight	Synergy Unit: 70.4 / 32 Synergy Manager: 39.6 / 18			lb / kg
Operating Temperature Range	-40 to +140 / -40 to +60 <sup>(4)</sup>			°F / °C
Cooling	Fan (user replaceable)			
Noise	< 67			dBA
Protection Rating	NEMA 3R			
Mounting	Brackets provided			

(4) For power de-rating information refer to the [Temperature De-rating - Technical Note \(North America\)](#).

SolarEdge is a global leader in smart energy technology. By leveraging world-class engineering capabilities and with a relentless focus on innovation, SolarEdge creates smart energy solutions that power our lives and drive future progress.

SolarEdge developed an intelligent inverter solution that changed the way power is harvested and managed in photovoltaic (PV) systems. The SolarEdge DC optimized inverter maximizes power generation while lowering the cost of energy produced by the PV system.

Continuing to advance smart energy, SolarEdge addresses a broad range of energy market segments through its PV, storage, EV charging, UPS, and grid services solutions.

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