

# 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 one 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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Applicable to inverter with Part Numbers	SExxK-USx8lxxxx				
	SE80KUS	SE100KUS	SE110KUS	SE120KUS	
<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	120000 / 60000	150000 / 50000	180000 / 60000		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>	2xRS485, 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	NEC 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, UL1998, CSA C22.2#107.1, Canadian AFCl according to T.I.L. M-07				
Grid Connection Standards	IEEE 1547, 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 <https://www.solaredge.com/products/communication> or the Resource Library webpage: <https://www.solaredge.com/downloads#>, to download the relevant product datasheet

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<b>INSTALLATION SPECIFICATIONS</b>				
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		
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/m
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)		dBA
Noise		< 67		
Protection Rating		NEMA 3R		
Mounting		Brackets provided		

(4) For power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note.pdf>