

# Three Phase Inverter with Synergy Technology

## For the 277/480V Grid for North America

SE80KUS / SE100KUS / 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 optional 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-USx81xxxx			
	SE80KUS	SE100KUS	SE120KUS	
<b>OUTPUT</b>				
Rated AC Active Output Power	80000	100000	120000	W
Maximum AC Apparent Output Power	80000	100000	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	145	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>	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	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, 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			

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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 <sup>(4)</sup>	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 / mm
Weight	Synergy Unit: 70.4 / 32 Synergy Manager: 39.6 / 18			lb / kg
Operating Temperature Range	-40 to +140 / -40 to +60 <sup>(5)</sup>			°F / °C
Cooling	Fan (user replaceable)			
Noise	< 67			dBA
Protection Rating	NEMA 3R			
Mounting	Brackets provided			