

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-US08lxxxx				
	SE80KUS	SE100KUS	SE110KUS	SE120KUS	
OUTPUT					
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 ⁽¹⁾ (L-N)	244 - 277 - 305				Vac
AC Output Voltage Minimum-Nominal-Maximum ⁽¹⁾ (L-L)	422.5 - 480 - 529				Vac
AC Frequency Min-Nom-Max ⁽¹⁾	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				
INPUT					
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 ⁽²⁾				
CEC Weighted Efficiency	98.5				%
Nighttime Power Consumption	< 8	< 12			W
ADDITIONAL FEATURES					
Supported Communication Interfaces ⁽³⁾	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				
DC SAFETY SWITCH					
DC Disconnect	Built-in				
STANDARD COMPLIANCE					
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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SE80KUS / SE100KUS / SE110KUS/ SE120KUS

Applicable to inverter with Part Numbers	SExxK-US08lxxxx			
	SE80KUS	SE100KUS	SE110KUS	SE120KUS
INSTALLATION SPECIFICATIONS				
Number of Synergy Units per Inverter	2	3		
AC Max Conduit Size	2 ½"			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	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 ⁽⁴⁾			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>

Three Phase Inverters for the 277/480V Grid For North America

SE20KUS / SE30KUS / SE33.3KUS / SE40KUS

INVERTERS



The best choice for SolarEdge enabled systems

- Specifically designed to work with power optimizers
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Fixed voltage inverter for superior efficiency (98.5%) and longer strings
- Built-in type 2 DC and AC Surge Protection, to better withstand lightning events
- Small, lightest in its class, and easy to install outdoors or indoors on provided bracket
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- Built-in module-level monitoring with Ethernet, wireless or cellular communication for full system visibility
- Integrated Safety Switch
- UL1741 SA certified, for CPUC Rule 21 grid compliance

/ Three Phase Inverters for the 277/480V Grid⁽¹⁾

For North America

SE20KUS / SE30KUS / SE33.3KUS / SE40KUS

MODEL NUMBER	SE20KUS	SE30KUS	SE33.3KUS	SE40KUS	UNITS
APPLICABLE TO INVERTERS WITH PART NUMBER	SEXXX - USXXXBXXX	SEXXX-USX8IXXXX			
OUTPUT					
Rated AC Power Output	20000	30000	33300	40000	W
Maximum apparent AC output power	20000	30000	33300	40000	VA
AC Output Line Connections	4W + PE	3W + PE, 4W + PE			
AC Output Voltage Minimum-Nominal-Maximum ⁽²⁾ (L-N)	244 - 277 - 305				Vac
AC Output Voltage Minimum-Nominal-Maximum ⁽²⁾ (L-L)	422.5 - 480 - 529				Vac
AC Frequency Min-Nom-Max ⁽²⁾	59.3 - 60 - 60.5				Hz
Maximum Continuous Output Current (per Phase)	24	36.25	40	48.25	Aac
GFDI Threshold	1				A
Utility Monitoring, Islanding Protection, Country Configurable Set Points	Yes				
Total Harmonic Distortion	≤ 3				%
Power Factor Range	+/- 0.85 to 1				
INPUT					
Maximum DC Power (Module STC)	27000	45000	50000	60000	W
Transformer-less, Ungrounded	Yes				
Maximum Input Voltage DC+ to DC-	1000				Vdc
Operating Voltage Range	840 - 1000				Vdc
Maximum Input Current	26.5	36.25	40	48.25	Adc
Maximum Input Short Circuit Current	33	55			Adc
Reverse-Polarity Protection	Yes				
Ground-Fault Isolation Detection	1MΩ Sensitivity	167kΩ Sensitivity ⁽³⁾			
CEC Weighted Efficiency	98	98.5			%
Night-time Power Consumption	<3	<4			W
ADDITIONAL FEATURES					
Supported Communication Interfaces	2 x RS485, Ethernet, Cellular (optional)				
Inverter Commissioning	With the SetApp mobile application using built-in access point for local connection				
Arc Fault Protection	Integrated, User Configurable (According to UL1699B)				
Rapid Shutdown	NEC2014, NEC2017 and NEC2020 compliant/certified				
RS485 Surge Protection Plug-in	Supplied with the inverter, Built-in				
DC Surge Protection	Type II, field replaceable, optional	Type II, field replaceable, Built-in			
AC Surge Protection	-	Type II, field replaceable, Built-in			
DC Fuses (Single Pole)	-	25A, Built-in			
Smart Energy Management	Export Limitation				
DC SAFETY SWITCH					
DC Disconnect	Integrated				
STANDARD COMPLIANCE					
Safety	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07				
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (HI)				
Emissions	FCC part15 class A				
INSTALLATION SPECIFICATIONS					
AC output conduit size / AWG range	3/4" minimum / 12-6 AWG	3/4" or 1" / 6 - 10 AWG			
DC input conduit size / AWG range	3/4" or 1" / 6 - 12 AWG				
Number of DC inputs pairs	2	4			
Dimensions with Safety Switch (H x W x D)	30.5 x 12.5 x 10.5 / 775 x 315 x 260	31.8 x 12.5 x 11.8 / 808 x 317 x 300			in / mm
Weight with Safety Switch	74.2 / 33.7	78.2 / 35.5			lb / kg
Cooling	Fans (user replaceable)				
Noise	< 50	< 62			dBa
Operating Temperature Range	-40 to +140 / -40 to +60 ⁽⁴⁾				°F / °C
Protection Rating	NEMA 3R				
Mounting	Bracket provided				

(1) For 120/208V inverters refer to: <https://www.solaredge.com/sites/default/files/se-three-phase-us-inverter-208V-setapp-datasheet.pdf>

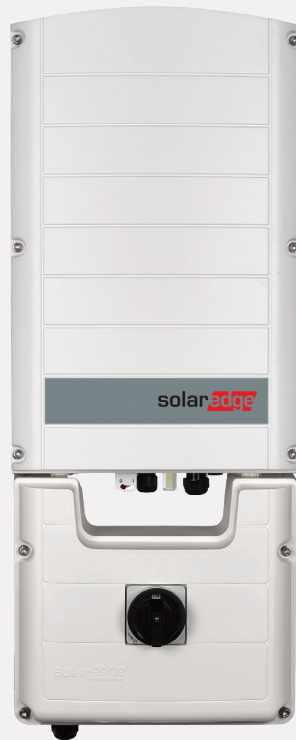
(2) For other regional settings please contact SolarEdge support

(3) Where permitted by local regulations

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

Three Phase Inverters for the 277/480V Grid for North America

SE20KUS / SE30KUS / SE33.3KUS



INVERTERS

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- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Specifically designed to work with power optimizers
- Superior efficiency (98%)
- Fixed voltage inverter for longer strings
- Integrated Safety Switch
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- Built-in module-level monitoring
- Internet connection through Ethernet or Wireless
- Small, lightweight, and easy to install outdoors or indoors on provided bracket
- Supplied with RS485 Surge Protection Device, to better withstand lightning events

/ Three Phase Inverters for the 277/480V Grid⁽¹⁾ for North America

SE20KUS / SE30KUS / SE33.3KUS

MODEL NUMBER	SE20KUS	SE30KUS	SE33.3KUS	
APPLICABLE TO INVERTERS WITH PART NUMBER		SEXXX-XXXXXBXX4		
OUTPUT				
Rated AC Power Output	20000	30000	33300	VA
Maximum AC Power Output	20000	30000	33300	VA
Output Line Connections	3 phase, 4-wire / PE (L1-L2-L3-N), TN, TT			
AC Output Voltage Minimum-Nominal-Maximum ⁽²⁾ (L-N)	244-277-305			Vac
AC Output Voltage Minimum-Nominal-Maximum ⁽²⁾ (L-L)	422.5-480-529			Vac
AC Frequency Min-Nom-Max ⁽²⁾	59.3 - 60 - 60.5			Hz
Maximum Continuous Output Current (per Phase)	24	36.5	40	A
GFDI Threshold	1			A
Utility Monitoring, Islanding Protection, Country Configurable Set Points	Yes			
THD	≤ 3			%
INPUT				
Maximum DC Power (Module STC)	27000	40500	45000	W
Transformer-less, Ungrounded	Yes			
Maximum Input Voltage DC to Gnd	490			Vdc
Maximum Input Voltage DC+ to DC-	1000			Vdc
Nominal Input Voltage DC to Gnd	420			Vdc
Nominal Input Voltage DC+ to DC-	850			Vdc
Maximum Input Current	26.5	39	40	Adc
Maximum Input Short Circuit Current	45			Adc
Reverse-Polarity Protection	Yes			
Ground-Fault Isolation Detection	1MΩ Sensitivity	350kΩ Sensitivity ⁽³⁾		
CEC Weighted Efficiency	98	98.5		%
Night-time Power Consumption	< 3	< 4		W
ADDITIONAL FEATURES				
Supported Communication Interfaces	RS485, Ethernet, Built-in Cellular (optional)			
Inverter Commissioning	With the SetApp mobile application using built-in access point for local connection			
Rapid Shutdown – NEC 2014 and 2017 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect ⁽⁴⁾			
RS485 Surge Protection Plug-in	Supplied with the inverter			
Smart Energy Management	Export Limitation			
STANDARD COMPLIANCE				
Safety	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCL according to T.I.L. M-07			
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (HI)			
Emissions	FCC part15 class B			
INSTALLATION SPECIFICATIONS				
AC output conduit size / AWG range	3/4" minimum / 12-6 AWG	3/4" minimum / 8-4 AWG		
DC input conduit size / AWG range	3/4" minimum / 12-6 AWG			
Number of DC inputs	2 pairs	3 pairs ⁽⁴⁾		
Dimensions (H x W x D)	21 x 12.5 x 10.5 / 540 x 315 x 260			in / mm
Dimensions with Safety Switch (H x W x D)	30.5 x 12.5 x 10.5 / 775 x 315 x 260			in / mm
Weight	73.2 / 33.2	93.6 / 42.5		lb / kg
Weight with Safety Switch	79.7 / 36.2	100.3 / 45.5		lb / kg
Cooling	Fans (user replaceable)			
Noise	< 50	< 55		dBA
Operating Temperature Range	-40 to +140 / -40 to +60 ⁽⁵⁾			°F / °C
Protection Rating	NEMA 3R			

(1) For 120/208V inverters refer to: <https://www.solaredge.com/sites/default/files/se-three-phase-us-inverter-208V-setapp-datasheet.pdf>

(2) For other regional settings please contact SolarEdge support

(3) Where permitted by local regulations

(4) Field replacement kit for 1 pair of inputs P/N: DCD-3PH-1TBK; Field replacement kit for 3 pairs of fuses and holders P/N: DCD-3PH-6FHK-S1

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