Three Phase Inverter with Synergy Technology

USA Domestic Content Eligible

INVERTER

For North America

SE50KUS / SE80KUS / SE100KUS / SE110KUS / SE120KUS

12-20 YEAR WARRANTY

Made in the USA from imported parts

SolarEdge's USA-manufactured Offering for C&I rooftops and carports

- Eligible for domestic content*: SolarEdge USA-manufactured inverters, when paired with certain SolarEdge USA-manufactured power optimizers, are intended to be eligible for the enhanced federal income tax credit for domestic content
- Pre-commissioning feature for automated validation of system components and wiring during the site installation process and prior to grid connection
- Easy two-person installation with lightweight, modular design (each inverter consists of two or three 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

* For more details, see Eligibility for Domestic Content on the last page.

** Applicable only for DC and AC SPDs.

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Applicable to inverters with part numbers	SE-DBL-USxxIBNxx	SE-TRI-USxxIBNxx				
Model Number	**SE80KUS**	**SE50KUS**	**SE100KUS**	**SE110KUS**	**SE120KUS**	**UNITS**
OUTPUT						
Total Rated AC Output Capacity	80,000	120,000				W
Rated AC Active Output Power	80,000	50,000	100,000	110,000	120,000	W
Maximum AC Apparent Output Power	80,000	50,000	100,000	120,000	120,000	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	105 – 120 – 132.5	244 – 277 – 305			Vac
AC Output Voltage Minimum-Nominal-Maximum[1] (L-L)	422.5 – 480 – 529	183 – 208 – 229	422.5 – 480 – 529			Vac
AC Frequency Minimum-Nominal-Maximum[1]	59.5 – 60 – 60.5					Hz
Maximum Continuous Output Current (per phase, PF=1)	96.5	139.5	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	±0.85 to 1					
INPUT[2]						
Maximum DC Power (Module STC) Inverter / Synergy Unit	140,000 / 70,000	87,500 / 29,165	175,000 / 58,300	210,000 / 70,000		W
Transformer-less, Ungrounded	Yes					
Maximum Input Voltage DC+ to DC-	1000	600	1000			Vdc
Operating Voltage Range	850 – 1000	370 – 600	850 – 1000			Vdc
Maximum Input Current	2 x 48.25	3 x 46.5	3 x 40	3 x 48.25		Adc
Reverse-Polarity Protection	Yes					
Ground-Fault Isolation Detection	167kΩ sensitivity per Synergy Unit[3]					
CEC Weighted Efficiency	98.5	97	98.5			%
Nighttime Power Consumption	< 8	< 12				W
ADDITIONAL FEATURES						
Supported Communication Interfaces[4]	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 UL 1699B)					
Photovoltaic Rapid Shutdown System	NEC 2014 – 2023, built-in, if paired with C651U					
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 SAFETY SWITCH						
DC Disconnect	Built-in					
STANDARD COMPLIANCE						
Safety	UL 1699B; UL 1741; UL 1741 SA; UL 1741 SB; UL 1998; 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) For compatibility of inverters and power optimizers, see this technical note.
(3) Where permitted by local regulations.
(4) For specifications of the optional communication options, visit the Communication product page or the Knowledge Center to download the relevant product datasheet.

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USA Domestic Content Eligible for North America

SE50KUS / SE80KUS / SE100KUS / SE110KUS / SE120KUS

Applicable to inverters with part numbers		SE-DBL-USxxIBNxx	SE-TRI-USxxIBNxx				
Model Number		SE80KUS	SE50KUS	SE100KUS	SE110KUS	SE120KUS	UNITS
INSTALLATION SPECIFICATIONS							
Number of Synergy Units per Inverter		2	3				
AC Maximum Conduit Size		2 ½"					in
AC Maximum Conductor Size Line / PE		4/0 AWG / 1/0 AWG					
DC Maximum Conduit Size		1 x 3"; 2 x 2"					in
Inverter Unit / Synergy Manager	Multi-input (fuse-less)[5] (SE-xxx-USxxIxxSx)	6 / 3 pairs; 6 – 12 AWG	9 / 3 pairs; 6 – 12 AWG				
	Combined input (fuse-less) (SE-xxx-USxxIxxWx)	N/A	3 pairs / 1 pair, 2 – 4 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[6]					°F / °C
Cooling		Fan (user replaceable)					
Noise		< 67					dBA
Protection Rating		NEMA 3R					
Mounting		Brackets provided					

(5) Fusing is not included with the multi-input version of the Synergy Manager.
(6) For power derating information, see the Temperature Derating technical note for North America.

*Eligibility for Domestic Content

As it relates to the domestic content rules, the U.S. Department of Treasury and the IRS have not yet issued proposed or final regulations. Rather, the IRS has issued three notices - Notice 2023-38, Notice 2024-41 and Notice 2025-08. These notices provide guidance regarding the domestic content rules. SolarEdge products referenced herein are manufactured with the intent to be eligible for inclusion under the elective safe harbor table in calculating the Domestic Cost Percentage under the "Rooftop (MLPE)" category (under IRS Notices 2024-41 and 2025-08, depending on the PN used – see chart below). Eligibility is subject to the installation of qualified USA-Manufactured inverters and Power Optimizers (C651U) in the same project. SolarEdge does not provide tax and/or legal advice. You should consult with your own legal and/or tax advisor(s) regarding the eligibility of your project for the ITC or PTC, including the 10% Domestic Content bonus, to determine how the applicable rules apply to your project. The forward-looking statements in this document are accurate as of the date herein and are subject to change. For more information, please contact your local SolarEdge sales representative.

PN	Domestically produced MPCs per notice 2024-41*	Domestically produced MPCs per notice 2025-08*
USESUK-USR0INNN**6**, when paired with C651U	Printed Circuit Board Assemblies, Electrical Parts, Enclosure (35.6%)	Printed Circuit Board Assemblies (DC-DC) and (AC-AC), Enclosure, Production (24.8%)
USESUK-USR0INNN**8**, when paired with C651U	Printed Circuit Board Assemblies, Enclosure (17.6%)	Printed Circuit Board Assemblies (DC-DC) and (AC-AC), Enclosure, Production (24.8%)

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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Cautionary Note Regarding Market Data and Industry Forecasts: This brochure may contain market data and industry forecasts from certain third-party sources. This information is based on industry surveys and the preparer's expertise in the industry and there can be no assurance that any such market data is accurate or that any such industry forecasts will be achieved. Although we have not independently verified the accuracy of such market data and industry forecasts, we believe that the market data is reliable and that the industry forecasts are reasonable.

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