

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 |
| 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 | 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 | | | | | |
| 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 ⁽²⁾ | | | | |
| CEC Weighted Efficiency | 98.5 | | | | % |
| Nighttime Power Consumption | < 8 | < 12 | | | W |
| ADDITIONAL FEATURES | | | | | |
| Supported Communication Interfaces ⁽³⁾ | 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 – 2023, 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 | | | | |
| VAR at Night ⁽⁴⁾ | Yes | | | | |
| DC SAFETY SWITCH | | | | | |
| DC Disconnect | Built-in | | | | |
| STANDARD COMPLIANCE | | | | | |
| Safety | UL1699B, UL1741, UL1741 SA, UL1741 SB, UL1998, CSA C22.2#107.1, Canadian AFCl according to T.I.L. M-07 | | | | |
| Grid Connection Standards | IEEE 1547-2018, Rule 21, Rule 14 (H1) | | | | |
| 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 [Knowledge Center](#) to download the relevant product datasheet.

(4) For details, see [Set Volt Ampere Reactive at Night](#).

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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 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 | Multi-input (SExxK-USxxxxZ4) | 8 / 4 pairs; 6-12 AWG | 12 / 4 pairs; 6-12 AWG | | | |
| | Combined input (SExxK-USxxxxW4) | 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 ⁽⁴⁾ | | | | °F / °C |
| Cooling | | Fan (user replaceable) | | | | |
| Noise | | < 67 | | | | dBA |
| Protection Rating | | NEMA 3R | | | | |
| Mounting | | Brackets provided | | | | |

(5) For power de-rating information refer to the [Temperature Derating Technical Note for 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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