

Three Phase Inverter with Synergy Technology

SE66.6K / SE90K / SE100K / SE120K

INVERTERS



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: integrated RS485 and Type 2 DC SPDs, optional Type 2 AC SPD
- Optional integrated DC safety switch eliminates the need for external DC isolators
- Built-in module-level monitoring with Ethernet or cellular communication for full system visibility

*Applicable only for DC and AC SPDs

/ Three Phase Inverter with Synergy Technology

SE66.6K / SE90K / SE100K / SE120K

| Applicable to Inverter with Part Number | SExxK-xxxxlxxxx | | | SExxK-xxx8lxxxx | |
|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------------------------|-----------------------------|-------------------------|-----|
| | SE66.6K for 380/400V Grid | SE90K for 380/400V Grid | SE100K for 380/400V Grid | SE120K for 480V Grid | |
| OUTPUT | | | | | |
| Rated AC Active Output Power ⁽¹⁾ | 66600 | 90000 | 100000 | 120000 | W |
| Maximum AC Apparent Output Power ⁽¹⁾ | 66600 | 90000 | 100000 | 120000 | VA |
| AC Output Voltage — Line to Line / Line to Neutral (Nominal) | 380 / 220 ; 400 / 230 | | | 480 / 277 | Vac |
| AC Output Voltage — Line to Line Range / Line to Neutral Range | 304 - 437 / 176 - 253 ; 320 - 478 / 184 - 264.5 | | | 432 - 529 / 249 - 305 | Vac |
| AC Frequency | 50/60 ± 5% | | | | Hz |
| Maximum Continuous Output Current (per Phase) | 96.5 | 145 | 145 | 145 | Aac |
| AC Output Line Connections | 3W + PE, 4W + PE | | | | |
| Supported Grids | WYE: TN-C, TN-S, TN-C-S, TT, IT; Delta: IT | | | | |
| Maximum Residual Current Injection ⁽²⁾ | 200 | 300 | | | mA |
| 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 | 100000 / 50000 | 135000 / 45000 | 150000 / 50000 | 180000 / 60000 | W |
| Transformer-less, Ungrounded | Yes | | | | |
| Maximum Input Voltage DC+ to DC- | 1000 | | | | Vdc |
| Operating Voltage Range | 680 - 1000 | | | | Vdc |
| Maximum Input Current | 2 x 48.25 | 3 x 48.25 | 3 x 48.25 | | Adc |
| Reverse-Polarity Protection | Yes | | | | |
| Ground-Fault Isolation Detection | 167kΩ Sensitivity per Synergy Unit ⁽³⁾ | | | | |
| Maximum Inverter Efficiency | 98.3 | | 98.1 | | % |
| European Weighted Efficiency | 98 | | | | % |
| 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 UL1699B) | | | | |
| Rapid Shutdown | Optional (automatic upon AC Grid Disconnect) | | | | |
| PID Rectifier | Nighttime, built-in | | | | |
| RS485 Surge Protection (ports 1+2) | Type II, field replaceable, integrated | | | | |
| DC Surge Protection | Type II, field replaceable, integrated | | | | |
| AC Surge Protection | Type II, field replaceable, optional | | | | |
| DC Fuses (Single Pole) | 25A, optional | | | | |
| DC Disconnect Switch | Optional | | | | |
| STANDARD COMPLIANCE | | | | | |
| Safety | IEC-62109-1, IEC-62109-2 | | | | |
| Grid Connection Standards ⁽⁵⁾ | VDE-AR-N-4105, AS-4777, EN 50549-1, EN 50549-2, CEI-021, VDE 0126-1-1, CEI-016 | | | | |
| Emissions | IEC61000-6-2, IEC61000-6-3 Class A, IEC61000-3-11, IEC61000-3-12 | | | | |
| RoHS | Yes | | | | |

(1) Maximum values at 400V / 230V

(2) If an external RCD is required, its trip value must be ≥ 200mA for SE66.6K; ≥ 300mA for SE90K/SE100K/SE120K

(3) Where permitted by local regulations

(4) For specifications of the optional communication options, visit <https://www.solaredge.com/products/communication> or the Resource Library webpage: <https://www.solaredge.com/resource-library>, to download the relevant product datasheet

(5) For all standards and certificates download, refer to the Certifications category on the Resource Library webpage: <https://www.solaredge.com/resource-library>

/ Three Phase Inverter with Synergy Technology

SE66.6K / SE90K / **SE100K** / SE120K

| Applicable to Inverter with Part Number | SExxK-xxxxlxxxx | | | SExxK-xxx8lxxxx |
|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------------------|
| | SE66.6K for 380/400V Grid | SE90K for 380/400V Grid | SE100K for 380/400V Grid | SE120K for 480V Grid |
| INSTALLATION SPECIFICATIONS | | | | |
| Number of Synergy Units per Inverter | 2 | | 3 | |
| AC Wire Cross Section and Outer Diameter:Line/PE (Aluminum or Copper) | Cross section up to 120 / 70 mm ² ; outer diameter 30-50 / 12-20 mm | | | |
| DC Input: Inverter / Synergy Unit ⁽⁶⁾⁽⁷⁾ | 8 / 4 MC4 pairs | 12 / 4 MC4 pairs | | |
| | Gland, 2 pairs / 1 pair, Cross section up to 50 mm ² , aluminum or copper Cable outer diameter 12-20 mm | Gland, 3 pairs / 1 pair, Cross section up to 50 mm ² , aluminum or copper Cable outer diameter 12-20 mm | | |
| Dimensions (H x W x D) | Synergy Unit: 558 x 328 x 273 Synergy Manager: 360 x 560 x 295 | | | mm |
| Weight | Synergy Unit: 32 Synergy Manager: 18 | | | kg |
| Operating Temperature Range | -40 to +60 ⁽⁸⁾ | | | °C |
| Cooling | Fan (user replaceable) | | | |
| Noise | < 67 | | | dBA |
| Protection Rating | IP65 — outdoor and indoor | | | |
| Mounting | Brackets provided | | | |

(6) DC input is available with MC4 or Gland connection under the inverter part number. For more information, contact SolarEdge

(7) Only MC4 connectors manufactured by Staubli are approved for use

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

Accessories - SPDs (purchased separately)

| Accessory | PN |
|--------------------------------------------------|--------------|
| AC SPD kit for Synergy Manager (5 units per box) | SE-AC-SPD-SM |