

# 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

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| Applicable to Inverter with Part Number  | SExxK-TH00INC4  |                            |                             | SExxK-xxx8lxxxx         |     |
|--|---|----------------------------|-----------------------------|-------------------------|-----|
|  | SE66.6K<br>for 380/400V Grid  | SE90K<br>for 380/400V Grid | SE100K<br>for 380/400V Grid | SE120K<br>for 480V Grid |     |
| <b>OUTPUT</b>  |   |                            |                             |                         |     |
| Rated AC Active Output Power <sup>(1)</sup>  | 66600   | 90000                      | 100000                      | 120000                  | W   |
| Maximum AC Apparent Output Power <sup>(1)</sup>  | 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 <sup>(2)</sup>  | 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   |                            |                             |                         |     |
| <b>INPUT</b>   |   |                            |                             |                         |     |
| 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                   |                         | Aac |
| Reverse-Polarity Protection  | Yes   |                            |                             |                         |     |
| Ground-Fault Isolation Detection   | 167kΩ Sensitivity per Synergy Unit <sup>(3)</sup>   |                            |                             |                         |     |
| Maximum Inverter Efficiency  | 98.3  |                            | 98.1                        |                         | %   |
| European Weighted Efficiency   | 98  |                            |                             |                         | %   |
| Nighttime Power Consumption  | < 8   | < 12                       |                             |                         | W   |
| <b>ADDITIONAL FEATURES</b>   |   |                            |                             |                         |     |
| Supported Communication Interfaces <sup>(4)</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)  |                            |                             |                         |     |
| 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  |                            |                             |                         |     |
| <b>STANDARD COMPLIANCE</b>   |   |                            |                             |                         |     |
| Safety   | IEC-62109-1, IEC-62109-2  |                            |                             |                         |     |
| Grid Connection Standards <sup>(5)</sup>   | 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>