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# Three Phase Inverter with Synergy Technology

SE50K / SE55K / SE82.8K



# INVERTERS

## Specifically designed to work with power optimizers

- Easy two-person installation – each unit mounted separately, equipped with cables for simple connection between units
- Balance of System and labor reduction compared to using multiple smaller string inverters
- Independent operation of each unit enables higher uptime and easy serviceability
- No wasted ground area: wall/rail mounted or horizontally mounted under the modules (10° inclination)
- Built-in module-level monitoring with Ethernet or cellular GSM
- Fixed voltage inverter for superior efficiency (98.3%) and longer strings
- Integrated Connection Unit with optional integrated DC Safety Switch – eliminates the need for external DC isolators
- Built-in RS485 Surge Protection, to better withstand lightning events
- Advanced safety features - integrated arc fault protection and optional rapid shutdown

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	SE50K <sup>(1)</sup>	SE55K	SE82.8K	
<b>OUTPUT</b>				
Rated AC Power Output	50000 <sup>(2)</sup>	55200	82800	VA
Maximum AC Power Output	50000 <sup>(2)</sup>	55200	82800	VA
AC Output Voltage — Line to Line / Line to Neutral (Nominal)	380/220 ; 400/230			Vac
AC Output Voltage — Line to Line Range / Line to Neutral Range	304 - 437 / 176 - 253 ; 320 - 460 / 184 - 264.5			Vac
AC Frequency	50/60 ± 5			Hz
Maximum Continuous Output Current (per Phase) @Vac,nom	76	80	120	A
Grids Supported — Three Phase	3 / N / PE (WYE with Neutral)			V
Maximum Residual Current Injection	250 per unit <sup>(3)</sup>			mA
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes			
<b>INPUT</b>				
Maximum DC Power (Module STC), Inverter / Unit	67500 / 33750	74520 / 37260	111750 / 37250	W
Transformer-less, Ungrounded	Yes			
Maximum Input Voltage	1000			Vdc
Nominal DC Input Voltage	750			Vdc
Maximum Input Current	2 x 37	2 x 40	3 x 40	Adc
Reverse-Polarity Protection	Yes			
Ground-Fault Isolation Detection	350kΩ Sensitivity per Unit <sup>(4)</sup>			
Maximum Inverter Efficiency	98.3			%
European Weighted Efficiency	98			%
Nighttime Power Consumption	< 12			W
<b>ADDITIONAL FEATURES</b>				
Supported Communication Interfaces <sup>(5)</sup>	RS485, Ethernet, GSM plug-in (optional)			
RS485 Surge Protection	Built-in			
Rapid Shutdown	Optional <sup>(6)</sup> (Automatic upon AC Grid Disconnect)			
<b>CONNECTION UNIT</b>				
DC Disconnect (optional)	1000V / 2 x 40A		1000V / 3 x 40A	
<b>STANDARD COMPLIANCE</b>				
Safety	IEC-62109, AS3100			
Grid Connection Standards <sup>(7)</sup>	VDE-AR-N-4105, G99, AS-4777, EN 50438, CEI-021, VDE 0126-1-1, CEI-016, BDEW			
Emissions	IEC61000-6-2, IEC61000-6-3, IEC61000-3-11, IEC61000-3-12			
RoHS	Yes			
<b>INSTALLATION SPECIFICATIONS</b>				
Number of Units	2		3	
AC Output Cable	Cable gland — diameter 22-32; PE gland diameter 10-16		Cable gland — diameter 30-38; PE gland diameter 10-16	mm
DC Input <sup>(8)</sup>	6 strings, 4-10mm <sup>2</sup> DC wire, gland outer diameter 5-10mm / 3 MC4 pairs per unit		9 strings, 4-10mm <sup>2</sup> DC wire, gland outer diameter 5-10mm / 3 MC4 pairs per unit	
AC Output Wire	Aluminum or Copper; L, N: Up to 70, PE: Up to 35		Aluminum or Copper; L, N: Up to 95, PE: Up to 50	mm <sup>2</sup>
Dimensions (H x W x D)	Primary Unit: 940 x 315 x 260; Secondary Unit: 540 x 315 x 260			mm
Weight	Primary Unit: 48; Secondary Unit: 45			kg
Operating Temperature Range	-40 to +60 <sup>(9)</sup>			°C
Cooling	Fan (user replaceable)			
Noise	< 60			dBA
Protection Rating	IP65 — Outdoor and Indoor			
Mounting	Bracket provided			

(1) Available in some countries. Refer to: [https://www.solaredge.com/sites/default/files/se\\_inverters\\_supported\\_countries.pdf](https://www.solaredge.com/sites/default/files/se_inverters_supported_countries.pdf)

(2) 49990 in the UK

(3) If an external RCD is required, its trip value must be ≥ 300mA per unit (≥ 600mA for SE50K/SE55K; ≥ 900mA for SE82.8K)

(4) Where permitted by local regulations

(5) Refer to Datasheets -> Communications category on Downloads page for specifications of optional communication options: <http://www.solaredge.com/groups/support/downloads>

(6) Inverter with rapid shutdown part number: SExxK-RW/Rxxxxxx; Available for SE55K and SE82.8K

(7) For all standards refer to Certifications category on Downloads page: <http://www.solaredge.com/groups/support/downloads>

(8) The DC input type, MC4 or glands, and DC switch depends on the part number ordered. Inverter with glands and without DC switch P/N: SExxK-xx0P0BNG4, inverter with glands and without DC switch P/N: SExxKxx0P0BNA4, inverter with MC4 and with DC switch P/N: SExxK-xx0P0BNU4, inverter with MC4 and without DC switch P/N: SExxK-xx0P0BNU4

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