

Three Phase Inverter with Synergy Technology for Europe

SE55K / SE82.8K



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-xxx0lxxxx		
	SE55K	SE82.8K	
OUTPUT			
Rated AC Active Output Power	55000	82800	W
Maximum AC Apparent Output Power	55000	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)	80	120	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 ⁽¹⁾	200	300	mA
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes		
Total Harmonic Distortion	≤ 3		%
Power Factor Range	+/-0.8 to 1		
INPUT			
Maximum DC Power (Module STC) Inverter / Synergy Unit	82500 / 41400	124200 / 41400	W
Transformer-less, Ungrounded	Yes		
Maximum Input Voltage DC+ to DC-	1000		Vdc
Nominal Input Voltage DC+ to DC-	750		Vdc
Maximum Input Current	2 x 40	3 x 40	Adc
Reverse-Polarity Protection	Yes		
Ground-Fault Isolation Detection	167kΩ Sensitivity per Synergy Unit ⁽²⁾		
Maximum Inverter Efficiency	98.3		%
European Weighted Efficiency	98		%
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)		
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 Disconnect Switch	Optional		
STANDARD COMPLIANCE			
Safety	IEC-62109-1, IEC-62109-2, AS3100		
Grid Connection Standards ⁽⁴⁾	EN50549-1, EN50549-2, VDE-AR-N 4105, VDE-AR-N 4110, VDE V 0126-1-1, CEI 0-21, CEI 0-16, TOR Erzeuger Typ A+B, G99 Type A+B, G99 (NI) Type A+B, VFR 2019		
Emissions	IEC61000-6-2, IEC61000-6-3 Class A, IEC61000-3-11, IEC61000-3-12		
RoHS	Yes		

(1) If an external RCD is required, its trip value must be ≥ 200mA for SE55K; ≥ 300mA for SE82.8K

(2) Where permitted by local regulations

(3) For specifications of the optional communication options, visit <https://www.solaredge.com/products/communication> or the Resource

Library webpage: <https://www.solaredge.com/downloads#>, to download the relevant product datasheet

(4) For all standards and certificates download, refer to the Certifications category on Resource Library webpage: <https://www.solaredge.com/downloads#/>

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Applicable to Inverter with Part Number	SExxxK-xxx01xxxx		
	SE55K	SE82.8K	
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 ⁽⁵⁾	8 / 4 MC4 pairs	12 / 4 MC4 pairs	
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 ⁽⁶⁾		°C
Cooling	Fan (user replaceable)		
Noise	< 67		dBA
Protection Rating	IP65 — outdoor and indoor		
Mounting	Brackets provided		

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

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