Three Phase Inverter with Synergy Technology

For Australia and New Zealand

SE50K / SE66.6K / SE82.8K / SE100K

12-20 YEAR WARRANTY

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 inverter unit enables higher uptime and easy serviceability

- Built-in thermal sensors detect faulty wiring ensuring enhanced protection and safety

- Built-in arc fault protection

- Built-in PID mitigation for maximised system performance

- Monitored* and field-replaceable surge protection devices, to better withstand surges caused by lightning or other events: integrated RS485 and optional Type 2 DC and AC SPDs

- Built-in 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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For Australia and New Zealand

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Applicable to Inverter with Part Number	SExxK-AUxxIxxxx				
	SE50K	SE66.6K	SE82.8K	SE100K	
OUTPUT					
Rated AC Active Output Power	50000	66600	82800	100000	W
Maximum AC Apparent Output Power	50000	66600	82800	100000	VA
AC Output Voltage — Line to Line / Line to Neutral (Nominal)	380 / 220 ; 400 / 230				Vac
AC Output Voltage - Line to Neutral Range	176 - 253 ; 184 - 264				Vac
AC Output Line Connections	3W + PE, 4W + PE				
Supported Grids	WYE: TN-C, TN-S, TN-C-S, TT, IT; Delta: IT				
AC Frequency	50 ± 5%				Hz
Maximum Continuous Output Current (per Phase)	72.5	96.5	120	145	Aac
Maximum Continuous Overcurrent Protection	72.5	96.5	120	145	Aac
Residual Current Detector / Residual Current Step Detector	100 / 30				mA
Inrush current AC (Peak / Duration)	7.2 / 20		10.8 / 20		Aac rms / ms
Maximum Residual Current Injection[1]	200		300		mA
Maximum Output Fault Current	109	142	176	213	Aac
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes				
Total Harmonic Distortion	≤ 3				%
Protective Class	Class I				
Overvoltage Category	III				
Active Anti-Islanding Method	Slip Mode Frequency Shift				
Power Factor Range	+/-0.8 to 1				
INPUT					
Maximum DC Power (Module STC) Inverter / Synergy Unit	87500 / 43750	116550 / 58275	144900 / 48300	175000 / 58300	W
Transformer-less, Ungrounded	Yes				
Operating Voltage Range DC+ to DC-	680 - 830				Vdc
Minimum Input Voltage DC to Gnd	340				Vdc
Maximum Input Voltage DC to Gnd	415				Vdc
Maximum Input Voltage DC+ to DC-	830				Vdc
Maximum Input Current	2 x 36.25	2 x 48.25	3 x 40	3 x 48.25	Adc
Short Circuit Current From The PV Array per Synergy Unit	48.25				
Maximum Back-Feed Current	0				Adc
Overvoltage Category	II				
Reverse-Polarity Protection	Yes				
Ground-Fault Isolation Detection	167kΩ sensitivity per Synergy Unit[2]				
Protective Class	Class I				
Overvoltage Category	II				
Maximum Inverter Efficiency	98.3				%
European Weighted Efficiency	98				%
Nighttime Power Consumption	< 8		< 12		W
ADDITIONAL FEATURES					
Supported Communication Interfaces[3]	2x 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)				
PID Rectifier	Nighttime, built-in				
RS485 Surge Protection (ports 1 + 2)	Type II, field replaceable, integrated				
DC Surge Protection	Type II, field replaceable, optional				
AC Surge Protection	Type II, field replaceable, optional				
DC Disconnect Switch	Provided				
Maximum Altitude	2000				m
Inverter Topology	Non-Isolated Photovoltaic Inverter				
Pre-Commissioning[4]	Built-in				
STANDARD COMPLIANCE					
Safety	IEC-62109-1, IEC-62109-2, AS3100				
Grid Connection Standards[5]	AS/NZS4777:2020				
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 SE50K/SE66.6K; ≥ 300mA for SE82.8K/SE100K
(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/resource-library, to download the relevant product datasheet
(4) Not available for P/Ns SExxK-xxxxxBPxx
(5) For all standards and certificates download, refer to the Certifications category on the Resource library webpage: https://www.solaredge.com/resource-library

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INSTALLATION SPECIFICATIONS					
Number of Synergy Units per Inverter	2		3		
AC Max Conduit Size	63				mm
AC Wire Cross Section Line/PE (Aluminum or Copper)	95 / 50		120 / 70		mm²
DC Max Conduit Size	2 x 40 mm		3 x 40 mm		
DC Max Wire Cross Section (Copper) / Number of PV Arrays	50 mm² / 2 x PV arrays		50 mm² / 3 x PV arrays		mm²
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				
ADDITIONAL INFORMATION					
Manufacturing Countries	China, Vietnam, Hungary				

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