# Three Phase Inverter with Synergy Technology

## For Australia and New Zealand

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



#### 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

\* Applicable only for DC and AC SPDs

- 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



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	SExxK-AUxxIxxxx					
Applicable to Inverter with Part Number	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					
AC Output Voltage - Line to Neutral Range	176 - 253 ; 184 - 264					
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%					
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					
Inrush current AC (Peak / Duration)	7.2 / 20 10.8 / 20			/ 20	Aac rms / r	
Maximum Residual Current Injection <sup>(1)</sup>	200		300		mA	
Maximum Output Fault Current	109	142	176	213	Aac	
Utility Monitoring, Islanding Protection, Configurable Power Factor,	105			215	7.00	
Country Configurable Thresholds		Y	es			
Total Harmonic Distortion		≤	: 3		%	
Protective Class	Class I					
Overvoltage Category						
Active Anti-Islanding Method	Slip Mode Frequency Shift					
Power Factor Range	1		.8 to 1			
NPUT		, -			1	
Maximum DC Power (Module STC) Inverter / Synergy Unit	87500 / 43750	116550 / 58275	144900 / 48300	175000 / 58300	W	
Transformer-less, Ungrounded	010007 10100			1130007 30300		
Operating Voltage Range DC+ to DC-	Yes 680 - 830					
Minimum Input Voltage DC to Gnd	340					
Maximum Input Voltage DC to Gnd			.15		Vda Vda	
Maximum Input Voltage DC+ to DC-	830					
Maximum Input Current	2 x 36.25	2 x 48.25	3 x 40	3 x 48.25	Vda Ada	
Short Circuit Current From The PV Array per Synergy Unit			.25			
Maximum Back-Feed Current	0					
Overvoltage Category						
Reverse-Polarity Protection	Yes					
Ground-Fault Isolation Detection	167kΩ sensitivity per Synergy Unit <sup>(2)</sup>					
Protective Class	Class I					
Overvoltage Category						
Maximum Inverter Efficiency	98.3					
European Weighted Efficiency	98					
Nighttime Power Consumption	< 8 < 12				% W	
ADDITIONAL FEATURES						
Supported Communication Interfaces <sup>(2)</sup>		2x RS485, Ethernet, Wi-Fi (o	ntional) Cellular (ontional)			
Smart Energy Management	+					
Inverter Commissioning	Export Limitation 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	+				+	
RS485 Surge Protection (ports 1 + 2)	Nighttime, built-in Type II, field replaceable, integrated					
DC Surge Protection	Type II, field replaceable, integrated					
AC Surge Protection	Type II, field replaceable, optional					
DC Disconnect Switch	Provided					
Maximum Altitude	2000					
Inverter Topology	Non-Isolated Photovoltaic Inverter					
Pre-Commissioning <sup>(4)</sup>	Built-in					
		Bul	ic iil			
	I		C2100 2 AC2100			
Safety	IEC-62109-1, IEC-62109-2, AS3100					
Grid Connection Standards <sup>(5)</sup>	AS/NZS4777:2020					
Emissions	IEC61000-6-2, IEC61000-6-3 Class A, IEC61000-3-11, IEC61000-3-12					
RoHS		Ŷ	es			

(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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	SExxK-AUxxIxxxx				
Applicable to Inverter with Part Number	SE50K	SE66.6K	SE82.8K	SE100K	
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		mm <sup>2</sup>
DC Max Conduit Size	2 x 40 mm		3 x 40 mm		
DC Max Wire Cross Section (Copper) / Number of PV Arrays	50 mm <sup>2</sup> / 2	n <sup>2</sup> / 2 x PV arrays 50 mm <sup>2</sup> / 3 x PV arr		x PV arrays	mm <sup>2</sup>
Dimensions (H x W x D)	Synergy Unit: 558 x 328 x 273 Synergy Manager: 360 x 560 x 295				
Weight	Synergy Unit: 32 Synergy Manager: 18				
Operating Temperature Range	-40 to +60 <sup>(6)</sup>				°C
Cooling	Fan (user replaceable)				
Noise	< 67				
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