Three Phase Inverter with Synergy Technology For Europe

SE50K / 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

/ Three Phase Inverter with Synergy Technology

For Europe

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To 400V Grid For 400V Grid <th c<="" th=""><th></th><th></th><th>SExxK-x</th><th>xx0lxxxx</th><th></th><th>SExxK- xxx8lxxxx</th><th></th></th>	<th></th> <th></th> <th>SExxK-x</th> <th>xx0lxxxx</th> <th></th> <th>SExxK- xxx8lxxxx</th> <th></th>			SExxK-x	xx0lxxxx		SExxK- xxx8lxxxx	
Rated AC Active Output Power 50000° 66600 500000 100000 120000 1	Applicable to Inverter with Part Number							
Ratest AC Active Curput Power	OUTPUT					1		
Maximum AC Apparent Output Power 50000° 66600 90000 1000000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 12000000 12000000 12000000 12000000 120000000 12000000 12000000 120000000 120000000 120000000 1200000000 1200000000 1200000000 12000000000 12000000000 120000000000		50000(2)	66600	90000	100000	120000	W	
AC Output Voitage—Line to Line / Line to Neutral (Nominal) 380 / 220 , 480 / 230 488 / 277 V			+	1	1	†	VA	
AC Output Voltage — Line to Line Range / Line to Neutral Range 304 - 437 / 176 - 253; 320 - 460 / 184 - 264 5 432 - 529 / 249 - 305 V		30000		l .	100000	1	Vac	
AC Frequency		304 - 437 / 176 - 253 : 320 - 460 / 184 - 264 5				432 - 529 /	Vac	
Maximum Continuous Output Current (per Phase) 72.5 96.5 130.5 145 A C Output Line Connections 3W + PE. 4W + PE	AC Frequency			50/60 ± 5%			Hz	
AC Output Line Connections 3W + PE, 4W + PE		72.5	96.5	1	1.	45	Aac	
Supported Grids WYE:TN-C, TN-S, TN-C-S, TT, IT; Deltax IT 9 Maximum Residual Current Injection ^(N) 200 300 9 Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds Yes 1 Total Harmonic Distortion \$ 3 3 1 Power Factor Range +/-0.2 to 1 1 1 INPUT Transformer-less, Ungrounded Yes 1 <td></td> <td>. =.0</td> <td></td> <td>l.</td> <td></td> <td></td> <td></td>		. =.0		l.				
Maximum Residual Current Injection 200 300 500			WYF·TN-		Γ· Delta: IT			
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	* *	2		C, 117 3, 117 C 3, 11, 11			mA	
Total Harmonic Distortion	Utility Monitoring, Islanding Protection, Configurable Power Factor,							
Maximum DC Power (Module STC) Inverter / Synergy Unit	, ,			≤ 3			%	
Maximum DC Power (Module STC) Inverter / Synergy Unit 75000 / 37500 100000 / 50000 135000 / 45000 150000 / 50000 180000 / 60000 176000 176000 180000 / 60000 180000 / 60000 1760000 1760000 1760000 1760000 1760000 17600000 17600000 176000000 1760000000 1760000000 17600000000 176000000000000000000000000000000000000	Power Factor Range			+/-0.2 to 1				
Maximum DC Power (Module STC) inverter / Synergy Unit 7500 / 37500 100000 / 50000 135000 / 45000 150000 / 50000 180000 / 60000 1	-						1	
Transformer-less, Ungrounded Maximum Input Voltage DC+ to DC- Operating Voltage Range 680 - 1000 V Operating Voltage Range 880 - 1000 Ves Reverse-Polarity Protection Yes Ground-Fault Isolation Detection 167kC) sensitivity per Synergy Unit* Maximum Inverter Efficiency 98.3 98.1 98.1 98.1 98.1 98.1 98.1 98.1 98.1 98.1 98.1 98.1 98.1 98.1 98.1 98.1 98.1 98.1 98.1 99.1 4ADDITIONAL FEATURES Supported Communication Interfaces* Supported Communication Interfaces* Supported Communication Interfaces* With the SetApp mobile application using built-in Wi-Fi access point for local connection Inverter Commissioning With the SetApp mobile application using built-in Wi-Fi access point for local connection Built-in, user configurable (according to UL16998) Rapid Shutdown Optional (automatic upon AC Gird Disconnect) PID Rectifier Ravies Protection Type II, field replaceable, integrated AC Surge Protection Type II, field replaceable, integrated AC Surge Protection Type II, field replaceable, integrated AC Surge Protection Type II, field replaceable, integrated CC Fuses (Single Pole) DC Fuses (Single Pole) DC Disconnect Switch Optional STANDARD COMPLIANCE Safety ENSOS49-1, ENSOS49-2, VDE-AR-N 4101, VDE V 0126-1-1, CE10-21, CE10-16, TOR Erzeuger Type A-B, G99 Type A-B, G99 (Np) Type A-B, CPR 2019 Emissions ENSOS49-1, ENSOS49-2, VEE-AR-N 4101, VDE V 0126-1-1, CE10-21, CE10-16, TOR Erzeuger Type A-B, G99 Type A-B, G99 (Np) Type A-B, C99 (Np) Type A-B, G99 (Np) Type A-B, G9		75000 / 37500	100000 / 50000	135000 / 45000	150000 / 50000	180000 / 60000	W	
Maximum Input Voltage PC+ to DC-								
Operating Voltage Range Sander	·					Vdo		
Maximum Input Current 2 x 3625 2 x 48.25 3 x 43.5 3 x 48.25 3 x 48.25 A Reverse-Polarity Protection Yes Yes					Vdc			
Reverse-Polarity Protection Yes Ground-Fault Isolation Detection 167kΩ sensitivity per Synergy Unit ⁽⁶⁾ Maximum Inverter Efficiency 98.3 98.1 9 European Weighted Efficiency 98 4 9 Nighttime Power Consumption < 8		2 x 36.25	2 x 48 25		3 x 48 25	3 x 48 25	Ado	
Ground-Fault Isolation Detection Maximum Inverter Efficiency 98.3 98.1 Supported Communication Interfaces Surger Frotection Supported Surger Protection (ports 1 + 2) Surger Protection (ports 1 + 2) Surger Protection Type II, field replaceable, integrated AC Surger Protection Type II, field replaceable, integrated AC Surger Protection Type II, field replaceable, optional DC Fuses (Single Pole) STANDARD COMPLIANCE Safety Serve Surger Fixed Surger Fixed Surger Fixed Fixed Surger Fixed Fixed Fixed Surger Fixed Fix								
Maximum Inverter Efficiency 98.3 Supported Consumption 48 Supported Communication Interfaces® Supported Communication Interfaces Supported Interfaces Supported Interfaces Supported Support			167kC		ny l Init ⁽⁴⁾			
European Weighted Efficiency Nighttime Power Consumption ABDITIONAL FEATURES Supported Communication Interfaces® Supported Communication Interfaces® Semant Energy Management Inverter Commissioning With the SetApp mobile application using built- in Wi-Fi access point for local connection Arc Fault Protection Arc Fault Protection Built-in, user configurable (according to UL1699B) Rapid Shutdown Dispatch (automatic upon AC Grid Disconnect) PID Rectifier Nighttime, built- in R5485 Surge Protection (ports 1 + 2) Type II, field replaceable, integrated AC Surge Protection Type II, field replaceable, integrated AC Surge Protection Type II, field replaceable, optional DC Fuses (Single Pole) DC Disconnect Switch STANDARD COMPLIANCE Safety IEC-62109-1, IEC-62109-2, AS3100 EN50549-1, EN50549-2, VDE-AR-N 4110, VDE-V 0126-1-1, CEI 0-21, CEI 0-16, TOR Erzeuger Typ A+B, G99 (NI) 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					%			
Nighttime Power Consumption Supported Communication Interfaces Support Imitation Export Imitation	,				30	%		
ADDITIONAL FEATURES Supported Communication Interfaces® 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) Rapid Shutdown Optional (automatic upon AC Grid Disconnect) PID Rectifier Nighttine, 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) Type II, field replaceable, optional DC Disconnect Switch Optional STANDARD COMPLIANCE Safety IEC-62109-1, IEC-62109-2, AS3100 EN50549-1, EN50549-2, VDE-AR-N 410, 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, IEC61000-3-11, IEC61000-3-12	, ,					W		
Supported Communication Interfaces ⁽⁵⁾ Smart Energy Management Inverter Commissioning Arc Fault Protection Rapid Shutdown PID Rectifier RS485 Surge Protection (ports 1 + 2) DC Surge Protection AC Surge Protection DC Fuses (Single Pole) DC Disconnect Switch Safety Grid Connection Standards ⁽⁶⁾ Ensissions 2xRS485, Ethernet, Wi-Fi (optional), Cellular (optional) Export limitation Export limitation With the SetApp mobile application using built-in Wi-Fi access point for local connection Built-in, user configurable (according to UL1699B) Optional (automatic upon AC Grid Disconnect) Nighttime, built-in Nighttime, built-in Type II, field replaceable, integrated Type II, field replaceable, integrated AC Surge Protection Type II, field replaceable, optional DC Fuses (Single Pole) DC Disconnect Switch Optional STANDARD COMPLIANCE Safety IEC-62109-1, IEC-62109-2, AS3100 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		L					1	
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AC Surge Protection Type II, field replaceable, optional DC Fuses (Single Pole) DC Disconnect Switch Optional STANDARD COMPLIANCE Safety Grid Connection Standards ⁽⁶⁾ 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								
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DC Disconnect Switch Optional STANDARD COMPLIANCE Safety	·							
STANDARD COMPLIANCE Safety IEC-62109-1, IEC-62109-2, AS3100 Grid Connection Standards ⁽⁶⁾ 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	, ,					+		
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	Emissions	1					1	
					1			

 $⁽¹⁾ Only available in Poland and the UK. Refer to: https://www.solaredge.com/sites/default/files/se_inverters_supported_countries.pdf$

^{(2) 49990} in the UK

⁽³⁾ If an external RCD is required, its trip value must be \geq 200mA for SE50K/SE66.6K; \geq 300mA for SE90K, SE100K, SE120K

⁽⁴⁾ Where permitted by local regulations

⁽S) 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

⁽⁶⁾ For all standards and certificates download, refer to Certifications category on the Resource Library page: https://www.solaredge.com/resource-library

/ Three Phase Inverter with Synergy Technology For Europe

SE50K / SE66.6K / SE90K / SE100K / SE120K

Applicable to Inverter with Part Number	SExxK-xxx0lxxxx				SExxK- xxx8lxxxx	
	SE50K ⁽¹⁾ For 400V Grid	SE66.6K For 400V Grid	SE90K For 400V Grid	SE100K For 400V Grid	SE120K For 480V Grid	
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 mm²; outer diameter 30-50 / 12-20 mm					
DC Input: Inverter / Synergy Unit ⁽⁷⁾⁽⁸⁾	8 / 4 MC4 pairs		12 / 4 MC4 pairs			
	cross section aluminum or co	pairs / 1 pair, up to 50 mm², pper cable, outer 12-20 mm	Gland, 3 pairs / 1 pair, cross section up to 50 mm², aluminum or copper cable , outer diameter 12-20 mm			
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 ⁽⁹⁾			°C		
Cooling	Fan (user replaceable)					
Noise	< 67			dBA		
Protection Rating	IP65 — outdoor and indoor					
Mounting	Brackets provided					

⁽⁷⁾ DC input is available with MC4 or Gland connection under the inverter part number. For more information, contact SolarEdge

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

Accessories - SPDs (purchased separately)			
Accessory	PN		
AC SPD kit for Synergy Manager (5 units per box)	SE-AC-SPD-SM		

⁽⁸⁾ OnlyMC4 connectors manufactured by Staubli are approved for use