INVERTERS

Three Phase Inverter with Synergy Technology

For the 208V Grid for North America

SE43.2KUS / SE50KUS



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 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 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
- 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 Numbers	SExxK-USx2Ixxxx		
	SE43.2KUS	SE50KUS	
OUTPUT			
Rated AC Active Output Power	43200	50000	W
Maximum AC Apparent Output Power	43200	50000	VA
AC Output Line Connections	3W + PE, 4W + PE		
Supported Grids	WYE: TN-C, TN-S, TN-C-S, TT, IT; Delta: IT		
AC Output Voltage Minimum-Nominal-Maximum(1) (L-N)	105-120-132.5		Vac
AC Output Voltage Minimum-Nominal-Maximum(1) (L-L)	183-208-229		Vac
AC Frequency Min-Nom-Max(1)	59.5 - 60 - 60.5		Hz
Maximum Continuous Output Current (per Phase, PF=1)	120	139.5	Aac
GFDI Threshold	1		A
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes		
Total Harmonic Distortion	≤ 3		%
Power Factor Range	+/-0.2 to 1		
INPUT			
Maximum DC Power (Module STC) Inverter / Synergy Unit	64800 / 21600	75000 / 25000	W
Transformer-less, Ungrounded	Yes		
Maximum Input Voltage DC+ to DC-	600		Vdc
Operating Voltage Range	370 - 600		Vdc
Maximum Input Current	3 x 40	3 x 46.5	Adc
Reverse-Polarity Protection	Yes		
Ground-Fault Isolation Detection	167kΩ sensitivity per Synergy Unit(2)		
CEC Weighted Efficiency	97		%
Nighttime Power Consumption	< 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)		
Photovoltaic Rapid Shutdown System	NEC 2014, 2017 and 2020, Built-in		
PID Rectifier	Nighttime, built-in		
RS485 Surge Protection (ports 1+2)	Type II, field replaceable, integrated		
AC, DC Surge Protection	Type II, field replaceable, integrated		
DC Fuses (Single Pole)	25A, integrated		
DC SAFETY SWITCH			
DC Disconnect	Built-in		
STANDARD COMPLIANCE			
Safety	UL1699B, CSA C22.2#107.1, Canadian AFCI according to T.I.L. M-07		
Grid Connection Standards	IEEE 1547, Rule 21, Rule 14 (HI)		
Emissions	FCC part 15 class A		

(1) For other regional settings please contact SolarEdge support
(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

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INSTALLATION SPECIFICATIONS			
Number of Synergy Units per Inverter	3		
AC Max Conduit Size	2 ½"		in
Max AWG Line / PE	4/0 / 1/0		
DC Max Conduit Size	1 x 3" ; 2 x 2"		in
DC Input Inverter / Synergy Unit	12 / 4 pairs; 6-12 AWG		
Dimensions (H x W x D)	Synergy Unit: 22 x 12.9 x 10.75 / 558 x 328 x 273 Synergy Manager: 14.17 x 22.4 x 11.6 / 360 x 560 x 295		in / mm
Weight	Synergy Unit: 70.4 / 32 Synergy Manager: 39.6 / 18		lb / kg
Operating Temperature Range	-40 to +140 / -40 to +60(4)		℉ / ˚C
Cooling	Fan (user replaceable)		
Noise	< 67		dBA
Protection Rating	NEMA 3R		
Mounting	Brackets provided		

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

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