
Single Phase Inverter with HD-Wave Technology

SE2200H, SE3000H, SE3500H, SE3680H,
SE4000H, SE5000H, SE6000H

INVERTERS



Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Record-breaking efficiency
- Extremely small, lightweight and easy to install
- High reliability
- Built-in module-level monitoring
- Outdoor and indoor installation
- Fixed voltage inverter for longer strings
- Advanced safety feature - integrated arc fault protection

/ Single Phase Inverter with HD-Wave Technology

SE2200H, SE3000H, SE3500H, SE3680H, SE4000H, SE5000H, SE6000H

	SE2200H	SE3000H	SE3500H	SE3680H	SE4000H	SE5000H	SE6000H	
APPLICABLE TO INVERTERS WITH PART NUMBER	SEXXXXH-XXXXXBXX4							
OUTPUT								
Rated AC Power Output	2200	3000	3500	3680	4000	5000 ⁽¹⁾	6000	VA
Maximum AC Power Output	2200	3000	3500	3680	4000	5000 ⁽¹⁾	6000	VA
AC Output Voltage (Nominal)	220/230							Vac
AC Output Voltage Range	184 - 264.5							Vac
AC Frequency (Nominal)	50/60 ± 5							Hz
Maximum Continuous Output Current	10	14	16	16	18.5	23	27.5	A
Total Harmonic Distortion (THD)	<3							%
Power Factor	1, adjustable -0.9 to 0.9							
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes							
INPUT								
Maximum DC Power	3400	4650	5425	5700	6200	7750 ⁽²⁾	9300	W
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380							Vdc
Maximum Input Current	6.5	9	10	10.5	11.5	13.5	16.5	Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600kΩ Sensitivity per Unit							
Maximum Inverter Efficiency	99.2							%
European Weighted Efficiency	98.3	98.8				99		%
Nighttime Power Consumption	< 2.5							W
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, Ethernet, Wi-Fi (optional), Cellular (optional), ZigBee (optional)							
Smart Energy Management	Export Limitation							
Inverter Commissioning	With the SetApp mobile application using built in Wi-Fi station for local connection							
Arc Fault Protection	Integrated, User Configurable (According to UL1699B)							
STANDARD COMPLIANCE								
Safety	IEC-62109-1/2							
Grid Connection Standards	IEC61727, IEC62116, EN 50438, VDE-AR-N-4105, VDE 0126-1-1, UTE_C_15-712, G83/2, G59/3, CEI-021, ÖNORM, TF3.2.1, C10-11, NRS 097-2-1							
Emissions	IEC61000-6-2, IEC61000-6-3, IEC61000-3-11, IEC61000-3-12, FCC Part 15 Class B							
INSTALLATION SPECIFICATIONS								
AC Output - Supported Cable Diameter	9-16							mm
AC - Supported Wire Cross Section	1-13							mm ²
DC Input	1 x MC4			2 x MC4 pair				
Dimensions (H x W x D)	280 x 370 x 142							mm
Noise	< 25							dBA
Weight	7.8			9		10.6		kg
Cooling	Natural Convection							
Operating Temperature Range	-40 to +60 ⁽³⁾							°C
Protection Rating	IP65 — Outdoor and Indoor							

⁽¹⁾ 4600VA in Germany

⁽²⁾ 7130VA in Germany

⁽³⁾ Full power up to at least 50°C / 122°F. For power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note.pdf>



Certificate of compliance

Applicant: SolarEdge Technologies Ltd.
1 HaMada Street
Herzliya 4673335
Israel

Product: Photovoltaic (PV) inverter

Model: SE2200H
SE3000H
SE3500H
SE3680H
SE4000H
SE4600H
SE5000H*
SE5000H
SE6000H

Use in accordance with regulations:

Automatic disconnection device with single-phase mains surveillance in accordance with EN50549-1:2019 for photovoltaic systems with a single-phase parallel coupling via an inverter in the public mains supply. The automatic disconnection device is an integral part of the aforementioned inverter.

Applied rules and standards:

EN 50549-1:2019

Requirements for parallel connection of installations with distribution networks - Part 1: Connection to an LV distribution network - Production of installations up to and including Type B

DIN V VDE V 0126-1-1:2006 (4.1 Functional safety)

Automatic disconnection device between a generator and the public low-voltage grid

At the time of issue of this certificate the safety concept of an aforementioned representative product corresponds to the valid safety specifications for the specified use in accordance with regulations.

Report number: 16TH0371-EN50549-1_0

Certification Program: NSOP-0032-DEU-ZE-V01

Certificate number: U19-0662

Date of issue: 2019-12-17



Certification body Bureau Veritas Consumer Products Services Germany GmbH accreditation to DIN EN ISO/IEC 17065

A partial representation of the certificate requires the written approval of Bureau Veritas Consumer Products Services Germany GmbH



Annex to the EN 50549-1 certificate of compliance No. U19-0662

Appendix

Extract from test report according to EN 50549-1

Nr. 16TH0371-EN50549-1_0

Type Approval and declaration of compliance with the requirements of EN 50549-1.

Manufacturer / applicant:	SolarEdge Technologies Ltd. 1 HaMada Street Herzliya 4673335 Israel
Micro-generator Type	Photovoltaic (PV) inverter

	SE2200H	SE3000H	SE3500H	SE3680H
Input DC voltage range [V]	270-480	270-480	270-480	270-480
Input DC current [A]	8,5	11,5	13,5	15
Output AC voltage [V]	230 @ 50Hz / 60Hz (N,PE)	230 @ 50Hz / 60Hz (N,PE)	230 @ 50Hz / 60Hz (N,PE)	230 @ 50Hz / 60Hz (N,PE)
Output AC current [A]	10	14	16	16
Output power [VA]	2200	3000	3500	3680

	SE4000H	SE4600H	SE5000H*	SE5000H
Input DC voltage range [V]	270-480	270-480	270-480	270-480
Input DC current [A]	11	12,5	13,5	13,5
Output AC voltage [V]	230 @ 50Hz / 60Hz (N,PE)	230 @ 50Hz / 60Hz (N,PE)	230 @ 50Hz / 60Hz (N,PE)	230 @ 50Hz / 60Hz (N,PE)
Output AC current [A]	18,5	21	23	23
Output power [VA]	4000	4600	4985	5000

	SE6000H			
Input DC voltage range [V]	270-480			
Input DC current [A]	16,5			
Output AC voltage [V]	230 @ 50Hz / 60Hz (N,PE)			
Output AC current [A]	27,5			
Output power [VA]	6000			

Firmware version	Main DSP software version is 1.130 Aux DSP software version is 2.19
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Measurement period:	2019-10-13 to 2019-12-10
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Description of the structure of the power generation unit:

The power generation unit is equipped with a PV and line-side EMC filter. The power generation unit has no galvanic isolation between DC input and AC output. Output switch-off is performed with single-fault tolerance based on two series-connected relays in line and neutral. This enables a safe disconnection of the power generation unit from the network in case of error.

Appendix

Extract from test report according to EN 50549-1

Nr. 16TH0371-EN50549-1_0

Setting of the interface protection:

Parameter	Min. disconnection time	Max. disconnection time	Min. operate value	Max. operate value	Standard set value
Over voltage (stage 1) ^a	0,1s	600s	1,0V _n	1,3V _n	0,2s/1,2V _n
Over voltage (stage 2)	0,1s	600s	1,0V _n	1,3V _n	0,1s/1,25V _n
Under voltage (stage 1)	0,1s	600s	0,1V _n	1,0V _n	10s/0,2V _n
Under voltage (stage 2)	0,1s	600s	0,1V _n	1,0V _n	3s/0,8V _n
Over frequency	0,1s	600s	1,0f _n	1,2f _n	0,1s/1,03f _n
Over frequency (stage 1)	0,1s	600s	1,0f _n	1,2f _n	0,1s/1,03f _n
Under frequency	0,1s	600s	0,9f _n	1,0f _n	0,1s/0,95f _n
Under frequency (stage 2)	0,1s	600s	0,9f _n	1,0f _n	0,1s/0,95f _n
Reconnection settings for voltage	0,85V _n min, 1,1V _n max Adjustement range Min: 0-1V _n , Max: 1-2V _n				0,85V _n (195,5V) ≤ V ≤ 1,10V _n (253V)
Reconnection settings for frequency	49,5Hz min, 50,2Hz max Adjustement range: Min: 44-50 Hz, Max: 50-66 Hz				49,5Hz ≤ f ≤ 50,2Hz
Reconnection time	60s Adjustement range: 0-600s				≥ 60s
Active power gradient after reconnection	10% Adjustement range: 1-10000%				10%PE _{max} / per minute
Permanent DC-injection	0,5% of rated inverter output current				
Loss of mains according EN 62116 (LoM)	2s				

Note:

^a Over voltage – stage1: 10 min-mean-value corresponding to EN 50160.

The settings of the interface protection are password protected adjustable in the stated range above.

In case the above stated generators are used with an external protection device, the protection settings of the inverters are to be adjusted according to the manufacturer's declaration.

The above stated generators are tested according to the requirements in the EN 50549-1:2019. Any modification that affects the stated tests must be named by the manufacturer/supplier of the product to ensure that the product meets all requirements of the EN 50549-1:2019.

Declaration of Conformity

Applicant: **SolarEdge Technologies LTD**
1 HaMada Street
4673335 Herzeliya
Israel

Product type: Solar Inverter

Model: SE2200H, SE3000H, SE3500H, SE3680H, SE4000H, SE4600H*, SE5000H, SE5000H*, SE6000H

Rating:

Ratings:	SE2200 H	SE3000 H	SE3500 H	SE3680 H	SE4000 H	SE4600* H	SE5000 H	SE5000* H	SE6000 H
Input voltage:	365Vdc-480Vdc								
Input current (max):	8,5A 6,5A**	11,5A 9,0A**	13,5A 10A**	15,0A	11,0A 11,5**	12,5A	13,5A	13,5A	16,5A
Output voltage:	230Vac, 50Hz								
Output current(max):	10A	14A	16A	16A	18,5A	21A	23A	23A	27,5A
Output power(nom, max):	2,2kVA max 2,2kVA nom	3kVA max 3kVA nom	3,5kVA max 3,5kVA nom	4kVA max 3,68 nom	4kVA max 4kVA nom	4,6kVA max 4kVA nom	5kVA max 5kVA nom	4985VA max** 4985 nom**	6kVA max 6kVA nom

A representative test sample of above stated models passed the tests according to:

Standard: IEC 62109-1:2010; IEC 62109-2:2011
EN 62109-1:2010; EN 62109-2:2011

Report no: 16PP115-12, 16PP115-13

Certificate no: 16-170-02

Date of issue: 2017-01-26



Peter Hanses

RCD Information for SolarEdge Inverters

The SolarEdge inverters listed below incorporate a certified internal RCD (Residual Current Device) to protect against possible electrocution and fire hazard in case of a malfunction in the PV array, cables or inverter.

There are 2 trip thresholds for the RCD as required for certification (DIN VDE 0126-1-1). The default value for electrocution protection is 30mA, and for slow rising current it is 300mA.

In addition these inverters by construction cannot feed DC fault current into the installation, as required by IEC 60364-7-712:2002.

In case an additional RCD is required, SolarEdge recommends the use of a type-A RCD. The recommended RCD value is 100mA or 300mA unless a lower value is required by the specific local electric codes. When required by local regulations the use of an RCD type B is permitted, however it is not required by SolarEdge and is not necessary in order to meet IEC 60364-7-712:2002 requirements.

This declaration applied to the following SolarEdge inverters:

Single phase: SE2200, SE3000, SE3500, SE4000, SE4000-16A, SE5000, SE6000, SE2200H, SE3000H, SE3500H, SE3680H, SE4000H, SE5000H, SE6000H, SE1000M, SE1500M, SE2000M

Three phase: SE4k, SE5k, SE7k, SE8k, SE9k, SE10k, SE12.5k, SE15k, SE16k, SE17k, SE25K, SE27.6K, SE33.3K, SE50K, SE55K, SE66.6K, SE82.8K, SE100K

Herzeliya, Israel

December 2 2018

Place

Date

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Meir Adest, VP Core Technologies