Certificate of compliance

Applicant:

SolarEdge Technologies Ltd.
1 HaMada Street
Herzliya 4673335
Israel

Product: **Photovoltaic (PV) inverter and battery inverter**

Model:

Photovoltaic (PV) inverter	Photovoltaic (PV) and Battery inverter
SE3K	**SE5K-RWS**
SE4K	**SE7K-RWS**
SE5K	**SE8K-RWS**
SE6K	**SE10K-RWS**
SE7K	
SE8K	
SE9K	
SE10K	
SE12,5K	
SE15K	
SE16K	
SE17K	

Use in accordance with regulations:

Automatic disconnection device with three-phase mains surveillance in accordance with EN50549-1:2019 for systems with a three-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:	**10TH0222-EN50549-1_0**	**Certification Program:**	**NSOP-0032-DEU-ZE-V01**
Certificate number:	**U19-0683**	**Date of issue:**	**2019-12-20**

Certification body

Holger Schaffer

DAkkS Deutsche Akkreditierungsstelle D-ZE-12024-01-00

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

Appendix

Extract from test report according to EN 50549-1 **Nr. 10TH0222-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			
	SE3K	**SE4K**	**SE5K**	**SE6K**
Input DC voltage range [V]	680 – 950	680 – 950	680 – 950	680 – 950
Input DC current [A]	5	7	8,5	10
Output AC voltage [V]	230 / 400 @ 50Hz / 60Hz (3W,N,PE)	230 / 400 @ 50Hz / 60Hz (3W,N,PE)	230 / 400 @ 50Hz / 60Hz (3W,N,PE)	230 / 400 @ 50Hz / 60Hz (3W,N,PE)
Output AC current [A]	5	6,5	8	10
Output power [VA]	3000	4000	5000	6000
	SE7K	**SE8K**	**SE9K**	**SE10K**
Input DC voltage range [V]	680 – 950	680 – 950	680 – 950	680 – 950
Input DC current [A]	12	13,5	15	16,5
Output AC voltage [V]	230 / 400 @ 50Hz / 60Hz (3W,N,PE)	230 / 400 @ 50Hz / 60Hz (3W,N,PE)	230 / 400 @ 50Hz / 60Hz (3W,N,PE)	230 / 400 @ 50Hz / 60Hz (3W,N,PE)
Output AC current [A]	11,5	13	14,5	16
Output power [VA]	7000	8000	9000	10000
	SE12,5K	**SE15K**	**SE16K**	**SE17K**
Input DC voltage range [V]	680 – 950	680 – 950	680 – 950	680 – 950
Input DC current [A]	21	22	23	23
Output AC voltage [V]	230 / 400 @ 50Hz / 60Hz (3W,N,PE)	230 / 400 @ 50Hz / 60Hz (3W,N,PE)	230 / 400 @ 50Hz / 60Hz (3W,N,PE)	230 / 400 @ 50Hz / 60Hz (3W,N,PE)
Output AC current [A]	20	23	25,5	26
Output power [VA]	12500	15000	16000	17000
Firmware version	Main DSP software version is 1.130 Aux DSP software version is 2.19			

Appendix

Extract from test report according to EN 50549-1 **Nr. 10TH0222-EN50549-1_0**

Micro-generator Type	Photovoltaic (PV) and Battery Inverter			
	SE5K-RWS	**SE7K-RWS**	**SE8K-RWS**	**SE10K-RWS**
Input DC voltage range [V]	680 – 950	680 – 950	680 – 950	680 – 950
Input DC current [A]	8,5	12	13,5	16,5
Output AC voltage [V]	230 / 400 @ 50Hz / 60Hz (3W,N,PE)	230 / 400 @ 50Hz / 60Hz (3W,N,PE)	230 / 400 @ 50Hz / 60Hz (3W,N,PE)	230 / 400 @ 50Hz / 60Hz (3W,N,PE)
Output AC current [A]	8	11,5	13,0	16
Output power [VA]	5000	7000	8000	10000
Battery DC voltage range [V]	40 – 62	40 – 62	40 – 62	40 – 62
Battery DC input current [A]	130	130	130	130
Battery DC input power [W]	5000	5000	5000	5000
Firmware version	Main DSP software version is 1.130 Aux DSP software version is 2.19			
Measurement period:	2015-09-08, 2015-05-30 to 2016-06-03,2017-01-26, 2017-05-05, 2019-10-13 to 2019-12-10			

Description of the structure of the power generation unit:

The power generation unit is equipped with a PV/DC 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 each 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. 10TH0222-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	0,85Vn min, 1,1Vn max Adjustement range Min: 0-1Vn, Max:1-2Vn				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%PEmax / 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.