By the product certificate number / *Por meio do número do certificado do produto* **No. 2621/0429-G4-CER**

Issued to / *Emitido a*:

License holder / *Proprietário da licença*: **SolarEdge Technologies Ltd.**
1 Hamada street, Herzliya Pituach 4673335, Israel

Trademark / *Marca*: solaredge

Factory location / *Direção da fábrica:* **SolarEdge Technologies Ltd.**
2 Hamerkava street, industrial Zone, Tziporit, Israel

It is certified that the product / *Está certificado que o produto*:

Type of product / *Tipo de produto*: **Three-phase photovoltaic inverter /** *Inversor fotovoltaico trifásico*

Model / *Modelo*:		**SE330K**
Technical Data / *Dados técnicos*:	**Rated Power /** *Potência nominal*	**330 kW**
	Rated Voltage / *Tensão nominal*	**690 V_{ac}**
	Rated Frequency / Frequência nominal	**50 Hz**
	Firmware version / Versão do firmware	**2.3.132**
	Number of phases / *Número de fases*	**Three Phase /** *Trifásico* **(3/N/PE)**
	Isolation transformer / *Transformador de isolamento*	**No /** *Não*

Is in compliance with the standard / *Está em conformidade com a norma*:

- **EN 50549-2:2019+AM:2023:** Requirements for generating plants to be connected in parallel with distribution networks - Part 2: Connection to a MV distribution network - Generating plants up to and including Type B. */ Requisitos para centrais eléctricas destinadas a ligação paralela às redes de distribuição - Parte 2: Ligação a uma rede de distribuição MT - Centrais eléctricas até ao tipo B inclusive.*

Is in compliance with the requirements of regulation / *Está em conformidade com os requisitos do regulamento*:

- **EN 50549-10:2022:** Requirements for generating plants to be connected in parallel with distribution networks – Part 10: Tests for conformity assessment of generating units. */ Requisitos para centrais eléctricas destinadas a ligação paralela às redes de distribuição - Parte 10: Ensaios para avaliação da conformidade de unidades geradoras.*

The above-mentioned product is certified according to the standard EN 50549-2:2019+AM:2023 and is valid to be installed in PV generating plants up to and including Type B to be connected to a MV distribution network. The relation between this European Standard with the relevant Article of COMMISSION REGULATION (EU) 2016/631 (NC RfG) is considered as it is indicated in the annex H of the standard EN 50549-2:2019+AM:2023. */ O produto acima mencionado está certificado de acordo com a norma EN 50549-2:2019+AM:2023 e é válido para ser instalado em centrais de produção fotovoltaica até ao Tipo B inclusive destinadas a ligação a uma rede de distribuição MT. A relação entre esta Norma Europeia e o artigo relevante do REGULAMENTO (UE) 2016/631 DA COMISSÃO (NC RfG) é considerada como indicada no anexo H da norma EN 50549-2:2019+AM:2023.*

Aforementioned equipment is certified according to SGS internal procedure PE.T-ECPE-54 according to requirements established on standard UNE-EN ISO/IEC 17065. */ O equipamento acima mencionado é certificado de acordo com o procedimento interno PE.T-ECPE-54 da SGS, em conformidade com os requisitos estabelecidos na norma UNE-EN ISO/IEC 17065.*

This certificate is first issued on 13th August 2024 / *Este certificado é emitido pela primeira vez em 13 de agosto de 2024*
This certificate is valid until the 17th July 2029 / *Este certificado é válido até 17 de julho de 2029*

Madrid, 13th August 2024 / *Madrid, 13 de agosto de 2024*

Daniel Arranz Muñiz
Certification Manager

ANNEX I: EN 50549 PARAMETER TABLE

Clause(s) / subclause(s) of EN 50549-2:2019	Parameter	Remarks/ additional information	Configurable value range	Default value
4.4.2 Operating frequency range	47.0 – 47.5 Hz Duration		0 – 20 s	20s
	47.5 – 48.5 Hz Duration		30 – 90 min	90 min
	48.5 – 49.0 Hz Duration		30 – 90 min	90 min
	49.0 – 51.0 Hz Duration		Not configurable	Unlimited
	51.0 – 51.5 Hz Duration		30 – 90 min	90 min
	51. 5 – 52 Hz Duration		0 – 15 min	15 min
4.4.3 Minimal requirement for active power delivery at underfrequency	Reduction threshold		Not configurable	49,5 Hz
	Maximum reduction rate		Not configurable	10 % P_M/Hz
4.4.4 Continuous operating voltage range	Upper limit		Not configurable	110 % Un
	Lower limit		Not configurable	90 % Un
4.5.2 Rate of change of frequency (ROCOF) immunity	ROCOF withstand capability		Not configurable	2 Hz/s

Clause(s) / subclause(s) of EN 50549-2:2019	Parameter	Remarks/ additional information	Configurable value range	Default value	
4.5.3.2 Under-voltage ride through (UVRT) **Generating plant with non-synchronous generating technology**	Maximum power resumption time		Not configurable	1 s	
	Voltage-Time-Diagram		See Figure 6 of EN 50549-2:2019	Time [s]	U [p.u.]
				0,00	0,05
				0,25	0,05
				3,00	0,85
				180	0,85
				180	0,9
4.5.3.3 Under-voltage ride through (UVRT)	Maximum power resumption time		Not configurable	3 s	
Generating plant with synchronous generating technology	Voltage-TimeDiagram		See Figure 7 of EN 50549-2:2019	Time [s]	U [p.u.]
				N/A	N/A
4.5.4 Over-voltage ride through (OVRT)	Voltage-TimeDiagram		Not configurable see Figure 8 of EN 50549-2:2019	Time [s]	U [p.u.]
				0,0	1,25
				0,1	1,25
				0,1	1,20
				5,0	1,20
				5,0	1,15
				60	1,15
				60	1,10

Clause(s) / subclause(s) of EN 50549-2:2019	Parameter	Remarks/ additional information	Configurable value range	Default value
4.6.1 Power response to overfrequency	Threshold frequency f1		50,2 Hz – 52 Hz	50,2 Hz
	Droop		2 % – 12 %	5 %
	Power reference		P_M | P_{max}	P_{max}, for EESS P_M for other nonsynchronous generating technology
	Intentional delay		0 – 2 s	0s
	Deactivation threshold fstop		50,0 Hz – f1	Deactivated
	Deactivation time tstop		0 – 600 s	-
	Acceptance of staged disconnection		Yes | No	No
4.6.2 Power response to underfrequency	Threshold frequency f1		49,8 Hz – 46 Hz	49,8 Hz
	Droop		2 – 12 %	5 %
	Power reference		P_M | P_{max}	P_{max}
	Intentional delay		0 – 2 s	0 s
4.7.2.2 voltage support by reactive power - Capabilities	Active factor / Reactive power (%Pd) range overexcited		0.1 – 1 / 100 %P_d - 0	0.1 – 1 / 100 %P_d - 0
	Active factor / Reactive power (%Pd) range underexcited		0.1 – 1 / 100 %P_d - 0	0.1 – 1 / 100 %P_d - 0

Clause(s) / subclause(s) of EN 50549-2:2019	Parameter	Remarks/ additional information	Configurable value range	Default value
4.7.2.3 voltage support by reactive power – Control modes	Enabled control mode		Q setp. Q(U) Q(P)	Q set point
4.7.2.3.2 voltage support by reactive power - Set point control modes	Q set point and excitation		0 – 98.8 % PD	0
	cos φ set point and excitation		N/A	N/A
4.7.2.3.3 voltage support by reactive power - Voltage related control modes	Characteristic curve			U (%Un) / Q (%Pn): 93% / +60%; 94% / 0%; 106% / 0%; 107% / -60%
	Time constant		3 s – 60 s	10 s
	Min cos φ		0,0 – 1	0,9
	Lock-in power		0 % – 20 %	Deactivated
	Lock-out power		0 % – 20 %	Deactivated
4.7.2.3.4 voltage support by reactive power - Power related control mode	Characteristic curve			P (%Pn) / Q (%Pn): 15% / +60%; 20% / 0%; 80% / 0%; 85% / -60%
4.7.4.2.1 Voltage support during faults and voltage steps – General	Enabling		Enable | Disable	Disabled
	Static voltage range overvoltage		100 % U_c – 120 % U_c	110 % U_c
	Static voltage range undervoltage		80 % U_c – 100 % U_c	90 % U_c
/ Generating Plant with non-synchronous generator	Insensitivity range of ΔU50per		0 % – 15 %	5 %
	Gradient k1		0 – 6	2
	Gradient k2		0 – 6	2

Clause(s) / subclause(s) of EN 50549-2:2019	Parameter	Remarks/ additional information	Configurable value range	Default value
4.7.4.2.1.2 Optional Modes / Generating Plant with non-synchronous generator	Active power priority		N/A	N/A
	Reactive current limitation [% rated current]		0 % - 100 %	Disable
	Zero current threshold		0 % - 100 %	Disable
4.7.4.2.2 Zero current mode for converter connected generating technology / Generating Plant with non-synchronous generator	Enabling		Enable | Disable	Disable
	Static voltage range overvoltage		100 % Un – 120 % U_n	120 % U_n
	Static voltage range undervoltage		20 % U_n – 100 % U_n	50 % U_n
4.9.3 Requirements on voltage and frequency protection	Threshold for protection as dedicated device [in A or kW. kVA]		N/A	
	Undervoltage threshold stage 1		N/A	
	Undervoltage operate time stage 1		N/A	
	Undervoltage threshold stage 2		N/A	
	Undervoltage operate time stage 2		N/A	
	Overvoltage threshold stage 1		N/A	
	Overvoltage operate time stage 1		N/A	
	Overvoltage threshold stage 2		N/A	
	Overvoltage operate time stage 2		N/A	

Clause(s) / subclause(s) of EN 50549-2:2019	Parameter	Remarks/ additional information	Configurable value range	Default value
4.9.3 Requirements on voltage and frequency protection	Overvoltage threshold 10 min mean protection		N/A	
	Underfrequency threshold stage 1		N/A	
	Underfrequency operate time stage 1		N/A	
	Underfrequency threshold stage 2		N/A	
	Underfrequency operate time stage 2		N/A	
	Overfrequency threshold stage 1		N/A	
	Overfrequency operate time stage 1		N/A	
	Overfrequency threshold stage 2		N/A	
	Overfrequency operate time stage 2		N/A	
4.10.2 Automatic reconnection after tripping	Lower frequency		47,0 Hz – 50,0 Hz	49,5 Hz
	Upper frequency		50,0 Hz – 52,0 Hz	50,2 Hz
	Lower voltage		50 % U_c – 100 % U_c	90 % U_c
	Upper voltage		100 % U_c – 120 % U_c	110 % U_c
	Observation time		10 s – 600 s	60 s
	Active power increase gradient		6 % - 3000 %/min	10 %/min
4.10.3 Starting to generate electrical power	Lower frequency	Connection and reconnection Will be performed by an external device	47,0 Hz – 50,0 Hz	49,5 Hz
	Upper frequency		50,0 Hz – 52,0 Hz	50,1 Hz
	Lower voltage		50 % U_c – 100 % U_c	90 % U_c
	Upper voltage		100 % U_c – 120 % U_c	110 % U_c
	Observation time		10 s – 600 s	60 s
	Active power increase gradient		6 % - 3000 %/min	Disabled
4.11.1 Ceasing active power	Activation option		Digital input / Modbus	
4.11.2 Reduction of active power on set point	Activation option		Digital input / Modbus	
4.12 Remote information exchange	Available communication standards	Remote information exchange shall be evaluated according to requirements of DSO/TSO or other interested parties	N/A	