Certificate of Conformity

By the product certificate number: **No. 2622/0478-B/E2-CER**

Issued to:

License holder: **Victron Energy B.V.**
De Paal 35, 1351JG, Almere, Netherlands

Trademark: victron energy BLUE POWER

Contract number: **803947**
803948

It is certified that the product:

Type of product: Inverter/Charger with UPS functionality

Models:		**MultiPlus-II 48/8000/110-100 230V**	**MultiPlus-II 48/10000/140-100 230V**	**MultiPlus-II 48/15000/200-100 230V**
Rated characteristics:	**Rated Power**	**8 kVA / 6.4 kW**	**10 kVA / 8 kW**	**15.0 kVA / 12.0 kW**
	Rated input votage	**187-250 V_{ac}**	**220-265 V_{ac}**	**187-250 V_{ac}**
	Rated Voltage		**DC input: 38-66 V_{dc} AC output: 220-240 V_{ac} DC output: 48 V_{dc}**	
	Rated Frequency		**50 / 60 Hz**	
	Firmware version	**2682558**	**2683558**	**2684558**
	Number of phases		**Single Phase (L/N/PE)**	
	Isolation transformer		**Yes**	

Is in compliance with standard:

- **EN 50549-1: 2019 + AC:2019 + A1:2023** *"Requirements for generating plants to be connected in parallel with distribution networks" – Part 1: Connection to a LV Distribution Network - Generating Plants up to and including type B. (1)*

Is in compliance with the requirements of regulation:

- **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.

This certificate just covers PV inverters models certified below above-mentioned references to be installed in PV generating of plants type B to be connected to a LV distribution network.

The above-mentioned product is certified according to the standard EN 50549-1: 2019+AC:2019+A1:2023 and is valid to be installed in generating plants up to and including Type B to be connected to a LV 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 50549-1: 2019+AC:2019+A1:2023.

(1) Equipment considered to be connected to power generating plants of Type A (< 1 MW) to the low voltage grid (≤1kV).

The above-mentioned generating unit is certified according to the SGS internal procedure PE.T-ECPE-53 based on the requirements of the UNE-EN ISO / IEC 17065.

This certificate replaces certificate no. 2622/0478-B/E1-CER.

This certificate is first issued on 25th January 2024.
This certificate is valid until the 25th July 2028.

Madrid, 11th June 2026

Daniel Arranz Muñiz
Certification Manager

ANNEX I: EN 50549-1 PARAMETER TABLE:

Clause(s) / subclause(s) of EN 50549-1: 2019+AM1 2023	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	30 min
	48.5 – 49.0 Hz Duration		30 – 90 min	30 min
	49.0 – 51.0 Hz Duration		Not configurable	Unlimited
	51.0 – 51.5 Hz Duration		30 – 90 min	30 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	0 % Pm/Hz
4.4.4 Continuous operating voltage range	Upper limit		Not configurable	110 % Un
	Lower limit		Not configurable	85 % Un, 90% Uc
4.5.2 Rate of change of frequency (ROCOF) immunity	ROCOF withstand capability (defined with a sliding measurement window of 500 ms) non-synchronous generating technology: synchronous generating technology:		Not configurable	2 Hz/s 1 Hz/s

Clause(s) / subclause(s) of EN 50549-1: 2019+AM1 2023	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 50549-1:2019 and EN 50549-2:2019	Time [s]	U [p.u.]
				0.0	0.2
				0.15	0.2
				1.5	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 50549-1:2019 and EN 50549-2:2019	Time [s]	U [p.u.]
				0.0	0.3
				0.15	0.3
				0.15	0.7
				0.7	0.7
				1.5	0.85
				180	0.85
				180	0.9
4.5.4 Over-voltage ride through (OVRT)	Voltage-TimeDiagram		Not configurable see Figure 8 of EN 50549-1:2019 and 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
				60.0	1.15
				60.0	1.10
4.5.5 Phase jump immunity			40º - 180º	40º	

Clause(s) / subclause(s) of EN 50549-1: 2019+AM1 2023	Parameter	Remarks/ additional information	Configurable value range	Default value
4.6.1 Power response to overfrequency	Threshold frequency f1		50.2 Hz – 52.0 Hz	50.2 Hz
	Droop		2 % – 12 %	5 %
	Power reference		P_M | P_{max}	Pmax = 8 kW
	Intentional delay		0 – 2 s	0 s
	Deactivation threshold fstop		50.0 Hz – f1	Deactivated
	Deactivation time tstop		0 – 600 s	0 s
	Acceptance of staged disconnection		Yes | No	No
4.6.2 Power response to underfrequency	Threshold frequency f1		49.8 Hz – 46.0 Hz	49.8 Hz
	Droop		2 – 12 %	5 %
	Power reference		P_M | P_{max}	Pmax = 8 kW
	Intentional delay		0 – 2 s	0 s
4.7.2.2 voltage support by reactive power - Capabilities	Active factor / Reactive power (%Pd) range overexcited		0.9 – 1.0 / 48 %Pd - 0	1.0 / 0%P_d
	Active factor / Reactive power (%Pd) range underexcited		0.9 – 1 / 48 %Pd - 0	1.0 / 0%P_d

Clause(s) / subclause(s) of EN 50549-1: 2019+AM1 2023	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) cos φ (P) P(U)	Q set point
4.7.2.3.2 voltage support by reactive power - Set point control modes	Q set point and excitation		0 – 48 % P_D 0 – 33 %P_D	0
	cos φ set point and excitation		0.8-1.0	1.0
4.7.2.3.3 voltage support by reactive power - Voltage related control modes	Characteristic curve	Setting (a)	$Q_{max\ char\ over\ \&\ under}$ = 0 to ±60%Q_{max} Steepness = 0 - 20%Q_{max}/1%U_n	$Q_{max\ char\ over}$ = +10%Q_{max} Steepness = 1%Q_{max}/1%U_n $Q_{max\ char\ under}$ = 10%Q_{max}
	Time constant	Setting (a)	1 s – 60 s	20 s
	Min cos φ	Setting (a)	0.8 – 1.0	Deactivated
	Lock-in power	Setting (a)	0 % – 20 %	20 %Pn
	Lock-out power	Setting (a)	0 % – 20 %	5 %Pn
4.7.2.3.4 voltage support by reactive power - Power related control mode	Characteristic curve	Setting (a)	0.8-1.0 cos φ	Point 1 = 20%Pn=1.0 cos φ Point 2 = 50%Pn=1.0 cos φ Point 3 = 70%Pn= - 0.92 cos φ Point 4 = 100%Pn= -0.8 cos φ
	Time constant	Setting (a)	1 s – 60 s	3 s
	Lock-in power	Setting (a)	0 % - 20 %	Deactivated
	Lock-out power	Setting (a)	0 % - 20 %	Deactivated

Clause(s) / subclause(s) of EN 50549-1: 2019+AM1 2023	Parameter	Remarks/ additional information	Configurable value range	Default value
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 % U_n – 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]		--	--
	Undervoltage threshold stage 1		0.78 Un – 1.0 Un	0.85 U_n
	Undervoltage operate time stage 1		0.0 s – 200 s	0.5 s
	Undervoltage threshold stage 2		0.78 U_n – 1.0 U_n	0.8 U_n
	Undervoltage operate time stage 2		0.0 s – 6.5 s	0.2 s
	Overvoltage threshold stage 1		1.0 U_n – 1.15 U_n	1.15 U_n
	Overvoltage operate time stage 1		0.0 s – 200 s	0.5 s
	Overvoltage threshold stage 2		1.0 U_n – 1.15 U_n	1.15 U_n
	Overvoltage operate time stage 2		0.0 s – 6.5 s	0.2 s
	Overvoltage threshold 10 min mean protection		1.0 U_n – 1.25 U_n	1.10 U_n
	Underfrequency threshold stage 1		45.1 Hz– 50.0 Hz	47.5 Hz
	Underfrequency operate time stage 1		0.0 s – 200 s	30 s
	Underfrequency threshold stage 2		45.1 Hz – 50.0 Hz	47.0 Hz
	Underfrequency operate time stage 2		0.0 s – 6.5 s	0.2 s
	Overfrequency threshold stage 1		50.0 Hz – 54.9 Hz	52.7 Hz
	Overfrequency operate time stage 1		0.0 s – 200 s	30 s
	Overfrequency threshold stage 2		50.0 Hz – 54.9 Hz	53.0 Hz
	Overfrequency operate time stage 2		0.0 s – 6.5 s	0.2 s

Clause(s) / subclause(s) of EN 50549-1: 2019+AM1 2023	Parameter	Remarks/ additional information	Configurable value range	Default value
4.10.2 Automatic reconnection after tripping	Lower frequency		45.0 Hz – 50.0 Hz	49.5 Hz
	Upper frequency		50.0 Hz – 55.0 Hz	50.2 Hz
	Lower voltage		78 % – 100 % Un	85 % U_n
	Upper voltage		100 % – 130 % Un	110 % U_n
	Observation time		15 s – 1200 s	60 s
	Active power increase gradient		5 % – instantaneous	10 % /min
4.10.3 Starting to generate electrical power	Lower frequency	Connection and reconnection Will be performed by an external device	45.0 Hz – 50.0 Hz	49.5 Hz
	Upper frequency		50.0 Hz – 55.0 Hz	50.1 Hz
	Lower voltage		78 % – 100 % Un	85 % U_n
	Upper voltage		100 % – 130 % Un	110 % U_n
	Observation time		15 s – 1200 s	60 s
	Active power increase gradient		5 % – instantaneous	instantaneous
4.11.1 Ceasing active power	Activation option		PASS	
4.11.2 Reduction of active power on set point	Activation option		PASS	
4.12 Remote information exchange	Available communication standards		N/A	