

Verification No.: VLS2A25071402EGDE03

Date of issue: 2025-09-22

Applicant:	Efficient Energy Technology GmbH Annenstraße 23 8020 Graz Austria			
Device Category:	Inverter			
Device Type:	Storage Inverter			
PGM categories:	☒ Typ A	☐ Typ B	☐ Typ C	☐ Typ D
Model(s):	SM-30-B0			
Trademark:	SolMate			
Technical data:	Product family: 800W (For further details see A.2 Technical data of the power generating unit(s) on p.2)			
Firmware version:	0.2.4-rf24			
Grid connection code:	[1] VDE-AR-N 4105:2018-11 Power generation systems connected to the low-voltage distribution network. Technical minimum requirements for the connection to and parallel operation with low-voltage distribution networks.			
Testing standard:	[2] DIN VDE V 0124-100(VDEV0124-100):2020-06 Grid integration of power generation systems-low voltage Test requirements for power generation units to be connected and operated parallel with the low- voltage distribution networks The above-mentioned grid and plant protection has been tested and certified according to the test guideline VDE 0124-100. The electrical properties required in the connection rule are satisfied. - Setting values and disconnect times - Properly functioning functional chain "NS-protection -interface switch" - Technical requirements of the switching device - Integrated interface switch that can also be used in conjunction with a central interface protection relay (VDE-AR-N 4105:2018-11, 6.4.1) - Active detection of unintended islanding - Single-fault tolerance The certificate contains the following information: - Technical specifications of the NS protection and corresponding power generation types - Setting values of the protection functions - Trip values of the protection functions			
Test report no.:	[3] LS2A25071402EGDE03			

This verification confirms that the above-mentioned generating unit(s) with corresponding software meet the requirements of the referenced grid connection code at the time the tests were conducted.

This certificate relates to type testing and does not imply LYNS's endorsement, approval, certification or on-going control of the product(s), either in terms of performance, design, manufacture or materials used. This certificate and the results stated herein relate solely to the sample product(s) tested and to the specific tests undertaken.

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Jack Shi

Sr. Project Manager

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A.1 Revision history of the certificate

Rev. No.	Date	Changes	Status
0 (VLS2A25071402EGDE02)	2025-09-22	Initial issue	Active

A.2 Technical data of the power generating unit(s)

Model/Type reference	SM-30-B0
PV Input	
Rated Voltage [V].....	51.2
Capacity	2,304KWh (2,560KWh,90%DOD)
Battery Type	LiFePO ₄
Firmware version of the BMS.....	72
AC Output	
Nominal output AC voltage [V].....	230 (L + N + PE, 50/60Hz)
Nominal Output Current [A].....	3.48
Nominal output power [W]:	800
Max. apparent output power [VA]	880
Nominal input power [W]:	2500
Nominal input Current [A].....	10.9
Software version	0.2.4-rf24
Operating temperature range	-20°C ~ +55°C
Degree of protection	IP65 (according to IEC 60529)
Protection class	I (according to IEC 62109-1)
Type of internal transformer	internal transformer (transformer)
Firmware version	0.2.4-rf24
Manufacturer	Hamedata Technology Co.,Limited 1-3F & 6-8F, BLDG#A, Changfang Industrial Park, No.2 Guihua 5th Road, Pingshan District, Shenzhen, Guangdong, China
Testing laboratory	Lyns-tci Technology Guangdong Co., Ltd. Room 1201, Unit 2, Building 18, No. 7, Science and Technology Boulevard, Houjie Town, Dongguan City, Guangdong, 523960 P.R. China (Accredited acc. ISO/IEC 17025: A2LA Accreditation no. 5200.02)
Testing location	Same as above
Date(s) of performance of tests	2025-07-22 to 2025-09-21

A.3 E.6 and E.7 Requirements for the test report for the NS protection

NS protection as integrated NS protection			
Type of grid and plant protection:	integrated NS protection		
Integrated interface switch:	Type of switching equipment: Relay: HF140FF-G		
Protection function	Setting value	Trip value	Disconnection time ^a
Voltage drop protection U <	184.0 V	183.1 V	3.043 s
Voltage drop protection U <<	103.5 V	102.9 V	0.330 s
Rise-in-voltage protection U>	253.0 V	257.7 V	475 s ^b
Rise-in-voltage protection U>>	287.5 V	287.6 V	0.152 s
Frequency decrease protection f<	47.50 Hz	47.47Hz	0.149 s
Frequency increase protection f>	51.50 Hz	51.52 Hz	0.134 s
^a Proper time of interface switch 10 ms ^b Longest disconnection of the rise-in-voltage protection as a moving 10-minute-average, tested according clause 5.5.7 Protection devices and protection settings of VDE 0124-100 The disconnect time (sum of trip time of grid and plant protection and delay time of interface switch) must not exceed 200 ms. A check of the overall functional chain "NS protection - interface switch" resulted in a successful disconnection. The above-mentioned grid and plant protection with the assigned power generation units has met the requirements for islanding detection with the help of the active method (resonant circuit test). The above-mentioned NS protection meet the requirements for synchronization.			