

Certificate

Hoymiles Power Electronics Inc.
No. 18 Kangjing Road, Hangzhou,
Zhejiang Province, P.R. China

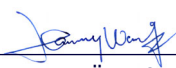
Type of unit	PV Microinverter	
Description of unit	MIT-4000-8TL, MIT-4000-8T, MIT-4500-8TL, MIT-4500-8T, MIT-5000-8TL, MIT-5000-8T, MIT-5500-12T, MIT-6000-12T	
Technical data	Detail see the ANNEX	
Certification scheme	P30VA01 Rev. 09/11.24	TÜV NORD: Certification Process for Grid Integration Certification
Standard	VDE-AR-N 4105 2018-11	Generators connected to the low-voltage distribution network- Technical requirements for the connection to and parallel operation with low- voltage distribution networks
Additional standards	DIN VDE V 0124-100 2020-06	Grid integration of generator plants - Low-voltage - Test requirements for generator units to be connected to and operated in parallel with low-voltage distribution networks

The generating unit complies with the requirements contained in the certification programmes and standards and directives listed above, with restrictions. Further details and technical data can be found in the annex 1, consisting of 6 pages.

Certificate Registration No. 44 798 23053438
Audit Report No. 3539 3429

Valid from 2025-04-23
Type 1a Certificate

Essen, 2025-04-23


Certification Body at TÜV NORD CERT GmbH

TÜV NORD CERT GmbH
Am TÜV 1, 45307 Essen
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TÜV®



Annex

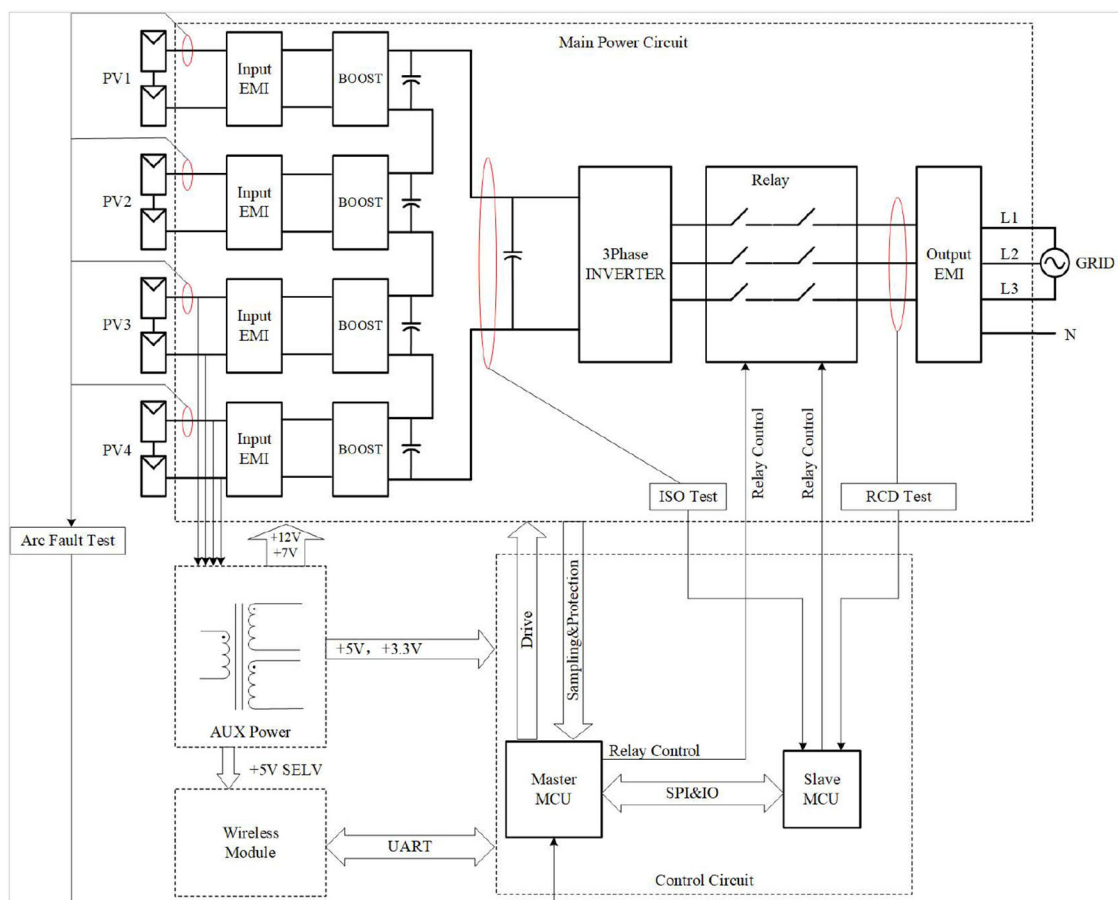
to Certificate Registration No. 44 798 23053438

VDE-AR-N 4105: 2018-11

DIN VDE V 0124-100: 2020-06

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Schematic structure



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VDE-AR-N 4105: 2018-11

DIN VDE V 0124-100: 2020-06

Technical Data

General Information

General			
Type of EZE	Type 2 / PV Microinverter		
Designation	MIT-4000-8TL	MIT-4500-8TL	MIT-5000-8TL
On-grid variables			
Rated apparent power S_{rE}	4000VA 4000VA(max)	4500VA 4500VA(max)	5000VA 5000VA(max)
Rated effective power P_{rE}	4000W 4000W(max)	4500W 4500W(max)	5000W 5000W(max)
Max. effective power P_{Emax}	3967.04W (0.992 P_{Emax})	4480.49W (0.996 P_{Emax})	5002.81W (1.001 P_{Emax})
Max. apparent power S_{Emax}	4052.13VA (1.013 S_{Emax})	4583.21VA (1.018 S_{Emax})	5092.5VA (1.019 S_{Emax})
Rated voltage U_r	230/400V, 3L/N/PE		
Rated current I_r	5.79A	6.52A	7.25A
Initial short-circuit alternating current I''_k	5.79A	6.52A	7.25A
Reactive power adjustment range $\cos \varphi$	>0.99(Default), 0.8 leading ... 0.8 lagging		
Rated frequency f_n	50/60Hz		
PV – Input Variables			
Min. MPP voltage	12V		
Max. MPP voltage	120V		
Max. DC input voltage	120V		

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DIN VDE V 0124-100: 2020-06

Number of MPPT	4
Max. input current	4*20A
Isc PV	4*25A
DC – Input variables	
Type / MOS module	H1M120W120
Quantity DC Link Capacitor	6
Clock frequency	120MHz
Type of power control	SPWM
Max. Output current (only for MOS)	24.5A
Software versions	Main: V1.1.12, Salve: V1.1.08
Generation unit Control	
Manufacturer	Hoymiles Power Electronics Inc.
Software version	Main: V1.1.12, Salve: V1.1.08
Protection device	
Manufacturer	Xiamen Hongfa Electroacoustic Co., Ltd
Type	Integrated guard
Switch-off unit (AC)	HF140FF
Software versions	Main: V1.1.12, Salve: V1.1.08

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VDE-AR-N 4105: 2018-11

DIN VDE V 0124-100: 2020-06

General					
Type of EZE	Type 2 / PV Microinverter				
Designation	MIT-4000-8T	MIT-4500-8T	MIT-5000-8T	MIT-5500-12T	MIT-6000-12T
On-grid variables					
Rated apparent power S_{rE}	4000VA 4000VA(max)	4500VA 4500VA(max)	5000VA 5000VA(max)	5500VA 5500VA(max)	6000VA 6000VA(max)
Rated effective power P_{rE}	4000W 4000W(max)	4500W 4500W(max)	5000W 5000W(max)	5500W 5500W(max)	6000W 6000W(max)
Max. effective power P_{Emax}	3967.04W (0.992 P_{Emax})	4480.49W (0.996 P_{Emax})	5002.81W (1.001 P_{Emax})	5506.79W (1.001 P_{Emax})	5962.77W (0.994 P_{Emax})
Max. apparent power S_{Emax}	4052.13VA (1.013 S_{Emax})	4583.21VA (1.018 S_{Emax})	5092.50VA (1.019 S_{Emax})	5603.65VA (1.019 S_{Emax})	6114.04VA (1.019 S_{Emax})
Rated voltage U_r	230/400V, 3L/N/PE				
Rated current I_r	5.79A	6.52A	7.25A	7.97A	8.70A
Initial short-circuit alternating current I''_k	5.79A	6.52A	7.25A	7.97A	8.70A
Reactive power adjustment range $\cos \varphi$	>0.99(Default), 0.8 leading ... 0.8 lagging				
Rated frequency f_n	50/60Hz				
PV – Input Variables					
Min. MPP voltage	12V				
Max. MPP voltage	136V			160V	
Max. DC input voltage	140V			168V	
Number of MPPT	4				
Max. input current	4*20A				
Isc PV	4*25A				

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VDE-AR-N 4105: 2018-11

DIN VDE V 0124-100: 2020-06

DC – Input variables	
Type / MOS module	H1M120W120
Quantity DC Link Capacitor	6
Clock frequency	120MHz
Type of power control	SPWM
Max. Output current (only for IGBT)	24.5A
Software versions	Main: V1.1.12, Salve: V1.1.08
Generation unit Control	
Manufacturer	Hoymiles Power Electronics Inc.
Software version	Main: V1.1.12, Salve: V1.1.08
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Notes

The manufacturer has proven for the manufacturing facility of the Unit a certification of its quality management system according to ISO 9001. The manufacturer confirmed in a manufacturer declaration that the certification of the management system will be valid parallel to the period of this unit certification.

Additional technical data, according to VDE-AR-N 4105, are given in the assessment report (appendix A1).

The use of other firmware and software version numbers is allowed if the differences are proved and confirmed by TÜV NORD CERT GmbH beforehand. Validity of a new software version is attested by written confirmation and becomes part of the certificate.

The inverter has an integrated tie breaker and no central tie breaker. The specifications of VDE-AR-N 4105 for central NA protection in combinations with central or integrated tie switches must be observed and implemented at the level of the generating plant.

Restrictions

Please note that the PV Microinverter does not have a display. As a result, the protection settings of the decoupling protection and the connection conditions cannot be read or set via a display on the component. As a result, a readout function must be implemented on the PGU.

Appendix to the certificate

A1 Assessment report no. 35393429 version V1.0

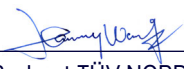
A2 Extract from the test report (according to VDE-AR-N 4105 annex E.7)
Dongguan BALUN Testing Technology Co., Ltd., extract No. BL-DG2530186-201 A1 from
Mar. 25, 2025

A3 Extract from the test report (according to VDE-AR-N 4105 annex E.5)
Dongguan BALUN Testing Technology Co., Ltd., extract No. BL-DG2530186-201 A2 from
Mar. 25, 2025

A4 Manufacturer declaration for MIT-XXXX-8T Series from Mar. 12, 2025

End of the List

Essen, 2025-04-23


Certification Body at TÜV NORD CERT GmbH