C E R T I F I C A T E

of Conformity

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Registration No.:   A3 50716312 0001

Report No.:   CN25LI3C 001

Holder:

MEAN WELL Enterprises Co., Ltd.
No. 28, Wuquan 3rd Rd.,
Wugu District,
New Taipei City 24891
Taiwan

Product:

Power Conversion Equipment
(AC DC Bidirectional Power Supply)

Identification:

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Type Designation:
BIC-5K-24, BIC-5K-48, BIC-5K-96, BIC-5K-380,
BIC-5K-24MOD, BIC-5K-48MOD, BIC-5K-96MOD, BIC-5K-380MOD
Firmware version: R010
Remark : Refer to test report CN25LI3C 001 for detail.
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Tested acc. to: EN 50549-1:2019+A1
EN 50549-10:2022

The certificate of conformity refers to the above mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

Durch die DAkkS nach
DIN EN ISO/IEC 17065:2013
akkreditierte Zertifizierungsstelle.
Die Akkreditierung gilt nur für den in der
Urkundenanlage D-ZE-14169-01-02
aufgeführten Akkreditierungsumfang.

Certification Body

Dean Cao

Date   13.02.2026

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

10/020 d 04.08 ®   TÜV, TUEV and TUV are registered trademarks. Utilisation and application requires prior approval.

Certificate Of Conformity

License holder:	MEAN WELL Enterprises Co., Ltd. No. 28, Wuquan 3rd Rd., 248 Wugu Dist., New Taipei City, Taiwan
Type of product:	Power Conversion Equipment (AC DC Bidirectional Power Supply)
Model:	BIC-5K-24, BIC-5K-48, BIC-5K-96, BIC-5K-380, BIC-5K-24MOD, BIC-5K-48MOD, BIC-5K-96MOD, BIC-5K-380MOD
Firmware version:	R010
Standard:	**EN 50549-1:2019+A1** 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 **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
Report No.:	CN25LI3C 001
Date of issue:	13.02.2026
Remark:	In case of voltage below 95% Un (220 Vac), the apparent power of power unit will reduce to maintain the current limit. To reach full power on plant level, the permanent power derating or redundant amount of units could be implemented.

The verification of conformity refers to the above mentioned product. This is to verify that the specimen is in conformity with the assessment requirement mentioned above. This verification does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

Dean Cao

Certifier

TÜV Rheinland LGA Products GmbH
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EN 50549-1:2019+A1 Annex C Parameter Table

Clause(s) / sub-clause(s) of EN 50549-1:2019+A1	Parameter [a]	Remarks / additional information [b]	Typical value range	Value default	
4.4.2 Operating frequency range	47,0 – 47,5 Hz Duration	Unlimited	0 – 20 s	0 s	
	47,5 – 48,5 Hz Duration	Unlimited	30 – 90 min	30 min	
	48,5 – 49,0 Hz Duration	Unlimited	30 – 90 min	30 min	
	49,0 -51,0 Hz Duration	Unlimited	not configurable	unlimited	
	51,0 – 51,5 Hz Duration	Unlimited	30 – 90 min	30 min	
	51, 5 – 52 Hz Duration	Unlimited	0 – 15 min	0 s	
4.4.3 Minimal requirement for active power delivery at underfrequency	Reduction threshold	Not configurable	49 Hz – 49,5 Hz	49,5 Hz	
	Maximum reduction rate	No reduction ($\leq 2\% P_M / Hz$)	2– 10 % PM/Hz	$\leq 10\% P_M / Hz$	
4.4.4 Continuous operating voltage range	Upper limit	110% U_n	not configurable	110% U_n	
	Lower limit	85% U_n	not configurable	85% U_n	
4.5.2 Rate of change of frequency (ROCOF) immunity	ROCOF withstand capability (defined with a sliding measurement window of 500 ms)	Up to ± 3.5 Hz/s	not defined	± 2 Hz/s	
4.5.3.2 Generating plant with non-synchronous generating technology	Maximum power resumption time	Not configurable	not defined	1 s	
	Voltage-Time-Diagram	Configurable (Most stringent requirement)	see Figure 6	Time [s]	U [p.u.]
				0,0	0,2
				0,15	0,2
				1,5	0,85
4.5.4 Over-voltage ride through (OVRT)	Maximum power resumption time	Not configurable	Not configurable	1 s	
	Voltage-Time-Diagram	Configurable (Default requirement)	not configurable	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) / sub-clause(s) of EN 50549-1:2019+A1	Parameter [a]	Remarks / additional information [b]	Typical value range	Value default
4.5.5 Phase jump immunity	Phase jump immunity	Not configurable (Up to ± 180°)	Not configurable	± 50°
4.6.1 Power response to over frequency	Threshold frequency f_1	Configurable	50,2 Hz – 52 Hz	50,2 Hz
	Droop	Configurable	2% – 12%	5%
	Power reference	Not configurable (P_{max})	P_M | P_{max}	P_{max}, for synchronous generating technology and EESS P_M for other non-synchronous generating technology
	Intentional delay	Configurable	0 – 2 s	0 s
	Deactivation threshold f_{stop}	Configurable	50,0 Hz – f_1	deactivated
	Deactivation time t_{stop}	Configurable	0 – 600 s	--
	Acceptance of staged disconnection	Not configurable	yes | no	yes
4.6.2 Power response to underfrequency	Threshold frequency f_1	Configurable	49,8 Hz – 46 Hz	49,8 Hz
	Droop	Configurable	2% – 12%	5%
	Power reference	Not configurable (P_{max})	P_M | P_{max}	P_{max}
	Intentional delay	Configurable	0 – 2 s	0 s
4.7.2.2 Capabilities	Active factor / Reactive power (%P_D) range overexcited	0,9 – 1 / 43.6% P_n – 0	0,9 – 1 / 48.4% P_D – 0	0,9 – 1 / 43.6% P_n – 0
	Active factor / Reactive power (%P_D) range underexcited	0,9 – 1 / -43.6% P_n – 0	0,9 – 1 / -48.4% P_D – 0	0,9 – 1 / -43.6% P_n – 0
4.7.2.3 Control modes	Enabled control mode	Configurable Q setp. Q(U) Q(P) cos φ setp. cos φ (P)	Q setp. Q(U) cos φ setp. cos φ (P)	Q setpoint
4.7.2.3.2 Setpoint control modes	Q setpoint and excitation	Configurable	0 – 48.4% P_D	0
	Cos φ set point and excitation (ov and uv)	Configurable	1 – 0,9	1
	Time constant (τ)	Configurable (3 – 60 s)	3 s – 60 s	3,33 s

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Clause(s) / sub-clause(s) of EN 50549-1:2019+A1	Parameter [a]	Remarks / additional information [b]	Typical value range	Value default
4.7.2.3.3 Voltage related control modes	Characteristic curve	Configurable Q(U)	D_{bchar}: -6% to +6 % U_n $Q_{max\ char}$: 10% – 100% of $Q_{max\ over}$ and $Q_{max\ under}$ Slope of the steepest: 1% – 100% Q_{max} / 1% U_n	indicate default characteristic (Figure 33 of EN 50549-10)
	Time constant (τ)	Configurable (3 s – 60 s)	3 s – 60 s	3,33 s
	Min cos φ	Configurable	0,0 – 1	0,4
	Lock in power	Configurable	0% – 20% P_n	deactivated
	Lock out power	Configurable	0% – 20% P_n	deactivated
4.7.2.3.4 Power related control mode	Characteristic curve	Configurable Cos φ (P) Q(P)	$Q_{max\ char}$: 10% – 100% of $Q_{max\ over}$ and $Q_{max\ under}$ Slope of the steepest: 2% – 200% Q_{max} / 10% P_n	indicate default characteristic (Figure 36 of EN 50549-10)
	Time constant (τ)	Configurable	3 s – 60 s	3,33 s
	Lock-in voltage	Configurable	100% U_n – 110% U_n	deactivated
	Lock-out voltage	Configurable	90% U_n – 100% U_n	deactivated
4.7.4.2.2 Zero current mode for converter connected generating technology	Enabling	Configurable	enable | disable	disabled
	Static voltage range overvoltage	Configurable	100% U_n – 120% U_n	120% U_n
	Static voltage range undervoltage	Configurable	20% U_n – 100% U_n	50% U_n
4.9.2 Requirements on voltage and frequency protection	Threshold for protection as dedicated device [in A or kW, kVA]	Configurable	16 A – 250 kVA	--
	Undervoltage threshold stage 1	Configurable	0,2 Un – 1 Un	--
	Undervoltage operate time stage 1	Configurable	0,1 s – 100 s	--
	Undervoltage threshold stage 2	Configurable	0,2 Un – 1 Un	--
	Undervoltage operate time stage 2	Configurable	0,1 s – 5 s	--

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Clause(s) / sub-clause(s) of EN 50549-1:2019+A1	Parameter [a]	Remarks / additional information [b]	Typical value range	Value default
	Overvoltage threshold stage 1	Configurable	$1,0\ U_n – 1,2\ U_n$	--
	Overvoltage operate time stage 1	Configurable	0,1 s – 100 s	--
	Overvoltage threshold stage 2	Configurable	$1,0\ U_n – 1,3\ U_n$	--
	Overvoltage operate time stage 2	Configurable	0,1 s – 5 s	--
	Overvoltage threshold 10 min mean protection	Configurable	$1,0\ U_n – 1,15\ U_n$	--
	Underfrequency threshold stage 1	Configurable	47,0 Hz– 50,0 Hz	--
	Underfrequency operate time stage 1	Configurable	0,1 s – 100 s	--
	Underfrequency threshold stage 2	Configurable	47,0 Hz – 50,0 Hz	--
	Underfrequency operate time stage 2	Configurable	0,1 s – 5 s	--
	Overfrequency threshold stage 1	Configurable	50,0 Hz – 52,0 Hz	--
	Overfrequency operate time stage 1	Configurable	0,1 s – 100 s	--
	Overfrequency threshold stage 2	Configurable	50,0 Hz – 52,0 Hz	--
	Overfrequency operate time stage 2	Configurable	0,1 s – 5 s	--
4.10.2 Automatic reconnection after tripping	Lower frequency	Configurable	47,0 Hz – 50,0 Hz	49,5 Hz
	Upper frequency	Configurable	50,0 Hz – 52,0 Hz	50,2 Hz
	Lower voltage	Configurable	$50\%\ U_n – 100\%\ U_n$	$85\%\ U_n$
	Upper voltage	Configurable	$100\%\ U_n – 120\%\ U_n$	$110\%\ U_n$
	Observation time	Configurable	10 s – 600 s	60 s
	Active power increase gradient	Configurable	6% – 3000% / min	10% / min
4.10.3 Starting to generate electrical power	Lower frequency	Configurable	47,0 Hz – 50,0 Hz	49,5 Hz
	Upper frequency	Configurable	50,0 Hz – 52,0 Hz	50,1 Hz
	Lower voltage	Configurable	$50\%\ U_n – 100\%\ U_n$	$85\%\ U_n$

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Clause(s) / sub-clause(s) of EN 50549-1:2019+A1	Parameter [a]	Remarks / additional information [b]	Typical value range	Value default
	Upper voltage	Configurable	$100\% \, U_n - 120\% \, U_n$	$110\% \, U_n$
	Observation time	Configurable	$10 \, s - 600 \, s$	$60 \, s$
	Active power increase gradient	Configurable	$6\% - 3000\% \, / \, min$	$10\% \, / \, min$
4.11.1 Ceasing active power	Remote operation of the logic interface	Configurable (Digital input by CANBUS/ MODBUS port)	yes | no	No
4.11.2 Reduction of active power on set point	Remote operation NOTE: If yes further definition is provided by the DSO	Configurable (Digital input by CANBUS/ MODBUS port)	yes | no	No
4.12 Remote information exchange	Remote information exchange required NOTE: If yes further definition is provided by the DSO	Configurable (The protocols will be agreed between the local DSO and PGUs at final installation)	yes | no	No

Supplementary:

ov: Over-excited; uv: Under-excited

[a] If additional parameters have been evaluated during the test, these shall be added as additional lines in the table.

[b] This column should be used for manufacturer specific parameter descriptions.

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