

## Declaración de Conformidad

Turbo Energy SL declara que los inversores de conexión a red de la serie:

### HYBRID INVERTER SERIES HIS5000

Están diseñados y ensayados de acuerdo con las normas establecidas en la Directiva de Compatibilidad electromagnética (EMC) y Directiva de Baja tensión del Consejo de la Unión Europea y cumplen con los valores límite exigidos en las mismas, así como en los Reales Decretos.

Directiva 2014/30/EU	Directiva 2014/35/EU	Real Decreto
IEC 61000-6-1:2016	EN 62109-1:2010	RD1699:2011
IEC 61000-6-3:2006+AMD1:2010	EN 62109-2:2011	UNE 206006 IN:2011
IEC 61000-3-11:2017		UNE 206007-1 IN:2013
IEC 61000-3-12:2011		

Ostenta el marcado CE en virtud del cumplimiento de los requisitos de Seguridad para personas y bienes exigidos por las Directivas Comunitarias mencionadas.

Así mismo declara que los inversores de conexión a red mencionados:

- Disponen de interruptor de interconexión interno para la desconexión automática.
- Disponen de protección interna de mínima y máxima tensión y frecuencia de red, según la siguiente tabla:

Parámetro	Umbral de protección	Tiempo máximo de actuación
Sobretensión fase 1	Un + 10%	1,5 s
Sobretensión fase 2	Un + 15%	0,2 s
Tensión mínima	Un + 15%	1,5 s
Frecuencia máxima	51 Hz	0,5 s
Frecuencia mínima	48 Hz	3,0 s

Un = 230 V<sub>AC</sub> (fase-neutro)


- En los sistemas eléctricos ubicados tanto dentro como fuera de la península, los valores anteriores serán los recogidos en los procedimientos de operación correspondientes.
- En caso de actuación y una vez se restablezcan las condiciones normales de suministro de la red, el inversor se conectará a la red de forma automática, sincronizándose con la red.
- Disponen de la protección contra funcionamiento en isla, cumpliendo la norma UNE EN 50438, IEC 62116 y UNE 206006:2011 IN.
- Disponen de un vigilante de aislamiento a tierra en el lado de continua (CC) y un control de corriente residual en el lado de alterna (CA).
- La actuación conjunta de las protecciones internas proporciona un nivel de seguridad equivalente al de un transformador de aislamiento galvánico.
- Presentan un coeficiente de distorsión armónica menor de 3%, cumpliendo con la reglamentación vigente.
- El software de ajuste de las protecciones de tensión y frecuencia no es accesible al usuario.

FIRMADO:

**TURBO ENERGY S.L.**

CIF: B98569619


Plaza de América 2, 4º B - 46004 Valencia

  
 Enrique Selva (09/12/21), Valencia

# Test Verification of Conformity

Verification Number: 220100417TPE-001-VOC1

On the basis of the tests undertaken, the sample<s> of the below product have been found to comply with the requirements of the referenced specification<s>/standard<s> at the time the tests were carried out. This verification is part of the full test report<s> and should be read in conjunction with it <them>.

Applicant Name & Address:	Turbo Energy S.L. Av. América, 2-4B 46004 Valencia, Spain
Product Description:	Hybrid Inverter
Ratings & Principle Characteristics:	See page 2.
Models/Type References:	1) HYBRID SERIES SMART 48V 3.0 2) HYBRID SERIES SMART 48V 3.6 3) HYBRID SERIES SMART 48V 5.0 4) HYBRID SERIES SMART 48V 6.0
Brand Names:	
Specification<s>/Standards:	CEI 0-21: 2019-04
Verification Issuing Office Name & Address:	Intertek Testing Services Taiwan Ltd. 5F, No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan
Date of Tests:	2021-08-08 to 2021-11-15
Test Report Number(s):	220100417TPE-001

Additional information in Appendix.



**Signature**

**Name: Dan Chen**

**Position: Assistant Manager**

**Date: 28 January, 2022**

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## APPENDIX: Test Verification of Conformity

This is an Appendix to Test Verification of Conformity Number: 220100417TPE-001-VOC1

Manufacture Name & Address: NingBo Deye Inverter Technology Co., Ltd.  
No. 26 South YongJing Road, Daqi, Beilun, NingBo, China

Ratings:	HYBRID SERIES SMART 48V 3.0	HYBRID SERIES SMART 48V 3.6	HYBRID SERIES SMART 48V 5.0	HYBRID SERIES SMART 48V 6.0
Input DC voltage (V):	125-500Vd.c.			
MPP DC voltage range(V):	150-425Vd.c.			
Input DC current (A):	13Ad.c.+13Ad.c.			
Output AC voltage(V):	230Va.c.			
Output AC current(A):	13.0Aa.c 14.3Aa.c. max	15.7Aa.c 17.2Aa.c. max	21.7Aa.c 23.9Aa.c. max	26.1Aa.c 28.7Aa.c. max
Output power(W)	3000W 3300W max.	3600W 3960W max.	5000W 5500W max.	6000W 6600W max.
Battery operation voltage range (V)	48Vd.c. (40-60Vd.c.)			
Max. charging and discharging current (A)	70Ad.c.Max	90Ad.c.Max	120Ad.c.Max	135Ad.c.Max



**Signature**

**Name: Dan Chen**

**Position: Assistant Manager**

**Date: 28 January, 2022**

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## Additional information:

The inverter listed above may be installed with following batteries:		
Manufacturer .....	TURBO ENERGY, S.L.	Jiangsu Highstar Battery Manufacturing Co.,Ltd.
Battery Model .....	Lithium Series 48V 2.4 kWh Battery	HSD 4870
Capacity of each battery module :	2.4 kWh	3.584 kWh
Number of battery module recommended by the manufacturer .....	2-10	2-9
Manufacturer .....	SHENZHEN GSL ENERGY CO LTD.	
Battery Model .....	GSL051200A-B-GBP2	ZN-P48100ESA1
Capacity of each battery module :	10.0 kWh	4.8 kWh
Number of battery module recommended by the manufacturer .....	1-4	2-6

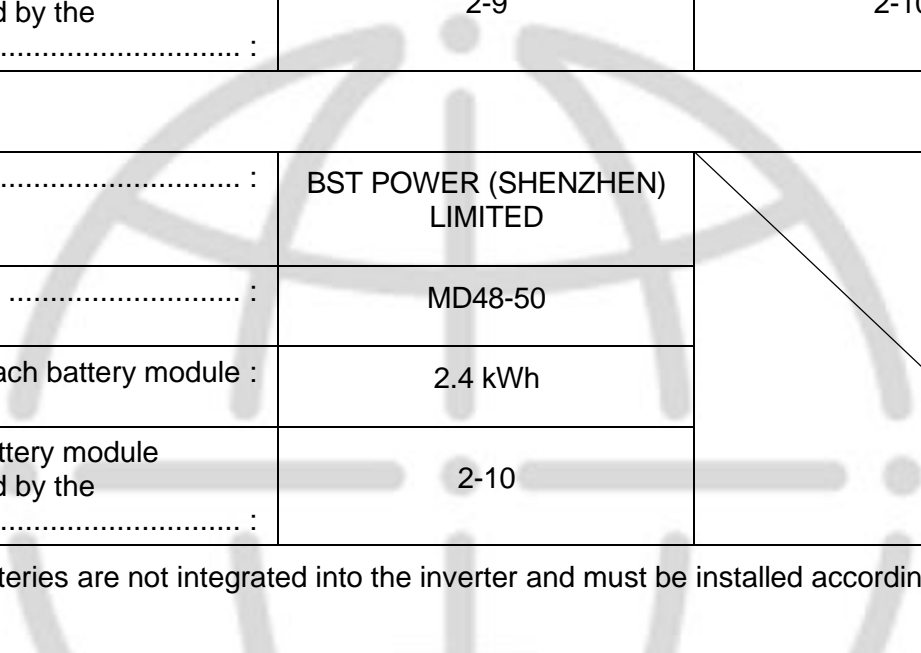
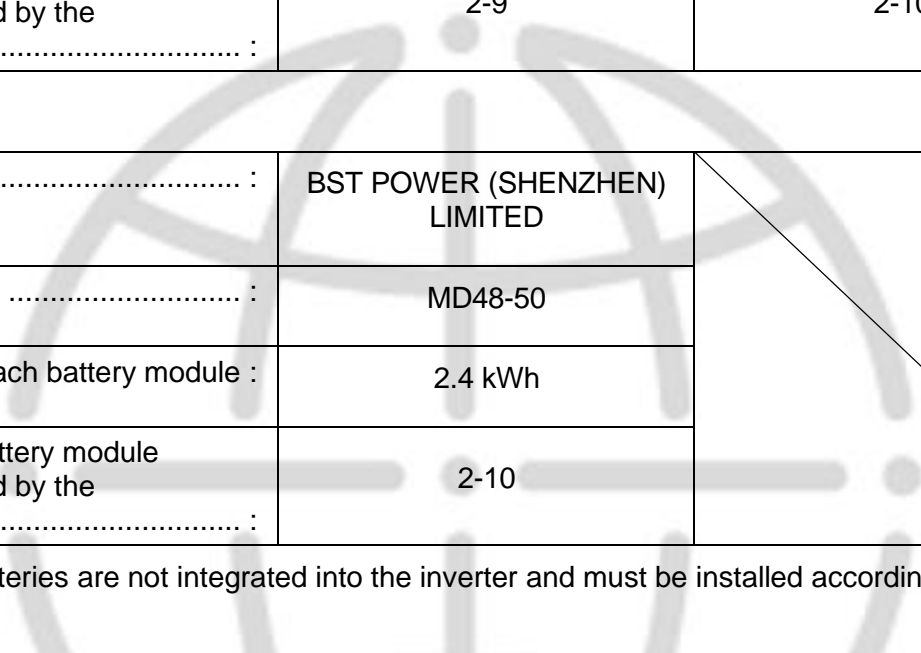
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Manufacturer .....	DAQIN NEW ENERGY TECH (TAIZHOU) Co., LTD.	
Battery Model .....	B4850	B3
Capacity of each battery module :	2.4 kWh	3 kWh
Number of battery module recommended by the manufacturer .....	3-9	3-9
Manufacturer .....	SHENZHEN UZ ENERGY LIMITED	
Battery Model .....	L051100-A	L051100-D
Capacity of each battery module :	5.12 kWh	5.12 kWh
Number of battery module recommended by the manufacturer .....	2-9	2-9
Manufacturer .....	Pylon Technologies Co., Ltd.	
Battery Model .....	US2000	US3000
Capacity of each battery module :	2.4 kWh	3.5 kWh
Number of battery module recommended by the manufacturer .....	3-9	2-9

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Manufacturer .....	Shuangdeng Group Co., Ltd	SUNWODA ENERGY
Battery Model .....	SDC10-Box 5	H4850M-P02
Capacity of each battery module :	5.12 kWh	2.4 kWh
Number of battery module recommended by the manufacturer .....	2-9	3-9
Manufacturer .....	WeCo Srl Italia	
Battery Model .....	4K4 pro	5K3
Capacity of each battery module :	4.4 kWh	5.3 kWh
Number of battery module recommended by the manufacturer .....	2-9	2-9
Manufacturer .....	Shanghai Dowell Technology Co., Ltd	
Battery Model .....	iPack C3.3	iPack C5
Capacity of each battery module :	3.3 kWh	5.12 kWh
Number of battery module recommended by the manufacturer .....	2-9	2-9

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Manufacturer .....	Shanghai Dowell Technology Co., Ltd	BST POWER (SHENZHEN) LIMITED
Battery Model .....	iPack C6.5	MD48-100
Capacity of each battery module :	6.5 kWh	4.8 kWh
Number of battery module recommended by the manufacturer .....	2-9	2-10
		
Manufacturer .....	BST POWER (SHENZHEN) LIMITED	
Battery Model .....	MD48-50	
Capacity of each battery module :	2.4 kWh	
Number of battery module recommended by the manufacturer .....	2-10	
<p>Note: The batteries are not integrated into the inverter and must be installed according to local regulations.</p>		

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