

Form



Product Service

Data form for critical components and material information

Applicant name and address..... :	Wanbang Digital Energy Co., Ltd. No.39, Longhui Road Wujin Hi-Tech Zone 213161 Changzhou, Jiangsu PEOPLE'S REPUBLIC OF CHINA
Manufacturer name and address . :	Wanbang Digital Energy Co., Ltd. No.39, Longhui Road Wujin Hi-Tech Zone 213161 Changzhou, Jiangsu PEOPLE'S REPUBLIC OF CHINA
Name and address of factory / factories..... :	Jiangsu Wanbang Energy Storage Technology Co., Ltd. No.166 Minlian Road, Environmental Science and Technology Ctiy, Tinghu District, Yancheng City, Jiangsu, PEOPLE'S REPUBLIC OF CHINA
Project-No./Report-No. :	5040824019905-00
Test item description..... :	Rechargeable Li-ion Battery System
Model/Type reference :	vBox-7, vBox-10, vBox-14, vBox-17, vBox-20
Device type :	☒ component / ☐ sub-assembly / ☐ equipment / ☐ system

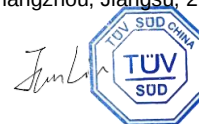
Ratings :	See tables below
Connection to electrical supply..... :	☐ N/A ☐ Permanent / ☒ Detachable cord set / ☐ Non detachable cord set / ☐ Direct plug-in / ☐ Battery operated / ☐ Others:
Overvoltage category :	☐ I / ☒ II / ☐ III / ☐ IV / ☐ N/A
Pollution degree :	☐ 1 / ☒ 2(internal) / ☐ 3 / ☒ 4(external) / ☐ N/A
Class of protection..... :	☒ Class I (PE connected) ☐ Class II (isolated) ☐ Class III ☐ Others: ☐ N/A
Product with functional earthing :	☐ Yes ☒ N/A

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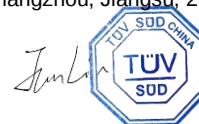
Environmental conditions / Maximum ambient temperature (°C)..... :	Charge temperature: 0~55°C Discharge temperature: -20~55°C				
Equipment mobility / Classification of installation and use..... :	☐ transportable / ☐ portable / ☒ stationary / ☐ mobile / ☐ fixed / ☐ permanently installed / ☐ hand-held / ☐ body-worn / ☐ building-in / ☐ Others:				
Operating conditions :	☒ Continuous / ☐ Short-time / ☐ Intermittent				
Overall size of equipment (mm) :	See tables below				
Mass of equipment (kg)..... :	See tables below				
Degree of ingress protection (IEC 60529, UL 50 / UL 50 E) :	IP55				
Noise emission [dB(A)] :	<70				
Vibration [m/s²]	N/A				
Connection to hydraulic power..... :	N/A				
Connection to pneumatic power... :	N/A				
Connection to water installation ... :	N/A				
Description of special features :	N/A				
Additional information for Laser equipment, classification according to IEC/EN 60825-1:					
☒ N/A					
Type:	N/A	Wavelength:	N/A	Output power:	N/A
Class:	N/A	Pulse duration:	N/A		
Data communication ports: ☒ N/A					
Wired ports :	☐ N/A ☐ USB ☐ LAN ☐ DALI ☒ other: RS485				
Wireless ports :	☒ N/A ☐ Wifi ☐ Bluetooth ☐ NFC ☐ 4G/LTE ☐ 5G ☐ Other:				
Data Storage/ Processing :	☐ N/A ☒ Local ☐ Cloud				

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Additional IEC 60601-1 / EN 60601-1 / ANSI/AAMI ES60601-1 / CAN/CSA-C22.2 No. 60601-1: ☒ N/A	
Applied part type	☐ B ☐ BF ☐ CF ☐ Defibrillation-Proof ☒ No AP
Software Version.....	N/A

General product information and other remarks:

Main label / Warning Markings:

Star Charge

Name: Smart Energy Storage System
(Rechargeable Li-ion Battery System)
Date of Production:

Battery Type: LiFePO4 (LFP)
Input/Output Voltage: 360-950Vd.c.
Number of cells connected in parallel: 3
Operating Temperature Range: -20°C...+55°C

Protective Class: I
Enclosure Type: IP55
Rated Capacity: 20Ah×3=60Ah
Rated Capacity of Cell: 20Ah

Model	Rated Power	Energy	Working Voltage of Battery
☐ vBox-7	2.7kW	6.9kWh	108.0-129.6V IFpR41/136[(3P18S)2S]E/-20+50/90
☐ vBox-10	4.1kW	10.3kWh	162.0-194.4V IFpR41/136[(3P18S)3S]E/-20+50/90
☐ vBox-14	5.4kW	13.8kWh	216.0-259.2V IFpR41/136[(3P18S)4S]E/-20+50/90
☐ vBox-17	6.8kW	17.2kWh	270.0-324.0V IFpR41/136[(3P18S)5S]E/-20+50/90
☐ vBox-20	8.1kW	20.7kWh	324.0-388.8V IFpR41/136[(3P18S)6S]E/-20+50/90

Supplier: Wanbang Digital Energy Co, Ltd.
Address : No.39 Longhui Road,Wujin District,Changzhou,Jiangsu,China

MADE IN CHINA

SN

2 3 2 6 C 8 1 3 D E N C N 0 0 0 1

⚠ DANGER

Start maintaining the battery at least 5 minutes after the battery disconnects from all external power supplies.

⚠ WARNING

Never touch the enclosure of an operating battery.

⚠ DANGER

Only certified professionals are allowed to install and operate the battery.

High touch current, earth connection essential before connecting supply.

⚠ CAUTION

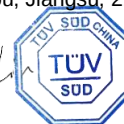
Read instructions carefully before performing any operation on the battery.

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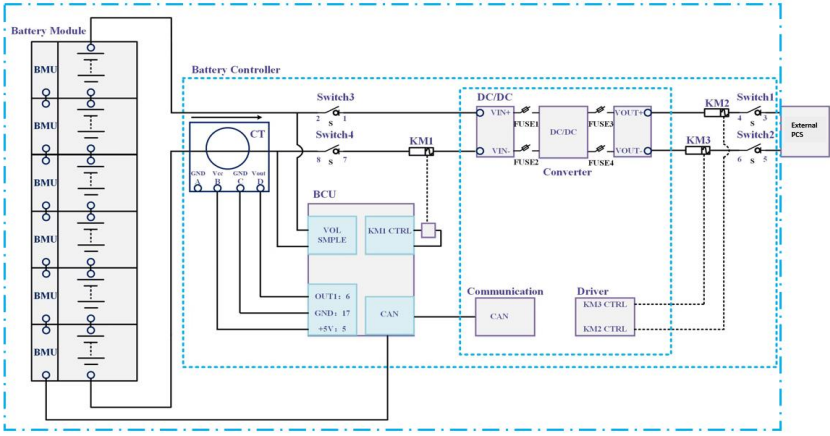
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Description of model differences:	Refer to "General product information and other remarks"
General information / Intended use:	Refer to Table for parameters
Protective earth connection:	Permanent connection
Drawing(s) / Picture(s):	 The diagram illustrates the electrical and communication architecture of a battery system. On the left, a 'Battery Module' contains six 'BMU' (Battery Management Unit) blocks. These are connected to a 'Battery Controller' (BCU) which includes a 'CT' (Current Transformer) and a 'VOL SAMPLE' (Voltage Sample) block. The BCU is connected to a 'DC/DC Converter' via 'Switch3' and 'Switch4'. The converter has inputs 'VIN1', 'VIN2', 'VIN3', 'VIN4' and outputs 'OUT1', 'OUT2', 'OUT3', 'OUT4'. It is protected by 'FUSE1', 'FUSE2', 'FUSE3', and 'FUSE4'. The converter is connected to an 'External PC' via 'Switch1' and 'Switch2'. The BCU also has a 'CAN' (Controller Area Network) interface connected to a 'Communication' block and a 'Driver' block. The driver block includes 'KMD CTRL' (Motor Drive Control) and 'KMD CTRL' (Motor Drive Control) blocks. The diagram also shows 'KM1', 'KM2', and 'KM3' (Relays) and their connections to the system.

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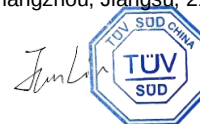
Product name	Rechargeable Li-ion Cell	Rechargeable Li-ion Battery module	Working voltage of battery system (before DC-DC module)
Type/model	IFR40135	vBox-3.5-M	vBox-7 vBox-10 vBox-14 vBox-17 vBox-20
Nominal voltage	3.2V	DC 57.6V	vBox-7: DC 115.2V vBox-10: DC 172.8V vBox-14: DC 230.4V vBox-17: DC 288.0V vBox-20: DC 345.6V
Rated capacity	20Ah	60Ah	60Ah
Charging voltage declared by manufacturer	3.65V	DC 64.8V	vBox-7: DC 129.6V vBox-10: DC 194.4V vBox-14: DC 259.2V vBox-17: DC 324.0V vBox-20: DC 388.8V
Upper limit charging voltage	3.65V	DC 65.7V	vBox-7: DC 131.4V vBox-10: DC 197.1V vBox-14: DC 262.8V vBox-17: DC 328.5V vBox-20: DC 394.2V
Charging current declared by manufacturer	10A	21.6A	21.6A
Maximum continuous charging current	20A	25A	25A
Discharging current declared by manufacturer	10A	21.6A	21.6A
Maximum continuous discharging current	60A	25A	25A
Discharge cut-off voltage	2.5V	DC 45.0V	vBox-7: DC 90.0V vBox-10: DC 135.0V vBox-14: DC 180.0V vBox-17: DC 225.0V vBox-20: DC 270.0V

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Standard temperature range for charging	0°C to 55°C	Charging: 0°C ~ 55°C Charging power limit: 0°C ~ 15°C & 45°C ~ 55°C Will limit power	Charging: 0°C ~ 55°C Charging power limit: 0°C ~ 15°C & 45°C ~ 55°C Will limit power
Standard temperature range for discharging	-20°C to 60°C	Discharging: -20°C ~ 55°C Discharging power limit: -20°C ~ 0°C & 45°C ~ 55°C Will limit power	Discharging: -20°C ~ 55°C Discharging power limit: -20°C ~ 0°C & 45°C ~ 55°C Will limit power
Standard charging method by manufacturer	10A CC to 3.65V, CV to 1A, at 25°C±2°C	Charge at a constant current of 21.6A until the voltage is 64.8 V, then CV charge until the current is 10A.	Charge the battery system at a constant current of 21.6A until the voltage is vBox-7: 129.6V vBox-10: 194.4V vBox-14: 259.2V vBox-17: 324.0V vBox-20: 388.8V, then CV charge until the current down to 10A
Charging method for internal short-circuit test	20A CC to 3.65V, CV to 14A, at 25°C±2°C	--	--
Dimension	Diameter:40.5±0.3mm Height:135.0±0.5mm	Length:795±3mm Width:218±3mm Height:218±3mm	Length× Width× Height vBox-7(mm): 798±3×218±3×767±5 vBox-10(mm): 798±3×218±3×959±5 vBox-14(mm): 798±3×218±3×1150±5 vBox-17(mm): 798±3×218±3×1342±5 vBox-20(mm): 798±3×218±3×1533±5
Weight	366.0±8.0g	29.0±1.0kg	vBox-7: 80.0±1.0kg vBox-10: 109.0±1.5kg vBox-14: 138.0±2.0kg vBox-17: 167.0±2.5kg vBox-20: 196.0±3.0kg
Configuration	--	3P18S	vBox-7: (3P18S)2S vBox-10: (3P18S)3S vBox-14: (3P18S)4S vBox-17: (3P18S)5S vBox-20: (3P18S)6S

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Critical components and material information:

Object/part No.	Manufacturer/trademark	Type/Model	Technical Data	Standard	Marks of SConformity
For Rechargeable Li-ion Battery module vBox-3.5-M					
1.Cell (54 pcs)	EVE Energy Co., Ltd.	IFR40135	3.2Vd.c., 20Ah	IEC62619:2022	TÜVRheinland JPTUV-145379 Test report: CN23PKXG 001
2.Case	Changzhou Tim Precise Tools, Ltd.	AL5083-H111	Thickness: t=2.0mm	EN62477-1:2012/A1 2:2021	Test with unit
3.Battery Bracket	Changzhou Tim Precise Tools, Ltd.	SPCC	Thickness: t=2.0mm	EN62477-1:2012/A1 2:2021	Test with unit
4.Busbar	Changzhou Fanar New Energy Technology	Aluminum plate	t=1.0mm L*W*D=135*78*6.5mm Current:30A	EN62477-1:2012/A1 2:2021	Test with unit
5.Insulating layer	CHENGDU KANGLONGXIN PLASTICS CO LTD	KLX FRPC-1860	Thickness: t=0.8mm Flame class:UL94-V0	UL94	UL E315185
6.Plastic support	NANJING JULONG SCIENCE & TECHNOLOGY CO LTD	CSR0P-S	Thickness: t=1.8mm Flame class:UL94-V0	UL94	UL E211125
7.NTC (T1-T22)	ISTEC CO LTD	SK103xy	R25 =10KΩ±1%, B25/50=3435K±1%, -40°C~+125°C	UL1434	UL E340044
-Alternative	SHENZHEN AMPRON TECHNOLOGY CO LTD	MF58-103	R25 =10KΩ±1%, B25/50=3435K±1%, -40°C~+125°C	UL1434	UL E243011
8.Connector	SHENZHEN TONGMAO ELECTRONIC CO., LTD	DJL-25T (Socket) DJL-25Z (Plug)	Rated Voltage (VAC/DC):600/120 Rated Current(A) : 35/5	UL1977	UL E229741

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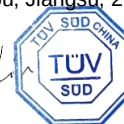
Object/part No.	Manufacturer/trademark	Type/Model	Technical Data	Standard	Marks of SConformity
-Alternative	AVIC JONHON OPTRONIC TECHNOLOGY CO., LTD	DL25T (Socket) DL25Z (Plug)	Rated Voltage (VAC/DC):600/120 Rated Current(A) : 35/5	EN 61984:2009	TÜV Rheinland R 02124542
9.DC Wiring	Kunshan Xinghongmeng Electronic Co., Ltd	UL 10269	12AWG, 105°C, 1000V. Flame class:VW-1	UL758	UL E315421
-Alternative	XINYA ELECTRONIC CO.,LTD	UL 10269	12AWG, 105°C, 1000V. Flame class:VW-1	UL758	UL E170689
For Slave board in battery box, model: ESBMM-2412					
10.Slave board in battery box	Hangzhou Gold Electronic Equipment Inc.	Model: ESBMM-2412 Hardware version: HV7.0.1 Software version: M-3-7.1.1	Monitoring the cells' temperature and voltage.	IEC62619:2022	Tested Integrated in battery TUV SUD certificate Z2 111730 0025 Rev. 00
-PCB	kingbrother)	KB-04	UL 94V-0	UL796	UL E225430
-Coating material	Guangdong Raise BT Technology Co Ltd	BT51	V-0, Coating Thk(mic):100~340	IEC60695-11-10	UL E531378
-Shell	HENNAN SHENMA HUAWEI PLASTIC LIMITED BY SHARE LTD	27GF (a)	V-0, Min. thickness: 1.6~1.76mm	UL94	UL E318518
- Optical Couple (U3_1, U3_2, U5_1, U5_2, U6_1, U6_2, U7_1, U7_2)	EVERLIGHT ELECTRONICS CO LTD	EL1018	Isolation voltage: 5000 Vrms Supply voltage: 1.45V(Typ.) -55°C ~110°C	UL1577	UL E214129
-MCU(U12)	GD	GD32F303R CT6	-40°C ~85°C 2.6V~3.6V	EN62477-1:2012/A1 2:2021	Test with unit

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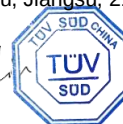
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Object/part No.	Manufacturer/trademark	Type/Model	Technical Data	Standard	Marks of SConformity
-AFE U8_1, U8_2	GOLD	GT1812	Topr:-40°C~125°C Supply voltage:10V~60V	EN62477- 1:2012/A1 2:2021	Test with unit
-DC/DC (U14)	SCT	SCT2430	-40°C ~125°C 3.8V~40V	EN62477- 1:2012/A1 2:2021	Test with unit
-Digital isolator (U4_1, U4_2)	NOVOSENSE	NSi8241W1- DSWR	Isolation voltage: 5000 Vrms 2.5V~5.5V -40°C ~125°C	UL 1577	UL E500602
For high voltage control box: contain BCU board, DC-DC, controller and protect devices					



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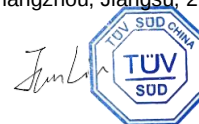
Object/part No.	Manufacturer/trademark	Type/Model	Technical Data	Standard	Marks of SConformity
11.BMS (Main board)	Hangzhou Gold Electronic Equipment Inc.	Model: ESBCM-F133 Hardware version: HV4.0.0 Software version: M-3-4.0.2	Overcharge detection voltage for each cell:3.65V 131.4/197.1V/262.8V/328.5V/394.2V for battery system vBox-7/ vBox-10/ vBox-14/ vBox-17/ vBox-20 Over-discharge detection voltage for each cell: 2.5V 90/135V/180/225V/ 270V for battery system vBox-7/ vBox-10/ vBox-14/ vBox-17/vBox-20 detection current: 28A Discharge overcurrent detection current: 28A Charge high temperature protection:58°C Charge low temperature protection: 0°C Discharge high temperature protection: 58 °C Discharge low temperature protection: -20°C	IEC62619 :2022	Tested Integrated in battery TUV SUD certificate Z2 111730 0025 Rev. 00
-PCB	SHENZHEN KING BROTHER ELECTRONICS TECHNOLOGY CO LTD	KB-04	UL 94V-0	UL796	UL E225430

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-IC for digital isolator (U31 U33 U26 U29)	Suzhou Novosense Microelectronics Co., Ltd.	NSi8221N1	Isolation voltage: 3750 Vrms 2.5V-5V -40°C to 125°C	UL1577	UL E500602
-IC for EEPROM (U17)	ST Microelectronics	M95256-WMN6	2.5V-5.5V -40°C to 85°C	EN62477-1:2012/A1 2:2021	Test with unit
-IC for WDT (U14)	ST	STWD100P YW83F	2.7V-5.5V -40°C to 125°C	EN62477-1:2012/A1 2:2021	Test with unit
-IC for Flash (U23)	Winbond Electronics Corporation	W25Q128JV SIQR	2.7V-3.6V -40°C to 85°C	EN62477-1:2012/A1 2:2021	Test with unit
-MCU	GigaDevice Semiconductor Inc.	GD32F303R CT6	2.6V-3.6V -40°C to 85°C	EN62477-1:2012/A1 2:2021	Test with unit
-Transformer (T2,3,T4 T5,T6,T7,T8)	Hanrun Electronics Company Limited	HR600781	Isolation voltage: 3750 Vac T _{opr} : -40°C to 125°C	EN62477-1:2012/A1 2:2021	Test with unit
--case	HANRUN	WH-9100	V-0	UL94	UL E150608
--wire	DENGGAODA	FIW F	130°C	UL 2353	UL E501004
-Optocoupler (U43, U45)	Suzhou Novosense Microelectronics Co., Ltd.	NSi1311-DSWVR	Isolation voltage: 5000 Vac Ext. cr. $\geq 8,0\text{mm}$, Ext. cl. $\geq 8,0\text{mm}$, 125°C	UL1577	UL E500602
-Optocoupler (U35, U37, U39, U41, U42)	Toshiba Electronic Devices & Storage Corporation	EL1018	Isolation voltage: 5000 Vac Ext. cr. $\geq 8,0\text{mm}$, Ext. cl. $\geq 8,0\text{mm}$, 125°C	UL1577	UL E214129
-Relay (K1)	StandexMeder Electronics GmbH	KT-05-1A-BV88618	7KVdc, -40°C to 100°C	UL508	UL E156887

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-Fuse (F1)	AEM COMPONENTS (SUZHOU) CO LTD.	AF1206F10.0TM	32V, 10A	UL248	UL E23298
-IC for battery voltage sampling (U44, U46)	3PEAK	TP5532-SR	Supply voltage: 1.8V ~5.5 V -40°C to 125°C	EN62477-1:2012/A1 2:2021	Test with unit
-Resettable fuse (F2)	POLYTRONICS TECHNOLOGY CORP	SMD2920P1 85T	33V, Ih: 1,85A, It: 3,7A, I _{max} : 40A	UL 1434	UL E201431
-Resettable fuse (F3,F5,F6 F7,F8,F9 F10,F11 F12)	POLYTRONICS TECHNOLOGY CORP	SMD1206P0 35TF	33V, Ih: 0,35A, It: 0,75A, I _{max} : 100A	UL 1434	UL E201431
12.Enclosure backplane	YuYang Ningbo	ADC12	L*W*H: 715*299*73mm thickness: 3mm	EN62477-1:2012/A1 2:2021	Test with unit
13.Enclosure box	YuYang Ningbo	AL5083	L*W*H: 735*296.75*195.5 mm thickness: 2mm	EN62477-1:2012/A1 2:2021	Test with unit
14.Input terminal	Dianwei Electronics Co., Ltd	VP-D4B-PHDF6B, VP-D4B-PHDM6B	40A, 1100VDC -40°C to 85°C	IEC/EN 62852	TÜV RH (R50492180)
15.Output terminal	SHENZHEN TONGMAO ELECTRONIC CO., LTD	DJL-25T (Socket) DJL-25Z (Plug)	Rated Voltage (VAC/DC):600/120 Rated Current(A) : 35/5	UL 1977	UL E229741
16.DC switch	Beijing People's Electric Plant Co.,LTD	GHX5-32P/4P/1100-32	1100V/32A T _{opr} : -40~+70°C Rated short circuit making capacity:1400A	EN60947-1, EN60947-3	TUV (N8A 18 03 83266 037) TUV RH (R50439884)

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17.Panel	CHI MEI CORPORATION	PC-6715VT(f1)(a)	V-0, 115°C, Thickness: 2mm	UL746	UL E56070
18.Power wire	Kunshan Xinghongmeng Electronic Co Ltd	10269	10AWG, 105°C Flame class:VW-1	UL758	UL E315421
19.Sealant	Wujiang General Silicones Co Ltd	TY26E9-30	V-0	UL746	UL MH61772
20.Nagetive DC relay 1	SHANGHAI LIANGXIN ELECTRICAL CO LTD	NDZ3W-5010 DC12V	12V-1H-50A/450VDC	ANSI/UL 60947-1 and ANSI/UL 60947-4-1	UL E514982
21.Positive DC relay	Xiamen Hongfa Electric Power Controls Co.,Ltd	HFE82P-40/1000-12-H-C5J-1	12V-1H-40A/1000V	ANSI/UL 60947-1 and ANSI/UL 60947-4-1	UL E133481
-Alternative	DONGGUAN CHUOD ELECTRONICS CO LTD	CHPV-S40/E-12LA1	12V-1H-40A/1000V	ANSI/UL 60947-1 and ANSI/UL 60947-4-1	UL E329801
22.Nagetive DC relay 2	ZHEJIANG DONGYA ELECTRONIC CO LTD	DH20P12NA	12V-1H-20A/750V	ANSI/UL 60947-1 and ANSI/UL 60947-4-1	CE18030400 5743-A1
23.Hall	Sinomags Technology Co., Ltd.	SHK-100VBS6	5V-100A	UL 508 and CSA C22.2 NO. 14-18	UL E507664

Data form for critical components and material information

Object/part No.	Manufacturer/trademark	Type/Model	Technical Data	Standard	Marks of SConformity
24.DC-DC (C7 board)	Wanbang Digital Energy Co., Ltd.	vBox-7KW-C	Battery Port Voltage: 100-400Vdc, Bus Port Voltage: 360-950Vdc, Rated Charge/Discharge Current: 30A.	EN62477-1:2012/A1 2:2021	Test with unit
-Gas discharge tube (GDA2, GDA3, GDA5, GDA6)	Bencent	BZ091N	1KA-90V-3.2*2.5mm	ANSI/UL 497B	UL E232249
-Gas discharge tube (GDA1)	BESTBRIGHT ELECTRONICS CO LTD	BK1300250 2-2RP600L-8-TR	20KA-600V-8.0X6.0mm	ANSI/UL 497B	UL E244458
-Flyback Transformer(T A5)	HAINING LIANFENG DONGJIN ELECTRONICS CO.,LTD	LF-WB26002	1.0mH±7%	EN62477-1:2012/A1 2:2021	Test with unit
--CORE	LFG/SUNSHINE/BOCHENG	/	EE26 NH9/BP95/SSP95	EN62477-1:2012/A1 2:2021	Test with unit
--Triple Insulated Wire	SHENZHEN KAIZHONG HEDONG NEW MATERIALS CO LTD	TIW-B*	130℃	ANSI/UL 2353	UL E357240
alt.	SUZHOU YUSHENG ELECTRONIC CO LTD	TIW-B*	130℃	ANSI/UL 2353	UL E332529
--BOBBIN	CHANG CHUN PLASTICS CO LTD	EE26 T375HF	150℃	UL746	UL E59481
alt.	SUMITOMO BAKELITE CO LTD	PM-9823/PM-9630	150℃	UL746	UL E41429

Data form for critical components and material information

Object/part No.	Manufacturer/trademark	Type/Model	Technical Data	Standard	Marks of SConformity
--TUBE	GREAT HOLDING INDUSTRIAL CO LTD	TFL	200°C	UL224	UL E156256
--INSULATION TAPE	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT*(C)(g)	130°C	UL510	UL E165111
--VARNISH	SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD	T-4260 (a)	155°C	UL1446	UL E228349
-DC Common Inductor 1(LA1)	PUJING ELECTRONICS TECHNOLOGY CO.,LTD.	PJ7145-H40	2.6mH±25%-36.3A	EN62477-1:2012/A1 2:2021	Test with unit
--CORE	TIANMING ELECTRL CO.,LTD.	/	T40*25*20 M10K	EN62477-1:2012/A1 2:2021	Test with unit
--EPOXY BOARD	KINGBOARD LAMINATES HOLDINGS LTD	FR4	FR4 / Ø 50*2.0 mm FR4/40*24.8*1.0 mm	UL746	UL E123995
--WIRE	PACIFIC ELECTRIC WIRE CABLE(SHENZH ENG)CO LTD	QZY-2	QZY-2 180°C	UL1446	UL E201757
--EPOXY	DONGGUAN EATTO ELECTRONIC MATERIAL CO.,LTD.	E-500	E-500 130°C	UL94, UL746	UL E218090
-BUS Common Inductor 2 (LA2)	PUJING ELECTRONICS TECHNOLOGY CO.,LTD.	PJ7370-H31	538uH±32%-25A	EN62477-1:2012/A1 2:2021	Test with unit

Data form for critical components and material information

Object/part No.	Manufacturer/trademark	Type/Model	Technical Data	Standard	Marks of SConformity
--CORE	TIANMING ELECTRI CO., LTD.	/	M7K/ T31*19*15C	EN62477-1:2012/A1 2:2021	Test with unit
alt.	AEMC ELECTRIC(GUANG ZHOU) CO., LTD.	/	A07/ T31*19*15C	EN62477-1:2012/A1 2:2021	Test with unit
--wire	SHANDONG SAINT ELECTRIC CO LTD	EIW / MW30 C	180°C	UL1446	UL E194410
alt	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	PEWH/U	180°C	UL1446	UL E201757
--EPOXY BOARD	KINGBOARD LAMINATES HOLDINGS LTD	FR4	FR4 / KB-6160A-130°C	UL746	UL E123995
--EPOXY	GUANGZHOU BETTER NEW MATERIALS CO.,LTD.	E-500BH	E-500BH 130°C	UL94, UL746	UL E218090
alt.	HUI TIAN ELECTRONIC MATERIAL CO.,LTD.	6065H	6065H	UL94, UL746	UL E218090
-BUS Common Inductor 3(LA3)	HAINING LIANFENG DONGJIN ELECTONICS CO.,LTD	LF-WBT30001	1.8mH Min-30A-10%-30*20*15mm	EN62477-1:2012/A1 2:2021	Test with unit
--CORE	PULEHUA TECHNOLOGIC CO.,LTD.	/	30*20*15	EN62477-1:2012/A1 2:2021	Test with unit

Data form for critical components and material information

Object/part No.	Manufacturer/trademark	Type/Model	Technical Data	Standard	Marks of SConformity
alt.	JILIN ZHONGYAN POLYMER MATERIALS CO., LTD	/	NC-0058-L-B	EN62477-1:2012/A1 2:2021	Test with unit
--WIRE	XIANDENG HI-TECH ELECTRIC CO LTD	xEIW/180 MW 30-C	180°C	UL1446	UL E488183
alt	NINGBO JINTIAN NEW MATERIAL CO LTD	xEIW/180, QZY-x/180	180°C	UL1446	E227047
--EPOXY BOARD	KINGBOARD LAMINATES HOLDINGS LTD	FR-4.0	130°C	UL746	UL E123995
--TUBE	GREAT HOLDING INDUSTRIAL CO.,LTD	TFL	200°C	UL224	UL E156256
--EPOXY	DONGGUAN SHI PAI HUA CHUANG MATERIAL FTY	H907-H##	130°C	UL94, UL746	UL E304477
-MOS(QA9)	CREE	C2M10001 70D	5.0A-1700V	EN62477-1:2012/A1 2:2021	Test with unit
-MOS (QA2,QA3,QA 4,QA5)	Infineon	IMZ120R03 0M1H	56A-1200V	EN62477-1:2012/A1 2:2021	Test with unit
-Photocoupler (UA15)	EVERLIGHT	EL1013(TA)-VG	80V-5KV-- 100~200%-LSOP4	UL1577	UL E214129 VDE 40028391
-Current Transducer (UA2,UA3,UA 4)	CRRC	NACA.32T-P6/VN	0.8% 32A-25mV/A	UL508	UL E317702

Data form for critical components and material information

Object/part No.	Manufacturer/trademark	Type/Model	Technical Data	Standard	Marks of SConformity
-Power Relay (RYA1)	HF	HF161F-40W/12-HTF(967)	12V-1H-40 A /277 VAC	IEC/EN 61810-1	UL E134517 TUV R50475730
-BUS Varistor (RVA1,RVA2)	THINKING ELECTRONIC INDUSTRIAL CO., LTD.	TVT20751K AKFB510	750V-10KA	UL1449	UL E314979, TUV J50179389
-Fuse (FUA1,FUA2,FUA4,FUA5,FUA7,FUA8,FUA9,FUA10)	Sinofuse	RS308-PV-3EA30A	30A/1000VDC	EN60269-6, EN60269-1	TUV N8A 15 06 91839 003, TUV J50455532
-Y Cap (CA1, CA9, CA17, CA22, CYA5, CYA7, CYA8, CYA10, CYA15, CYA16)	Xiamen Faratronic Co. Ltd.	C47H2472 M60C500	4.7nF-500VAC-Y1	EN60384-14, UL 60384-14	UL E186600
-Y Cap (CYA11,CYA12)	WALSIN TECHNOLOGY CORPORATION	YU5AH472 M130DAM D0W	4700pF-500Vac/1500Vdc-Y1	ANSI/UL 60384-14	UL E146544, ENEC-01966-A1
-Filter Capacitor (CA5, CA20)	Xiamen Faratronic Co. Ltd.	C3D1M126 KF02500	12uF-1100Vdc	EN61071	TUV R50266108
-Filter Capacitor (CA2, CA3, CA19, CA52, CA71, CA112)	Xiamen Faratronic Co. Ltd.	C3D1M105 KB00500	1uF-1100V	EN61071	TUV R50266108
-Power Inductor1	Pujing Electronic Technology Co.,Ltd	PJ7793-H47	900uH±12% -13A-L58*W65*H55 mm	EN62477-1:2012/A1 2:2021	Test with unit
--CORE	POCO HOLDING CO., LTD	/	NPH184060	EN62477-1:2012/A1 2:2021	Test with unit

Data form for critical components and material information

Object/part No.	Manufacturer/trademark	Type/Model	Technical Data	Standard	Marks of SConformity
alt	ZHEJIANG DONGMU KEDA MAGNET OELECTRIC CO., LTD.	/	KS184060-HF	EN62477-1:2012/A1 2:2021	Test with unit
--Magnetic wire	SHANDONG SAINT ELECTRIC CO LTD	MW30C	EIW / 180°C	UL1446	UL E194410
alt.	PACIFIC ELECTRIC WIRE CABLE(SHENZH EN) CO LTD	MW30C	PEWH/U 180°C	UL1446	UL E201757
--TUBE	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-HFT(XY)	600V	UL224	UL E180908
--VARNISH	SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO.,LTD.	T-4260(a)	130°C	UL1446	UL E228349
--EPOXY	HUI TIAN ELECTRONIC MATERIAL CO.,LTD.	6065H	V-0, 130°C	UL94, UL746	UL E218090
--EPOXY BOARD	KINGBOARD LAMINATES HOLDINGS LTD	KB-6160A	V-0, 130°C	UL746	UL E123995
-Power Inductor2	Pujing Electronic Technology Co.,Ltd	PJ7794-H47	900uH±12% -13A-L58*W65*H55 mm	EN62477-1:2012/A1 2:2021	Test with unit
--CORE	POCO HOLDING CO., LTD	/	NPH184060	EN62477-1:2012/A1 2:2021	Test with unit

Data form for critical components and material information

Object/part No.	Manufacturer/trademark	Type/Model	Technical Data	Standard	Marks of SConformity
alt.	ZHEJIANG DONGMU KEDA MAGNET OELECTRIC CO., LTD.	/	KS184060-HF	EN62477-1:2012/A1 2:2021	Test with unit
--Magnetic wire	SHANDONG SAINT ELECTRIC CO LTD	MW30C	EIW / 180°C	UL1446	UL E194410
alt.	PACIFIC ELECTRIC WIRE CABLE(SHENZH EN) CO LTD	MW30C	PEWH/U 180°C	UL1446	UL E201757
--TUBE	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-HFT(XY)	600V	UL224	UL E180908
--VARNISH	SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO.,LTD.	T-4260(a)	130°C	UL1446	UL E228349
--EPOXY	HUI TIAN ELECTRONIC MATERIAL CO.,LTD.	6065H	V-0, 130°C	UL94, UL746	UL E218090
--EPOXY BOARD	KINGBOARD LAMINATES HOLDINGS LTD	KB-6160A	V-0, 130°C	UL746	UL E123995
-Singal Relay(RLYA1)	Hongfa	HFD3-V/5-SR	5V-2Z-0.5A/125VAC	IEC62776	UL E133481 VDE 40018867
-DSP(UA16)	TI	TMS320F280025CPN SR	100MHz-128KB-LQFP-80Pin	EN62477-1:2012/A1 2:2021	Test with unit

Form



Product Service

Data form for critical components and material information

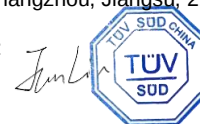
Object/part No.	Manufacturer/ trademark	Type/Model	Technical Data	Standard	Marks of SConformity
-Y Cap (CY3,CY4)	WALSIN TECHNOLOGY CORPORATION	AH Series (#)(&)	4700pF-500Vac/1500Vdc-Y1	ANSI/UL 60384-14	UL E146544
-Common inductor on filter board (CM1)	Pujing Electronic Technology Co.,Ltd	PJ7370-H31	504uH ±32%-H44.0*44.0*44.0	EN62477-1:2012/A1 2:2021	Test with unit
--CORE	TIANMING ELECTRI CO.,LTD	/	M7K / T31*19*15C	EN62477-1:2012/A1 2:2021	Test with unit
alt.	AEMC ELECTRIC (GUANGZHOU) CO.,LTD	/	A07 / T31*19*15C	EN62477-1:2012/A1 2:2021	Test with unit
--WIRE	SHANDONG SAINT ELECTRIC CO LTD	MW30C	EIW / 180℃	UL1446	UL E194410
alt.	PACIFIC ELECTRIC WIRE CABLE(SHENZH EN) CO LTD	MW30C	PEWH/U 180℃	UL1446	UL E201757
--EPOXY	GUANGZHOU BETTER NEW MATERIALS CO., LTD	E-500HB	E-500HB 130℃	UL94, UL746	UL E218090
alt.	HUI TIAN ELECTRONIC MATERIAL CO., LTD	6065H	6065H	UL94, UL746	UL E218090
--EPOXY BOARD	KINGBOARD LAMINATES HOLDINGS LTD	FR4	KB-6160A-130℃	UL746	UL E123995

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China
Name of Project Handler:



Data form for critical components and material information

Object/part No.	Manufacturer/trademark	Type/Model	Technical Data	Standard	Marks of SConformity
-Common inductor on filter board (CM2)	HAINING LIANFENG DONGJIN ELECTRONICS CO.,LTD	T38X22X15	60uH-35%-30A-48*46*45mm	EN62477-1:2012/A1 2:2021	Test with unit
--CORE	TIANTONG	TN100B	38*22*15C	EN62477-1:2012/A1 2:2021	Test with unit
--WIRE	XIANDENG HI-TECH ELECTRIC CO LTD	MW30-C	xEIW / 180	UL1446	UL E488183
--alt.	NINGBO JINTIAN NEW MATERIAL CO LTD	MW30-C	xEIW, QZY-x / 180	UL1446	UL E227047
--EPOXY	DONG GUAN SHI PAI HUA CHUANG MATERIAL FTY	H907-H##	130°C	UL94, UL746	UL E304477
--EPOXY BOARD	KINGBOARD LAMINATES HOLDINGS LTD	FR-4.0	130°C	UL746	UL E123995
--TUBE	GREAT HOLDING INDUSTRIAL CO LTD	TFL	200°C	UL224	UL E156256
-Isolating Devices (UA31, UA33, UA35)	Suzhou Novosense Microelectronics Co.,Ltd	NSi8241W1-DSWWR	5KV-4CH-SOP16	UL 1577 EN IEC 60747-17	UL E500602 VDE 40052820

Form

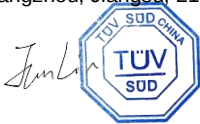


Data form for critical components and material information

Routine Test (Safety, Security, ...):

☐ N/A, ☐ No requirement in standard, ☐ Non certification mark project

Model/Type reference:	Tests performed (name of test and test clause):	Test Details:	Test Points:	Test Values:



Form

Data form for critical components and material information



MHS Test Report History:

Rev	Project No.	History
00	5040824019905-00	Initial Version

Signature of the Certification Holder:

Name, seal and signature of Certificate Holder:	Wanbang Digital Energy Co., Ltd. 
Date:	2024-07-04

