

Certificate No. AN 50583145_0001

Our Reference CN23OMIM 001

Appendix No. 1.0

Constructional Data Form (CDF) for Electrical Appliances

Page 1 of 8

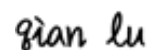
License holder	:	SolaX Power Network Technology (Zhe jiang) Co., Ltd. No. 288, Shizhu Road, Tonglu Economic Development Zone, Tonglu City, Zhejiang Province 310000, P. R. China
Factory	:	Same as License holder
Type of Appliance	:	Secondary (Rechargeable) Lithium ion Battery System
Type Designation	:	T-BAT HS5.0,T-BAT HS7.5,T-BAT HS10.0,T-BAT HS12.5,T-BAT HS15.0, T-BAT HS17.5,T-BAT HS20.0,T-BAT HS22.5,T-BAT HS25.0,T-BAT HS27.5, T-BAT HS30.0,T-BAT HS32.5
Rating	:	See model list
Protection Class	:	Class I
Supply connection	:	☐ fixed power cord ☐ permanent connection ☐ appliance inlet ☒ direct plug in ☐ Special Connector

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Products



Certificate No. AN 50583145_0001

Our Reference

CN23OMIM 001

Appendix No.

1.0

Constructional Data Form (CDF) for Electrical Appliances

Page 2 of 8

T-BAT-SYS-HV-S25												
Type/model	T-BAT HS5.0	T-BAT HS7.5	T-BAT HS10.0	T-BAT HS12.5	T-BAT HS15.0	T-BAT HS17.5	T-BAT HS20.0	T-BAT HS22.5	T-BAT HS25.0	T-BAT HS27.5	T-BAT HS30.0	T-BAT HS32.5
Battery Type	50Ah (LFP), cell											
Component	TBMS-MCS0800*1 + TP-HS25 *2	TBMS-MCS0800*1 + TP-HS25 *3	TBMS-MCS0800*1 + TP-HS25 *4	TBMS-MCS0800*1 + TP-HS25 *5	TBMS-MCS0800*1 + TP-HS25 *6	TBMS-MCS0800*1 + TP-HS25 *7	TBMS-MCS0800*1 + TP-HS25 *8	TBMS-MCS0800*1 + TP-HS25 *9	TBMS-MCS0800*1 + TP-HS25 *10	TBMS-MCS0800*1 + TP-HS25 *11	TBMS-MCS0800*1 + TP-HS25 *12	TBMS-MCS0800*1 + TP-HS25 *13
Nominal Voltage [V]	102.4	153.6	204.8	256.0	307.2	358.4	409.6	460.8	512.0	563.2	614.4	665.6
Operating Voltage Range [V]	90-116	135-174	180-232	225-290	270-349	315-406	360-465	405-522	450-580	495-636	540-695	585-750
Battery Module 1P16S = 1 Module)	2	3	4	5	6	7	8	9	10	11	12	13
Rated Capacity [Ah]	50											
Total Storage Energy [kWh]	5.12	7.68	10.24	12.8	15.36	17.92	20.48	23.04	25.6	28.16	30.72	33.28
Usable Energy (90%DOD) [kWh]	4.6	6.9	9.2	11.5	13.8	16.1	18.4	20.7	23.0	25.3	27.6	30.0
Standard Power [kW]	3.1	4.6	6.1	7.7	9.2	10.8	12.3	13.8	15.4	16.9	18.4	20.0
Max. Power [kW]	4.608	6.912	9.216	11.52	13.824	16.128	18.432	20.736	23.04	25.344	27.648	29.952
Nominal Current [A]	30											
Maximum Charging Current [A]	45											
Maximum Discharging Current [A]	45											
Cycle Life [90% DOD]	6000 Cycles											

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2023.03.29

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Signature

Produkte
Products

Certificate No. AN 50583145_0001

Our Reference

CN23OMIM 001

Appendix No.

1.0

Constructional Data Form (CDF) for Electrical Appliances

Page 3 of 8

Charge Temperature Range [°C]	0 to 53 (Without heating function) -30 to 53 (Build-in heating function)											
Discharge Temperature Range [°C]	-20 to 53 (Without heating function) -30 to 53 (Build-in heating function)											
Storage Temperature [°C]	-20°C to 50°C (3 months) 10°C to 40°C (1 year)											
Dimension (L x W x H) [mm]	TBMS-MCS0800: 510*365*157, TP-HS25: 510*365*152, Pedestal: 510*365*90, Series Box: 510*365*157											
Weight [kg]	13kg+27kg*2+9kg	13kg+27kg*3+9kg	13kg+27kg*4+9kg	13kg+27kg*5+9kg	13kg+27kg*6+9kg	13kg+27kg*7+9kg	13kg+27kg*8+9kg	13kg+27kg*9+9kg	13kg+27kg*10+10kg+18kg	13kg+27kg*11+10kg+18kg	13kg+27kg*12+10kg+18kg	13kg+27kg*13+10kg+18kg
Installation	Stackable level package											
Enclosure Protection (IP)	IP65											
Cooling Type	Natural cooling											
Altitude [m]	Below 3000											

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2023.03.29

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Critical Components

Material: e.g. external enclosure, PCB, closed-end connector, sleeves, cord anchorage etc.

Components with winding: e.g. motor, transformer, magnetic coil etc.

Other components: e.g. switch, thermostat, heater, plug, internal wire, capacitor, relay, varistor etc.

Object/part No.	Manufacturer/ Trademark	Type/ model	Technical data	Standard	Mark(s) of conformity
TBMS-MCS0800					
Connector for connecting with inverter	Suzhou Exceedconn Technology Co., Ltd.	910051500	120A/1000VDC Orange IP67 - 40°C to +125°C	UL4128 PPP 51090A	UL E524748 TÜV B 0770460065
Connector for connecting with inverter.	Suzhou Exceedconn Technology Co., Ltd.	910051900	120A/1000VDC Black IP67 -40°C to +125°C	UL4128 PPP 51090A	UL E524748 TÜV B 0770460065
Connector for connecting with inverter	ZHEJIANG BSB ELECTRICAL CO, LTD	B-E57-S01-00- NM5	120A/1000VDC Orange IP67 - 40°C to +125°C	2PFG 2740	TÜV R 50572194
Connector for connecting with inverter.	ZHEJIANG BSB ELECTRICAL CO, LTD	B-E57-S01-00- AM5	120A/1000VDC Black IP67 -40°C to +125°C	2PFG 2740	TÜV R 50572194
Connector For connecting with module1	ZHEJIANG BSB ELECTRICAL CO, LTD	B-E36-S01-00- N04-B	70A/1500VDC Orange IP67 - 40°C to +125°C	2PFG 2740	TÜV R 50571513
Connector For connecting with module1	ZHEJIANG BSB ELECTRICAL CO, LTD	B-E36-S01-00- A04-B	70A/1500VDC Black IP67 -40°C to +125°C	2PFG 2740	TÜV R 50571513
Connector For connecting with module1	Amphenol	C10-754727-0101	70A/1500VDC Orange IP67 - 40°C to +125°C	EN 50521	TÜV R 60029159
Connector For connecting with module1	Amphenol	C10-754727-1102	70A/1500VDC Black IP67 -40°C to +125°C	EN 50521	TÜV R 60029159
Connector For connecting with module2-1	TYCO Electronics Corp	HMN-002-MC	70A/1000VDC -45°C to +125°C	EN 61984:2009	TÜV B150947175012
Connector For connecting with module2-1	TYCO Electronics Corp	HMN-002-FC	70A/1000VDC -45°C to +125°C	EN 61984:2009	TÜV B150947175012

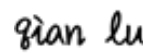
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Object/part No.	Manufacturer/ Trademark	Type/ model	Technical data	Standard	Mark(s) of conformity
Connector For connecting with module2-2	TYCO Electronics Corp	HMN-006-PM	16A/1000VDC -45°C to +125°C	EN 61984:2009	TÜV B150947175012
Connector For connecting with module2-2	TYCO Electronics Corp	HMN-006-PF	16A/1000VDC -45°C to +125°C	EN 61984:2009	TÜV B150947175012
PV Switch- disconnecter	ZHEJIANG BENYI ELECTRICAL CO.,LTD	BYSS.1-50h/T-2P	number of poles=2P Ui=1500V, In=50A -40°C to +85°C	IEC/EN 60947-3 AS 60947-3 AS/NZS IEC60947-1	TÜV R 50425301 TÜV AZ 69026939
Fuse	Guangdong Zhongbei Energy Technology Co., Ltd.	EV88-750-80A	80A/750VDC 20kA -40°C to +125°C	UL 248 EN 60269	UL:E479415 ISETC.000220210 807
Magnetic Contactor (KM1, KM2)	ZHEJIANG BSB ELECTRICAL CO, LTD	BSBC7-100H-12	voltage=12V Coil power=5.5w Ue=12-1000V DC Ie=100A, Continuous current=45A -40°C to +85°C	EN 60947-4- 1:2001+A1+A2 UL 60947-1	TÜV R 50415219 TÜV R 50415335 UL E499520

BMS MAIN CONTROL Board

Connector (J8)	Molex	76829-0002	23A, 600Vdc -40°C to +105°C	IEC 61984	E29179
Connector (J1)	Molex	76829-0006	23A, 600Vdc -40 to +105°C	IEC 61984	E29179
Fuse (F1)	BUSSMANN	PV-4A10-1P	4A, 1000Vdc -40 to +90°C	EN 60269-1 EN 60269-6 EN IEC 63000 UL 248-19	UKCA UK2100281 UL E335324
Y Capacitor (CY1, CY3, CY5, CY7)	TDK	CD45- B2GA471K-NKA	470pF Y1/400Vac ±10% 10mm -25 to + 125°C	UL 60384-14 EN 60384-14	UL E37861 IEC ENEC-01048
Film capacitor (CX1, CX2)	Faratronic	C3D3L105KB003 82	1uF±10% 1200VDC -40 to +105°C	EN 61071 EN 61881-1	TÜV R 50266108
IC for Digital isolation (U33,	Texas Instruments	ISO7731FDWR	Operating Temperature:	UL1577 EN 61010-1,	UL E181974 TÜV:77311

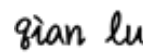
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Object/part No.	Manufacturer/ Trademark	Type/ model	Technical data	Standard	Mark(s) of conformity
U34)	Incorporated		-55°C to +125°C Isolation voltage: 5000Vrms	EN 60950-1 EN 62368-1	
IC for Digital isolation (U33, U34)	NOVOSENSE	NSI8231W0- DSWR	Operating Temperature: -55°C to +125°C Isolation voltage: 5000Vrms	DIN VDE V 0884- 11:2017-01 UL1577	VDE 40052820 UL E500602
Isolated CAN transceiver (U21)	Texas Instruments Incorporated	ISO1042B	Operating Temperature: -40°C to +125°C Isolation voltage: 5000Vrms	DIN VDE V 0884- 11:2017-01 EN 61010-1, EN 60950-1 EN 62368-1 UL1577	VDE 40047657 TÜV:77311 UL E181974
Isolated CAN transceiver (U21)	Chipanalog	CA-IS3052G	Operating Temperature: -40°C to +125°C Isolation voltage: 5000Vrms	DIN VDE V 0884- 11:2017-01 EN 61010-1:2010, EN 62368- 1:2014+A11, IEC 61010-1 UL 1577	VDE 40052786 TÜV AK 50476727 0001 TÜV AK 50476720 0001 CB DE 2-028117 UL E511334
IC for Digital isolation (U10)	Texas Instruments Incorporated	ISO7741FDWR	Operating Temperature: -55°C to +125°C Isolation voltage : 5000Vrms	DIN EN IEC 60747-17 (VDE 0884-17):2021- 10; EN IEC 60747- 17:2020+AC:2021 EN 61010-1, EN 60950-1 EN 62368-1 UL1577	VDE 40040142 TÜV 77311 UL E181974
IC for Digital isolation (U10)	NOVOSENSE	NSI8241W0- DSWR	Operating Temperature: -55°C to +125°C Isolation voltage: 5000Vrms	DIN VDE V 0884- 11:2017-01 UL1577	VDE 40052820 UL E500602
Transformer (TX1)	NANJING ZHONGCE E.T ELECTRONICS CO., LTD.	NET21257RO	Isolation voltage: N1-N2N4N5 AC2200V/3mA/60	--	--

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Signature

Date

Name

Signature

Certificate No. AN 50583145_0001

Our Reference CN23OMIM 001

Appendix No. 1.0

Constructional Data Form (CDF) for Electrical Appliances

Page 7 of 8

Object/part No.	Manufacturer/ Trademark	Type/ model	Technical data	Standard	Mark(s) of conformity
			SEC N1-N3 AC4400V/3mA/60 SEC		
DC Relay (RY2, RY3, RY4, RY5, RY6)	HF	HFD3-VI/12-2H- 3SR	10mA/1500VDC -40°C to +85°C Isolation voltage: 4000VAC	EN 61810-1 IEC 61810-1	TÜV:R 50433438
DC Relay (RY1)	HF	HF115F/012- 2HS4	8A/250VAC Isolation voltage: 5000Vrms	DIN EN 61810-1 EN 61810-1 IEC 61810-1	VDE:116934
Photo coupler (U5,U6,U15,U16, U18,U19,U23, U26,U27,U28)	LITEON	LTV816S2TPC-V- G	Operating Temperature: -55°C to 110°C Isolation voltage: 5000Vrms	IEC 60747-5- 5:2007, IEC 60747-5- 5:2007/AMD1:201 3, DIN EN 60747-5- 5 (VDE 0884- 5):2015-11, EN 60747-5- 5:2011+A1:2015 UL1577	VDE 40015248 UL E113898
Current Transducer	LEM	CASR 50-NP	Operating Temperature: -40°C to +85°C Isolation voltage: 4.1kVrms	UL 508 EN 50178 IEC 61010-1	UL E189713
Transformer (T16)	WE	74942300	Operating Temperature: -40°C to +125°C Isolation voltage: 4300VDC	--	--
Master MCU(U1)	GigaDevice	GD32F427VET6	Operating Temperature: -40°C to +125°C Operating voltage: 1.8V~3.6V	--	--
PCB material	KUNSHAN DAYANG PRINTED CIRCUIT BOARD	--	150°C, UL 94 V-0	ISO 9773 IEC 60695-11-10	UL E123995

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Produkte Products	TÜVRheinland
Certificate No. AN 50583145_0001	Our Reference CN23OMIM 001
Appendix No. 1.0	
Constructional Data Form (CDF) for Electrical Appliances	

Object/part No.	Manufacturer/ Trademark	Type/ model	Technical data	Standard	Mark(s) of conformity
	CO.,LTD				
TP-HS25					
Lithium ion battery module	Zhuhai CosMX Power Battery Co., Ltd.	GYPT1S1P2M2L 16S50AHS5	LiFePO4, 1P16S, Voltage: 51.2Vd.c. Capacity: 50Ah	--	--
Lithium ion battery cell	Zhuhai CosMX Power Battery Co., Ltd.	CA13C5J0B	LiFePO4, Voltage: 3.2Vd.c. Capacity: 50Ah	IEC 62619	TÜV: JPTUV-139184
Fuse	Guangdong Zhongbei Energy Technology Co., Ltd.	EV88-750-80A	80A/750VDC 20kA -40°C to +125°C	UL 248 EN 60269	UL:E479415 ISETC.000220210 807
Connector For connecting with module2-1	TYCO Electronics Corp	HMN-002-MC	70A/1000VDC -45°C to +125°C	EN 61984:2009	TÜV B150947175012
Connector For connecting with module2-1	TYCO Electronics Corp	HMN-002-FC	70A/1000VDC -45°C to +125°C	EN 61984:2009	TÜV B150947175012
Connector For connecting with module2-2	TYCO Electronics Corp	HMN-006-PM	16A/1000VDC -45°C to +125°C	EN 61984:2009	TÜV B150947175012
Connector For connecting with module2-2	TYCO Electronics Corp	HMN-006-PF	16A/1000VDC -45°C to +125°C	EN 61984:2009	TÜV B150947175012
BSCU 16S UV Board					
Transformer (T27)	WE	74942300	Operating Temperature: -40°C to +125°C Isolation voltage: 4300VDC	--	--
MCU	ADI	ADBMS6830	Operating Temperature: -40°C to +125°C	--	--
PCB material	KUNSHAN DAYANG PRINTED CIRCUIT BOARD CO.,LTD	--	150°C, UL 94 V-0	ISO 9773 IEC 60695-11-10	UL E123995
Note(s):					

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