High Frequency Off Grid Solar Inverter

PV1800 LHM SERIES (1-3KW)

MUST®
AC/INV
CHG
FAULT
MENU
UP
DOWN
ENTER

PV1800 LHM Series is a multi-function inverter/charger, combining functions of inverter, MPPT solar charger and battery charger to offer uninterruptible power support with portable size. Its comprehensive LCD display offers user-configurable and easy-accessible button operation such as battery charging current, AC/solar charger priority, and acceptable input voltage based on different applications.

Features

- Pure sine wave output
- Smart LCD setting(Working modes, Charge Current, Charge Voltage, etc.)
- Built-in MPPT 60A/80A solar charge controller
- New SUB working mode(Solar-Unitily-Battery working mode) for 3kw series
- Combining solar system, AC utility, and battery power source to supply continuous power
- Overload, short circuit and deep discharge protection
- Parallel operation with up to 3 units (Available for 3KW only)
- Cold start function
- Support USB, RS485 monitoring function with free CD
- Compatible to generator
- Available for Lead-acid /Lithium Battery
- WIFI remote monitoring(optional)

V

Rated power
1-3KW

Battery Voltage
24VDC/48VDC

AC output
(100VAC ~ 120VAC)
±5%

Parallel function
for 3KW

WIFI remote
monitoring

USB, RS485
monitoring function

Pb Li

Battery optional

High Frequency above
93% high efficiency

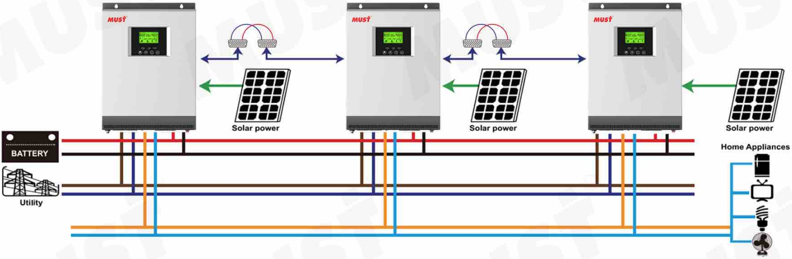
Appearance

MUST
AC/INV
CHG
FAULT
AC INPUT
AC OUTPUT
COM
USB
PV
I ON
OFF
PARALLEL CONNECTION
DC INPUT

MUST

PRODUCT FEATURES

SMART & INTELLIGENT FEATURES

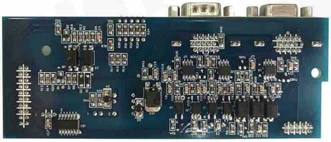


Parallel Function

With 3pcs 3kw inverter can max build a 9kw solar system to meet your power need. etc

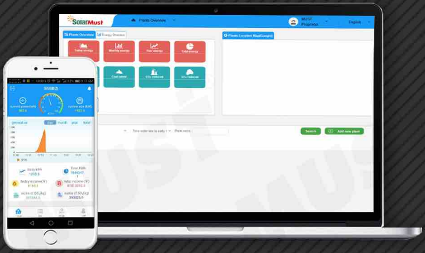
Parallel kit picture as below:

A B C D
1071001807120401
2016-3-1
250-00450-00



MUST

WiFi-RTU
8000-10633-00
PN:B1417310199145
Wi-Fi RTU
RS-232



Wifi communication

You can download this app on your cellphone and monitor the whole system, you will know how much electricity the system generate and sell to utility.

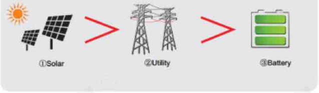
Android

IOS

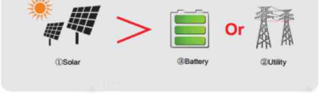
Different working modes

The New SUB working mode:Solar-Utility-Battery working mode,which simplify setup problems, and enable end users even without any technical knowledge can operate it easily.

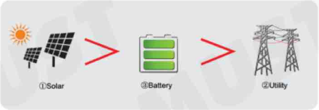
- SUB



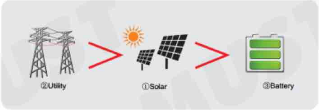
- SOL

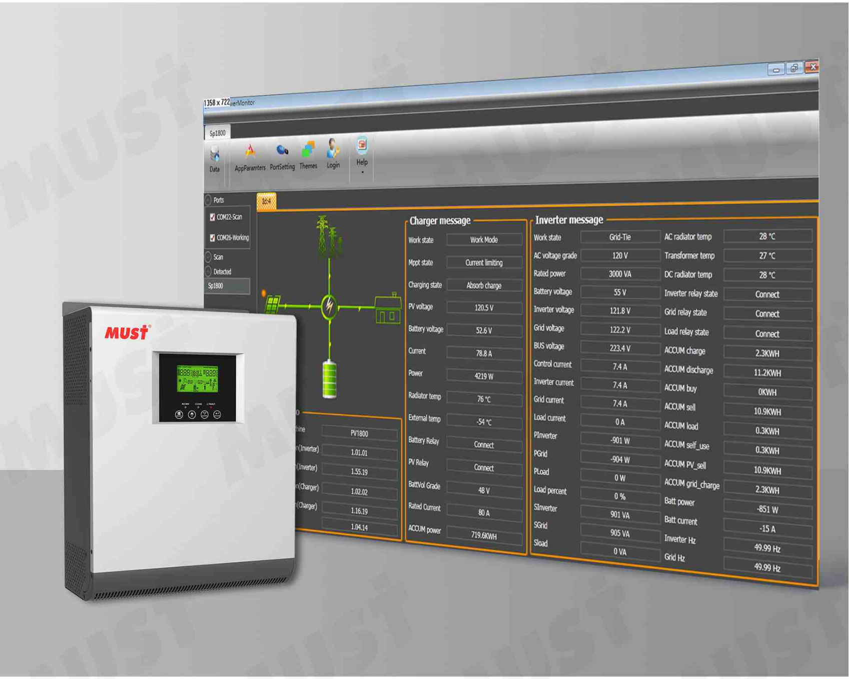


- SBU



- UTI





☑ COM22-Scan

☑ COM26-Working

hine	PV1800
n(Inverter)	1.01.01
(Inverter)	1.55.19
n(Charger)	1.02.02
(Charger)	1.16.19
	1.04.14

Charger message

Work state	Work Mode
Mppt state	Current limiting
Charging state	Absorb charge
PV voltage	120.5 V
Battery voltage	52.6 V
Current	78.8 A
Power	4219 W
Radiator temp	76 °C
External temp	-54 °C
Battery Relay	Connect
PV Relay	Connect
BattVol Grade	48 V
Rated Current	80 A
ACCUM power	719.6KWH

Inverter message

Work state	Grid-Tie	AC radiator temp	28 °C
AC voltage grade	120 V	Transformer temp	27 °C
Rated power	3000 VA	DC radiator temp	28 °C
Battery voltage	55 V	Inverter relay state	Connect
Inverter voltage	121.8 V	Grid relay state	Connect
Grid voltage	122.2 V	Load relay state	Connect
BUS voltage	223.4 V	ACCUM charge	2.3KWH
Control current	7.4 A	ACCUM discharge	11.2KWH
Inverter current	7.4 A	ACCUM buy	0KWH
Grid current	7.4 A	ACCUM sell	10.9KWH
Load current	0 A	ACCUM load	0.3KWH
PInverter	-901 W	ACCUM self_use	0.3KWH
PGrid	-904 W	ACCUM PV_sell	10.9KWH
PLoad	0 W	ACCUM grid_charge	2.3KWH
Load percent	0 %	Batt power	-851 W
SInverter	901 VA	Batt current	-15 A
SGrid	905 VA	Inverter Hz	49.99 Hz
Sload	0 VA	Grid Hz	49.99 Hz

Monitoring system

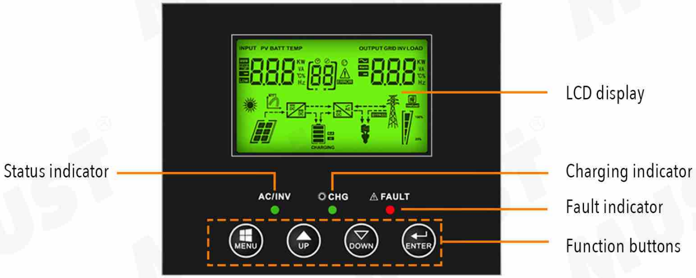
With USB can connect with computer monitoring the working stage and the data of PV, AC and battery. LCD setting is also available in computer.

MUST

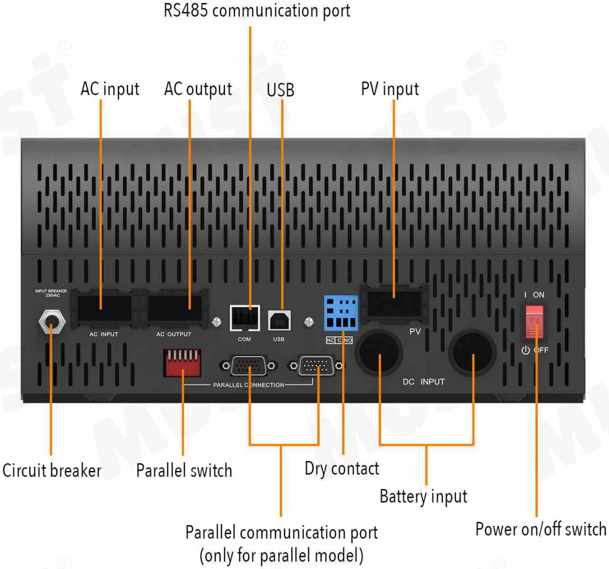
PRODUCT DETAILS

MUST HELP YOU CONTROL EVERY DETAIL

Details reflect quality



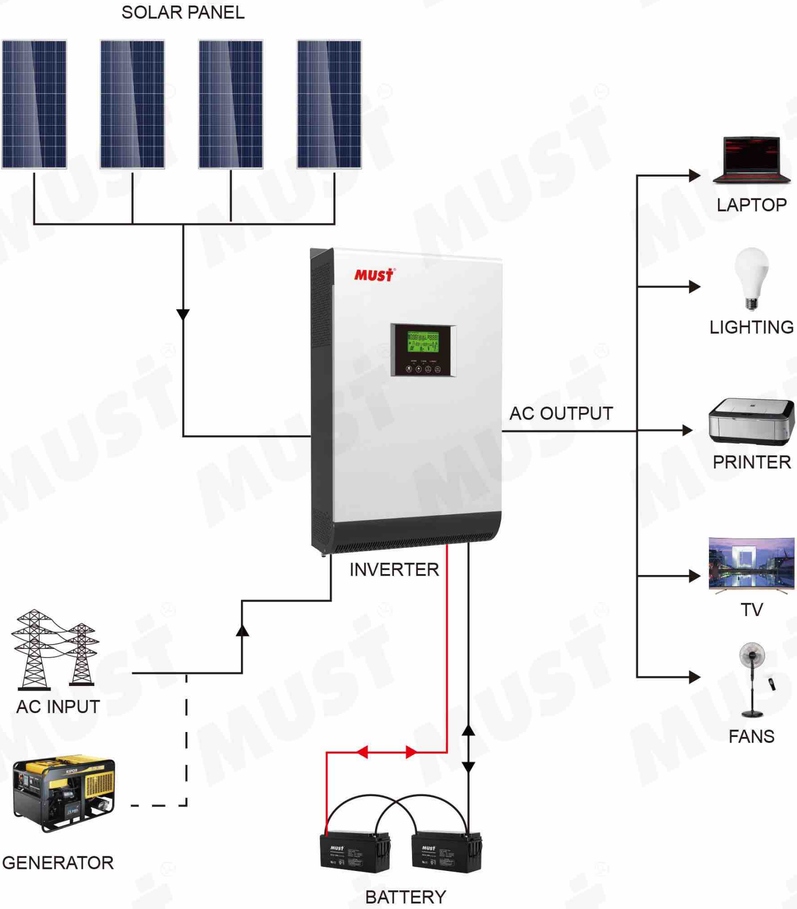
MUST



MUST

INVERTER SYSTEM CONNECTION

INVERTER + SOLAR PANELS + GRID + APPLICATION LOADS



MUST

PRODUCT PARAMETERS

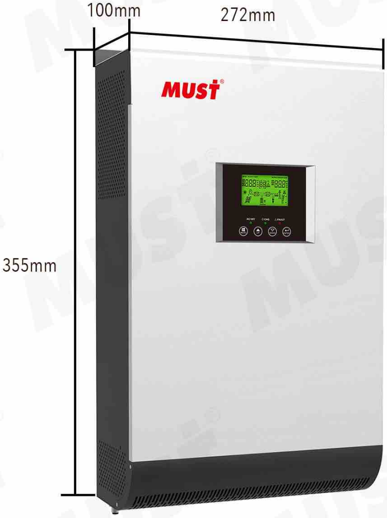
MAKE SURE EACH PARAMETER IS TRUE

Learn more about the product

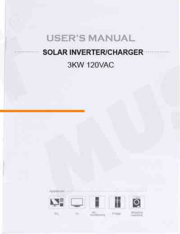
MODEL		PV18-1024 LHM	PV18-1524 LHM	PV18-2024 LHM	PV18-2524 LHM	PV18-3024 LHM	PV18-3048 LHM
Nominal Battery System Voltage		24VDC					48VDC
INVERTER OUTPUT	Rated Power	1000W	1500W	2000W	2500W	3000W	3000W
	Surge Power	2000W	3000W	4000W	5000W	6000W	6000W
	Waveform	Pure sine wave					
	AC Voltage Regulation (Batt.Mode)	(100VAC ~ 120VAC)±5%					
	Inverter Efficiency(Peak)	93%					
	Transfer Time	10ms（For Personal Computers）20ms（For Home Appliance）					
AC INPUT	Voltage	120VAC					
	Selectable Voltage Range	90~145VAC(For Personal Computers)、65~145VAC(For Home Appliances)、107~132VAC(VDE4105)					
	Frequency Range	50Hz/60Hz (Auto sensing)					
BATTERY	Normal voltage	24VDC					48VDC
	Floating Charge Voltage	27VDC					54VDC
	Overcharge Protection	31VDC					60VDC
SOLAR CHARGER & AC CHARGER	Maximum PV Array Open Circuit Voltage	145VDC					
	PV Array MPPT Voltage Range	30~130VDC					64~130VDC
	Standby Power Consumption	2W					
	PV input power Power	1440W/1920W					2880W/3840W
	Maximum Solar Charge Current	60A/80A					
	Maximum Efficiency	98%					
	Maximum AC Charge Current	60A					
	Maximum ChargeCurrent	120A/140A					
MECHANICAL SPECIFICATIONS	Machine Dimensions (W*H*D)(mm)	272*355*100					297.5*468*125
	Package Dimensions (W*H*D)(mm)	540*395*241					638*395*241
	Net Weight(kg)	13.3					
	Gross Weight(kg)	16.4					
OTHER	Humidity	5% to 95% Relativ Humidity (Non-condensing)					
	Operating Temperature	0°C-55°C					
	Storage Temperature	-15°C-60°C					

MUST

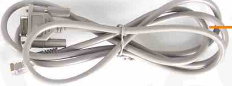
Size



Package



User Manual



Communication cable

Warranty registration card
DATE
SERVICE RECORD
TRANSACTOR

Solar Inverter Solar Charger

Warranty card

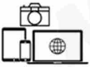
Monitoring Software Installation CD

MUST
Green Energy Advocates
USER'S MANUAL
Warranty registration card

Packaging

MUST

Applicable appliances

ELECTRONIC PRODUCT	APPLIANCE	ELECTRONIC PRODUCT	APPLIANCE	ELECTRONIC PRODUCT	APPLIANCE
LED LIGHT	✓	WASHING MACHINE	✓	ELECTRIC IRON	✓
INCANDESCENT LAMP	✓	HAND MILL	✓	HOT WATER BOTTLE	✓
FAN	✓	HAND DRILL	✓	DRYER	✓
DESKTOP PC	✓	IMPACT DRILL	✓	PROJECTOR	✓
LAPTOP	✓	SUBMERSIBLE PUMP	✓	AIR DUCT	✓
ELECTIRC COOKER	✓	AIR-CONDITIONING FAN	✓	PRINTER	✓
TV	✓	CRT TV	✓	VACUUM CLEANER	✓
REFRIGERATOR	✓	SOYMILK MACHINE	✓	 DIGITAL PRODUCT	✓

MUST

PRACTICAL APPLICATION

APPLICABLE PLACE

CCTV

MARIVAN
MARIVAN
Shop / Supermarket

Office

Solar power system

Industrial intellectual control system

Ventilation systems

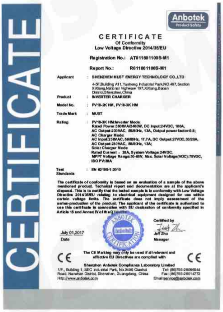
PROJECT REFERENCE

MUST

PROFESSIONAL CERTIFICATION

CE SAA ISO9001

High quality and high standard



CERTIFICATE

Anbotek Product Safety

CERTIFICATE
Of Conformity
Low Voltage Directive 2014/35/EU

Registration No.: AT011601100S-M1

Report No.: R011601100S-M1

Applicant : **SHENZHEN MUST ENERGY TECHNOLOGY CO.,LTD**
4-5F,Building A11,Yusheng Industrial Park,NO.467,Section XiXiang,National Highwaw 107,XiXiang,Baoan District,Shenzhen,China

Product : **INVERTER CHARGER**

Model No. : **PV18-2K HM, PV18-3K HM**

Trade Mark : **MUST**

Rating : **PV18-3K HM:Inverter Mode:**
Rated Power:3000VA/2400W, DC Input:24VDC, 100A,
AC Output:230VAC, 50/60Hz, 13A, Output power factor:0.8;
AC Charger Mode:
AC Input:230VAC, 50/60Hz, 17.7A, DC Output:27VDC,30/20A,
AC Output:230VAC, 50/60Hz, 13A;
Solar Charger Mode:
Rated Current : 25A, System Voltage:24VDC,
MPPT Voltage Range:30-66V, Max. Solar Voltage(VOC):75VDC,
ISO PV:30A

Test Standards : **EN 62109-1:2010**

The certificate of conformity is based on an evaluation of a sample of the above mentioned product. Technical report and documentation are at the applicant's disposal. This is to certify that the tested sample is in conformity with Low Voltage Directive 2014/35/EU relating to electrical equipment designed for use within certain voltage limits. The certificate does not imply assessment of the series-production of the product. The applicant of the certificate is authorized to use this certificate in connection with EU declaration of conformity specified in Article 15 and Annex IV of the Directive.

July 01,2017
Date

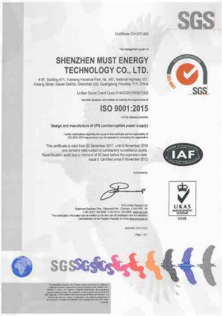
Certified by
Jeff Zhu
Jeff Zhu
Manager

CE

The CE Marking may only be used if all relevant and effective EU Directives are complied with

CE

Shenzhen Anbotek Compliance Laboratory Limited
1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China
Tel: (86)755-26066544
Fax: (86)755-26014772
Http://www.anbotek.com
Email:service@anbotek.com



SGS

Certificate CN12/31440

The management system of

SHENZHEN MUST ENERGY TECHNOLOGY CO., LTD.

4-5F, Building A11, Yusheng Industrial Park, No. 467, National Highway 107, Xixiang Street, Baoan District, Shenzhen City, Guangdong Province, P.R. China

Unified Social Credit Code [illegible]

has been assessed and certified as meeting the requirements of

ISO 9001:2015

For the following activities

Design and manufacture of UPS (uninterruptible power supply)

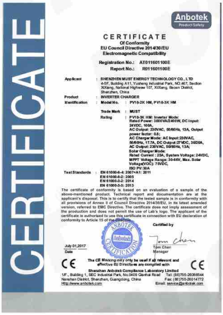
Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2015 requirements may be obtained by consulting the organization

This certificate is valid from 20 December 2017 until 8 November 2018 and remains valid subject to satisfactory surveillance audits. Recertification audit due a minimum of 60 days before the expiration date. Issue 5. Certified since 8 November 2012

Authorised by

SGS United Kingdom Ltd
Rossmore Business Park Ellesmere Port Cheshire CH65 3EN UK
t +44 (0)151 350-6666 f +44 (0)151 350-6600 www.sgs.com
The certification information can be verified on the web site of Certification and Accreditation Administration of the People's Republic of China www.cnca.gov.cn

Page 1 of 1



CERTIFICATE

Anbotek Product Safety

CERTIFICATE
Of Conformity
EU Council Directive 2014/30/EU
Electromagnetic Compatibility

Registration No.: AT011601100E
Report No.: R011601100E

Applicant : **SHENZHEN MUST ENERGY TECHNOLOGY CO., LTD**
4-5F, Building A11, Yusheng Industrial Park, NO.467, Section XiXiang, National Highwaw 107, XiXiang, Baoan District, Shenzhen, China

Product : **INVERTER CHARGER**

Identification : **Model No.** : **PV18-2K HM, PV18-3K HM**

Trade Mark : **MUST**

Rating : **PV18-3K HM: Inverter Mode:**
Rated Power: 3000VA/2400W, DC Input: 24VDC, 100A,
AC Output: 230VAC, 50/60Hz, 13A, Output power factor: 0.8;
AC Charger Mode: AC Input:230VAC, 50/60Hz, 17.7A, DC Output:27VDC, 30/20A,
AC Output: 230VAC, 50/60Hz, 13A;
Solar Charger Mode:
Rated Current : 25A, System Voltage: 24VDC,
MPPT Voltage Range: 30-66V, Max. Solar Voltage(VOC): 75VDC,
ISO PV:30A

Test Standards : **EN 61000-6-4: 2007+A1: 2011**
EN 61000-6-2: 2005
EN 61000-3-2: 2014
EN 61000-3-3: 2013

The certificate of conformity is based on an evaluation of a sample of the above-mentioned product. Technical report and documentation are at the applicant's disposal. This is to certify that the tested sample is in conformity with all provisions of Annex II of Council Directive 2014/30/EU, in its latest amended version, referred to EMC Directive. The certificate does not imply assessment of the production and does not permit the use of Lab's logo. The applicant of the certificate is authorized to use this certificate in connection with EU declaration of conformity to Article 15 of the Directive.

July 01,2017
Date

Certified by
Tom Chen
Tom Chen
Manager

CE

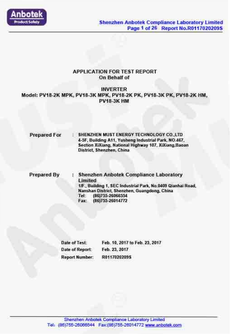
The CE Marking may only be used if all relevant and effective EU Directives are complied with

CE

Shenzhen Anbotek Compliance Laboratory Limited
1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China
Tel: (86)755-26066544
Fax: (86)755-26014772
Http://www.anbotek.com
Email: service@anbotek.com

TEST REPORT

Have quality inspection to use with confidence



Shenzhen Anbotek Compliance Laboratory Limited
Page 1 of 26 Report No.R0117020209S

APPLICATION FOR TEST REPORT
On Behalf of

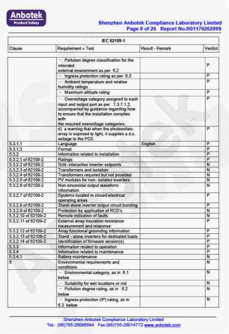
INVERTER
Model: PV18-2K MPK, PV18-3K MPK, PV18-2K PK, PV18-3K PK, PV18-2K HM, PV18-3K HM

Prepared For : SHENZHEN MUST ENERGY TECHNOLOGY CO.,LTD
4-5F, Building A11, Yusheng Industrial Park, NO.467,
Section XiXiang, National Highway 107, XiXiang,Baoan
District, Shenzhen, China

Prepared By : Shenzhen Anbotek Compliance Laboratory Limited
1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road,
Nanshan District, Shenzhen, Guangdong, China
Tel: (86)755-26066554
Fax: (86)755-26014772

Date of Test: Feb. 10, 2017 to Feb. 23, 2017
Date of Report: Feb. 23, 2017
Report Number: R0117020209S

Shenzhen Anbotek Compliance Laboratory Limited
Tel: (86)755-26066544 Fax:(86)755-26014772 www.anbotek.com

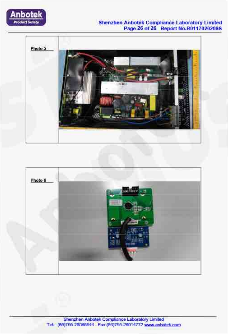


Shenzhen Anbotek Compliance Laboratory Limited
Page 8 of 26 Report No.R0117020209S

IEC 62109-1

Clause	Requirement + Test	Result - Remark	Verdict
	– Pollution degree classification for the intended external environment as per 6.2		P
	– Ingress protection rating as per 6.3		P
	– Ambient temperature and relative humidity ratings		P
	– Maximum altitude rating		P
	– Overvoltage category assigned to each input and output port as per 7.3.7.1.2, accompanied by guidance regarding how to ensure that the installation complies with the required overvoltage categories;		P
	d) a warning that when the photovoltaic array is exposed to light, it supplies a d.c. voltage to the PCE.		P
5.3.1.1	Language	English	P
5.3.1.2	Format		P
5.3.2	Information related to installation		P
5.3.2.1 of 62109-2	Ratings		P
5.3.2.2 of 62109-2	Grid- interactive inverter setpoints		N
5.3.2.3 of 62109-2	Transformers and isolation		N
5.3.2.4 of 62109-2	Transformers required but not provided		N
5.3.2.5 of 62109-2	PV modules for non- isolated inverters		N
5.3.2.6 of 62109-2	Non-sinusoidal output waveform information		N
5.3.2.7 of 62109-2	Systems located in closed electrical operating areas		P
5.3.2.8 of 62109-2	Stand-alone inverter output circuit bonding		P
5.3.2.9 of 62109-2	Protection by application of RCD's		N
5.3.2.10 of 62109-2	Remote indication of faults		N
5.3.2.11 of 62109-2	External array insulation resistance measurement and response		P
5.3.2.12 of 62109-2	Array functional grounding information		P
5.3.2.13 of 62109-2	Stand - alone inverters for dedicated loads		P
5.3.2.14 of 62109-2	Identification of firmware version(s)		P
5.3.3	Information related to operation		P
5.3.4	Information related to maintenance		P
5.3.4.1	Battery maintenance		N
6	Environmental requirements and conditions		N
	– Environmental category, as in 6.1 below		N
	– Suitability for wet locations or not		N
	– Pollution degree rating, as in 6.2 below		N
	– Ingress protection (IP) rating, as in 6.3 below		N

Shenzhen Anbotek Compliance Laboratory Limited
Tel: (86)755-26066544 Fax:(86)755-26014772 www.anbotek.com



Shenzhen Anbotek Compliance Laboratory Limited
Page 26 of 26 Report No.R0117020209S

Photo 5

Photo 6

Shenzhen Anbotek Compliance Laboratory Limited
Tel: (86)755-26066544 Fax:(86)755-26014772 www.anbotek.com

SHENZHEN MUST ENERGY TECHNOLOGY CO.,LTD.