Low Frequency Power Inverter/Charger

EP3000 PLUS SERIES (1KW-6KW)

MUST
GREEN ENERGY
MUST
GREEN ENERGY

THREE COLORS OPTION

● RED
● SILVER
● GREEN

EP3000PLUS series is very economical pure sine wave inverter, AC charger inbuilt, from 35A to 70A; Solar/AC priority is configurable, when setting solar priotiry, solar will

MUST

charge batteries as first priority, and AC can also charge batteries when solar charger current too lower, in this way system charge is optimazed best. With pure copper transformer, it enables inverter to operate with all kinds of home appliances.

Rated Power
1KW-6KW

Battery DC voltage
12V, 24V, 48V

Wide AC input range
155-280Vac / 96-132Vac

Wide frequency
40HZ-80HZ

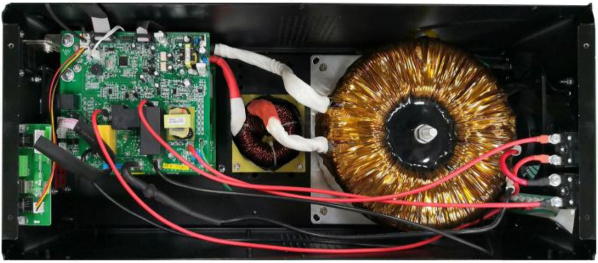
3 times surge power
based on
capacity 1KW-6KW

Pure copper
UI transformer

Battery smart
charge design

Multi protection

Inside Structures



MUST

[EP3000 PLUS 4-6KW]

PRODUCT FEATURES

SMART & INTELLIGENT FEATURES

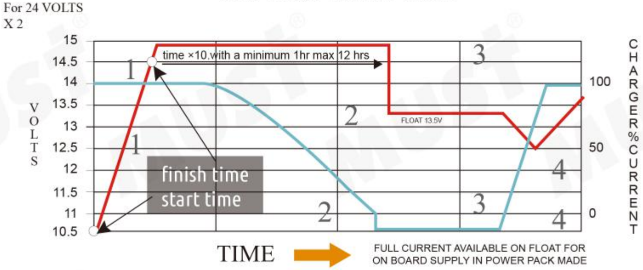
- Pure sine wave output
- Friendly user interface
- 3 Steps charging
- MFD (multi-function display)
- Overload and short-circuit protection
- Set charging voltage/charging current.
- Battery low voltage shutdown point can be set to 10/10.5/11V
- Power-save mode
- Set utility priority/ Battery priority
- Set utility input wide/narrow range
- Inverter voltage can be set to 120V:110V/115V/120V 220V:220V/230V/240V
- Inverter frequency can be set to 50/50/60Hz
- Set utility charging on/off switch

MUST®

Pure sine wave output

Perfectly driving inductive load current

ADJUSTABLE TIME DEPENDING ON BATTERY BANK SIZE



FULL CURRENT AVAILABLE ON FLOAT FOR
ON BOARD SUPPLY IN POWER PACK MADE

THE NEW BATTERY CHARGERS AND BOOTSTERS OFFER THE FASTEST CHARGE RATE CURRENTLY AVAILABLE

STEP 1 = CONSTANT CURRENT CHARGE	STEP 2 = ABSORPTION CHARGE AT 14.4/14.8 V
STEP 3 = CONSTANT VOLTAGE AT 13.5 VOLTS	STEP 4 = LOW VOLTAGE RESETTO STEP 1

Smart Battery Chargers

Smart battery charger design for optimized battery performance.

MUST

FAULT
INV
AC
MENU
UP
DOWN
ENTER

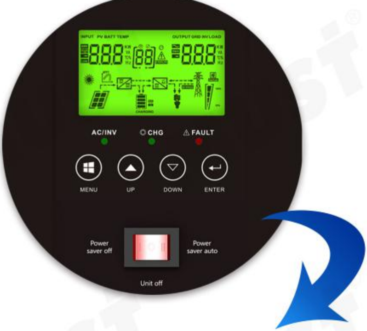
Remote control

Control with a wired remote control panel

The remote control is particularly suitable when the power-source manager is installed behind a casing or in a place that prevents you from accessing the device. The remote control allows you to switch the power saving mode on/off easily. Please note that remote control panel is optional, not included in inverter package.

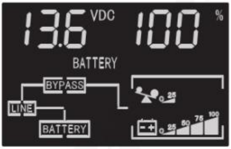
MUST

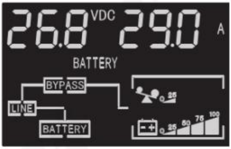
LCD display, easy to read how inverter operates on LCD screen


INPUT PV BATT TEMP
OUTPUT GRID INV LOAD
AC/INV
CHG
FAULT
MENU
UP
DOWN
ENTER
Power saver off
Power saver auto
Unit off

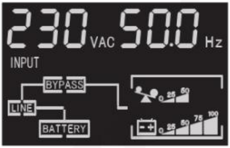
Line Mode

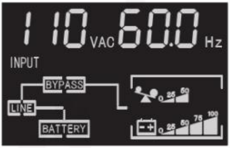
When utility is the unit the battery from the utility,LCD indicate charge current.


13.6 VDC
100 %
BATTERY
BYPASS
LINE
BATTERY
0 25
0 25 50 75 100


26.8 VDC
29.0 A
BATTERY
BYPASS
LINE
BATTERY
0 25
0 25 50 75 100

In utility mode the unit provide output power from the utility, the indication and displays are following figures:

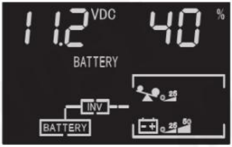

230 VAC
50.0 Hz
INPUT
BYPASS
LINE
BATTERY
0 25 50
0 25 50 75 100

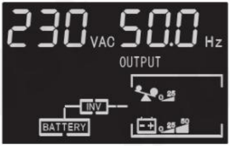

110 VAC
60.0 Hz
INPUT
BYPASS
LINE
BATTERY
0 25 50
0 25 50 75 100

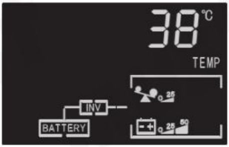
Battery Mode

In battery mode the unit will provide output power from battery or PV, LCD indicate battery capacity

MUST®

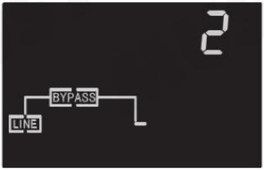

11.2 VDC
40 %
BATTERY
INV
BATTERY


230 VAC
50.0 Hz
OUTPUT
INV
BATTERY


38 ℃
TEMP
INV
BATTERY

Fault Mode

When inverter fault, the indication and displays are as following figures:


2
BYPASS
LINE

1 ------- fan jam

2 ------- overload

3/6/7 ------- output short circuit

4 ------- over temperature

8/9 ------- battery over voltage.

Different working modes

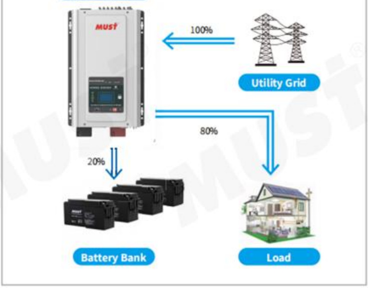
You can choose different working mode based on your need.

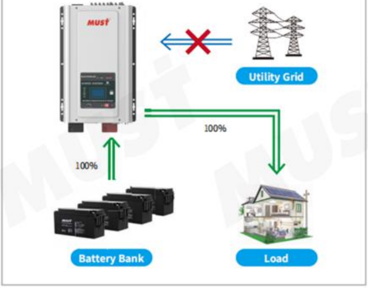
1- AC Mode, $P_{AC}=P_{Load} + P_{Bat}$

EP3000 PLUS

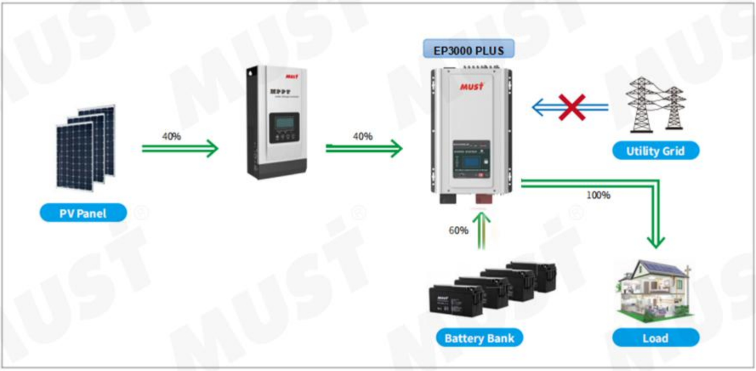
2- Battery Mode (Utility not avaliable), $P_{Bat}=P_{load}$

EP3000 PLUS


MUST
100%
Utility Grid
80%
20%
Battery Bank
Load

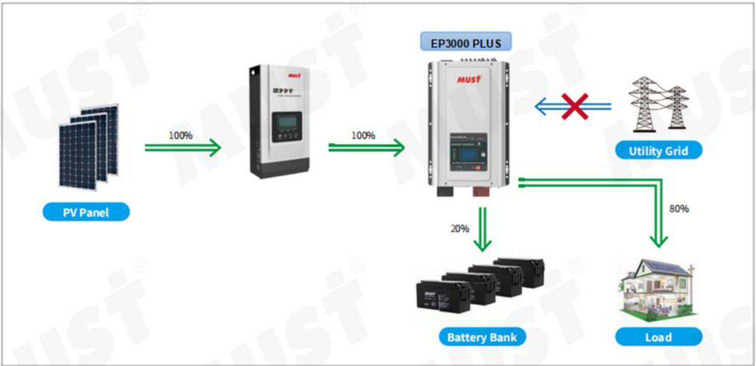

MUST
Utility Grid
100%
100%
Battery Bank
Load

3- Battery priority Mode, when $P_{Load} > P_{PV}$, $P_{Load} = P_{PV} + P_{Bat}$


EP3000 PLUS
MUST
MPPT
PV Panel
40%
40%
Utility Grid
100%
60%
Battery Bank
Load

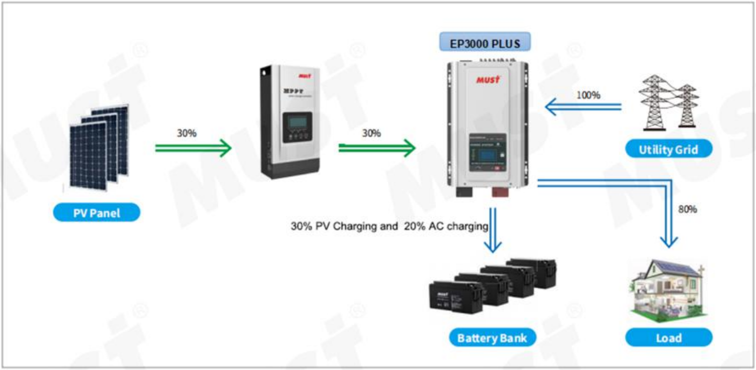
4- $P_{PV} > P_{Load}$, $P_{PV} + P_{Load} + P_{Bat}$

$P_{Load} > P_{PV}$, $V_{Bat} < 11.5V$, Inverter turn to AC mode


EP3000 PLUS
MUST
MPPT
PV Panel
100%
100%
Utility Grid
80%
20%
Battery Bank
Load

5- $P_{AC} + P_{PV} = P_{Load} + P_{Bat}$

When V_{Bat} >13.5V (settable), inverter turn to battery mode.


EP3000 PLUS
PV Panel
30%
30%
100%
Utility Grid
80%
30% PV Charging and 20% AC charging
Battery Bank
Load

PRODUCT DETAILS

MUST HELP YOU CONTROL EVERY DETAIL

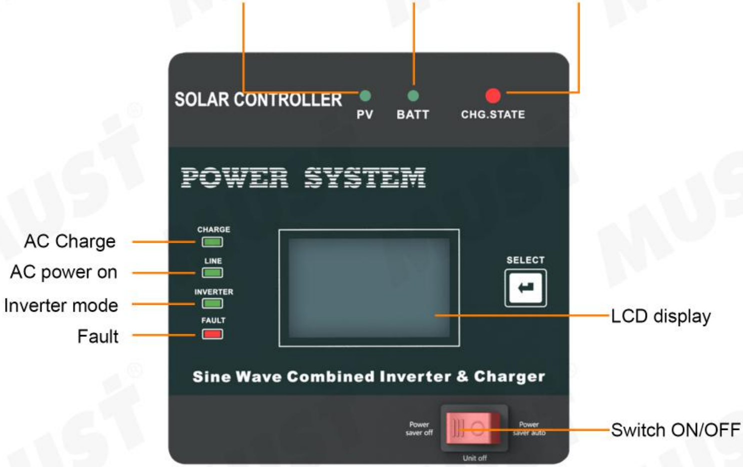
Details reflect quality

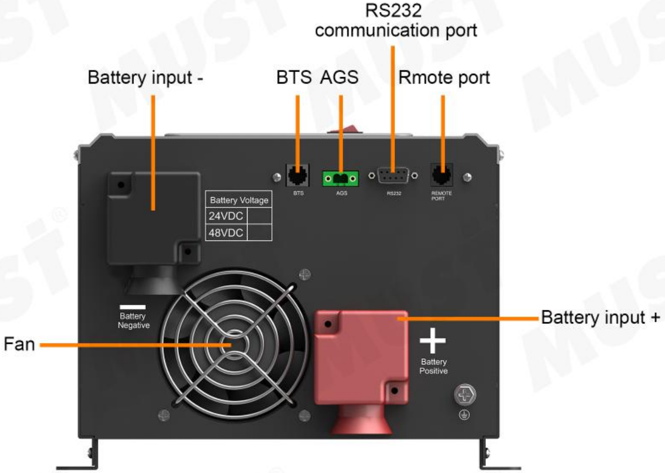
PV voltage normal

Battery voltage normal

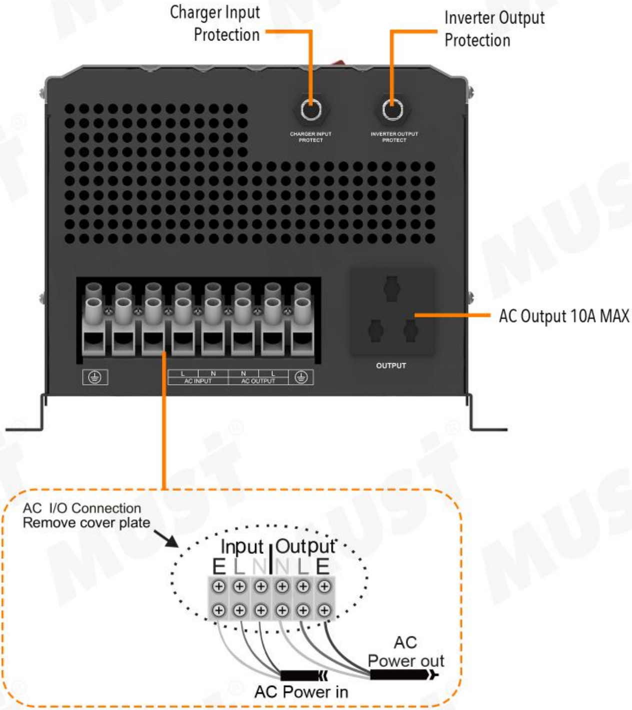
Charging

MUST®


SOLAR CONTROLLER
PV
BATT
CHG.STATE
POWER SYSTEM
CHARGE
LINE
INVERTER
FAULT
AC Charge
AC power on
Inverter mode
Fault
SELECT
LCD display
Sine Wave Combined Inverter & Charger
Power saver off
Power saver auto
Unit off
Switch ON/OFF


RS232
communication port
Battery input -
BTS AGS
Rmote port
BTS
AGS
RS232
REMOTE PORT
Battery Voltage
24VDC
48VDC
Battery Negative
Fan
Battery input +
Battery Positive

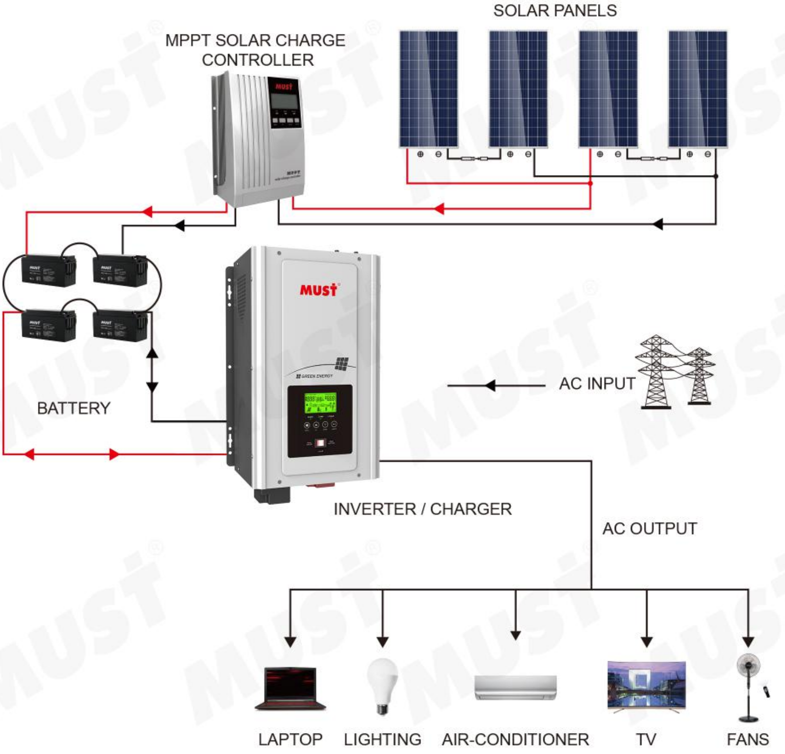
MUST


Charger Input Protection
Inverter Output Protection
CHARGER INPUT PROTECT
INVERTER OUTPUT PROTECT
AC Output 10A MAX
OUTPUT
L N N L
AC INPUT
AC OUTPUT
AC I/O Connection
Remove cover plate
Input
Output
E L N N L E
AC Power out
AC Power in

INVERTER SYSTEM CONNECTION

MUST

INVERTER + SOLAR CHARGE CONTROLLER + BATTERY + SOLAR PANELS + GRID + APPLICATION LOADS


SOLAR PANELS
MPPT SOLAR CHARGE CONTROLLER
MUST
BATTERY
MUST
GREEN ENERGY
AC INPUT
INVERTER / CHARGER
AC OUTPUT
LAPTOP
LIGHTING
AIR-CONDITIONER
TV
FANS

EP3000 PLUS inverter system, it can work with battery as back up power for normal home power demands; meanwhile, you can also connect extra solar charge controllers and solar panels, as a complete solar system, which take use of sunshine freely and save lots electricity bill for you. This kindly of solar inverter systems are widely used in home, farm, school, shops etc

MUST®

PRODUCT PARAMETERS

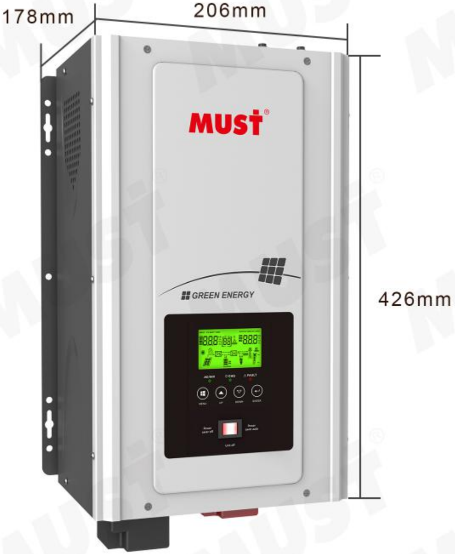
MAKE SURE EACH PARAMETER IS TRUE

Learn more about the product

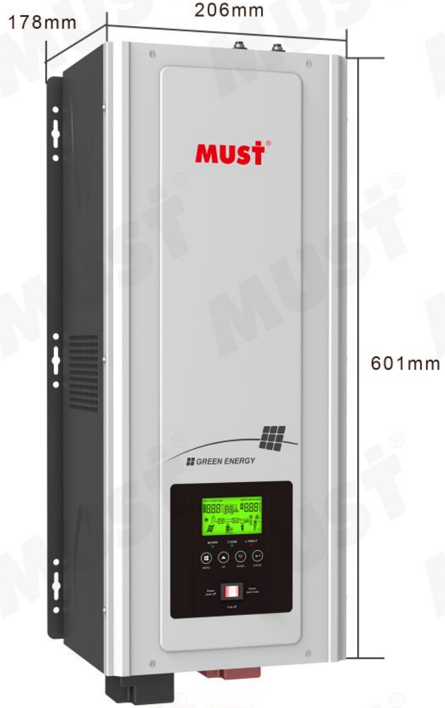
MODEL		EP30-1KW PLUS		EP30-1.5KW PLUS		EP30-2KW PLUS		EP30-3KW PLUS			EP30-4KW PLUS		EP30-5KW PLUS		EP30-6KW PLUS	
Nominal Battery System Voltage		12VDC	24VDC	12VDC	24VDC	12VDC	24VDC	\	24VDC	48VDC	24VDC	48VDC	\	48VDC	\	48VDC
INVERTER OUTPUT	Rated Power	1.0KW		1.5KW		2KW		3KW			4KW		5KW		6KW	
	Surge Rating(20ms)	3.0KW		4.5KW		6.0KW		9.0KW			12KW		15KVA		18KW	
	Capable Of Starting Electric Motor	\		1HP		1.5HP							2P		3P	
	Waveform	Pure sine wave / same as input (bypass mode)														
	Nominal Output Voltage RMS	220V / 230V / 240V (±10% RMS)														
	Output Frequency	50Hz / 60Hz ±0.3Hz														
	Inverter Efficiency (Peak)	>85%														
	Line Mode Efficiency	>95%														
	Power Factor	1.0														
	Typical Transfer Time	10ms(max)														
AC INPUT	Voltage	230VAC														
	Selectable Voltage Range	96~132VAC 155~280VAC(For personal computers)														
	Frequency Range	50Hz / 60Hz(Auto sensing) 40~80Hz														
BATTERY	Minimum Start Voltage	10.0VDC / 10.5VDC for 12VDC mode(*2 for 24VDC, *4 for 48VDC)														
	Low Battery Alarm	10.5VDC ±0.3V for 12VDC mode(*2 for 24VDC, *4 for 48VDC)														
	Low Battery Cut Off	10.0VDC ±0.3V for 12VDC mode(*2 for 24VDC, *4 for 48VDC)														
	High Voltage Alarm	16.0VDC ±0.3V for 12VDC mode(*2 for 24VDC, *4 for 48VDC)														
	High Battery Voltage Recover	15.5VDC ±0.3V for 12VDC mode														
	Idie Consumption-Search Mode	<25W when power saver on														
CHARGER	Output Voltage	Depends on battery type														
	Charge AC Input Breaker Rating	10A		30A		30A		30A				40A				
	Overcharge Protection S.D.	15.7VDC for 12VDC mode (*2 for 24VDC mode, *4 for 48VDC mode)														
	Maximum Charge Current	30A	20A	45A	25A	60A	30A	\	40A	20A	60A	30A	\	35A	\	40A
BYPASS & PROTECTION	Input Voltage Waveform	Sine wave (grid or generator)														
	Nominal Input Frequency	50Hz or 60Hz														
	Overload Protection (SMPS Load)	Circuit breaker														
	Output Short Circuit Protection	Circuit breaker														
	Bypass Breaker Rating	10A		30A		30A		30A		30A	40A					
	Max Bypass Current	30Amp														
MECHANICAL SPECIFICATIONS	Mounting	Wall Mount														
	Dimensions (W*H*D)	426*206*178mm									601*206*178mm					
	Net Weight (Solar CHG)(kg)	16.5		17		21.1	20	26	24.5	24.8	38.2	35.8	45.2	45	45.2	45
	Shipping Dimensions (W*H*D)	5570*335*300mm									750*335*300mm					
	Shipping Weight (Solar CHG)(kg)	19.3		20		24.1	22.8	29.1	27.5	27.5	42.3	40	49.5	49.3	49.5	49.3
	Operation Temperature Range	0°C to 40°C														
	Storage Temperature	-15°C to 60°C														

OTHER	Audible Noise	60dB MAX
	Display	LED+LCD
	Standard Warranty	1 year

Size


178mm
206mm
426mm
MUST
GREEN ENERGY

1KW-3KW

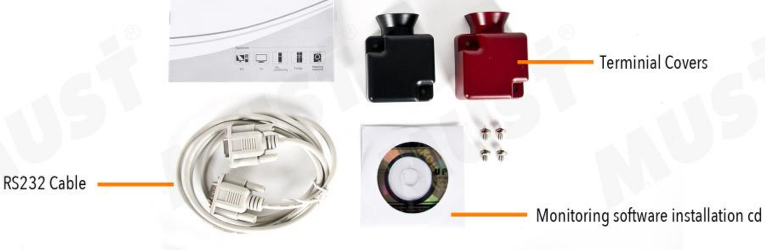

178mm
206mm
601mm
MUST
GREEN ENERGY

4KW-6KW

Package

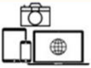
MUST
100% PURE SINE WAVE WITH CHARGER
USER'S MANUAL
INVERTER/CHARGER
User Manual
GUARANTEE CERTIFICATE
GUARANTEE CERTIFICATE
Warranty Card

MUST


Terminial Covers
RS232 Cable
Monitoring software installation cd

Applicable appliances

ELECTRONIC PRODUCT	12V/24V	QUANTITY AVAILABLE	ELECTRONIC PRODUCT	12V/24V	QUANTITY AVAILABLE
LED LIGHT	✓	10	WASHING MACHINE	✓	1
INCANDESCENT LAMP	✓	10	HAND MILL	✓	1
FAN	✓	5 [Start separately]	HAND DRILL	✓	1
DESKTOP PC	✓	2 [Start separately]	IMPACT DRILL	✓	1

 LAPTOP	✓	6
 ELECTIRC COOKER	✓	1
 TV	✓	1
 REFRIGERATOR	✓	2 【Start separately】
 AIR DUCT	✓	1
 PRINTER	✓	1
 VACUUM CLEANER	✓	1
 DIGITAL PRODUCT	✓	10
 SPEAKER	✓	1
 SUBMERSIBLE PUMP	✓	1
 AIR-CONDITIONING FAN	✓	1
 CRT TV	✓	1
 SOYMILK MACHINE	✓	1
 ELECTRIC IRON	✓	1
 HOT WATER BOTTLE	✓	1
 DRYER	✓	1
 PROJECTOR	✓	1
 ELECTRIC OVEN	✓	1

PRACTICAL APPLICATION

APPLICABLE PLACE

CCTV

Shop / Supermarket

Office

Solar power system

Industrial intellectual control system

Ventilation systems

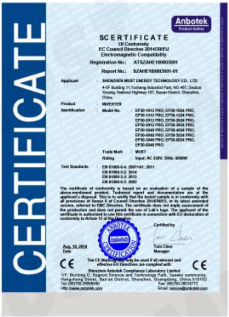
ACTUAL CASE

MUST

PROFESSIONAL CERTIFICATION

CE ISO9001

High quality and high standard



CERTIFICATE

Anbotek
Product Safety

SCERTIFICATE
Of Conformity
EC Council Directive 2014/30/EU
Electromagnetic Compatibility

Registration No.: ATSZAHE180803001

Report No.: SZAHE180803001-01

Applicant : SHENZHEN MUST ENERGY TECHNOLOGY CO., LTD
4-5F Building 11,Yusheng Industrial Park, NO 467, Section Xixiang, National Highway 107, Baoan District, Shenzhen, China

Product : INVERTER

Identification : Model No. : EP30-1012 PRO, EP30-1024 PRO, EP30-1512 PRO, EP30-1524 PRO, EP30-2012 PRO, EP30-2024 PRO, EP30-3012 PRO, EP30-3024 PRO, EP30-3048 PRO, EP30-4024 PRO, EP30-4048 PRO, EP30-5024 PRO, EP30-5048 PRO, EP30-6024 PRO, EP30-6048 PRO

Trade Mark : MUST

Rating : Input: AC 230V, 50Hz, 6000W

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

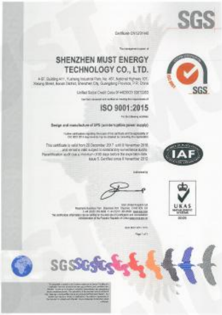
The certificate of conformity is based on an evaluation of a sample of the above-mentioned product. Technical report and documentation are at the applicant's disposal. This is to certify that the tested sample is in conformity with all provisions of Annex II of Council Directive 2014/30/EU, in its latest 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.

Aug. 10, 2018
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 D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China 518102
Tel: (86)755-26066440 Fax: (86)755-26014772
Http://www.anbotek.com Email: service@anbotek.com



SGS

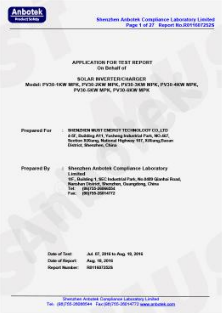
SHENZHEN MUST ENERGY TECHNOLOGY CO., LTD.

ISO 9001:2015

Design and manufacture of UPS (uninterruptible power supply)

This certificate is valid from 28 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

Page 1 of 1



Anbotek
Product Safety

Shenzhen Anbotek Compliance Laboratory Limited
Page 1 of 27 Report No.R0116072525

APPLICATION FOR TEST REPORT
On Behalf of

SOLAR INVERTER/CHARGER
Model: PV30-1KW MPK, PV30-2KW MPK, PV30-3KW MPK, PV30-4KW MPK, PV30-5KW MPK, PV30-6KW MPK

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

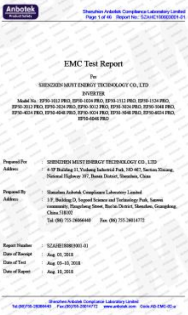
Date of Test: Jul. 07, 2016 to Aug. 10, 2016
Date of Report: Aug. 10, 2016
Report Number: R0116072525

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

TEST REPORT

Have quality inspection to use with confidence

MUST



Shenzhen Anbotek Compliance Laboratory Limited
Page 1 of 46 Report No.: SZAHE180803001-01

EMC Test Report

For

SHENZHEN MUST ENERGY TECHNOLOGY CO., LTD

INVERTER

Model No.: EP30-1012 PRO, EP30-1024 PRO, EP30-1512 PRO, EP30-1524 PRO, EP30-2012 PRO, EP30-2024 PRO, EP30-3012 PRO, EP30-3024 PRO, EP30-3048 PRO, EP30-4024 PRO, EP30-4048 PRO, EP30-5024 PRO, EP30-5048 PRO, EP30-6024 PRO, EP30-6048 PRO

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Photo of Flicker/ Harmonic Test

Photo of Electrostatic Discharge Immunity Test

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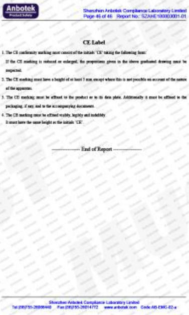

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CE Label

1. The CE conformity marking must consist of the initials 'CE' taking the following form:
   If the CE marking is reduced or enlarged, the proportions given in the above graduated drawing must be respected.
2. The CE marking must have a height of at least 5 mm except where this is not possible on account of the nature of the apparatus.
3. The CE marking must be affixed to the product or to its data plate. Additionally it must be affixed to the packaging, if any, and to the accompanying documents.
4. The CE marking must be affixed visibly, legibly and indelibly.
   It must have the same height as the initials 'CE'.

---------------- End of Report ----------------

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