Low Frequency On/Off Grid Hybrid Solar Inverter

PH3000 SERIES THREE-PHASE (9/12KW)

Energy Storage Inverter
MUST

This model PH3000 Three-phase is a flexible and intelligent energy storage inverter which utilizes solar power, utility power, and battery power source to supply continuous power. This is a multi-functional hybrid inverter which can power all kinds of appliances in home or office environment, including motor-type appliances such as tube light, fan, refrigerator and air conditioner. The system generates electricity when it has sufficient sunshine, supplying power to your home and feeding any surplus power back to the Grid.

Features

- Rated power 9KW to 12KW
- Smart LCD setting(Working modes, Charge Current, Charge Voltage, etc.)
- Built-in MPPT 180A solar charge controller
- MPPT Efficiency max 98%
- Combining solar system, AC utility, and battery power source to supply continuous power
- Multiple operations: basic Grid-tie, Off-Grid, Grid-Interactive
- Support CAN, RS485 monitoring function with free CD
- WIFI/ GPRS remote monitoring (optional)
- Compatible to generator

Rated power
9/12KW

Battery Voltage
48VDC

MAX charging current
40A

Support single-Phase
or Three-phase

Multi Protection

Pure Copper
transformer

Lead-acid/Lithium Battery
Optional

Wide AC input
95-272VAC per phase

Appearance

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Energy Storage Inverter
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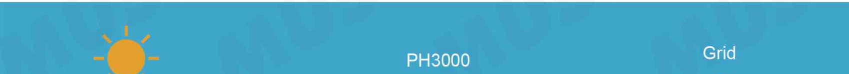
AC OUTPUT BREAKER
GRID BREAKER

PRODUCT FEATURES

SMART & INTELLIGENT FEATURES

Suitable for charging lithium battery



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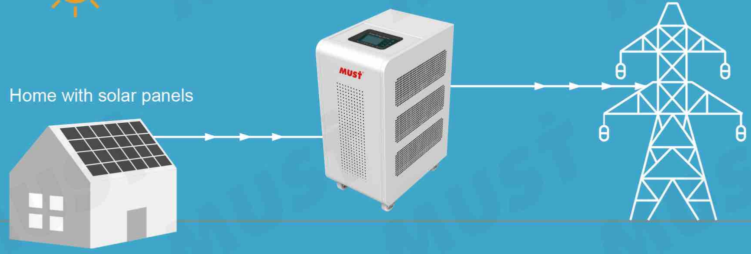
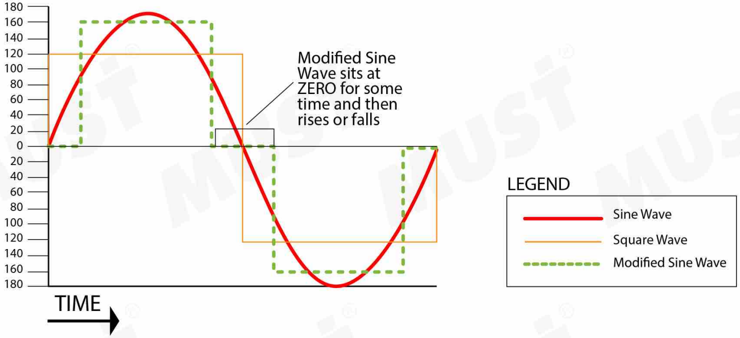


Save electricity bill

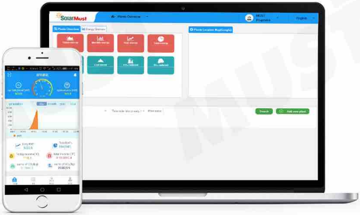
It is hybrid energy storage inverter, can feed power into grid, to use free solar power help you save electricity bill.



Pure Sine Wave Output

The electrical waveform output of PH3000 is a pure sine wave, which has the same quality as utility and/or domestic power. This type of waveform is suitable for most all electrical devices, appliances and tools. This pure sine wave unit provides more capabilities than modified sine wave inverters, because it is a cleaner form of power. The pure sine wave also effectively reduces the noise produced while using appliances.

DC9-28V
RESET
ANT
PWR
LINK
TXD
RXD
WiFi-RTU
Wi-Fi RTU
RS-232



Wifi communication

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

Easy to read all working modes and parameters in LCD

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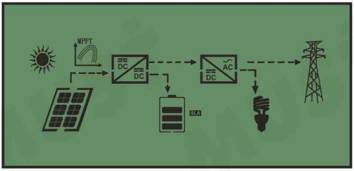
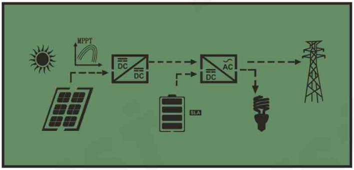
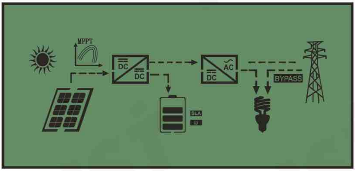
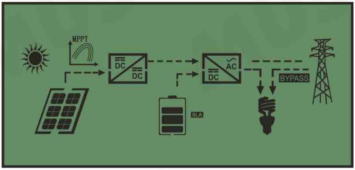
Sell state

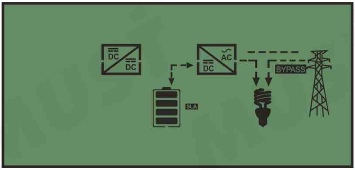
The system generates electricity when it has sufficient sunshine supplying power to your home and sending an excess power back to the grid.











Match load state

DC power produced from your solar array is converted by the inverter into AC power, which is then sent to your main electrical panel to be used by your household appliances.Any excess power generated is not sold back to the grid, but stored in battery.

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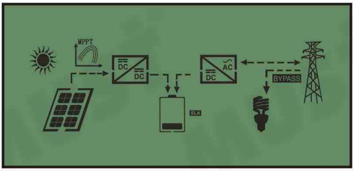
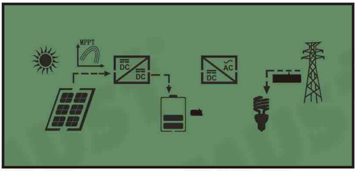
Charge state

PV energy and grid can charge batteries



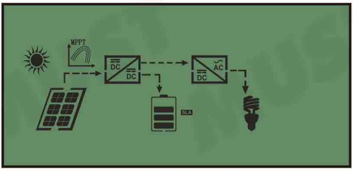
Bypass state

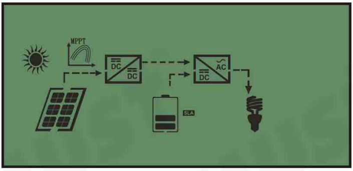
Error are caused by inside circuit error or external reasons such as over temperature, output short circuited and so on.

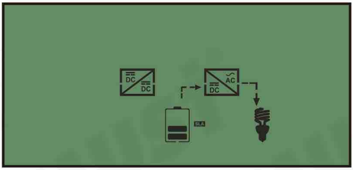


Off-Grid state

The inverter will provide output power from battery and PV power







PRODUCT DETAILS

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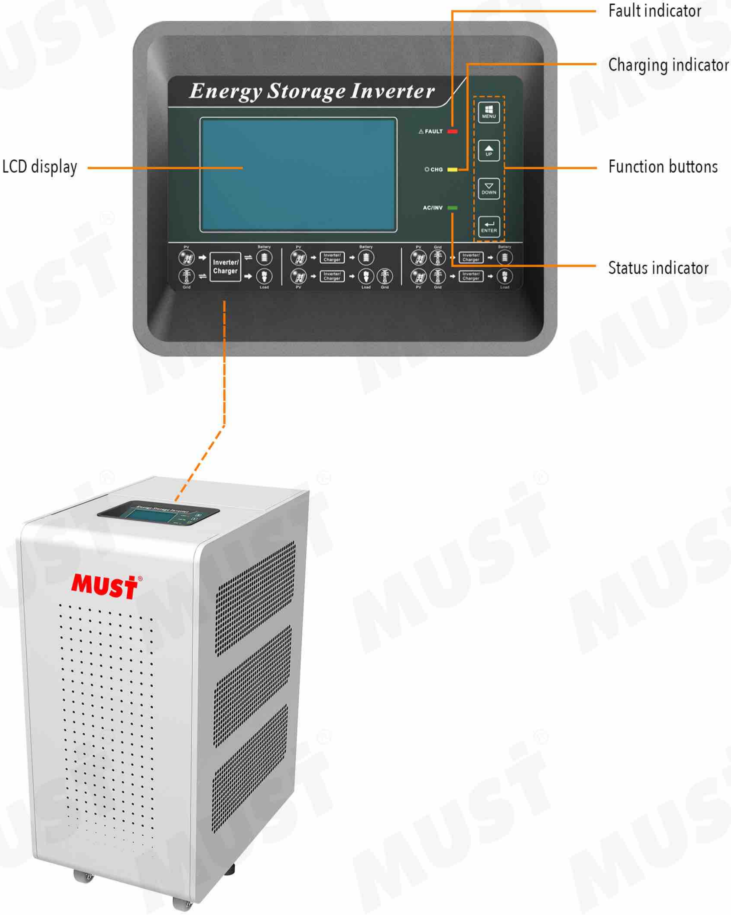
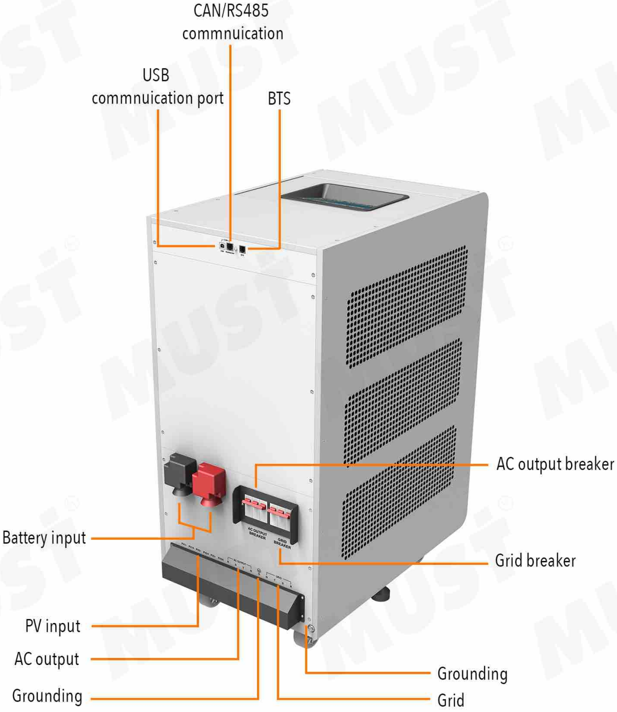
MUST HELP YOU CONTROL EVERY DETAIL

Details reflect quality



MUST®



INVERTER SYSTEM CONNECTION

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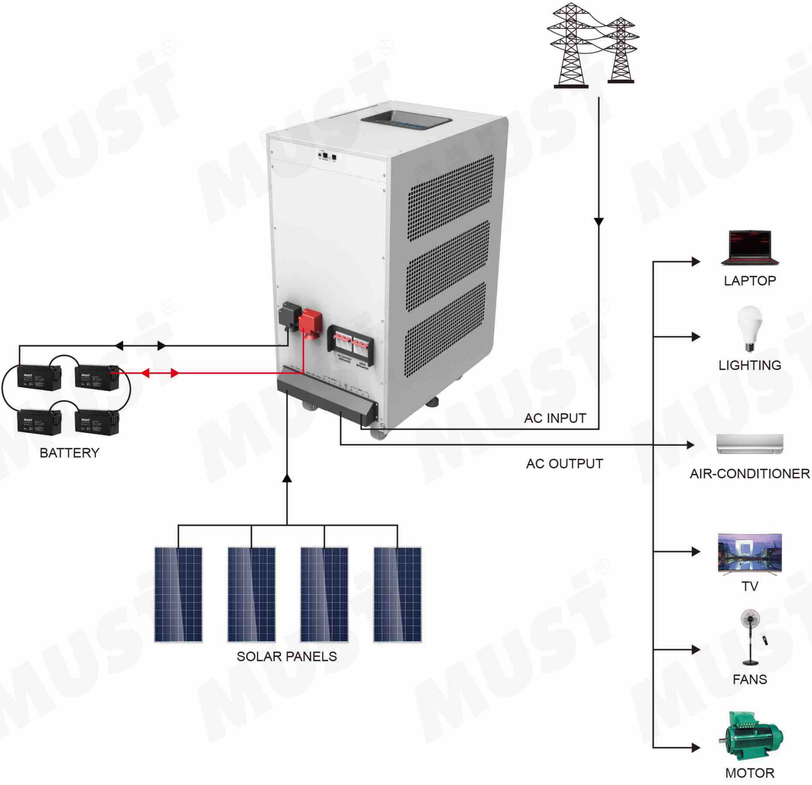
INVERTER + SOLAR PANELS + GRID + APPLICATION LOADS



PH3000,Three-phase On/Offgrid Hybrid solar inverter,This is a flexible and intelligent energy storage inverter which utilizes solar power, utility power, and battery power source to supply continuous power. This is a multi-functional hybrid inverter which can power all kinds of appliances in home or office environment, including motor-type appliances such as tube light, fan, refrigerator and air conditioner. The system

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generates electricity when it has sufficient sunshine, supplying power to your home and feeding any surplus power back to the Grid.

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PRODUCT PARAMETERS

MAKE SURE EACH PARAMETER IS TRUE

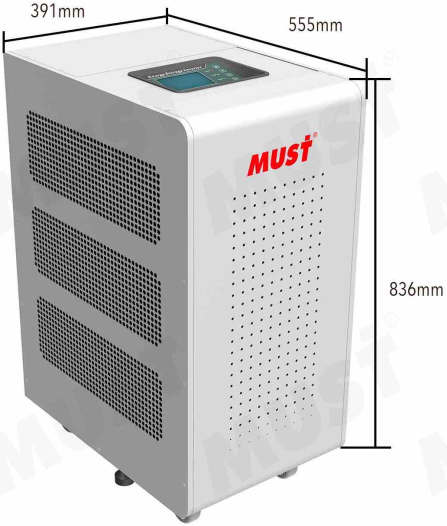
Learn more about the product

MODEL		PH30-9048-T	PH30-12048-T
Nominal Battery System Voltage		48VDC	
INVERTER OUTPUT	Rated output power	9000W	12000W
	Output wave	Pure sine wave	
	Nominal output voltage	230 VAC (P-N) / 400 VAC (P-P)	
	Nominal output current	13.0A per phase	17.4A per phase
	Nominal output frequency	50 Hz / 60 Hz	
	Rate of wave distortion (THD) (Linearity loads)	Off grid≤2% ; Grid discharge ≤3% ; Grid charge ≤3%	
	Inverting efficiency	>93%	
	Power factor	0.9 lead – 0.9 lag	
	Overload capability	100% < load≤110%,30 minutes; 110% < load≤125%,1 minutes; 125% < load≤150%,30 seconds; load > 150%,10 seconds; Short circuit,5 seconds	
AC INPUT	AC input maximum current	26.0A per phase	34.8A per phase
	Nominal frequency	50Hz / 60Hz	
	Acceptable input voltage range	Defaults 186Vac ~253Vac per phase; Narrow 174Vac ~272Vac per phase; Wide 95Vac ~272Vac per phase	

BATTERY	Nominal Voltage	48VDC	
	Low Voltage Protection Point	Charger 34.0VDC；Inverter 40.0VDC	
	Absorption Voltage	50.0VDC	
	Refloat Voltage	54.8VDC	
	Float Voltage	57.2VDC	
SOLAR CHARGER & AC CHARGER	PV Open Circuit Voltage	145VDC	
	Max Solar Charging Current	60A per phase	
	Max AC Charging Current	60A per phase	80A per phase
	Max Charging Current	120A per phase	140A per phase
MECHANICAL SPECIFICATIONS	Mounting	Vertical	
	Machine Dimension, W*H*D(mm)	391*836*555	
	Package Dimensions (W*H*D)(mm)	410*850*570	
	Net Weight (kg)	133	140
	Gross Weight (kg)	138	160
OTHER	Communication terminal	RS485/CAN bus	
	Operation Temperature Range	0℃~+50℃	
	Environmental Protection Rating	IP20	
	Ambient humidity	0 -- 90% relative humidity(non-condensing)	
	Altitude	≤2000m	

*** Product specifications are subject to change without further notice.**

Size



Package

Accessories

- BTS cable
- Communication cable(RS485)*1
- User manual*1
- Software CD*1
- Battery cable*2(optional)

Green Energy
Green Energy
Green Energy

Packaging

Applicable appliances

ELECTRONIC PRODUCT	48V	QUANTITY AVAILABLE	ELECTRONIC PRODUCT	48V	QUANTITY AVAILABLE
 LED LIGHT	✓	20	 **WASHING MACHINE**	✓	2
 INCANDESCENT LAMP	✓	20	 **HAND MILL**	✓	2
 FAN	✓	10 [Start separately]	 **HAND DRILL**	✓	2
 DESKTOP PC	✓	4 [Start separately]	 **IMPACT DRILL**	✓	2
 LAPTOP	✓	12	 **SUBMERSIBLE PUMP**	✓	2
 ELECTIRC COOKER	✓	2	 **AIR-CONDITIONING FAN**	✓	2
 TV	✓	2	 **CRT TV**	✓	2
 REFRIGERATOR	✓	4 [Start separately]	 **SOYMILK MACHINE**	✓	2

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AIR DUCT	✓	2	ELECTRIC IRON	✓	2
PRINTER	✓	2	HOT WATER BOTTLE	✓	2
VACUUM CLEANER	✓	2	DRYER	✓	2
DIGITAL PRODUCT	✓	20	PROJECTOR	✓	2
SPEAKER	✓	2	ELECTRIC OVEN	✓	2

PRACTICAL APPLICATION

APPLICABLE PLACE

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USE IN HOME SOLAR SYSTEM

USE IN HOTEL/RESTAURANT POWER SYSTEM

USE IN POWER STATION

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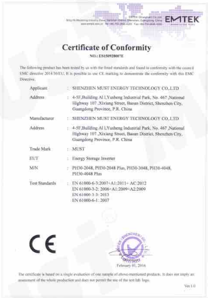
PROFESSIONAL CERTIFICATION

CE FCC ROHS MSDS ISO9001

High quality and high standard



Certificate of Conformity

NO.: ES150928007E

The following product has been tested by us with the listed standards and found in conformity with the council EMC directive 2014/30/EU. It is possible to use CE marking to demonstrate the conformity with this EMC Directive.

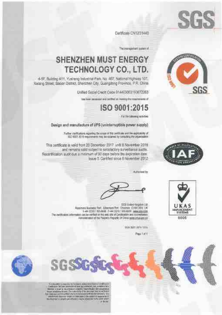
Applicant : SHENZHEN MUST ENERGY TECHNOLOGY CO.,LTD
Address : 4-5F,Building Al l,Yusheng Industrial Park, No. 467 ,National Highway 107 ,Xixiang Street, Baoan District, Shenzhen City, Guangdong Province, P.R. China
Manufacturer : SHENZHEN MUST ENERGY TECHNOLOGY CO.,LTD
Address : 4-5F,Building Al l,Yusheng Industrial Park, No. 467 ,National Highway 107 ,Xixiang Street, Baoan District, Shenzhen City, Guangdong Province, P.R. China
Trade Mark : MUST
EUT : Energy Storage Inverter
M/N : PH30-2048, PH30-2048 Plus, PH30-3048, PH30-4048, PH30-4048 Plus
Test Standards : EN 61000-6-3:2007+A1:2011+AC:2012
EN 61000-3-2: 2006+A1:2009+A2:2009
EN 61000-3-3: 2013
EN 61000-6-1: 2007

CE

(Manager)
February 01, 2016

The certificate is based on a single evaluation of one sample of above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab. logo.

Ver.1.0



SGS

Certificate CN12/31440

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 914403003193672263

ISO 9001:2015

Design and manufacture of UPS (uninterruptible power supply)

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

UKAS MANAGEMENT SYSTEMS 0005

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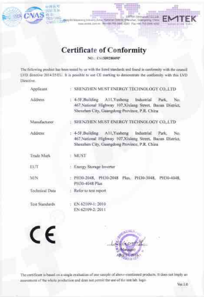

Certificate of Conformity

NO.: ES150928049P

The following product has been tested by us with the listed standards and found in conformity with the council LVD directive 2014/35/EU. It is possible to use CE marking to demonstrate the conformity with this LVD Directive.

Applicant : SHENZHEN MUST ENERGY TECHNOLOGY CO.,LTD
Address : 4-5F,Building A11,Yusheng Industrial Park, No. 467,National Highway 107,Xixiang Street, Baoan District, Shenzhen City, Guangdong Province, P.R. China
Manufacturer : SHENZHEN MUST ENERGY TECHNOLOGY CO.,LTD
Address : 4-5F,Building A11,Yusheng Industrial Park, No. 467,National Highway 107,Xixiang Street, Baoan District, Shenzhen City, Guangdong Province, P.R. China
Trade Mark : MUST
EUT : Energy Storage Inverter
M/N : PH30-2048, PH30-2048 Plus, PH30-3048, PH30-4048, PH30-4048 Plus
Technical Data : Refer to test report
Test Standards : EN 62109-1: 2010
EN 62109-2: 2011

CE

(Manager)
April 27, 2016

The certificate is based on a single evaluation of one sample of above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab. logo.

Ver.1.0

Inverter Main Component Brands

IGBT	FAIRCHILD SEMICONDUCTOR infineon vincotech	United States \ Germany
IC	ON Semiconductor ON TEXAS INSTRUMENTS	United States
FUSE	Littelfuse COOPER Bussmann	United States
Capacitor	nichicon Rubycon RUBYCON CORPORATION NIPPON CHEMI-CON	Japan
Current Transducer	LEM TAMURA VAC	Switzerland \ Japan Germany

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Relay	Panasonic	FUJITSU	Japan
Diode	Microsemi	IXYS	United States
MCU	Texas Instruments	NXP	United States Netherlands
PV connector	Multi-Contact MC STÄUBLI GROUP	Amphenol®	United States Switzerland
DC Isolator	santon superior switch solutions	PCE M MERZ	Germany Netherlands
MOV	Littelfuse®		United States
Cooling Fan	SANYO	NMB a Minebea company	Japan