MPPT Solar Charge Controller

PC1600A SERIES (20/30/40A)

MUST
PV
BATT
FAULT
MENU
UP
DOWN
ENTER

THREE COLORS OPTION

●	●	●
SILVER	RED	BLUE

MPPT (Maximum Power Point Tracking)Solar Charge Controller offer an efficient, safe, multi-stage recharging process that prolongs battery life and assures peak performance from a solar array. Each Charge Controller allows customized battery recharging.

Max charging current
20A to 40A

Battery DC voltage
12V/24V
(Auto detection)

Multi-stage
charging mode

DC load support

Automatic cooling

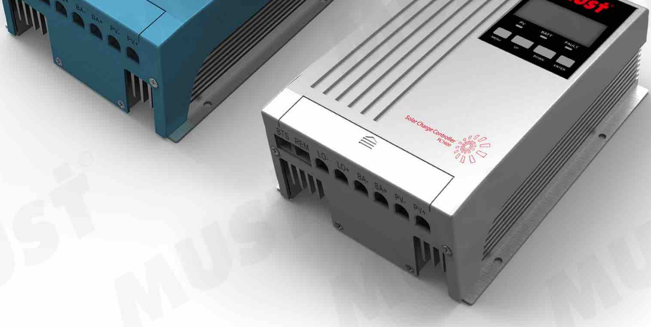
Peak conversion efficiency : 98%
(MPPT Efficiency 99%)

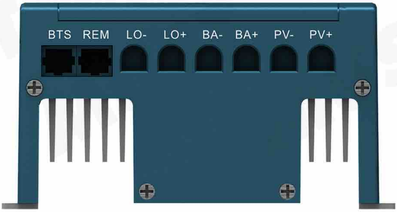
Multi protection

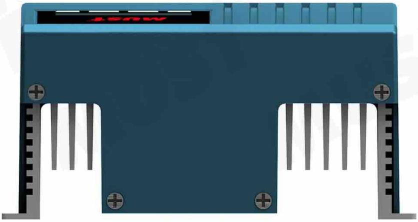
Appearance

MUST
PV
BATT
FAULT
MENU
UP
DOWN
ENTER
BTS
REM

MUST







Inside Structures

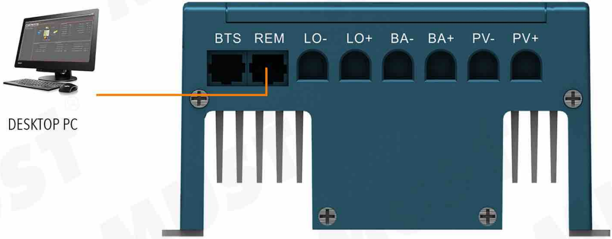
PRODUCT FEATURES

SMART & INTELLIGENT FEATURES

- LCD display, easy to operate on LCD screen
- Multi stage charging
- With RS485 Communication network terminal (Use for computer to monitor controller working situation)
- BTS function - Battery remote temperature sensor terminal
- Enable to charge Li-thium, Gel , lead-acid battery
- Protection: PV array short circuit, PV reverse polarity, Battery reverse polarity, Over charging, Output short circuit
- DSP processors architecture ensures high speed and performance
- DC load support and multi protection

RS485 Communication

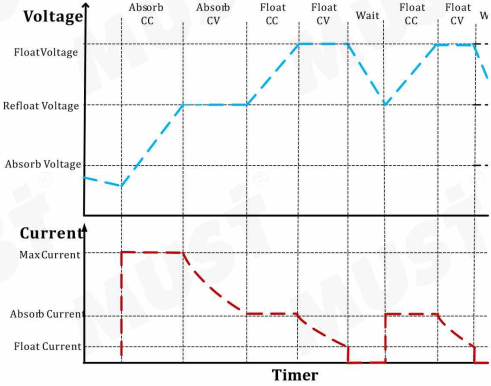
The default communication of the controller is RS485 port.You can use supplied cable to connect RS485 port of controller to PC.It can be used for monitoring or upgrade the firmware in short distance.



Multi stage charging

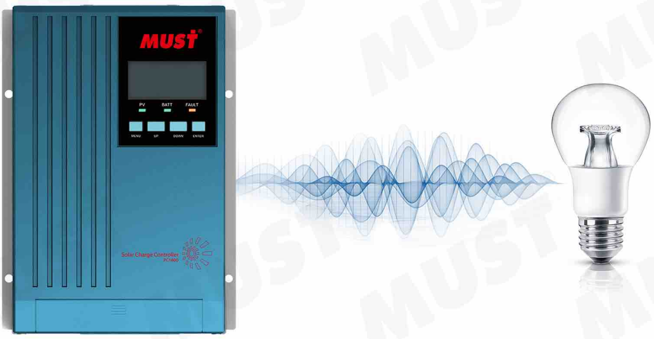
The charge controller is a sophisticated , multi-stage battery charger that uses several regulation stages to allow fast recharging of the battery system while ensuring a long battery life

MUST



DC load support

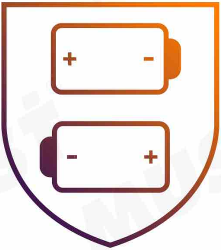
DC load can be connected, the max output current for DC load is 20Amp and DC load input voltage should be coincident with battery voltage.



MUST

Battery reverse protection

There's a battery reverse protection function in the board, then the controller will be perfectly protected even installer or user connect the battery in reverse pole accidentally

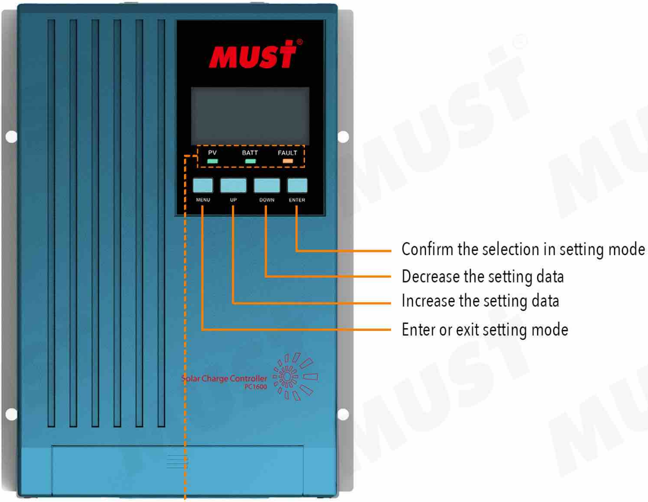


PRODUCT DETAILS

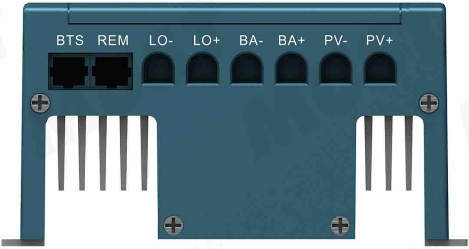
MUST HELP YOU CONTROL EVERY DETAIL

Details reflect quality

MUST


MUST
PV
BATT
FAULT
MENU
UP
DOWN
ENTER
Confirm the selection in setting mode
Decrease the setting data
Increase the setting data
Enter or exit setting mode
Solar Charge Controller
PC1600

LED indicator			System status
PV	Green	On	PV voltage normal
		Flashing every 1s	PV fault is recovering
		Flashing every 2s	PV fault can’t recover
		Off	PV is off
BATT	Yellow	On	Battery voltage normal
		Flashing every 1s	Battery fault is recovering
		Flashing every 2s	Battery fault can’t recover
		Off	Battery is off
FAULT	Red	Flashing	Fault
		Off	Normal

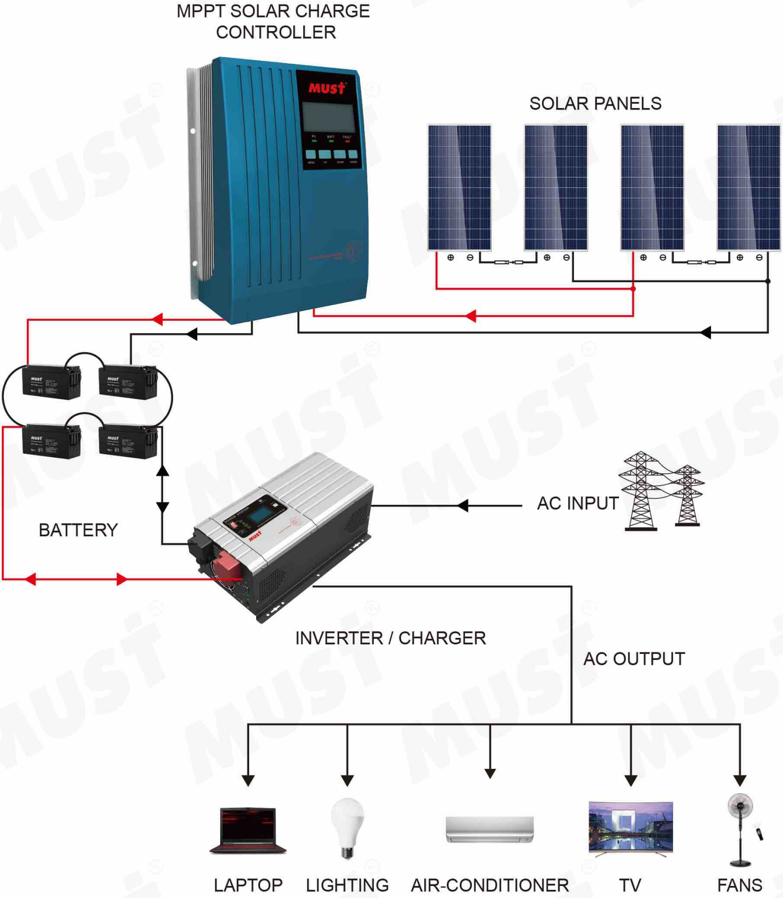


Letter	Intensional meaning
LO-	The load negative terminal
LO+	The load positive terminal
BA-	The battery negative terminal
BA+	The battery positive terminal
PV-	PV array negative terminal
PV+	PV array positive terminal
REM	Communication network terminal
BTS	Remote external temerature terminal

SOLAR SYSTEM CONNECTION

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

MUST



PC1600A solar inverter system， it can work with inverter , battery and solar panel , as a complete solar system and back up power for normal home power demands , which take use of sunshine free and save lots of electricity bill for you . This kind of solar inverter systems are widely used in home ,farm ,school,shops etc .

PRODUCT PARAMETERS

MAKE SURE EACH PARAMETER IS TRUE

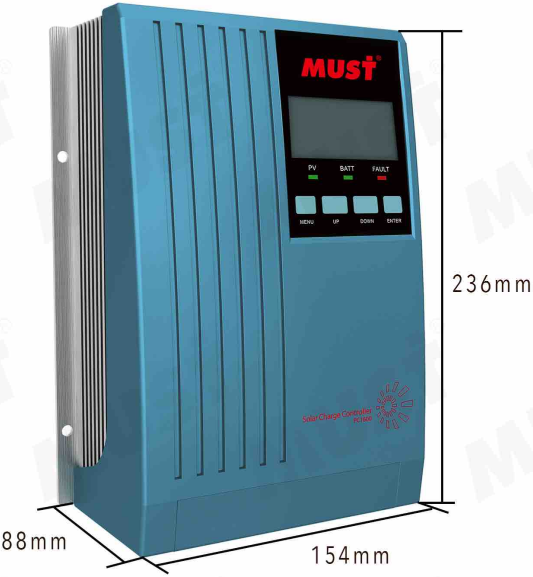
Learn more about the product

MODEL		PC16-2015A	PC16-3015A	PC16-4015A
Nominal Battery System Voltage		12VDC/24VDC (Auto Detection)		
CONTROLLER INPUT	PV Open Circuit Voltage	100VDC@12V/ 145VDC @24V		
	PV Array MPPT Voltage Range	16VDC~100VDC / 32VDC~130VDC		
	Max PV Input Power(12V)	300W	450W	600W
	Max PV Input Power(24V)	600W	900W	1200W
BATTERY	Absorption Voltage	12.5VDC/25.0 VDC		
	Refloat Voltage	13.7VDC/27.4 VDC		
	Float Voltage	14.3VDC/28.6 VDC		
	Low Voltage Protection Point	10.0VDC/20.0 VDC		
DC OUTPUT	Output Voltage	10.0~14.5VDC /20.0~29.0VDC		
	Peak Conversion efficiency	98% (MPPT Efficiency 99%)		
	Max Charging Current	20 amps continuous	30 amps continuous	40 amps continuous
	Max Output Current	20 amps continuous	20 amps continuous	20 amps continuous
	Low voltage alarm	10.25VDC/20.5 VDC		
	Low voltage cutoff	10.0VDC/20.0 VDC		
	Low voltage recovery	11.0VDC/22.0 VDC		
GENERAL SPECIFICATION	Radiating mode	Automatic cooling		
DISPLAY & PROTECTION	LED indication	Systematic operation, LV indication, LV protection, over charge protection, loads protection, short circuit protection		
	LCD display	Charge voltage, charge current, voltage of storage battery, capacity of storage battery, output current		
	Alarm Protections	PV array short circuit, PV reverse polarity		
		Battery reverse polarity, Over charging protection		
		Output short circuit protection		
		Low voltage protection for storage battery		
MECHANICAL SPECIFICATIONS	Mounting	Wall mount		
	Machine Dimension(W*H* D)	154*236*88mm(Color box / pcs)		
	Gross Wight(Kg) (per pcs)	2.5Kg		
	Package Dimension(W*H* D)	610*308*230mm (4PCS/Carton)		
	Gross Weight(Kg) (per Carton)	10.8Kg	13.4Kg	13.4Kg
OTHER	Environmental Rating	Indoor		
	Operation Temperature Range	-25~+55°C		
	Ambient humidity	0~90% relative humidity(non-condensing)		
	Altitude	⩽3000m		
	Loading(20GP/40GP/40HQ)	2500pcs / 5000pcs / 5800pcs		

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

MUST

Size

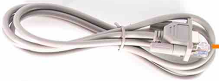


Package

MUST

User Manual

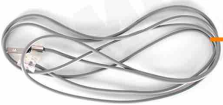
20A/150V 30A/150V 40A/150V
MPPT Solar Charge Controller
User's Manual
Installation and Programming



Communication Cable

Warranty Card

Warranty registration card
Warning
DATE
SERVICE RECORD
TRANSACTOR



BTS Cable

COLOR BOX DIMENSION	
COLOR BOX SIZE : 293X144X213MM (1PC)	CARTON SIZE : 610*308*230MM （4PCS/CARTON）

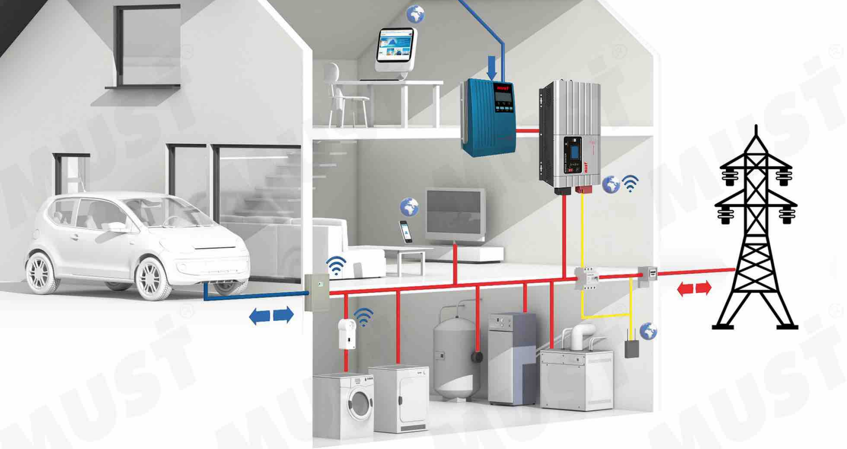
LOADING		
20GP	40GP	40HQ
2500pcs	5000pcs	5800pcs

MUST

Packaging

PRACTICAL APPLICATION

APPLICABLE PLACE



The solar charge controller is an automatic control device , it can be used in all solar power systems to control solar panel array to charge batteries .

Solar Inverter System Connection: Power Inverter + Solar Charge Controller + Battery + Solar Panels + Grid + Applicaiton Loads

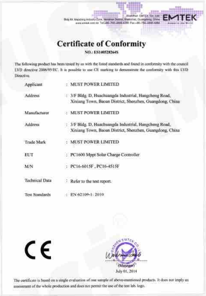
PROJECT REFERENCE

MUST

PROFESSIONAL CERTIFICATION

CE FCC ROHS ISO9001

High quality and high standard



Certificate of Conformity

NO.: ES140528264S

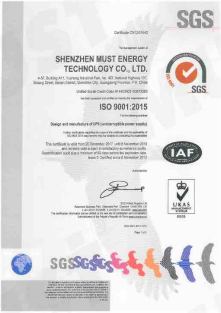
The following product has been tested by us with the listed standards and found in conformity with the council LVD directive 2006/95/EC. It is possible to use CE marking to demonstrate the conformity with this LVD Directive.

Applicant	: MUST POWER LIMITED
Address	: 3/F Bldg. D, Huachuangda Industrial, Hangcheng Road, Xixiang Town, Baoan District, Shenzhen, Guangdong, China
Manufacturer	: MUST POWER LIMITED
Address	: 3/F Bldg. D, Huachuangda Industrial, Hangcheng Road, Xixiang Town, Baoan District, Shenzhen, Guangdong, China
Trade Mark	: MUST POWER LIMITED
EUT	: PC1600 Mppt Solar Charge Controller
M/N	: PC16-6015F , PC16-4515F
Technical Data	: Refer to the test report.
Test Standards	: EN 62109-1: 2010

CE

(Manager)
July 01, 2014

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.



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 914403003193672283

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)

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

Page 1 of 1

UKAS MANAGEMENT SYSTEMS
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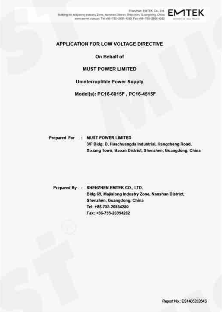


APPLICATION FOR LOW VOLTAGE DIRECTIVE

On Behalf of

MUST POWER LIMITED

Uninterruptible Power Supply

Model(s): PC16-6015F , PC16-4515F

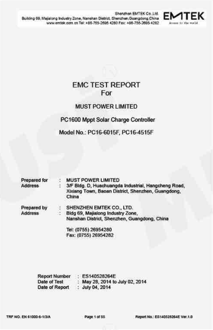
Prepared For : MUST POWER LIMITED
3/F Bldg. D, Huachuangda Industrial, Hangcheng Road,
Xixiang Town, Baoan District, Shenzhen, Guangdong, China

Prepared By : SHENZHEN EMTEK CO., LTD.
Bldg 69, Majialong Industry Zone, Nanshan District,
Shenzhen, Guangdong, China
Tel: +86-755-26954280
Fax: +86-755-26954282

Report No.: ES140528264S

TEST REPORT

Have quality inspection to use with confidence



Shenzhen EMTEK Co.,Ltd.
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www.emtek.com.cn Tel: +86-755-2695 4280 Fax: +86-755-2695 4282

EMTEK

EMC TEST REPORT
For

MUST POWER LIMITED

PC1600 Mppt Solar Charge Controller

Model No.: PC16-6015F, PC16-4515F

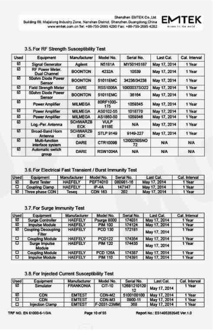
Prepared for : MUST POWER LIMITED
Address : 3/F Bldg. D, Huachuangda Industrial, Hangcheng Road,
Xixiang Town, Baoan District, Shenzhen, Guangdong,
China

Prepared by : SHENZHEN EMTEK CO., LTD.
Address : Bldg 69, Majialong Industry Zone,
Nanshan District, Shenzhen, Guangdong, China

Tel: (0755) 26954280
Fax: (0755) 26954282

Report Number : ES140528264E
Date of Test : May 28, 2014 to July 02, 2014
Date of Report : July 04, 2014

TRF NO. EN 61000-6-1/3/A Page 1 of 55 Report No.: ES140528264E Ver.1.0



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www.emtek.com.cn Tel: +86-755-2695 4280 Fax: +86-755-2695 4282

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3.5. For RF Strength Susceptibility Test

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☑	Signal Generator	Agilent	N5181A	MY50145187	May 17, 2014	1 Year
☑	RF Power Meter, Dual Channel	BOONTON	4232A	10539	May 17, 2014	1 Year
☑	50ohm Diode Power Sensor	BOONTON	51011EMC	34236/34238	May 17, 2014	1 Year
☑	Field Strength Meter	DARE	RSS1006A	10I00037SO22	May 17, 2014	1 Year
☑	50ohm Diode Power Sensor	BOONTON	51011EMC	36164	May 17, 2014	1 Year
☑	Power Amplifier	MILMEGA	80RF1000-175	1059345	May 17, 2014	1 Year
☑	Power Amplifier	MILMEGA	AS0102-55	1018770	May 17, 2014	1 Year
☑	Power Amplifier	MILMEGA	AS1860-50	1059346	May 17, 2014	1 Year
☑	Log.-Per. Antenna	SCHWARZBECK	VULP 9118E	N/A	May 17, 2014	1 Year
☑	Broad-Band Horn Antenna	SCHWARZBECK	STLP 9149	9149-227	May 17, 2014	1 Year
☑	Multi-function interface system	DARE	CTR1009B	12I00250SNO72	N/A	N/A
☑	Automatic switch group	DARE	RSW1004A	N/A	N/A	N/A

3.6. For Electrical Fast Transient / Burst Immunity Test

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☑	Burst Tester	HAEFELY	PEFT4010	080981-16	May 17, 2014	1 Year
☐	Coupling Clamp	HAEFELY	IP-4A	147147	May 17, 2014	1 Year
☑	Three phase CDN	Teseq	CDN 163	202	May 17, 2014	1 Year

3.7. For Surge Immunity Test

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☑	Surge Controller	HAEFELY	Psurge 8000	174031	May 17, 2014	1 Year
☑	Impulse Module	HAEFELY	PIM 100	174124	May 17, 2014	1 Year
☑	Coupling Decoupling Filter	HAEFELY	PCD 130	172181	May 17, 2014	1 Year
☐	Coupling Module	HAEFELY	PCD122	174354	May 17, 2014	1 Year
☐	Surge Impulse Module	HAEFELY	PIM 120	174435	May 17, 2014	1 Year
☐	Coupling Module	HAEFELY	PCD 126A	174387	May 17, 2014	1 Year
☐	Impulse Module	HAEFELY	PIM 110	174391	May 17, 2014	1 Year

3.8. For Injected Current Susceptibility Test

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☑	Simulator	FRANKONIA	CIT-10	126B121012012	May 17, 2014	1 Year
☑	CDN	EMTEST	CDN-M2	5100100100	May 17, 2014	1 Year
☐	CDN	EMTEST	CDN-M3	0900-11	May 17, 2014	1 Year
☐	Injection Clamp	EMTEST	F-2031-23MM	368	May 17, 2014	1 Year

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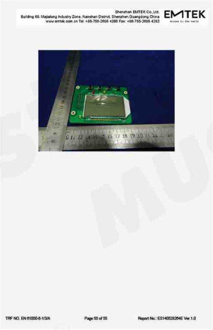

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