

Operating Instructions

Model: MI5720

Product Name: Pure Sine Wave Inverter
600W 12VDC/230 20A Solar Regulator



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I. Precautions

1. Keep the product away from children to avoid children playing it as a toy and resulting in personal injury.

Caution!

2. Use only approved accessories or the parts fully consistent with the company's requirements, or else it may cause hazard.
3. Environment: $-20^{\circ}\text{C} \sim 50^{\circ}\text{C}$.
4. Do not use in the environment lower than -20°C or higher than 50°C , or may be soaked by the rain, or else it may cause hazard.

II. Product Picture



Front side of master unit



Back side of master unit

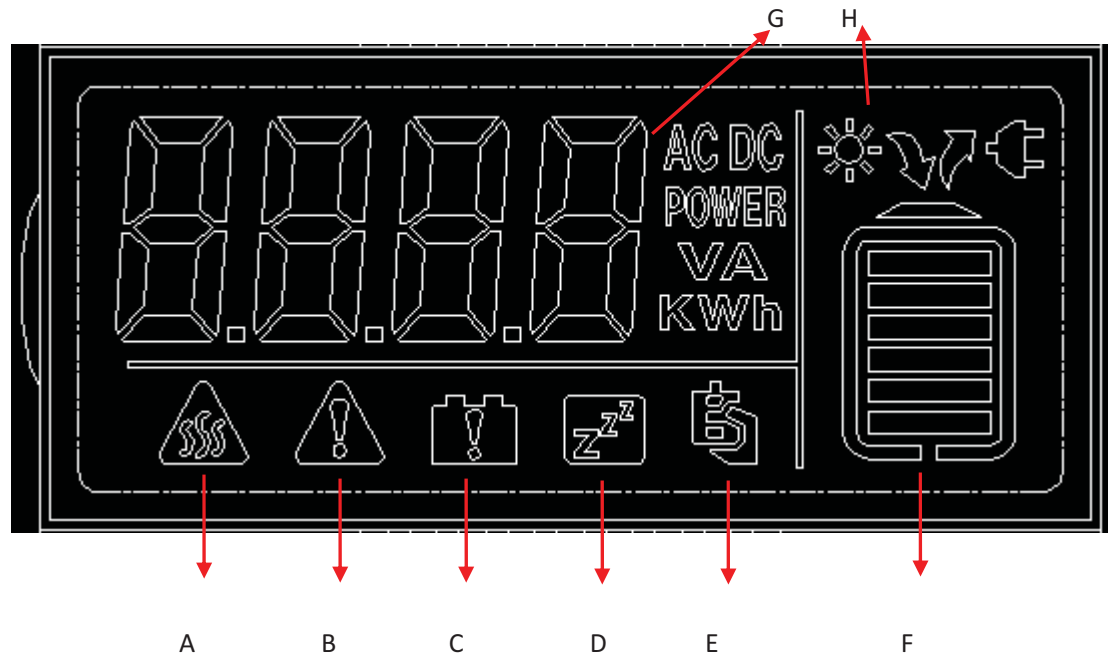


Top side of master unit



Front side of remote

III. Description of LCD Screen:



A: Over-temperature protection; when this icon appears and flashes, the machine enables over-temperature protection.

B: Protection; when this icon appears, the machine enables some protection features, such as USB overcurrent, PV overcurrent.....

C: Battery error; when this icon appears, the battery voltage is not in the operating scope of the inverter.

D: Sleep mode; press and hold the BLACK LIGHT button for 3 seconds to this icon and the machine enters sleep mode; when the AC output power is lower than 25W (LCD), the machine will work for 10 seconds and then turn off for one minute, and so on.

E: Remote connection; when the switch is turned to position II, if the machine is not connected to the remote control, this icon will flash; if the remote control has been connected, the icon will be displayed properly.

F: Battery indication; when displaying 5 bars, the battery is fully charged; when displaying only one bar, the battery is about to run out, and should be charged in time. The battery indicator flashes when charging.

G: Numerical display; press the MODE key to switch current data of the machine, such as AC power, battery voltage, and charging current.....

H: When PV and battery are connected, an arrow under the sun symbol will flash, indicates that it is being charged.

IV. Buttons of the Machine



A: LCD backlight. Press this button and the LCD backlight will light up for one minute, press it again and the LCD backlight will turn off. If you press and hold this button for three seconds, the machine will enter sleep mode.

B: MODE button. Switch the content on the LCD screen with this button.

C: Selector switch.

When it is turned to position 0, the machine enters standby mode. At this time, the inverter has no output, and the LCD screen is off. USB outputs 5V normally. If normal PV is connected, the LCD screen will light up and charge normally.

When it is turned to position I, the inverter can work normally, USB outputs 5V

normally, and PV charges properly, but the remote control does not work. When it is turned to position II, the remote can work normally, and other functions are same as position I.

D: LCD screen backlight of remote control. When you press this button, the LCD backlight will light up for one minute, press it again and the LCD backlight will turn off. If you press and hold this button for three seconds, the machine will enter sleep mode.

E: MODE button of remote control. Switch the content on the LCD screen with this button.

F: Switch button of the remote control. Press this button, the machine stops inverter output, and LCD screen turns off; press it again, and the machine will resume inverter output.

V. Sockets and Features



A: USB output. The output voltage is 5VDC; the output current of the top USB output port is 1A, and the bottom USB output port is 2A. The maximum current when the two ports output at the same time does not exceed 3A. When the battery voltage is lower than 10.5V, USB will turn off the output. When the battery voltage restores to 12V, the output resumes. If the output is greater than 3A, USB will enable overcurrent protection and turn off the output, and resume output after 5 seconds.

B: AC output. **It should be used separately and can't be connected to the grid!**

1. Standard output: 230VAC, 50Hz, 600W.

2. Output can sustain 20 minutes at peak power 600W~660W, and 1 second at 660W~1200W. When the battery is low, the output will be turned off; when the battery voltage is lower than 10.5V, it enables undervoltage protection.

C: Network port terminal. When the switch is turned to position II, connect it to the remote control with straight-through cable.

D: PV input terminal.

1. Maximum power input 400W @ maximum current $\leq 20A$.

2. Input voltage range 16 ~ 45VDC, rechargeable battery up to 20A.

3. Only charge 12V rechargeable lead-acid battery, charging range 7VDC~14.4VDC.

4. Positive pole is red, and negative pole is black. The machine will alarm if the polarity is reverse.

E. Ground terminal.

F. DC input. Connect the battery input. Battery voltage range: 7VDC~15.3VDC.

Note: Do not reverse the battery connection. Positive pole is red, and negative pole is black.

VI. Wiring Diameter Requirements

All external terminal load cables of the terminals should be as short as possible. If the cable is hot, replace with a piece of thicker cable. The recommended cable length doesn't exceed 4m. Copper core wires are recommended and the wire diameter cross-sectional area shouldn't be smaller than $1A * 0.2 \text{ mm}^2$.

For example: 10A current, $10 * 0.2 = 2.0 \text{ mm}^2$, wire diameter cross-sectional area shouldn't be smaller than 2.0 mm^2 .

VII. Electrical Parameters

DC input	
Battery voltage (VDC)	7~15.3
Battery capacity (AH)	≧ 45
Maximum input current (A)	≧ 60
Standby current (A)	≧ 0.75
PV input	
PV voltage (VDC)	16~45
Maximum PV power (W)	≧ 400W@ maximum current ≤20A
Solar Charge Controller type	PWM
AC output	
Voltage (VAC)	230
Frequency (Hz)	50
Power (W)	600
Peak power (W)	660@20min
Surge peak power (W)	1200@1sec
Voltage harmonics	≧ 5%
Conversion efficiency	≧ 88%
USB output	
Output voltage (VDC)	5
Number of USB ports	2
Maximum output current (A)	3
Mechanical dimensions	
Length X Width X Height (mm)	300X200X100
Weight	
General data	
Allowable operating ambient temperature (°C)	-20~+50
Cooling	Air cooling
Insulation class	CLASS I
Protection class	IP20

VIII. Troubleshooting

LCD displays E2	Battery overvoltage protection - please check if the battery voltage is too high.
LCD displays E3	Battery undervoltage protection - please check if the battery voltage is too low, and charge it if yes.
LCD displays E4	BUS voltage protection - please re-boot and check if there is alarm still; if yes, please contact customer service for maintenance.
LCD displays E5	Short circuit protection - please check if AC load is too large, reduce the load and try again.
LCD displays E6	Overtemperature protection - please wait for some time before use.
LCD displays E7	PV reverse polarity protection - please check if PV polarity is reverse.
LCD displays E8	PV overcurrent protection - please check if solar panel power or battery is too large, and reduce the solar panel access power.