



# Remote Meter

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## USER MANUAL



MT92



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# 1. Safety Instructions

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- Thanks for selecting the MT series; please read this manual carefully before using the product.
- Please keep this manual for future reference.
- When you receive the product, check whether there is any damage that occurred in transportation. Contact the transportation company or our company in time for any problem.
- Please read this manual and safety information carefully before installing it.
- Keep the product away from rain, exposure, severe dust, vibration, corrosion, and intense electromagnetic interference.
- Please avoid water and other liquids enter into the product.
- There are no user-serviceable parts inside the product. Do not disassemble or attempt to repair it.

## 2. Overview

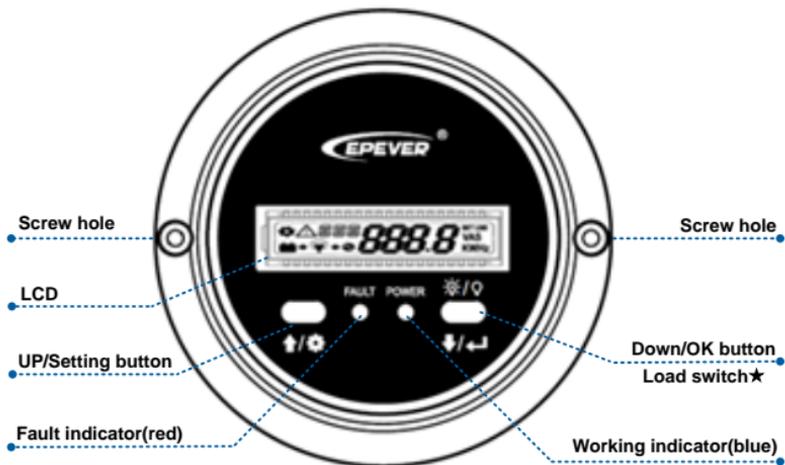
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MT92 is a new generation of remote meter based on the latest communication protocol and voltage technical standards of the controller. It displays the real-time parameters of the MSC-N series controllers on one screen. Supporting parameter configuration by the button operations, which makes the product suitable for different requirements.

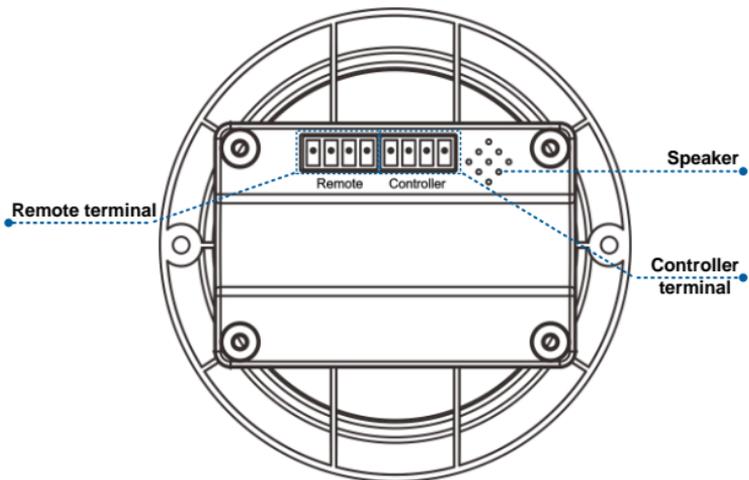
### Features

- Dual interface design, friendly connect with different EPEVER devices
- LCD screen, real-time dynamic display of system data
- Visually error codes, timely notification of warnings and faults
- Load ON/OFF button to control the load output directly
- Simple installation and friendly operation interface

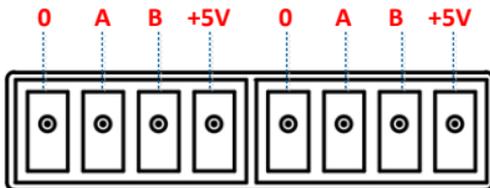
### 3. Appearance



★In the real-time interface, long press  for 5 seconds to turn on/off the load 1; long press it again for 5 seconds to turn on/off the load 2.



- Definition of the controller terminal/remote terminal:



- **Connect the MT92 with a controller**

Connect the "controller terminal" of the MT92 and the RJ45 port of the controller through an RS485 communication cable (included accessory, model: CC-RJ45-3.18-150U).

- **Connect the MT92 with an auxiliary module**

Connect the "remote terminal" of the MT92 and the auxiliary modules such as the Bluetooth module/wireless module/BMS through an adapter cable.

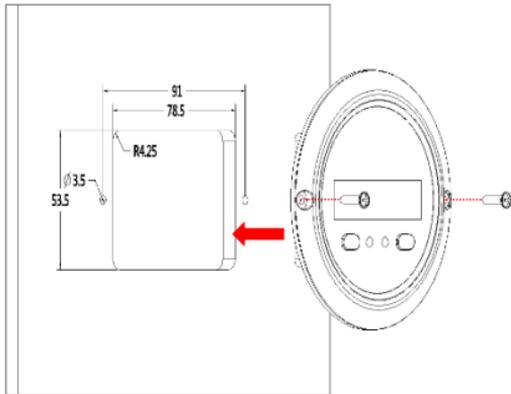
## 4. Installation Instructions

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Surface mounting installation is recommended.

**Step 1:** Locate based on the installation size (91mm), and drill two screw holes (no smaller than 77x52mm).

**Step 2:** Use two PWM3\*10 screws to fix the remote meter.



## 5. Button Instruction

Button	Operation	Instruction
	Click	Move up
	Press for 2s	In the real-time interface (that is, the default interface after the device is powered on), press it for 2s to enter the setting interface. In the setting interface, press it for 2s to enter the configuration interface of specific parameter.
	Click	Move down
	Press for 2s	In the real-time interface, press it to turn on/off the load output (default on, long press it for 5s to turn off the load output). In the setting interface, press it for 2s to confirm the parameter configuration.
	Click	In the setting interface, click them to exit the parameters configuration interface.
	Press for 2s	In the real-time interface, press them for 2s to clear the faults.

## 6. Real-time Interface

The below parameters will display in the real-time interface (that is, the default interface after the device is powered on). You can switch the parameters by

click  or .

Parameters	Symbol	Parameters	Symbol
PV voltage	 32.1 <sup>V</sup>	Load1 voltage	 11.9 <sup>V</sup> <sup>100</sup>
PV current	 1.1 <sup>A</sup>	Load2 voltage	 11.9 <sup>V</sup> <sup>100</sup>
PV power	 36.2 <sup>W</sup>	Load current	 1.4 <sup>A</sup> <sup>100</sup>
Battery voltage	 24.0 <sup>V</sup> <sup>100</sup>	Load power	 37.1 <sup>W</sup> <sup>100</sup>
Battery current	 0.0 <sup>A</sup> <sup>100</sup>	Device temperature	 26 <sup>°C</sup>
Battery temperature	 25 <sup>°C</sup>	--	--

**Note:**  means the load on,   means the load off.

## 7. Setting Interface

The parameter configuration process is as follows.

**Step1:** In the real-time interface, press  for 2s to enter the setting interface.

**Step2:** Click  or  to select the parameter to be configured.

**Step3:** Press  for 2s to enter the configuration interface of the specified parameter; click  or  to configure the parameter.

**Step4:** Press  for 2s to confirm the configuration (the buzzer will beep once after the parameter is configured successfully.)

**Step5:** Click  +  to exit the current interface.

Common parameters and configuration values are shown in the following table:

LCD Display	Parameters	Default	User define
 RVR SELF	Rated voltage rank	self	self(auto- recognition)/12V/24V
 BTP USE	Battery type	AGM	USE AGM

			GEL LFP LNC
* <b>OSP</b> OFF	Output source priority	Turn off 10 minutes and turn on 5 minutes	OFF/ turn off 10 minutes and turn on 5 minutes
* <b>BAS</b> ON	Buzzer alarm switch	ON	ON/OFF
* <b>BLT</b> 300	LCD backlight time	30s	30s/ 60s/ON solid
* <b>BCV</b> 28.8 <sub>v</sub>	Boost charging voltage	Default according to the battery type, and it can be modified when the battery type is "USE."	9~ 34V
* <b>FCV</b> 27.6 <sub>v</sub>	Float charging voltage		
* <b>LVR</b> 25.2 <sub>v</sub>	Low voltage reconnect voltage		
* <b>UVR</b> 24.4 <sub>v</sub>	Under voltage warning reconnect voltage		
* <b>UWH</b> 24.0 <sub>v</sub>	Under voltage warning voltage		
* <b>LVD</b> 22.2 <sub>v</sub>	Low voltage disconnect voltage		

* LENC OFF	Lithium battery protection enable(stop charging and discharging the lithium battery when the temperature is too low)	Disable	Enable/disable
* TLE DC	Low temperature prohibits charge temperature	0°C	10°C~(-40°C)
* TLL DC	Low temperature prohibits discharge temperature	0°C	
* PRO ;	Lithium battery protocol type	0	Before the MT92 communicates with the BMS, please confirm with our technical support department whether the lithium battery protocol matches.

## 8. Error Codes

Error code	Faults	Buzzer	Working indicator (Blue)	Fault indicator (Red)
 $115^{\text{mV}}$	Battery low voltage	--	ON solid	OFF
 $171^{\text{mV}}$	Battery over voltage	Five beeps	ON solid	ON solid
 $103^{\text{mV}}$	Battery over discharged	--	ON solid	ON solid
 $171^{\text{mV}}$	Cell over voltage	Five beeps	ON solid	ON solid
 $103^{\text{mV}}$	Cell low voltage	Five beeps	ON solid	ON solid
 $115^{\text{mV}}$	Cell low temperature	Five beeps	ON solid	ON solid
 $115^{\text{mV}}$	Cell over temperature	Five beeps	ON solid	ON solid
 $115^{\text{mV}}$	Other faults of the battery management system	Five beeps	ON solid	ON solid
 $82^{\circ}\text{C}$	Heat sink over temperature	Five beeps	ON solid	ON solid
 $-24^{\circ}\text{C}$	Battery low temperature	Five beeps	ON solid	ON solid

 $\Delta N/E$ <b>00</b> <sub>V</sub>	Nominal voltage error	Five beeps	ON solid	ON solid
 $\Delta POV$ <b>1184</b>	PV over voltage	Five beeps	ON solid	ON solid
 $\Delta OSC$ <b>02</b> <sub>V</sub> <sup>LOAD</sup>	Output short circuit	Five beeps	ON solid	ON solid
 $\Delta CFA$ <b>00</b>	Communication fault alarm	Five beeps	ON solid	ON solid
 $\Delta OOL$ <b>1031</b> <sup>LOAD</sup> <sub>W</sub>	Output overload	Five beeps	ON solid	ON solid

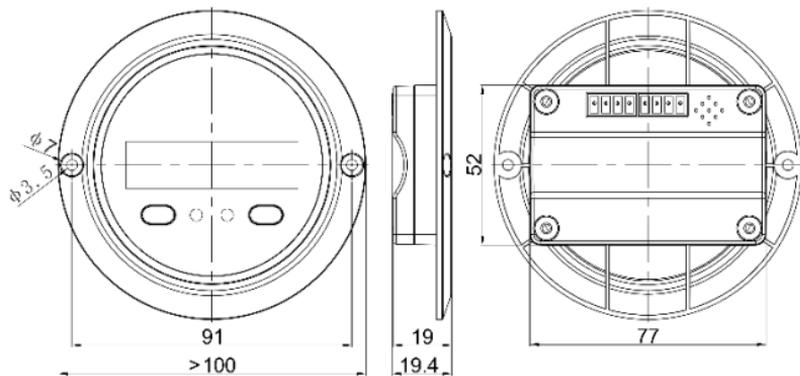
## 9. Specifications

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Model	MT92
Compatible products	MSC-N series controllers
Power supply	5VDC
Power supply method	Controller communication port
LCD visual angle	12' clock
LCD backlight	Yes
Installation method	Surface mounting installation
Self-consumption	14mA/5V(no backlight) 23mA/5V(backlight)
Working temperature	-20°C~+60°C
Storage temperature	-35°C~+70°C
Dimension	φ100mm X 19.4mm(Diameter X Height)
Mounting dimension	φ100mm X 50mm(Diameter X Height)
Mounting hole size	φ3.5mm
Net Weight	65g

## 10. Dimension

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**Any changes without prior notice! Version number: V1.1**

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