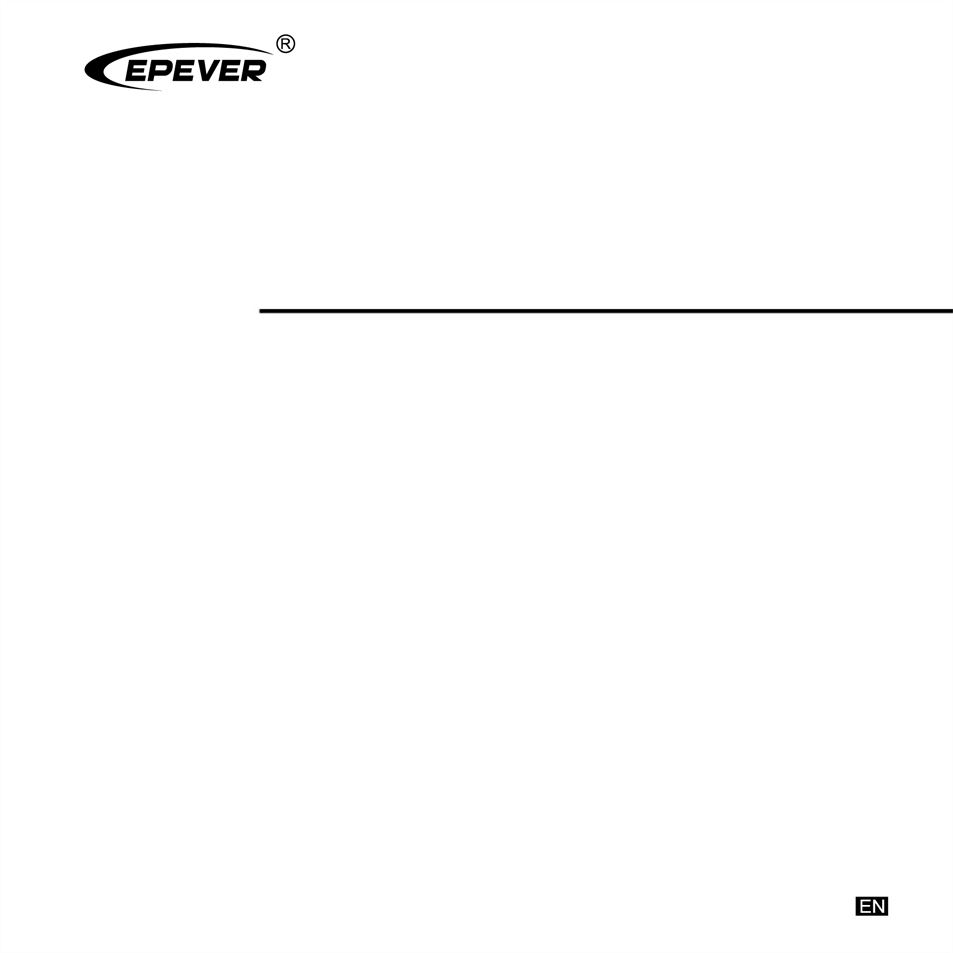
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**Remote Meter**

**USER MANUAL**

****

**MT92**

**Contents**

[1. Safety Instructions 1](#_Toc52092909)

[2. Overview 2](#_Toc52092910)

[3. Appearance 3](#_Toc52092911)

[4. Installation Instructions 6](#_Toc52092912)

[5. Button Instruction 7](#_Toc52092913)

[6. Real-time Interface 8](#_Toc52092914)

[7. Setting Interface 9](#_Toc52092915)

[8. Error Codes 12](#_Toc52092916)

[9. Specifications 14](#_Toc52092917)

[10. Dimension 15](#_Toc52092918)

# 1. Safety Instructions

* 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

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**

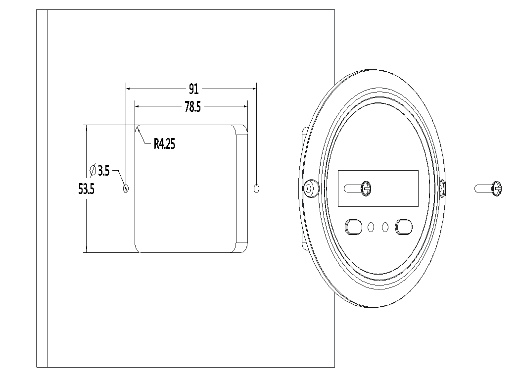
Connect the "remote terminal" of the MT92 and the auxiliary modules such as the Bluetooth module/wireless module/BMS through an adapter cable.

# 4. Installation Instructions

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.

****

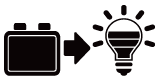
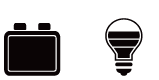
# 5. Button Instruction

|  |  |  |
| --- | --- | --- |
| **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 |  | Load1 voltage |  |
| PV current |  | Load2 voltage |  |
| PV power |  | Load current |  |
| Battery voltage |  | Load power |  |
| Battery current |  | Device temperature |  |
| Battery temperature |  | -- | -- |

**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** |
|  | Rated voltage rank | self | self(auto-recognition)/12V/24V |
|  | Battery type | AGM | USE  AGM  GEL  LFP  LNC |
|  | Output source priority | Turn off 10 minutes and turn on 5 minutes | OFF/ turn off 10 minutes and turn on 5 minutes |
|  | Buzzer alarm switch | ON | ON/OFF |
|  | LCD backlight time | 30s | 30s/ 60s/ON solid |
|  | Boost charging voltage | Default according to the battery type, and it can be modified when the battery type is "USE." | 9~ 34V |
|  | Float charging voltage |
|  | Low voltage reconnect voltage |
|  | Under voltage warning reconnect voltage |
|  | Under voltage warning voltage |
|  | Low voltage disconnect voltage |
|  | Lithium battery protection enable(stop charging and discharging the lithium battery when the temperature is too low) | Disable | Enable/disable |
|  | Low temperature prohibits charge temperature | 0℃ | 10℃~(-40℃) |
|  | Low temperature prohibits discharge temperature | 0℃ |
|  | 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. |

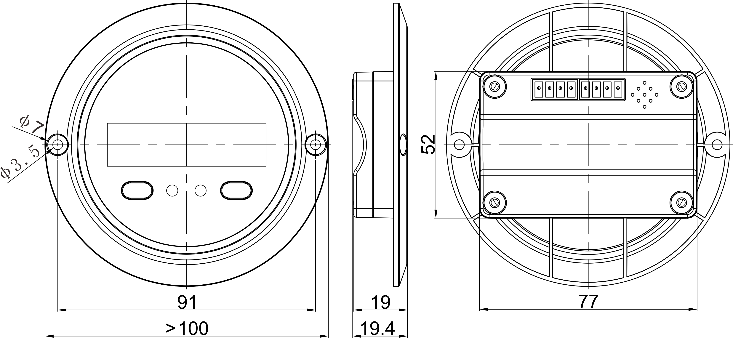
# 8. Error Codes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Error code** | **Faults** | **Buzzer** | **Working indicator**  **(Blue)** | **Fault indicator(Red)** |
|  | Battery low voltage | -- | ON solid | OFF |
|  | Battery over voltage | Five beeps | ON solid | ON solid |
|  | Battery over discharged | -- | ON solid | ON solid |
|  | Cell over voltage | Five beeps | ON solid | ON solid |
|  | Cell low voltage | Five beeps | ON solid | ON solid |
|  | Cell low temperature | Five beeps | ON solid | ON solid |
|  | Cell over temperature | Five beeps | ON solid | ON solid |
|  | Other faults of the battery management system | Five beeps | ON solid | ON solid |
|  | Heat sink over temperature | Five beeps | ON solid | ON solid |
|  | Battery low temperature | Five beeps | ON solid | ON solid |
|  | Nominal voltage error | Five beeps | ON solid | ON solid |
|  | PV over voltage | Five beeps | ON solid | ON solid |
|  | Output short circuit | Five beeps | ON solid | ON solid |
|  | Communication fault alarm | Five beeps | ON solid | ON solid |
|  | Output overload | Five beeps | ON solid | ON solid |

# 9. Specifications

|  |  |
| --- | --- |
| **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℃～+60℃ |
| Storage temperature | -35℃～+70℃ |
| 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



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

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