User Manual

CE FC RoHS

UN38.3 MSDS

Product Specification

Poduct Name	M1 Tattoo PEN
Material	Aluminum + Modified ABS
Stroke	4.0mm
Motor	Panther Self-developed Outrunner Brushless Motor
Operate Volt	4-12V
Display	1.47-inch TFT high-definition full-color screen
Battery Capacity	2000mAh single-cell lithium battery
Charging	18W fast charging adapter USB-C fast charging cord
Lasting time	7-12 hours
Charging time	5mins charges 15% capacity 45mins fully charged
JumpStart	9V/0.3s
Memory Volt	Two preset memory voltages set on each side
Net Weight	207g
Accessories	Tattoo pen x1pc，RCA female adapterx1pc，RCA male adapter x1pc，Fast charging adapter x1pc，Fast charging cord x1pc，Tool bag x1pc.

Product Diagram

Battery Pack

Display

Home

Motor

Grip

L1 Up

L2 Down

USB-C Charging Point

R1 Up

R2 Down

Display interface

Home Page buttons operate

COMMAND	BUTTONS	ACTION
Power On (JumpStart mode)		2-CLICK
Power On (Non-JumpStart mode)		3 SEC HOLD
Power Off		3 SEC HOLD
Voltage up (Right button layout)	R1 OR R2	1-CLICK
Save L1/L2 preset voltage (Right button layout)	L1 OR L2	Go to selected voltage and hold L1 or L2 for 3 seconds to save preset
Switch L1/L2 preset voltages (Right button layout)	L1 OR L2	1-CLICK
Voltage down (Left button layout)	L1 OR L2	1-CLICK
Save R1/R2 preset voltage (Left button layout)	R1 OR R2	Go to selected voltage and hold R1 or R2 for 3 seconds to save preset
Switch R1/R2 preset voltages (Left button layout)	R1 OR R2	1-CLICK

Settings Menu

Default Setting

Alternate Settings

Settings menu buttons operate

COMMAND	BUTTONS	ACTION
To enter settings menu from main page	L1 + R1	3 SEC HOLD
Scroll up	L1 OR R1	1-CLICK
Scroll down	L2 OR R2	1-CLICK
Confirm		1-CLICK
Back button or return to main menu		2-CLICK

Customize

Jumpstart:

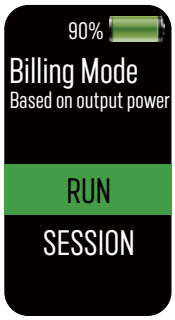
Assited power
DISABLE
ENABLE

Timer Mode:

You can make your Run/Session timer visible on the main menu or hide it.

Billing Mode:

If you want to track your session time and/or hourly rate, you can do so two ways.The Session timer will record the entire session from when you manually start the timer and pause it, like a stopwatch.The Run timer will record only when the battery is active and outputting power.

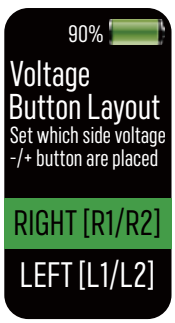


Hourly Rate:

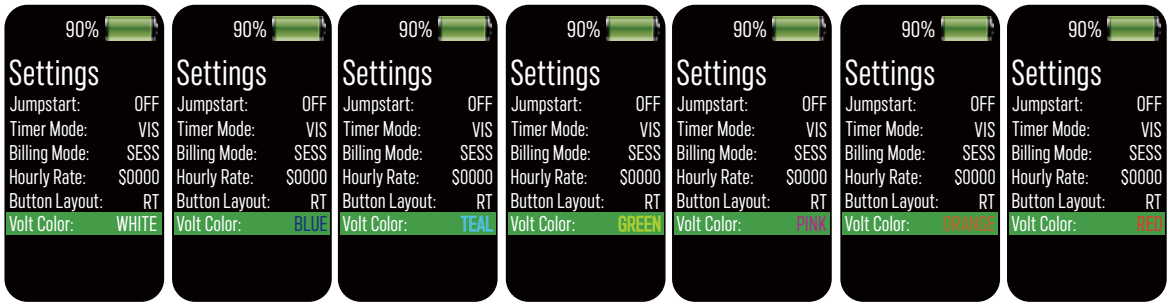
You can update your hourly charge rate here.

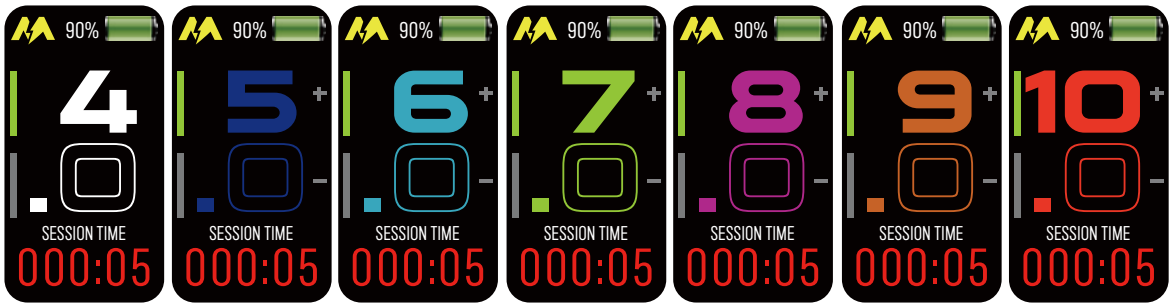
Button Layout:

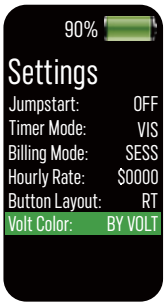
You can switch your primary buttons to either the Left or Right side to change the voltages.



Volt Colors:







Billing Mode

Session Rate

Hourly Rate
Total hours
multiplied by rate

Run Rate

Session/Run menu buttons operate

COMMAND	BUTTONS	Action
To start/pause timer (SESSION TIME mode only) While on the main page	L2 + R2	1-CLICK
To enter "SESSION/RUN MENU" from main page	L2 + R2	3 SEC HOLD
To clear or reset the timer While in the SESSION/RUN menu	L2 + R2	3 SEC HOLD
To exit SESSION/RUN menu To return to main page		2-CLICK

Power Attachments

RCA Battery Pack

Instruction

1、**Timing**:
(1) Timing pauses when in sleep mode.

(2) Timing does not reset when the charging cable is plugged in or unplugged while charging.

2、**Brightness**: If no buttons are operated for more than 10 seconds during power operation, the screen brightness will automatically decrease by 50%. Press any button to restore the normal brightness of the screen.

3、**Sleep**:
The device enters sleep mode with the screen turning off after 3 minutes of inactivity. Click any key to activate the screen display, and then click the power button to resume work.

4、**Charging**:
(1) Supports charging while in use.

(2) Supports super fast charging. It is recommended to use the original charger or a fast charger with a power output above 18W.

Safety Protection

1、**Output Protection**： Short circuit and Over-current protection.

2、**Input Protection**： Battery short circuit overcharge and over-discharge protection,Electric board over-current、overcharge、overcharge、over-discharge protection.

3、**Low power protection**： Automatically stop output when the power is less than 3%.

Error Warning

E1 Short Circuit Protection：

Fault Instruction: When the screen displays E1 code for short circuit protection is triggered, and then return to the standby screen after 3 seconds. This fault is mostly caused by motor damage or short-circuit of connection line.

The troubleshooting steps are as below:

1： Take apart the shell, start to test whether the transmission system can operate normally or exchange the motor drive and battery pack to test.

2： Check whether the motor is loose and causes short-circuit of connection line.

After troubleshooting, clean the drive parts, and re-grease to assemble to ensure the smooth operation.

E2 Overcurrent/Overload Protection：

Fault Instruction: When the screen displays E2 code for overcurrent protection is triggered, and then return to the standby screen after 3 seconds. This fault is mostly due to the fitting drive parts are stuck or the internal screw is loose, causing the motor is blocked and cannot run normally.

The troubleshooting steps are as below：

- Take apart the shell, check whether the drive parts and the fixing screws are loose, causing the drive parts are stuck.

After troubleshooting, clean the drive parts, and re-grease to assemble to ensure the smooth operation.

E3 Charge Fault Protection：

Fault Instruction: When the screen displays E3 code for charge fault

protection is triggered. When the charging voltage is less than 4.2V, E3 code slowly blinks 5 times every 1 minute and then return to the charging state. If the charging voltage back to more than 4.5V, the normal charging state is restored, the battery starts charging at 3% and if it is not fully charged for more than 3 hours, the system will detect and also display E3 code.

The troubleshooting steps are as below:

1: Please replace the charging cable or charger.

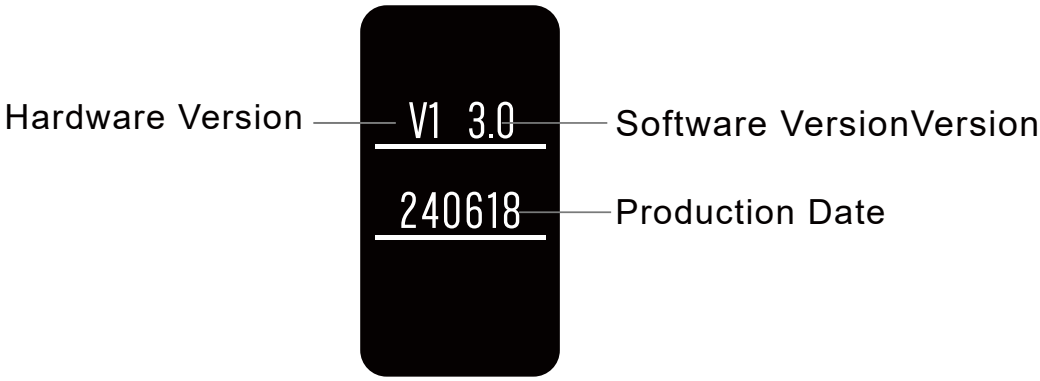
Above E1\E2\E3 fault Instructions, if the fault cannot be solved by the corresponding methods, please return to the factory for maintenance.

Factory Reset

When the device is powered on, press and hold the power button for over ten seconds, and release it after the screen lights up again， the software resets to factory settings.

Version traceability

When the device is powered on,Press and hold the power and“R1”button both for more than 5 seconds. The screen will display version information for 5 seconds and then return to the normal interface.



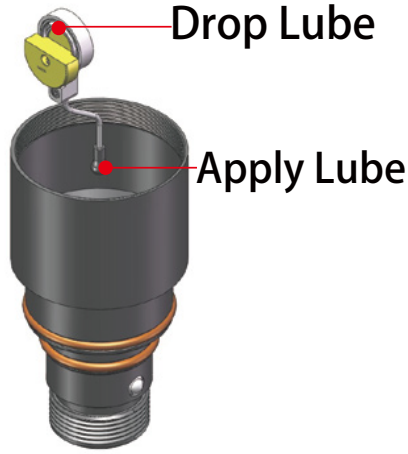
Maintenance

To ensure the longevity and optimal performance of your tattoo machine, regular maintenance is essential. Follow these guidelines

01 Transmission Maintenance: The lifespan and usability of a tattoo machine depend on the user's regular maintenance and care of the device.

- Prior to each use, remember to lightly coat the needle bar with a small amount of grease before inserting it into the needle tube. This lubrication reduces friction and noise, enhancing the performance of the tattoo machine.

- To maintain smooth operation of bearings and transmission components, it is necessary to regularly apply a small amount of lubricating oil to the bearings and lubricating grease to the transmission components. The first lubrication should be performed after approximately 20 hours of cumulative use. The second lubrication should be performed after approximately 60 hours of cumulative use since the first maintenance. The third lubrication should be performed after approximately 120 hours of cumulative use since the second maintenance. Subsequently, maintenance should be performed every 120 hours.



02 Precautions for Using Lithium-ion Batteries

(1) Daily Maintenance of Lithium-ion Batteries

- Lithium-ion batteries do not have a memory effect and can be charged at any time. However, it is important to avoid over-discharging, as excessive discharge can lead to irreversible capacity loss. Once the device indicates low battery, charging should be initiated immediately.

- In everyday use, it is recommended to let a freshly charged lithium-ion battery rest for about thirty minutes to allow its performance to stabilize before use, to prevent affecting the battery′ s performance.

- When not in use, ensure that the product is stored in a dry and cool place.

● Pay attention to the operating environment of lithium-ion batteries: the suitable temperature range for charging and discharging is 0° C to 45° C.

● Do not strike, pierce, step on, modify, or expose lithium-ion batteries to direct sunlight, and avoid placing them in environments such as microwaves or high-pressure settings.

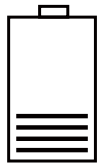
● Use only certified or manufacturer-recommended lithium-ion battery chargers to charge the battery. Do not use poor-quality or non-compatible chargers designed for other types of batteries.

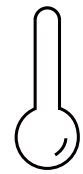
(2) Storage of Lithium-ion Batteries for Long-Term Non-Use

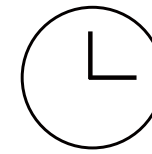
● The self-discharge rate of lithium-ion batteries is affected by environmental temperature and humidity; high temperatures and humidity can accelerate this process. Therefore, it is recommended to store the battery in a dry environment with a temperature range of 0° C to 20° C.

● If a lithium-ion battery is expected to remain unused for 1 to 6 months, it should be charged to 50% to 80% of its capacity, and a complete charge-discharge cycle should be performed every six months. This prevents the battery from losing too much power over time due to self-discharge, the power consumption of the protection circuit, or device power consumption, which could result in irreversible capacity loss.

Check Stored Charge	Note Storage Environment	Regularly Charge and Discharge Batteries
If not used for more than 10 days, please charge or discharge the battery to between 40% and 65%.	Batteries should be stored in a dry and cool place at a temperature of 22 to 28 degrees Celsius.	At least one full charge and discharge cycle should be performed every three months.







Warranty

The unit warranty repair for a period of 1 years from the original date of purchasing. If you discover a defect in a product covered by this warranty, we will repair the item for free. Proof of purchase in the form of a sales receipt must be provided for warranty repair.

Exclusions: The warranty does not coverage extend to damage caused by misuse, abuse, unauthorized modification, improper storage conditions, lightning, or natural disasters. The warranty does not cover parts that are subject to normal wear and tear, such as power cords.

Limits of Liability: Should the product fail, your sole recourse shall be repair or replacement, as described in the preceding paragraphs.We will not be held liable to you or any other party for any damages that result from the failure of this product. Damages excluded include, but are not limited to, the following: lost profits, lost savings,lost data, damage to other equipment, and incidental or consequential damages arising from the use, or misuse of this product.By installing or using the product, the user accepts all terms described herein.

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