

MILESEEY[®] TOOLS

TR256C Thermal Imaging Camera with Laser Measure & GPS



User's Guide



Product Overview

Thank you for purchasing the thermal imager. In order to use this product safely and correctly, please read this manual thoroughly. We suggest to keep the manual at an easily accessible place for future reference.

- TR256C is a handheld thermal imager with Laser Distance measure and GPS function.

- Switching on the laser measure, the real-time distance between Thermal Imager and laser spotted target is displayed on screen, serving for keeping safe distance and thermal reading compensation. Max. laser distancing range 20m.

- The GPS function of TR256C enables latitude and longitude be displayed on screen and auto saved with images, no need for manual record. Note: the GPS function can only be applied outdoor.

- 3.5" high-definition IPS screen displays a large investigation area. Easy to pinpoint fault. 55.6 ° wide angle of view covers a large thermal observation area than normal lens. Easy to survey electric cabinet just 1m away, or heated floor in a narrow room.

- Equipped with 256x192 resolution IR and 2MP visible light dual camera mode, TR256C can set the imaging ratio of infrared and visible light according to different needs. The personalized setting of emissivity ensures the detection data is more accurate.

- Built-in WIFI enables convenient connection with computer for image sharing and projection.

- Within its detection range from -20°C to 550°C (-4°F to 1022°F) , TR256C thermal camera auto detects hot, cold, and center temperatures, auto track hot and cold spots, auto locks highest and

lowest temperatures. Adjustable low- and high-temperature alarm thresholds are very convenient for different applications.

- It can shoot and save the images into the SD card. Data can be exported via TYPE-C connection even when TR256C is power-off or SD card reader. Built-in 5000mA recharge Li-ion battery recharged by TYPE-C cord for long hours running time.

- TR256C is IP65 water resistance and dust proof for tough jobsites. TR256C's LED flashlight can be applied to various dark environments for site perception and personnel safety. This thermal Imager is perfect for Home Inspections, Missing Insulation, Air Leaks, Water Damage, Facility Maintenance, HVAC Troubleshooting, and professional inspections of electrical and mechanical systems.

Safety Instructions



- To ensure accurate measurement results and safety, please use this product in accordance with the user manual, otherwise free warranty will not be provided if the product is damaged.



- The device is categorized into Class 2 laser product. DO NOT stare at laser directly or shoot at others or it will cause damage to eyes.



**LASER RADIATION, DO NOT STARE INTO BEAM,
MAXIMUM OUTPUT < 1mW,
WAVELENGTH 630-670 nm, CLASS 2 LASER PRODUCT**



● Please use the damp cloth or mild soap detergent to clean the device shell. Do not use abrasives, isopropyl alcohol or solvents to clean the instrument shell, lens and other parts.



● Please do not use this product in flammable, explosive, steamy, humid or corrosive environments.



● Please stop using the product if it is damaged, dropped or modified to avoid inaccurate measurement results.



● Please use the correct emissivity to obtain accurate temperature readouts.

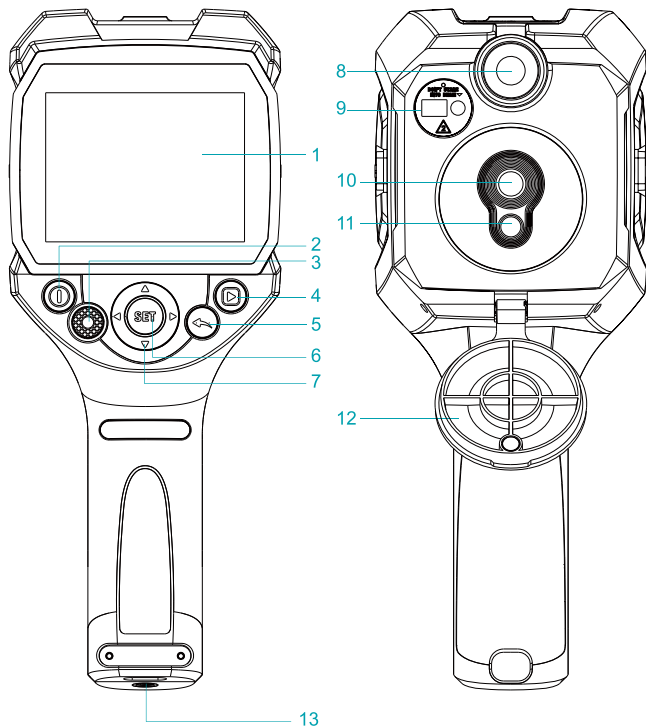


● When being charged, the internal temperature of product will rise, which will lead to inaccurate temperature measurement. It is not recommended to take measurements during or right after charging.



● Because the power consumption may cause the internal temperature of product rise. To ensure the measurement accuracy, please warm it up for 2 minutes before measuring if the product has not been used for a long time.

Appearance



1. 3.5 LCD Display**2. Power On/Off**

Long press to power on/off

3. LED light button

Short press to turn on, short press again to switch 1 gear / 2 gears / off.

4. Picture memory records

Short press to picture memory mode, press the SET button to delete all/one picture.

5. Return

Short press to return.

6. Set button

Short press to the setting menu or data setting.

7. Up/down/left/right button

To switch the options and view the picture records.

8. LED Light**9. Laser Emitter****10. Infrared camera****11. Visible light camera****12. Camera cover****13. Tripod Screw Hole****14. USB port**

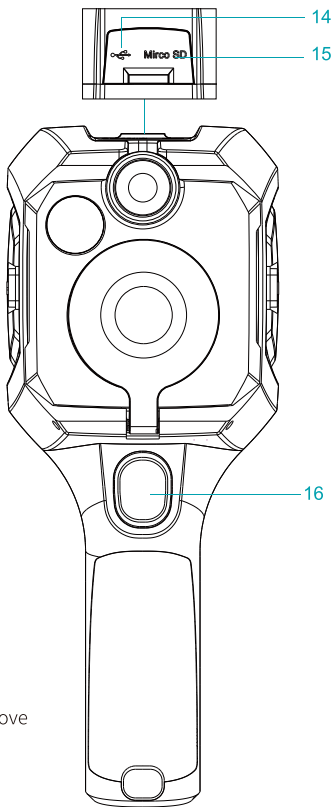
Note: Please DO NOT use the adapter above 5.5V to charge, otherwise it may cause machine damage.

15. Micro SD**16. Picture taking button**

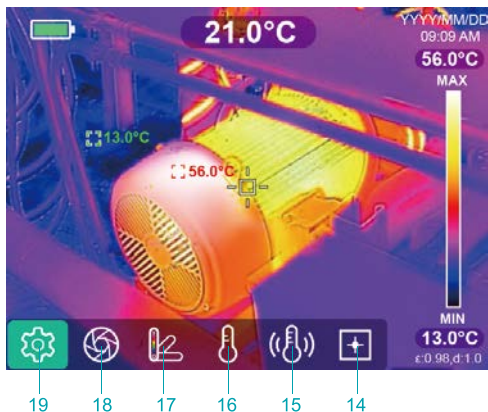
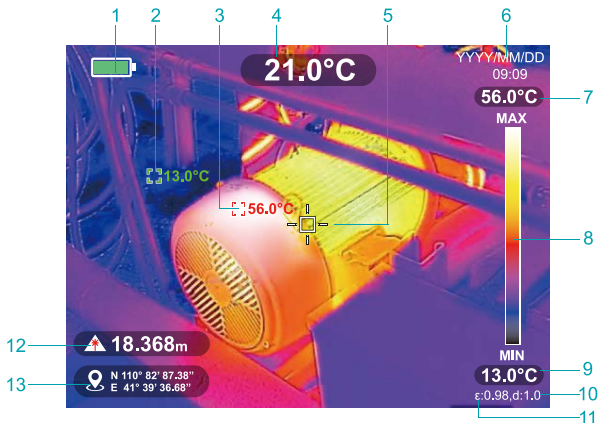
Short press to take picture and save.

Tips: 1. Make sure the SD card has already been mounted in place.

2. Do not insert or remove the SD card when shooting and saving pictures.



Display icon



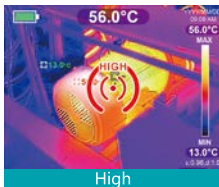
1. Battery Status
2. Minimum Temperature and Position
3. Maximum Temperature and Position
4. Center Point Temperature
5. Center Point
6. Current Date & Time
7. Maximum Temperature of Color Bar
8. Color Bar
9. Minimum Temperature of Color Bar
10. Currently Set Detection Distance
11. Currently Set Emissivity
12. Laser Measured Distance
13. GPS (Longitude and Latitude Info)
14. Cursor Options

Press ▲ / ▼ button to switch, press **SET** button to turn on/off.



15. Alarm Temperature Setting

Press ▲/▼ button to switch, press **SET** button to turn on/off.



16. Temperature Unit Options

Press ▲/▼ button to switch °C and °F.

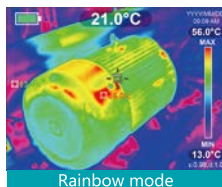
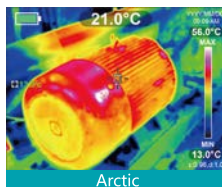
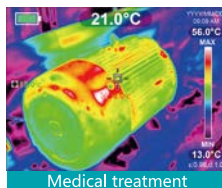
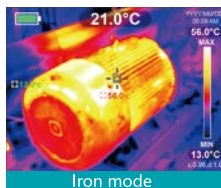


17. Palette Options

Press ▲ / ▼ button to switch six colors and imaging modes.

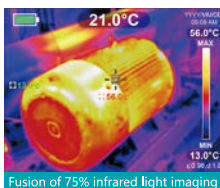
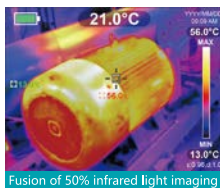
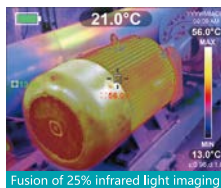


Six colors and imaging modes



18. Infrared and Visible Light Display Ratio Options

Press ▲ / ▼ button to choose between 0% (all visible light imaging), 25% (fusion of 25% infrared light imaging), 50% (fusion of 50% infrared light imaging), 75% (fusion of 75% infrared light imaging), 100%(all infrared light imaging).



19. Setting Menu

Short press **SET** button to the setting menu.

Setting Menu Instruction

Instructions:

- ① Press **SET** button to enter the setting menu, switch the setting area and value.
- ② Press ▲/▼ button to switch the menu options. Press **SET** button to enter the setting interface, then press ▲/▼ button to set the value.
- ③ Press **SET** button to enter the setting interface, and switch the setting area.
- ④ Press ◀ button to return to the main menu of setting.

Emissivity

Selecting correct emissivity is very important for accuracy of temperature measurement, as emissivity has a significant impact on the measured surface temperature.

Press **SET** button to enter emissivity value setting, press ▲/▼ to adjust the emissivity value, press ◀/▶ to select the common emissivity values. Then press the **SET** button to confirm the setting and return to the left side setting menu, or press ◀ to cancel this emissivity setting and return to the left side setting menu.



Tip: The emissivity can be set in the range of 0.01-0.99. For the emissivity of common objects, please refer to the table in the appendix.

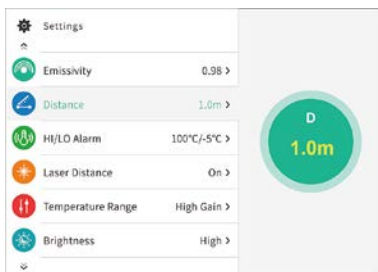
Emissivity of Common Objects

Materials	Emissivity	Materials	Emissivity
Wood	0.85	Black paper	0.86
Water	0.96	Polycarbonate	0.8
Brick	0.75	Concrete	0.97
Stainless steel	0.14	Copper oxide	0.78
Adhesive tape	0.96	Cast iron	0.81
Aluminium plate	0.09	Rust	0.8
Copper plate	0.06	Gypsum	0.75
Black aluminum	0.95	Paint	0.9
Human skin	0.98	Rubber	0.95
Asphalt	0.96	Soil	0.93
PVC plastic	0.93		

Detection Distance Setting

Setting the distance information before detecting can ensure more accurate temperature detection.

Select the distance option, press the **SET** button to enter the value setting interface. Press the ▲ / ▼ button to set the distance value (0~2.5m), then press the **SET** button to confirm the setting and return to the left side setting menu, or press ⬅ to cancel this detection distance setting and return to the left side setting menu.



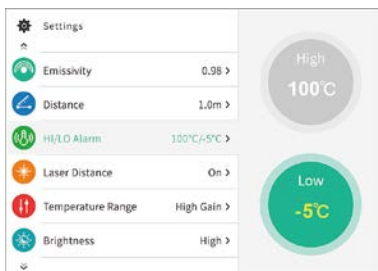
Alarm Temperature Setting

Select HI/LO alarm, Press **SET** button to enter alarm temperature setting, press ◀/▶ to switch between High temperature or Low temperature, press ▲ / ▼ to set the value. Then press **SET** button to save and confirm and return, or press ⬅ to cancel this setting and return.

After the setting, if the temperature exceeds the high temperature setting or under the low temperature setting, the screen will display a high or low temperature icons to warn the operator.

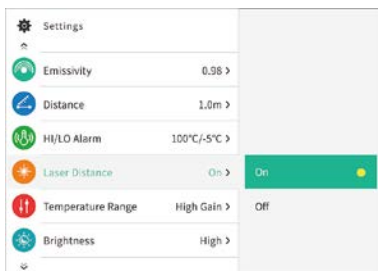
High temperature setting range: 40°C~550°C

Low temperature setting range: -20°C~40°C



Laser Distance

Select the laser distance option, press the **SET** button to enter the setting, press the ▲ / ▼ button to switch the on/off options, then press **SET** button to confirm and return, or press ⬅ to cancel and return to menu.



Temperature Range

Select the temperature range, press the **SET** button to enter detection temperature range setting, press ▲ / ▼ button to switch high temperature range or normal temperature range, then press **SET** button to confirm the setting and return to the left side setting menu, or press ⬅ to cancel

this temperature range setting and return to the left side setting menu.

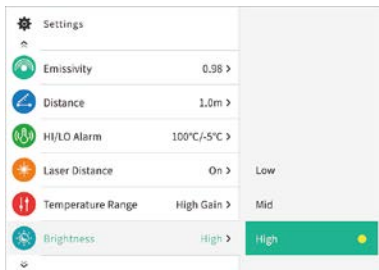
Normal Temperature Range: $-20^{\circ}\text{C}\sim 150^{\circ}\text{C}$, High Temperature Range: $150^{\circ}\text{C}\sim 550^{\circ}\text{C}$

! Note: It takes about 3~10s to save the temperature range setting. Please wait until it is saved successfully.



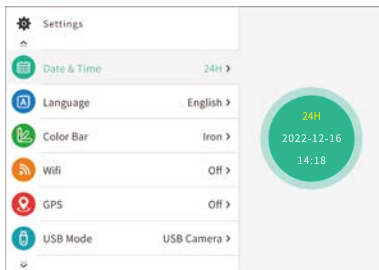
Display Brightness

Select the Brightness, press the **SET** button to enter display brightness setting. Press the $\blacktriangle$ / $\blacktriangledown$ to switch the Low/Mid/High options, then press the **SET** button to confirm the setting and return to the left side setting menu, or press $\blackleftarrow$ to cancel this brightness setting and return to the left side setting menu.



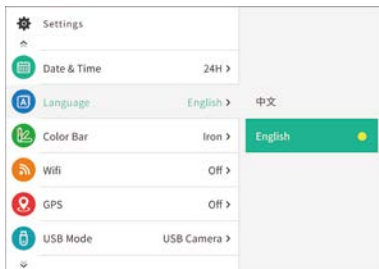
Date and Time Setting

Select the Date&Time, press the **SET** button to enter, press ◀ / ▶ to switch the setting area, then press ▲ / ▼ to change the numbers. Then press the **SET** button to confirm the setting and return to the left side setting menu, or press ⬅ to cancel this time and date setting and return to the left side setting menu.



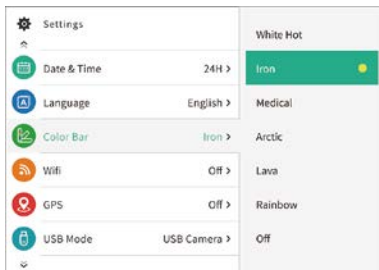
Language Setting

Select the language option, press the **SET** button to enter the setting, press the ▲ / ▼ button to switch the options, then press **SET** button to confirm and return, or press ⬅ to cancel and return to menu.



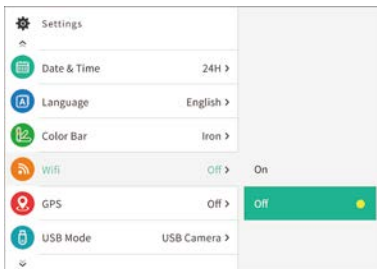
Color Bar Setting

Select the color bar option, press the **SET** button to enter the setting, press the ▲/▼ button to switch “on/off”, then press **SET** button to confirm and return, or press ⬅ to cancel and return to menu.



WIFI

Select the wife option, press the **SET** button to enter the setting, press the ▲/▼ button to switch “on/off”, then press **SET** button to confirm and return, or press ⬅ to cancel and return to menu.



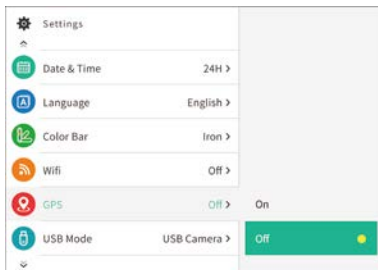
1. Please contact Mileseeey to download and install the upper PC software to achieve the real-time image projection.

2. Turn on the WIFI function of the thermal imager, search this thermal imager's wifi spot on the computer and connect it via password: 123456. After a successful connection, the real-time image projection can be realized through the upper computer software.

! Note: After turning on the WIFI function of the thermal imager, please restart the thermal imager to apply the WIFI function.

GPS

Select the GPS option, press the **SET** button to enter the setting, press the **▲ / ▼** button to switch “on/off”, then press **SET** button to confirm and return, or press **⬅** to cancel and return to menu.



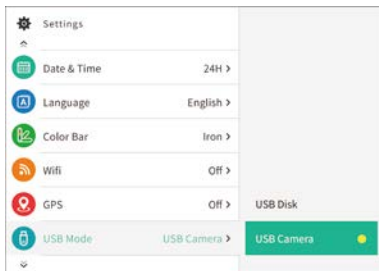
1. Please contact Mileseeey to download and install the upper PC software to realize the outdoor coordinate conversion.

2. Turn on the GPS function, then back to temperature measurement, the left bottom of the screen shows the latitude and longitude coordinates. Press the shooting button to store the current scene. Users can analyze the coordinates of this scene through the upper software on the computer.

! Note: GPS coordinate positioning function needs to be used outdoors.

USB Mode

Select the USB mode option, press the **SET** button to enter the setting, press the ▲ / ▼ button to switch “USB disk/USB camera”, then press **SET** button to confirm and return, or press ⬅ to cancel and return to menu.



1. Contact us via(service@mileseey.com) to download the PC software and complete the installation to browse images and screen projection function of real-time images Screencasting function.

2. When the USB mode is set to USB Disk, can be browsing pictures and analyzing data on PC software by connecting the USB cable to the computer.

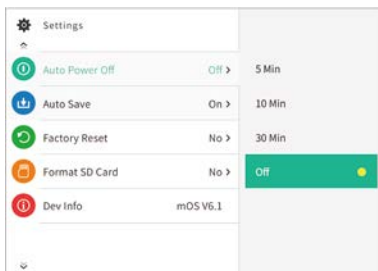
❗ Note: 1) To switch to U-Disk mode, you need to restart the thermal imager, and then plug in the USB cable to apply the U-disk mode.
2) Please do not change the Image folder name and image name, otherwise there will be a reading error.

3. When the USB mode is set to USB camera, connect the USB data cable to the computer, the projection function of real-time image can be realized on the PC software.

❗ Note: 1) To switch to USB camera mode, you need to turn off the thermal imager, then plug in the USB cable, the device will automatically start to apply the USB camera mode
2) Please do NOT unplug the USB cable during the computer screen projection process; Please close the projection software first, then unplug the USB cable, If you use complete,

Auto Power Off

Select the auto power off option, press the **SET** button to enter the setting, press the ▲ / ▼ button to switch the time options, then press **SET** button to confirm and return, or press ⬅ to cancel and return to menu.



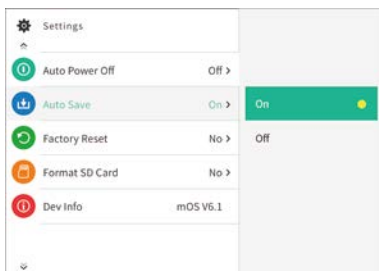
Auto Save

Select the auto save option, press the **SET** button to enter the setting, press the ▲ / ▼ button to switch the “on/off” options, then press **SET** button to confirm and return, or press ⬅ to cancel and return to menu.

Select the “on” option, means device will save every picture automatically that users take .

Select the “off” option, means users need to confirm whether to save after taking the pictures.

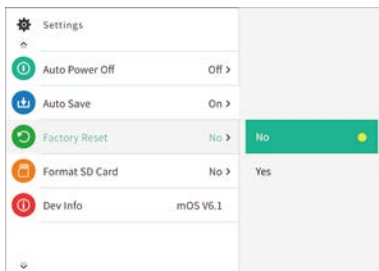
! Note: It is recommended to save no more than 2000 pictures, avoid to affect the reaction speed of the device. When the number of pictures exceeds 2000, please clean up the SD card in time.



Factory Reset

Select the factory reset option, press the **SET** button to enter the setting, press the ▲ / ▼ button to switch the “Yes/No” options, then press **SET** button to confirm and return, or press ⬅ to cancel and return to menu.

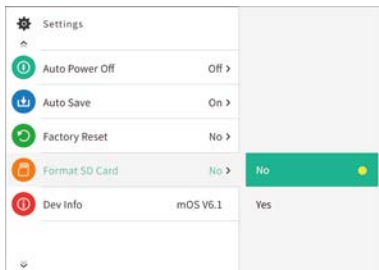
! Note: please use the Factory Reset function prudently, once reset confirmed, all information in the device will be lost.



Format SD Card

Select the Format SD card option, press the **SET** button to enter the setting, press the ▲/▼ button to switch the “Yes/No” options, then press **SET** button to confirm and return, or press ⬅ to cancel and return to menu.

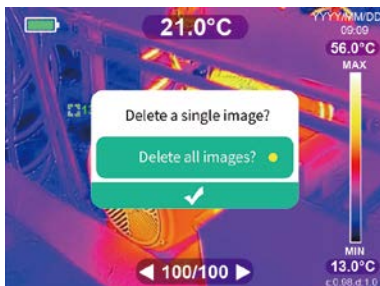
! Note: Please use the Format SD card function prudently, once format confirmed, all the information in SD card will be lost.



Browse Image

Short press the  button to enter Image browsing interface, press ◀ / ▶ to select different Image, press the **SET** button to enter the delete Image option, press the ▲ / ▼ button to select to Delete a single image or Delete all images, then press the **SET** button to confirm deletion.

 **Note:** please do not remove or insert the SD card to avoid accidents.



Specifications

Model	TR256C
Thermal imaging pixels	256*192
Spectral response band	8~14um
HFOV	55.6°±2.8°
Pixel size	12um
Output frame rate	≤20Hz
Thermal sensitivity	≤50mK@f/1,300K,30Hz
Working environment temperature	-10°C~50°C
Temperature range	-20°C~550°C
Accuracy	±3°C/±3%(Take the Maximum Value)
Measurable distance range	0.5m~1.2m
Laser measured distance	20m
Color palette	Six
High/low temperature alarm	√
Laser distance	√
GPS	√
WIFI	√
SENSOR non-uniformity	<5%
Size	3.5 inch
Display resolution	640*480
Visible light resolution	2 megapixels
Communication Interface	USB2.0(HS) *480M
Power	5000mAh/3.7V
Light	High-power white LED
Protection class	IP65
Operating temperature	-20°C~60°C

Storage temperature	-40°C~70°C
Drop resistance	1.5m
Dimension	238*95*85.5mm
Weight(W/I battery)	555g



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Contact us

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Tel: +86 755-86329055

Web: www.mileseey.net / www.mileseeytools.com

Made in China

Warranty Card

Model name		Serial Number	
Invoice Code			
User Info	User Name		
	Address & Tel.		
Date of purchase		warranty period	
Dealer	Dealer's name, address, tel.		
Fault Description			

Warranty Terms

Warranty period:

- This product has one year guarantee in the precondition of non-artificial damage.

Within the warranty period, certain maintenance costs will be charged under following cases:

- Damages caused by improper usage or maintenance of the tool;
- The tool had been disassembled or mended by non-authorized third party;
- Without the warranty card or the purchase invoice;
- The serial number on the warranty card is different with the one on product; The serial number has been altered or abraded;
- Damaged by any force majeure factors;
- Replacement of the worn out accessories;
- Damages caused by the abnormal factors such as the temperature/humidity in usage;
- Damages caused by the improper operation.

Please send the tool with warranty card & purchase invoice to local dealer if maintenance needed. The warranty card will not be reissued if lost; please keep it carefully for maintenance.

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