INFORMATION ON WASTE DISPOSAL FOR CONSUMERS OF ELECTRICAL & ELECTRONIC EQUIPMENT.

When this product has reached the end of its life it must be treated as Waste Electrical & Electronic Equipment (WEEE). Any WEEE marked products must not be mixed with general household waste, but kept separate for the treatment, recovery and recycling of the materials used. Waste batteries can be returned to any waste battery recycling point which are provided by most battery retailers.Contact your local authority for details of recycling schemes in your area.

Made in China
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LS12 2QQ
Man Rev 1.1

multicomp PRO

MP780922

Professional Thermal Imager

Preface

Thank you for purchasing the MP780922 thermal imager. In order to use this product safely and correctly, please read this manual thoroughly, especially the *Safety Instructions* part.

After reading this manual, it is recommended to keep the manual at an easily accessible place, preferably close to the device, for future reference.

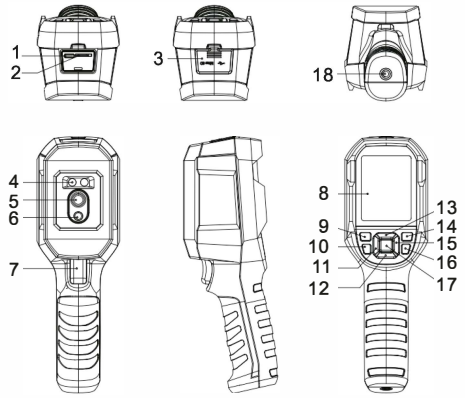
Table of Contents

1. Specifications

Sensor	UFPA
Temperature range	-10°C~400°C
Measurement resolution	0.1°C
Mode	Auto gain
Accuracy	±2.0°C or ±2%
Measuring distance	50cm
Response time	⩽500ms
Emissivity	0.01~0.99 adjustable (default: 0.95)
IR resolution	10,800 pixels（120*90）
Pixel size	17μm
Colour palette	Iron red, Rainbow, White Hot, Red HOT, Black HOT
Wavelength range	8μm~14μm
Field of view (FOV)	50° (H) × 38° (V)
Spatial resolution (IFOV)	7.3mrad
Thermal sensitivity (NETD)	⩽60mK
Frame rate	⩽25Hz
Temperature measurement display	ROI, center point temperature, high temperature tracking (default)
Image format	BMP
Visual light camera	Yes
Visual light resolution	640 x 480 pixels
Field of view (FOV)	81°

Image modes	Thermal, Digital (visual light image) Fusion(image blending)
Temperature Alarm	Icon alarm/LED alarm/Audio alarm
PC software	Yes
Real-time image transmission	Yes (real-time image projection through PC software)
Data transmission	Type-C USB interface
Product size (L x W x H)	236mm x 75.5mm x 86mm
Display type	2.8” TFT LCD
Display resolution	320 × 240 pixels
Battery	3.7V/5000mAh rechargeable Li-ion battery
Auto power off	5 minutes, 10 minutes, 30 minutes, off (default: 30 minutes)
Battery life	⩾6 hours
Charging time	⩽5 hours
Charging voltage/current	5V/2A
Image storage	Micro SD card
Drop test	2m
IP rating	IP65
Certification	CE
Storage temperature	-20°C~60°C (-4°F~140°F)
Operating temperature	0°C~50°C (32°F~122°F)
Operating humidity	<90%RH (non-condensing)
Altitude	⩽2000m
Standard accessories	User manual, USB cable, 16GB Micro SD card

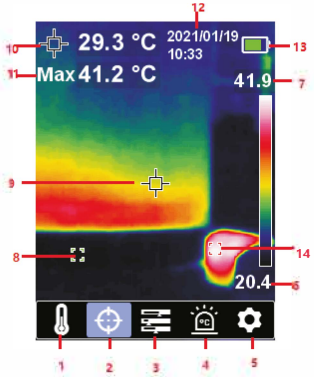
2. Structure



Item	Description	Item	Description
1	USB (Type-C) interface	10	Flashlight button
2	SD card slot	11	Left button
3	Interface cover	12	Down button
4	LED light	13	Up button
5	Infrared camera lens	14	Replay button
6	Visual light camera lens	15	Right button
7	Trigger	16	Back button
8	LCD display	17	SET button
9	Power button	18	Tripod mounting hole

3. Display

Display size: 2.8”
Display resolution: 320 (vertical) x 240 (horizontal) pixels

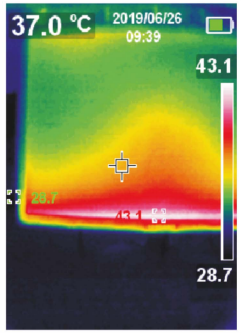


Item	Description	Item	Description
1	Temperature unit option	8	Minimum temperature point
2	Cursor option	9	Center point
3	Colour palette option	10	Center point temperature
4	High/Low temperature alarm option	11	Maximum temperature
5	Settings option	12	Date & time
6	Minimum temperature	13	Battery status
7	Maximum temperature	14	Maximum temperature point

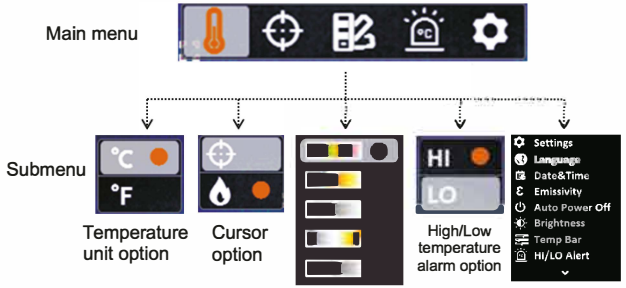
4. Power On/Off

Press the power button for 3s to power on, and press the power button for 1s to power off.

5. Menu Introduction



Thermal imaging page



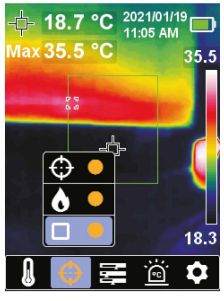
6. Image fusion

This product can capture real-time IR image and display the measured temperature. Press left/right button to select fusion rate from 0% (pure visual light image), 25%, 50%, 75%, 100% (pure infrared image), the best fusion distance is ⩾ 1M.

7. Temperature Unit Selection

1. Press the SET button to open the main menu.
2. Press the left/right button to select the option.
3. Press the SET button to enter the temperature unit submenu.
4. Press the up/down button to select °C or °F.
5. Press the back button to exit the current menu.

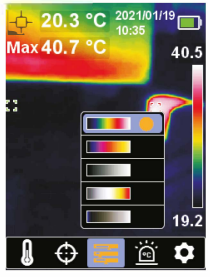
8. Center Point and High/Low Temperature Tracking



Press SET to enter main menu, select and press SET to enter submenu:

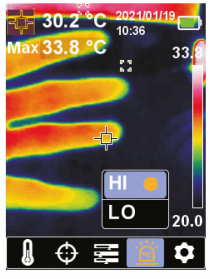
1. Select and press SET to measure center point temperature.
2. Select and press SET to track HI/LO temperature.
3. Select and press SET to measure ROI temperature.

9. Colour Palette Selection



1. Press the SET button to open the main menu.
2. Press the left/right button to select the option.
3. Press the SET button to enter the colour palette submenu.
4. Press the up/down button to select the desired colour from Iron Red, Rainbow, White Hot, Red Hot, Black Hot.
5. Press the back button to exit the current menu.

10. High/Low Temperature Alarm

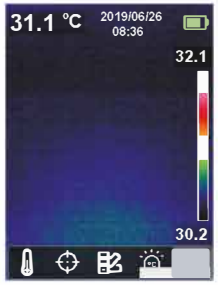


To enable high/low temperature alarm:

1. Press the SET button to open the main menu.
2. Press the left/right button to select the option.
3. Press the SET button to enter the high/low temperature alarm submenu.
4. Press the up/down button to select HI (High) or LO (Low).
5. Press the SET button to confirm.
6. Press the back button to exit the current menu.

Note: High temperature alarm and low temperature alarm can be enabled simultaneously or separately.

11. Settings



To enter Settings menu:
1. Press the SET button to open the main menu.
2. Press the left/right button to select the ⚙ option.
3. Press the SET button to confirm.

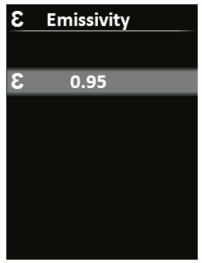
11.1 Language

To set language:
1. Select the Language option (up/down button) in the Settings menu.
2. Press the SET button to enter the Language submenu.
3. Press the up/down button to select the desired language from Chinese and English.
4. Press the SET button to confirm.
5. Press the back button to exit the current menu.

11.2 Date & Time

To set date & time:
1. Select the Date & Time option (up/down button) in the settings menu.
2. Press the SET button to enter the Date & Time submenu.
3. Press the left/right button to select the parameter to be adjusted.
4. Press the SET button to enter the parameter adjustment state.
5. Press the up/down button to increase or decrease the value.
6. Press the SET button to save the settings and return to set other parameters.
7. Press the back button to exit the current menu.

11.3 Emissivity

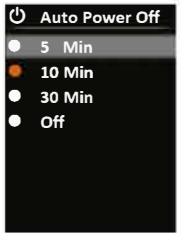


To set emissivity:
1. Select the Emissivity option (up/down button) in the Settings menu.
2. Press the SET button to enter the Emissivity submenu.
3. Press the SET button again.
4. Press the up/down button to adjust the emissivity (step: 0.01; range: 0.01~0.99; default: 0.95)
5. Press the SET button to save the settings.
6. Press the back button to exit the current menu.

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

For emissivity values of common materials, please refer to the common emissivity table in the appendix.

11.4 Auto Power Off

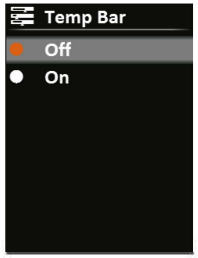


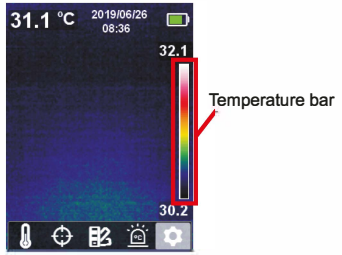
To set auto power off:
1. Select the Auto Power Off option (up/down button) in the settings menu.
2. Press the SET button to enter the Auto Power Off submenu.
3. Press the up/down button to select the desired option from 5 Min, 10 Min, 30 Min, and Off.
4. Press the SET button to confirm.
5. Press the back button to exit the current menu.

11.5 Display Brightness

To set display brightness:
1. Select the Brightness option (up/down button) in the settings menu.
2. Press the SET button to enter the Brightness submenu.
3. Press the up/down button to select the desired option from Low, Middle, and High.
4. Press the SET button to confirm.
5. Press the back button to exit the current menu.

11.6 Temperature Bar



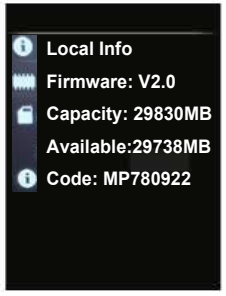


To turn on/off temperature bar:
1. Select the Temp Bar option (up/down button) in the settings menu.
2. Press the SET button to enter the Temp Bar submenu.
3. Press the up/down button to select On or Off.
4. Press the SET button to confirm.
5. Press the back button to exit the current menu.

11.7 Alarm Temperatures

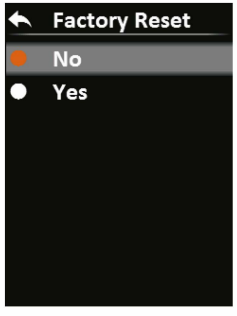
To set alarm temperatures:
1. Select the HI/LO Alert option (up/down button) in the settings menu.
2. Press the SET button to enter the HI/LO Alert submenu.
3. Press the up/down button to select the desired option from HI Alert and LO Alert.
4. Press the SET button to enter the temperature adjustment state.
5. Press the up/down button to adjust the temperature.
6. Press the SET button to save the settings and return to set another temperature.
7. Press the back button to exit the current menu.

11.8 Device Information



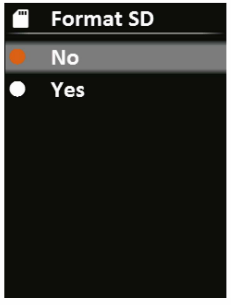
To view the device information:
1. Select the Device Info option (up/down button) in the settings menu.
2. Press the SET button to view the detail information of the device.
3. Press the back button to exit the current menu.

11.9 Factory Reset



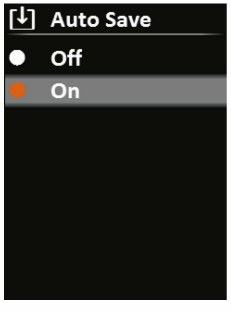
To restore settings:
1. Select the Factory Reset option (up/down button) in the settings menu.
2. Press the SET button to enter the Factory Reset submenu.
3. Press the up/down button to select Yes.
4. Press the SET button to confirm.
5. Press the back button to exit the current menu.

11.10 Format SD Card



To format SD card:
1. Select the Format SD option (up/down button) in the settings menu.
2. Press the SET button to enter the Format SD submenu.
3. Press the up/down button to select Yes.
4. Press the SET button to confirm.
5. Press the back button to exit the current menu.

11.11 Auto Save



To turn on/off auto save:
1. Select the Auto Save option (up/down button) in the settings menu.
2. Press the SET button to enter the Auto Save submenu.
3. Press the up/down button to select On or Off.
4. Press the SET button to confirm.
5. Press the back button to exit the current menu.

11.12 USB mode

To set USB mode:

1. Select the USB mode option (up/down button) in the settings menu.
2. Press the SET button to enter the USB mode submenu.
3. Press the up/down button to select USB disk or USB Camera.
4. Press the back button to exit the current menu.

12. USB Communication

1. Download and install the PC software.
2. Connect the USB cable to the PC.
3. Set the USB mode to USB disk to browse pictures and analyze data through the PC software; set the USB mode to USB camera to realize real-time image projection through the PC software.
4. Regarding its usage, retrieve the Software User Manual from the Help option of the operation interface.
   NOTE: the PC software needs to be run as Administrator.

13. SD Card

This device supports Micro SD card (TF card) to store images. To avoid affecting the operating speed of the device, please copy the backup data regularly and clean up the SD card in time. To avoid causing abnormal data on the SD card, do not insert or remove the SD card repeatedly. Try to remove and insert the SD card when the device is turned off.

14. Charging

Please use a safety-certified 5V/1A or 5V/2A power adapter for charging. Do not turn off the product easily during charging. If shutdown or restart is needed, please unplug the Type-C power cord and disconnect the power supply first.

15. Maintenance

Use a wet cloth or weak soap solution to clean the outer shell of the device. Do not use abrasives, isopropyl alcohol or solvents to clean the outer shell, lens or window.

16. Safety Instructions

To ensure accurate measurement results, please read the instructions carefully.

- Please use this product in accordance with the user manual, otherwise the warranty will be voided if the product is damaged.
- Please do not use this product in flammable, explosive, steamy, wet or corrosive environments.
- Please stop using the product if it is damaged or modified to avoid inaccurate measurement results.
- Please use the correct emissivity to obtain accurate temperature readouts.
- To ensure the accuracy of the product, please warm it up for 20 minutes before measuring if it has not been used for a long time.
- When being charged, the internal temperature of the product will rise, which will lead to inaccurate temperature measurement. So, it is not recommended to take measurements during or right after charging the product.
- The inherent temperature drift of the sensor will occasionally cause inaccurate measurement. In this case, press the down button under the temperature measurement interface to bring out “Calibrating” and automatically calibrate the temperature.

17. Appendix

Emissivity of common objects

Material	Emissivity	Material	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
Tape	0.96	Cast iron	0.81
Adhesive tape	0.09	Rust	0.8
Copper plate	0.06	Gypsum	0.75
Dark aluminum	0.95	Paint	0.9
Human skin	0.98	Rubber	0.95
Asphalt	0.96	Soil	0.93
PVC material	0.93		