NF-521S

Your excellent helper in cable test!
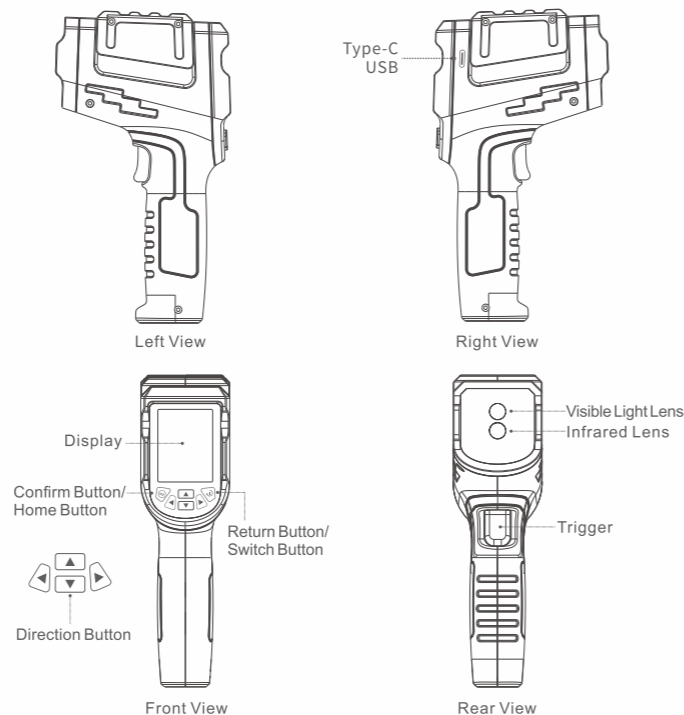
Infrared Thermal Imager
User Manual

VER: V2

1. Product Overview

NF-521S infrared thermal imaging handheld device is a high-precision thermal imaging handheld device. The display method of infrared thermal imaging and visible light can be used to capture the image of each pixel of the target object temperature, and by combining visible light, the state of the object can be photographed more clearly.

2. Product Buttons And Function Descriptions

Left View

Right View

Type-C USB

Display

Confirm Button/ Home Button

Return Button/ Switch Button

Direction Button

Front View

Visible Light Lens

Infrared Lens

Trigger

Rear View

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① Charging indication:

The device uses the USB Type-C interface to charge, and the display will stay on and display the current charging percentage during charging.

② Power on and off:

Short press " ⏻ "to power on, long press" ⏻ "to power off.

③ Taking pictures and recording videos:

Short press the"trigger button"to take pictures and long press the " trigger button" to record videos when the device is turned on.

④ Data transfer:

Connect the computer with a USB Type-C cable, the thermal imager will generate a U disk drive, and you can copy photos and videos to the computer through Windows.

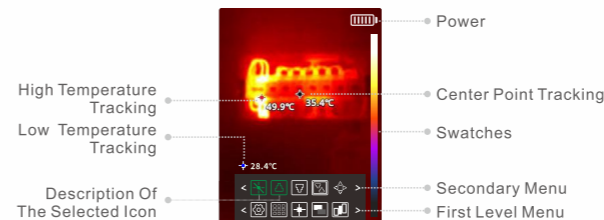## 3. Product Function Operation Instructions

3.1 Switch Machine

Shutdown state,press the " ⏻ " to power on,

In power-on state press the " ⏻ " for a long time to turn off.

3.2 Main Interface

After power-on, the device displays the following main interface.

In this interface, press " ◁ " " ▷ " to quickly switch color palettes, and press " 🔲 " " 🔲 " keys to quickly switch between visible light imaging and infrared imaging.

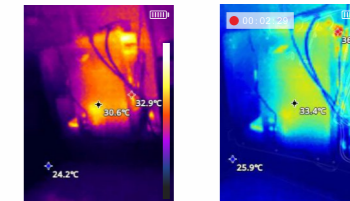In this interface, " ⏻ "is invalid. Press " 🖫 " to display the following menu:

High Temperature Tracking

Low Temperature Tracking

Description Of The Selected Icon

Power

Center Point Tracking

Swatches

Secondary Menu

First Level Menu

After the first-level menu pops up, you can select a panel button in the first-level menu through " ◁ " " ▷ ", press " 🖫 " again, the corresponding second-level menu will pop up, and press " ⏻ " to return to the main interface.

Similarly, you can select each function button of the secondary menu through " ◁ " and " ▷ ", press " 🖫 " to confirm the selection of the corresponding function, and press " ⏻ " to return to the primary menu. The photo and video functions also take effect in this interface.

3.3 Photography And Video

Short press the " trigger button " to take a photo, the photo format is jpg, and long press the "trigger button " to record a video, and the video format is mp4 format.

Photography   Video

3.3 Album

In the main interface, press " 🖫 " to pop up the first-level menu, select the album " 🖫 " button in the first-level menu through " ◁ " and " ▷ ", and press " 🔲 " to enter the album. In the album, all the pictures and videos taken are arranged in the order of shooting time, select pictures or videos by " 🔲 " and " 🔲 ", and press " 🖫 " to display or play them in full screen.
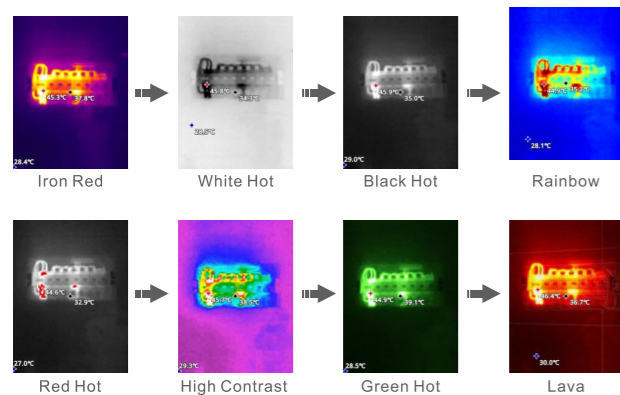
Press " 🔲 " " 🔲 " in display or playback state to switch to the previous or next file of the file. When the playback ends or press " ⏻ ", it will return to the album list interface.

3.5 System Settings

Options	System Settings Description
Language	Chinese, English
Emissivity	0.1~ 0.99 Adjustable
Units	Celsius, Fahrenheit, Kelvin
Temperature alarm switch settings	Upper limit alarm or lower limit alarm can be selected, and the alarm value can also be set
Storage	View built-in storage and format
Date Time	Set the time in detail: year,month,day,hour
Automatic shutdown	You can set the automatic shutdown time if you do not operate for a long time
Swatch bar display switch	Whether the screen swatch bar is displayed or not
Screen brightness	Screen brightness can be adjusted by yourself
Restore factory settings	Whether to restore factory settings, you can choose to set

3.6 Color Palette

The thermal imager provides eight common color palettes, optimized for different scenes, to facilitate the user's observation of different target objects.
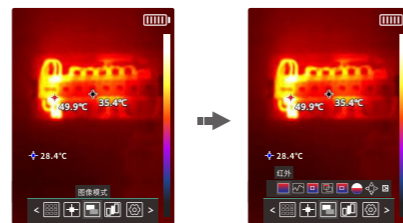

Iron Red   White Hot   Black Hot   Rainbow

Red Hot   High Contrast   Green Hot   Lava

3.7 Multiple Image Display Mode Settings

Image Display Mode	
Single Infrared Imaging	Observation-Only Infrared Thermal Imaging.
Visible light imaging	Temperature measurement in normal visible light camera mode.
Picture-in-picture	Highlight the temperature measurement in the center.
Edge Fusion	You can see the infrared image distribution and temperature measurement, and you can also display the details of visible light at the same time.
Superimposed fusion	Superimpose part of the color of visible light on infrared thermal imaging to make the background clearer.
Fusion degree adjustment	Adjust the fusion ratio of visible light and infrared imaging when fused into a map.
Fusion deviation adjustment	Adjust the relative position of visible light image and infrared image during fusion.

3.7.1 Image display mode icon description

❶ Infrared   ❷ Visible Light   ❸ Picture In Picture

❹ Edge Fusion   ❺ Superimposed Fusion

Fusion Degree Adjustment   Fusion Deviation Adjustment

3.7.2 Image mode can be selected according to needs

1.Open the Image Mode icon

2.Select the image mode as required

3.7.3 The picture mode display effect is as follows

Infrared   Visible Light   Edge Fusion   Superimposed Fusion   Picture In Picture

3.8 Temperature measurement method

① Routine Temperature Measurement

Support the central point measurement temperature, high temperature, low temperature continuous tracking.

① Regional temperature measurement

Some areas can be selected for center point, high and low temperature tracking test, and this temperature measurement area can be zoomed in and out to meet the needs of different scenarios.

4. Product packing list

NF-521S			
Infrared Thermal Imager	1pc	Specification	1pc
USB Type-C data cable	1pc	Certificate/Warranty Card	1pc
Color box	1pc	Tool Kit	1pc

Note : Please refer to the actual item received.

5. Product Specifications

NF-521S Technical Parameter Description	
Resolution	120 x 90
Working Band	8~14um
Frame Rate	25Hz
Netd	70mK@25°C
Field Of View	38°X50°
Emissivity	0.1~0.99
Temperature Range	low temperature: -20~150°C, high temperature: 120~400°C
Measurement Accuracy	±2°C or ±2% of reading
Screen size	2.8 inches
Image Modes	Edge fusion,Superimposed fusion,Picture-in-Picture, Single Infrared, Single Visible Light
Color Palette	Iron Red, White Hot, Black Hot, Rainbow, Red Hot, High Contrast, Green Hot, Lava
Temperature measurement	Support the highest point, the lowest point, the center point temperature measurement in the whole screen and the regional temperature measurement.
Visible Light Camera	One million pixels
Visible Field Angle	H=83° V=55°
Resolution	720 P
Language	Chinese / English
Interface	USB Type-C (supports charging and data transfer)
Battery	2600mAh lithium battery
Capacity	8G Built-in memory
Image Storage Format	JPG
Video Format	MP4
Working Time	About 4 hours when the battery is fully charged
Operating temperature	-10°C ~ +60°C
Storage temperature	-20°C ~ +65°C
Net weight	310g
Product Size	120 x 60 x 210mm

设 计	品名	样式	印刷要求
HZL	NF-521S说明书英文-V2	折页	彩色
日期	品号	页码	
2022.12.29	暂无	4折页	
样品	尺寸	材质	
	105x145mm	128g 铜版纸	
变更记录	V2较V1版本，更新产品参数表		