

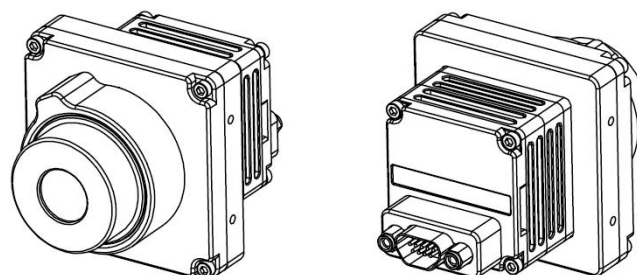


**A3817T07**

**384x288 17 $\mu$ m**

**Uncooled Infrared Temperature Measuring  
Thermal Module  
User Manual**

**V1.1**





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# 1.Description

A3817T07 uncooled infrared temperature measuring thermal module, developed using domestic VOx uncooled infrared FPA ceramic package detector as the core device, with a pixel size of 17um and a resolution of 384x288, with small size, light weight, low power consumption, and images Features such as clearness and high sensitivity can be widely used in the fields of security monitoring, fire search and rescue, human body temperature measurement, detection, border defense and sea defense, marine maritime, industrial testing, scientific research and other fields. Developers can use this module to develop infrared thermal imaging products, shorten the development cycle, and reduce the difficulty of secondary development.



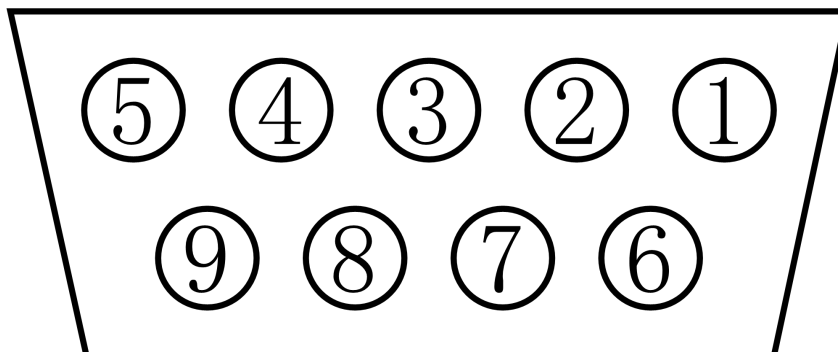
## 2. Performance Parameter

Imaging Performance	
Lens	7mm (12mm/14.8mm/19mm Optional)
N.E.T.D	≤50mK@30°C, #F1.0
Detector Type	LWIR uncooled FPA
Resolution	384 x 288
Wave Range	8~14um
Focus	fixed focus
IFOV	2.42mrad(f7mm F1)/0.89mrad(f19mm F1)
Environmental	
Operating Temperature	-40°C to +55°C
Storage Temperature	-40°C to +70°C
Humidity	95% Relative humidity, Non-condensing
Protection Rate	Customize
Physical	
Weight	≤70g, Without Lens
Size	≤40mm(W)x40mm(H)x52mm(L), Without Lens
Interface & Electronics	
Interface	J30J-9(default), Mini CameraLink(Customize)
Power Supply	DC 3-10V
Video Output	Combined: PAL@50Hz(NTSC@60Hz optional)
Digital Output	CameraLink Customize
Control	RS485(default), RS232, RS422(Customize)
Power Consumption	≤1.5W(Static)
Start Up Time	≤20s
Temperature Measurement Performance	
Range of TEMP Measurement	20°C ~ 50°C (Scalable)
Accuracy of TEMP Measurement	± 0.3°C
Temperature Calibration	Automatic / Manual
Temperature Measurement Point / Highest Temperature Tracking	Full screen multi-point temperature measurement / real-time display of high temperature point position and temperature value
Alarm Function	Sound and light alarm with external audio output

Note: Optional lenses and interface types with different focal lengths will cause the movement to have different sizes and weights.

### 3.Interface Description

3.1 The interface adopts 9 Pin connector J30J-9.



3.2 Power supply, video, and communication interface definitions

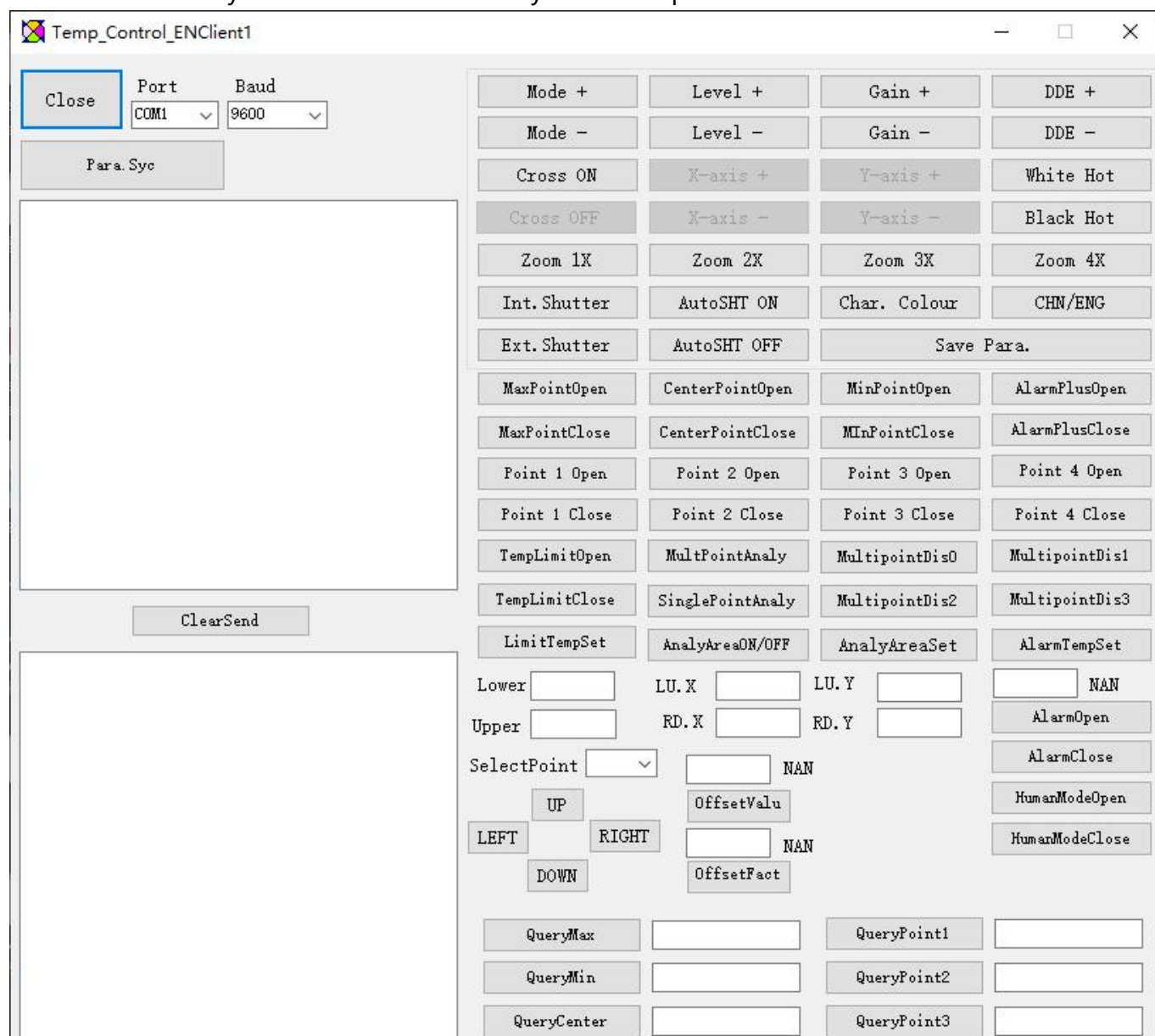
Pin	Definition	Description
1	POW+	Power input, 3-10V DC
2	VIDEO	Analog video output, PAL
3	GND	(RS232) Serial port ground/ video ground
4	RS485_B	System—> Thermal Image
5	-	-
6	GND	Power Ground
7	-	-
8	RS485_A	Thermal image -> system
9	-	-

## 4. Control Instructions

### 4.1 Control software: Fire\_Control.

### 4.2 Instructions for use:

Use RS485 serial port, select the port number, baud rate is 9600, click "COM OPEN", then should click "Parameter Synchronous" button for synchronous parameter from IR to software.



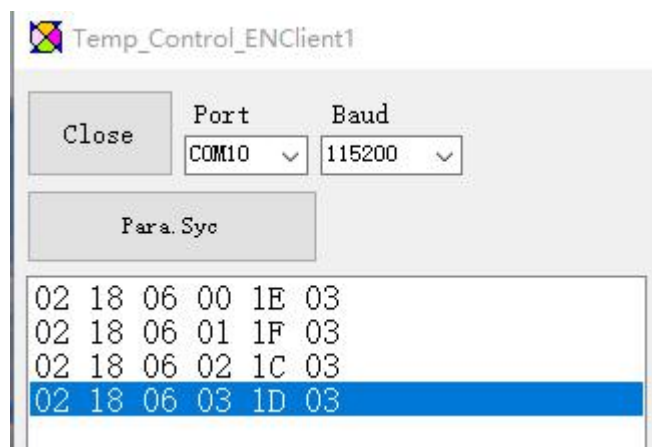
Gray buttons indicate that related functions are not available until they are turned on

## Annotations 1:

Mode+	Brightness+	Contrast+	Enhance+
Mode-	Brightness-	Contrast-	Enhance-
Cross cursor	N/A	N/A	White hot mode
N/A	N/A	N/A	Black hot mode
1X	2X	3X	4X
Manual correction(Baffle)	Automatic correction	Color	Language
Manual correction(External)		Save parameter settings	
Highest point temperature switch	Center point temperature switch	Lower point temperature switch	N/A
Top left temperature switch	Bottom left temperature switch	Top right temperature switch	Bottom right temperature switch
Temperature limit switch	Multi-point body temperature	Multi-point temperature measurement interval, recommended to keep the default interval to 0	
	Single point body temperature		
Limit temperature range	Temperature measurement area switch	Temperature measurement area setting (recommand to keep the default)	N/A
Temperature limit value	Temperature measurement area value		N/A
			N/A
Select temperature measurement point(1、 2、 3、 4) , movable position	Compensation temperature		N/A
	(recommand to keep the default)		Body temperature mode switch(Automatic compensation)
	Correction factor		
	(recommand to keep the default)		
Maximum temperature value		Point 1 temperature	
Minimum temperature value		Point 2 temperature	
Intermediate temperature value		Point 3 temperature	
		Point 4 temperature	

## Annotation 2:

(1) Mode, mode0:linear; mode1:automatic gain; mode2:histogram; mode3:automatic+histogram; brightness, contrast, enhance can be manual control. How to confirm which mode you are in?



Look at the fourth column of data in the signal box, 00 means mode0, 01 means mode1, and so on. Brightness, contract, enhancement similarly

(2) White heat and black heat modes can be selected independently. Character color only available in black and white

(3) The Int.Shutter and Ext.Shutter are manual corrections. When the image appears blurred or other abnormal conditions, manual correction can be performed. The internal reference is corrected by the built-in baffle, and the external reference can be selected by itself for correction. The machine has an automatic calibration function. After the machine is turned on, the baffle will be calibrated once at 15 seconds, then once at 55 seconds, then once every 2 minutes, and once every 4 minutes after 1 hour. Body temperature correction is a compensation correction based on the temperature of the human body.

(4) The offset correction value is that you can set a compensation temperature value. When the ambient temperature changes, the temperature measurement may deviate. You can refer to the black body for temperature measurement and manually enter the compensation value. For example, the black body is 35 degrees Celsius, the movement measures 34.5 degrees Celsius, and the input compensation value is +0.5 degrees Celsius. The correction factor is the same. For example, the black body is 35 degrees Celsius, the movement measured 34.5 degrees Celsius, and the correction factor is 1.0144.





(5) You can choose to display the temperature value of highest temperature point, center temperature point and lowest temperature point.

(6) Set the temperature measurement range and temperature measurement area. The temperature limit range is recommended to be 20 °C ~ 50 °C. The temperature measurement area is recommended to be X-60 on the top left, y-60 on the top right, x-288 on the bottom left and y-228 on the bottom right. Automatically capture the hottest points in the area.

(7) Single point or multi-point temperature measurement can be set, with four points at most, or fixed point temperature measurement can be set, and fixed point can be moved manually.

## 5. Others

### 5.1 Attentions

To protect you and others from injury or damage to your device, please read all of the following information before using your device.

5.1.1 Do not look the movement components directly at the sun and other high-intensity radiation sources no matter the equipment is in the state of power on or power off so as to prevent the equipment from working normally or damaging.

5.1.2 Protect the device from moisture and rain. Do not touch the device and cables with wet hands.

5.1.3 The device should be stored in a cool and dry environment without strong electromagnetic fields.

5.1.4 The ideal ambient temperature is -20°C ~50°C.

5.1.5 Do not touch the detector window with your hands or with other objects.

5.1.6 Do not scrub your device with thinner.

5.1.7 Do not unplug other cables without disconnecting the power supply.

5.1.8 Please pay attention to prevent static electricity.

5.1.9 Do not disassemble the device. If there is any fault, please contact our company for repair by professionals.

## 5.2 Technical Support

5.2.1 Can be customized according to different application needs of users

5.2.2 System training can be provided to users' technicians and operators.

## 5.3 After-sales service

Uncooled infrared temperature measurement movement components, with good after-sales service guarantee for equipment maintenance and repair. If you have any needs, please contact us.

During the warranty period, due to product quality issues, the company is responsible for free maintenance; if the damage caused by human or improper operation is not within the scope of free maintenance, the company provides paid repair services based on the damaged related devices.

The company has the final interpretation of the above services.

## 6. Attachment: Dimensions (f7mm,F1)

