G46E8 Infrared thermal imager module

Technical Specifications

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G46E8 Infrared Thermal Imager Technical Specifications

1 Product Description

The G46E8 series infrared thermal imager is equipped with a high-performance short-wave infrared detector , a high-performance infrared lens, an excellent imaging processing circuit, and is embedded with advanced image processing algorithms . It has low noise , small size , low power consumption, fast startup, excellent imaging quality, low spectral response wavelength, accurate temperature measurement , wide temperature measurement range, and is suitable for ultra-high temperature temperature measurement sites .

G46E8 series infrared thermal imagers fully considers the requirements of high and low temperature working performance to ensure that the whole machine has excellent environmental adaptability .

G46E8 infrared thermal imaging thermometer features:

1. It has all-weather passive thermal imaging function, strong smoke and glass penetration performance, and can be used in a wide range of ambient temperature ;

2. Adopt self-developed temperature measurement and correction algorithm to achieve accurate temperature measurement , suitable for ultra-high temperature measurement scenarios;

3. Output full-stream lossless 16-bit temperature data, provide client software and SDK development kit , facilitate customers to carry out secondary development and system integration, and fully carry out personalized temperature analysis of the measured target ;

Figure 1 G46E8 infrared thermal imager module

2 Product Specifications

sensor	
Number of pixels	640×480
Pixel size	7um
Spectral response wavelength	0.8~2um
Maximum frame rate	125Hz (configurable)
Image processing and display	
Image Optimization	support
Image Noise Reduction	support
Imaging time	≤15 S
Color Palette	Multiple color palettes including white hot, black hot, iron
Data Format	16-bit temperature data (full bit stream)
Temperature measurement analysis	
Temperature measurement	± 1 %
Temperature measurement range	600 ℃～ 2500 ℃ (customizable)
Highest temperature point tracking	support
Minimum temperature point	support
Global maximum temperature	support

Global minimum temperature	support
Center point temperature display	support
Custom temperature measurement	support
Electrical Characteristics	
Data Interface	RJ45
Web Standards	Gigabit Ethernet
Protocol support	GigE Vision V2.0 protocol and GenICam standard
Power interface	2EDGKD-3.81mm/2P
Input power voltage	9-24 VDC
Steady-state power consumption	< 2.5 W
Reverse polarity protection	have
Over-voltage and under-voltage	have
Environmental parameters	
Operating temperature	0 ℃ ～ 50 ℃
Storage temperature	- 30 ℃～70℃
Temperature shock resistance	5℃/min (-40℃～60℃)
Vibration resistance	4.3g, 2 hours for each of x, y and z axes
Shock resistance	Acceleration 30g, half sine wave, pulse width 6ms, impact
humidity	20 % ~80% (non-condensing)
Lenses	
focal length	Athermal 12 mm
Focus mode	Manual
Field of view	29 ° × 22° (horizontal field of view × vertical field of
Spatial resolution	0.600 mrad
Physical properties	
weight	< 225 g
Mounting holes	M3×4 all around
Client	
Real-time temperature display	support
Various temperature measurement objects	support
Alarm function	support
Record/Photograph/Playback	support
SDK development package	
Operating Environment	Support win32, x64 , Linux (x86 /ARM)
Data Acquisition	16-bit temperature data (full stream) through callback function

3 Electrical interface

This section introduces the user interface definition of the infrared thermal imager interface board. The external output interface mainly provides a power connector and an RJ45 connector .

3.1 Interface Diagram

There are two types of external output connectors , namely 2EDGKD-3.81mm /2PIN connector and RJ45 connector . The interface diagram is shown in the figure below .

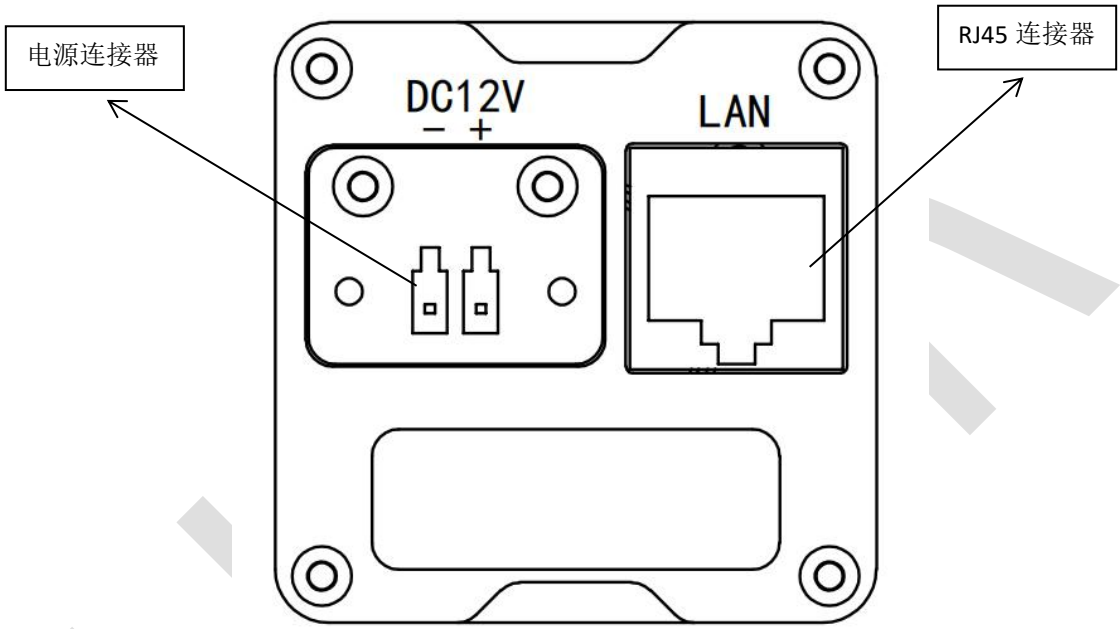

Figure 2 Interface Definition

4 Mechanical interface

4.1 Overall size

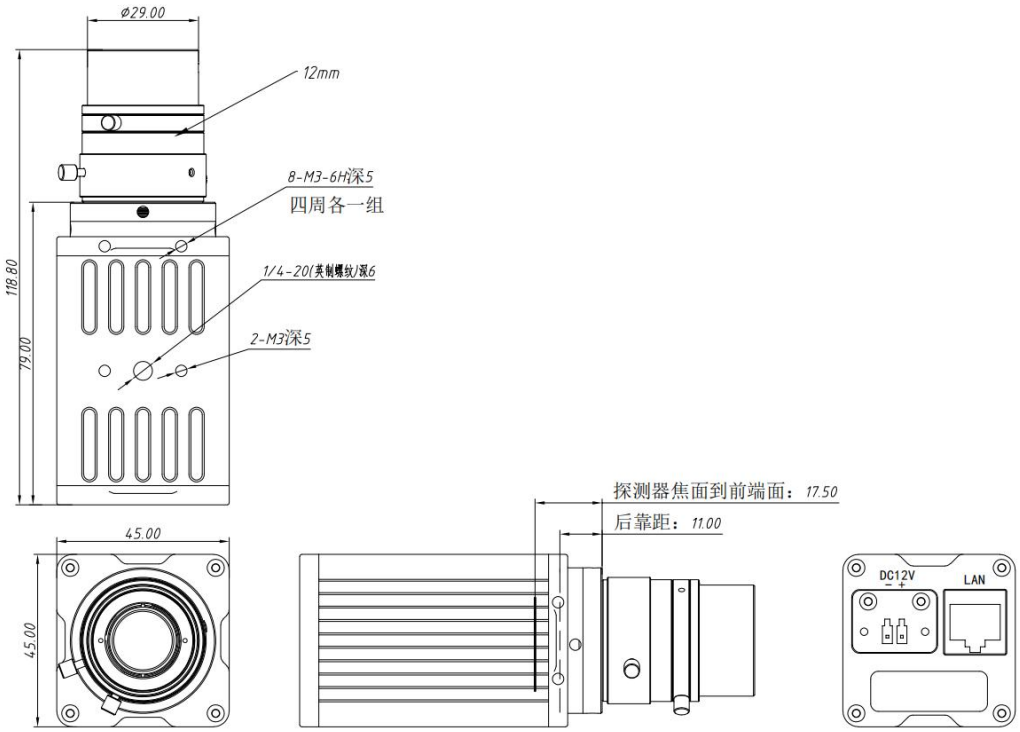

Figure 3 Structural dimensions