KM46C Infrared flame temperature imaging camera

Technical Specifications

Contents

1 Product Description

KM46C online infrared flame temperature imager adopts an uncooled infrared thermal radiometer , a high-performance infrared lens and a signal processing circuit, and is embedded with advanced image processing algorithms. It has the characteristics of small size, low power consumption, fast startup, excellent imaging quality, and accurate temperature measurement.

KM46C online infrared flame temperature imager fully considers the requirements of high and low temperature working performance to ensure that the whole machine has excellent environmental adaptability.

KM46C online infrared flame temperature imager features:

1. The measurement wavelength is 4.5 μ m, which is specially used for flame temperature measurement and imaging ;

2. Adopt high frame rate design, the measurement frequency can reach 50Hz ;

3. The maximum temperature measurement range can reach 2000℃ ;

4. 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 .

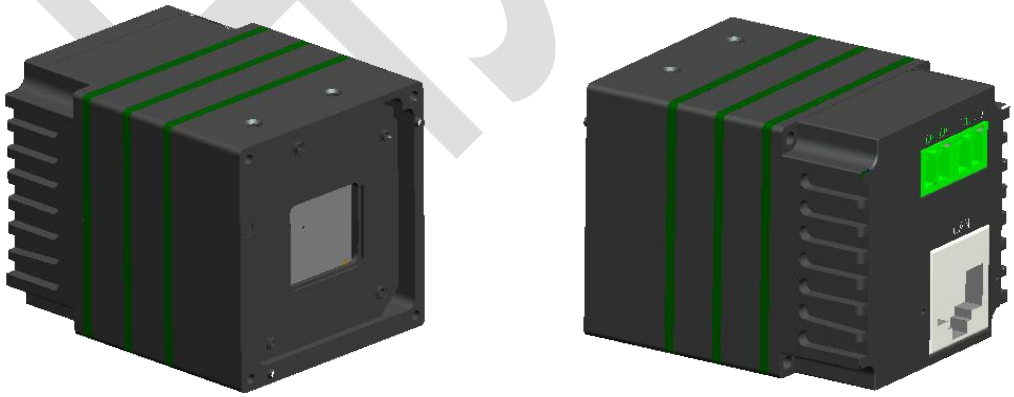

Figure 1 Product image of online infrared flame temperature imager

2 Product Specifications

detector	
Detector Type	Medium Wave Uncooled Focal Plane Microbolometer
Number of pixels	640 × 512

Wavelength range	4.5 μm
Thermal sensitivity (NETD)	≤ 1 k @ 60 0℃
Frame rate	≤50Hz (configurable)
Image processing and display	
Color Palette	Multiple color palettes including white hot, black hot, iron red, rainbow, etc.
Contrast, brightness	Automatic/Manual
Data Format	16Bit temperature data (full bit stream)
Temperature measurement analysis	
Temperature measurement accuracy	±2℃ or ±2%
Temperature measurement range	Range 1: 600 ℃～ 1600 ℃ Range 2: 1000℃~2000℃
Electrical Characteristics	
Data Interface	RJ45
Web Standards	Gigabit Ethernet
Protocol support	UDP
Input power voltage	DC12V
Communication interface	UART @ RS485
Steady-state power consumption	< 4 W
Reverse polarity protection	YES
Over-voltage and under-voltage protection	YES
Environmental parameters	
Operating temperature	-20 ℃ ～ 60 ℃
Storage temperature	- 40 ℃～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 3 times in the installation direction
humidity	≤95%(non-condensing)
Lenses	
focal length	Wide-angle, regular, telephoto lenses are available
Focus mode	Manual /Electric
Physical properties	
Dimensions	40 mm × 40 mm × 65 mm (without lens)
weight	< 100 g
Mounting holes	Two M3×4 on each side
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

3.1 Interface Diagram

The infrared thermal imager has three external interfaces, namely 2PIN SH interface (RS485), 2PIN SH interface (power supply) and RJ45 interface. The interface diagram is shown in the figure below.

- 2PIN SH connector (power supply) provides DC 12V power interface ;
- 2PIN SH connector (RS485) provides RS485 communication interface;
- RJ45 connector provides a network digital video output .

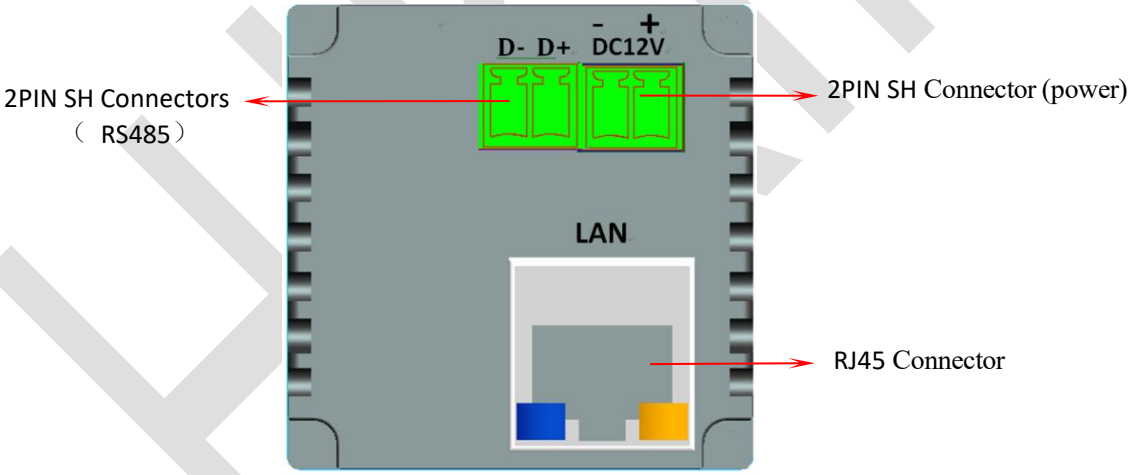

Figure 2 Interface diagram

3.2 Interface Definition

The infrared thermal imager has three external interfaces: two 2-pin SH connectors and one RJ45 connector . The RJ45 connector is a standard definition, the signal definition of the 2-pin SH connector (power supply) is shown in Table 1, and the signal definition of the 2-pin SH connector (RS485) is shown in Table 2.

Table 1 Signal definition of 2PIN SH connector (power supply)

Pin	Signal Name	Function	Description
1	DC12V+	Power	5V ~12V Input
2	DC12V -	Power	Digital Ground

Table 2 Signal definition of 2PIN SH connector (RS485)

Pin	Signal Name	Function	Description
1	D+	Communication	RS485 D+
2	D-	Conference	RS485 D-