K12E2 online infrared thermal imaging thermometer

Technical Specification

catalogue

1 Product description

K 1 2 E 2 The online infrared thermal imaging thermometer adopts a 1 2μm non-cooling infrared focal plane detector, high performance infrared lens and signal processing circuit, and embedded advanced image processing algorithm, with the characteristics of small size, low power consumption, fast start-up, excellent imaging quality and accurate temperature measurement.

K 12 E 2 The device selection of online infrared thermal imaging thermometer fully considers the requirements of high and low temperature working performance, and ensures the excellent environmental adaptability of the whole machine.

K 12 E 2 Online infrared thermal imaging thermometer features:

1. It has the function of passive thermal imaging all day long, has strong penetration of smoke, and can be used in a wide range of ambient temperature;

2. Integrated debugging, small size and easy to integrate;

3. Use self-developed temperature correction algorithm to achieve accurate temperature measurement;

4. Output full code stream lossless 16Bit temperature data, provide client software and SDK development package, facilitate customers to carry out secondary development and system integration, fully analyze the measured target for personalized temperature analysis.

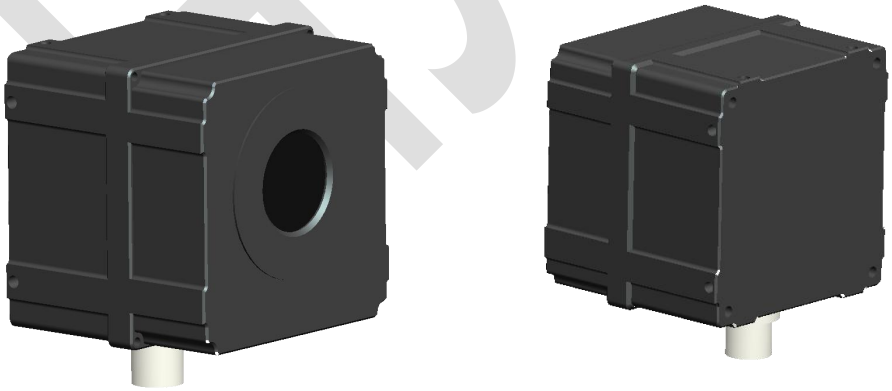

Figure 1 Overall picture of online temperature measuring infrared thermography

2 Product technical indicators

prober	
Type of detector	Non-cooling coke plane micro-radiometric calorimeter

Pixel count	256× 192
Pixel spacing	12μm
wavelength coverage	8~14μm
Thermal sensitivity (NETD)	≤50mk@ 25℃
frame frequency	25 Hz
Image processing and display	
Imaging time	≤1 5 S
palette	A variety of palettes, including white heat, black heat, iron red, rainbow and so on
Contrast, brightness	Automatic / Manual
data format	16Bit temperature data (full stream)
thermometric analysis	
temperature measurement accuracy	±2° and ±2%
Temperature measurement range	-20-550°
electrical character	
Network standards	100 megabits / 1 gigabit network
Agreement supported	UDP
Enter the power supply voltage	5V~12VDC
CI	UART@ RS 485 (anti-control pan-tilt and camera)
data interface	M12 aviation plug (including power, network and RS 485 interface)
steady state power consumption	<2 W
Reverse connection protection	have
Overvoltage protection	have
enviromental parameter	
working temperature	-40℃~6 0℃ (-10℃~6 0℃ to ensure the accuracy of temperature measurement)
Storage temperature	-50℃~70℃
Resistant to temperature shock	5℃/min(-40℃~60℃)
vibration resistance	4.3g, x, y, z axis for 2 hours each
shock resistance	Acceleration 30g, half sine wave, pulse width 6ms, and three impacts in the installation direction
humidity	≤ 95% (non-condensable)
camera lens	
focal distance	Thermalization 2.0mm (F#1.1)
Focus on methods	hand movement
angle of field	90° x 65° (horizontal field of view x vertical field of view)
spatial resolution	6 mrad
physical characteristics	
outline dimension	66 mm× 66 mm× 60.5 mm
classification of waterproof	IP67
weight	<310 g
mounting hole	The bottom surface of the four sides is 2 M3 x 4
client	

Real-time temperature display	support
A variety of temperature measurement objects	support
Alarm analysis	support
Video / photo / replay	support
SDK SDK	
Java runtime environment Java	Supports win32, x 64, Linux (x86/ARM)
data procurement	Get 16Bit temperature data (full stream) through the callback function

3 Electrical interface

3.1 Interface diagram

The external interface of the infrared thermal imaging camera is M12 aviation plug, which includes RS485 interface, power supply interface and network interface. The interface diagram is shown in the following figure.

- Pin1-8 is the standard gigabit network communication interface;
- Pin9-10 is the 5V~12V power input interface;
- Pin11-12 is RS485 communication interface.

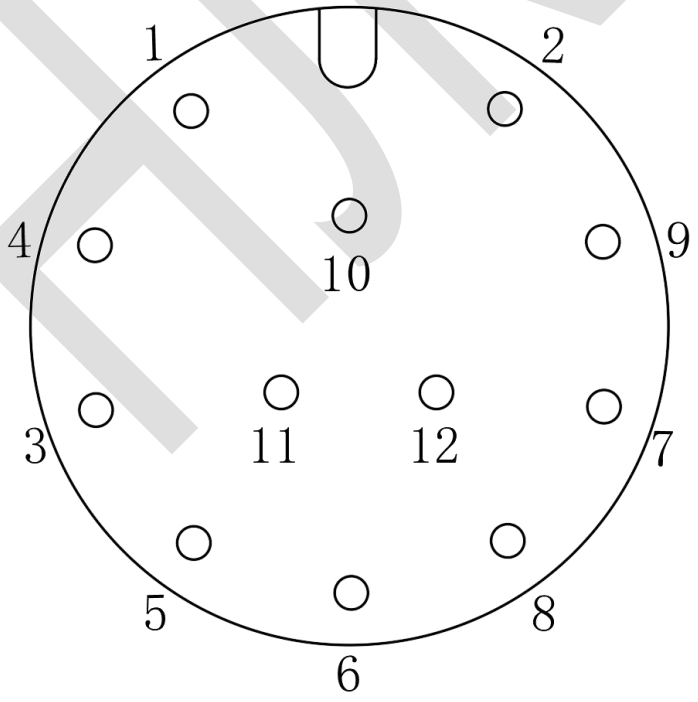

Figure 2 Interface diagram

3.2 Interface definition

The external interface of the infrared thermal imaging camera has three interfaces: network, power supply and RS485. The specific signal definition is shown in the following table.

Table 1 Definition of power supply signals

Pin	Signal Name	Function	Description
1~8	Net	video	Standard gigabit network

Table 2 Definition of power supply signals

Pin	Signal Name	Function	Description
9	DC12V-	Power	the earth
10	DC12V +	Power	5V~12V Input

Table 3 RS485 signal definition

Pin	Signal Name	Function	Description
11	D-	C ommunication	RS485 D-
12	D+	Communication	RS485 D+

4 structure size

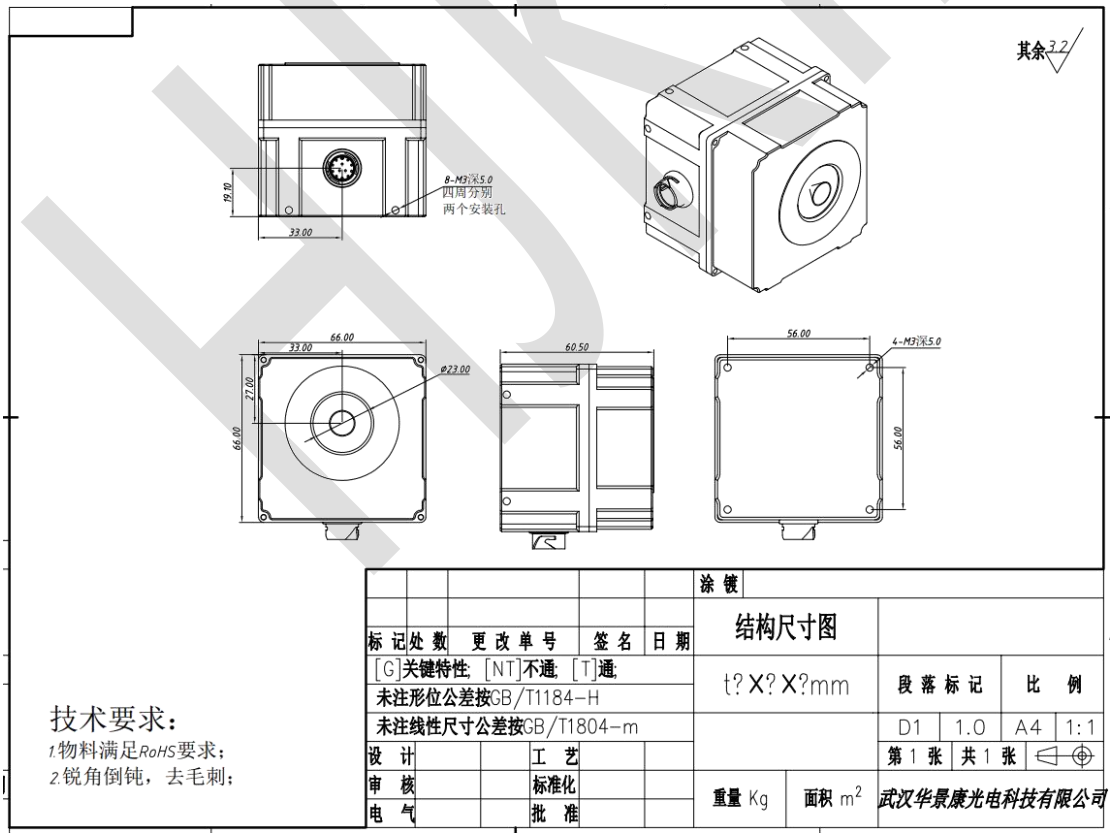

Figure 3 Structural dimensions