



K23 Series Online Infrared Thermal Imaging Thermometer Technical Specification



1 Product Description

K series online infrared thermal imaging thermometer adopts uncooled infrared focal plane detector, high-performance infrared lens and signal processing circuit, and embedded advanced image processing algorithm, with small size, low power consumption, fast start-up, excellent imaging quality, accurate temperature measurement and other characteristics.

K23 series online infrared thermal imaging thermometer features:

- 1, with all-weather passive thermal imaging function, operating temperature range $-40^{\circ}\text{C}\sim+60^{\circ}\text{C}$;
- 2, high frame rate design, the maximum frame rate can reach 200Hz;
- 3, temperature calibration algorithm, to achieve accurate temperature measurement;
- 4, output full stream lossless 16Bit temperature data, provide SDK to support a variety of platforms, easy for customers to integrate

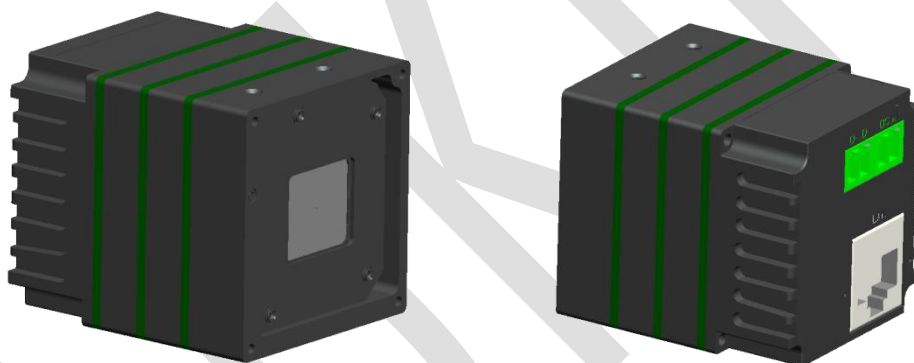


Figure 1 K23 Series Online Infrared Thermal Imaging Thermometer Product Image

2 Product technical specifications

Detector	
Detector type	Uncooled focal plane microbolometer
resolution ratio	384×288
wavelength coverage	$8 \sim 14 \mu\text{m}$
Thermal sensitivity (NETD)	$\leq 50\text{mk}@30^{\circ}\text{C}$
frame frequency	$\leq 50\text{Hz}$ (configurable)
Image processing and display	
Color palette	A variety of color palettes, including white heat, black heat, iron red, rainbow and more
Contrast and brightness	Automatic/manual
Data format	16Bit temperature data (full stream)
thermometric analysis	

Temperature measurement accuracy	$\pm 2^{\circ}\text{C}$ or $\pm 2\%$
Temperature range	Normal temperature: $-20^{\circ}\text{C} \sim 200^{\circ}\text{C}$ Medium temperature range: $150^{\circ}\text{C} \sim 800^{\circ}\text{C}$ High temperature range: $350^{\circ}\text{C} \sim 1600^{\circ}\text{C}$ Ultra-high temperature range: $650^{\circ}\text{C} \sim 2000^{\circ}\text{C}$ (optional)
electrical specification	
Data interface	RJ45
Network standard	Gigabit network
Protocol support	UDP
Input supply voltage	DC12V
Communication interface	UART@RS485, Modbus-RTU is supported
Steady-state power consumption	$<3\text{W}$
Focusing mode	Manual, electric
enviromental parameter	
Operating temperature	$-40^{\circ}\text{C} \sim +60^{\circ}\text{C}$
Storage temperature	$-50^{\circ}\text{C} \sim +70^{\circ}\text{C}$
Thermal shock resistance	$5^{\circ}\text{C}/\text{min}$ ($-40^{\circ}\text{C} \sim +60^{\circ}\text{C}$)
Vibration resistance	4.3g, x, y, z axis 2 hours per axis
Impact resistance	Acceleration 30g, half sine wave, pulse width 6ms, installation direction impact 3 times
humidness	$\leq 95\%$ (non-condensing)
SDK development kit	
Operating environment	Support win32, x64, Linux(x86/ARM)
Data acquisition	Obtain 16Bit temperature data through callback function (full stream)

3 Structural Dimensions

Structure size drawing

4 Software Function Description



- 1, real-time video display;
2. Draw real-time temperature curves of full screen or specific temperature measurement objects;
- 3, support high and low temperature tracking, temperature trend tracking, automatically capture the highest/lowest temperature point;
- 4, support high temperature marking function;
- 5, custom temperature alarm, support 11 different alarm types;
- 6, with overtemperature alarm image capture, recording alarm video function;
- 7, can store alarm data, detection data, file data, etc.;
- 8, offline analysis of stored pictures and videos, and secondary analysis;
- 9, with the temperature correction function, you can manually set the temperature measurement parameters to correct the temperature measurement accuracy.

5 You can select the lens and details

focal length (mm)	size (mm)	F#	Detector resolution			FOV (°)		inter space Fov (mrad)
			H	V	Pixel size (um)	H	V	
4	∅ 41-h23	1.0	384	288	17	81	58	4.25
4.8	∅ 40-h37	1.0	384	288	17	71	54	3.54
5.7	∅ 40-h15	1.0	384	288	17	71	52	2.98
8	∅ 40-h25.8	1.0	384	288	17	46	35	2.13
9.5	∅ 40-h15	1.0	384	288	17	38	29	1.79
13	∅ 31-h24	1	384	288	17	28	21	1.31
19	∅ 39-h35.8	1.0	384	288	17	19	14	0.89
25	∅ 37-h24.5	1.0	384	288	17	15	11	0.68
35	∅ 40-h28	1.0	384	288	17	11	8	0.49
4.8	∅ 40-h37	1.0	640	480	17	114	88	3.54



8	∅ 40-h25.8	1.0	640	480	17	81	59	2.13
9.5	∅ 40-h15	1.0	640	480	17	64	48	1.79
13	∅ 31-h24	1.0	640	480	17	45	35	1.31
19	∅ 39-h35.8	1.0	640	480	17	31	24	0.89
25	∅ 37-h24.5	1.0	640	480	17	24	18	0.68
35	∅ 40-h28	1.0	640	480	17	18	13	0.49