L615

Cooled LWIR Module

Product Manual

V1.0.1

Historical Versions

Version	Date	Description
V1.0.0	2024-07	Initial version
V1.0.1	2024-09	Revise lens options

Table of Contents

1. Product Description

The L615 cooled LWIR module is provided with the high-performance T2SL cooled IRFPA, and carried with the self-developed image processing algorithm. It reaches the frame rate of up to 100Hz, and has a stronger sand and dust penetrability and a better anti-interference capacity of reflected light. It supports multiple digital video interfaces, is suitable for multiple fixed focus and continuous zoom lens, and is widely applied in vision enhancement, dynamic loading, border and costal defense, anti-UAV and other scenarios. SDK is provided, which is simple and easy to use, reducing secondary development costs.

2. Lens Options

Table 2.1 Lens Options

Array Format	Focal Length/F#	Lens Type	FOV H×V	IFOV
640×512	50mm/F2.0	Straight fixed focus	10.97°×8.78°	0.300 mrad
640×512	15-200mm/F2.0	Straight continuous zoom	2.75°×2.2°～35.49°×28.72°	0.075 mrad
640×512	20-300mm/F2.0	Straight continuous zoom	1.83°×1.46°～27.0°×21.74°	0.050 mrad

3. Product Performance Parameters

Table 3.1 Product Performance Parameters

Performance Characteristics	
Detector Type	T2SL Cooled IRFPA
Resolution	640×512
Pixel Pitch	15μm
Frame Rate	100Hz/50Hz (1)
F#	F2.0
Spectral Band	7.7±0.2μm～10±0.5μm
NETD	≤25mK@25°C
Detector Defective Pixel Rate	≤0.5%
Cooling Time@25°C	≤7min
Image Adjustment	

Brightness/Contrast Adjustment	Auto/Manual
Polarity	Black-hot/White-hot (default)
Cross Reticle	Display/Blank/Move
Digital Zoom	1.0~8.0× continuous zoom (step size: 0.1)
Image Processing	NUC
	DNR
	DDE
Image Flip	Horizontal/Vertical/Diagonal mirror image
Power Supply	
Power Supply Range	26~32V DC, typical voltage of 28V DC
Power Consumption@25°C	Stable power consumption ≤12W, peak power consumption ≤25W
Interface	
Analog Video	PAL
Digital Video	Cameralink
Serial Communication Interface	RS422 (default baud rate: 115200)
External Synchronization	Internal synchronization (default)/External synchronization output/External synchronization input/Adaptive synchronization
Physical Characteristics	
Weight (g)	≤870 (without lens)
Dimensions (mm)	121×75×79 (±1, without lens)
Environment Adaptability	
Operating Temperature	-40°C～+60°C
Storage Temperature	-45°C～+65°C
Temperature Shock	-45°C～+65°C（≤5°C/min）
Random Vibration	6.06g〔2〕
Impact	Final peak sawtooth wave, 40g, 11ms (3 times in 3 axes and 6 directions)
MTTF	≥10000h
Storage Life	≥15 years

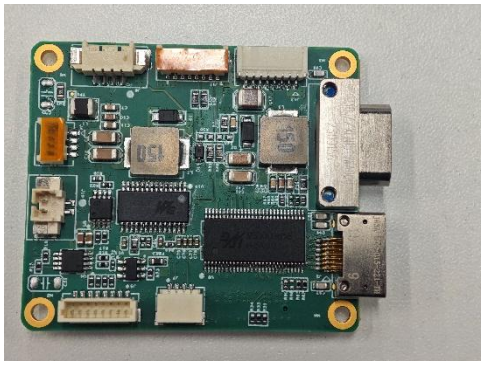
Note:

(1) Frame rate: Cameralink, 100Hz/50Hz optional;

(2) Random vibration: 20Hz~80Hz, +3dB/OCT; 80Hz~350Hz, 0.04g2/Hz; 350Hz~2,000Hz, -3dB/OCT; 3 axial directions x, y, z, 5min per axis.

4. Selection of User Expansion Components

Table 4.1 Selection of User Expansion Components

Model	Picture	Main Interfaces
01-Cameralink User Expansion Component		● 26~32V power supply interface ● RS422 serial communication interface ● PAL analog video interface ● Cameralink digital video interface ● External synchronization signal interface

5.Structure and Dimensions

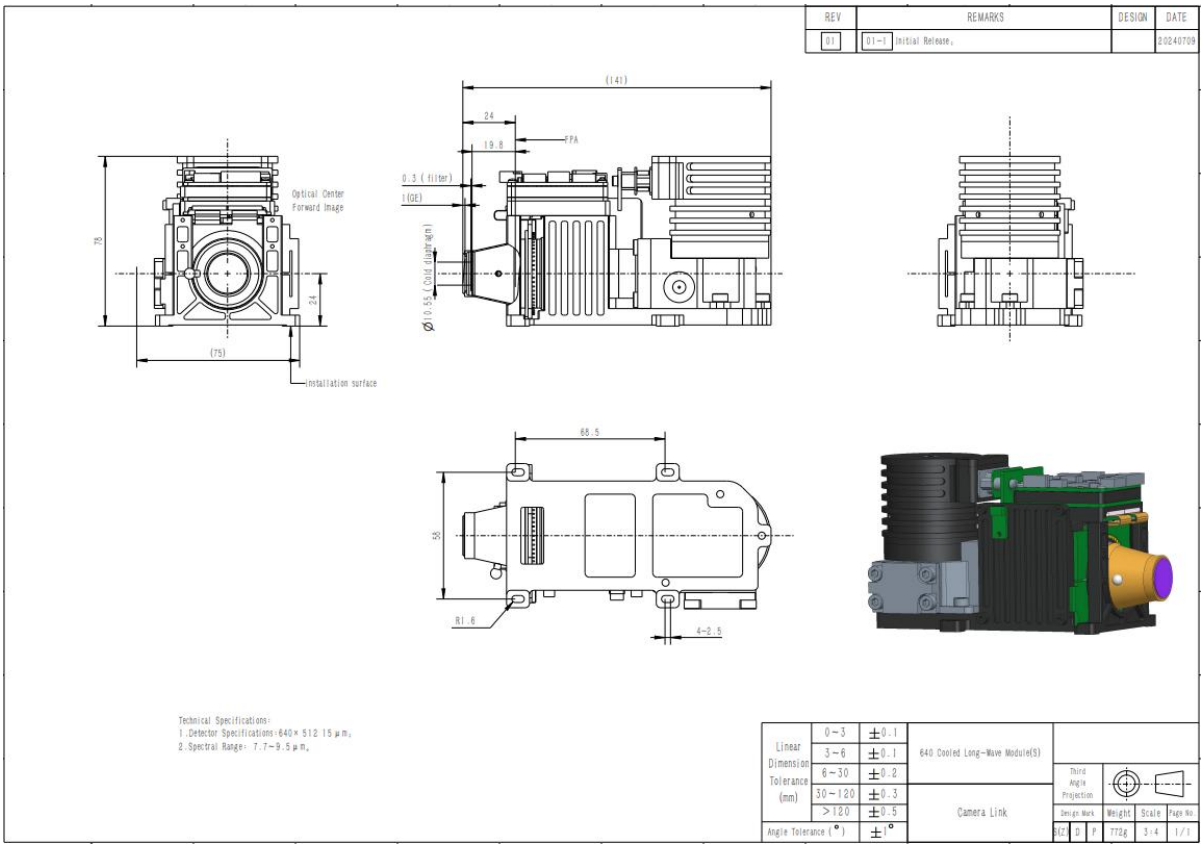


Figure 5.1 Structures and Dimensions of 01-Cameralink User Expansion Component without Isolation Board and Lens

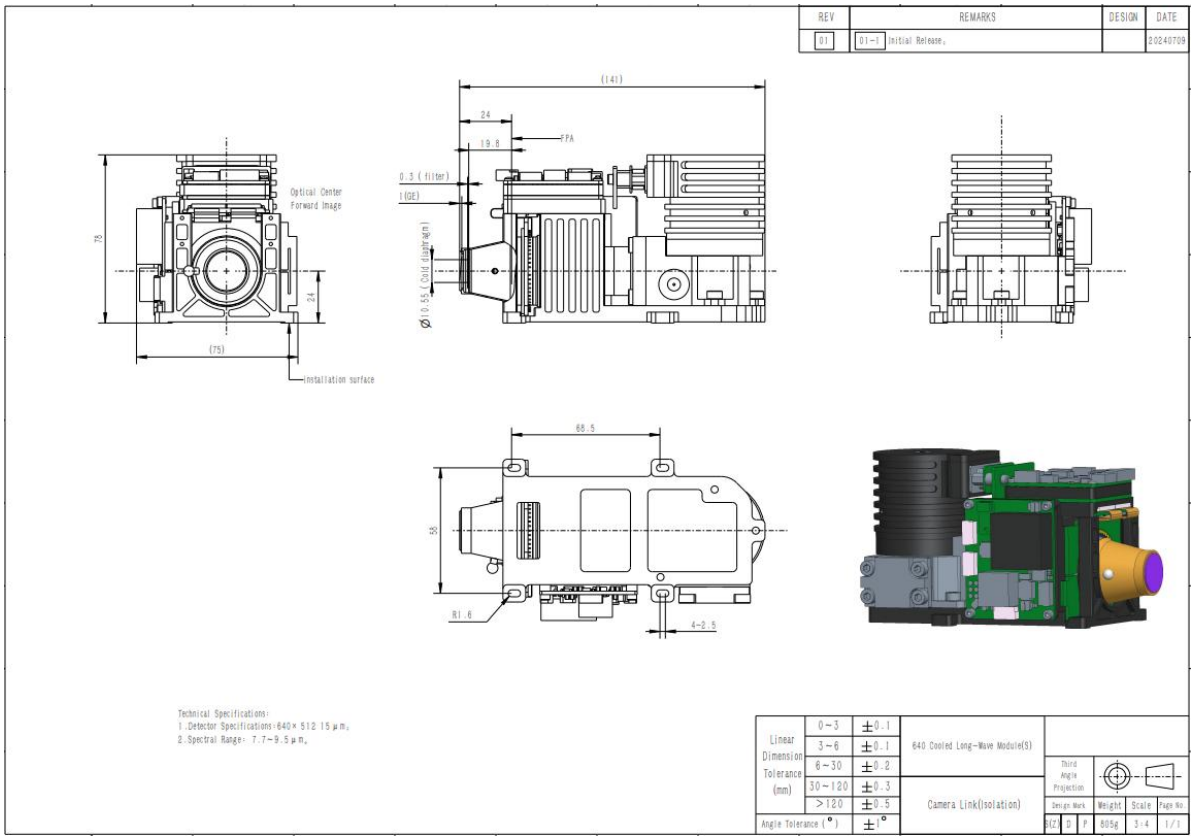


Figure 5.2 Structures and Dimensions of 01-Cameralink User Expansion Component with Isolation Board and without Lens

Note: *After being suitable for different lenses, the structure has different dimensions.*

6. Precautions

To protect yourself and others from harm or to safeguard your device from damage, please read all the following information carefully before using your device to avoid affecting your warranty rights.

1. The ideal ambient temperature is -20°C to 50°C, and the module should be powered on as per the product requirements for ambient voltage. Malfunctions caused by abnormal power-on are not covered in the warranty.
2. Do not touch the detector window with your hands or collide with them by using any objects;
3. Do not touch the module and cables with wet hands, and do not bend or damage the connecting cables.
4. Unauthorized updates to the module program are prohibited. If updates are required, please contact technical support. Unauthorized disassembly of the module is prohibited. In case of a malfunction, please contact technical support for guidance and repair. Any malfunctions caused by unauthorized repairs will not be covered by warranty.

5. Do not use chemical solvents or diluents to clean any part of the module. You can use a special lens cleaning cloth to clean the detector window. Under electrostatic protection conditions, it is allowed to use an anti-static brush or a clean, soft, dry cloth to clean the mechanical shell and circuit board surface.
6. Do not plug or unplug other cables without disconnecting the power;
7. Do not connect the provided cables incorrectly to prevent damage to the module. If the cables cannot be inserted smoothly, do not insert and remove them forcibly. Please check whether the pin is crooked, whether the insertion position is incorrect, or whether the plug is reversed.
8. Pay attention to the prevention of electrostatic discharge. When handling the module, wear an anti-static wristband and finger cots. Avoid direct contact without protection.
9. The time interval between shutting down and restarting should not be less than 10 seconds.
10. During use, adapt the integral time to the scene and perform background correction.
11. Avoid damage caused by contact with other objects during use;
12. The module should be sealed in an anti-static bag and then put into shock-absorbing sponges in the package box. When not in use, please place the module in an anti-static bag for sealed storage;
13. During storage, pay attention to protecting the module against water, moisture, impact, and drops. Damage caused by improper storage or any other natural disaster is not covered by warranty;
14. When cleaning the lens, first use a blower to blow away particles and dust. Then use degreased cotton to apply lens cleaning solution and gently wipe from the center to the edges in a single direction. Replace the cotton after each wipe. During use, minimize the frequency of wiping.