

# TWIN Series Uncooled Thermal Modules

Compact Design with High Performance



TWIN612/R



TWIN412/R

TWIN series uncooled thermal modules integrate GST self-developed ceramic package infrared detector, high performance signal processing circuit and enhanced image algorithm to output clear, sharp images and accurate temperature data. Its compact design and light weight structure could satisfy customers' strict integration requirements on size, weight and power consumption.



UAV  
PAYLOADS



INTELLIGENT  
HARDWARE



THERMOGRAPHY



SECURITY  
MONITORING



ROBOTS



ADAS



FIREFIGHTING  
& RESCUE



## “OPTIMAL SWAP-C”

- Mini size: 25.4×25.4×35mm (without lens)
- Light weight: 25g (without lens)
- Power consumption as low as 0.8W



## “OUTSTANDING PERFORMANCE”

- Powerful image process algorithm: NUC/3D/2D/DRC/EE
- Temperature measurement range: -20 C ~ 150 C , 0~550 C (customizable)
- Temperature measurement accuracy: ±2 C or ±2%



## “STRONG UNIVERSALITY”

- Image data output: YUV/BT.656/LVDS/USB2.0
- Support Windows/Linux SDK; achieve video stream analysis and conversion from gray to temperature
- Good stability in various harsh environments

Model	TWIN612/R	TWIN412/R
<b>IR Detector Performance</b>		
Resolution	640×512	384×288
Pixel Size	12μm	
Spectral Range	8~14μm	
Typical NETD	< 40mK	
<b>Image Processing</b>		
Frame Rate	25Hz/30Hz	25Hz/30Hz/50Hz
Start-up Time	6s	
Analog Video	PAL/NTSC	
Digital Video	YUV/BT.656/LVDS/USB2.0	
Image Display	11 in Total (White Hot/Lava/Ironbow/Aqua/Hot Iron/Medical/Arctic/Rainbow1/Rainbow2/Red Hot/Black Hot)	
Image Algorithm	NUC/3D/2D/DRC/EE	
<b>Electrical Specifications</b>		
Standard External Interface	50pin_HRS	
Communication Interface	RS232/USB2.0	
Supply Voltage	4~5.5V	
Typical Power Consumption	0.8W	
<b>Temperature Measurement</b>		
Operating Temperature Range	-10°C ~ 50°C	
Temperature Measurement Range	-20°C~150°C, 0°C~550°C	
Temperature Measurement Accuracy	Greater of ±2°C or ±2%	
SDK	Windows/Linux; Achieve Video Stream Analysis and Conversion from Gray to Temperature	
<b>Physical Characteristics</b>		
Dimension (mm)	25.4×25.4×35 (Without Lens)	
Weight	25g (Without Lens)	
<b>Environmental Adaptability</b>		
Operating Temperature	-40°C ~ +70°C	
Storage Temperature	-45°C ~ +85°C	
Humidity	5%~95%, non-condensing	
Vibration	5.35grms, 3 Axis	
Shock	Half Sine Wave, 40g/11ms, 3 Axis, 6 Direction	
<b>Optics</b>		
Optional Lens	Fixed Athermal: 13mm	

Specifications are subject to change without prior notice.

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