

SPECTRA L04S

384×288 Shutterless Uncooled LWIR Module

Overview

Spectra L04S is built on our proprietary high-performance 384×288/12 μm uncooled detector and needs no shutter calibration, eliminating the stutter and noise encountered during observation. It supports super-resolution, picture-in-picture, custom OSD, sleep mode and electronic zoom, with rich video interfaces and lens options for integration. The complete unit measures no more than 25.4×25.4×22.7 mm and weighs no more than 26 g bare, delivering a stable, smooth thermal observation experience within tight space constraints and demanding environments.



384×288

RESOLUTION



12 μm

PIXEL PITCH



≤30 mK

NETD



25.4×25.4×22.7 mm

DIMENSIONS

Key Features

Shutterless, Smoother Viewing

- No shutter calibration during use, solving the industry-wide shutter stutter problem
- Silent operation avoids exposure

Small and Light, Flexible Layout

- Complete unit no larger than 25.4×25.4×22.7 mm with bare weight of ≤26±1.5 g
- Compact structure design for flexible layout

Rich Functions, Free Integration

- Super-resolution, picture-in-picture, custom OSD, sleep mode, full-unit zero calibration and multiple Micro OLED options
- Multiple lens and expansion-module options for secondary development

Typical Applications



Security Monitoring



Outdoor Night Vision



Industrial Inspection



Wearable Devices



Technical Specifications

Detector Performance

Sensitive Material	Vanadium oxide (VOx)
Resolution	400×300
Pixel Pitch	12μm
Spectral Band	8μm ~14μm
Typical NETD	≤30mK

Image Processing

Effective Pixels	384×288
Digital Frame Rate	50Hz
Boot-up Time	6s
Digital Video Format	YUV420/YUV422/RGB888/RAW
Image Algorithms	NUC/DRC/DNS/DDE/SFFC
Shutterless	Supported
Image Display	10 (white-hot / lava / iron-red / hot-iron / medical / arctic / rainbow-1 / rainbow-2 / red-trace / black-hot)
Mirror	Horizontal / vertical / diagonal
Electronic Zoom	1x/2x/4x/8x
Image Brightness	Auto / Manual
Image Contrast	Auto / Manual
Compensation Mode	Manual
Crosshair	Supported

System Functions

Sleep Mode	Supported
Menu	Customizable
Menu Languages	Chinese / English
Zero Calibration	Supported
Buttons	≥4 buttons, functions customizable

Electrical & Interfaces

Standard Connector	50pin: BP040SB-50-0114-B-R0
Communication Interface	TTL-232/USB2.0
Digital Video Interface	DVP8/BT.656/DVP16/BT.1120/USB2.0/MIPI-DSI-4LANE
Expansion Modules	USB2.0/SDI/HDMI/GIGE/Cameralink/VPC/MIPI-CSI-2LANE

Power Supply

Supply Range	2.7V~5.3V
Typical Power	0.8W@50Hz@23±3°C

Physical / Lens

Bare Dimensions (mm)	25.4×25.4×22.7
Bare Weight (g)	26±1.5
Shutter	Optional
Vibration	5.35 g random vibration, 3 axes 6 directions
Shock	Half-sine 30 g / 11 ms, X-axis ×3
Ingress Protection	Window IP67

Environmental

Operating Temp.	-40°C ~ +70°C
Storage Temp.	-45°C ~ +85°C
Humidity	5%~95%, non-condensing
Certification	ROHS2.0/REACH

Specifications subject to change without notice.
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