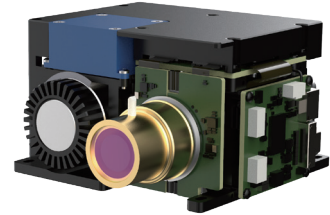


Photon MS10

MWIR Cooled Infrared Module

- Pixel Pitch: 10 μm
- Resolution: 1280 $\times$ 1024



Product Introduction

The Photon MS10 features a high-performance HgCdTe (MCT) cooled infrared Focal Plane Array (FPA) detector and a new long-life cryocooler. It offers advantages such as extended lifespan (MTTF $\geq$ 20,000 h) and low noise. With a high resolution of 1280 $\times$ 1024 and an NETD as low as 25 mK, it perfectly meets the demands for long-range observation of miniature targets. Powered by our next-generation proprietary image algorithms, it supports Wide Dynamic Range (WDR) and adaptive integration time, delivering optimal imaging results tailored to different scenes.

Compatible with athermalized prime lenses and continuous zoom lenses. It features motorized focus, continuous zoom, auto-focus, and defocus compensation. It is widely applied in long-range observation scenarios such as vision enhancement and urban security.

Product Highlights



High Resolution & Sensitivity for Exquisite Imaging

- Featuring a high resolution of 1280 $\times$ 1024 and an NETD as low as 25 mK, it meets the demands for long-range observation of miniature targets



Long Lifespan & Low Noise

- Equipped with a new long-life cryocooler, it boasts an MTTF $\geq$ 20,000 h and low-noise operation, supporting 24/7 all-weather imaging



Proprietary Algorithms for Intelligent Imaging

- Powered by brand-new proprietary image algorithms, it supports WDR and adaptive integration time to deliver the best imaging output for any given scene



Versatile Configurations for Easy Secondary Development

- Offers optional digital video interfaces (CameraLink, MIPI, SDI, DVP, Ethernet) and supports multiple lens options including 15–300 mm, 21–460 mm, and 40–660 mm

Product Parameters

Product Model	Photon MS10
Specifications	
Detector Type	Mercury cadmium telluride cooled infrared focal plane detector
Resolution	1280×1024
Pixel Pitch	10μm
Frame Rate	50Hz
F#	F2.0/F4.0
Response Band	3.7 ± 0.2 μm - 4.8 ± 0.2 μm
NETD	≤25mK@25°C
Detector Dead-pixel Rate	0.20%
Cooled Time @ 25°C	5min30s
Optional Lens	Straight-barrel prime lens: 25 mm; Straight-barrel continuous zoom lenses: 15–300 mm, 21–460 mm, 40–660 mm
Image Adjustment	
Brightness/Contrast Adjustment	Automatic/Manual
Polarity	Black hot / White hot (default)
Cross Cursor	Display/Hide/Move
Electronic Zoom	1.0–8.0× continuous zoom (step 0.1×)
Image Processing	Non-uniformity correction, digital filtering noise reduction, digital detail enhancement
Image Flip	Left and right/up and down/diagonal flip
Power Source	
Power Supply Range	24 ± 0.5 V DC, typical voltage: 24V
Power Consumption @ 25 °C	Stable power consumption ≤ 15W, peak power consumption ≤ 30W
Interface	
Digital Video	CameraLink / MIPI / SDI / DVP / Ethernet
Serial Communication Interface	RS422 (default baud rate: 115200)
External Synchronization	Internal synchronization (default)/external synchronous output/external synchronous input/adaptive synchronization
Physical Properties	
Dimensions (without lens)	112×98.5×60mm
Weight (without lens)	≤900g (without spacer plate)
Environmental Adaptability	
Operating Case Temperature	-40°C - +60°C
Storage Case Temperature	-45°C - +70°C
Random Vibration	6.06g
Shock	Half-sine pulse, 30 g, 11 ms (3 times per axis across 6 directions)
Mean Time To Failure (MTTF)	≥20,000h@25°C
Storage Life	≥10 years

This information is for reference only. Images and technical specifications are subject to change without notice.

Applications



Vision Enhancement



Urban Security

Company Profile

Raytron Microelectronics Co., Ltd. is a wholly-owned subsidiary of Raytron Technology Co., Ltd., providing global customers with infrared detectors, core modules, and industry solutions.

Our products are widely used in various fields, including infrared temperature measurement, night vision observation, machine vision, intelligent driving, Commercial Drone, smart industry, security monitoring, Internet of Things, medical epidemic prevention and gas detection.

With the mission of "to create incremental value for customers with technological advancements", we are committed to leaving a name in the history of constantly expanding human perception capabilities.



Official Website



LinkedIn Official Account

Raytron Microelectronics Co., Ltd.
Tel (Global): +86 400-998-9038
WhatsApp Business: +86 198 0619 1838
Email: marketing@raytrontek.com
Website: www.raytron-microelectronics.com
Version: PL202610V1