

Component Product Series

OPT-640SD

Deep Cooling SWIR Camera



OPT-640SD is a scientific-grade deep-cooled short-skin infrared camera. The first-class detection sensitivity, high-precision temperature control, and vacuum technology enable it to be cooled to -45°C , and the long integration time can reach 1s, which can meet the needs of scientific researchers in the shortwave infrared band. Internal demand for fluorescence imaging, dark signal detection and other applications.

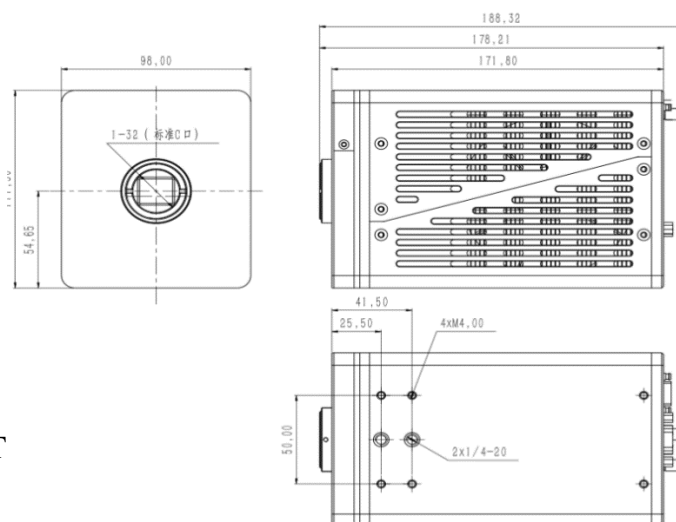
OPT-640SD 's simple and diverse interface, friendly control interface and development interface simplify the integration work. The 15um pixel pitch allows the OPT-640SD to match a wider range of C-mount lenses and low-cost lenses.

OPT-640SD 's integrated video processing algorithm and TEC cooling technology to reduce dark current ensure excellent image quality. 25Hz frame rate, suitable for various application requirements.

Product Features

- Imaging through fog
- Astronomical imaging
- Art detection
- Near-infrared II imaging
- Dim signal detection
- Moisture or icing detection
- Semiconductor / solar panel detection
- Telecom optical fiber transmission quality inspection
- Co-dimming tomography full-field OCT (1.04um, 1.31um, 1.55um)

Mechanical and



Performance Index

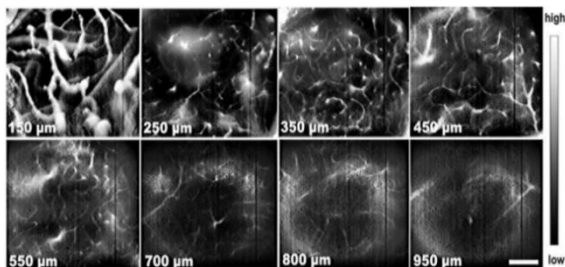
Detector		Interface	
Detector type	InGaAs Focal plane	Camera control	RS422

Website: www.opte.com.cn

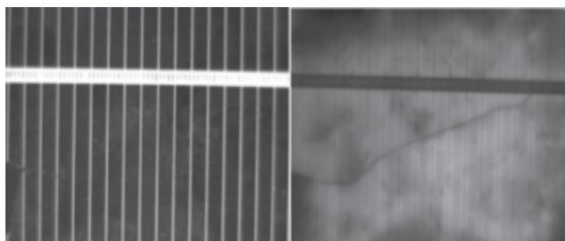
E-mail: info@opte.com.cn

Spectral response	0.9um~1.7um	External trigger	TTL
Pixel	640×512	Digital output	USB/CameraLink
Image spacing	15um	Tripod interface	1/4"-20
Effective area	9.6mm×7.68mm	Power	
Quantum efficiency	>70%@1.0~1.6um	Power input	DC 12V ± 1V
Refrigeration mode	TEC、Air cooling	Power dissipation	≤180W (TEC off)
Refrigeration temperature	-45℃@homoeothermy	Environmental adaptability	
Image		Operating temperature	-20℃~+40℃
Frame rate	25Hz	Storage temperature	-30℃~+50℃
Exposure time	10us~1s	Relative humidity	<80% (No condensation)
Noise	30e	Physical Properties	
Dark current	<2.8*10 ³ e/p/s@-45℃	Weight	1.6kg(Without lens)
Dynamic Range	High gain: 55dB; Low gain: 69dB	Size	190mm×98mm×112mm
ADC	14bit		
Onboard image processing	Auto exposure、Automatic gain control、Non-uniform correction (offset&gain@Dark)、Failed pixel replacement、Automatic contrast enhancement		

Imaging Effect



Deep microscopic imaging of cerebral vessels in living mice



Solar cell defect detection