

KSOI-VA OPTICAL IMAGER

DATASHEET

With growing need and interest in low cost missions, we have developed compact, low-cost optical imager. The electronics of KSOI-VA are based on space proven system from our KSOI-22 optical imager. The optical system utilizes commercial lens with modifications for use in space. The commercial lens has variable aperture, and the product will be provided with fixed aperture designated by clients.

Specifications

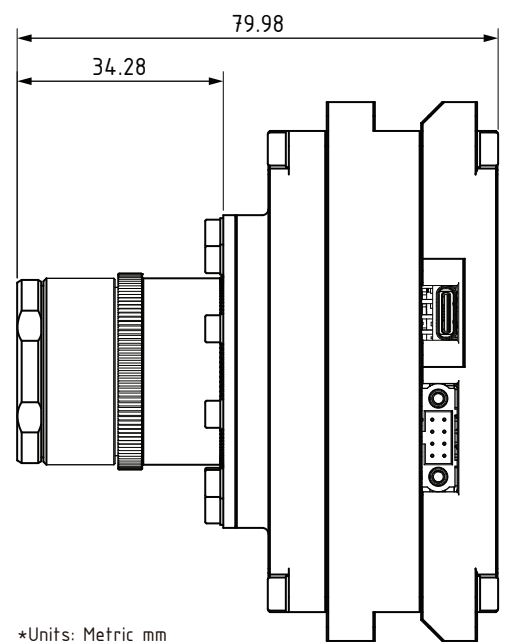
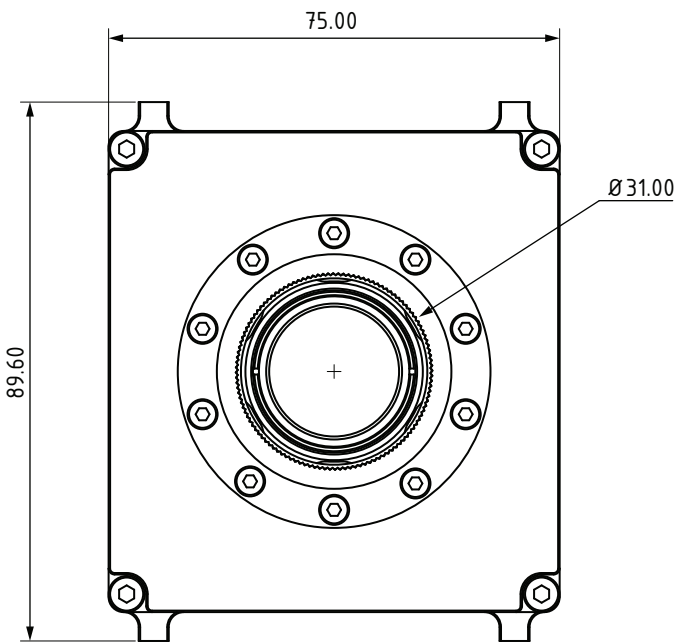
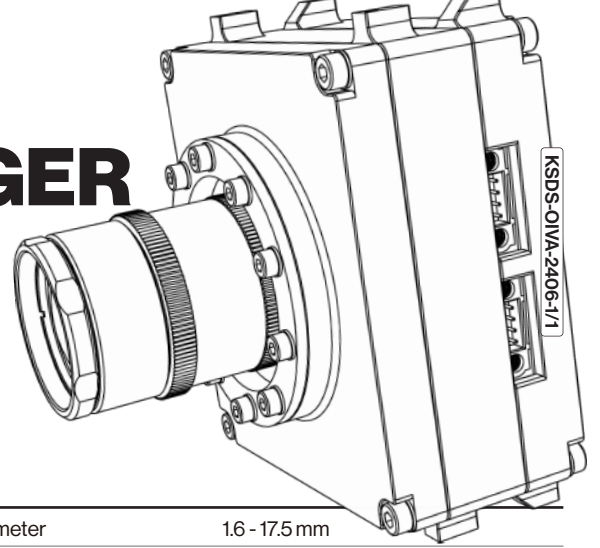
GSD	50m PAN @500km
Swath width	122 km @500 km
Swath length	102 km @500 km
Storage capacity	8 Gb
Image processing	TBD
Image compression	TBD
Mass	200 g
Dimensions	85 x 75 x 89.6 mm
Power supply	5V
Power consumption	Peak: 3 W
Data interface	RS232, RS422, UART, CAN
Data rate	RS232: 19200 bit/s up to 1Mbit/s RS422: 250000 bit/s up to 1Mbit/s UART: 19200 bit/s up to 1Mbit/s CAN: 250000 bit/s up to 1Mbit/s
Data format	Mono8, Mono10, Mono-12, UYVY 8bit
Control interface	RS232, RS422, UART, CAN
Operating temperature	-30 °C ~ +60 °C
Surviving temperature	-40 °C ~ +85 °C
Radiation (TID)	7 kRad
Design life	6 - 12 months on LEO
Heritage / TRL	TRL 5
ITAR restriction / Export control	None

Optics

Aperture diameter	1.6 - 17.5 mm
Focal length	35 mm
F number	f / 2.0 - 22.0
Field of View (horizontal x vertical)	13.76 x 11.53
Optical transmission and vignetting	> 80 %

Detector

Type of detector	CMOS matrix
Shutter mode	GLOBAL shutter
Lower/upper wavelength	400 - 900 nm
Resolution	2448 × 2048 pixels
Pixel size	3.45 μm
Spectral bands	PAN
Gain	0 dB to 24 dB Analog Gain (0.1 dB step) 24.1 dB to 48 dB Analog Gain: 24 dB Digital Gain: 0.1 dB to 24 dB (0.1 dB step)
Instantaneous FoV (for a pixel)	9.857E-5 rad
Min exposure time	1/35 s FULL FRAME
Quantum efficiency, QE	99% @600 nm



*Units: Metric mm