# CAVU
AEROSPACE UK

s.LDU.345
SATELLITE CAMERA

The highly reliable optical payload, for capturing high-resolution images from the ground surface and atmospheric phenomena.

The s.LDU.345 has been designed to be implementable in a standard 6U CubeSat structure together with other subsystems to allow low-cost Earth observaton.

Image by s.LDU.345 © 2023 CAVU

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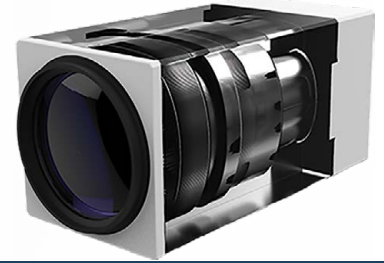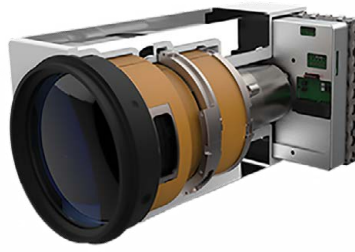
Optical Configurations	Value	Unit
GSD [1]	Height/115000	m
Swath Width [2]	2400×GSD	m
Swath Length [2]	2000×GSD	m
Spectral Bands (panchromatic)	400-800	nm
Spectral Bands (Bayer RGB)	400-520,500-600,570-750	nm
Spectral Bands (Mosaic Multispectral)	300-450,450-600,600-750,750-1000	nm
Aperture Size	60	mm
FOV	±2.1	degree
MTF [3]	>0.10	−
MTF Temerature Range	35±5	°C
MTF Platform Stability	4	degree/s
Distortion	<0.1	%

Electrical & Functional Configurations

	Value	Unit
Connector	Nano-D 31P	−
Input Voltage	12-18	V
Power Consumption [4]	10>	W
Memory	16 (non-volatile)	GB
Bit Depth	10	Bit
SNR [5]	> 100	−
Data Interface	LVDS+RS422	−
Command And Telemetry Interface [6]	Standard CANv2.0A @500	Kbps
Data Transmission Interface [7]	UART RS485 @6.25	Mbps
Frame Rate	1	FPS
Image Formats [8]	RAW + JPEG	−
Image Compression [8]	JPEG (10%-100% Quality)	−
Attach Upcoming Metadata	200	Byte
Adjustable Parameters	Integration Time , Frame Rate , Gain, Black Level	−
Operational Modes	Safe, Real-Time , Playback	−

Mechanical & Environmental Configurations

	Value	Unit
Mass	2000	gr
Dimensions	200 ×100× 100	mm^3
Vibration Resistance Frequency	20-2000	Hz
Vibration Resistance Amplitude	>15	Grms
Shock in XYZ Frequency	100-10000	Hz
Shock inXYZ Amplitude	>2000	G
EMC/EMI	Military Grade for Space and Avionics Equipment	−
Radiation Resistance	Multilayer Coated (> 100 TD)	krad
Thermal Management	Smart Passive and Active Control with Internal MLI	−
Operation Temperature	-10 to +50	°C
Operation Pressure	< 10^{-8}	torr
Vacuum Outgassing	< 10^{-6}	torr.l/s/cm^2
Lifetime on Orbit	> 2	years

1. Virtual for RGB model

2. 1/4 for multispectral model

3. At Nyquist frequency & aberration free

4. Measured at 12V & 14W peak

5. Sun angle 30° and reflectivity 0.1

6. Space packet protocol CCSDS

7. ZMODEM protol

8. RAW~5MB/JPEG (100%)~1MB

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