



## CHAMELEON IMAGER

The **Chameleon** is an compact CubeSat imager that provides

- High resolution Multispectral or Hyperspectral linescan imaging or
- High framerate RGB Bayer-pattern imaging
- Large integrated high-speed data storage
- Compact form factor that is optimised for integration with 3U or larger CubeSat frames

The Chameleon builds upon the space qualified control electronics of the Gecko imager and combines this with high performance optics to maximise imaging capability in small form factor CubeSats. High capacity, high performance mass storage is integrated into the compact design. The opto-mechanics have been optimised to fit within the available volume of CubeSat deployers thus providing maximum volume to accomodate the functionality required for your high performance CubeSat mission.

Images are captured directly to the integrated mass storage. No need for additional payload data storage capacity on the satellite. Data can be streamed directly to a transmitter or to an on-board computer as required. Reliable operation is achieved by using a combination of proprietary hardware and ruggedized optics.

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Spatial resolution (GSD) @ 500 km	9.6 m PAN; 19 m MS; 29m HS
Swath @ 500 km	up to 32 km
Spectral bands	Bayer RGB or PAN + 8 Multispectral bands or 150 band Hyperspectral
Signal-to-Noise Ratio	>200 PAN, >120 MS, >150 HS
Data format	10-bit or 12-bit
Integrated mass data storage <sup>†</sup>	Up to 160 Gigabytes
Compression	Raw, lossless and lossy
Data interfaces <sup>†</sup>	LVDS, SPI, I2C, CAN-bus
LVDS output rate	1 - 240 Mbps
Dimensions of imager	2U (200 mm x 94 mm x 94 mm)
CubeSat standard	Compatible with 3U and larger
Power Usage	< 3.5 W (imaging mode) < 2.5 W (readout mode) 5V or 28V* power supply
Mass (incl. electronics)	1.35 kg
Operating temperature	+10°C to +30°C
Survival temperature	-20°C to +70°C
Radiation tolerance (TID)	Tested to 20 krad

<sup>†</sup> Depends on chosen configuration.

\* Requires optional add-on daughterboard

