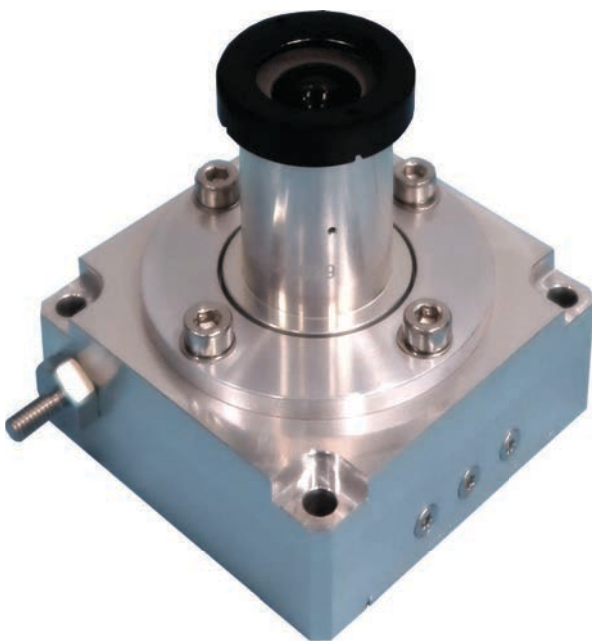


## ASTRO CL Cam

ASTRO CL Cam is the radiation-hard-by-design camera based on the ASTRO CL Star Tracker. It supports all Space Situational Awareness (SSA) applications.



**Different camera options have been designed to support in-orbit satellite servicing and other space logistics tasks with outstanding robustness and reliability.**

The inaugural configurations are the 8.5mm F/8 wide angle camera with a 68° Field-of-View and the 23 mm F/1.4 with a 20° Field-of-View camera.

**Possible use cases include:**

- Spacecraft servicing and docking with non-standard interfaces
- Space object and debris observation
- Robotic inspection or in-orbit assembly
- Measurement and Signature Intelligence (MASINT)
- Augmentation / machine learning
- Multi-purpose camera via a wide range of software application for flexible satellite missions

## ASTRO CL Cam performance

	Configuration Wide-field	Configuration Near-field
<b>Imaging System Design</b>		
Optics	focal length 8.5 mm, F/8	Focal length 23mm, F/1.4 (F/5.6 and others on demand)
Field-of-View (circular)	68 deg full cone	25 deg full cone
Optimum Object Distance	0 ... 10 m	10 m ... ∞
Detector and Resolution	FaintStar2, 1024 x 1024 pixels (12bit monochrome)	
Field of View	64 deg circular	25 deg circular
Integration time	1 ms .... 25 sec (dynamic frame-to-frame configuration possible)	
<b>Environment</b>		
Operational Temperature	-35 °C ... +50 °C	
Non-operational Temperature	-40 °C ... +70 °C	
Random Vibration / Shock	33g all axis / 2000g @1600 Hz	
Radiation	Up to 10 years in LEO and 15 years GEO orbit without additional shielding	
Stray Light	Default without baffle (baffle available on demand)	SEA 26° or 32° half cone baffle options available
<b>Size &amp; Mass</b>		
Dimensions	60 mm x 60 mm x 64 mm (excluding baffle and bonding stud)	60 mm x 60mm x height depending on baffle option
Mass	approx. 230g without baffle	<300 g depending on baffle option
<b>Interfaces</b>		
Data	80 MHz Space Wire	
Output	up to 5 Hz Full Frame Images (linewise)	
Power Supply	4.5 - 5.5 V	
Nominal Power Consumption	≤ 1.2 W	
<b>Operations</b>		
Reliability	90 FIT, TI/F=20°C with product line's standard parts grade	
<b>Software</b>		
Software basic	runs out of the box (ICD documented) S/W library available (on demand) support service for AOCS implementation (on demand)	
S/W for SSA applications	several applications available, implementation of customer application possible (both on demand)	