

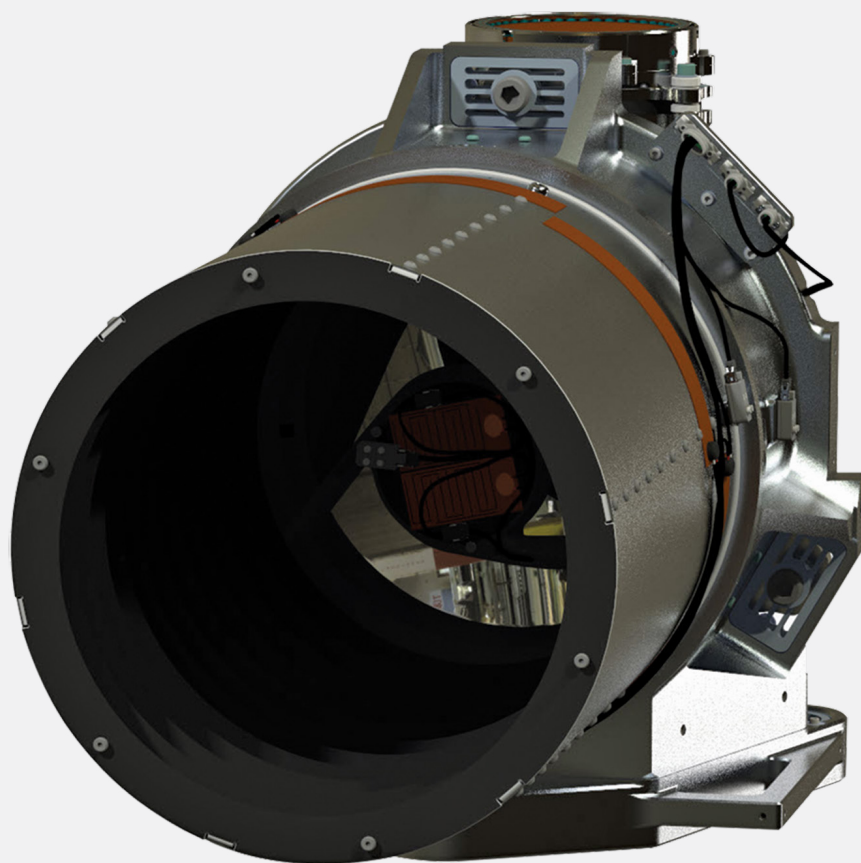


ABB MEASUREMENT & ANALYTICS | PRODUCT DESCRIPTION

LUMI 200-VN™ SDA PAYLOAD

Precision space surveillance in a compact design

ABB is a global leader in space optics, delivering high-performance remote sensing instruments for government and commercial missions for over 50 years. Our optical payloads support flagship space programs worldwide and are increasingly deployed across the rapidly expanding private space sector.

The LUMI 200-VN electro-optical payload builds on more than two decades of in-orbit heritage. Designed for sustained space domain awareness (SDA) operations, it combines high sensitivity, precision measurement accuracy and optimized straylight rejection to enable confident detection, tracking and characterization of resident space objects (RSO).

What you can achieve with the LUMI 200-VN

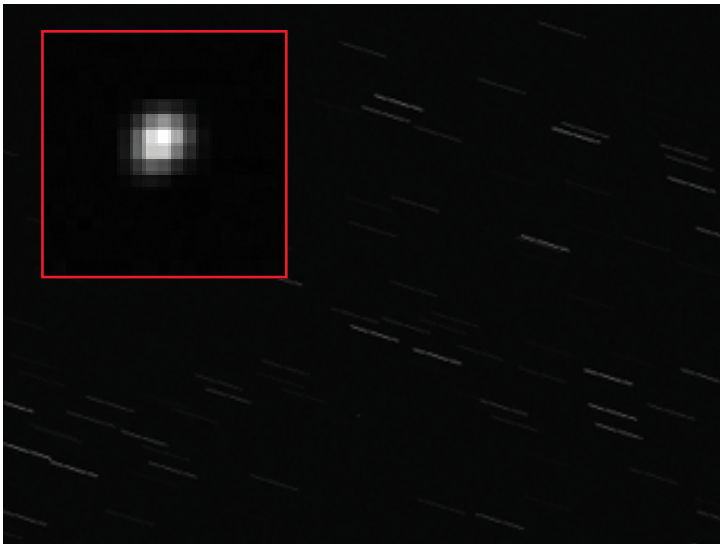
- Detect small debris in LEO
- Track CubeSats in GEO
- Monitor large satellites in cis-lunar
- Characterize RSO light curve and optical signatures

- Maintain custody of objects across oceans
- Assess orbital or brightness anomalies

ABB's imaging solutions help you move from data to informed decisions faster and with confidence.

Engineered for performance

- 12.3 MP flight-proven CMOS sensor for high-fidelity imaging
- 200 mm aperture mirror telescope for enhanced sensitivity
- Optimized baffle architecture with 45° sun exclusion
- Payload computer with Gigabit Ethernet interface for efficient data handling
- Dedicated payload heaters for controlled thermal stability
- On-board processing (BPR, NUC, ROI) for reduced data burden
- 0.2 arcsec measurement accuracy for precision tracking



Track objects. Protect assets. Drive decisions.

The LUMI 200 VN delivers imagery that supports detection, tracking and characterization of RSO from orbit—enabling persistent monitoring without the geographic or weather limitations of ground based networks.

With an instantaneous field of view of 4.5 μrad, the Lumi 200 VN delivers the sensitivity required to detect small debris in LEO and CubeSats in GEO. The full FOV provides GEO belt coverage up to 700 km with dense star catalog registration in every frame.

Because every mission is unique, the LUMI 200 VN is fully customizable across the spectrum, supporting AI driven analytics and advanced autonomy.

What you can monitor with the LUMI 200-VN

- **Faint objects in deep space:** Track targets of magnitude 16 with SNR 6 in routine operations
- **Ultra faint objects:** Detect sources down to magnitude 17.5 using extended exposures or relaxed SNR
- **Key structural features:** Achieve 25 cm effective resolution at 15 km
- **Separated objects:** Distinguish two objects with an angular separation of ≥ 20 μrad (≈ 730 m at geostationary orbit)

Specifications

Description	Value
Aperture diameter	200 mm
FOV	1.04 ° x 0.74 °
iFOV	4.5 μrad
Average PSF ensquared energy	12%
Average FWHM	3 pixels
Frame rate	Up to 64fps
Exposure time	From 25 μs to 5s
Pixel depth	12 bits
Spectral range	400 – 900 nm
Power consumption	35W AOP
Mass	30 kg
Volume (camera)	605 × 325 × 350 mm
Volume (ebox)	225 × 140 × 40 mm
Operating temperature	15 to +25 °C
Data interface	Gigabit Ethernet

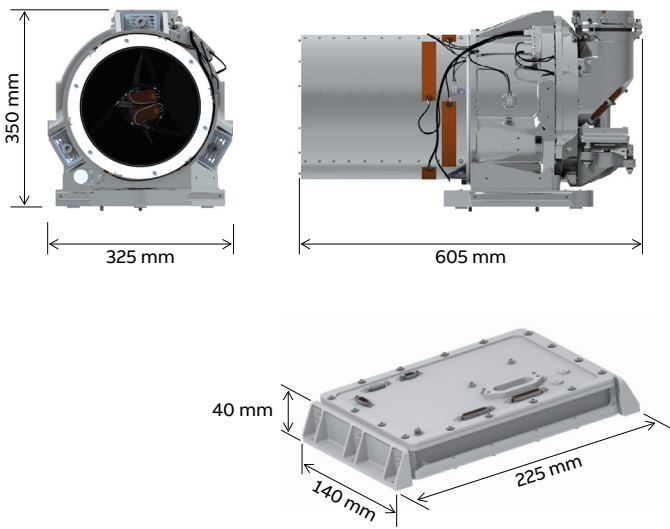


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