

Scanway's Optical Payload

A product line of high-resolution telescopes for Earth Observation.



customizable



modular



athermal

Telescopes of this line are designed in very specific way to be integrated with small satellites, both nanosatellites and microsatellites. Scanway's Optical Payload is available in different configurations. Depending on user's need, it can be equipped with different types of spectrum bands detectors (VIS, NIR, SWIR) and be characterized by a different imaging resolution.



modular design allowing scalability (from nano- to microsatellites)



wide spectral window of optics



athermal telescope structure



optics and telescope type allowing to adapt results&performance (spatial resolution, image quality parameters e.g. MTF) to application needs



possibility of integrating the star sensors into a single structure with the telescope to reduce the impact of AOCS on both systems



possibility of integration with any sensors (including multisensor systems): RGB, mono, NIR, linear, multi- and hyperspectral



possibility to integrate telecommunication solutions into optical path of imaging sensors



telescope shutter safety systems



use of COTS and ITAR-free elements



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1 ■

Athermalized structure

2 ■

Wide field detector

3 ■

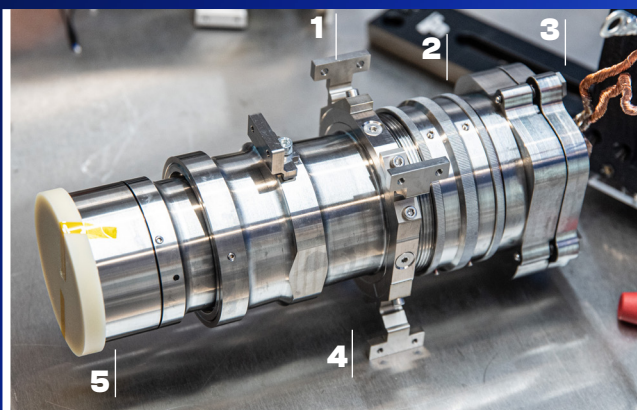
I2C, SPI, LVDS interface

4 ■

In-house designed optics

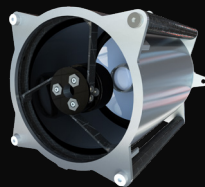
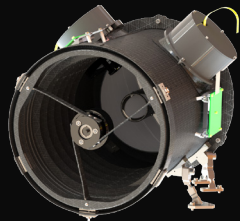
5 ■

Baffle for greater SNR performance



Scanway's Optical Payload

examples



| | ■ SOP 200 | ■ SOP 120 | ■ SOP 3U | ■ SOP 1U |
|-----------------------------------|--|---------------------------|---------------------------|---------------------------------|
| Spatial bands | 4 (NIR + RGB) | 3 (RGB) or 1 (PAN/NIR) | 3 (RGB) or 1 (PAN/NIR) | 3 (RGB) or 1 (PAN/NIR) |
| Orbital heigh | 350 km | 500 km | 500 km | 500 km |
| Spatial reso- lution | @350 km GSD = 1,2 m | @500 km GSD = 5 m | @500 km GSD = 4,46 m | @500 km GSD = 10 m/ 8m |
| FOV | @350 km 4,9 x 3,7 km | @500 km 20,5 x 15,4 km | @500 km 18,2 x 13,7 km | @500 km 40x28 km/ 30x22,5 km |
| Images reso- lution | 12 Mpix | | | |
| Aperture | 198 mm | 120 mm | 80 mm | 65 mm/ 75mm |
| Focal length | 1,6 m | 0,6 m | 0,6 m | 0,2 m/ 0,3 m |
| Focal ratio | 8 | 5 | 7,7 | 3/ 4 |
| Mass | 8 kg | 1,8 kg | 0,6 kg | 0,8 kg |
| Size | 430 x 350 x 300 mm | 250 x 150 x 150 mm | 105x105x315 mm | 70 x 80 x 110 mm |
| Data format | 8,10 or 12 bits | | | |
| Data interfa- ces | I2C, SPI, LVDS | | | |
| Required power at imagining | 5 W | | | |
| Required voltage | 12 V or 5 V | | | |
| | * price will depend on model philosophy and detailed requirements, including interfaces with satellite platform | | | |

Scanway's Optical Payload

opportunities & benefits

How do we co-work?

| | | | |
|--|---|---|---|
| B2B |  | | |
| <ul style="list-style-type: none">■ We will deliver you full SOP solution, customized to your requirements and needs - regardless if you are an integrator or payload developer. | | B2G |  |
| | | <ul style="list-style-type: none">■ We can either utilize our knowledge to deliver you tailored-to-fit SOP modules or develop totally new solution for your R&D project | |

Benefits

| | | | | | |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| Opportunity to get own high-resolution imagination in basically any wavelength. | Possibility to integrate the payload with other systems and sensors of satellite. | Modularity and scalability. | Tailored-to-fit approach which is beneficial for end-user. | Athermal design which separates telescope from external conditions and maximizes image quality. | Approach for designing the payload to be independent from AOCS performance. |

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