



Optimized for small UAS and light aircraft, the PV1012 brings high-grade ISR, targeting, and search-and-rescue capability to platforms where size, weight, and endurance are uncompromising constraints.



pv1012

12"Class Power

Compact ISR Performance

PAYLOAD SPECIFICATIONS

Wide Field-of-View Sensor Suite

HD MWIR Zoom:	Step Zoom
Type:	MWIR, HOT MOVPE MCT (Independent from NFOV Spotter)
Resolution:	1280 x 1024 pixels
Fields-of-View:	30° to 2° Continuous Optical Zoom
UHD Color Daylight Zoom:	Step Zoom with E-FOV to Native Resolution
Type:	CMOS sensor, Back Side Illuminated, Stacked Global Shutter
Resolution:	5120 x 4096 pixels
Fields-of-View:	30° to 4.9° with 4x E-Zoom to 1.22° at 1280 x 1024
HD SWIR Zoom (Optional):	Step Zoom
Type:	InGaAs with Asynchronous Laser Pulse Detection
Resolution:	1280 x 1024 pixels
Fields-of-View:	30° to 4.9°

Laser Suite

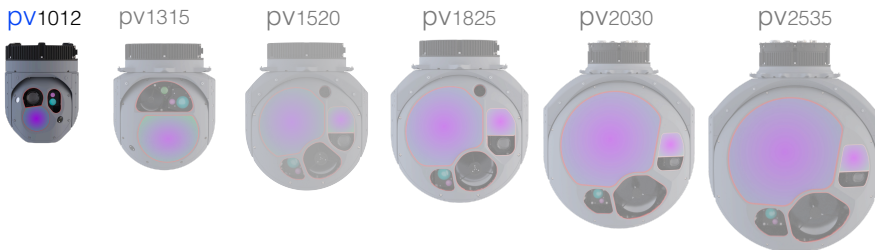
Eye-Safe Laser Rangefinder:

Wavelength:	1535nm
Energy:	Class 1M
Range:	up to 32km

Laser Pointer: (Optional)

Wavelength:	808 nm
Power:	Class 4
Notes:	NVG Compatible

Despite its 10" footprint, the **pv1012** delivers 12" class performance with the same advanced Gen 5 stabilization, class-leading aperture, sensor clarity, and modular architecture as its larger counterparts — ensuring mission-critical imagery reaches decision-makers in real time, whether the objective is ISR, offensive targeting, or life-saving search and rescue.



SIZE WEIGHT POWER PERFORMANCE COST



pv1012

OPERATIONAL EDGE

12" Class Multispectral Imaging Sensor (Laser Ready) Payload in a 10" form factor

Modular interchangeable SRU Sensors & Laser payload modules

Latest High-Performance/Low SWaP Sensor Technologies

Fifth-generation Advanced Stabilization Technology with 6 DOF active Isolator

Industry Leading Pointing Accuracy

Modular Open System Architecture

Simplified Aircraft Integration

Improved integration with downstream Mission Management Systems

Internal Advanced Image Processing

Upgradeability of image sensors to extend product life

Compact Precision

The PV1012 is the smallest member of the PVLabs airborne EO/IR multi-spectral family — purpose-built for small UAS and light aircraft where size and weight constraints demand a compact, high-performance solution, keeping the system ready as missions evolve.

FAST Platform Advantage

The PV1012 uses PVLabs' FAST platform, providing 3-axis, 6-DOF stabilization that keeps images clear in the demanding flight profiles of small UAS and light aircraft.

With low-SWaP, high-performance sensors, it delivers long-range DORI (detection, orientation, recognition, identification) unmatched in its class.

Its modular, open architecture enables quick payload swaps and upgrades, keeping the system ready as missions evolve.

Multi-Mission Profile

Military / Offensive Support — precise target identification and tracking

ISR — close-in surveillance and intelligence gathering

Search & Rescue (SAR) — clear imaging for rapid identification in complex terrain and environmental conditions

Border Security & Coastal Patrol — detection and tracking over wide, variable environments

Public Safety & Infrastructure Monitoring — resource management, inspection, and situational awareness

Environmental & Wildfire Monitoring — early detection and rapid decision support

Step-stare functionality is provided by the LOS axis to further reduce the motion-blur produced by an orbiting aircraft.

Our integrated INS utilizes higher-grade inertial sensors combined with advanced navigation algorithms to provide higher target geolocation accuracy. INS based steering modes drastically reduce operator workload for fixed and moving ground targets

Integration with downstream mission management systems is improved by the simultaneous availability of raw image streams from all sensors.

The pv1012 includes the same integrated image processing capabilities of our larger systems by employing a modular, common turret interface module across the entire product range



TURRET SPECIFICATIONS

Stabilization and Steering:	5 Axis + 6 DOF Active Isolator featuring FAST technology
	Azimuth Range: Continuous 360°
	Elevation Range: +45° to - 225°
	LOS range: +/-1° (with Step-Stare Capability)

SYSTEM SPECIFICATIONS

PV1012 Turret:	<44.1lbs/ 20.0kg, 10.8" (D) x 14.3" (H), 275mm (D) x 363mm (H)
Power:	MIL-STD-704E, 210W (Typ.), 280W (Max.)

ENVIRONMENTAL SPECIFICATIONS

Shock and Vibration:	MIL-STD-810H, RTCA DO-160G
EMC Compatibility:	MIL-STD-461

VIDEO INTERFACES

Built-in video switch matrix for output configuration flexibility
 4 independent HD-SDI outputs with clean sensor output or symbology overlay
 Gigabit Ethernet video using H.264 or H.265 format
 Fiber Optic interface with all video data available using ARINC 818-2 or SMPTE 297 format
 STANAG 4609 KLV Metadata

DATA INTERFACES

Interface Types:	RS-232/422, Ethernet, MIL-STD-1553B
Functional Interfaces:	Aircraft GPS/INS, Remote Control, Metadata, Maintenance/Logger



PATENTS - PV Labs' FAST technology is protected by patents in the following countries: Austria, Australia, Canada, Czech Republic, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Republic of Korea, Spain, Sweden, Turkey, and the USA — by the following Patent Documents: AU2014373639; CA2934801; DE602014046620.6; ES2734393; EP3105492; HUE045198; IL246433; IT502019000032702; JP6524100; KR102322149; NZ722456; PT3105492; TR201908881; US9348197, US9765925; WO2015095951