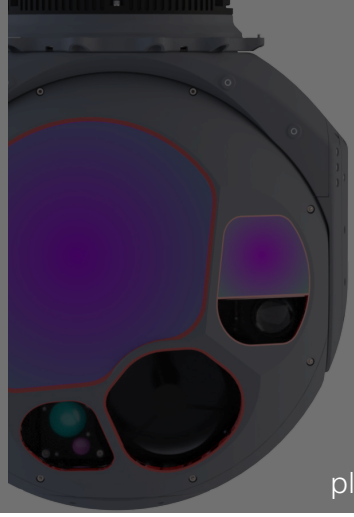
pvLABS

The PV2030 delivers the reach, stability, and sensor capacity demanded by the most challenging airborne ISR missions—with the efficiency and flexibility of PVLabs' modular design philosophy.

Engineered on the fifth-generation FAST platform, the PV2030 combines 30"-class sensor capability with a 20"-class SWaP envelope, using scalable, interchangeable modules to adapt performance to mission requirements.

Strategic Reach
Mission Endurance

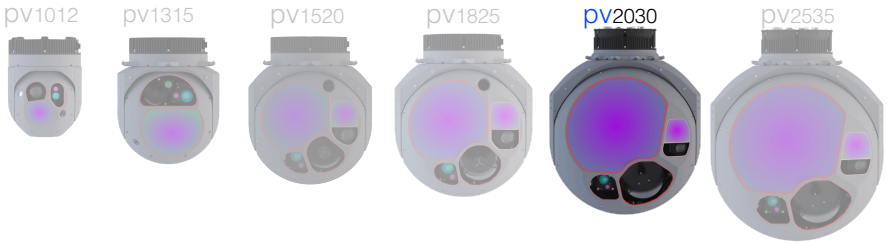


pv2030

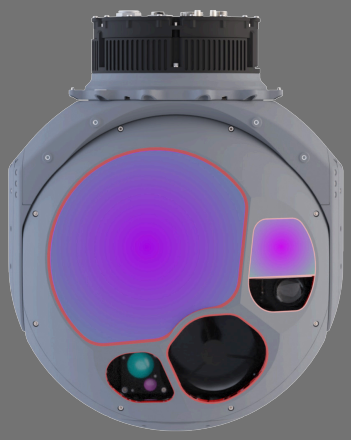
Delivers large-format ISR performance on high-endurance aircraft—without forcing platform-specific designs or single-mission lock-in.

PAYLOAD SPECIFICATIONS

Zoom 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˚
UHD Color Daylight Zoom:	Step Zoom
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˚
Spotter Sensor Suite	
HD MWIR Spotter:	1.5x Optical Zoom
Type:	MWIR, HOT MOVPE MCT (Independent from WFOV Zoom)
Resolution:	1280 x 1024 pixels
Fields-of-View:	0.73˚, 0.55˚, 0.49˚
UHD Color Spotter:	FFL with E-FOV to Native Resolution
Type:	CMOS sensor, Back Side Illuminated, Stacked Global Shutter
Resolution:	5120 x 4096 pixels
Fields-of-View:	0.73˚to 0.18˚
HD SWIR Zoom Spotter:	4x Optical Zoom
Type:	InGaAs with Asynchronous Laser Pulse Detection
Resolution:	1280 x 1024 pixels
Fields-of-View:	0.73˚, 0.55˚, 0.37˚, 0.18˚
Laser Suite	
Eye-Safe Laser Rangefinder:	
Wavelength:	1535nm
Energy:	Class 1M
Range:	up to 39km
Laser Pointer: (Optional)	
Wavelength:	808 nm
Power:	Class 4
Notes:	NVG Compatible



SIZE WEIGHT POWER PERFORMANCE COST



pv2030
OPERATIONAL EDGE

The PV2030 is built for strategic missions where persistence, range, and multi-sensor coordination are decisive:

- Defense ISR & Targeting — extended stand-off surveillance, long-range identification, multi-domain cueing
- Search & Rescue — wide-area scanning and positive identification over land or sea
- Maritime Patrol & Surveillance — EEZ enforcement, interdiction, counter-smuggling
- Border Security & Infrastructure Protection — persistent coverage for anomaly detection and asset defense
- Strategic Surveillance & Special Missions — long-duration, high-altitude over-watch supporting national-level objectives

Doc Number: 167059A11

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Expanded Sensor Capability

The PV2030 delivers simultaneous wide-area awareness and precise target interrogation, pairing a long-range primary zoom sensor with an independent NFOV IR spotter.

Image clarity and target lock are maintained during extended, high-altitude orbits, preserving usable range and decision quality when it matters most. Integrated geolocation ensures confident cueing and handoff across mission systems—even as the aircraft maneuvers.

All of this is achieved without the size, weight, or integration burden of legacy large-format EO/IR systems, enabling greater endurance, flexibility, and operational value from every mission.

Multi-Mission Ready

The PV2030 delivers 30'-class performance in a 20" SWaP envelope, with scalable modules that adapt to mission needs, lower ownership costs, and support rapid in-field upgrades.

Designed for larger, high-endurance fixed-wing and rotary-wing aircraft, it extends operational reach across expansive mission areas and complex environments without platform redesign.

An independent NFOV IR spotter operates alongside the primary zoom sensor—enabling persistent wide-area coverage and detailed target interrogation at the same time.

Situational Awareness Redefined

Dual IR Channels — HD IRN spotter + independent HD IRW for persistent, simultaneous coverage

Step-Stare Stability — LOS-axis control reduces motion blur during extended orbit operations

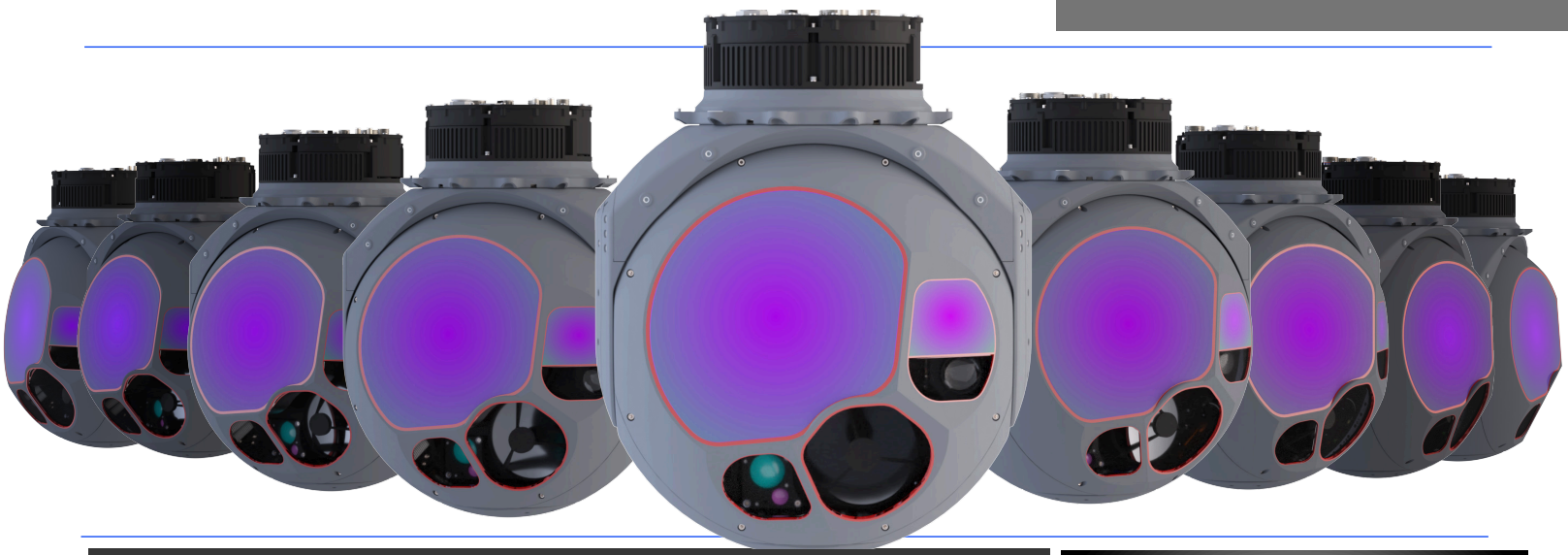
High-Accuracy Geolocation — integrated INS maintains reticle stability despite platform motion

Full Sensor Data Access — simultaneous raw image streams for seamless mission-system integration

FAST Platform Advantage

The PV2030's range and stability performance are enabled by FAST—delivering 6-DOF active stabilization that preserves image clarity during high-altitude, long-endurance operations.

FAST allows the PV2030 to sustain precision across extended orbits and dynamic conditions while supporting rapid payload swaps and future upgrades—keeping the system relevant as sensors, networks, and CONOPS evolve.



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:	<185lbs/ 85kg, 21.1" (D) x 24.7" (H), 536mm (D) x 628.6mm (H)
Power:	MIL-STD-704E, 320W (Typ.), 1000W (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

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