



Built on PV Labs' fifth-generation Advanced Stabilization Technology (FAST), the PV1825 represents a step-change in EO/IR capability.

It bridges the gap between traditional 18" and 25" systems—delivering true 25"-class optical performance in an 18"-class SWaP envelope.

25" Class Performance  
18" SWAP



pv1825

Multi-Domain Mission Capability

PAYLOAD SPECIFICATIONS

Wide Field-of-View Sensor Suite

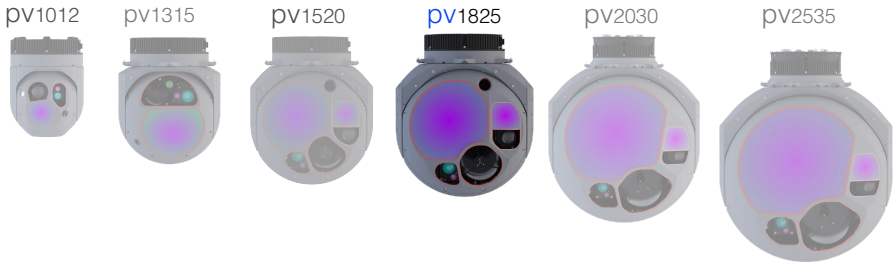
HD MWIR Zoom:	Step Zoom
Type:	MWIR, HOT MOVPE MCT (Independent from NFOV Spotter)
Resolution:	1280 x 1024 pixels
Fields-of-View:	30° to 2° Continuous Optical Zoom
UHD Color Daylight Zoom:	Step Zoom with E-FOV to Native Resolution
Type:	CMOS sensor, Back Side Illuminated, Stacked Global Shutter
Resolution:	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°

Narrow Field-of-View Sensor Suite

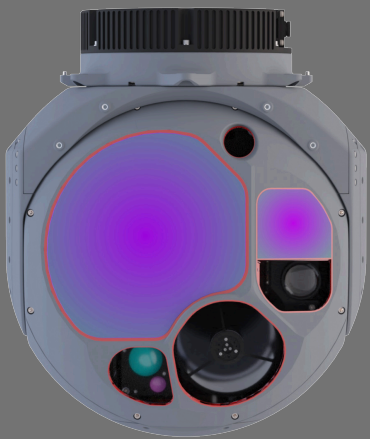
HD MWIR Spotter:	1.5x Optical Zoom
Type:	MWIR, HOT MOVPE MCT (Independent from WFOV Zoom)
Resolution:	1280 x 1024 pixels
Fields-of-View:	0.88°, 0.66°, 0.59° (with 1.5x Step Optical Zoom)
UHD Color Spotter:	FFL with E-FOV to Native Resolution
Type:	CMOS sensor, Back Side Illuminated, Stacked Global Shutter
Resolution:	5120 x 4096 pixels
Fields-of-View:	Optical 0.88° NFOV with 4x E-Zoom to 0.22° Native Resolution
HD SWIR Zoom Spotter:	4x Optical Zoom
Type:	InGaAs with Asynchronous Laser Pulse Detection
Resolution:	1280 x 1024 pixels
Fields-of-View:	0.88°, 0.66°, 0.44°, 0.22° (with 4x Step Optical Zoom)

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



pv1825  
OPERATIONAL EDGE

Scalable, interchangeable modules align system performance to mission requirements, reduce total cost of ownership, and enable straightforward in-field upgrades.

The result is a multi-mission system that remains operationally relevant across aircraft types and mission profiles, without the penalties imposed by legacy large-format turrets.

- ~60% weight reduction vs common 20" systems
- Multi-domain, dual-use capability (ISR, SAR, maritime, public safety)
- Deployment without costly airframe modification
- Modular upgrades to remain relevant as missions evolve
- ITAR-free for unrestricted global deployment



## Compact Capability

The PV1825 delivers true 25"-class EO/IR performance for missions ranging from ultra-long-duration maritime patrol and strategic ISR to wildfire monitoring and infrastructure inspection.

Its design supports extended stand-off ranges, higher operating altitudes, and persistent coverage—without the costly airframe modifications demanded by legacy 25" systems.

## FAST Platform Advantage

At its core, the PV1825 is powered by FAST—providing the degrees of freedom of a multi-axis gimbal without the penalties of an inner gimbal ring, resulting in a class-defining increase in usable payload area.

Its open-architecture design supports integration of new sensors and mission tools without extensive re-engineering—ensuring a direct path to capability growth.

## Multi-Domain Capability

The PV1825 delivers the reach, stability, and sensor clarity required for higher-altitude, longer-range operations, while retaining the flexibility to operate effectively across diverse platforms and environments.

From ISR, maritime patrol, and border security to search and rescue, public safety, infrastructure monitoring, and wildfire response, the PV1825 supports persistent, multi-mission operations without forcing aircraft or CONOPS changes.

- Medium- and higher-altitude UAVs
- Fixed-wing ISR and maritime patrol aircraft (C-295, P-8, maritime Dash-8 / ATR variants)
- Special-mission business jets
- Heavy helicopters for shipborne and littoral operations
- Aerostats and tethered sensor towers for sovereign domain awareness and force protection

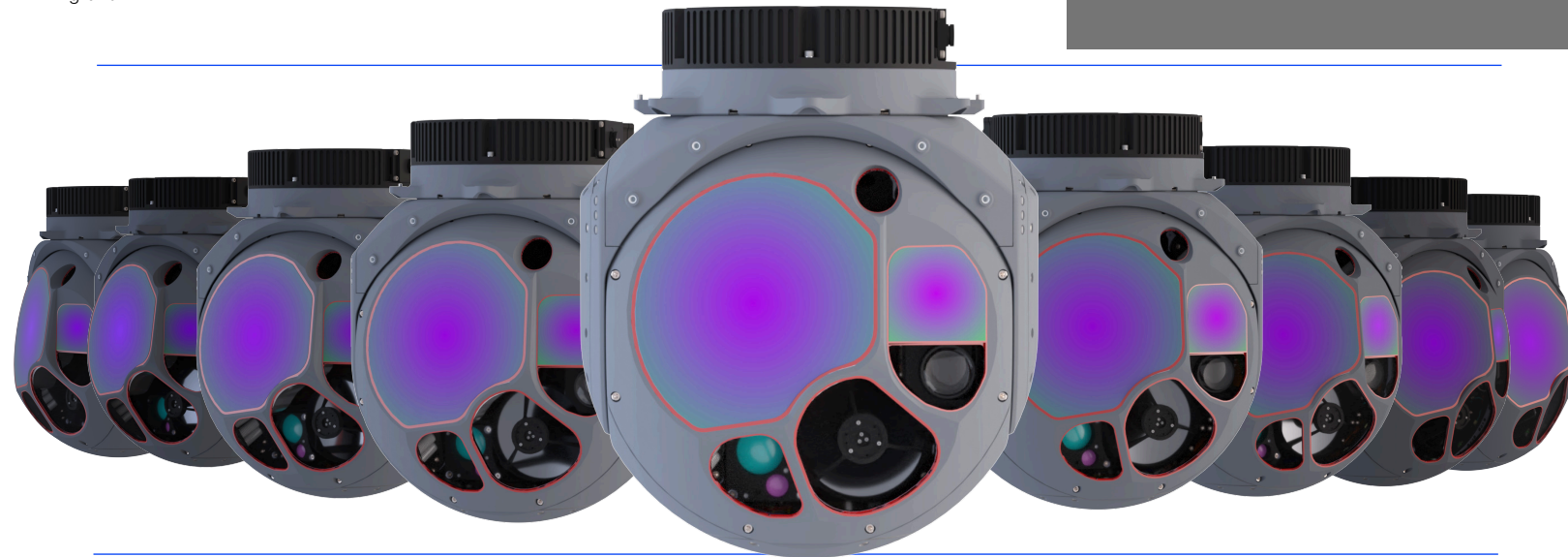
## Situational Awareness Redefined

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



### 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:	<99.4lbs/ 45.1kg, 18.0" (D) x 21.38" (H), 460mm (D) x 546mm (H)
Power:	MIL-STD-704E, 280W (Typ.), 760W (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