

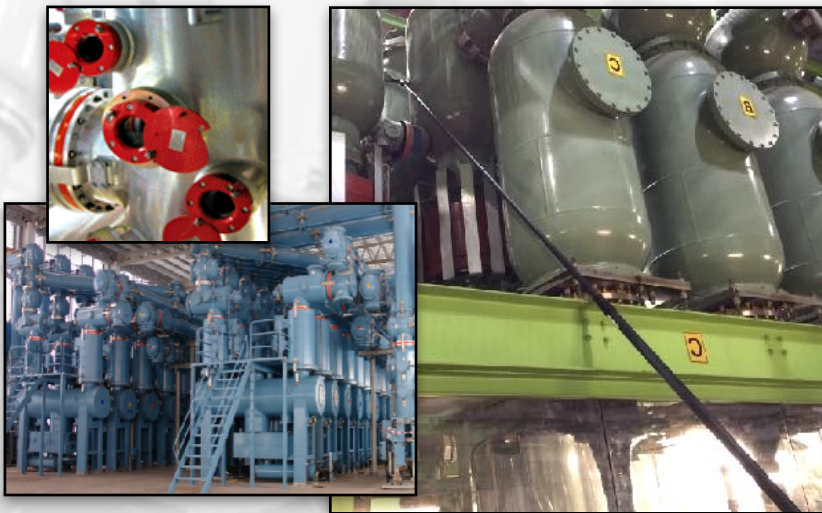
VIP-2L SERIES

VIEWPORT INSPECTION POLE-CAMERA



KEY FEATURES

- Extendable poles up to 6.3m length
- Light weight, non-conductive fiber glass construction
- Interchangeable cameras for different GIS viewport sizes
- Optimized field of view and integrated LED lighting
- Complete system HD video resolution*
- Integrated LCD viewing monitor and recording
- Rechargeable, high capacity LiFePO4 battery solution
- Complete with travel/storage case

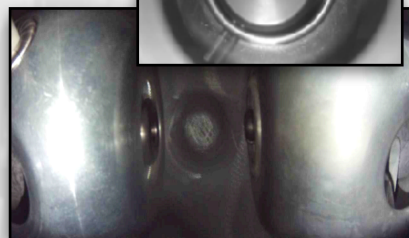
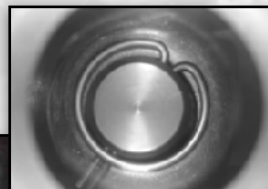


The VIP-2L series of viewport inspection pole-cameras are an operator friendly, convenient and efficient solution for positional validation and inspection of GIS switchgear.

Optimizing the time consuming task of manually viewing every viewport and reducing the need for awkward or hazardous technician positioning, the VIP-2L pole camera is a valuable tool for providing a safer work environment and more streamlined work flow.

VIP-2L series pole cameras are available for use with various manufacturer's GIS solutions, including ABB, GE/Alstom, Hitachi, Mitsubishi Electric, and Siemens.

Example: Small chamber close up, Ø19mm viewport window. "Closed" state.

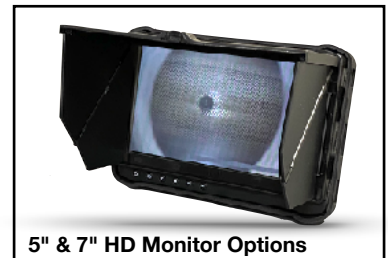


Example: Large chamber 120° ultra wide field of view. Ø 95mm viewport window.



* Camera and monitor models dependant

Available in pole lengths from 2.0m to 6.3m and with flexible camera positioning gooseneck, the VIP-L2 series provides reach for awkward and challenging viewport locations. The lightweight, non-conductive fibreglass pole and insulated handling points minimizes operator risk from potential GIS transient voltage. An integrated, bright 5" or 7" HD LCD monitor provides detailed viewing without cumbersome external cabling, body mount harnesses or additional portable viewing cases. The VIP-2L integrated monitors incorporate video recording and image snapshot capability when documenting and reporting are required.



5" & 7" HD Monitor Options

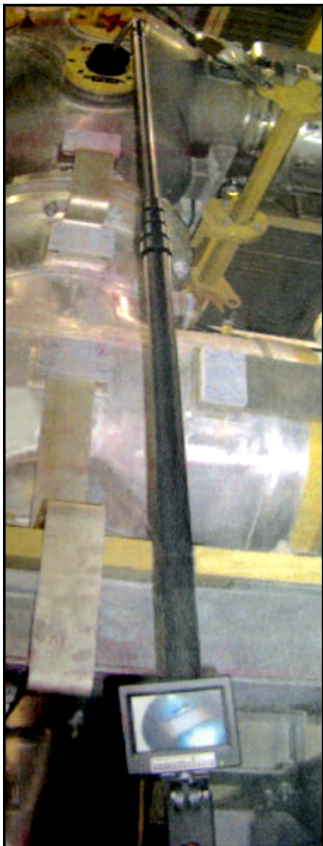
Multiple manufacturer GIS systems in one facility are easily inspected, or a multitude of viewport designs and diameters can be easily viewed with the flexibility of interchangeable camera heads. Integrated camera LED illumination eliminates the need for secondary viewports and peripheral lighting solutions. Unique camera head designs minimize second surface reflection from viewport windows, providing sufficient lighting and excellent high resolution image quality for a user to clearly see switchgear position and condition. Custom configurations for camera heads are also available based on specific GIS system requirements.



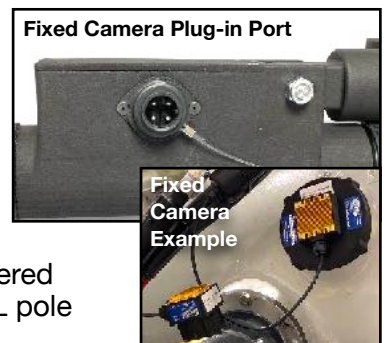
High Capacity Rechargeable LiFePO4 Battery or Optional "C" Cell Battery Packs

The VIP-2L series pole cameras utilise a removable, rechargeable lithium ion (LiFePO4) battery pack allowing for a safe, high capacity and easy in-field swap out, resulting in minimal downtime. A "C" cell battery back-up option is also available for emergency, or remote applications where recharging may be limited.

All standard VIP-2L pole-camera systems include choice of one camera head to accommodate viewport type and field of view, two rechargeable LiION batteries and charger, operating and maintenance instructions, and a travel/storage case. For more information and pricing for a VIP-2L solution to suit your facility requirements, please contact Bock Optronics.



For GIS systems with very tight spatial constraints, making pole camera positioning very difficult or not possible, the VIP-2L series solution also offers the ability to connect to Bock Optronics' RVOS P-series fixed viewport cameras. These fixed camera solutions are designed to be permanently mounted to those challenging viewports and have a cable connection located at a convenient location. With this simple cable connection, the fixed camera is powered through, auto switched to and displayed on the VIP-2L pole monitor.



OPTIONS

- Interchangeable, standard or custom camera heads can be added to the system for inspecting multiple viewport types at the same GIS site.
- C-cell battery pack.
- Off pole video output & display options (ie. HUD or 10" body mount monitor).



Optional 10" Monitor w/ Body Mount Carrier

Bock Optronics also offers fixed camera solutions for small and large scale GIS installations.

Experience the convenience and reliability of monitoring from ground level access points or a centralized workstation. Please contact us for more information.

STANDARD CAMERA HEAD MODELS *(Custom designs and sizes available upon request)*

PART NUMBER	DESCRIPTION	PART NUMBER	DESCRIPTION		
VIP-CAM-018AX2L	<ul style="list-style-type: none"> • 24mm x 45mm nose piece • 83mm (L) x 50mm (W) x 71mm (H) head size • integrated white LED • designed for ø18mm viewports with frame side bolts 		VIP-CAM-074G2	<ul style="list-style-type: none"> • ø74mm nose piece • 75mm (D) x 97mm (H) • integrated white LED • wide angle lens 	
VIP-CAM-021	<ul style="list-style-type: none"> • ø21mm nose piece • 75mm (D) x 50mm (W) x 71mm (H) • integrated white LED 		VIP-CAM-078G2	<ul style="list-style-type: none"> • ø78mm nose piece • 75mm (D) x 99mm (H) • integrated white LED • wide angle lens 	
VIP-CAM-027G4	<ul style="list-style-type: none"> • ø27mm nose piece, 25mm deep • 75mm (D) x 50mm (W) x 71mm (H) • integrated white LED 		VIP-CAM-088G2	<ul style="list-style-type: none"> • ø88mm nose piece • 75mm (D) x 104mm (H) • integrated white LED • wide angle lens 	
VIP-CAM-030G3	<ul style="list-style-type: none"> • ø30mm nose piece, 25mm deep • 75mm (D) x 50mm (W) x 71mm (H) • integrated white LED 		VIP-CAM-100G2	<ul style="list-style-type: none"> • ø100mm nose piece • 75mm (D) x 110mm (H) • integrated white LED • wide angle lens 	
VIP-CAM-035G2	<ul style="list-style-type: none"> • ø35mm nose piece, 50mm deep • 100mm (D) x 50mm (W) x 71mm (H) • integrated white LED 		VIP-CAM-115G2	<ul style="list-style-type: none"> • ø115mm nose piece • 75mm (D) x 118mm (H) • integrated white LED • wide angle lens 	
VIP-CAM-062G2	<ul style="list-style-type: none"> • ø62mm nose piece • 75mm (D) x 91mm (H) • integrated white LED • wide angle lens 		VIP-CAM-CB02	<ul style="list-style-type: none"> • dual "finger" model, rotatable • ø10mm camera head / ø8mm white LED illuminator • 65mm (L) x 65mm (H) x 42mm (W) • suitable for ABB ELK-TT single port GIS assembly 	
VIP-CAM-064G2	<ul style="list-style-type: none"> • ø64mm nose piece • 75mm (D) x 92mm (H) • integrated white LED • wide angle lens 		VIP-CAM-TB02	<ul style="list-style-type: none"> • dual "eye" model • ø27mm camera head / ø27mm white LED illuminator • rotatable head • suitable for ABB ELK-TT dual port GIS assembly 	

Due to the custom nature of VIP viewport camera design and application requirements, specifications are subject to change without notice.

SYSTEM SPECIFICATIONS

CAMERA			
Image Sensor	1/4" colour CMOS, 512 x 492 pixel resolution (VIP-CAM-CB02)		
	1/4" colour CMOS, 1280 x 720 pixel (HD 720p) resolution (VIP-CAM-030G2 and smaller)		
	1/2.8" colour CMOS, 1920 x 1080 pixel (HD 1080p) resolution (VIP-CAM-035G2 and larger)		
Scanning System	NTSC, progressive scan, 1Vp-p		
Output Signal	AHD or CVBS (camera model dependant)		
Lens	Viewport and camera specific		
Connector Type	4-pin (3 + PE), circular, thread lock		
Illumination	LED, white (~6000K)		
MONITOR	5" Display	7" Display	10" Display (optional)
Type	Colour LCD, TFT, LED backlight		
Screen Size	130mm x 86mm	180mm x 125mm	253mm x 166mm
Resolution	800 x 480 pixels	1024 x 600 pixels	1366 x 768 pixels
Viewing Angle	120°	170°	160°
Video Recording	HD-AHD, HD-TVI, CVBS, H.264 compression, AVI format		n/a
Photo Storage Format	JPEG		n/a
Storage Capacity	8GB (integrated)		n/a
PC Interface Port	USB 2.0, compatible with Windows & macOS		n/a
BATTERY (VIP-BAT-L33)			
Type	Rechargeable Lithium ION (LiFePO4), UN38.3 approved		
Power / Current	12VDC, 3.3A		
Operational Time (full charge)	~ 6 hours (continuous use)	~ 5.5 hours (continuous use)	~ 4 hours (continuous use)
Charger	120-240V AC input, 12V DC output		
BATTERY (VIP-BAT-C8C optional)			
Recommended Battery Type	Alkaline "C" cell x 8		
Anticipated Life Expectancy	15+ hours continuous use (using "Energizer Max" series batteries)		
POLE	L200	L500	L630
Length	1.0 to 2.0m extendable	1.5 to 5.0m extendable	1.5 to 6.3m extendable
Construction	High density, non-conductive fiberglass, 8 layer		
Lock Mechanism	Rotating segment compression collars		

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ACCESSORIES AND SPARES OPTIONS

PART NUMBER	DESCRIPTION
VIP-BAT-L33	12VDC, 3.3A lithium ion (LiFePO4) rechargeable battery, UN38.3 approved
VIP-CHG-9001219	LiION IC battery charger, 100/220VAC input ~ 12VDC output
VIP-BAT-C8C	Battery case for C-cell batteries (batteries not included)
VIP-MON-RM10	Modified pole camera system with 10" viewing monitor and body mount carrier
VIP-CASE-S	Transport / storage case for 2.0m VIP-2L system
VIP-CASE-L	Transport / storage case for 5.0m and 6.2m VIP-2L systems

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