Sarix® IBE Environmental IR Bullet Cameras

UP TO 4 K, WDR AND LOW-LIGHT PERFORMANCE, H.264, H.265, IK10

Product Features

- SureVision Technology (Advanced Low-Light & WDR Performance Simultaneously, Anti-Bloom Technology, 3D Noise Filtering, and Enhanced Tone Mapping)
- H.265, H.264, and MJPEG Video Encoding with Pelco Smart Compression
- Up to 4 K Resolution
- Robust Electronic Image Stabilization
- Up to 120 Frames per Second (fps) at 1080p on Select Models
- Up to 130 dB Wide Dynamic Range
- Power Redundancy Between PoE+ to 12 VDC / 24 VAC
- IP66, IP67, IP68, IP69K, Type 4X
- IK10 (20 Joules) Rated Vandal Resistant
- Built-in Pelco Enhanced Analytics Suite & Capable of Advanced Deep Learning Analytics Available Separately
- Adaptive IR Illumination 850 nm up to 50 Meters



- Support for Local Storage with Micro SD Slot for SDHC/SDXC Card
- Compatible with Pelco and Third-Party Video Systems
- ONVIF Profile S, Profile G, Profile M, and Profile T Conformant
- Full 3-Year Warranty and Support

Sarix Enhanced Range with SureVision

Sarix® Enhanced (E) range cameras feature SureVision technology, delivering resolutions of up to 4 K options, consistent color science, fast processing power, and simultaneous advanced low-light performance with wide dynamic range (WDR) and anti-bloom technologies.

New advancements include 3D noise filtering, smooth response to illumination changes, and improved ton mapping to retain color accuracy and overall image contrast.

With Electronic Image Stabilization enabled by built-in Gyro technology, **Sarix Enhanced** cameras always provide sharp, stable images even in the presence of vibration and wind movement. Power redundancy between PoE+ and 12 VDC/24 VAC ensures 24-hour, 365-day continuous operation even under unstable power supply situations.

The IBE Series Bullet Camera

The **IBE Series** includes environmental bullets. All models feature a sturdy design that is **IK10 (20 Joules) rated, vandal resistant**. The environmental models feature worry-free use in harsh environments with **IP66, IP67, IP68, IP69K,** and **Type 4X** ratings, and a wide range of operating temperatures.

Sarix Enhanced range cameras contain an integrated P-Iris, autofocus, and motorized zoom lens for quick installation and easy maintenance. Included are unique, advanced autofocus options: temperature change, day/night transition, and auto/manual focus. These benefits ensure clear, focused images regardless of the scene or environment. All autofocus options are available through the web UI.

Integrated and Adaptive IR Illumination 850 nm up to 50 m is available on all models to ensure visibility in totally dark environments. A System Watchdog feature automatically restarts the camera if a malfunction is detected.

Video

The **IBE Series** supports three independently-configurable video streams. The three streams can be compressed with efficient H.265, H.264 High or Main profiles, or MJPEG formats. The streams can be configured to a variety of frame rates, variable bit rates, and group of pictures (GOP) structures to optimize image quality with bandwidth and storage efficiency. In addition, streams can be encoded as constrained variable bit rate (CVBR) or constant bit rate (CBR). Pelco Smart Compression is available on both H.264 and H.265, optimizing between bandwidth and image quality and can reduce storage by up to 70% depending on the scene.

Open and Integrated

Sarix Enhanced range cameras seamlessly connect to Pelco video management systems such as VideoXpert™, VXToolbox, Endura® version 2.0 (or later), and Digital Sentry® version 7.3 (or later). **Sarix Enhanced** range cameras integrate with major third-party video management systems through the Pelco API, and other third-party software and systems through the ONVIF Profile S, G, M, and T standards.

PELCO
a Motorola Solutions Company

POWER REDUNDANCY

Sarix Enhanced range cameras are designed with Power over Ethernet (PoE+), 24 VAC and 12 VDC to reduce costs and simplify planning, wiring, and installation. PoE+ functionality works with PoE+-enabled network switches or power injectors, eliminating the need for separate power supplies and cabling, and increasing camera fail safety through an uninterruptable power supply (UPS).

The cameras also support power supply failover between PoE+ and 12 VDC/24 VAC. If the camera is running with both PoE+ power and 12 VDC/24 VAC power supplied, and then PoE+ power is lost, the camera will switch to 12 VDC/24 VAC without any interruption or video loss. Once PoE+ power is restored, the camera will reboot and then run using PoE+ power.

PELCO ENHANCED ANALYTICS SUITE

Sarix Enhanced range cameras includes two Basic and seven Enhanced user-configurable behaviors to enhance the flexibility and performance of the camera. The camera is capable of running up to two Enhanced behaviors in addition to the two Basic behaviors at the same time.

For each behavior, you can set up different scenarios for the behavior, which will automatically detect and trigger alarms when specific activity is detected.

Analytics are configured and enabled using a standard Web browser, and behavior alarms are compatible with VideoXpert or a third-party system that supports Pelco's API.

Available Basic analytic behaviors include:

- **Camera Sabotage:** Detects contrast changes in the field of view. An alarm is triggered if the lens is obstructed by spray paint, a cloth, or a lens cap. Any unauthorized repositioning of the camera also triggers an alarm.
- **Region-Based Simple Motion Detection:** Based on sensitivity, the camera determines if sufficient motion is detected within a configurable region.

Available Enhanced analytic behaviors include:

- **Abandoned Object:** Detects objects placed within a defined zone and triggers an alarm if the object remains in the zone unattended. An airport terminal is a typical installation for this behavior. This behavior can also detect objects left behind at an ATM, signaling possible card skimming.
- **Adaptive Motion:** Detects and tracks objects that enter a scene and then triggers an alarm when the objects enter a user-defined zone. This behavior is primarily used in outdoor environments with light traffic to reduce the number of false alarms caused by environmental changes.
- **Directional Motion:** Generates an alarm in a high traffic area when a person or object moves in a specified direction. Typical installations for this behavior include an airport gate or tunnel where cameras can detect objects moving in the opposite direction of the normal flow of traffic or an individual entering through an exit door.
- **Loitering Detection:** Identifies when people or vehicles remain in a defined zone too long. This behavior is effective in real-time notification of suspicious behavior around ATMs, stairwells, and school grounds.
- **Object Counting:** Counts the number of objects that cross a defined line. This behavior can be used to count the number of people at a store entrance/exit or inside a store where the traffic is light. This behavior is based on tracking and does not count people in a crowded setting.
- **Object Removal:** Triggers an alarm if an object is removed from a user-defined zone. This behavior is ideal for customers who want to detect the removal of high value objects, such as a painting from a wall or a statue from a pedestal.
- **Stopped Vehicle:** Detects vehicles stopped near a sensitive area longer than the user-defined time allows. This behavior is ideal for airport curbside drop-offs, parking enforcement, suspicious parking, traffic lane breakdowns, and vehicles waiting at gates.

PELCO'S SMART COMPRESSION TECHNOLOGY

Pelco's Smart Compression Technology lowers bandwidth and storage requirements by up to 70%. Our technology allows the user to make intelligent decisions regarding storage savings and image quality.

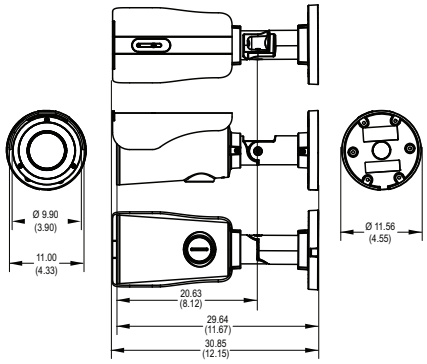
Pelco's Smart Compression Technology dynamically analyzes motion occurring within live video in real-time, to intelligently compress the information you don't need, while retaining details with clear quality in the areas that are important in the scene. By enabling Dynamic GOP, an added feature of Smart Compression, the number of I-frames are automatically reduced in scenes with low motion. Based on the complexity of scenes and motion occurring, such as a store room that has limited entry and exit, up to 70% bandwidth savings can be achieved.

TECHNICAL SPECIFICATIONS

COMPONENT FEATURES

VALUES IN PARENTHESES ARE INCHES; ALL OTHERS ARE CENTIMETERS.





Environmental/Vandal-Resistant

- Camera can mount directly to the wall.
- Meets IP66, IP67, IP68, IP69K
- Meets IK10 (20J)
- Meets Type 4X
- Aluminum Construction
- RAL 9003
- IEEE802.3at PoE+ Class 4, 24 VAC or 12 VDC
- NEMA TS-2 para 2.2.7 - 2.2.9

CAMERA

Imaging Device	1/2.8-inch for 2MP and 3MP models or 1/1.8-inch for 5MP and 4K models
Imager Type	CMOS
Imager Readout	Progressive scan
Highest Resolution	
4 K	3840 x 2160
5 MP	2592 x 1944
3 MP	2048 x 1536
2 MP	1920 x 1080
Signal-to-Noise Ratio	>60 dB
Electronic Shutter Range	1/10,000 sec to 1sec
Wide Dynamic Range	Up to 130 dB (2 MP and 3 MP models), Up to 120 dB (5 MP and 4 K models)
White Balance	Range: 2,500° to 10,000°K; Selectable Auto/ Manual/ATW
Day/Night Capabilities	Mechanical IR cut filter (ON/OFF/AUTO), with different set points on lux
Adaptive IR Illumination	850nm wavelength, maximum distance of up to 50 meters (164 feet)
3D Noise Reduction	Yes (ON / OFF selectable)

Minimum Illumination

Resolution	Lens	Sensitivity	Color		Mono		Mono (IR on)
			33 ms	500 ms	33 ms	500 ms	
2 MP	2.8-8 mm	f/1.3	0.0125 lux	0.0012 lux	0.0025 lux	0.0003 lux	0.0 lux
3 MP	2.8-8 mm	f/1.3	0.05 lux	0.005 lux	0.010 lux	0.001 lux	0.0 lux
	8-20 mm	f/1.5	0.08 lux	0.008 lux	0.015 lux	0.0018 lux	0.0 lux
5 MP	4-9 mm	f/1.5	0.10 lux	0.00625 lux	0.05 lux	0.003125 lux	0.0 lux
8 MP (4 K)	4-9 mm	f/1.5	0.10 lux	0.00625 lux	0.05 lux	0.003125 lux	0.0 lux
	9-20 mm	f/1.6	0.12 lux	0.0075 lux	0.06 lux	0.00375 lux	0.0 lux

TECHNICAL SPECIFICATIONS

LENS

Lens Type	Built-in; varifocal
Focal Length	f/1.3, 2.8 ~ 8 mm, f/1.5, 8 ~ 20 mm, f/1.5, 4 ~ 9 mm, f/1.6, 9 ~ 20 mm
Focus	Autofocus, motorized
Zoom	Remote motorized
Auto Iris Type	P-Iris
Field of View in Degrees*	

***Note:** Field of view may vary with changes in resolution settings.

Lens	Angle of View	2 MP	3 MP	5 MP	4 K
2.8 - 8 mm	Diagonal	136.4° ~ 47.4°	137.9° ~ 47.8°	N/A	N/A
	Horizontal	115.7° ~ 41.3°	106° ~ 38.2°		
	Vertical	62.4° ~23.2°	77° ~ 28.7°		
8 - 20 mm	Diagonal	N/A	46.5° ~ 18.8°		
	Horizontal		36.5° ~ 15°		
	Vertical		27° ~ 11.3°		
4 - 9 mm	Diagonal		N/A	141.8° ~ 58.4°	141.8° ~ 58.4°
	Horizontal			116.9° ~ 50.8°	116.9° ~ 50.8°
	Vertical			60.7° ~ 28.5°	60.7° ~ 28.5°
9 - 20 mm	Diagonal			N/A	58.7° ~ 25.6°
	Horizontal				50.1° ~ 22.3°
	Vertical				27.1° ~ 12.6°

AUDIO

Streaming	Bidirectional: full or half duplex
Input	Line level, 3K ohm differential with/1Vp-p maximum signal
Output	Line level, 600 ohm differential with/1Vp-p
Encoding	G.711-Alaw/G711-Ulaw

GENERAL

Pan/Tilt Adjustment	Manual	
Pan	0° ~ 360°	
Tilt	7.5° ~ -90°	
Rotation	0° ~ 360°	
Construction	Aluminum with polycarbonate window	
Finish	White, RAL 9003	
Weight	Unit	Shipping
	3.5 lb (1.59 kg)	4.3 lb (1.95 kg)
EPA	51.2 in^2	

ENVIRONMENTAL

Operating Temperature	–50° to 60°C (–58° to 140°F)†
4 Hours Maximum Operating Temperature	65°C (149°F)
Start-up Temperature	–40°C (–40°F)
Storage Temperature	–40° to 60°C (–40° to 140°F)
Operating Humidity	10 to 100%, RH condensing
Storage Humidity	20 to 80%, RH noncondensing
Impact Resistance	IK10 (20 J)
Ingress Protection	IP66, IP67, IP68, IP69K, Type 4X
Shock and Vibration Resistance	Tested in accordance to EN 50155 (EN 61373, Category 1, Class B); IEC/EN 60068:2-6 and 2-27

TECHNICAL SPECIFICATIONS

ELECTRICAL

Network Port	RJ-45 connector for 100Base-TX*/ 1000Base-T, Automatic MDI/MDI-X

*Some combinations of high resolution, frame rate, and high numbers of unicast streams, may lead to less desirable results at 100Base-TX.

Input Power	PoE+ (IEEE 802.3at, Class 4), 24 VAC (18 ~ 32 VAC), 12 VDC ±10% (Environmental models)
Power Consumption	
12 VDC	8.1 W typical, 20.5 W maximum
24 VAC	7.4 W typical, 18.1 W maximum
PoE+	7.6 W typical, 16.8 W maximum
Local Storage	Micro SD, SDHC, SDXC compatible; Up to 2 TB addressable (256 GB testable)
Alarm	Detects open or closed alarm state
Input	Quantity 1, Normally Open, Normally Closed, Supervised, 3.5 VDC maximum, 35 mA maximum
Output	Quantity 1, ±32 VDC maximum, 150 mA maximum

NETWORK

Supported Protocols	TCP/IP, UDP/IP (Unicast, Multicast IGMP), UPnP, DNS, DHCP, RTP, RTSP, NTP, IPv4, IPv6, SNMP v2c/v3, QoS, HTTP, HTTPS, SSL, SMTP, FTP, 802.1x (EAP), and NTCIP 1205, IGMP, TLS/TTLS
Users	
Unicast	Two guaranteed (up to 20 depending on the resolution settings)
Multicast	Unlimited
Security Access	Password protected, HTTP, IEEE 802.1X, digest authentication, IP filtering
Software Interface	Web browser view and setup

MINIMUM SYSTEM REQUIREMENTS

Processor	Intel® Core™ i3 processor, 2.4 GHz
Operating System	Microsoft® Windows® 7 (32- and 64-bit), or DirectX®11, Windows XP Service Pack 3 with DirectX 9.0c; or Mac® OS X 10.4 (or later)
Memory	4 GB RAM
Network Interface	1 gigabit (or greater)
Monitor	Minimum of 1024 x 768 resolution, 16- or 32-bit pixel color resolution
Web Browser	Internet Explorer® 10 (or later), Google Chrome™ (51 or later), Microsoft Edge, or Mozilla® Firefox® 3.5 (or later)

INTEGRATION

Pelco System Integration	VideoXpert; Endura 2.0 (or later); Digital Sentry 7.3 (or later)
Open API	Pelco API or ONVIF Profile S, Profile G, Profile M, Profile T
Mobile Application	Pelco Mobile Application
Camera Discovery	VxToolbox
Firmware Upgrade	Web UI or VxToolbox
Multilingual User Interface	English, French, Italian, German, Spanish, Korean, Portuguese, Russian, Simplified Chinese, Turkish

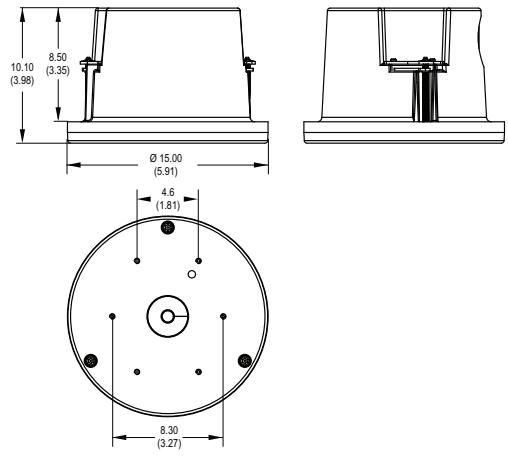
TECHNICAL SPECIFICATIONS

VIDEO

Video Streams	Up to three simultaneous streams, the second stream and third stream are variable based on the setup of the primary stream
Available Resolutions	4 K 3840 x 2160 to 512 x 384; 5 MP 2592 x 1944 to 512 x 384; 3 MP 2048 x 1536 to 640 x 360; 2 MP 1920 x 1080 to 512 x 384
Maximum Frame Rate	Up to 120 frames per second (fps) at 1080p on the 3MP models, Up to 60 fps at 1080p on all models, Up to 30 fps at full resolution with WDR on all models
Video Encoding	H.265, H.264 Main/High, MJPEG
Bit Rate Control	Constrained variable bit rate (CVBR) and constant bit rate (CBR)
Orientation Modes	Electronic image rotation 90, 180, and 270 degrees (Corridor Mode)
Video Snapshot	JPEG capture at the same resolution as the highest stream configured
Window Blanking	16 configurable Windows
Electronic Image Stabilization	Yes (ON / OFF selectable)
Video Overlay	Camera name, time, date, and customizable text with multiple supported languages. Embedding of custom images and logos supported.
Flicker Correction	Selectable Auto On/Off, 50 Hz or 60 Hz modes

VALUES IN PARENTHESES ARE INCHES; ALL OTHERS ARE CENTIMETERS

IBP3BBAP-EI ENVIRONMENTAL IN-CEILING MOUNT BACK BOX AND ADAPTER PLATE



RAL 9003

CERTIFICATIONS/RATINGS

- CE (Class A)
- FCC (Class A)
- ICES-003 (Class A)
- UL/cUL Listed
- UL/IEC/EN 60950-1, 60950-22, 62368-1
- KC*
- NOM
- RCM
- EAC*
- BIS
- Type 4X
- EN 50155 (EN 61373 Category 1, Class B)
- IEC/EN 60068-2-6 Product Vibration
- IEC/EN 60068-2-27 Product Shock
- IEC/EN 62262 Impact (IK 10)
- IEC/EN 60529 (IP66, IP67, IP68)
- DIN 40 050 Part 9 (IP69K)
- Meets NEMA TS-2 para 2.2.7 - 2.2.9
- FDOT*
- ONVIF Profile S, Profile G, Profile M, and Profile T Conformant

*At the time of this publication, certifications are pending. Consult the factory or www.pelco.com for the current status of certifications.

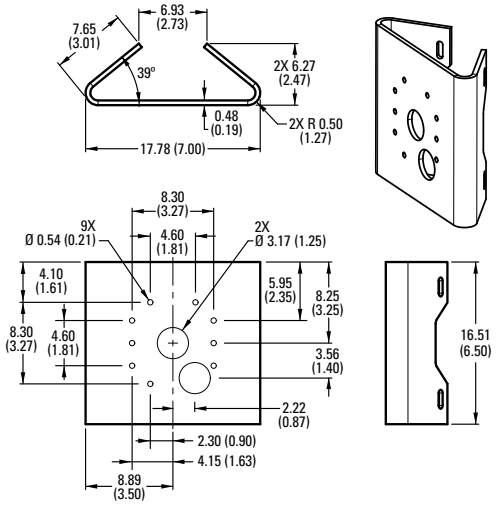
RECOMMENDED MOUNTS

IBP3-PLMT	Pole mount directly
IBP3-PLMT with IBP3BBAP-ES	Pole mount with Environmental, Surface Mount Junction Box
IBP3BBAP-ES	Wall mount
IBP3BBAP-EI	In-ceiling mount

POWER SUPPLIES

WCS Series	Outdoor, 24 VAC power supply
POE130-XT	Single-port PoE Gigabit extender powered by POE190-BT injector
POE130-AT (US or EU)	Single-port PoE+ midspan with power cord
POE430-AT (US or EU)	4-port, 30W per port PoE midspan with power cord
POE1236-AT (US or EU)	12-port, 36W PoE midspan
POE2436-AT (US or EU)	24-port, 36W PoE midspan

IBP3-PLMT ENVIRONMENTAL POLE MOUNT

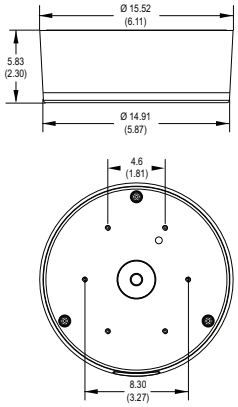


RAL 9003

MODELS

Resolution	Model Number	Lens	Description
2 MP	IBE238-1ER	2.8 ~ 8 mm	Sarix Enhanced Environmental Bullet
3 MP	IBE332-1ER	8 ~ 20 mm	Sarix Enhanced Environmental Bullet
3 MP	IBE338-1ER	2.8 ~ 8 mm	Sarix Enhanced Environmental Bullet
5 MP	IBE539-1ER	4 ~ 9 mm	Sarix Enhanced Environmental Bullet
4 K	IBE839-1ER	4 ~ 9 mm	Sarix Enhanced Environmental Bullet 4 K
4 K	IBE832-1ER	9 ~ 20 mm	Sarix Enhanced Environmental Bullet 4 K

IBP3BBAP-ES ENVIRONMENTAL SURFACE MOUNT BACK BOX AND ADAPTER PLATE



RAL 9003

⚠ **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov.
⚠ **ADVERTENCIA:** Cáncer y Daño Reproductivo - www.P65Warnings.ca.gov.
⚠ **AVERTISSEMENT:** Cancer et Troubles de l'appareil reproducteur - www.P65Warnings.ca.gov.

Pelco, Inc.
625 W. Alluvial, Fresno, California 93711 United States
USA & Canada Tel (800) 289-9100 Fax (800) 289-9150
International Tel +1 (559) 292-1981 Fax +1 (559) 348-1120
www.pelco.com

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