Sarix® IBE Series Indoor and Environmental Bullets
3 MPX, WDR AND LOW-LIGHT PERFORMANCE, H.264, IK10, IP66

Product Features

- SureVision 3.0 Technology, Including:
  - 130dB Wide Dynamic Range (WDR)
  - Advanced Low-Light Performance, 0.05 lux
  - Anti-Bloom Technology
  - 3D Noise Filtering
  - Enhanced Tone Mapping

- Up to 3 Megapixel (MPx) Resolution
- Up to 60 Frames per Second (fps)
- Autofocus Varifocal 3 ~ 9 mm or 9 ~ 22 mm Lens
- Power over Ethernet (PoE), IEEE 802.3af, 24 VAC, 12 VDC
- Pelco H.264 Smart Compression Technology
- Built-in Analytics Suite
- Adaptive IR Illumination up to 30 Meters
- Edge Storage with SD Card, Up to 2 TB Addressable, 512 GB Tested

Integrated and Adaptive IR Illumination is included on all models.

VIDEO
The IBE Series supports two independently-configurable video streams in addition to a service video stream. The streams can be compressed in MJPEG and H.264 formats across several resolution configurations. The IBE Series offers real-time video (60 fps) with full HD resolution (up to 3 MPx) using H.264 compression for optimized bandwidth and storage efficiency.

The streams can be configured to a variety of frame rates, bit rates, and group of pictures (GOP) structures for additional flexibility in bandwidth administration. In addition, streams can be encoded as constrained variable bit rate (CVBR) or constant bit rate (CBR).

Open and Integrated
Sarix Enhanced range cameras seamlessly connect to Pelco video management systems such as VideoXpert®, 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, Profile G, and Profile Q standards.
CONVENIENT POWER

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, or increasing camera fail safety through an uninterruptable power supply (UPS).

ANALYTICS

Sarix Enhanced range cameras includes eight user-configurable behaviors. The camera is capable of running up to two behaviors at the same time.

For each behavior, you can create several custom profiles that contain different camera settings. With these profiles, 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 system.

Analytics behaviors can be scheduled to work during a certain time or condition. For example, during the day, a camera can be configured with Object Counting to count the number of people that enter a lobby door. At night, the operator can change the profile to Camera Sabotage to trigger an alarm if a camera is moved or obstructed. Available 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.

- **Intrusion Detection**: 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.

- **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.

- **Wrong Direction**: 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.
COMPONENT FEATURES

VALUES IN PARENTHESES ARE INCHES; ALL OTHERS ARE CENTIMETERS.

CAMERA

- Imaging Device: 1/2.8-inch
- Imager Type: CMOS
- Imager Readout: Progressive scan
- Highest Resolution:
  - 3 MPx: 2048 x 1536
  - 2 MPx: 1920 x 1080
  - 1 MPx: 1280 x 960
- Signal-to-Noise Ratio: >60 dB
- Electronic Shutter Range: 1/20,000 sec (or faster) to 2 sec
- Wide Dynamic Range: 130 dB
- White Balance Range: 2,000° to 10,000°K
- Sensitivity:
  - (3 mm): Color (33 ms) 0.050 lux, Color (500 ms) 0.005 lux, Mono (33 ms) 0.010 lux, Mono (500 ms) 0.001 lux, Mono (IR on) 0.000 lux
  - (9 mm): Color (33 ms) 0.08 lux, Color (500 ms) 0.008 lux, Mono (33 ms) 0.04 lux, Mono (500 ms) 0.0025 lux, Mono (IR on) 0.000 lux
- Sensitivity 9 – 22 mm:
  - (3 mm): Color (33 ms) 0.08 lux, Color (500 ms) 0.008 lux, Mono (33 ms) 0.04 lux, Mono (500 ms) 0.0025 lux, Mono (IR on) 0.000 lux
- Day/Night Capabilities: Yes
- Mechanical IR Cut Filter: Yes, (ON/OFF/AUTO selectable), with different set points on lux
- Adaptive IR Illumination: 850nm wavelength, maximum distance of 30 meters (100 feet) IR illumination at 0 lux
- Micro SD Card Support: Up to 2 TB addressable, 512 GB tested
- SDHC/SDXC Cards Supported: Yes

LENS

- Lens Type: Built-in, varifocal
- Focus: Autofocus, motorized
- Zoom: Remote
- Auto Iris Type: DC drive P-iris lens

<table>
<thead>
<tr>
<th>Lens</th>
<th>Focal Length</th>
<th>3 MPx</th>
<th>1.3 &amp; 2 MPx</th>
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<tr>
<td></td>
<td>Horiz</td>
<td>Vert</td>
<td>Horiz</td>
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<td>74°</td>
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<td></td>
<td>Tele</td>
<td>39°</td>
<td>29°</td>
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<tr>
<td>9 – 22 mm</td>
<td>Wide</td>
<td>33°</td>
<td>24°</td>
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<td></td>
<td>Tele</td>
<td>14°</td>
<td>10°</td>
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AUDIOL

**Streaming**
Bidirectional: full or half duplex

**Input/Output**
Line level/external microphone input; single-ended, stereo, 1 Vp-p max. signal

**Compression**
G.711 PCM 8 bit, 8 kHz mono at 64 kbit/s

**MECHANICAL**

**Pan/Tilt Adjustment**

- **Pan:** 360°
- **Tilt:** +5°, –90°
- **Rotation:** 360°

**PHYSICAL**

**Weight**
- Indoor Bullet: 940 gm (2.07 lb)
- Environmental Bullet: 940 gm (2.07 lb)

**Product Box Dimensions**
13.3 x 6.7 x 6.5 in.

**ENVIRONMENTAL**

**Operating Temperature**
- Indoor/Vandal-Resistant: –10° to 55°C (14° to 131°F)
- Environmental: –40° to 60°C (–40° to 140°F)

**Start-Up Temperature**
- Indoor/Vandal-Resistant: –10°C (14°F)
- Environmental With Heater: –40°C (–40°F)

**Storage Temperature**
- Indoor and Environmental: –40° to 60°C (–40° to 140°F)

**Operating Humidity**
- Indoor/Vandal-Resistant: 10 to 90%, RH noncondensing
- Environmental: 5 to 95%, RH noncondensing

**Storage Humidity**
20 to 80%, RH noncondensing

**Impact Resistance**
IK10 (20J), all surfaces, per IEC 62262

**ELECTRICAL**

**Network Port**
RJ-45 connector for 100Base-TX

**Cable Type**
Cat5 or better for 100Base-TX

**Input Power**
PoE (IEEE 802.3af, Class 3), 12 VDC, 24 VAC

**Power Consumption**
8.5 W nominal

**Current Consumption**
177 mA @ PoE; 0.35 A @ 24 VAC; 0.7 A @ 12 VDC

**Local Storage**
SD, SDHC, SDXC

**Alarm**
Detects open or closed alarm state

**Input**
5 VDC maximum, 0.5 mA maximum

**Relay Output**
±350V VDC maximum, ±130 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, SSH, SSL, SMTP, FTP, ARP, ICMP, and 802.1x (EAP), NTCP 1205

**Users**
- **Unicast:** Up to 20 simultaneous users depending on the resolution settings
- **Multicast:** Unlimited users H.264

**Security Access**
Password protected

**Software Interface**
Web browser view and setup

**VIDEO**

**Video Streams**
Independently configurable primary and secondary streams plus service stream

**Available Resolutions**
Two configurable streams as follows:

<table>
<thead>
<tr>
<th>Camera Model</th>
<th>Aspect Ratio</th>
<th>MPx</th>
<th>Width</th>
<th>Height</th>
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<tbody>
<tr>
<td>3 MPx</td>
<td></td>
<td>3.0</td>
<td>2048</td>
<td>1536</td>
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<td></td>
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<td>2.95</td>
<td>1984</td>
<td>1488</td>
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<td>1.8</td>
<td>1600</td>
<td>1200</td>
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<td>1.2</td>
<td>1280</td>
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<td>0.5</td>
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<td>0.3</td>
<td>704</td>
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<td>0.07</td>
<td>320</td>
<td>240</td>
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<tr>
<td>2 MPx and 1 MPx</td>
<td>4:3</td>
<td>2.0</td>
<td>(1080p)</td>
<td>1920</td>
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<td>0.9</td>
<td>1280</td>
<td>720</td>
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<td>0.6</td>
<td>1024</td>
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<td>0.5</td>
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<td>544</td>
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<td>0.06</td>
<td>320</td>
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<td>1 MPx</td>
<td>16:9</td>
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**Video Encoding**
H.264 High, Main, or Base profiles; and MJPEG

**Bit Rate Control**
Constrained variable bit rate (CVBR), constant bit rate (CBR)

**Corridor Mode**
Electronic image flip and mirror: 180°, 90° and 270° (H.264 only)

**Service Stream**
JPEG stream; 640 x 480 or 640 x 360, up to 15 fps

**PELCO’S H.264 SMART COMPRESSION TECHNOLOGY**

Pelco’s H.264 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.

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<td>192</td>
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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: 100 megabits (or greater)
Monitor: Minimum of 1024 x 768 resolution, 16- or 32-bit pixel color resolution
Web Browser*: Internet Explorer® 8.0 (or later), Google Chrome™ 51 or later) or Mozilla® Firefox® 3.5 (or later); Internet Explorer 8.0 (or later) is recommended for configuring analytics
Media Player†: Pelco Media Player for Windows 7, XP, or Vista; or QuickTime 7.6.4 for Mac OS X 10.4 (or later)

ANALYTICS

Required Systems for Analytics
Pelco Interface: WS5200 Advanced System Management Software on an Endura 2.0 (or later) system
Open API: The Pelco API can transmit behavior alarm data to third-party applications, available at pdn.pelco.com

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, and Profile Q
Mobile Application: Integrated with Pelco Mobile Application

SOFTWARE FEATURES

• Multilingual menus in user interface: Arabic, English, French, Italian, German, Korean, Spanish, Portuguese, Russian, Simplified Chinese, Turkish
• 16 window blanks, configurable in size
• Password protection
• Snapshot with JPEG capture at the same resolution as the highest stream configured
• Text overlays for camera name, time, date, or custom text
• Image overlays

CERTIFICATIONS/RATINGS

• CE (Class A)
• FCC (Class A)
• ICES-003 (Class A)
• KC
• RCM
• RoHS
• Meets Type 4X (environmental models only), IP66 and IK10 ratings
• ONVIF Profile S, Profile G, and Profile Q Conformant

RECOMMENDED MOUNTS
IBEPLMT-E: Environmental pole mount
IBEWLMT-E: Environmental wall mount
IBEWLMT-I: Indoor wall mount
TECHNICAL SPECIFICATIONS

MODELS

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Model Number</th>
<th>Lens</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3 MPx</td>
<td>IBE129-1I</td>
<td>3 ~ 9mm</td>
<td>Sarix Enhanced Indoor IR Bullet</td>
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<tr>
<td>1.3 MPx</td>
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<td>3 ~ 9mm</td>
<td>Sarix Enhanced Environmental IR Bullet</td>
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<td>3 ~ 9mm</td>
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</table>

IBE-WLMT-E ENVIRONMENTAL WALL MOUNT & IBE-WLMT-I INDOOR WALL MOUNT

Indoor color: RAL 9003; Outdoor color: RAL 7047

IBE-PLMT-E ENVIRONMENTAL POLE MOUNT

Indoor color: RAL 9003; Outdoor color: RAL 7047

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

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