

Optera™ IMM Series with SureVision™ 2.0

180°, 270°, 360° PANORAMIC, 12 MPX IP CAMERAS

Product Features

- Constant, seamless situational awareness
- Zoom in for detail live or retrospectively with client-side dewarping
- Multiple immersive PTZ views at video management system (VMS)
- Up to 12 Megapixel (4 x 3 MPx) resolution for better detail at a distance
- Up to 30 frames per second (fps)
- Outstanding WDR and low-light performance at the same time
- Pelco H.264 Smart Compression Technology
- 8 Pelco video analytic behaviors
- Local storage (Micro SD)
- ONVIF Profile S and Profile G conformant
- Compatible with Pelco VideoXpert™, Digital Sentry®, and third-party VMS partners

Optera™ IMM Series Multi-Imager Solution

The Optera™ IMM Series camera with SureVision™ 2.0 provides a panomersive experience with seamless situational awareness which provides stitched and blended panoramic views. The IMM Series also enables you to zoom in for detail within multiple intuitive immersive views from a video management system (VMS). Other multi-imager solutions can be disjointed with separate streams out of order. The IMM Series transparently integrates video across all sensors in the camera, presenting a seamless user experience from setup to viewing.

Camera

IMM Series camera options include 180-, 270-, or 360-degree models. All models include a camera in a compact in-ceiling mount, surface mount, or pendant enclosure that is ready to install. All models feature a robust metal tamper-resistant design and carry an IK10 impact rating for vandal resistance. The Environmental Vandal model features worry-free use in a wide range of challenging operating conditions. In-ceiling models have a back box that is plenum rated per 2008 NEC article 300.22(C)(2).

Video with SureVision 2.0

The IMM Series offers the panomersive experience with outstanding and industry leading image quality with SureVision 2.0 technology. SureVision 2.0 delivers excellent low-light performance and true wide dynamic range (WDR), consistently and simultaneously. With superior WDR, anti-bloom technologies, 3D noise filtering and advanced tone mapping, SureVision 2.0 makes the IMM Series capable of delivering outstanding image quality in very challenging lighting conditions.

Window Blanking

Window blanking is used to conceal user-defined privacy areas. The IMM Series camera supports up to 32 blanked windows. A blanked area appears on the screen as a solid gray window.

SureVision™ 2.0
A Pelco™ by Schneider Electric™ technology



OPTERA IMM SERIES 180-DEGREE CAMERA

- Power over Ethernet Plus (PoE+)
- 3-year warranty

Video

The IMM Series provides near real-time capture with a frame rate of up to 12.5 frames per second (fps) at full resolution or 30 fps at a reduced resolution. This video is presented from the camera in multiple streams that can be encoded in H.264 level 5.1 high profile and constrained variable bit recording (CVBR) for efficient encoding to conserve video storage and bandwidth.

Open and Integrated

Optera IMM Series cameras seamlessly connect to Pelco VideoXpert™ and Digital Sentry® VMSs. The IMM Series integrates with major partner video management systems through the Pelco API, Panomersive SDK and through the ONVIF standard.

Built-In Analytics

The IMM Series features a full suite of eight Pelco video analytics applied across a wide field of view. Pelco behaviors include Abandoned Object, Adaptive Motion Detection, Camera Sabotage, Directional Motion, Loitering Detection, Object Counting, Object Removal, and Stopped Vehicle. These behaviors enable operators to focus quickly on events and areas of interest.

Convenient Power

The IMM Series is designed with Power over Ethernet Plus (PoE+) to simplify planning, wiring, and installation. PoE+ works with PoE+ enabled network switches or power injectors. PoE+ eliminates separate power supplies, cabling, and increases camera availability through an uninterruptible power supply (UPS).



by Schneider Electric



International Standards
Organization Registered Firm;
ISO 9001 Quality System



C4015 / Revised 7-12-17

PELCO ANALYTICS BEHAVIORS

Optera IMM Series includes nine user-configurable behaviors. The camera is capable of running up to three behaviors simultaneously; although, the number of behaviors is limited to the available processing power of the camera and the type of analytic being used.

- **Abandoned Object:** Detects objects placed within a defined zone and triggers an alarm if the object remains in the zone longer than the user-defined time allows. 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 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.
- **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 longer than the user-defined time allows. 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 enter a defined zone. 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 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 H.264 SMART COMPRESSION TECHNOLOGY

Pelco's H.264 Smart Compression Technology lowers bandwidth and storage requirements by up to 70%, while reducing storage requirements.

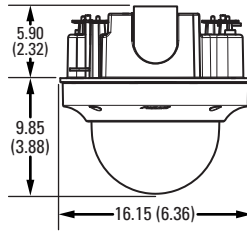
Pelco's Smart Compression Technology dynamically analyzes motion occurring within live video in real-time, to intelligently compress the information you don't need, while retaining details with clear quality in the areas that are important in the scene. By enabling Dynamic GOP, an added feature of Smart 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

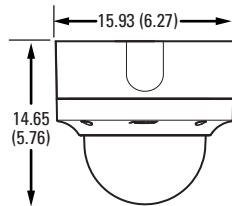


VALUES IN PARENTHESES ARE INCHES; ALL OTHERS ARE CENTIMETERS.



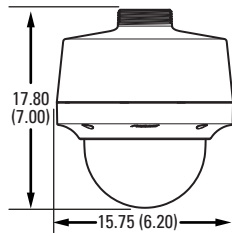
Indoor Vandal, In-Ceiling

- Single Back Box for Suspended or Hard Ceiling Applications
- Requires 8.26 cm (3.25 in.) Space Above Ceiling
- Minimum Ceiling Thickness 0.64 cm (0.25 in.); Maximum Ceiling Thickness 4.45 cm (1.75 in.)
- 3/4 in. NPT or 25 mm Conduit Attachments on Side and Top of Back Box
- Plenum Rated Back Box
- Alodine Aluminum Construction Meets IK10
- White or Black Finish



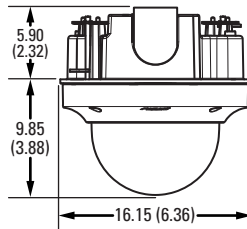
Indoor Vandal, Surface Mount

- Attaches to:
 - Standard 4 in. Square Outlet Box and 2-Gang Electrical Box
 - 3/4 in. NPT or 25 mm Conduit Attachments on Side Back Box
 - Wire Entry through Grommet on Top of Back Box
- Alodine Aluminum Construction Meets IK10
- White or Black Finish



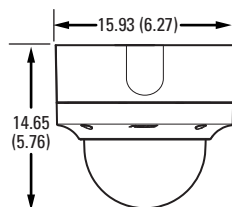
Indoor Vandal, Pendant

- 1-1/2 in. NPT Conduit/Pipe Attachment
- Alodine Aluminum Construction Meets IK10
- White or Black Finish



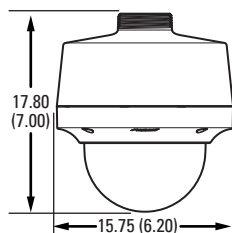
Environmental Vandal, In-Ceiling

- Single Back Box for Suspended or Hard Ceiling Applications
- Requires 8.26 cm (3.25 in.) Space Above Ceiling
- Minimum Ceiling Thickness 0.97 cm (0.38 in.); Maximum Ceiling Thickness 4.45cm (1.75 in)
- 3/4 in. NPT or 25 mm Conduit Attachments on Side and Top of Back Box
- Meets IP66 and NEMA Type 4X
- Plenum Rated Back Box
- Alodine Aluminum Construction Meets IK10
- Light Gray Finish



Environmental Vandal, Surface Mount

- Attaches to:
 - Standard 4 in. Square Outlet Box and Standard 2-Gang Electrical Box
 - 3/4 in. NPT or 25 mm Conduit Attachments on Side of Back Box.
 - Wire Entry through Grommet on Top of Back Box
- Meets IP66 and NEMA Type 4X
- Alodine Aluminum Construction Meets IK10
- Light Gray Finish



Environmental Vandal, Pendant

- 1-1/2 in. NPT Thread for Use with Pelco Wall Mounts
- Meets IP66 and NEMA Type 4X
- Alodine Aluminum Construction Meets IK10
- Light Gray Finish

TECHNICAL SPECIFICATIONS

CAMERA

| | |
|----------------------------------|------------------|
| Imaging Device | 1/3.2-inch |
| Imager Type | CMOS |
| Imager Readout | Progressive scan |
| Maximum Resolution 12 MP (4x) | 2048 x 1536 x 4 |
| Signal-to-Noise Ratio | >50 dB |
| Sensitivity | |

| Camera | F-Stop | Color (33 ms) | Mono (33 ms) |
|--------|--------|---------------|--------------|
| 180° | f/2.0 | 0.2 lux | 0.14 lux |
| 270° | f/2.5 | 0.3 lux | 0.2 lux |
| 360° | f/2.5 | 0.3 lux | 0.2 lux |

| | |
|--------------------------|---|
| Day/Night Capabilities | Yes |
| Mechanical IR Cut Filter | Yes, (ON/OFF/AUTO selectable) with different set points |
| Wide Dynamic Range: | >120 dB |

LENS

Length

| Camera | F-Stop | Length |
|--------|--------|--------|
| 180° | f/2.0 | 4.8 mm |
| 270° | f/2.5 | 2.7 mm |
| 360° | f/2.5 | 2.7 mm |

Field of View

| Camera | Horizontal FoV | Vertical FoV |
|--------|----------------|--------------|
| 180° | 180° | 41° |
| 270° | 270° | 73° |
| 360° | 360° | 73° |

AUDIO

| | |
|--------------|---|
| Streaming | Bidirectional: full or half duplex |
| Input/Output | 600 ohm differential, 1Vp-p max. signal level |
| Compression | G.711 PCM 8 bit, 8 kHz mono at 64 kbit/s |

MECHANICAL

| | |
|-----------------------------|------------------|
| Dome Attenuation | |
| Clear | f/0.0 light loss |
| Smoked | f/1.0 light loss |
| Pan Adjustable (All Models) | 370° |
| Tilt Adjustable (180 Model) | 0° - 180° |

PHYSICAL

| | | |
|---------------|-----------------|-----------------|
| Weight | Unit | Shipping |
| In-Ceiling | 1.5 kg (3.3 lb) | 2.0 kg (4.3 lb) |
| Surface Mount | 1.7 kg (3.9 lb) | 2.0 kg (4.3 lb) |
| Pendant Mount | 1.7 kg (3.9 lb) | 2.0 kg (4.3 lb) |

ENVIRONMENTAL

| | |
|-----------------------|---|
| Operating Temperature | |
| Indoor Vandal | -10° to 50°C (14° to 122°F) [†] |
| Environmental Vandal | -40° to 50°C (-40° to 122°F) [†] |

[†]Thermostatically controlled active heating and cooling.

| | |
|----------------------|---|
| Operating Humidity | |
| Indoor Vandal | 15 to 85%, RH noncondensing |
| Environmental Vandal | 10 to 95%, RH condensing |
| Impact Resistance | IK10 (20J) |
| Shock and Vibration | EN50155 Category 1, Class B; IEC 60068:2-6 and 2-27; ISTA-2A, Sequence 5, MIL810G |
| Storage Temperature | -40° C to 60° C (-40° F to 140° F) |
| Storage Humidity | 15% to 85%, noncondensing |

ELECTRICAL

| | |
|-------------------|--|
| Network Port | RJ-45 connector for 1000Base-T 1 Gigabit/sec Auto MDI/MDI-X PoE+; Class 4 Category 5 or better PoE+ (IEEE 802.3at, Class 4) |
| Cable Type | |
| Input Power | |
| Power Consumption | |
| Without Heater | 17 Watts |
| With Heater | 23 Watts |

Notice: Total camera power consumption attached to a multi-port PoE+ switch must not exceed the total PoE+ power provided by the switch.

| | |
|---------------|--|
| Local Storage | Micro SD, SDHC |
| Alarm | |
| Unsupervised | Detects open or closed alarm state |
| Supervised | Detects open and short alarm state with external 1-kohm resistor to detect alarm tampering |
| Input | 3.5 VDC maximum, 3.5 mA maximum |
| Relay Output | ±32 VDC maximum, 150 mA maximum |

NETWORK

| | |
|---------------------|--|
| Users | |
| Unicast | Up to 20 simultaneous users depending on the resolution settings, and frame rate |
| Multicast | Unlimited users H.264 |
| Security Access | Password protected |
| Software Interface | Web browser view and setup |
| 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) |

Note: IPv6 supports mixed IPv4 and IPv6 installations, but not IPv6-only deployments.

VIDEO

| | |
|----------------|---|
| Video Streams | Set of streams to deliver full resolution views; secondary stream that comprises a lower resolution mosaic of above streams |
| Frame Rate(s) | User selectable up to 30 fps |
| Video Encoding | H.264 High, Main, or Base profiles; MJPEG (mosaic stream only) |
| Bit Rate | Default maximum for Constrained Variable Bit Rate (CVBR) at maximum resolution and frame rate |
| 180° Model | 28 Mbps |
| 270° Model | 25 Mbps |
| 360° Model | 25 Mbps |

Note: Actual bit rates are typically lower depending on scene complexity.

RANGE GUIDANCE*

| | 180° | 270° / 360° |
|-----------------------|---------------|---------------|
| Detection | 88 m (290 ft) | 36 m (130 ft) |
| Classification | 48 m (160 ft) | 21 m (70 ft) |
| Recognition | 32 m (105 ft) | 13 m (45 ft) |
| Identification | 12 m (42 ft) | 5 m (19 ft) |

*Range performance varies based on camera setup, lighting conditions and display characteristics.

TECHNICAL SPECIFICATIONS

WEB CLIENT MINIMUM SYSTEM REQUIREMENTS

| | |
|-------------------|--|
| Processor | Intel® Core™ i3 processor, 2.4 GHz |
| Operating System | Microsoft Windows® 10, Windows® 7 (32- and 64-bit), or Windows Vista®; or Mac® OS X 10.9 (or later) |
| Memory | 4 GB RAM |
| Network Interface | 100 Mbps (or greater) |
| Monitor | Minimum of 1024 x 768 resolution, 16- or 32-bit pixel color resolution |
| Web Browser | Internet Explorer® 8.0 (or later) or Mozilla® Firefox® 35 (or later), Google® Chrome 40 (or later) WebGL 2.0 (or later) |

VMS MINIMUM SYSTEM REQUIREMENTS

| | |
|------------------|-------------------------------------|
| Operating System | Windows® 7 64-bit (or later) |
| Video Memory | 2 GB |
| System Memory | 8 GB |
| Processor | Intel® Core™ i7 2.0 GHz (or better) |

ANALYTICS

| | |
|----------|---|
| Open API | The Pelco API can transmit behavior alarm data to third-party applications. Go to pdn.pelco.com |
|----------|---|

INTEGRATION

| | |
|--------------------------|---|
| Pelco System Integration | Pelco VideoXpert, Digital Sentry |
| Open API | Pelco API, Panomersive SDK, ONVIF Profile S and G |

SOFTWARE FEATURES

- Multilingual user interface: English, French, Italian, German, Spanish, Portuguese, Russian, Chinese, Turkish
- 32 window blanks, configurable in size
- Password protection
- Snapshot with JPEG capture
- Text overlay metadata for camera name, time, date

CERTIFICATIONS/RATINGS

- CE, Class A
- FCC Part 15, Class A
- ICES-003, Class A
- UL/cUL Listed
- C-Tick
- KC
- CB Scheme ITE
- NEMA Type 4X, and IP66 rating (Environmental Vandal)
- RoHS, Lead Free, REACH

At the time of this publication, certifications are pending. Consult the factory, our Web site (www.pelco.com), or the most recent B.O.S.S.® update for the current status of certifications.

TECHNICAL SPECIFICATIONS

SYSTEM MODEL NUMBERS

| Type | Trim Color | Field of View (FoV) | Model | |
|----------------------------------|------------|---------------------|--------------|--------------|
| In-ceiling, indoor vandal | white | 180° | IMM12018-1I | |
| | black | | IMM12018-B1I | |
| In-ceiling, environmental vandal | gray | | IMM12018-1EI | |
| Surface, indoor vandal | white | | IMM12018-1S | |
| | black | | IMM12018-B1S | |
| Surface, environmental vandal | gray | | IMM12018-1ES | |
| Pendant, indoor vandal | white | | IMM12018-1P | |
| | black | | IMM12018-B1P | |
| Pendant, environmental vandal | gray | | IMM12018-1EP | |
| In-ceiling, indoor vandal | white | | 270° | IMM12027-1I |
| | black | | | IMM12027-B1I |
| In-ceiling, environmental vandal | gray | | | IMM12027-1EI |
| Surface, indoor vandal | white | IMM12027-1S | | |
| | black | IMM12027-B1S | | |
| Surface, environmental vandal | gray | IMM12027-1ES | | |
| Pendant, indoor vandal | white | IMM12027-1P | | |
| | black | IMM12027-B1P | | |
| Pendant, environmental vandal | gray | IMM12027-1EP | | |
| In-ceiling, indoor vandal | white | 360° | | IMM12036-1I |
| | black | | | IMM12036-B1I |
| In-ceiling, environmental vandal | gray | | | IMM12036-1EI |
| Surface, indoor vandal | white | | IMM12036-1S | |
| | black | | IMM12036-B1S | |
| Surface, environmental vandal | gray | | IMM12036-1ES | |
| Pendant, indoor vandal | white | | IMM12036-1P | |
| | black | | IMM12036-B1P | |
| Pendant, environmental vandal | gray | | IMM12036-1EP | |

COMPONENT MODEL NUMBERS

| Back Box | | Camera Base Module | | Lower Dome | |
|-----------|--|--------------------|----------------------------|------------|--|
| IMMBB0-S | Surface, indoor vandal, white | IMM12018-BASE | Indoor vandal, 180° | IMMLD0-1 | Indoor vandal, white trim, clear bubble |
| IMMBB0-BS | Surface, indoor vandal, black | IMM12018-E-BASE | Environmental vandal, 180° | IMMLD0-B1 | Indoor vandal, black trim, clear bubble |
| IMMBB0-ES | Surface, environmental vandal, gray | IMM12027-BASE | Indoor vandal, 270° | IMMLD0-1E | Environmental vandal, gray trim, clear bubble |
| IMMBB0-P | Pendant, indoor vandal, white | IMM12027-E-BASE | Environmental vandal, 270° | IMMLD0-0 | Indoor vandal, white trim, smoked bubble |
| IMMBB0-BP | Pendant, indoor vandal, black | IMM12036-BASE | Indoor vandal, 360° | IMMLD0-B0 | Indoor vandal, black trim, smoked bubble |
| IMMBB0-EP | Pendant, environmental vandal, gray | IMM12036-E-BASE | Environmental vandal, 360° | IMMLD0-0E | Environmental vandal, gray trim, smoked bubble |
| IMMBB0-I | In-ceiling, indoor vandal, white | | | | |
| IMMBB0-BI | In-ceiling, indoor vandal, black | | | | |
| IMMBB0-EI | In-ceiling, environmental vandal, gray | | | | |

RECOMMENDED MOUNTS

| | |
|------------|--|
| IMM-PNL | 2' x 2' drop ceiling panel; replaces 2' x 2' ceiling tile, white |
| IMM-CM | Corner mount (outer) |
| IMM-DF5 | DF5 kit for existing indoor DF5 enclosures |
| WMVE-SR | Environmental vandal, pendant wall mount, gray |
| WMVE-WT/BK | Indoor vandal, pendant wall mount, white/black |
| PA101 | Pole adapter for use with WMVE-SR wall mount |

OPTIONAL ACCESSORIES

| | |
|------------------------------------|---|
| POE1AT, POE4ATN, POE8ATN, POE16ATN | 1, 4, 8, and 16 Channel PoE midspan |
| EC-3000C/U Series | Ethernet over copper (EoC) extenders with true PoE+ to 30 W |
| EC-4BY1SWC/U Series | 4-port, self managed, POE+ switch with extended uplink |

Pelco by Schneider Electric

3500 Pelco Way, Clovis, California 93612-5699 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 www.pelco.com/community

Pelco, the Pelco logo, and other trademarks associated with Pelco products referred to in this publication are trademarks of Pelco, Inc. or its affiliates. ONVIF and the ONVIF logo are trademarks of ONVIF Inc. All other product names and services are the property of their respective companies.

Product specifications and availability are subject to change without notice.

©Copyright 2017, Pelco, Inc. All rights reserved.