# Spectra® Professional Series IP Dome System
## P1220 MODELS, HIGH DEFINITION PAN/TILT/ZOOM HIGH-SPEED DOME

### Product Features

- Up to 1920 x 1080 Resolution

- 16:9 Aspect Ratio; 1080p at 30 Images per Second (ips)

- 2.0 Megapixel (MPx), 20X Optical Zoom, 12X Digital Zoom IP Camera

- Ability to Control and Monitor Video Over IPv4 Network

- Built-in Analytics Including Motion Detection and Camera Sabotage

- 2 Video Streams: Dual H.264 or H.264 and Scalable MJPEG

- 360° Continuous Pan Rotation up to 430° per Second

- Supported Protocols: TCP/IP, UDP/IP (Unicast, Multicast IGMP), UPnP, DNS, DHCP, RTP, RTSP, NTP, and More

- PoE+ IEEE 802.3at Class 4 (For Non-Environmental Units)

- 16 Preset Tours, 128 Dome Presets, 8 Window Blanks

- Open IP Standards

- ONVIF Profile S and Profile G Conformant

### Value-based Network Dome System

Pelco breaks the performance versus affordability barrier with the very powerful, cost-effective Spectra® Professional Series of discreet, integrated camera dome positioning systems. The Spectra Professional Series delivers clear, live streaming, high-definition images over the Internet using a standard Web browser (Microsoft® Internet Explorer®, Chrome, or Mozilla® Firefox®). With six times the resolution of standard definition domes, Spectra Professional is an ideal solution to view details such as faces, license plates, tattoos, or other specific features when in a zoomed-in position.

Spectra Professional supports High-Profile H.264 compression, a vast improvement in quality over MPEG-4 and up to 20 times more efficient than MJPEG. The dome system features open architecture connectivity for third-party software recording solutions allowing integration into virtually any IP-based HD system. It is also compatible with Digital Sentry® video management systems. As with all Pelco IP camera solutions, Spectra Professional is Endura Enabled™ to record, manage, configure, and view multiple live streams. When connected to an Endura® HD network-based video security system, the dome system has access to EnduraStor™ and EnduraView™ for optimized image quality and bandwidth efficiency.

Spectra Professional Series features ease of installation and ease of maintenance that you have come to expect from Pelco. Each dome system consists of a back box, a dome drive, and a lower dome, all prepackaged as a system.

Spectra Professional Series includes a choice of four back box models: in-ceiling, environmental in-ceiling, pendant, and environmental pendant. All environmental models meet Type 4X, IP66 when properly installed.

### Built-In Analytics

Pelco video Analytics enhance the flexibility and performance of Spectra Professional. Two preloaded Pelco behaviors are included as standard features and can be configured and enabled using a standard Web browser. They are compatible with Endura or a third-party system that supports alarms using Pelco's API.

- **Motion Detection:** Built-in video motion detection (VMD) provides more efficient and reliable surveillance by triggering an alarm when motion occurs based on the user-defined area and sensitivity levels.

- **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.

### Web Interface

Spectra Professional uses a standard Web browser for powerful remote setup and administration.

### Window Blanking

Window blanking is used to conceal user-defined privacy areas that cannot be viewed by an operator. Spectra Professional Series supports up to eight blanked windows. A blanked area will appear on the screen as a solid gray window.

### Video Systemization

Spectra Professional Series easily connects to Pelco IP and hybrid systems.

Spectra Professional Series features open architecture connectivity to third-party software. Pelco offers an application programming interface (API) and software developer's kit (SDK) for interfacing with Pelco's IP cameras.
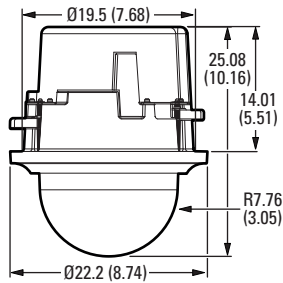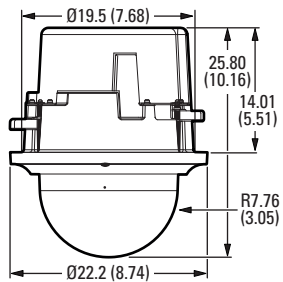
## BACK BOX FEATURES

NOTE: VALUES IN PARENTHESES ARE INCHES; ALL OTHERS ARE CENTIMETERS.

**Indoor In-Ceiling**

- Single Back Box for Suspended or Hard Ceiling Applications
- Requires 14.01 cm (5.51 in.) Space Above Ceiling
- Minimum Ceiling Thickness 1.27 cm (0.50 in.); Maximum 3.81 cm (1.5 in.)
- Aluminum, Stainless Steel, and PC-ABS Construction
- Suitable for Use in Environmental Air Handling (Plenum) Spaces
- White Finish, RAL 9003
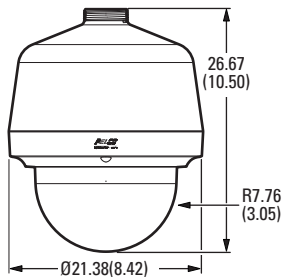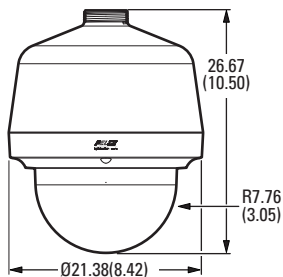- Available with Clear or Smoked Dome

**Environmental In-Ceiling**

- Single Back Box for Suspended or Hard Ceiling Applications
- Requires 14.01 cm (5.51 in.) Space Above Ceiling
- Minimum Ceiling Thickness 1.27 cm (0.50 in.); Maximum 3.81 cm (1.5 in.)
- Includes Heater and Fan
- Aluminum and Stainless Steel Construction
- Suitable for Use in Environmental Air Handling (Plenum) Spaces
- IK10 (20J) Impact Resistance
- Light Gray Finish, RAL 7047
- Available with Clear or Smoked Dome

**Indoor Pendant**

- Aluminum Construction
- 1.5-inch NPT (Male) Mounting Thread
- White Finish, RAL 9003
- Available with Clear or Smoked Dome

**Environmental Pendant**

- Aluminum Construction
- Includes Heater and Fan
- 1.5-inch NPT (Male) Mounting Thread
- IK10 (20J) Impact Resistance
- Light Gray Finish, RAL 7047
- Available with Clear or Smoked Dome

# TECHNICAL SPECIFICATIONS

## CAMERA/OPTICS

| | |
|---|---|
| Sensor Type | 1/3-inch CMOS Sensor |
| Optical Zoom | 20X |
| Digital Zoom | 12X |
| Maximum Resolution | 1920 x 1080 |
| Lens | f/1.6 ~ f/4.2 <br> focal length 4.3 mm (wide) ~ 86.0 mm (tele) |
| Horizontal Angle of View | 55.4° (wide) ~ 2.9° (tele) |
| Aspect Ratio | 16:9 |
| Shutter Range | 1 ~ 1/8,000 sec |
| Dynamic Range | 60 dB |
| White Balance Range | 2,500° to 8,000°K |
| 3D Noise Reduction | Yes (ON/OFF selectable) |
| Signal to Noise Ratio | 50 dB |
| Light Sensitivity | |
| Color (33 ms) | 0.3 lux |
| Color (200 ms) | 0.08 lux |
| Mono (33 ms) | 0.1 lux |
| Mono (200 ms) | 0.015 lux |

**Note:** Sensitivity in lux for 90% reflectance, f/1.6 (wide angle), 24 dB noise at 30 IRE (30% of signal level).

| | |
|---|---|
| Day/Night Capabilities | Yes |
| IR Cut Filter | Yes |
| Iris Control | Auto iris |
| Automatic Gain Control | Yes |
| Active Noise Filtering | Yes |

## SOFTWARE FEATURES

- 128 Presets
- 16 Tours
- Preset Accuracy: Pan ±0.1°; Tilt ±0.05°
- Multilingual Menus (English, Spanish, Portuguese, Italian, German, French, Russian, Turkish, Arabic, Simplified Chinese, and Korean)
- Password Protection
- 430°/sec Maximum Pan Preset Speed and 200°/sec Maximum Tilt Preset Speed
- 8 Window Blanks, Configurable in Size*
- "Auto Flip" Feature Rotates Dome 180° at Bottom of Tilt Travel
- Configurable Park with Actions
- Proportional Pan/Tilt Continually Decreases Pan/Tilt Speeds in Proportion to Depth of Zoom

*Using the maximum number of window blanks in a single view can affect camera performance and could interrupt certain camera functions.

## AUDIO

| | |
|---|---|
| Streaming | Embedded with stream 1 and stream 2 |
| Input | Line in/terminal block |
| Encoding | G.711 A-law/G.711 U-law |

# TECHNICAL SPECIFICATIONS

## VIDEO

| | |
|---|---|
| Video Encoding | H.264 High, Main, or Base profiles and MJPEG |
| Video Streams | Up to 2 simultaneous streams; the second stream is variable based on the setup of the primary stream |
| Frame Rate | Up to 30, 25, 20, 16.67, 15, 12.5, 10, 7.5, 5, 3, 2, 1 (depending on the combination of coding, resolution, and stream configuration) |

Available Resolutions

| Resolution | | | | H.264 High Profile (IP GOP structure) |
|---|---|---|---|---|
| MPx | Width | Height | Aspect Ratio | Maximum IPS |
| 2.07 | 1920 | 1080 | 16:9 | 30 |
| 0.92 | 1280 | 720 | 16:9 | 30 |
| 0.59 | 1024 | 576 | 16:9 | 30 |
| 0.52 | 960 | 540 | 16:9 | 25 |
| 0.23 | 640 | 352 | 16:9 | 30 |
| 0.06 | 320 | 180 | 16:9 | 30 |

## NETWORK

| | |
|---|---|
| Supported Protocols | TCP/IP, UDP/IP (Unicast, Multicast IGMP), UPnP, DNS, DHCP, RTP, RTSP, NTP, IPv4, SNMP v2c/v3, QoS, HTTP, HTTPS, LDAP (client), SSH, SSL, SMTP, FTP, and 802.1x (EAP) |
| Users | |
|     Unicast | 1 admin and up to 4 viewers simultaneously depending on resolution settings (2 guaranteed streams) |
|     Multicast | Unlimited users H.264 |
| Security Access | Password protected |
| Software Interface | Web browser view and setup |
| Pelco System Integration | Endura 2.0 (or later) Digital Sentry 7.3.208 (or later) |
| Open API | Pelco API, ONVIF Profile S and Profile G |
| Mobile Application | Integrated to Pelco Mobile App |
| Video Motion Detection | Simple motion detection and camera Sabotage |
| Local Storage | Up to 32GB onboard; Micro SD, SDHC Compatible (see manual for details) Capture 1–5–10 second video clips on camera sabotage, motion detection, or alarm input (accessible using FTP protocol); record video continuously using ONVIF Profile G. |
| Minimum System Requirements | |
|     Processor | Intel® Core™ i3 Processor, 2.4 GHz |
|     Operating System | Windows® 7 (32-bit and 64-bit), Windows 8 |
|     Memory | 4 GB RAM |
|     Network Interface Card | 100 megabits (or greater) |
|     Monitor | Minimum of 1024 x 768 resolution, 16- or 32-bit pixel color resolution |
|     Web Browser | Internet Explorer 9.0 (or later), Firefox 31 (or later), or Chrome 23 (or later) |
|     Media Player* | Pelco Media Player[†] or QuickTime® 7.6.5 for Windows; or QuickTime 7.6.4 for Mac OS X 10.4 (or later) |

*This product is not compatible with QuickTime version 7.6.4 for Windows. If you have this version installed on your PC, you will need to upgrade to QuickTime version 7.6.5.

[†] Pelco Media Player is recommended for control, smoothness, and reduced latency as compared to QuickTime.

# TECHNICAL SPECIFICATIONS

## GENERAL

Construction
  Back Box Assembly
    Indoor                Aluminum and stainless steel
    Environmental         Aluminum
  Dome Drive Assembly     PC-ABS and sheet metal
  Lower Dome Assembly
    Indoor                Polycarbonate and PC-ABS
    Environmental         Polycarbonate and aluminum
Light Attenuation
  Smoked                  50% light attenuation
  Clear                   f/0.0 light loss
Cable Entry (back box)
  In-Ceiling              0.75-inch conduit fitting
  Pendant                 1.5-inch NPT pendant mount

| Weight (approximate) | Unit | Shipping |
|---|---|---|
| Indoor In-Ceiling | 2.79 kg (6.17 lb) | 4.41 kg (9.73 lb) |
| Environmental In-Ceiling | 3.09 kg (6.83 lb) | 4.71 kg (10.39 lb) |
| Indoor Pendant | 3.10 kg (6.84 lb) | 4.67 kg (10.30 lb) |
| Environmental Pendant | 3.12 kg (6.89 lb) | 4.69 kg (10.35 lb) |

## ENVIRONMENTAL

Installation Environment
  In-Ceiling              Indoor/environmental
  Pendant                 Indoor/environmental
Operating Temperature
  Indoor                  −10° to 50°C (14° to 122°F)
  Environmental           −40° to 50°C (−40° to 122°F)
Operating Humidity        20% to 80% (noncondensing)
Storage                   All models
  Temperature             −40° to 60°C (−40° to 140°F)
  Humidity                20% to 80% (noncondensing)
Effective Projected Area (EPA)
  Without Mount           869 square centimeters (135 square inches)
  With IWM Series Mount   1,592 square centimeters (247 square inches)

## MECHANICAL

Pan Movement              360° continuous pan rotation
Tilt Movement             +1° to −90°
Preset Speed
  Pan                     430°/sec
  Tilt                    200°/sec
Preset Accuracy
  Pan                     ±0.1°
  Tilt                    ±0.05°
Variable Manual Speed
  Pan                     0.1°/sec to 100°/sec
  Tilt                    0.1°/sec to 50°/sec

## ELECTRICAL

Ports                     RJ-45 connector for 100Base-TX
                          Auto MDI/MDI-X;
                          Autonegotiate/manual setting
Cabling Type              Cat5 or better for 100Base-TX
Input Voltage             18 to 32 VAC; 24 VAC nominal
Input Power
  Indoor                  24 VAC; 26 VA;
                          PoE+ IEEE 802.3at Class 4, 48 V, 600 mA
  Environmental           24 VAC; 50 VA
Alarms
  Inputs                  4
  Output                  1; PhotoMOS™ relay (30 V, 1 A)
  Triggers                Unsupervised mode that detects switch
                          closures (N.O. and N.C.)

## CERTIFICATIONS/RATINGS

- CE, Class A
- FCC, Class A
- UL/cUL Listed
- C-Tick
- KCC*
- ONVIF Profile S and Profile G Conformant[†]
- Models were tested in accordance with:
  - IEC 60068-2-1 Low Temperature
  - IEC 60068-2-2 High Temperature
  - IEC 60068-2-3 High Temperature & Humidity
  - IEC 60068-2-6 Product Vibration
  - IEC 60068-2-14 Thermal Shock
  - IEC 60068-2-27 Product Shock
  - IEC 60068-2-52 Salt Fog
  - IEC 62262 Impact (IK10)
  - IEC 60529 Ingress for Water & Dust (IP66)
  - ISTA 2A Package Drop
- Meets Type 4X enclosure and IP66 standards when installed properly

*At the time of this printing, this certification is pending. Please consult the factory, our Web site *(www.pelco.com),* or the most recent B.O.S.S.® update for the current status of certifications.

[†] Refer to the Pelco Developer Network *(pdn.pelco.com)* for more information about ONVIF conformance.

# TECHNICAL SPECIFICATIONS

## SYSTEM MODEL NUMBERS

| Type | Back Box Color | Dome Assembly | Spectra Professional 2.0 MPx, 20X |
|---|---|---|---|
| In-ceiling, indoor | Black | Smoked with white trim ring | P1220-FWH0 |
| | | Clear with white trim ring | P1220-FWH1 |
| In-ceiling, environmental | Black | Smoked with light gray trim ring | P1220-YSR0 |
| | | Clear with light gray trim ring | P1220-YSR1 |
| Pendant, indoor | White | Smoked with white trim ring | P1220-PWH0 |
| | | Clear with white trim ring | P1220-PWH1 |
| Pendant, environmental | Light Gray | Smoked with light gray trim ring | P1220-ESR0 |
| | | Clear with light gray trim ring | P1220-ESR1 |

## COMPONENT MODEL NUMBERS

Dome Assemblies

| | |
|---|---|
| LDP-FWH-0 | In-ceiling, indoor, white trim ring, smoked dome |
| LDP-FWH-1 | In-ceiling, indoor, white trim ring, clear dome |
| LDP-YSR-0 | In-ceiling, environmental, light gray trim ring, smoked dome |
| LDP-YSR-1 | In-ceiling, environmental, light gray trim ring, clear dome |
| LDP-PWH-0 | Pendant, indoor, white trim ring, smoked dome |
| LDP-PWH-1 | Pendant, indoor, white trim ring, clear dome |
| LDP-ESR-0 | Pendant, environment, light gray trim ring, smoked dome |
| LDP-ESR-1 | Pendant, environment, light gray trim ring, clear dome |

## RECOMMENDED MOUNTS

| | |
|---|---|
| IWM-SR, IWM24-SR | Wall mount, with or without integral 24 VAC, 100 VA transformer; can be adapted for corner, parapet or pole application |
| WMVE-SW | Indoor wall mount; white finish; can be installed directly to a wall or any vertical surface; power and video wiring can be routed through the back of the mount or through the conduit access located on the bottom of the mount arm; can also be mounted to a pole using a PA101 pole mount adapter |
| WMVE-SR | Environmental wall mount; light gray finish; can be installed directly to a wall or any vertical surface; power and video wiring can be routed through the back of the mount or through the conduit access located on the bottom of the mount arm; can also be mounted to a pole using a PA101 pole mount adapter |
| MRCA | Ceiling mount, black |
| PP4348 | Parapet roof mount |
| PP350/PP351 | Parapet wall/roof mount |

## OPTIONAL ACCESSORIES

| | |
|---|---|
| MCS Series | Indoor, 24 VAC power supply |
| WCS Series | Outdoor, 24 VAC power supply |
| POE1AT-US | Single-port PoE+ midspan with US power cord |
| POE1AT-EU | Single-port PoE+ midspan with European power cord |
| POE8ATN-US | 8-port PoE+ Midspan with US power cord |
| POE8ATN-EU | 8-port PoE+ Midspan with EU power cord |
| POE16ATN-US | 16-port PoE+ Midspan with US power cord |
| POE16ATN-EU | 16-port PoE+ Midspan with EU power cord |

*Refer to individual power supply specifications for more information.*