

# 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.

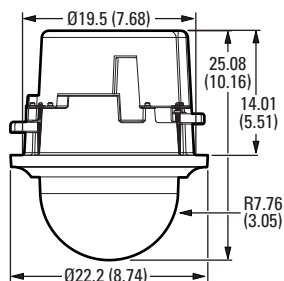
Spectra Professional Series features open architecture connectivity to third-party software. Pelco offers an application programming interface (API) and software developer's kit (SDK) for interfacing with Pelco's IP cameras.



# TECHNICAL SPECIFICATIONS

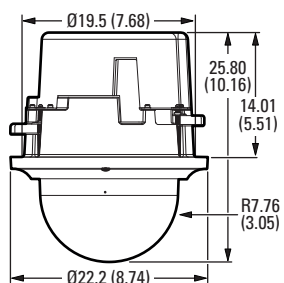
## BACK BOX FEATURES

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



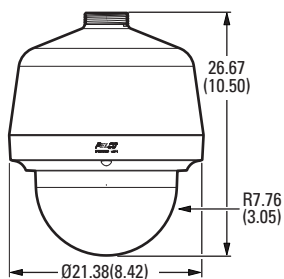
### Indoor In-Ceiling

- 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



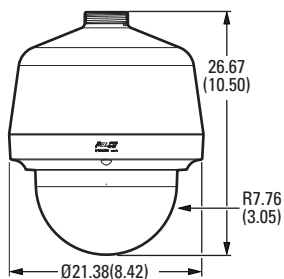
### Environmental In-Ceiling

- 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



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# 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 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  $\pm 0.1^\circ$ ; Tilt  $\pm 0.05^\circ$
- 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, IPv6, SNMP v2c/v3, QoS, HTTP, HTTPS, LDAP (client), SSH, SSL, SMTP, FTP, and 802.1x (EAP), GB28181
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)
<b>ENVIRONMENTAL</b>	
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)
Absolute Maximum Operating Temperature	
Indoor	50°C (122°F)
Environmental	74°C (165.2°F) ambient per NEMA TS-2 (para 2.2.7.3 - 2.2.7.7)
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
- NEMA TS-2 (Temp.) para 2.2.7.3 - 2.2.7.7
- KCC\*
- ONVIF Profile S and Profile G Conformant<sup>†</sup>
- 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](http://www.pelco.com)), or the most recent B.O.S.S.® update for the current status of certifications.

<sup>†</sup> Refer to the Pelco Developer Network ([pdn.pelco.com](http://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.*

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