ExSite® Enhanced Explosionproof Camera System
HIGH RELIABILITY, FULL HD PTZ IP SYSTEMS

Product Features

- Up to 1920 x 1080p Resolution Wide Dynamic Range (WDR), 30x zoom lens, and Superb Low light Performance

- Dual Stream H.264 IP Video with Smart Compression

- Rated to Operate from -60 to +60° C while in Compliance to T6 Surface Temperature (<85° C) Hazardous Location Regulations

- 316L Billet Stainless Steel Electro Polished Construction

- Extremely Reliable Pan/Tilt Direct Drive Motion Control System

- Upright or Inverted Installation with Automatic Orientation Detection

- Low Latency Electronics for Improved Pan/Tilt Driveability and Safety

- Standard IP Ethernet Connection and Integrated Transmission Options including Fiber, Ethernet over Coax, and UTP Extension

- Full Suite of Built-In Analytics including AutoTracker, Adaptive Motion Detection, Abandoned Object, and More

- Electronic Image Stabilization

- Onvif Profiles S, G, and Q Conformant

- Dual Cable Entry Ports to Separate Data and Power Cables

- Efficient Installation with a Safety Attach Point, and Simple Wire Termination Methods.

EXP1230-7M

EXP1230-7N WITH OPTIONAL PXM200 MOUNT

- Vari-zoom IR Illuminator Option with 200 Meter Range

- Certifications: FCC Part 15, CE, UL/cUL, ICES-003, RCM, S-Mark, KC

- Hazardous Location Certifications: IECEx, ATEX, INMETRO, EAC Ex, CCOE, UL/cUL

- Marine Certification: DNV

ExSite Enhanced Series camera systems are designed to meet demanding explosionproof requirements, providing high reliability, ease of installation, and best-in-class imaging and technology.

The ExSite Enhanced Series is designed for rugged environmental applications including oil and LNG facilities, refineries, on and offshore drilling rigs, and on-board marine applications. Featuring rugged 316L stainless steel construction that has been subjected to extensive vibration and environmental testing make it ideal for use in the most extreme conditions of temperature, moisture, ice, and dust. The system can operate from –60° to 60°C (–76° to 140°F) while maintaining compliance to the T6 (<85°C) surface temperature specifications.

PTZ models include a direct-drive, beltless motor, which is highly reliable and capable of moving the camera fluidly at up to 200° per second. This motor is steady and strong enough to continue operating in hurricane-force winds, and will not be damaged if the camera is jarred by a crane or other equipment, ensuring that ExSite Enhanced will continue functioning normally in harsh weather and challenging conditions, when you need it most.

ExSite Enhanced Series cameras are easy to install and adaptable to most operational needs. The camera has dual-entry ports, allowing for separate transmission and power cables, and it is adaptable to most transmission methods via SFP/FSFP modules. ExSite Enhanced cameras support a range of input power options with a new 48 VDC option that enables installation in DC-only facilities. ExSite Enhanced cameras also come standard with wipers and sun shrouds, capturing desired video regardless of the weather.

The ExSite Enhanced Series provides industry-leading image quality using a Full HD 1080p camera with 30x zoom producing up to 60 images per second. The ExSite Enhanced system has Surevision 3.0 technology, providing excellent picture quality in the challenging lighting conditions common to hazardous areas with 130db wide dynamic range (WDR), and low-light imaging performance down to .03 lux. The camera's image defog capability increases video quality in poor visibility conditions. And with anti-bloom, 3D noise filtering, and enhanced tone mapping, ExSite Enhanced with Surevision 3.0 technology offers the finest video quality in the explosionproof market.

A vari-power, vari-zoom infrared illuminator is available as an option for applications where low light performance is essential to operational safety and security.

Additional Features

- Integrated Wiper
- Sun Shroud, and Heater/Window Defroster
- Configurable On-Screen Displays
- 4 Alarm Inputs
- 2 Relay Outputs (1 is dedicated for the washer)
- Autofocus with Manual Override
- Auto Iris with Manual Override
- Dual cable entries for allowing for multiple data and power configurations
- Easily accessible internal microSD storage for local recording (ONVIF Profile G)
- 1000Base-T / 100Base-T ethernet and SFP/FSFP connection
- FSFP modules to support your connection type of choice (fiber, ethernet-over-coax (EoC), or UTP)
- Compatible with Third Party Explosionproof Wash Systems
- Direct Drive Motor Control Automatically Accommodates for High Vibration and Windy Environments to Ensure Continuous Precision Control. (Pelco Patent Pending)
- Reliable, Maintenance-Free Brushless DC Direct Drive Stepper Motors for Smooth and Accurate Positioning
- Variable Speed Pan and Tilt up to 200°/second
- 360° Continuous Pan Rotation
- Tilt Range of +90° to –90° from Horizontal
- 256 Presets with Custom Camera Settings and Labels
- User programmable pan and tilt limits, allowing you to prevent the camera from panning or tilting into nearby equipment
- Keeps position and executes PTZ commands even in high wind conditions such as hurricanes or tropical storms
- Action on Alarm: Alarms can be individually configured for 3 priority levels, to initiate a stored tour, or to go to an associated preset when received
- Proportional Pan/Tilt: Continually decreases pan and tilt speeds in proportion to depth of zoom
- "Auto Flip" feature supports operation when mounted in an inverted position
- Remote hard-reset capability allows for maintenance without physical access to the camera

PELCO ANALYTICS BEHAVIORS

ExSite Enhanced includes nine user-configurable behaviors, with up to three analytics behavior active at any one time.

- **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.
- **Adaptive Motion Detection:** Detects and tracks objects that enter a scene and then triggers an alarm when the objects enter a user-defined zone.
- **AutoTracker:** Detects and tracks movement in the field of view. When the AutoTracker behavior is configured, the system automatically pans and tilts to follow a moving object until the object stops or disappears from the monitored area. Exclusion zones can also be set to prevent the camera from tracking unwanted or unimportant targets.
- **Camera Sabotage:** Detects contrast changes in the field of view. This behavior triggers an alarm if the lens is obstructed by spray paint, a cloth, or lens cap or if there is any unauthorized repositioning of the camera.
- **Directional Motion:** Generates an alarm when a person or object moves in a specified direction over a user defined "trip wire" location. This behavior is often used where personnel or vehicles are supposed to enter or exit a scene going a specific direction; subjects coming from the disallowed direction will trigger the analytic alarm.
- **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 in sensitive areas.
- **Object Counting:** Counts the number of objects that enter or pass through a user defined zone.
- **Object Removal:** Triggers an alarm if an object is removed from a user-defined zone.
- **Stopped Vehicle:** Detects vehicles stopped near a sensitive area longer than the user-defined time allows.

SOFTWARE FEATURES

- 256 presets
- 16 tours
- Multilingual menus
- Password protection
- 32 window blanks, configurable in size
- Configurable park
- Proportional pan/tilt continually decreases pan/tilt speeds in proportion to depth of zoom
- Pelco analytics including nine user-configurable behaviors
- Smart Compression, reduces bandwidth consumption while still providing high quality imaging

CAMERA/OPTICS

Sensor Type	1/2.8-inch Type Exmor CMOS Sensor
Optical Zoom	30X
Digital Zoom	12X
Maximum Resolution	1920 x 1080
Aspect Ratio	16:9
Lens	f/1.6 ~ f/4.7, focal length 4.3 mm (wide) ~ 129.0 mm (tele)
Horizontal Angle of View	63.7° wide - 2.3° tele
Light Sensitivity*	
Color (33 ms)	0.03 lux
Color (250 ms)	0.008 lux
Mono (33 ms)	0.004 lux
Mono (250 ms)	0.001 lux
Day/Night Capabilities	Yes
Shutter Range	1/1 ~ 1/10,000 sec
Signal-to-Noise Ratio	>50dB
IR Cut Filter	Yes
Wide Dynamic Range	130 db
Iris Control	Auto iris with manual override
Backlight Compensation	Yes
Automatic Gain Control	Yes
Active Noise Filtering	Yes; 3D Noise Filtering
Electronic Image Stabilization (EIS)	Yes

*Sensitivity in lux for 90% reflectance, f/1.6 (wide angle), 50 dB gain at 30 IRE (30% of signal level) with Sensitivity Boost OFF; 4X improvement to sensitivity with Sensitivity Boost ON

TECHNICAL SPECIFICATIONS

NETWORK

Interface	Ethernet (1000Base-TX or100Base-TX) Auto MDI/MDI-X Auto-negotiate/manual setting
	FSFP Interface
Ethernet Cabling Type	Cat5e or better
SFP/FSFP Interface	Supports Pelco FSFP Series Transceivers and third-party MSA Compliant Transceivers
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, and 802.1x (EAP)
Users	
Unicast	Up to 20 simultaneous users 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, Digital Sentry 7.3 and Pelco VideoXpert 1.9 (or later)
Open API	Pelco API or ONVIF Profile S, G, and Q
Mobile Application	Integrated to Pelco Mobile App
Video Motion Detection	Simple motion detection and camera sabotage
Local Storage	SDXC, addressable to 2TB Capture 1–5–10 second video clips on camera sabotage, motion detection, or alarm input; record video continuously in the case of network outage with option to overwrite; access video through FTP protocol and ONVIF Profile G

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 configuration of the primary stream
Frame Rate	Up to 60, 30, 25, 15, 12.5, 10, 8.333, 7.5, 6, 5, 3, 2.5, 2, 1 (depending on the coding, resolution, and stream configuration)

Available Resolutions

Resolution				H.264 High Profile (IP GOP structure)	
MPx	Width	Height	Aspect Ratio	Maximum IPS	Recommended Bit Rate (Mbps)
2.07	1920	1080	16:9	60	8.00
2.07	1920	1080	16:9	30	6.05
0.92	1280	720	16:9	30	3.00
0.36	800	448	16:9	30	2.00
0.23	640	352	16:9	30	1.80
1.23	1280	960	4:3	30	3.80
0.49	800	608	4:3	30	2.00
0.31	640	480	4:3	30	1.45
0.08	320	240	4:3	30	0.50

TECHNICAL SPECIFICATIONS

GENERAL

Construction	316L billet electropolished stainless steel with robotic guided laser welding and 100% hydrostatic pressure testing
Window	High transmissivity glass
Sun Shroud	316L stainless steel with laser etched logo (electropolished and passivated for environmental protection)
Weight	EXP1230-4N: 71.7lb (30.3 kg)
	EXP1230-7N: 71.7lb (30.3 kg)
	EXP1230-7M: 89 lb (38.1 kg)
Effective Projected Area (EPA)	
With IR Illuminator	322 in^2
Without IR Illuminator	242 in^2
Reset Capabilities	Internal reset button for serviceability; remote hard-wire reset; remote software restart

MECHANICAL

Cable Entry	Dual 1.91 cm (0.75-inch NPT) threaded openings
Pan Movement	360 continuous pan rotation
Vertical Tilt	+90° to -90° from Horizontal (with automatic re-alignment when installed inverted)
Pan/Tilt Speed	0.05°/sec to 200°/sec with proportional motion
Preset Accuracy	±0.03°
Wind Speeds	
Full Motion Control	0-64 knots (74mph/119kmh)
Limited Speed Control	65-96 knots (110mph/177kmh)
Hold Position	97-112 knots (129mph/208kmh)
Survives	113-130 knots (150mph/241kmh)

OPERATING TEMPERATURE

Operating Humidity	10% to 100% RH (condensing)
Storage Humidity	10% to 100% RH (non-condensing)

Temperature		Power	
		48 VDC	100-240 V
Sustaining	Maximum	60°C (140°F)	60°C (140°F)
	Minimum	−60°C (-76°F)	−60°C (-76°F)
Ice Free Windows		−40°C (-40°F)	−40°C (-40°F)
Cold Start†		−40°C (-40°F)	−40°C (-40°F)
Storage		−60°C to 60°C (−76°F to 140°F)	−60°C to 60°C (−76°F to 140°F)

† Cold starts within 240 minutes at specified temperature

ELECTRICAL

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	30 VDC, 500 mA maximum
Input Power Options	48 VDC, 2A and 100-240 VAC, 2A @ 50/60 Hz
Input Voltage Range	±10%

Power Consumption (VA / W)*

Model	Description	Min (VA / W)	With Heating (VA / W)		With Wind (VA / W)		Typical (VA / W)		Max (VA / W)
			@5° C	@-55° C	@ < 20 MPH	@ > 70 MPH	Without Iluminator	Illuminator	
EXP1230-4N	PTZ–48 VDC	20 / 20	43 / 43	76 / 76	44 / 44	108 / 108	24 / 24	-	166 / 166
EXP1230-7N	PTZ–100-240 V	30 / 20	52 / 45	88 / 80	54 / 46	121 / 113	32 / 25	-	183 / 174
EXP1230-7M	PTZ with IR–100-240 V	30 / 23	55 / 47	158 / 148	61 / 53	88 / 80	32 / 28	59 / 51	220 / 211

RECOMMENDED MOUNTS

WXM200	Wall mount designed to mount the ExSite Series system directly to a load-bearing vertical surface
PXM200	Pedestal mount designed to mount an ExSite Enhanced Series system directly to a horizontal surface in either an upright or inverted position
CMXM200	Corner adapter for use with the WXM200 to mount an ExSite Series system to the corner of a structure
PAXM200	Pole adapter for use with the WXM200 to mount a system to a vertical pole or with a PXM200 to mount a system to a horizontal pole; recommended pole diameter is 10.16 to 22.86 cm (4 to 9 inches)

GENERAL

Construction
Mounts	Electropolished 316L stainless steel
PAXM200 Mounting Straps	316L stainless steel

Maximum Load
WXM200	40.8 kg (90 lb)
CMXM200	40.8 kg (90 lb)
PAXM200	40.8 kg (90 lb)
PXM200	40.8 kg (90 lb)

Unit Weight
WXM200	5.7 kg (12.6 lb)
CMXM200	3.71 kg (8.2 lb)
PAXM200	4.17 kg (9.2 lb)
PXM200	0.86 kg (1.9 lb)

Shipping Weight (approximate)
WXM200	7.71 kg (17.0 lb)
CMXM200	5.89 kg (13.0 lb)
PAXM200	6.35 kg (14.0 lb)
PXM200	1.81 kg (4.0 lb)

| Mounting Method	Recommended Mounting Surface	Recommended Hardware
WXM200, CMXM200, and PXM200	Solid concrete with recommended strength of 3,600 psi or 25 Mpa	Five 3/8-16 x 1-9/16-inch long stainless steel drop-in anchors and five 3/8-16 x 1.0-inch thread length, stainless steel hex head bolts with stainless steel lock washers (not supplied) Five M10x1.5x20mm, stainless steel socket head bolts with lock washers are supplied with the CMXM200 and PAXM200 for use with the WXM200 wall mount or PXM200 pedestal mount.
	Steel I beam with a minimum of 1/8-inch wall	Five 3/8-16 x 1.0-inch thread length, stainless steel hex head bolts with stainless steel lock washers and 3/8-16 stainless steel nuts (not supplied).
PAXM200	Steel pole with a diameter of 4 to 9 inches (10.16 to 22.86 cm)	Four 5/8-inch wide x 40-inch (101.6 cm) long stainless steel straps to attach the adapter to a pole (supplied).

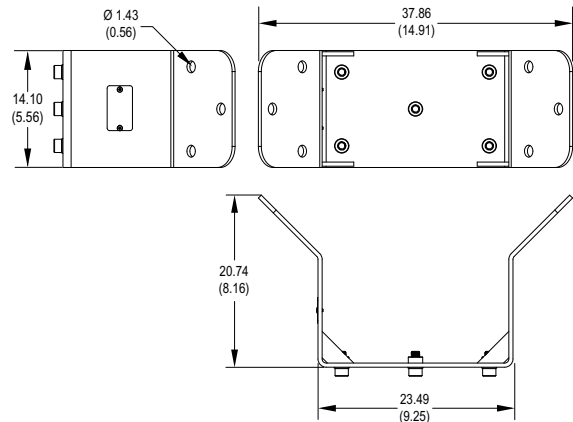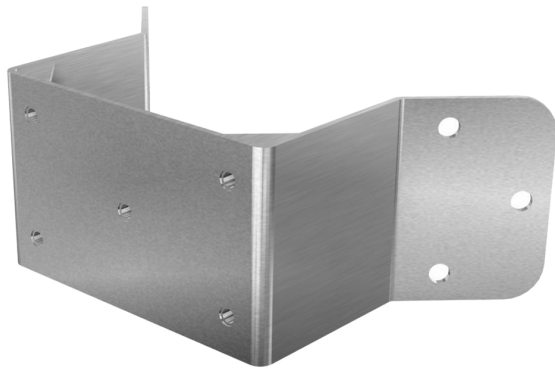✋ *VALUES IN PARENTHESES ARE INCHES; ALL OTHERS ARE CENTIMETERS.*

WXM200 WALL MOUNT

PXM200 PEDESTAL MOUNT

1.65
(0.65)

22.86
(9.00)

Ø 1.10
(0.43)
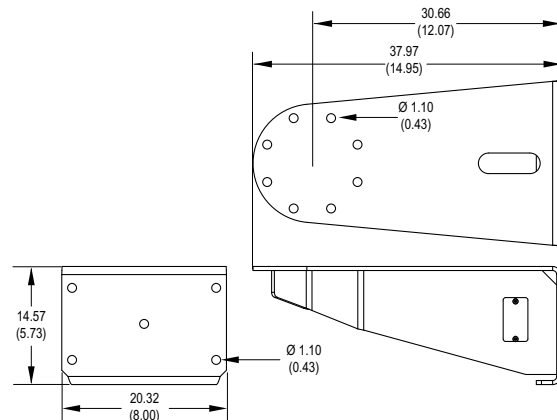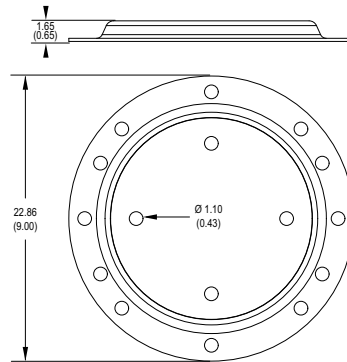
CMXM200 CORNER ADAPTER

Note: Designed for use with a WXM200 wall mount.

Ø 1.43
(0.56)

14.10
(5.56)

37.86
(14.91)

20.74
(8.16)

23.49
(9.25)

PAXM200 POLE ADAPTER
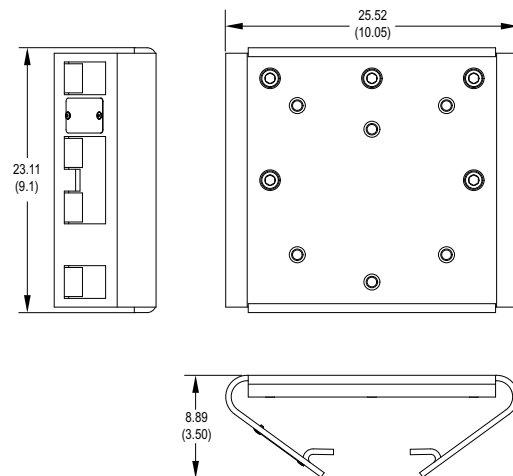
Note: Designed for use with a WXM200 to mount a system to a vertical pole or a PXM200 to mount the system to a horizontal pole. Recommended pole diameter is 10.16 to 22.86 cm (4 to 9 inches).

25.52
(10.05)

23.11
(9.1)

8.89
(3.50)

MODELS

Model Number	PTZ/ Fixed	Camera/ Lens	Power	Illuminator
EXP1230-4N			48 VDC, 2A	N/A
EXP1230-7N	PTZ	1080p 30x	100-240 VAC, 2A, 50/60 Hz	N/A
EXP1230-7M			100-240 VAC, 2A, 50/60 Hz	850 nm near-IR

CERTIFICATIONS/RATINGS*

- FCC Part 15
- CE
- UL/cUL Listed
- ICES-003
- RCM
- KC
- IP66, IP67, and IP68, and Type 4X and Type 6
- S Mark for Argentina*
- Vibration: IEC 60068-2-6, Test Fc

HAZARDOUS CERTIFICATIONS

- Tamb -60° C to +60° C
- UL/cUL Hazardous Locations Listed per NEC Zone requirement
  - CLASS I, DIVISION 2, GROUPS A, B, C, D, T6
  - CLASS I, ZONE 1, AEx db op pr IIC T6
  - AEx tb op pr IIIC T85°C
  - CLASS I, ZONE 1, AEx db op is op pr IIC T6
  - AEx tb op is op pr IIIC T85°C
- IECEx UL 17.0011X
  - Ex db op pr IIC T6 Gb X
  - Ex tb op pr IIIC T85°C Db X
  - Ex db op is op pr IIC T6 Gb X
  - Ex tb op is op pr IIIC T85°C Db X
- DEMKO 17 ATEX 1834X
  - CE 0539 ⬡ II 2 G Ex db op pr IIC T6 Gb
  - ⬡ II 2 D Ex tb op pr IIIC T85°C Db
  - CE 0539 ⬡ II 2 G Ex db op is op pr IIC T6 Gb
  - ⬡ II 2 D Ex tb op is op pr IIIC T85°C Db
- INMETRO* BR-Ex d IIC T6
- EAC Ex*
- CCOE

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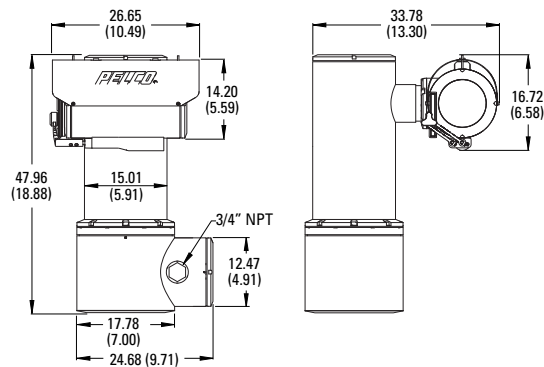
MARINE CERTIFICATION

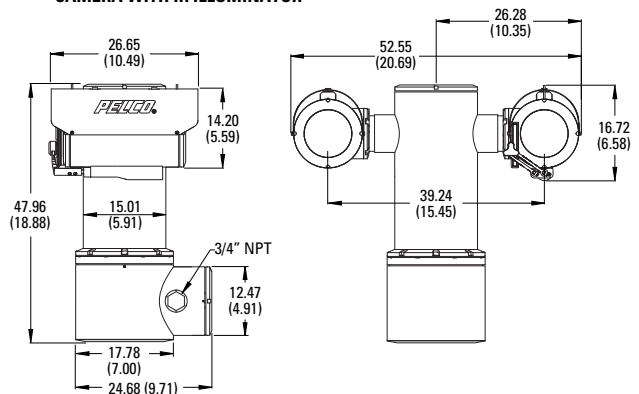- DNV

OPTIONAL ACCESSORIES

ECPS-48VDC-5A   Power supply for use with EXP1230-4N

Note: *Please contact Pelco for information on the dimensions of the flameproof joints.*

CAMERA ONLY

CAMERA WITH IR ILLUMINATOR

✋ *VALUES IN PARENTHESES ARE INCHES; ALL OTHERS ARE CENTIMETERS.*