

ES30PC/ES31PC Series Positioning System

ESPRIT® WITH PRESSURIZED IOC AND OPTIONAL WIPER

Product Features

- Receiver, Pan/Tilt, and Enclosure with Pressurized Integrated Optics Cartridge (IOC), NTSC/PAL
- All Components Factory Assembled and System Tested
- Pressurized Integrated Optics Cartridge Factory Charged to 10 psig
- Solid-State Sensors For Temperature, Pressure, and Dew Point
- On-Demand Environmental Status Display For Temperature, Pressure, and Dew Point
- On-Screen Multiple Fault Alert Modes
- On-Screen Compass, Tilt, and Zoom Display
- On-Screen Configurable Zone Blanking
- On-Screen Configurable Menus For Pan/Tilt, Camera, and Sensor Alert Settings
- All Standard Features of the Esprit® Positioning System
- Wide Dynamic Range (35X only)

Pelco's **ES30PC/ES31PC** Esprit® Positioning System is optimally designed to protect camera optics and electronics from moisture and airborne contaminants. The system features a receiver, pan/tilt, enclosure, and a pressurized Integrated Optics Cartridge (IOC).

The **ES30PC/ES31PC** system's IOC packages an auto focus camera, lens, heater, and sensors in a small, self-contained, sealed unit. Dry nitrogen pressurized to 10 psig protects the environment inside the cartridge eliminating internal condensation and corrosion. Sensors strategically placed in the cartridge send an "Alert" message if changes in pressure, temperature, and humidity are beyond factory set acceptable limits. The sensors also allow for instant on-screen display of temperature, pressure, and dew point.

The IOC is factory assembled and installed in the **ES30PC/ES31PC** systems. All labor intensive procedures of setting up the camera, lens and charging the unit with dry nitrogen are eliminated. The miniature size of the cartridge decreases the future need for maintenance and increases the overall reliability of the pressurized unit.

The **ES30PC** and **ES31PC Series** feature three models of pressurized IOCs:

- Day/night camera (540 TVL) with an infrared cut filter, 35X zoom lens (35X optical, 12X digital), electronic image stabilization, and wide dynamic range
- Day/night camera (520 TVL) with an infrared cut filter and 24X zoom lens (24X optical, 10X digital)
- High resolution color camera (470 TVL) with LowLight™ color technology and 22X zoom lens (22X optical, 10X digital)



A powder-coated, aluminum construction makes the **ES30PC** and **ES31PC** ideal for either indoor or outdoor applications. The system has an absolute operating temperature range of -50° to 140° F (-45° to 50° C). Within two hours after power-up, the entire unit can de-ice and be operational from a temperature of -13° F (-25° C).

The **ES31PC Series** has a window wiper completely integrated into the enclosure and designed not to interfere with the viewing range of the system. The wiper can be configured to delay between wipes and to shut off automatically after a specified period. The wiper design also allows for easy replacement of the wiper blade.

The **ES30PC** and **ES31PC Series** variable pan and tilt speeds range from 0.1 to 40 degrees per second in manual pan mode and 0.1 to 20 degrees per second in manual tilt. Pan preset and turbo speeds are 100 degrees per second in wind speeds up to 50 mph and 50 degrees per second in the 90 mph wind-speed profile. Tilt preset speed is 30 degrees per second. The **ES30PC** and **ES31PC** are capable of 360 degrees of continuous pan rotation. The tilt range allows for horizontal viewing of $+33$ to -83 degrees. There are 64 configurable preset positions with a preset accuracy of one-quarter degree.

The systems are available with an input voltage of 24 VAC or with a selectable power source of 120/230 VAC. The **ES30PC** and **ES31PC** also have a power-up recovery mode that allows the user to specify what operation the system will resume whenever the power is cycled.



TECHNICAL SPECIFICATIONS

ADDITIONAL PRODUCT FEATURES

- Deterrent Surveillance
- Integral Multiprotocol (Coaxitron®, RS-422 Pelco D and Pelco P Protocols) Receiver/Driver
- Digital Position and Zoom Control and Feedback Using Pelco D Protocol
- Integral Camera Enclosure
- Variable Speed 0.1 to 100°/Sec
- 360° Continuous Pan Rotation
- +33° to -83° Tilt Range
- Operational in 90 mph Winds, Can Withstand Wind Velocity up to 130 mph
- Pan Preset Speed of 100°/Sec in 50 mph Winds and 50°/Sec in 90 mph Winds
- Variable Scan Speeds (1 to 40°/Sec)
- Translator Boards for Selected Competitive Protocols
- Easy to Install; Quick and Simple Electrical Connections
- 24 VAC or 120/230 VAC Selectable
- Designed for Minimal Maintenance, No Gears to Adjust
- Full Continuous-Duty Warranty
- 850 nm and 950 nm Active IR Illumination Focus Algorithms (24X and 35X models only)

SOFTWARE/HARDWARE

- 64 Configurable Presets with Labels
- Auto, Frame, and Random Scan
- Configurable Power-up Mode
- Configurable Park
- Configurable Manual Limit Stops (Pan)
- Configurable Scan Limit Stops (Pan)
- Patterns
- Proportional Pan/Tilt
- 8 Zones (configurable in size) Can Be Labeled with up to 20 Characters Each and Set to Output Blank Video
- 10-Inch Integrated Enclosure with Pre-Assembled, Pressurized IOC
- Sun Shroud, Heater/Window Defroster, and Insulation All Standard
- 1 Auxiliary Output
- Integrated Window Wiper with Configurable Delay and Shut-Off (ES31PC Models)

PRESSURIZED INTEGRATED OPTICS CARTRIDGE (IOC)

- Pressurized to 10 psig, Nominal (Sea Level, 70°F)
- Internal Sensors for Temperature, Dew Point and Pressure
- On-Screen Alert for High and Low Temperature, High and Low Pressure, and High Humidity
- 4 Alert On-Screen Display Modes
- 4 Acknowledge Modes
- Pressurized Relief Valve
- Meets IP67 Standards

ELECTRICAL

| | |
|------------------------|--|
| Input Voltage | 24, 120, or 230 VAC, 50/60 Hz; switch selectable for 120/230 VAC inputs |
| Input Voltage Range | ±10% |
| Power Consumption | Maximum 70 VA per system |
| Heater/Defroster | Digital temperature control |
| Electrical Connections | 2 power source connections made at mount location with wire splices and 1 ground wire splice; 1 BNC receptacle and 4 wire splices at mount location for RS-422 Pelco D and Pelco P protocols; 2 wire splices for open collector auxiliary output |
| Aux 2 | Open collector output with 2-second activation; connected relay must require no more than 32 VDC and 40 mA to energize relay coil; wire length between Esprit and relay must be less than 100 ft (30 m) |

| | | |
|-----------------------|-------------|------------------|
| Video Coaxial Cable | Cable Type* | Maximum Distance |
| Max. Wiring Distances | RG59/U | 750 ft (229 m) |
| | RG6/U | 1,000 ft (305 m) |
| | RG11/U | 1,500 ft (457 m) |

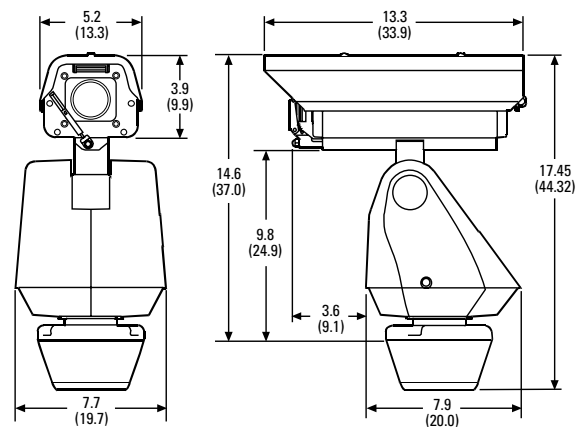
*Minimum cable requirements:
75-ohms impedance; all-copper center conductor; all copper braided shield with 95% braid coverage

MECHANICAL

| | |
|-------------------------|--|
| Pan Movement | 360° Continuous pan rotation |
| Vertical Tilt | Unobstructed +33° to -83° |
| Variable Pan/Tilt Speed | |
| Pan | 0.1° to 40°/sec variable-speed operation, 100°/sec Turbo |
| Tilt | 0.1° to 20°/sec variable-speed operation |
| Preset Speeds | |
| Pan | 100°/sec |
| Tilt | 30°/sec |
| Camera Mounting | Replaceable pressurized cartridge |
| Latches | 1 link-lock, No. 3 stainless-steel latch; can be secured with padlock (not supplied) |

GENERAL

| | | |
|-----------------------|---|-----------------|
| Construction | Die-cast, extruded and sheet aluminum; stainless steel hardware | |
| Finish | Gray polyester powder coat | |
| Viewing Window | 0.23" (5.84 mm) thick, optically clear tempered glass | |
| Operating Temperature | -50° to 122°F (-45° to 50°C) for sustained system operation or 140°F (60°C) absolute maximum. Within two hours after power-up, the entire unit can de-ice and be operational from a temperature of -13°F (-25°C). | |
| Operating Environment | Will remain operational in 90 mph wind conditions; withstands 130 mph | |
| Weight | With Pedestal Adapter | With Wall Mount |
| Unit | | |
| Standard with IOC | 21 lb (9.5 kg) | 23 lb (10.4 kg) |
| With Wiper and IOC | 22 lb (10 kg) | 24 lb (11 kg) |
| Shipping | | |
| Standard with IOC | 26 lb (11.7 kg) | 29 lb (13.1 kg) |
| With Wiper and IOC | 27 lb (12.3 kg) | 30 lb (13.6 kg) |



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

TECHNICAL SPECIFICATIONS

CERTIFICATIONS/RATINGS/PATENTS

- CE, Class B
- FCC, Class B
- UL/cUL Listed
- C-Tick
- U.S. Patent D472,260

Meets the following standards:

- NEMA Type 4X (Pan/Tilt and Enclosure)
- IP66 (Pan/Tilt and Enclosure)
- IP67 (Pressurized Integrated Optics Cartridge [IOC])

CAMERA/OPTICS

| | Day/Night (35X) | Day/Night (24X) | Color, LowLight (22X) |
|------------------------------------|---|---|---|
| Signal Format | NTSC, PAL | NTSC, PAL | NTSC, PA |
| Scanning System | Progressive or 2:1 Interlace | 2:1 Interlace | 2:1 Interlace |
| Image Sensor | 1/4-inch EXview HAD™ CCD | 1/4-inch CCD | 1/4-inch EXview HAD CCD |
| Effective pixels | | | |
| NTSC | 768 (H) x 494 (V) | 768 (H) x 494 (V) | 768 (H) x 494 (V) |
| PAL | 752 (H) x 582 (V) | 752 (H) x 582 (V) | 752 (H) x 582 (V) |
| Horizontal Resolution | | | |
| NTSC | >540 TV lines | >520 TV lines | >470 TV lines |
| PAL | >540 TV lines | >520 TV lines | >460 TV lines |
| Lens | f/1.4 (focal length, 3.4 ~ 119 mm optical) | f/1.2 (focal length, 3.8 ~ 91.2 mm optical) | f/1.6 (focal length, 4 ~ 88 mm optical) |
| Zoom | 35X optical, 12X digital | 24X optical, 10X digital | 22X optical, 10X digital |
| Zoom Speed (optical range) | 3.2 /4.6/6.6 seconds | 3.9 seconds | 3.9 seconds |
| Horizontal Angle of View | 55.8° at 3.4 mm wide zoom; 1.7° at 119 mm telephoto zoom | 50.7° at 3.8 mm wide zoom; 2.3° at 91.2 mm telephoto zoom | 47.3° at 4.0 mm wide zoom; 2.2° at 88 mm telephoto zoom |
| Focus | Automatic with manual override | Automatic with manual override | Automatic with manual override |
| Maximum Sensitivity at 35 IRE NTSC | 0.55 lux at 1/60 sec shutter (color) 0.063 lux at 1/4 sec shutter (color) 0.00018 lux at 1/2 sec shutter (B-W) | 0.005 lux at 1/2 sec shutter (color) 0.015 lux at 1/60 sec shutter (B-W) 0.0005 lux at 1/2 sec shutter (B-W) | 0.02 lux at 1/2 sec shutter |
| PAL | 0.50 lux at 1/50 sec shutter (color) 0.062 lux at 1/3 sec shutter (color) 0.00014 lux at 1/1.5 sec shutter (B-W) | 0.005 lux at 1/1.5 sec shutter (color) 0.015 lux at 1/50 sec shutter (B-W) 0.0005 lux at 1/1.5 sec shutter (B-W) | 0.02 lux at 1/1.5 sec shutter |
| Sync System | Internal/AC line lock, phase adjustable using remote control, V-Sync | Internal/AC line lock, phase adjustable using remote control, V-Sync* | Internal/AC line lock, phase adjustable using remote control, V-Sync* |
| White Balance | Automatic with manual override | Automatic with manual override* | Automatic with manual override* |
| Shutter Speed | Automatic (electronic iris)/Manual | Automatic (electronic iris)/Manual | Automatic (electronic iris)/Manual |
| NTSC | 1/2 ~ 1/30,000 | 1/2 ~ 1/30,000* | 1/2 ~ 1/30,000* |
| PAL | 1/1.5 ~ 1/30,000 | 1/1.5 ~ 1/30,000* | 1/1.5 ~ 1/30,000* |
| Iris Control | Automatic with manual override | Automatic iris control with manual override* | Automatic iris control with manual override* |
| Gain Control | Automatic/OFF* | Automatic/OFF* | Automatic/OFF* |
| Video Output | 1 Vp-p, 75 ohms | 1 Vp-p, 75 ohms | 1 Vp-p, 75 ohms |
| Video Signal-to-Noise Ratio | >50 dB | >50 dB | >50 dB |
| Electronic Image Stabilization | Integrated | — | — |
| Wide Dynamic Range | 128X | — | — |

*Manual control of camera setup functions can be done with CM6700, CM6800, CM9700 Series, KBD200A, and KBD300A controllers, but not with CM7500, MPT9000 or KBD9000 controllers.

MODEL NUMBERS

MODELS

| Enclosure Type | Camera Type | Signal Format | Pedestal Mount* | | Wall Mount† | |
|----------------|----------------------|---------------|-----------------|-----------------|-----------------|-----------------|
| | | | 24 VAC | 120/230 VAC | 24 VAC | 120/230 VAC |
| Standard | 22X Color | NTSC | ES30PC22-2N | ES30PC22-5N | ES30PC22-2W | ES30PC22-5W |
| With Wiper | | PAL | ES30PC22-2N-X | ES30PC22-5N-X | ES30PC22-2W-X | ES30PC22-5W-X |
| Standard | 24X Day/Night | NTSC | ES31PC22-2N | ES31PC22-5N | ES31PC22-2W | ES31PC22-5W |
| With Wiper | | PAL | ES31PC22-2N-X | ES31PC22-5N-X | ES31PC22-2W-X | ES31PC22-5W-X |
| Standard | 24X Day/Night | NTSC | ES30PCBW24-2N | ES30PCBW24-5N | ES30PCBW24-2W | ES30PCBW24-5W |
| With Wiper | | PAL | ES30PCBW24-2N-X | ES30PCBW24-5N-X | ES30PCBW24-2W-X | ES30PCBW24-5W-X |
| Standard | 35X Day/Night | NTSC | ES31PCBW24-2N | ES31PCBW24-5N | ES31PCBW24-2W | ES31PCBW24-5W |
| With Wiper | | PAL | ES31PCBW24-2N-X | ES31PCBW24-5N-X | ES31PCBW24-2W-X | ES31PCBW24-5W-X |
| Standard | 35X Day/Night | NTSC | ES30PCBW35-2N | ES30PCBW35-5N | ES30PCBW35-2W | ES30PCBW35-5W |
| With Wiper | | PAL | ES30PCBW35-2N-X | ES30PCBW35-5N-X | ES30PCBW35-2W-X | ES30PCBW35-5W-X |
| Standard | 35X Day/Night | NTSC | ES31PCBW35-2N | ES31PCBW35-5N | ES31PCBW35-2W | ES31PCBW35-5W |
| With Wiper | | PAL | ES31PCBW35-2N-X | ES31PCBW35-5N-X | ES31PCBW35-2W-X | ES31PCBW35-5W-X |

*Pedestal mount models include Esprit EPP pedestal adapter plate. Use with PM2000/PM2010 mount (not supplied) for pedestal application.

†Wall mount models include Esprit EWM wall mount. Optional mounting adapters for corner, pole, and parapet applications are available.

REPLACEMENT PRESSURIZED INTEGRATED OPTICS CARTRIDGE (IOC)

The following IOC models are replacement components only; they are not interchangeable.

| | |
|-------------|---|
| IOC-C22-X | Same as IOC-C22 except PAL format |
| IOC-CBW24 | Esprit high resolution day/night camera and lens module, 24X, NTSC format |
| IOC-CBW24-X | Same as IOC-CBW24 except PAL format |
| IOC-CBW35 | Esprit high resolution day/night camera and lens module, 35X, NTSC format |
| IOC-CBW35-X | Same as IOC-CBW35 except PAL format |

OPTIONAL ACCESSORIES

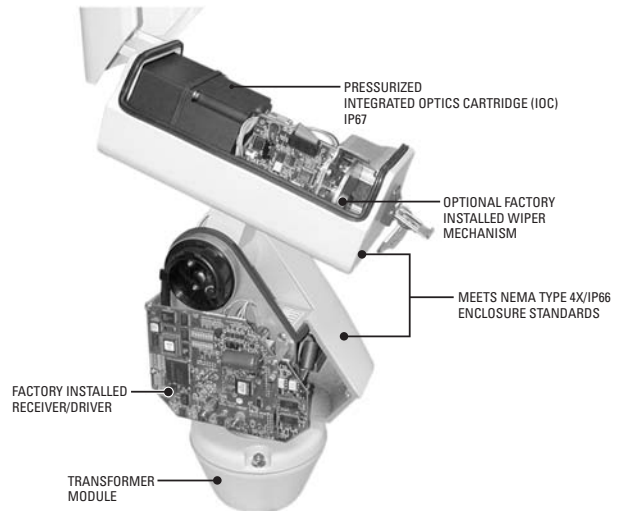
| | |
|-----------------|--|
| ES-REPLBLADE-2 | Package of 2 window wiper replacement blades |
| ES-REPLBLADE-10 | Package of 10 window wiper replacement blades |
| IPS-RDPE-2 | Remote data port. 24 VAC, wall/pole mount video/data breakout box. Allows ground-level control/configuration when used with the IPS-CABLE. (No code upload.) |
| IPS-CABLE | Kit consisting of the remote monitor interface cable and necessary software for use with a PC. |
| TXB Series | Translator boards for AD™ Manchester, Hervis, Bosch® (Philips, Burle), Sensormatic®, TASS, Vicon™, and NTCIP protocols. |

OPTIONAL MOUNTS/ADAPTERS

| | |
|---------------|---|
| ECM100 | Corner mount adapter for use with EWM wall mount |
| EPM | Pole mount adapter for use with EWM wall mount |
| EA4348 | EWM-to-Legacy adapter; use with PP4348 parapet mount |
| PM2000/PM2010 | Pedestal mount with cable feedthrough. For use with Esprit systems with EPP pedestal adapter plate. |

RECOMMENDED POWER SUPPLIES

| | |
|------------|---|
| MCS Series | Multiple 24 VAC camera power supply, indoor |
| WCS Series | Single/multiple 24 VAC camera power supply, outdoor |



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