ES30C/ES31C Series Positioning System
ESPRIT® SYSTEM WITH IOP CAMERA AND OPTIONAL WIPER

Product Features

- Receiver, Pan/Tilt, and Enclosure with an Integrated Optics Package (IOP)
- Programmable Camera Settings
- Programmable Camera Title
- On-Screen Compass, Tilt, and Zoom Display
- Auto Iris with Manual Override
- Auto Focus with Manual Override
- AC Line Lock
- Variable Speed Pan: 0.1° to 100°/Sec with Proportional Pan
- 360° Continuous Pan Rotation
- Zone Blanking Allows up to 8 Zones (Programmable in Size) to be Set to Output Blank Video
- Tilt Range of +33° to –83° from Horizontal
- Preset Positioning, Patterns, Multiple Scan Modes
- Designed for Minimal Maintenance, No Gears to Adjust

ESPRIT IOP SYSTEM WITH WIPER
(SHOWN WITH WALL MOUNT AND POLE ADAPTER)

Pelco's **ES30C/ES31C** Esprit® Positioning System features a receiver, pan/tilt, enclosure, and Integrated Optics Package (IOP) in a single, easy-to-install system. The IOP contains an autofocus camera and lens module with programmable features.

For a wide range of applications, the **ES30C** and **ES31C Series** features a choice of three different IOP cameras:

- Day/night camera (540 TVL) with an infrared cut filter, 35X zoom lens (35X optical, 12X digital), and electronic image stabilization
- 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 **ES30C** and **ES31C** ideal for either indoor or outdoor applications. The system has an absolute operating temperature range of –50° to 140°F (–45° to 60°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 **ES31C Series** includes a window wiper. The wiper is completely integrated into the enclosure and does not interfere with the viewing range of the system. The wiper can be programmed to delay between wipes and to automatically shut off after a specified period. The wiper design also allows for easy replacement of the wiper blade. A built-in heater, window defroster/defogger, sun shroud, and insulation blanket are standard features on the **ES30C** and **ES31C** units. All units also include an open collector auxiliary output that functions for two seconds before deactivating.

The **ES30C** and **ES31C 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 of 50 mph and 50 degrees per second in the 90 mph wind-speed profile. Tilt preset speed is 30 degrees per second. The **ES30C** and **ES31C** are capable of 360 degrees of continuous pan rotation. The tilt range allows for horizontal viewing of +33 to –83 degrees. There are 64 programmable 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 **ES30C** and **ES31C** also have a power-up recovery mode that allows the user to specify what operation the system will resume whenever the power is cycled.

by Schneider Electric

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
- 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
- Full Continuous-Duty Warranty
- 850 nm and 950 nm Active IR Illumination Focus Algorithms (24X and 35X models only)

SOFTWARE/HARDWARE

- 64 Programmable Presets with Labels
- Auto, Frame, and Random Scan
- Programmable Power-up Mode
- Programmable Park
- Programmable Manual Limit Stops (Pan)
- Programmable Scan Limit Stops (Pan)
- Patterns
- Proportional Pan/Tilt
- 8 Zones (programmable in size) Can Be Labeled with up to 20 Characters Each
- Up to 8 Zones (programmable in size) Can Be Set to Output Blank Video
- 10-Inch Integrated Enclosure with Pre-Assembled, IOP Camera
- Sun Shroud, Heater/Window Defroster, and Insulation All Standard
- 1 Auxiliary Output
- Integrated Window Wiper with Programmable Delay and Shut-Off (ES31C Models)

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 and Defroster	Thermostatically controlled
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	

Max. Wiring Distances

Cable Type*	Maximum Distance
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
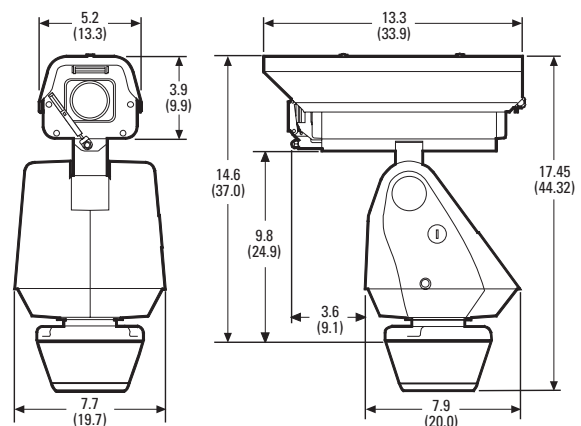
MECHANICAL

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	Integrated camera sled assembly
Latches	One 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 impact/scratch-resistant coated Lexan®
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 IOP	20 lb (9.0 kg)	22 lb (9.9 kg)
With Wiper and IOP	21 lb (9.5 kg)	23 lb (10.4 kg)
Shipping		
Standard with IOP	25 lb (11.3 kg)	28 lb (12.6 kg)
With Wiper and IOP	26 lb (11.7 kg)	29 lb (13.1 kg)

CERTIFICATIONS/RATINGS/PATENTS

- CE, Class B
- FCC, Class B
- UL/cUL Listed
- C-Tick
- Meets NEMA Type 4X and IP66 standards
- U.S. Patents 340,940 and 5,224,675

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

CAMERA/OPTICS

	Day/Night (35X)	Day/Night (24X)	Color, LowLight (22X)
Signal Format	NTSC, PAL	NTSC, PAL	NTSC, PAL
Scanning System	Progressive	2:1 Interlace	2:1 Interlace

Image Sensor
  Effective pixels
    NTSC
    PAL
	1/4-inch EXview HAD™ CCD
	
	768 (H) x 494 (V)
	752 (H) x 582 (V)
		1/4-inch CCD
		
		768 (H) x 494 (V)
		752 (H) x 582 (V)
			1/4-inch EXview HAD CCD
			
			768 (H) x 494 (V)
			752 (H) x 582 (V)

Horizontal Resolution
  NTSC
  PAL
	>540 TV lines
	>540 TV lines
		>520 TV lines
		>520 TV lines
			>470 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
 	
  Focus
	55.8° at 3.4 mm wide zoom;
	1.7° at 119 mm telephoto zoom
	Automatic with manual override
		50.7° at 3.8 mm wide zoom;
		2.3° at 91.2 mm telephoto zoom
		Automatic with manual override
			47.3° at 4.0 mm wide zoom;
			2.2° at 88 mm telephoto zoom
			Automatic with manual override

Maximum Sensitivity at 35 IRE
  NTSC
 	
  PAL
	
	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)**
	0.050 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 1/2 sec shutter **(color)**
		0.015 lux at 1/60 sec shutter **(B-W)**
		0.0005 lux at 1/2 sec shutter **(B-W)**
		0.005 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 1/2 sec shutter
			
			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
  NTSC
  PAL
	Automatic (electronic iris)/Manual
	1/2~1/30,000
	1/1.5~1/30,000
		Automatic (electronic iris)/Manual
		1/2~1/30,000*
		1/1.5~1/30,000*
			Automatic (electronic iris)/Manual
			1/2~1/30,000*
			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	—	—

*Manual control of camera setup functions can be done with CM6700, CM6800, CM8500, CM9500, CM9700 Series, KBD200A, KBD300A, and MPT9500 controllers, but not with CM7500, MPT9000 or KBD9000 controllers.

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 PAL	ES30C22-2N ES30C22-2N-X	ES30C22-5N ES30C22-5N-X	ES30C22-2W ES30C22-2W-X	ES30C22-5W ES30C22-5W-X
With Wiper		NTSC PAL	ES31C22-2N ES31C22-2N-X	ES31C22-5N ES31C22-5N-X	ES31C22-2W ES31C22-2W-X	ES31C22-5W ES31C22-5W-X
Standard	24X Day/Night	NTSC PAL	ES30CBW24-2N ES30CBW24-2N-X	ES30CBW24-5N ES30CBW24-5N-X	ES30CBW24-2W ES30CBW24-2W-X	ES30CBW24-5W ES30CBW24-5W-X
With Wiper		NTSC PAL	ES31CBW24-2N ES31CBW24-2N-X	ES31CBW24-5N ES31CBW24-5N-X	ES31CBW24-2W ES31CBW24-2W-X	ES31CBW24-5W ES31CBW24-5W-X
Standard	35X Day/Night	NTSC PAL	ES30CBW35-2N ES30CBW35-2N-X	ES30CBW35-5N ES30CBW35-5N-X	ES30CBW35-2W ES30CBW35-2W-X	ES30CBW35-5W ES30CBW35-5W-X
With Wiper		NTSC PAL	ES31CBW35-2N ES31CBW35-2N-X	ES31CBW35-5N ES31CBW35-5N-X	ES31CBW35-2W ES31CBW35-2W-X	ES31CBW35-5W ES31CBW35-5W-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 INTEGRATED OPTICS PACKAGE (IOP CAMERA) MODULES

The following IOP modules are replacement components only; they are not interchangeable.

ESIOPC22 — Esprit high resolution color camera and lens module, 22X NTSC format
ESIOPC22-X — Same as ESIOPC22 except PAL format
ESIOPCBW24 — Esprit high resolution day/night camera and lens module, 24X, NTSC format
ESIOPCBW24-X — Same as ESIOPCBW24 except PAL format
ESIOPBW35 — Esprit high resolution day/night camera and lens module, 35X, NTSC format
ESIOPBW35-X — Same as ESIOPBW35 except PAL format
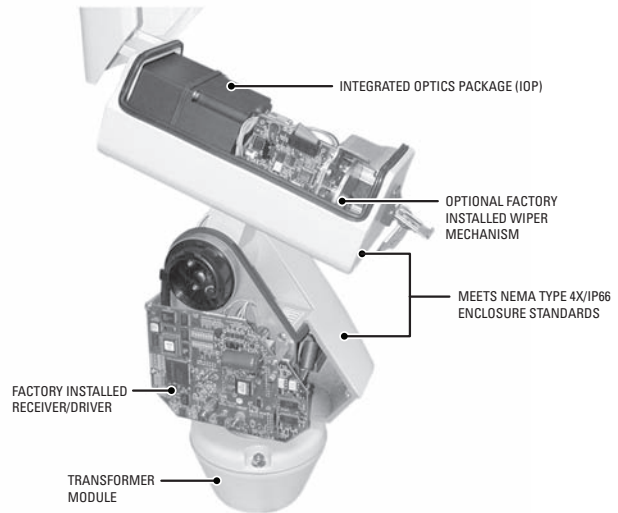
OPTIONAL ACCESSORIES

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/programming when used with the IPS-RMK. (No code upload.)
IPS-RMK — Remote monitor kit. Includes TFT-LCD monitor, PDA handheld, cables, and carrying case. Allows viewing of camera video, local PTZ control, and system setup.
TXB Series — Translator boards for AD™ Manchester, Hernis, Bosch® (Philips, Burle), Sensormatic®, TASS, Vicon™, and NTCIP protocols.

OPTIONAL MOUNTS AND 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

INTEGRATED OPTICS PACKAGE (IOP)
OPTIONAL FACTORY INSTALLED WIPER MECHANISM
MEETS NEMA TYPE 4X/IP66 ENCLOSURE STANDARDS
FACTORY INSTALLED RECEIVER/DRIVER
TRANSFORMER MODULE