ES40/ES41 Series Positioning System
ESPRIT® SE STANDARD AND PRESSURIZED MODELS

Product Features

- Receiver, Pan/Tilt, and Enclosure with Integrated Optics Package (IOP) or Pressurized Integrated Optics Cartridge (IOC), NTSC/PAL
- Day/Night, 540 TVL, Autofocus, 128X Wide Dynamic Range (WDR), Motion Detection, Image Enhancement, and Electronic Image Stabilization
- Integrated Window Wiper with Configurable Delay and Shut-Off (ES41 Models)
- Preset Positioning Accuracy ±0.1, Variable Speed Pan: 0.1° to 100°/Sec with Proportional Pan
- Window Blanking, Multishaped
- Internal Scheduling Clock
- On-Screen Compass, Tilt, and Zoom Display
- Autotracking
- Tilt Range of +36° to –85° from Horizontal
- Password Protection

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

Pelco's **ES40/ES41 Esprit® SE Positioning System** features a receiver, pan/tilt, enclosure, and either an Integrated Optics Package (IOP) or a pressurized Integrated Optics Cartridge (IOC) in a single, easy-to-install system. Options include IOP or IOC models with or without wiper.

For a wide range of applications, the **ES40/ES41 Series** offers a high resolution, color/black-white camera (540 TVL) with an infrared cut filter, 432X zoom (36X optical, 12X digital), electronic image stabilization, and wide dynamic range. A powder-coated, aluminum construction makes the **ES40/ES41 Series** ideal for either indoor or outdoor applications. The system has an absolute operating temperature range of –45° to 50°C (–50° to 122°F). Within two hours after power-up, the entire unit can de-ice and be operational from a temperature of –25°C (–13°F).

The **ES40/ES41 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 80 kph (50 mph) and 50 degrees per second in the 145 kph (90 mph) wind-speed profile. Tilt preset speed is 30 degrees per second. The **ES40/ES41 Series** is capable of 360 degrees of continuous pan rotation. The tilt range allows for horizontal viewing of +36 to –85 degrees. There are 256 configurable preset positions with a preset accuracy of 0.1 degree.

The **ES40P/ES41P** system's IOC contains dry nitrogen pressurized to 10 psig, which 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 **ES40P/ES41P** 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 **ES41 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 configured 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 **ES40/ES41** units, which also include open collector auxiliary outputs that function for two seconds before deactivating.

The systems are available with an input voltage of 24 VAC or with a selectable power source of 120/230 VAC. The **ES40/ES41 Series** also has a power-up recovery mode that allows the user to specify what operation the system will resume whenever the power is cycled.

PELCO
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 145 kph (90 mph) Winds, Can Withstand Wind Velocity up to 209 kph (130 mph)
- Pan Preset Speed of 100°/Sec in 80 kph (50 mph) Winds and 50°/Sec in 145 kph (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
- 256 Configurable Presets with Labels
- Auto, Frame, and Random Scan
- Configurable Power-Up Mode, Park, Manual Limit Stops (Pan), and Scan Limit Stops (Pan)
- Patterns: Up to 8, On-Screen, User-Defined Configurable Patterns; Includes Pan, Tilt, Zoom, and Preset Functions
- Proportional Pan/Tilt: Continually Decreases Pan/Tilt Speeds in Proportion to Depth of Zoom
- 8 Zones (configurable in size) Can Be Labeled with up to 20 Characters Each
- Window Blanking: Up to 8, Four-Sided, User-Defined Shapes
- 10-Inch Integrated Enclosure with Pre-Assembled IOP Camera
- Sun Shroud, Heater/Window Defroster, and Insulation All Standard
- 1 Auxiliary Output
- Electronic Image Stabilization
- Image Enhancement
- Multilingual Menus (English, Spanish, Portuguese, Italian, French, German, Russian, Polish, Turkish, Czech, and Asian language package: Chinese, Japanese, Korean)
- Software Update and Setup
- Configurable Locations of Labels and On-Screen Displays
- Configurable Zoom Speeds
- Low Lux Noise Reduction (reduces noise in low light)
- Autosensing Protocol (Coaxitron®, RS-422 Pelco P and Pelco D, Sensormatic®, Vicon®); Accepts Other Control Protocols with Optional Translator Card

PRESSURIZED INTEGRATED OPTICS CARTRIDGE (IOC)

- Pressurized to 10 psig, Nominal (Sea Level, 21°C [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 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 SE and relay must be less than 30 m (100 ft)

Video Coaxial Cable
Wiring Distances

Cable Type*	Maximum Distance
RG59/U	229 m (750 ft)
RG6/U	305 m (1,000 ft)
RG11/U	457 m (1,500 ft)

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

MECHANICAL

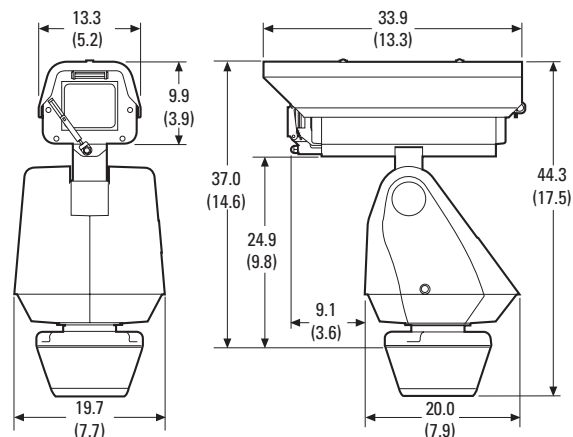|	
Pan Movement	360° Continuous pan rotation
Vertical Tilt	Unobstructed +36° to –85°
Variable Pan/Tilt Speed	
Pan	0.1° to 40°/sec variable-speed operation, 100°/sec turbo
Tilt	0.1° to 30°/sec variable-speed operation
Preset Speeds	
Pan	100°/sec
Tilt	30°/sec
Camera Mounting	Integrated camera sled assembly
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	5.84 mm (0.23") thick, optically clear, polycarbonate with proprietary impact-resistant UV rated coating
Operating Temperature	–45° to 50°C (–50° to 122°F) for sustained system operation or 60°C (140°F) absolute maximum; within two hours after power-up, the entire unit can de-ice and be operational from a temperature of –25°C (–13°F)
Operating Environment	Will remain operational in 145 kph (90 mph) wind conditions; withstands 209 kph (130 mph)

Weight	With Pedestal Adapter	With Wall Mount
Unit		
Standard with IOP	9.0 kg (20 lb)	9.9 kg (22 lb)
With Wiper and IOP	9.5 kg (21 lb)	10.4 kg (23 lb)
Standard with IOC	9.5 kg (21 lb)	10.4 kg (23 lb)
With Wiper and IOC	10.0 kg (22 lb)	11.0 kg (24 lb)
Shipping		
Standard with IOP	11.3 kg (25 lb)	12.6 kg (28 lb)
With Wiper and IOP	11.7 kg (26 lb)	13.1 kg (29 lb)
Standard with IOC	11.7 kg (26 lb)	13.1 kg (29 lb)
With Wiper and IOC	12.3 kg (27 lb)	13.6 kg (30 lb)

CAMERA/OPTICS

Signal Format	NTSC, PAL
Scanning System	Progressive or 2:1 interlace
Image Sensor	1/4-inch CCD
Effective pixels	
NTSC	768 (H) x 494 (V)
PAL	752 (H) x 582 (V)
Horizontal Resolution	>540 TV lines
Lens	f/1.4 (focal length, 3.3 ~ 119 mm optical)
Zoom	36X optical, 12X digital
Zoom Speed (optical range)	3.2/4.6/6.6 seconds
Horizontal	
Angle of View	57.2° at 3.3 mm wide zoom; 1.7° at 119 mm telephoto zoom
Focus	Automatic with manual override
Maximum Sensitivity at 35 IRE	
NTSC	0.02 lux at 1/2 sec shutter
	0.55 lux at 1/60 sec shutter (color)
	0.018 lux at 1/2 sec shutter (color)
	0.00018 lux at 1/2 sec shutter (B-W)
PAL	0.02 lux at 1/1.5 sec shutter
	0.45 lux at 1/50 sec shutter (color)
	0.015 lux at 1/1.5 sec shutter (color)
	0.00015 lux at 1/1.5 sec shutter (B-W)
Sync System	AC line lock, phase adjustable using remote control, V-Sync
White Balance	Automatic with manual override
Shutter Speed	Automatic manual
NTSC	1/2 ~ 1/30,000
PAL	1/1.5 ~ 1/30,000
Iris Control	Automatic with manual override
Gain Control	Automatic/OFF
Video Output	1 Vp-p, 75 ohms
Video Signal-to-Noise Ratio	>50 dB
Electronic Image Stabilization	Integrated
Wide Dynamic Range	128X

VALUES IN PARENTHESES ARE INCHES; ALL OTHERS ARE CENTIMETERS.

CERTIFICATIONS/RATINGS/PATENTS

IOP MODELS
- 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

IOC MODELS
- CE, Class B
- FCC, Class B
- UL/cUL Listed
- C-Tick
- Meets NEMA Type 4X and IP66 standards
- Meets IP67 standards (Pressurized IOC)
- U.S. Patent D472,260

MODEL NUMBERS

MODELS

Enclosure Type	Signal Format	Pedestal Mount*		Wall Mount†	
		24 VAC	120/230 VAC	24 VAC	120/230 VAC
Standard with IOP	NTSC PAL	ES4036-2N ES4036-2N-X	ES4036-5N ES4036-5N-X	ES4036-2W ES4036-2W-X	ES4036-5W ES4036-5W-X
With Wiper with IOP	NTSC PAL	ES4136-2N ES4136-2N-X	ES4136-5N ES4136-5N-X	ES4136-2W ES4136-2W-X	ES4136-5W ES4136-5W-X
Standard with IOC	NTSC PAL	ES40P36-2N ES40P36-2N-X	ES40P36-5N ES40P36-5N-X	ES40P36-2W ES40P36-2W-X	ES40P36-5W ES40P36-5W-X
With Wiper with IOC	NTSC PAL	ES41P36-2N ES41P36-2N-X	ES41P36-5N ES41P36-5N-X	ES41P36-2W ES41P36-2W-X	ES41P36-5W ES41P36-5W-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)
The following IOP modules are replacement components only; they are not interchangeable.

ESIOP36	Esprit high resolution day/night camera and lens module, 36X, NTSC format
ESIOP36-X	Same as ESIOP36 except PAL format

REPLACEMENT PRESSURIZED INTEGRATED OPTICS CARTRIDGE (IOC)
The following IOC models are replacement components only; they are not interchangeable.

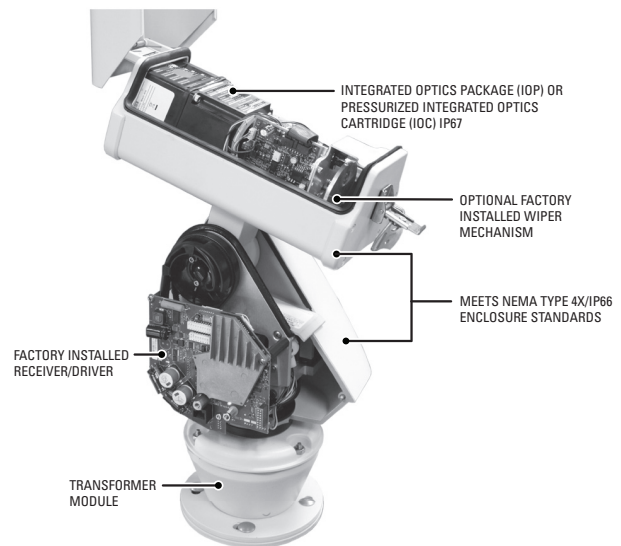|	
IOC-36	Esprit high resolution day/night camera and lens module, 36X, NTSC format
IOC-36-X	Same as IOC-36 except PAL format

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, 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) OR PRESSURIZED INTEGRATED OPTICS CARTRIDGE (IOC) IP67

OPTIONAL FACTORY INSTALLED WIPER MECHANISM

MEETS NEMA TYPE 4X/IP66 ENCLOSURE STANDARDS

FACTORY INSTALLED RECEIVER/DRIVER

TRANSFORMER MODULE