

# FD5 Series Environmental Outdoor Fixed Dome

## 18 TO 32 VAC (REVISION A), WDR, LOW LIGHT, 1/3-INCH CCD, 650 TVL, DAY/NIGHT

### Product Features

- 650 TV Lines
- Sony® 1/3-Inch EXview HAD CCD II™ Imager
- Digital Signal Processing (DSP)
- 5 Camera Options:
  - Infrared (IR) Illumination Day/Night High Resolution
  - True Day/Night High Resolution
  - Color High Resolution
  - Day/Night, Wide Dynamic Range (WDR), Low-Light Technology (2.8 to 10.5 mm or 9 to 22 mm lens)
- 0.1 Lux Sensitivity (No IR), Zero Lux (with IR)
- IR Compensation (IR Models Only)
- Varifocal Lens
- Autosensing Power; 18 to 32 VAC/12 VDC with Internal Synchronization (Revision A)
- Rugged, Vandal-Resistant Design (IK10++)



FD5-DV SERIES

- Environmental Capability with a Wide Operating Temperature
- Weathertight Outdoor Operation (IP66)
- Alarm Output (Based on Model)
- Shipped Completely Assembled, Easy to Install

### General Purpose Dome

The **FD5 Series** is Pelco's general purpose environmental and rugged dome camera. It is designed to provide superior picture quality over a wide range of conditions. The camera's attractive size makes it the ideal camera for most outdoor applications.

The **FD5 Series** dome camera integrates a camera and lens package into a small, versatile outdoor enclosure that can be mounted directly to a ceiling or wall. With a 3-axis camera and lens positioning system, the **FD5 Series** is capable of a wide variety of pan and tilt angles. The **FD5 Series** offers five high resolution camera options:

### Wide Dynamic Range and True Day/Night DSS Domes

Features high resolution (650 TVL), day/night color cameras with auto iris, and two varifocal lens options. The WDR option expands the video dynamic range of the cameras and improves the visibility of images even in high contrast environments. The cameras can also switch automatically from color to mono mode in a low-light environment by removing the IR cut filter, and digital slow shutter (DSS) allows for extreme low-light capability. These cameras are an ideal solution for applications with difficult lighting.

### IR Illumination High Resolution Dome

Features a high resolution (650 TVL) color camera with auto iris, and varifocal lens. The IR camera option is equipped with high performance IR compensation. This camera can be set manually to adjust IR illumination levels, enabling customers to change the levels of luminance and contrast according to the shooting environment. The IR camera option uses a group of IR LEDs for supplemental lighting. This allows the camera to function under zero lux illumination when IR is on, creating an effective IR illumination distance up to 25 meters.

### True Day/Night High Resolution Dome

Features a high resolution (650 TVL) day/night camera with auto iris and varifocal lens. The camera uses a movable IR cut filter to switch between color and black-white (B-W) modes in changing environmental lighting conditions and when the need for low-light sensitivity is realized.

### Color High Resolution Dome

Features a high resolution (650 TVL) color camera with auto iris, and varifocal lens. This camera is suitable for general outdoor applications in most fixed lighting conditions. Its full features insure that images are clear and crisp at all times under consistent light.

All **FD5 Series** cameras feature ATR technology, which can provide dynamic range by selecting different gamma levels. The **FD5 Series** has built-in analytical capabilities such as privacy zones, motion detection, and camera titles that add to its functionality and make it suitable for most applications.



by Schneider Electric

International Standards  
Organization Registered Firm;  
ISO 9001 Quality System



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# TECHNICAL SPECIFICATIONS

## CAMERA/OPTICS

	<b>FD5-V Series Varifocal Lens Models</b>	<b>FD5-DV Series True Day/Night Varifocal Lens Models</b>	<b>FD5-IRV Series IR Illumination Varifocal Lens Models</b>
Image Sensor	Sony 1/3-Inch EXview HAD CCD II™ 960H	Sony 1/3-Inch EXview HAD CCD II 960H	Sony 1/3-Inch EXview HAD CCD II 960H
Signal Processing	Sony DSP, Effio-E™	Sony DSP, Effio-E	Sony DSP, Effio-E
Effective Pixels NTSC PAL	976 (H) x 494 (V) 976 (H) x 582 (V)	976 (H) x 494 (V) 976 (H) x 582 (V)	976 (H) x 494 (V) 976 (H) x 582 (V)
Scanning Area	5.58 (H) mm x 4.67 (V) mm (0.22 x 0.18 inch)	5.58 (H) mm x 4.67 (V) mm (0.22 x 0.18 inch)	5.58 (H) mm x 4.67 (V) mm (0.22 x 0.18 inch)
Scanning System NTSC PAL	525 lines, 2:1 interlace 625 lines, 2:1 interlace	525 lines, 2:1 interlace 625 lines, 2:1 interlace	525 lines, 2:1 interlace 625 lines, 2:1 interlace
Scanning Frequency NTSC PAL	Horizontal, 15.734 kHz Vertical, 59.94 Hz Horizontal, 15.625 kHz Vertical, 50.00 Hz	Horizontal, 15.734 kHz Vertical, 59.94 Hz Horizontal, 15.625 kHz Vertical, 50.00 Hz	Horizontal, 15.734 kHz Vertical, 59.94 Hz Horizontal, 15.625 kHz Vertical, 50.00 Hz
Synchronization	Internal	Internal	Internal
Horizontal Resolution	650 TVL	650 TVL	650 TVL
Minimum Illumination	f/1.2; 2,850°K; 30 IRE Color 0.1 lux Mono 0.1 lux	f/1.2; 2,850°K; 30 IRE Color 0.1 lux Mono 0.05 lux	f/1.2; 2,850°K; 30 IRE Color 0.1 lux Mono 0.0 lux
IR Cut Filter	Fixed	Yes, D/N switch	Yes, D/N switch
Dynamic Range	Gamma selectable (ATR)	Gamma selectable (ATR)	Gamma selectable (ATR)
IR Illumination Distance	—	—	25 m
IR Sensitivity	—	—	>40% at 850 nm, peak response
Low-Light Technology	—	ICR	ICR and LEDs
Electronic Shutter Range	1/50 ~ 1/10,000 sec	1/50 ~ 1/10,000 sec	1/50 ~ 1/10,000 sec
Video Output	1.0 Vp-p, NTSC/PAL composite, 75 ohms, BNC connector	1.0 Vp-p, NTSC/PAL composite, 75 ohms, BNC connector	1.0 Vp-p, NTSC/PAL composite, 75 ohms, BNC connector
White Balance	ATW/Manual/Push/Push Lock/User1/User2/Anti CR	ATW/Manual/Push/Push Lock/User1/User3/Anti CR	ATW/Manual/Push/Push Lock/User1/User4/Anti CR
Signal-to-Noise Ratio	48 dB (>52 dB by parameter adjustment)	48 dB (>52 dB by parameter adjustment)	48 dB (>52 dB by parameter adjustment)
Lens	Varifocal	Varifocal	Varifocal
F-Number	f/1.2	f/1.2	f/1.2
Focal Length	3.0 to 9.0 mm	2.8 to 10.5 mm	2.8 to 10.5 mm
Focus Range	∞ to 0.5 m (1.6 ft)	∞ to 0.3 m (1 ft)	∞ to 0.3 m (1 ft)
Horizontal Angle of View	(78°±2°) at 3.0 mm wide zoom; 31° at 9.0 mm telephoto zoom	(97°±2°) at 2.8 mm wide zoom; 27° at 10.5 mm telephoto zoom	(97°±2°) at 2.8 mm wide zoom; 27° at 10.5 mm telephoto zoom
Vertical Angle of View	(57°±2°) at 3.0 mm wide zoom; 23° at 9.0 mm telephoto zoom	(70°±2°) at 2.8 mm wide zoom; 20° at 10.5 mm telephoto zoom	(70°±2°) at 2.8 mm wide zoom; 20° at 10.5 mm telephoto zoom
Adjusting Angle Panning Range Tilting Range Rotation Range	±180° +75° to 0° ±180°	±180° +75° to 0° ±180°	±180° +60° to 0° ±180°
Noise Reduction	2D	2D	2D
Motion Detection	Included (4 areas)	Included (4 areas)	Included (4 areas)
Privacy Zones	Included (8 zones)	Included (8 zones)	Included (8 zones)
Camera Titles	—	Included	Included
Alarm Out	—	1	1

# TECHNICAL SPECIFICATIONS

## CAMERA/OPTICS

	<b>FD5-DWV10 Series True Day/Night, WDR, DSS Varifocal Lens Models</b>	<b>FD5-DWV22 Series True Day/Night, WDR, DSS Varifocal Lens Models</b>
Image Sensor	Sony 1/3-Inch Super HAD CCD II 960H	Sony 1/3-Inch Super HAD CCD II 960H
Signal Processing	Sony DSP, Effio-P	Sony DSP, Effio-P
Effective Pixels NTSC PAL	976 (H) x 494 (V) 976 (H) x 582 (V)	976 (H) x 494 (V) 976 (H) x 582 (V)
Scanning Area	6.0 (H) mm x 5.0 (V) mm (0.24 x 0.20 inch)	6.0 (H) mm x 5.0 (V) mm (0.24 x 0.20 inch)
Scanning System NTSC PAL	525 lines, 2:1 interlace 625 lines, 2:1 interlace	525 lines, 2:1 interlace 625 lines, 2:1 interlace
Scanning Frequency NTSC PAL	Horizontal, 15.734 kHz Vertical, 59.94 Hz Horizontal, 15.625 kHz Vertical, 50.00 Hz	Horizontal, 15.734 kHz Vertical, 59.94 Hz Horizontal, 15.625 kHz Vertical, 50.00 Hz
Synchronization	Internal	Internal
Horizontal Resolution	650 TVL	650 TVL
Minimum Illumination	f/1.2; 2,850°K; 30 IRE Color (20 ms PAL or 17 ms NTSC) 0.13 lux Color (500 ms) 0.004 lux Mono (20 ms PAL or 17 ms NTSC) 0.03 lux Mono (500 ms) 0.001 lux	f/1.5; 2,850°K; 30IRE Color (20 ms for PAL or 17 ms for NTSC) 0.15 lux Color (500 ms) 0.008 lux Mono (20 ms PAL or 17 ms NTSC) 0.05 lux Mono (500 ms) 0.002 lux
IR Cut Filter	Yes, D/N Switch	Yes, D/N Switch
Dynamic Range	120 dB Dual-scan WDR	120 dB Dual-scan WDR
IR Illumination Distance	N/A	N/A
IR Sensitivity	N/A	N/A
Low-Light Technology	ICR, DSS	ICR, DSS
Electronic Shutter Range	NTSC Auto, 1/60 to 1/100,000 sec; PAL Auto, 1/50 to 1/100,000 sec; Manual, 1/50 to 1/10,000 sec <b>Note:</b> Slow shutter support is 2X to 256X	NTSC Auto, 1/60 to 1/100,000 sec; PAL Auto, 1/50 to 1/100,000 sec; Manual, 1/50 to 1/10,000 sec <b>Note:</b> Slow shutter support is 2X to 256X
Video Output	1.0 Vp-p, NTSC/PAL composite, 75 ohms, BNC connector	1.0 Vp-p, NTSC/PAL composite, 75 ohms, BNC connector
White Balance	ATW/Push/Push Lock/User1/User2/Anti CR	ATW/Push/Push Lock/User1/User2/Anti CR
Signal-to-Noise Ratio	48 dB (>52 dB by parameter adjustment)	48 dB (>52 dB by parameter adjustment)
Lens	Varifocal	Varifocal
F-Number	f/1.2	f/1.5
Focal Length	2.8 to 10.5 mm	9 to 22 mm
Focus Range	∞ to 0.3 m (1 ft)	∞ to 0.5 m (1.7 ft)
Horizontal Angle of View	(97°±2°) at 2.8 mm wide zoom; 27° at 10.5 mm telephoto zoom	31° at 9 mm wide zoom; 13° at 22 mm telephoto zoom
Vertical Angle of View	(70°±2°) at 2.8 mm wide zoom; 20° at 10.5 mm telephoto zoom	23° at 9 mm wide zoom; 10° at 22 mm telephoto zoom
Adjusting Angle Panning Range Tilting Range Rotation Range	±180° +75° to 0° ±180°	±180° +75° to 0° ±180°
Noise Reduction	3D	3D
Motion Detection	Included (4 areas)	Included (4 areas)
Privacy Zones	Included (15 sizeable windows)	Included (15 sizeable windows)
Camera Titles	Included	Included
Alarm Out	1	1

# TECHNICAL SPECIFICATIONS

## MODELS

Camera Type	Lens Type	NTSC	PAL
Color, High Resolution	Varifocal, 3.0 to 9.0 mm	FD5-V9-6	FD5-V9-6X
True Day/Night, ICR Switch	Varifocal, 2.8 to 10.5 mm	FD5-DV10-6	FD5-DV10-6X
IR Illumination	Varifocal, 2.8 to 10.5 mm	FD5-IRV10-6	FD5-IRV10-6X
True Day/Night, WDR, DSS, ICR Switch	Varifocal, 2.8 to 10.5 mm	FD5-DWV10-6	FD5-DWV10-6X
True Day/Night, WDR, DSS, ICR Switch	Varifocal, 9 to 22 mm	FD5-DWV22-6	FD5-DWV22-6X

## GENERAL

Back Box Construction	Die-cast aluminum	
Bubble Type	Lightly obscured	
Weight	Unit	Shipping
FD5-V Series	0.73 kg (1.61 lb)	1.28 kg (2.82 lb)
FD5-DV Series	0.73 kg (1.61 lb)	1.28 kg (2.82 lb)
FD5-IRV Series	0.75 kg (1.65 lb)	1.28 kg (2.82 lb)
FD5-DWV10 Series	0.75 kg (1.65 lb)	1.28 kg (2.82 lb)
FD5-DWV22 Series	0.75 kg (1.65 lb)	1.28 kg (2.82 lb)

## ELECTRICAL

Power Requirement*	
NTSC	18 to 32 VAC 60 Hz / 12 VDC +10% to -15% (Revision A)
PAL	18 to 32 VAC 50 Hz / 12 VDC +10% to -15% (Revision A)
Power Consumption	
FD5-V Series	2.5 W (without heater); 15 W (with heater on)
FD5-DV Series	2.5 W (without heater); 15 W (with heater on)
FD5-IRV Series	4 W (IR on, without heater); 17 W (IR on, with heater on)
FD5-DWV10 Series	4 W (without heater); 16 W (with heater on)
FD5-DWV22 Series	4 W (without heater); 16 W (with heater on)
Power Connector	2-pin terminal block with screw terminals
Video Connector	BNC

\*Suggested installations (Revision A):

For outdoor environmental conditions from -30° to 50°C (-22° to 122°F), use only an AC power supply source (18 to 32 VAC).

For indoor or outdoor applications with ambient temperatures of 0° to 50°C (32° to 122°F), use 12 VDC power, or an AC power supply source (18 to 32 VAC).

## ENVIRONMENTAL

Operating Temperature	-30° to 50°C (-22° to 122°F)
Storage Temperature	-30° to 60°C (-22° to 140°F)
Operating Humidity	20% to 80%, noncondensing
Storage Humidity	20% to 90%, noncondensing
Impact Resistance	IK10++

## CERTIFICATIONS†

- CE, Class B
- FCC, Class B
- UL/cUL Listed
- Meets IP66 standards

†At the time of this printing, all certifications are 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.

## RECOMMENDED POWER SUPPLIES

TF9000	Power supply for one camera, 50 VA
MCS Series	Multiple camera power supply, indoor

## OPTIONAL ACCESSORIES

FD-SC	Dome camera service cable to BNC, 1 m (3.3 ft), 2-pin
TW4001PC	Passive twisted wire transmission for use in unshielded twisted pair (UTP) installations

## OPTIONAL MOUNT ADAPTERS

IWM-SR	Wall mount; light gray finish. Can be adapted for corner, parapet, or pole applications.
IWM24-SR	Wall mount; light gray finish; with integrated 24 VAC 100 VA transformer. Can be adapted for corner, parapet, or pole applications.
SWM-SR	Compact wall mount, light gray finish. Can be used with FD5 Series cameras for wall-mount installations. Can also be adapted for corner or pole applications.
SP-FD5-P	Pendant mount for all FD5 Series cameras. Durable all-aluminum construction for rugged/outdoor use. Can be easily adapted to any environment or Pelco mount with 1.5-inch NPT thread.

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