

FD2 Series Indoor Fixed Dome

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

Product Features

- 650 TV Lines
- 0.1 Lux Sensitivity (No IR), Zero Lux (with IR)
- Sony® 1/3-Inch Super HAD CCD II™ 960H Imager or Sony 1/3-Inch EXview HAD CCD II Imager (depending on model)
- Digital Signal Processing (DSP)
- 4 Camera Options:
 - Wide Dynamic Range (WDR) and Day/Night with Digital Slow Shutter (DSS) High Resolution
 - Infrared (IR) Illumination Day/Night High Resolution
 - True Day/Night High Resolution
 - Color High Resolution
- IR Compensation (IR Models Only)
- Fixed or Varifocal Lens
- Autosensing Power; 18 to 32 VAC/12 VDC with Internal Synchronization (Revision A)
- Remote Access Capability Through Coaxitron® (Based on Model)

The **FD2 Series** is Pelco's general purpose indoor fixed dome camera. It is designed to provide superior picture quality over a wide range of conditions. The camera's attractive size, combined with its numerous features, makes it the ideal camera for most indoor applications.

The **FD2 Series** dome camera integrates a camera and lens package into a small, versatile indoor enclosure that can be mounted directly to a ceiling or wall. The **FD2 Series** features a 3-axis camera and lens positioning system that is capable of a wide variety of pan and tilt angles.

The **FD2 Series** offers four high resolution camera options suitable for a variety of indoor environments:

- **Wide Dynamic Range and Day/Night DSS Dome:** Features a high resolution (650 TVL), day/night camera with an auto iris varifocal lens. This camera uses WDR sensor technology to provide 120 dB dynamic range. This technology helps capture excellent visual images even when there are extremely different illumination conditions within a surveillance area. The camera 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 make this camera an ideal solution for applications with difficult and unbalanced lighting conditions that require extremely high sensitivity and dynamic range.
- **IR Illumination High Resolution Dome:** Features a high resolution (650 TVL) color camera with fixed or 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. This



FD2-IRV SERIES

- Alarm Output (Based on Model)
- Shipped Completely Assembled, Easy to Install

function reduces the blooming effect and delivers clear images when objects get closer to the camera. 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. Application examples include environments with difficult lighting conditions that need a supplemental IR light source.

- **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. Application examples include environments that require color images during the day but use monochrome images at night.
- **Color High Resolution Dome:** Features a high resolution (650 TVL) color camera with auto iris, electronic day/night functions, and fixed or varifocal lens. This camera is suitable for general applications in most fixed lighting conditions. Its full features ensure that images are clear and crisp at all times under consistent light.

In addition, WDR models in the FD2 fixed dome series feature WDR sensor and processing technology, ensuring the best picture quality even in challenging environments. Other models in this series features ATR technology, which can help provide dynamic range by selecting different gamma profiles.

The **FD2 Series** has built-in analytical capabilities such as privacy zones, motion detection, and camera titles that adds to its functionality and makes it suitable for most applications.



by Schneider Electric

International Standards
Organization Registered Firm;
ISO 9001 Quality System



C4009 / REVISED 5-16-14

TECHNICAL SPECIFICATIONS

CAMERA/OPTICS

	FD2-F Series Fixed Lens Models	FD2-V Series Varifocal Lens Models	FD2-DV Series True Day/Night Varifocal Lens Models
Image Sensor	Sony® 1/3-Inch EXview HAD CCD II™	Sony 1/3-Inch EXview HAD CCD II	Sony 1/3-Inch EXview HAD CCD II
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/2.0; 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 0.1 lux	f/1.2; 2,850°K; 30 IRE Color 0.1 lux Mono 0.05 lux
IR Cut Filter	Fixed	Fixed	Yes, D/N switch
Dynamic Range	Gamma selectable (ATR)	Gamma selectable (ATR)	Gamma selectable (ATR)
IR Illumination Distance	—	—	—
IR Sensitivity	—	—	—
Low-Light Technology	Digital day/night	Digital day/night	ICR, digital day/night
Electronic Shutter Range	Auto/Manual 1/60 ~ 1/10,000 sec Auto/Manual 1/50 ~ 1/10,000 sec	Auto/Manual 1/60 ~ 1/10,000 sec Auto/Manual 1/50 ~ 1/10,000 sec	Auto/Manual 1/60 ~ 1/10,000 sec Auto/Manual 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/User2/Anti CR	ATW/Manual/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)	48 dB (>52 dB by parameter adjustment)
Lens	Fixed	Varifocal	Varifocal
F-Number	f/2.0	f/1.2	f/1.2
Focal Length	2.8 mm (FD2-F3 Series) 3.6 mm (FD2-F4 Series)	2.8 to 10.5 mm	2.8 to 10.5 mm
Focus Range	∞ to 1.2 m (3.9 ft)	∞ to 0.3 m (1 ft)	∞ to 0.3 m (1 ft)
Horizontal Angle of View	90° at 2.8 mm (FD2-F3 Series) 72° at 3.6 mm (FD2-F4 Series)	101.8° at 2.8 mm wide zoom; 27.4° at 10.5 mm telephoto zoom	101.8° at 2.8 mm wide zoom; 27.4° at 10.5 mm telephoto zoom
Vertical Angle of View	80° at 2.8 mm (FD2-F3 Series) 52° at 3.6 mm (FD2-F4 Series)	73.2° at 2.8 mm wide zoom; 20.6° at 10.5 mm telephoto zoom	73.7° at 2.8 mm wide zoom; 20.6° 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° +75° to 0° ±180°
Noise Reduction	2D	2D	2D
Motion Detection	Included (4 areas)	Included (4 areas)	Included (4 areas)
Privacy Zones	Included (8 areas)	Included (8 areas)	Included (8 areas)
Digital Zoom	—	—	—
Image Stabilization	—	—	Included
Camera Titles	—	—	Included
Scene Learning/Analytics	—	—	—
Remote Access	—	—	—
Alarm Out	—	—	1

TECHNICAL SPECIFICATIONS

CAMERA/OPTICS

	FD2-IRV Series IR Illumination Varifocal Lens Models	FD2-DWV Series True Day/Night, WDR, DSS Varifocal Lens Models
Image Sensor	Sony 1/3-Inch EXview HAD CCD II	Sony 1/3-Inch Super HAD CCD II 960H
Signal Processing	Sony DSP, Effio-E	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	5.58 (H) mm x 4.67 (V) mm (0.22 x 0.18 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 0.1 lux Mono (with IR) 0.0 lux	f/1.2; 2,850°K; 30 IRE Color (20 ms for PAL or 17 ms for NTSC) 0.13 lux Color (500 ms) 0.03 lux Mono (20 ms for PAL or 17 ms for NTSC) 0.05 lux Mono (500 ms) 0.00004 lux
IR Cut Filter	Yes, D/N switch	Yes, D/N switch
Dynamic Range	Gamma selectable (ATR)	120 dB Dual-scan WDR
IR Illumination Distance	25 m	—
IR Sensitivity	>40% at 850 nm, peak response	—
Low Light Technology	ICR and LEDs, digital day/night	ICR, DSS
Electronic Shutter Range	Auto/Manual 1/60 ~ 1/10,000 sec Auto/Manual 1/50 ~ 1/10,000 sec	NTSC Auto, 1/60 to 1/100,000 sec; Manual, 1/60 to 1/10,000 sec PAL Auto, 1/50 to 1/100,000 sec; Manual, 1/50 to 1/10,000 sec NOTE: Slow shutter support is 2X to 128X.
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/Manual/Push/Push Lock/User1/User2/Anti CR	ATW/Manual/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/1.2
Focal Length	2.8 to 10.5 mm	2.8 to 10.5 mm
Focus Range	∞ to 0.3 m (1 ft)	∞ to 0.3 m (1 ft)
Horizontal Angle of View	101.8° at 2.8 mm wide zoom; 27.4° at 10.5 mm telephoto zoom	101.8° at 2.8 mm wide zoom; 27.4° at 10.5 mm telephoto zoom
Vertical Angle of View	73.7° at 2.8 mm wide zoom; 20.6° at 10.5 mm telephoto zoom	73.7° at 2.8 mm wide zoom; 20.6° at 10.5 mm telephoto zoom
Adjusting Angle Panning Range Tilting Range Rotation Range	±180° +60° to 0° ±180°	±180° +75° to 0° ±180°
Noise Reduction	2D	3D
Motion Detection	Included (4 areas)	Included (4 areas)
Privacy Zones	Included (8 areas)	Included (15 sizeable windows)
Digital Zoom	—	Included, 255X (through camera menu only)
Image Stabilization	Included	Included
Camera Titles	Included	Included
Scene Learning/Analytics	—	Included
Remote Access	—	Coaxitron and RS-485
Alarm Out	1	1

TECHNICAL SPECIFICATIONS

MODELS

Camera Type	Lens Type	NTSC	PAL
Color, High Resolution	Fixed, 2.8 mm	—	FD2-F3-6X
Color, High Resolution	Fixed, 3.6 mm	FD2-F4-6	FD2-F4-6X
Color, High Resolution	Varifocal, 2.8 to 10.5 mm	FD2-V10-6	FD2-V10-6X
IR Illumination	Varifocal, 2.8 to 10.5 mm	FD2-IRV10-6	FD2-IRV10-6X
True Day/Night, ICR Switch	Varifocal, 2.8 to 10.5 mm	FD2-DV10-6	FD2-DV10-6X
True Day/Night, WDR, DSS, ICR Switch	Varifocal, 2.8 to 10.5 mm	FD2-DWV10-6	FD2-DWV10-6X

GENERAL

Back Box Construction	ABS plastic	
Bubble Type	Lightly obscured	
Weight	Unit	Shipping
FD2-F, FD2-IRV	0.30 kg (0.66 lb)	0.60 kg (1.32 lb)
FD2-V, FD2-DV, FD2-DWV	0.31 kg (0.68 lb)	0.61 kg (1.34 lb)
	ELECTRICAL	
Power Requirement*		
NTSC	18 to 32 VAC 60 Hz/12 VDC +10% to -15%	
PAL	18 to 32 VAC 50 Hz/12 VDC +10% to -15%	

Power Consumption	
FD2-F, FD2-V, FD2-DV	2.5 W
FD2-IRV	4 W
FD2-DWV	4.5 W

Power Connector	2-pin terminal block with screw terminals
Video Connector	BNC
Alarm Output	2-pin terminal block with screw terminals (available on some models)

*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	-10° to 50°C (14° to 122°F)
Storage Temperature	-20° to 60°C (-40° to 140°F)
Operating Humidity	20% to 80%, noncondensing
Storage Humidity	20% to 90%, noncondensing

CERTIFICATIONS

- CE, Class B
- FCC, Class B
- UL/cUL Listed

RECOMMENDED POWER SUPPLIES

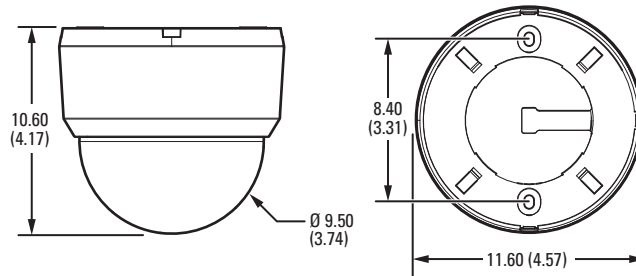
TF2000	Power supply for one camera, 20 VA
MCS Series	Multiple camera power supply, indoor

OPTIONAL ACCESSORIES

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



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



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