



# Spectra® IV Series Dome Systems

## HIGH-PERFORMANCE INTEGRATED DOME SYSTEM

### Product Features

- 2 Autofocus, High Resolution Integrated LowLight™ Color Camera/Optics Packages
- Zone Blanking
- Window Blanking
- Camera Title Overlay, 20 User-Definable Characters
- On-Screen Compass and Tilt Display
- Password Protection
- Freeze Frame During Presets
- Built-in Surge and Limited Lightning Protection
- Integrated Passive Unshielded Twisted Pair (UTP) Circuit
- Internal Scheduling Clock



IN-CEILING MODEL  
SD418-F0



ENVIRONMENTAL PENDANT  
MODEL SD4TC-PG-E0  
(SHOWN WITH SWM-GY WALL MOUNT)

### Modularity

Spectra® IV was designed with ease of installation and ease of maintenance in mind. Each dome system consists of three components: a back box, a dome drive, and a lower dome. These three system components are interchangeable with other Spectra IV dome systems, making retrofitting and application adjustments simple. Also, dome drives and lower domes can be removed and replaced reducing maintenance time.

### Back Box

Spectra IV back box options include the following models: environmental in-ceiling (ideal for outdoor soffits), indoor in-ceiling, indoor surface mount, standard and environmental pendant, heavy-duty, pressurized, and stainless steel. A **passive UTP circuit** is located on the door assembly for convenient video transmission through twisted pair wire. For added flexibility, Pelco fiber modules can also be attached to the door assembly for transmission over single-mode or multimode fiber.

### Dome Drive

The Spectra IV dome drive's **integrated optics package** incorporates many advanced features that allow the system to produce high quality video in the most difficult environments. The day/night camera features 18X optical zoom and 12X digital zoom. The color camera is equipped with 16X optical zoom and 8X digital zoom. Both cameras in Spectra IV dome drives feature **LowLight™** technology allowing the cameras to compensate for scenes where minimal light is present. The cameras also offer **freeze frame between presets** and **window blanking**.

### Lower Dome

An important, but often overlooked, component of a high-speed dome system is the relationship between the dome bubble and the camera lens. Special consideration was taken when designing the Spectra IV lower dome bubble to ensure that an optimal optical relationship between the lens and bubble was achieved, providing crystal clear video at long focal lengths.

### Dome Systems

Spectra IV dome systems feature many software enhancements that increase performance and make programming and operation easy. An **internal scheduling clock** allows for the scheduling of presets and patterns. **Window blanking** enables a user to program a four-sided, user-defined privacy area. **Password protection** prevents unauthorized users from changing the system settings. Programmable **on-screen compass and tilt display** provides positioning information when needed. Intuitive multi-language on-screen programming can be displayed in English, Spanish, Portuguese, Italian, French, German, Russian, Polish, Turkish, and Czech.

Spectra IV's variable speed capabilities range from a smooth, fast pan motion of 400 degrees per second to a smooth "creep" speed of 0.1 degree per second. The system is capable of continuous 360 degrees rotation and has an **"auto flip"** feature that allows the dome to rotate 180 degrees and reposition itself for uninterrupted viewing of any subject that passes directly beneath the dome.

Optional diagnostic/installation tools (IPS-RMK and IPS-CABLE) allow the installer to view video, control PTZ, and perform system setup and software upgrades at the installation site.



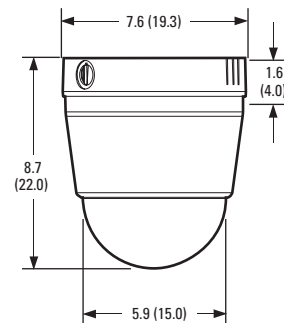
# TECHNICAL SPECIFICATIONS

## COMPONENT FEATURES

### Back Box and Lower Dome

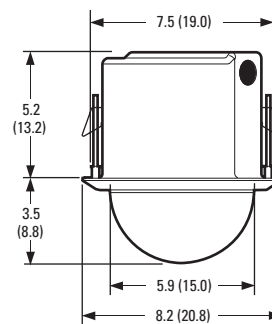
#### Surface Mount (Indoor)

- Available in Black or White Finish
- Installs Quickly and Easily to Any Type of Ceiling
- Quick Disconnect to Dome Drive
- Injection-Molded Plastic



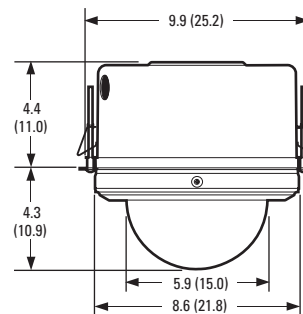
#### In-Ceiling (Indoor)

- Single Back Box for Suspended or Hard Ceiling Applications
- Requires 5.25-Inch Space Above Ceiling and 3.25 Inches Below
- Minimum Ceiling Thickness 0.5-Inch; Maximum 1.75 Inches
- Quick Disconnect to Dome Drive
- Aluminum Construction
- Suitable for Use in Environmental Air Handling Spaces



#### Environmental In-Ceiling

- Single Back Box for Hard Ceiling Applications
- Requires 4.4-Inch Space Above Ceiling and 4.3 Inches Below
- Includes Heater and Fan
- Minimum Ceiling Thickness 0.5-Inch; Maximum 1.75 Inches
- Quick Disconnect to Dome Drive
- Aluminum Construction

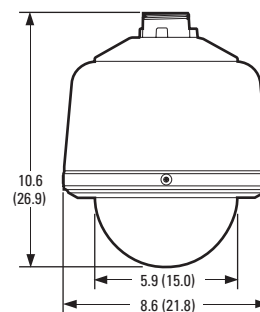


#### Standard and Environmental Pendant

- Standard and Environmental Models
- Standard Pendant Available in Black or Gray Finish; Environmental Pendant Gray Finish Only
- Quick Disconnect to Dome Drive
- Aluminum Construction
- Environmental Model Includes Sun Shield, Fan, and Heater



(ENVIRONMENTAL DOME WITH SUN SHROUD SHOWN)



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

# TECHNICAL SPECIFICATIONS

## Dome Drive

- 128 Presets
- $\pm 0.25^\circ$  Preset Accuracy
- Multilanguage Menus (English, Spanish, Portuguese, Italian, French, German, Russian, Polish, Turkish, and Czech)
- RJ-45 Data Port for Software Update and Setup
- On-Screen Compass, Tilt, and Zoom Display
- Password Protection
- $400^\circ/\text{sec}$  Pan Preset Speed and  $200^\circ/\text{sec}$  Tilt Preset Speed
- Rotating Discreet Liner with Sealed Fixed Bubble
- 8 Zones (programmable in size) Can Be Labeled with up to 20 Characters Each or Set to Output Blank Video
- Programmable Locations of Labels and On-Screen Displays
- Multiple Park and Power-Up Actions
- Patterns: 1 On-Screen, User-Defined Programmable Pattern; Includes Pan, Tilt, Zoom, and Preset Functions
- Proportional Pan/Tilt: Continually Decreases Pan/Tilt Speeds in Proportion to Depth of Zoom
- Variable Scan Speed: Scan Speed Can Be Programmable Between  $1\text{-}40^\circ/\text{sec}$
- Pan Motion Allows  $0.1\text{-}150^\circ/\text{sec}$  Pan Speed
- Programmable Limit Stops for Auto/Random/Frame Scan Modes
- Auto-sensing Protocol (Coaxitron<sup>®</sup>, RS-422 P and D); Accepts Competitive Control Protocol with Optional Translator Card
- Digital Position and Zoom Control and Feedback Using D Protocol
- Built-in Menu System for Setup of Programmable Functions
- "Auto Flip" Rotates Dome  $180^\circ$  at Bottom of Tilt Travel
- Programmable Zoom Speeds
- 1 Programmable Window Blank
- Freeze Frame Between Presets

## MECHANICAL *(Dome Drive Only)*

Pan Movement	$360^\circ$ continuous pan rotation
Vertical Tilt	Unobstructed $+2^\circ$ to $-92^\circ$
Manual Pan/Tilt Speeds	
Pan	$0.1^\circ$ to $80^\circ/\text{sec}$ manual operation, $150^\circ/\text{sec}$ Turbo
Tilt	$0.1^\circ$ to $40^\circ/\text{sec}$ manual operation
Preset Speeds	
Pan	$400^\circ/\text{sec}$
Tilt	$200^\circ/\text{sec}$
	For variable-speed operation an appropriate controller is required. (With nonvariable speed control, Spectra IV pan/tilt speed is $20^\circ/\text{sec}$ )

## ELECTRICAL

Input Voltage	18 to 32 VAC; 24 VAC nominal 22 to 27 VDC; 24 VDC nominal
Input Power	
24 VAC	23 VA nominal (without heater); 73 VA nominal (with heater)
24 VDC	0.7 A nominal (without heater); 3 A nominal (with heater)
Fuse	1.25 A

## GENERAL

Construction		
Back Box		
Surface Mount	Plastic	
In-Ceiling	Aluminum	
Pendant	Aluminum	
Dome Drive	Aluminum, thermo plastic	
Bubble	Acrylic	
Light Attenuation		
Smoked	$f/0.5$ light loss	
Clear	Zero light loss	
Chrome	$f/2.0$ light loss	
Gold	$f/2.0$ light loss	
Cable Entry (Back Box)		
In-Ceiling and	0.75-inch conduit fitting	
Surface Mount	Through 1.5-inch NPT pendant mount	
Pendant		
Weight (approximate)	<u>Unit</u>	<u>Shipping</u>
Back Box		
Surface Mount	0.7 lb (0.32 kg)	2 lb (0.90 kg)
In-Ceiling	1.5 lb (0.68 kg)	2 lb (0.90 kg)
Environmental		
In-Ceiling	2.1 lb (0.95 kg)	3 lb (1.36 kg)
Standard Pendant	2.4 lb (1.09 kg)	4 lb (1.81 kg)
Environmental Pendant	3.5 lb (1.59 kg)	5 lb (2.27 kg)
Dome Drive	3.3 lb (1.48 kg)	5 lb (2.27 kg)
Lower Dome		
Surface Mount	0.4 lb (0.18 kg)	1 lb (0.45 kg)
In-Ceiling	0.2 lb (0.09 kg)	1 lb (0.45 kg)
Pendant and		
Environmental		
In-Ceiling	0.6 lb (0.27 kg)	2 lb (0.90 kg)
Environment		
Surface Mount	Indoor	
In-Ceiling	Indoor	
Environmental In-Ceiling	Outdoor	
Pendant, Standard		
and Environmental	Indoor/outdoor	
Operating Temperature		
Surface Mount and		
Indoor In-Ceiling	$32^\circ$ to $122^\circ\text{F}$ ( $0^\circ$ to $50^\circ\text{C}$ )	
Standard Pendant	(Assumes no wind chill factor)	
Maximum	$113^\circ\text{F}$ ( $45^\circ\text{C}$ ) absolute maximum; $95^\circ\text{F}$ ( $35^\circ\text{C}$ ) sustained maximum $25^\circ\text{F}$ ( $-4^\circ\text{C}$ ) sustained minimum	
Minimum		
Environmental		
In-Ceiling and		
Environmental Pendant	(Assumes no wind chill factor)	
Maximum	$140^\circ\text{F}$ ( $60^\circ\text{C}$ ) absolute maximum; $122^\circ\text{F}$ ( $50^\circ\text{C}$ ) sustained maximum $-60^\circ\text{F}$ ( $-51^\circ\text{C}$ ) absolute minimum; prevents icing at sustained minimum of $-50^\circ\text{F}$ ( $-45^\circ\text{C}$ ); de-ices 0.1 inch (2.5 mm) within 3 hours after power-up	
Minimum		
Effective Projected		
Area (EPA)	20.5 square inches (without mount) 47 square inches (with IWM Series mount)	

# TECHNICAL SPECIFICATIONS

## CERTIFICATIONS/RATINGS/PATENTS

- CE, Class B
- UL Listed
- UL Listed to Canadian safety standards
- Complies with Argentina compliance requirements under Res. 92/98
- FCC, Class B
- U.S. Patents 5,931,432; 6,793,415 B2; 6,802,656 B2; 6,821,222 B2; 7,161,615 B2

Meets the following standards:

- NEMA Type 4X, IP66 when installed properly (BB4T-F-E, BB4T-PB, BB4T-PG, and BB4T-PG-E)
- NEMA Type 1, IP40 (BB4T-SMW, BB4T-SMB, and BB4T-F)

## CAMERA/OPTICS

	<b>Color (16X)</b>	<b>Day/Night (18X)</b>
Signal Format	NTSC ( <b>DD4TC16</b> ) PAL ( <b>DD4TC16-X</b> )	NTSC ( <b>DD4CBW18</b> ) PAL ( <b>DD4CBW18-X</b> )
Scanning System	2:1 interlace	2:1 interlace
Image Sensor	1/4-inch interline transfer CCD	1/4-inch CCD
Effective Pixels		
NTSC	768 (H) X 494 (V)	724 (H) X 494 (V)
PAL	752 (H) X 582 (V)	724 (H) X 582 (V)
Horizontal Resolution		
NTSC	>470 TV Lines	>470 TV Lines
PAL	>460 TV Lines	>470 TV Lines
Lens	f/1.4 (focal length, 4–64 mm) 16X optical zoom, 8X digital zoom	f/1.6 (focal length, 3.8–68.4 mm) 18X optical zoom, 12X digital zoom
Zoom Speed (optical range)	1.9/3.6/6.0 seconds	2.9/4.2/5.8 seconds
Horizontal Angle of view	43° at 4 mm wide zoom; 3° at 64 mm telephoto zoom	51° at 3.8 mm wide zoom; 3° at 68.4 mm telephoto zoom
Focus	Automatic with manual override	Automatic with manual override
Maximum Sensitivity @ 35 IRE		
NTSC	0.05 lux at 1/2 sec	0.08 lux at 1/2 sec ( <b>color</b> ) 0.3 lux at 1/60 sec shutter ( <b>B-W</b> ) 0.013 lux at 1/2 sec ( <b>B-W</b> )
PAL	0.05 lux at 1/1.5 sec	0.08 lux at 1/1.5 sec ( <b>color</b> ) 0.3 lux at 1/50 sec shutter ( <b>B-W</b> ) 0.013 lux at 1/1.5 sec ( <b>B-W</b> )
Sync System	AC line lock, phase adjustable through remote control, V-Sync	Internal/AC line lock, phase adjustable through remote control, V-Sync
White Balance	Automatic with manual override	Automatic with manual override
Shutter Speed	Automatic (electronic iris)/Manual	Automatic (electronic iris)/Manual
NTSC	1/2 ~1/30,000	1/2 ~1/30,000
PAL	1/1.5 ~1/30,000	1/1.5 ~1/30,000
Iris Control	Automatic with manual override	Automatic with manual override
Gain Control	Automatic with manual override	Automatic/OFF
Video Output	1 Vp-p, 75 ohms	1 Vp-p, 75 ohms
Video Signal to Noise	>50 dB	>50 dB

# RELATED PRODUCTS

## OPTIONAL ACCESSORIES

DD5-FM	Fixed camera mount adapter. Interchangeable with all Spectra IV dome drives.
IPS-RMK	Remote monitor kit. Stand-alone kit consisting of a 5.6-inch TFT-LCD monitor, Palm™ OS compatible handheld, cables, and carrying case. Allows viewing of camera video, local PTZ control, system setup, and system software upgrades at any installed dome.
IPS-CABLE	Remote monitor cable and software kit consisting of the Spectra IV remote monitor interface cable and necessary software for use with a PC (Windows® 95, 98, Me, 2000), Palm OS compatible handheld or iPaq™ Series Pocket PC. Refer to <a href="http://www.pelco.com">www.pelco.com</a> for a list of compatible devices.
IPS-RDPE-2*	Remote data port. 24 VAC, wall/pole mount video/data breakout box. Allows ground-level control/programming and Spectra IV OS software upgrades when used with the IPS-RMK or IPS-CABLE.
TXB Series*	Translator boards for AD™ Manchester, Hermis, Bosch® (Philips, Burle), Sensormatic®, Vicon™, and NTCIP protocols.
FS85011*	Fiber transmitter sends one unidirectional composite video channel and one bidirectional data channel over one multimode or single-mode fiber optical cable.

\*If TXB or FS85011 boards are installed, it is not possible to upgrade system operating software through the remote data port (IPS-RDPE-2).



**IPS-RMK REMOTE MONITOR KIT**

## RECOMMENDED MOUNTS

### Surface Mount Domes

PASMB	Pendant adapter for surface mount dome, black
SD53SM-P	2' x 2' drop ceiling panel for BB4-SMW and BB4T-SMW series back boxes. Replaces 2' x 2' ceiling tile. Aluminum construction.

### In-Ceiling Domes

SD5-P	2' x 2' drop ceiling panel, aluminum construction. Replaces 2' x 2' ceiling tile.
SCA1	Support rails for BB4-F; for use in ceiling tile applications.

### Pendant Domes

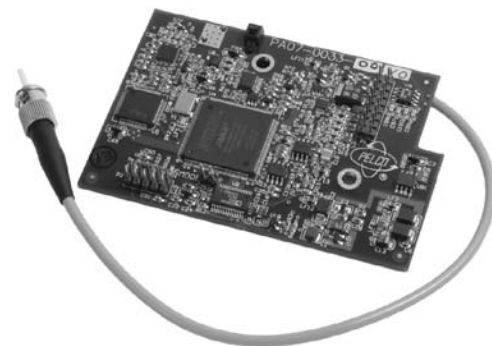
BB5-PCA-BK†	Pendant conduit adapter, black
BB5-PCA-GY†	Pendant conduit adapter, gray
IWM Series	Wall mount, with or without integral 24 VAC, 100 VA transformer. Black or gray finish. Can be adapted for corner, parapet or pole applications.
MRCA	Ceiling mount, black
MRWA	Wall mount, black
PP4348	Parapet roof mount
PP350/PP351	Parapet wall/roof mount
SWM Series	Compact wall mount, black or gray finish. Can be adapted for corner or pole applications.

† Not suitable for use with heavy-duty, pressurized, or stainless steel Spectra domes.

## RECOMMENDED POWER SUPPLIES

MCS Series	Indoor, 24 VAC power supply
MCS*E Series	Indoor, 24 VAC power supply
WCS Series	Outdoor, 24 VAC power supply

Refer to individual power supply specifications for more information.



**FS85011 FIBER MODULE**

# SYSTEM AND COMPONENT MODELS

## SYSTEM MODEL NUMBERS

Type	Back Box Color	Lower Dome	16X Color*	18X Day/Night*
Surface Mount	White	Smoked	SD4TC-SMW-0	SD418-SMW-0
		Clear	SD4TC-SMW-1	SD418-SMW-1
		Chrome	SD4TC-SMW-2	SD418-SMW-2
		Gold	SD4TC-SMW-3	SD418-SMW-3
	Black	Smoked	SD4TC-SMB-0	SD418-SMB-0
		Clear	SD4TC-SMB-1	SD418-SMB-1
		Chrome	SD4TC-SMB-2	SD418-SMB-2
		Gold	SD4TC-SMB-3	SD418-SMB-3
In-Ceiling, Indoor	Black	Smoked	SD4TC-F0	SD418-F0
		Clear	SD4TC-F1	SD418-F1
		Chrome	SD4TC-F2	SD418-F2
		Gold	SD4TC-F3	SD418-F3
In-Ceiling, Environmental <sup>†</sup>	Black	Smoked	SD4TC-F-E0	SD418-F-E0
		Clear	SD4TC-F-E1	SD418-F-E1
Pendant, Standard	Black	Smoked	SD4TC-PB-0	SD418-PB-0
		Clear	SD4TC-PB-1	SD418-PB-1
		Chrome	SD4TC-PB-2	SD418-PB-2
		Gold	SD4TC-PB-3	SD418-PB-3
	Lt. Gray	Smoked	SD4TC-PG-0	SD418-PG-0
		Clear	SD4TC-PG-1	SD418-PG-1
		Chrome	SD4TC-PG-2	SD418-PG-2
		Gold	SD4TC-PG-3	SD418-PG-3
Pendant, Environmental <sup>†</sup>	Lt. Gray	Smoked	SD4TC-PG-E0	SD418-PG-E0
		Clear	SD4TC-PG-E1	SD418-PG-E1

\*For PAL models add "-X" suffix to part number. (Example: SD4TC16-PG-E0-X)

<sup>†</sup>Environmental dome systems include a heater, fan, and the environmental pendant also includes a sun shield.

## COMPONENT MODEL NUMBERS

Back Box	Dome Drive	Lower Dome <sup>‡</sup>
BB4T-SMB Surface mount, black	DD4TC16 Color (NTSC) camera (16X)	LD53SMB-0 Smoked, surface, black
BB4T-SMW Surface mount, white	DD4TC16-X Color (PAL) camera (16X)	LD53SMB-1 Clear, surface, black
BB4T-F In-ceiling, black	DD4CBW18 Day/night (NTSC) camera (18X)	LD53SMB-2 Chrome, surface, black
BB4T-F-E In-ceiling, black, environmental	DD4CBW18-X Day/night (PAL) camera (18X)	LD53SMB-3 Gold, surface, black
BB4T-PB Pendant mount, black, standard	DD5-FM Removable fixed mount bracket only (camera and lens not included). Interchangeable with all Spectra IV dome drives.	LD53SMW-0 Smoked, surface, white
BB4T-PG Pendant mount, gray, standard		LD53SMW-1 Clear, surface, white
BB4T-PG-E Pendant mount, gray, environmental		LD53SMW-2 Chrome, surface, white
		LD53SMW-3 Gold, surface, white
		LD5F-0 Smoked, in-ceiling
		LD5F-1 Clear, in-ceiling
		LD5F-2 Chrome, in-ceiling
		LD5F-3 Gold, in-ceiling
		LD53PB-0 Smoked, pendant, black
		LD53PB-1 Clear, pendant, black
		LD53PB-2 Chrome, pendant, black <sup>§</sup>
		LD53PB-3 Gold, pendant, black <sup>§</sup>

**Notes:**  
 To order a fixed mount dome system refer to the component models above and select one each of the following: back box (BB4T-F), dome drive (DD5-FM), plus choice of lower dome (LD5F-0, LD5F-1, LD5F-2 or LD5F-3).  
 For environmental applications, you must order an environmental back box (BB4-F-E) or (BB4-PG-E).  
 DD5-FM is ideal for use with Pelco's CCC1380UH/CCC1390/MCC1380 Series cameras with selected Pelco lenses.

<sup>‡</sup>Use the pendant lower domes with the environmental in-ceiling and environmental pendant back boxes.

<sup>§</sup>Not recommended for outdoor use due to possible light reflections.

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