

TECHNICAL SPECIFICATIONS

CAMERA/OPTICS

	Day/Night (35X)	Day/Night (27X)	Day/Night (23X)
Signal Format	NTSC (DD4CBW35) PAL (DD4CBW35-X)	NTSC (DD427) PAL (DD427-X)	NTSC (DD423) PAL (DD423-X)
Scanning System	Interlace/Progressive selectable	Interlace/Progressive selectable	2:1 Interlace
Image Sensor	1/4-inch EXview HAD™	1/4-inch EXview HAD	1/4-inch EXview HAD
Effective Pixels			
NTSC	768 (H) X 494 (V)	768 (H) X 494 (V)	768 (H) X 494 (V)
PAL	752 (H) X 582 (V)	752 (H) X 582 (V)	752 (H) X 582 (V)
Horizontal Resolution			
NTSC	>540 TV Lines	>540 TV Lines	540 TV Lines
PAL	>540 TV Lines	>540 TV Lines	540 TV Lines
Lens	f/1.4 (focal length, 3.4 ~ 119 mm)	f/1.4 (focal length, 3.4 ~ 91.8 mm)	f/1.6 (focal length, 3.6 ~ 82.8 mm)
Zoom	35X optical, 12X digital	27X optical, 12X digital	23X optical, 12X digital
Zoom Speed (optical range)	3.2/4.6/6.6 seconds	3.2/4.6/6.6 seconds	2.9/4.2/5.8 seconds
Horizontal	55.8° at 3.4 mm wide zoom;	55.8° at 3.4 mm wide zoom;	54° at 3.6 mm wide zoom;
Angle of view	1.7° at 119 mm telephoto zoom	2.3° at 91.8 mm telephoto zoom	2.5° at 82.8 mm telephoto zoom
Focus	Automatic with manual override	Automatic with manual override	Automatic with manual override
Maximum Sensitivity at 35 IRE			
NTSC/EIA	0.55 lux at 1/60 sec (color) 0.018 lux at 1/2 sec (color) 0.00018 lux at 1/2 sec (B-W)	0.55 lux at 1/60 sec (color) 0.018 lux at 1/2 sec (color) 0.00018 lux at 1/2 sec (B-W)	0.65 lux at 1/60 sec (color) 0.15 lux at 1/60 sec (B-W)
PAL/CCIR	0.45 lux at 1/50 sec (color) 0.015 lux at 1/1.5 sec (color) 0.00015 lux at 1/1.5 sec (B-W)	0.45 lux at 1/50 sec (color) 0.015 lux at 1/1.5 sec (color) 0.00015 lux at 1/1.5 sec (B-W)	0.55 lux at 1/50 sec (color) 0.12 lux at 1/50 sec (B-W)
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	Automatic (electronic iris)/Manual	Automatic (electronic iris)/Manual	Automatic (electronic iris)/Manual
NTSC	1/2 ~ 1/30,000	1/2 ~ 1/30,000	1/2 ~ 1/30,000
PAL	1/1.5 ~ 1/30,000	1/1.5 ~ 1/30,000	1/1.5 ~ 1/30,000
Iris Control	Automatic iris control 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	>50 dB	>50 dB	>50 dB
Wide Dynamic Range	128X	128X	—
Electronic Image Stabilization	Integrated/Selectable	—	—
Image Enhancement	Integrated/Selectable	—	—
Video Motion Detection	Integrated	Integrated	—

TECHNICAL SPECIFICATIONS

VIDEO

Video Encoding	H.264 base profile, MPEG-4, and MJPEG
Video Streams	Up to 2 simultaneous streams; the second stream is variable based on the setup of the primary stream
Frame Rate	Up to 30, 25, 24, 15, 12.5, 12, 10, 8, 7.5, 6, 5, 4, 3, 2, 1 (dependent upon coding, resolution, and stream configuration)

Available Resolutions	Resolution			MJPEG		H.264 Base Profile		MPEG-4	
	Width	Height	Format	Maximum IPS	Recommended Bit Rate	Maximum IPS	Recommended Bit Rate	Maximum IPS	Recommended Bit Rate
	704	480	NTSC	30 ips	5.4 Mbps	30 ips	1.9 Mbps	30 ips	2.0 Mbps
	352	240	NTSC	30 ips	1.3 Mbps	30 ips	0.5 Mbps	30 ips	0.6 Mbps
	704	576	PAL	25 ips	5.4 Mbps	25 ips	1.9 Mbps	25 ips	2.0 Mbps

Supported Protocols	TCP/IP, UDP/IP (Unicast, Multicast IGMP), UPnP, DNS, DHCP, RTP, RTSP, NTP, IPv4, SNMP, QoS, HTTP, HTTPS, LDAP (client), SSH, SSL, SMTP, FTP, mDNS (Bonjour), and 802.1x (EAP)
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Users	
Unicast	Up to 20 simultaneous users depending on resolution settings (2 guaranteed streams)
Multicast	Unlimited users H.264 or MPEG-4
Security Access	Password protected
Software Interface	Web browser view and setup, up to 16 cameras
Pelco System Integration	Endura 1.5 or later (MPEG-4) or Endura 2.0 or later (H.264); Digital Sentry 4.2 IP bundle 3 or later; DX8100 Series 2.0 or later; and DVR5100 version 1.5.4 or later
Open IP Integration	Pelco IP camera API

Minimum System Requirements	
Processor	Intel® Pentium® 4 microprocessor, 1.6 GHz
Operating System	Microsoft® Windows® XP, Windows Vista®, or Mac® OS X 10.4 (or later)
Memory	512 MB RAM
Network Interface Card	100 megabits (or greater)
Monitor	Minimum of 1024 x 768 resolution, 16- or 32-bit pixel color resolution
Web Browser*	Internet Explorer® 7.0 (or later) or Mozilla® Firefox® 3.0 (or later)
Media Player†	Pelco Media Player or QuickTime® 7.6.5 for Windows XP, Windows Vista, or QuickTime 7.6.4 for Mac OS X 10.4

*Internet Explorer is not supported by Mac OS X 10.4.

†This product is not compatible with QuickTime version 7.6.4 for Windows XP or Windows Vista. If you have this version installed on your PC, you will need to upgrade to QuickTime version 7.6.5.

DOMED DRIVE FEATURES

35X and 27X Models

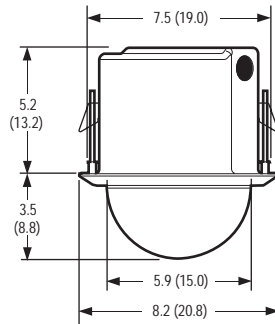
- 256 Presets
- $\pm 0.1^\circ$ Preset Accuracy
- Electronic Image Stabilization (35X model)
- Image Enhancement (35X model)
- Multilingual Menus (English, Spanish, Portuguese, Italian, French, German, Russian, Polish, Turkish, and Czech)
- RJ-45 Data Port for Software Update and Setup
- On-Screen Compass, 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
- Window Blanking: Up to 8, Four-Sided, User-Defined Shapes
- 8 Zones (configurable in size) Can Be Labeled with up to 20 Characters Each or Set to Output Blank Video
- 7 Alarm Inputs
- 1 Auxiliary (Form C) Relay Output and 1 Open Collector Auxiliary Output (can be alternately configured to operate upon alarm)
- Configurable Locations of Labels and On-Screen Displays
- Action on Alarm: Alarms Can Be Individually Configured for 3 Priority Levels, to Initiate a Stored Pattern, or to Go to an Associated Preset When Received
- Resume After Alarm: Allows the Dome to Return to a Previously Configured State After Alarm Acknowledgement or to its Previous Position Before Alarm
- Multiple Park and Power-Up Action
- 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
- Variable Scan Speed: Scan Speed Can Be Configurable Between 1 to $40^\circ/\text{sec}$
- Pan Motion Allows 0.1° to $150^\circ/\text{sec}$ Pan Speed
- Configurable Limit Stops for Auto/Random/Frame Scan Modes
- Autosensing Protocol (Coaxitron®, RS-422 Pelco P and Pelco D, Sensormatic®, Vicon®); Accepts Other Control Protocols with Optional Translator Card
- Digital Position and Zoom Control and Feedback Through Pelco D Protocol
- Built-in Menu System for Setup of Configurable Functions
- "Auto Flip" Rotates Dome 180° at Bottom of Tilt Travel
- Configurable Zoom Speeds
- Freeze Frame During Presets

23X Models

- 64 Presets
- $\pm 0.1^\circ$ Preset Accuracy
- Multilingual 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
- Window Blanking: Up to 4, Four-Sided, User-Defined Shapes
- 8 Zones (configurable in size) Can Be Labeled with up to 20 Characters Each or Set to Output Blank Video
- 1 Alarm Input
- 1 Auxiliary (Form C) Relay Output
- Configurable Locations of Labels and On-Screen Displays
- Patterns: 1 On-Screen, User-Defined Configurable 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 Configurable Between 1 to $40^\circ/\text{sec}$
- Pan Motion Allows 0.1° to $150^\circ/\text{sec}$ Pan Speed
- Autosensing Protocol (Coaxitron, RS-422 Pelco P and Pelco D, Sensormatic, Vicon); Accepts Other Control Protocols with Optional Translator Card
- Digital Position and Zoom Control and Feedback through Pelco D Protocol
- Built-in Menu System for Setup of Configurable Functions
- "Auto Flip" Rotates Dome 180° at Bottom of Tilt Travel
- Freeze Frame During Presets

TECHNICAL SPECIFICATIONS

BACK BOX FEATURES

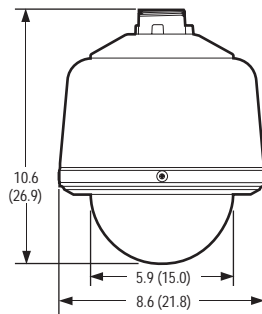


In-Ceiling (Indoor)

- Built-in Memory Stores Camera/Dome Settings
- 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

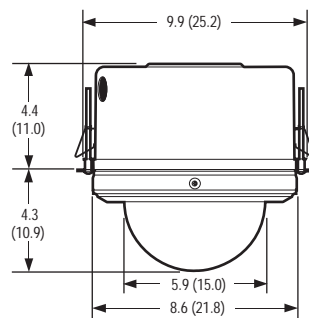


(ENVIRONMENTAL DOME WITH SUN SHROUD SHOWN)



Standard and Environmental Pendant

- Standard and Environmental Models
- Built-in Memory Stores Camera/Dome Settings
- 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



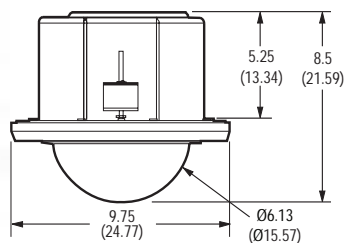
NOTE: VALUES IN PARENTHESES ARE CENTIMETERS; ALL OTHERS ARE INCHES.

Environmental In-Ceiling

- Built-in Memory Stores Camera/Dome Settings
- 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

TECHNICAL SPECIFICATIONS

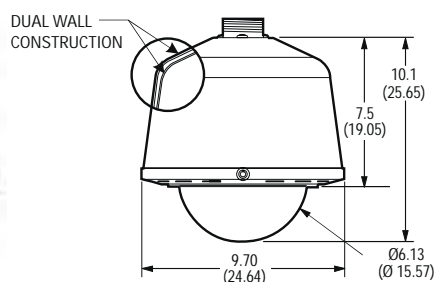
BACK BOX FEATURES



Heavy-Duty In-Ceiling (Indoor)

Available only with 27X and 35X models

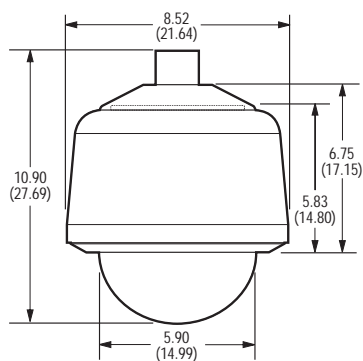
- Built-in Memory Stores Camera/Dome Settings
- Single Back Box for Hard Ceiling Applications
- Requires 5.25-Inch Space Above Ceiling and 3.25 Inches Below
- Quick Disconnect to Dome Drive
- Reinforced Mounting System
- Heavy-Duty Polycarbonate Dome Bubble
- Aluminum Trim Ring with Barrel-Type Key Locks
- Optional Protective Cage



Heavy-Duty Pendant

Available only with 27X and 35X models

- Standard and Environmental Models
- Built-in Memory Stores Camera/Dome Settings
- Quick Disconnect to Dome Drive
- Dual Wall Construction
- Heavy-Duty Polycarbonate Dome Bubble
- Aluminum Trim Ring with Barrel-Type Key Locks
- Optional Protective Cage
- Environmental Model Includes Sun Shield, Fan, and Heater



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

Stainless Steel Pendant

Available only with 27X and 35X models

- Standard and Environmental Models
- Built-in Memory Stores Camera/Dome Settings
- Quick Disconnect to Dome Drive
- All Stainless Steel Construction
- Includes Sun Shield, Fan, and Heater

TECHNICAL SPECIFICATIONS

GENERAL

Construction		
Back Box		
In-Ceiling	Aluminum	
Pendant	Aluminum	
Heavy-Duty	Aluminum	
Stainless Steel	316 stainless steel; gray, polyurethane powder coated finish	
Dome Drive	Aluminum, thermo plastic	
Lower Dome		
In-Ceiling	Acrylic	
Pendant	Acrylic	
Heavy-Duty	Polycarbonate, 0.09-inch thick	
Stainless Steel	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	0.75-inch conduit fitting	
Pendant	Through 1.5-inch NPT pendant mount	
Weight (approximate)	Unit	Shipping
In-Ceiling	5.2 lb (2.4 kg)	8 lb (3.6 kg)
Environmental In-Ceiling	6.2 lb (2.8 kg)	10 lb (4.5 kg)
Standard Pendant	6.5 lb (3.0 kg)	11 lb (5.0 kg)
Environmental Pendant	7.6 lb (3.5 kg)	12 lb (5.4 kg)
Heavy-Duty In-Ceiling*	7.3 lb (3.3 kg)	12 lb (5.4 kg)
Heavy-Duty Pendant*	9.8 lb (4.5 kg)	16 lb (7.3 kg)
Heavy-Duty Environmental Pendant*	9.8 lb (4.5 kg)	16 lb (7.3 kg)
Stainless Steel	10.1 lb (4.6 kg)	16 lb (7.3 kg)
Environment		
In-Ceiling	Indoor	
Environmental In-Ceiling	Outdoor	
Pendant, Standard and Environmental	Indoor/outdoor	
Heavy-Duty In-Ceiling	Indoor	
Heavy-Duty Pendant, Standard & Environmental	Indoor/outdoor	
Stainless Steel	Indoor/outdoor	
Operating Temperature		
In-Ceiling	32° to 122°F (0° to 50°C)	
Standard Pendant	(Assumes no wind chill factor)	
Maximum	113°F (45°C) absolute maximum; 95°F (35°C) sustained maximum	
Minimum	25°F (–4°C) sustained minimum	
Environmental In-Ceiling and Environmental Pendant	(Assumes no wind chill factor)	
Maximum	140°F (60°C) absolute maximum; 122°F (50°C) sustained maximum	
Minimum	–60°F (–51°C) absolute minimum; prevents icing at sustained minimum of –50°F (–45°C); de-ices 0.1 inch (2.5 mm) within 3 hours after power-up	
Heavy-Duty In-Ceiling	32° to 122°F (0° to 50°C)	
Heavy-Duty Pendant	32° to 122°F (0° to 50°C) absolute maximum; 32° to 122°F (0° to 50°C) sustained maximum	
Heavy-Duty Environmental Pendant	(Assumes no wind chill factor)	
Maximum	140°F (60°C) absolute maximum; 122°F (50°C) sustained maximum	
Minimum	–60°F (–51°C) absolute minimum; minimal icing at sustained minimum of –50°F (–45°C); prevents icing at sustained minimum of –40°F (–40°C); de-ices 0.1 inch (2.5 mm) within 3 hours after power-up	

Stainless Steel	(Assumes no wind chill factor)
Maximum	140°F (60°C) absolute maximum; 122°F (50°C) sustained maximum
Minimum	–60°F (–51°C) absolute minimum; minimal icing at sustained minimum of –50°F (–45°C); prevents icing at sustained minimum of –40°F (–40°C); de-ices 0.1 inch (2.5 mm) within 3 hours after power-up
Effective Projected Area (EPA)	20.5 square inches (without mount); 47 square inches (with IWM Series mount)

MECHANICAL

(Dome Drive Only)

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

AUDIO

Streaming	Bidirectional: full or half duplex
Input/Output	Terminal block, analog for microphone and speaker; 600-ohm differential; 1 Vp-p maximum signal level
Compression	G.711 PCM 8 bit, 8 kHz mono at 64 kbit/s

ELECTRICAL

Ports	RJ-45 connector for 100Base-TX Auto MDI/MDI-X Autonegotiate/Manual setting
Cabling Type	Cat5 or better for 100Base-TX
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
Auxiliary Outputs	2
Alarm Inputs	7

CERTIFICATIONS/RATINGS/PATENTS

- CE, Class B
- FCC, Class B
- UL/cUL Listed
- C-Tick
- 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 (BB4E-F-E, BB4E-PB, BB4E-PG, BB4E-PG-E, BB4EHD-PG, BB4EHD-PG-E, and BB4E-PSG-E)
- NEMA Type 1, IP40 (BB4E-F and BB4EHD-F)

*Add 2 lb (0.90 kg) to the total weight if the system includes a lower dome cage.

RELATED PRODUCTS

OPTIONAL ACCESSORIES

HD-KEYS	1 set of keys for heavy-duty lower 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; refer to www.pelco.com 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/configuration when used with the IPS-CABLE

RECOMMENDED MOUNTS

In-Ceiling Domes

SD5-P	2' x 2' drop ceiling panel, aluminum construction; replaces 2' x 2' ceiling tile
SCA1	Support rails for BB4N-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 application
MRCA	Ceiling 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
IDM4012SS	Stainless steel wall mount with feedthrough capabilities

RECOMMENDED POWER SUPPLIES

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

Refer to individual power supply specifications for more information.

SYSTEM AND COMPONENT MODELS

SYSTEM MODEL NUMBERS

Type	Back Box Color	Lower Dome	Cage	35X Day/Night*	27X Day/Night*	23X Day/Night*
In-Ceiling, Indoor	Black	Smoked		SD4E35-F0	SD4E27-F0	SD4E23-F0
		Clear		SD4E35-F1	SD4E27-F1	SD4E23-F1
		Chrome		SD4E35-F2	SD4E27-F2	SD4E23-F2
		Gold		SD4E35-F3	SD4E27-F3	SD4E23-F3
In-Ceiling, Environmental†	Black	Smoked		SD4E35-F-E0	SD4E27-F-E0	SD4E23-F-E0
		Clear		SD4E35-F-E1	SD4E27-F-E1	SD4E23-F-E1
		Chrome		SD4E35-F-E2	SD4E27-F-E2	SD4E23-F-E2
		Gold		SD4E35-F-E3	SD4E27-F-E3	SD4E23-F-E3
Pendant, Standard	Black	Smoked		SD4E35-PB-0	SD4E27-PB-0	SD4E23-PB-0
		Clear		SD4E35-PB-1	SD4E27-PB-1	SD4E23-PB-1
		Chrome		SD4E35-PB-2	SD4E27-PB-2	SD4E23-PB-2
		Gold		SD4E35-PB-3	SD4E27-PB-3	SD4E23-PB-3
	Light Gray	Smoked		SD4E35-PG-0	SD4E27-PG-0	SD4E23-PG-0
		Clear		SD4E35-PG-1	SD4E27-PG-1	SD4E23-PG-1
		Chrome		SD4E35-PG-2	SD4E27-PG-2	SD4E23-PG-2
		Gold		SD4E35-PG-3	SD4E27-PG-3	SD4E23-PG-3
Pendant, Environmental†	Light Gray	Smoked		SD4E35-PG-E0	SD4E27-PG-E0	SD4E23-PG-E0
		Clear		SD4E35-PG-E1	SD4E27-PG-E1	SD4E23-PG-E1
Heavy-Duty In-Ceiling, Indoor	Light Gray	Smoked	No	SD4E35-HF0	SD4E27-HF0	
			Yes	SD4E35-HCF0	SD4E27-HCF0	
		Clear	No	SD4E35-HF1	SD4E27-HF1	
			Yes	SD4E35-HCF1	SD4E27-HCF1	
Heavy-Duty Pendant, Indoor		Smoked	No	SD4E35-HP0	SD4E27-HP0	
			Yes	SD4E35-HCP0	SD4E27-HCP0	
		Clear	No	SD4E35-HP1	SD4E27-HP1	
			Yes	SD4E35-HCP1	SD4E27-HCP1	
Heavy-Duty Pendant, Environmental†		Smoked	No	SD4E35-HPE0	SD4E27-HPE0	
			Yes	SD4E35-HCPE0	SD4E27-HCPE0	
		Clear	No	SD4E35-HPE1	SD4E27-HPE1	
			Yes	SD4E35-HCPE1	SD4E27-HCPE1	
Stainless Steel Pendant, Environmental†	Stainless Steel	Smoked		SD4E35-PSGE0	SD4E27-PSGE0	
		Clear		SD4E35-PSGE1	SD4E27-PSGE1	

*For PAL and CCIR models add "-X" suffix to part number (for example, BB4E-PG-E-X).

[†]Environmental dome systems include a heater, fan, and sun shield.