



ICS110 Series Camclosure® Camera System

OUTDOOR, MINI DOME, SURFACE MOUNT, WDR, LOWLIGHT, HIGH RES, STD RES

Product Features

- Fully-Integrated Enclosure with Camera and Lens
- Rugged, High-Impact, Vandal-Resistant, Puncture-Proof Domes; Tamper-Resistant Hardware
- Available with Wide Dynamic Range (WDR) Technology (102 dB Typical/120 dB Maximum)
- Available with LowLight™ DSS Technology (Down to 0.025 lux)
- Camera Module Options: Color WDR, Color High Resolution, Color LowLight, Color or Monochrome Standard Resolution
- WDR Models Include Both Composite and Unshielded Twisted Pair (UTP) Outputs and Progressive Scan Mode
- Six Lens Options: 2.9 mm, 3.6 mm, 6 mm, 8 mm, 12 mm, 3-9 mm Varifocal
- Easy to Install; Camera Module Easy to Adjust and Remove
- Meets NEMA Type 4X and IP66 Standards
- 12 VDC or 24 VAC Operation, Autosensing
- Available with Smoked or Clear Dome



ICS110 SERIES DOME



ICS110 WITH ICS110-PG PENDANT ADAPTER AND SWM-GY MOUNT

- All Color Cameras Feature Digital Signal Processing
- Optional Pendant Mount Adapter

Camera Modules

The **ICS110 Series Camclosure® Integrated Camera System** offers a large selection of camera and lens options. Available camera modules include the following:

- Wide dynamic range color camera with auto iris, 3-9 mm varifocal lens
WDR cameras are designed to meet your extreme back lighting conditions, including glare, direct sunlight, and shadows. They capture clear, discernable images in a variety of challenging environments – from lobbies to loading docks to warehouses.
- LowLight™ DSS, high-resolution color camera with auto iris, 3-9 mm varifocal lens
The LowLight color camera has extended Digital Slow Shutter (DSS) settings to enhance the low light performance of the camera by automatically adjusting the number of fields of integration. This slows the picture frame rate and increases the camera's sensitivity in low light conditions.
- High-resolution color camera with auto iris, 3-9 mm varifocal lens
- High and standard resolution color cameras with fixed focal length lenses
- Standard resolution black-white cameras with fixed focal length lenses.

All cameras with fixed focal length lenses are available in 2.9 mm, 3.6 mm, 6 mm, 8 mm, or 12 mm lengths.

Enclosure Modules

The **ICS110 Series Camclosure® Integrated Camera System** combines an environmental cover, back box, camera, lens, and lower dome into a small, high-security system that is quick and easy to install. The system is perfect for a variety of indoor and outdoor applications and its versatile design allows for multiple mounting options.

The **ICS110 Series** can be installed directly into a ceiling or wall, or to a 1.5-inch (3.81 mm) NPT fitting with the optional pendant mount adapter (ICS110-PG). The unit can also mount directly to a 4S electrical box using the optional adapter plate (ICS110-AP) or a standard plaster ring.

The system's back box has three conduit openings: two in the base, and a threaded 0.75-inch (1.91 cm) opening in the side. The environmental cover can be used to hide and protect the side conduit opening if it is not used.

The lower dome of the **ICS110 Series** is available with clear or smoked bubble. Models with a clear lower dome include a black dome liner for discreet viewing. Domes with a smoked bubble may be purchased without the camera module for pre-installation or for camera bicycling.



C2403 / REVISED 7-06

IP66



U.S. Patents D476,025; 6,715,939 B2; 6,805,498 B2

International Standards
Organization Registered Firm;
ISO 9001 Quality System



TECHNICAL SPECIFICATIONS

GENERAL

Construction	Aluminum with steel camera mounting bracket and polycarbonate dome
Finish	Light gray polyester powder coat
Light Attenuation	
Smoked	1.5 F-stops light loss
Clear	Zero light loss
Unit Weight	2.20 lb (1.00 kg)
Shipping Weight	4.0 lb (1.81 kg)

ELECTRICAL

Input Voltage*	12 VDC or 24 VAC ($\pm 10\%$), autosensing
Power Consumption	
Camera	Less than 3 watts
Heaters	10 watts when active; thermostatically controlled

MECHANICAL

Cable Entry	One 0.75-inch (1.91 cm) NPT threaded opening on side; two 0.75-inch (1.91 cm) openings on base
Pan/Tilt Adjustment	Manual
Pan	360°
Tilt	180°; 80°: 20° to 100° range (WDR models only)
Rotation	360°

VIDEO

Signal System	EIA or CCIR
Monochrome	NTSC or PAL
Color	
Video Connectors	One composite BNC One composite BNC and one UTP (WDR models only)
Service Connector	3-conductor, 2.5 mm connector for video output to optional ICS090-SC cable (WDR models only)

ENVIRONMENTAL

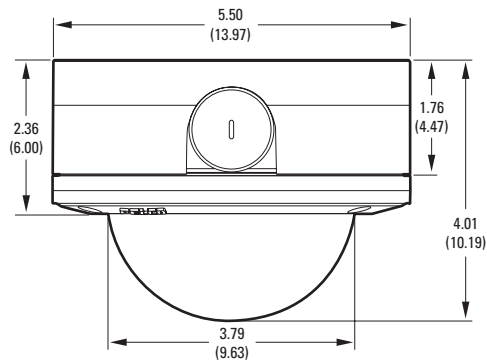
Environment	Low temperature, indoor/outdoor
Operating Temperature	-50°F to 122°F (-46°C to 50°C); de-ices to 25°F (-4°C)
Thermostat Operation	Heater is thermostatically controlled to activate ON at 50°F (10°C) and OFF at 80°F (27°C)

CERTIFICATIONS/RATINGS/PATENTS

- CE and FCC, Class A (models with black-white cameras)
- CE and FCC, Class B (models with color cameras only)
- UL Listed
- UL Listed to Canadian safety standards
- Meets NEMA Type 4X and IP66 standards
- Tested in accordance with MIL-STD 810E as follows:
 - Shock test; Section 516.4
 - Humidity test; Sections 520.1 and 507.3
 - Vibration test; Section 514.4
- ASTM Shipping Standard
- ISTA Shipping Standard

All tests are performed in accordance with ISO Guide 25 and ANSI/NCSL Z540-1.

- U.S. Patents D476,025; 6,715,939 B2; 6,805,498 B2



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

*24 VAC power is recommended when installing any Camclosure Integrated Camera System under fluorescent lighting conditions.

TECHNICAL SPECIFICATIONS

CAMERA SPECIFICATIONS

Color, Wide Dynamic Range, LowLight™ DSS, High Resolution

	Color Wide Dynamic Range Varifocal, Auto Iris (Models ICS110- CW-V39)	Color LowLight DSS Varifocal, Auto Iris (Models ICS110- CDVxA / ICS110- CEVxA)	Color High Resolution Varifocal, Auto Iris (Models ICS110- CRVxA / ICS110- CSVxA)	Color High Resolution Fixed, Without Iris (Models ICS110- CRx / ICS110- CSx)
Imaging Device	1/3-inch Imager	1/3-inch Interline Color CCD	1/4-inch Interline Color CCD (Hyper HAD™)	1/3-inch Interline Color CCD (Hyper HAD)
Dynamic Range (WDR only)	102 dB typical/120 dB maximum			
Scanning System	2:1 Interlace Progressive	2:1 Interlace	2:1 Interlace	2:1 Interlace
Sync System	Internal AC line lock	Adjustable AC line lock/internal, auto select	12 VDC: Internal 24 VAC: External (VD Lock)	12 VDC: Internal 24 VAC: External (VD Lock)
Horizontal Resolution	NTSC: 504 TV lines PAL: 504 TV lines	NTSC: 480 TV lines PAL: 480 TV lines	NTSC: 480 TV lines PAL: 480 TV lines	NTSC: 470 TV lines PAL: 460 TV lines
Signal-to-Noise Ratio	53 dB	50 dB	48 dB (AGC Off)	48 dB
Min. Illumination	0.5 lux (F1.2), 40 IRE, AGC on, 75% scene reflectance (extended shutter mode, 15 fps)	0.75 lux @ 40 IRE DSS Off, F1.6 @ wide angle 1.20 lux @ 50 IRE DSS Off, F1.6 @ wide angle 0.025 lux @ 40 IRE, 30 fields of DSS, F1.6 @ wide angle 0.040 lux @ 50 IRE, 30 fields of DSS, F1.6 @ wide angle	Less than 1.2 lux (F1.2)	1 lux (F2.0)
Video Out	Composite: 1 Vp-p (75 ohms) UTP: Active 1 Vp-p (100 ohms)	Composite: 1 Vp-p (75 ohms)	Composite: 1 Vp-p (75 ohms)	Composite: 1 Vp-p (75 ohms)
Gain Control	Auto (36 dB maximum)	Auto/Manual by DIP switch	On/Off by DIP switch (0-20 dB)	NTSC: Auto PAL: Manual
Exposure	Auto (1/15 - 1/22,000)	Automatic Control with DC Iris Meter (1/60 - 1/100,000)	Electronic Shutter (1/60 - 1/100,000)	Electronic Shutter (1/60 - 1/100,000)
White Balance	Auto or manual (switch selectable), 2700°K - 7500°K	Auto	Auto or manual (switch selectable)	Auto
Backlight Compensation	Auto	ON/OFF (switch selectable)	Auto; adjusts AGC and AES	Auto or manual (switch selectable)

TECHNICAL SPECIFICATIONS

Color and B-W, Standard Resolution

	Color Standard Resolution Fixed, Without Iris (Models ICS110- CA x/ICS110- CC x)	Black-White Standard Resolution Fixed, Without Iris (Models ICS110- MA x/ICS110- MC x)
Imaging Device	1/3-inch Interline Color CCD	1/3-inch CCD
Scanning System	2:1 Interlace	2:1 Interlace
Sync System	12 VDC: Internal 24 VAC: External (VD Lock)	Internal
Horizontal Resolution	NTSC: 350 TV lines PAL: 350 TV lines	EIA: 420 TV lines CCIR: 420 TV lines
Signal-to-Noise Ratio	48 dB	50 dB
Min. Illumination	1 lux (F2.0)	0.1 lux (F2.0)
Gain Control	Auto	Auto
Exposure	Electronic Shutter (1/60 - 1/100,000)	Electronic Shutter (1/60 - 1/100,000)
White Balance	Auto	Not applicable
Backlight Compensation	Auto or manual (switch selectable)	Auto

LENS SPECIFICATIONS

Camera	Varifocal With Auto Iris		
	Color Wide Dynamic Range	Color LowLight DSS High Resolution	Color High Resolution
Focal Length	3.0 mm ~ 9.0 mm	3.0 mm ~ 9.0 mm	3.0 mm ~ 9.0 mm
Format Size	1/3-inch	1/3-inch	1/4-inch
Relative Aperture (F)	1.2 to 2.1	1.2 to 2.1	1.2 to 2.1
Operation			
Iris	Auto	Auto	Auto
Focus	Manual	Manual	Manual
Zoom	Manual	Manual	Manual
Angle of View*			
Horizontal	92.8° to 33.3°	84° to 31.2°	66.2° to 23.9°
Diagonal	118.7° to 41.5°	106.9° to 23.1°	83.9° to 29.9°
Vertical	68.8° to 25°	60.8° to 23.1°	49.1° to 18°

Camera	Fixed Focal Without Iris									
	Color	B-W	Color	B-W	Color	B-W	Color	B-W	Color	B-W
Focal Length	2.9 mm	3.0 mm	3.6 mm		6.0 mm		8.0 mm		12.0 mm	
Format Size	1/3-inch		1/3-inch		1/3-inch		1/3-inch		1/3-inch	
Relative Aperture (F)	2.0		2.0		1.8	2.5	1.8	2.5	2.0	
Operation										
Iris	N/A		N/A		N/A		N/A		N/A	
Focus	Manual		Manual		Manual		Manual		Manual	
Zoom	N/A		N/A		N/A		N/A		N/A	
Angle of View*										
Horizontal	90°	87°	74°		42°	38°	32°	29°	21°	
Diagonal	—	—	—	—	—	—	—	—	—	—
Vertical	69°	67°	55°		33°	30°	25°	23°	17°	

*Focal length specifications presume a 10% horizontal and 4% vertical monitor overscan.

SYSTEM MODELS AND ACCESSORIES

MODELS

Dome Only

The following model allows pre-installation of domes or can be used in a camera bicycling installation:
ICS-DO110A ICS110 Series surface mount dome (no camera/lens) with smoked bubble.

SYSTEM MODELS, Color Camera

Camera Type	Lower Dome	Lens	Lens Type	NTSC	PAL
Color, Wide Dynamic Range	Smoked	3 ~ 9 mm	Varifocal, auto iris	ICS110-CW-V39	
	Clear	3 ~ 9 mm	Varifocal, auto iris	ICS111-CW-V39	
Color, LowLight DSS, High Resolution	Smoked	3 ~ 9 mm	Varifocal, auto iris	ICS110-CDV39A	ICS110-CEV39A
	Clear	3 ~ 9 mm	Varifocal, auto iris	ICS111-CDV39A	ICS111-CEV39A
Color, High Resolution	Smoked	3 ~ 9 mm	Varifocal, auto iris	ICS110-CRV39A	ICS110-CSV39A
		2.9 mm	Fixed, without iris	ICS110-CR3	ICS110-CS3
		3.6 mm	Fixed, without iris	ICS110-CR3.6	ICS110-CS3.6
		6 mm	Fixed, without iris	ICS110-CR6	ICS110-CS6
		8 mm	Fixed, without iris	ICS110-CR8	ICS110-CS8
		12 mm	Fixed, without iris	ICS110-CR12	ICS110-CS12
	Clear	3 ~ 9 mm	Varifocal, auto iris	ICS111-CRV39A	ICS111-CSV39A
		2.9 mm	Fixed, without iris	ICS111-CR3	ICS111-CS3
		3.6 mm	Fixed, without iris	ICS111-CR3.6	ICS111-CS3.6
		6 mm	Fixed, without iris	ICS111-CR6	ICS111-CS6
		8 mm	Fixed, without iris	ICS111-CR8	ICS111-CS8
		12 mm	Fixed, without iris	ICS111-CR12	ICS111-CS12
Color, Standard Resolution	Smoked	2.9 mm	Fixed, without iris	ICS110-CA3	ICS110-CC3
		3.6 mm	Fixed, without iris	ICS110-CA3.6	ICS110-CC3.6
		6 mm	Fixed, without iris	ICS110-CA6	ICS110-CC6
		8 mm	Fixed, without iris	ICS110-CA8	ICS110-CC8
		12 mm	Fixed, without iris	ICS110-CA12	ICS110-CC12
	Clear	2.9 mm	Fixed, without iris	ICS111-CA3	ICS111-CC3
		3.6 mm	Fixed, without iris	ICS111-CA3.6	ICS111-CC3.6
		6 mm	Fixed, without iris	ICS111-CA6	ICS111-CC6
		8 mm	Fixed, without iris	ICS111-CA8	ICS111-CC8
		12 mm	Fixed, without iris	ICS111-CA12	ICS111-CC12
		2.9 mm	Fixed, without iris	ICS111-CA3	ICS111-CC3
		3.6 mm	Fixed, without iris	ICS111-CA3.6	ICS111-CC3.6
		6 mm	Fixed, without iris	ICS111-CA6	ICS111-CC6
		8 mm	Fixed, without iris	ICS111-CA8	ICS111-CC8
		12 mm	Fixed, without iris	ICS111-CA12	ICS111-CC12

SYSTEM MODELS, B-W Camera

Camera Type	Lower Dome	Lens	Lens Type	EIA	CCIR
B-W, Standard Resolution	Smoked	3.0 mm	Fixed, without iris	ICS110-MA3	ICS110-MC3
		3.6 mm	Fixed, without iris	ICS110-MA3.6	ICS110-MC3.6
		6 mm	Fixed, without iris	ICS110-MA6	ICS110-MC6
		8 mm	Fixed, without iris	ICS110-MA8	ICS110-MC8
		12 mm	Fixed, without iris	ICS110-MA12	ICS110-MC12
	Clear	3.0 mm	Fixed, without iris	ICS111-MA3	ICS111-MC3
		3.6 mm	Fixed, without iris	ICS111-MA3.6	ICS111-MC3.6
		6 mm	Fixed, without iris	ICS111-MA6	ICS111-MC6
		8 mm	Fixed, without iris	ICS111-MA8	ICS111-MC8
		12 mm	Fixed, without iris	ICS111-MA12	ICS111-MC12

SYSTEM MODELS AND ACCESSORIES

LENS PACK OPTIONS

Lens packs offer the added convenience of easily changing a camera's field of view by simply changing the lens.

All fixed focal length lenses without iris (2.9 mm to 12 mm) are interchangeable with any camera module. Fixed focal length auto iris and varifocal lenses are not interchangeable.

Variety Pack*

13FFD-V5PAK Variety package of five lenses, one each
2.9 mm, 3.6 mm, 6 mm, 8 mm, and 12 mm

Single Lens Pack*

13FF3D 2.9 mm lens and mount
13FF3.6D 3.6 mm lens and mount
13FF6D 6 mm lens and mount
13FF8D 8 mm lens and mount
13FF12D 12 mm lens and mount

Four Lens Pack*

13FF3D-4PAK Package of four 2.9 mm lenses and mounts
13FF3.6D-4PAK Package of four 3.6 mm lenses and mounts
13FF6D-4PAK Package of four 6 mm lenses and mounts

*Fixed focal length lenses, without auto iris.

RECOMMENDED POWER SUPPLIES

(For use with 24 VAC models only)

TF2000	Power supply for one 24 VAC camera, 20 VA
MCS Series	Multiple 24 VAC camera power supply, indoor
MCS*E Series	Multiple 24 VAC camera power supply, indoor
WCS Series	Single/multiple 24 VAC camera power supply, outdoor

OPTIONAL ACCESSORIES

ICS110-AP	Adapter plate for a 4-square electrical box
ICS110-PG	Pendant mount adapter
ICS110-BV	Breather vent to prevent condensation from forming inside the unit
SWM Series	Compact wall mount with cable feedthrough. Requires ICS110-PG adapter.
ICS090-SC	4-foot service/monitor cable; compatible with any standard monitor BNC connector (WDR models only)



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