



# ICS090 Series Camclosure® Camera System

## INDOOR, MINI DOME, SURFACE MOUNT/IN-CEILING

### Product Features

- Fully-Integrated Indoor Enclosure with Camera and Lens
- Single Model for Surface Mount and Recessed Ceiling Applications
- Video Service Connector for On-Site Setup
- Shipped Completely Assembled, Easy to Install
- 12 VDC or 24 VAC Operation, Autosensing
- Manual, 3-Axis (Pan/Tilt/Rotation) Positioning Allows Adjustment for Optimum Camera Rotation and Placement
- Housing Available in White or Black
- Available with Smoked or Clear Dome
- Clear Dome Includes a Discreet Liner
- NTSC/PAL or EIA/CCIR Camera Formats
- All Color Cameras Feature Digital Signal Processing
- UTP Output (Twisted Pair) Models Available
- Includes 4S Adapter Plate

The **ICS090 Series Camclosure® Integrated Camera System** integrates a camera and lens package into a small, versatile indoor enclosure that can be mounted directly to a ceiling/wall or recessed in a ceiling/wall.

The **ICS090 Series** is shipped completely assembled making installation fast and easy. To surface-mount the unit, remove it from the box, attach it to the mounting surface, and connect video and power. For recessed installations simply remove the surface mount ring (no tools required) and then install the unit inside a ceiling/wall. A 4S adapter plate is supplied with the unit for electrical box installations.

The **ICS090 Series** features a 3-axis camera and lens positioning system that is capable of 360 degrees of pan, 140 degrees of tilt and 360 degrees of rotation. It is designed for continuous operation. The system also has an internal sensing system for input voltage (12 VDC or 24 VAC), easy access to V-phase adjustment (color only), and a built-in service connector for on-site camera setup.



SHOWN WITH PENDANT MOUNT ADAPTER (ICS090-PWI)

NOTE: THE SURFACE MOUNT RING IS REMOVED FOR RECESSED INSTALLATIONS.



SHOWN IN WHITE

An optional 4-foot service/monitor cable (**ICS090-SC**) is available for on-site setup and adjustments. To use the cable simply plug one end of the cable directly into the service connector of the **ICS090** and connect the other end to any standard BNC (VIDEO IN) connector on a monitor.

The **ICS090 Series** has a large selection of camera and lens options, including the following:

- 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 lenses are available in 2.9 mm, 3.6 mm, 6 mm, 8 mm, or 12 mm lengths.



# TECHNICAL SPECIFICATIONS

## ELECTRICAL

Input Voltage	12 VDC or 24 VAC ( $\pm 10\%$ ), auto-sensing
Power Consumption	3 watts or less
Video Connector	BNC

## GENERAL

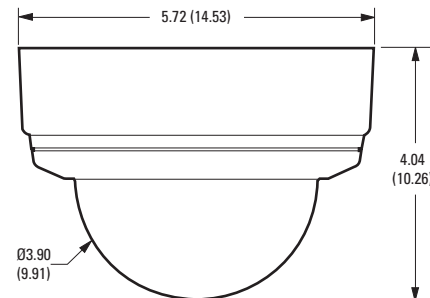
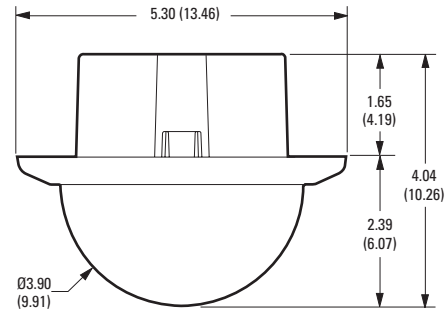
Pan/Tilt Adjustment	
Pan	360°
Tilt	140° (20° to 160° range)
Rotation	360°
Construction	
Back Box and Surface Mount Ring	ABS plastic
Bubble	Polycarbonate
Finish	White or black
Dimensions	Refer to dimension drawings
Environment	Indoor
Operating Temperature	32°F to 120°F (0° to 49°C)
Weight	
Unit	0.52 lb (0.24 kg)
Shipping	2 lb (0.91 kg)

## OPTIONAL ACCESSORIES

ICS090-SC	4-foot service/monitor cable. Compatible with any standard monitor BNC connector.
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## CERTIFICATIONS/PATENTS

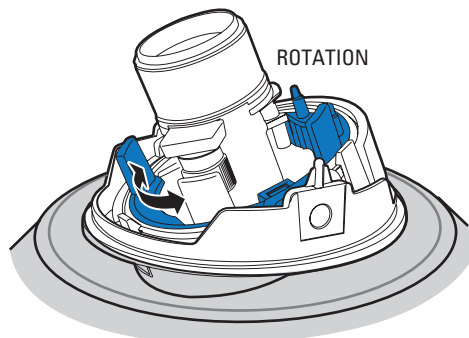
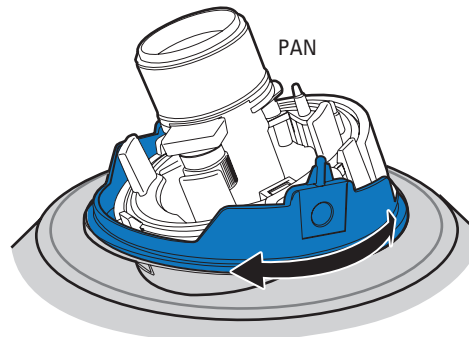
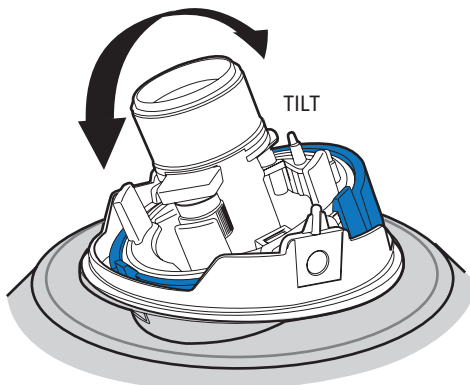
- CE, Class B
- UL Listed
- UL Listed to Canadian safety standards
- FCC, Class B
- U.S. Patents D497,927 S; 6,715,939 B2; 6,805,498 B2



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

## 3-AXIS POSITIONING SYSTEM

The ICS090 Series features a 3-axis camera and lens configuration for optimal camera rotation and placement. The camera and lens positioning system is capable of 360° of pan, 140° of tilt, and 360° of rotation.



# TECHNICAL SPECIFICATIONS

## CAMERA SPECIFICATIONS

	<b>Black-White Standard Resolution Fixed, Without Iris</b> (Models ICS090- <b>MA</b> x/ ICS090- <b>MC</b> x)	<b>Color Standard Resolution Fixed, Without Iris</b> (Models ICS090- <b>CA</b> x/ ICS090- <b>CC</b> x)	<b>Color High Resolution Fixed, Without Iris</b> (Models ICS090- <b>CR</b> x/ ICS090- <b>CS</b> x)	<b>Color High Resolution Varifocal, Auto Iris</b> (Models ICS090- <b>CRV</b> xA/ ICS090- <b>CSV</b> xA)
Signal System	EIA or CCIR	NTSC or PAL	NTSC or PAL	NTSC or PAL
Imaging Device	1/3-inch CCD	1/3-inch Interline Color CCD	1/3-inch Interline Color CCD (Hyper HAD™)	1/4-inch Interline Color CCD
Scanning System	2:1 Interlace	2:1 Interlace	2:1 Interlace	2:1 Interlace
Sync System	Internal	12 VDC: Internal 24 VAC: External (VD Lock)	12 VDC: Internal 24 VAC: External (VD Lock)	12 VDC: Internal 24 VAC: External (VD Lock)
Horizontal Resolution	EIA: 420 TV lines CCIR: 420 TV lines	NTSC: 350 TV lines PAL: 350 TV lines	NTSC: 470 TV lines PAL: 460 TV lines	NTSC: 480 TV lines PAL: 480 TV lines
Signal-to-Noise Ratio	50 dB	48 dB	48 dB	48 dB (AGC Off)
Min. Illumination	0.1 lux (f2.0)	1 lux (f2.0)	1 lux (f2.0)	Less than 1.2 lux (f1.2)
Video Out	1 Vp-p Composite (75 ohms)	1 Vp-p Composite (75 ohms)	1 Vp-p Composite (75 ohms)	1 Vp-p Composite (75 ohms)
Gain Control	Auto	Auto	NTSC: Auto PAL: Manual	On/Off by DIP switch (0-20 dB)
Exposure	Electronic Shutter (1/60 - 1/100,000)	Electronic Shutter (1/60 - 1/100,000)	Electronic Shutter (1/60 - 1/100,000)	Electronic Shutter (1/60 - 1/100,000)
White Balance	Not applicable	Auto	Auto	Auto or manual (switch selectable)
Backlight Compensation	Auto	Auto or manual (switch selectable)	Auto or manual (switch selectable)	Auto; adjusts AGC and AES
Power Source*	12 VDC, 24 VAC	12 VDC, 24 VAC	12 VDC, 24 VAC	12 VDC, 24 VAC

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

## LENS SPECIFICATIONS

Camera	Fixed Focal Length Without Iris										Varifocal With Auto Iris	
	Color	B-W	Color	B-W	Color	B-W	Color	B-W	Color	B-W	Color, High Resolution only	
Focal Length	2.9 mm	3.0 mm	3.6 mm		6.0 mm		8.0 mm		12.0 mm		3-9 mm	
Format Size	1/3-inch		1/3-inch		1/3-inch		1/3-inch		1/3-inch		1/4-inch	
Relative Aperture (F)	2.0		2.0		1.8	2.5	1.8	2.5	2.0		1.2 to 2.1	
Operation	N/A		N/A		N/A		N/A		N/A		Auto	
Iris	N/A		N/A		N/A		N/A		N/A		Auto	
Focus	Manual		Manual		Manual		Manual		Manual		Manual	
Zoom	N/A		N/A		N/A		N/A		N/A		Manual	
Angle of View**	90°		87°		74°		42°	38°	32°	29°	21°	66.2° to 23.9°
Horizontal	90°	87°	74°		42°	38°	32°	29°	21°		66.2° to 23.9°	
Diagonal	—	—	—	—	—	—	—	—	—	—	83.9° to 29.9°	
Vertical	69°	67°	55°		33°	30°	25°	23°	17°		49.1° to 18°	

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

# SYSTEM MODELS

## ICS090 SERIES HOUSING MODELS (No Camera/Lens)

The following models are not compatible with camera and lens packages and are not upgradable.

ICS-090HNU White housing with smoked dome

ICS-090BHNU Black housing with smoked dome

## ICS090 SERIES SYSTEM MODELS (White Finish)

Camera Type	Lower Dome	Lens/Iris	BNC Connector (NTSC)	UTP-Unshielded Twisted Pair* (NTSC)	BNC Connector (PAL)	UTP-Unshielded Twisted Pair* (PAL)	
Color, High Resolution	Smoked	2.9 mm	ICS090-CR3	ICS090-CR3T	ICS090-CS3	ICS090-CS3T	
		3.6 mm	ICS090-CR3.6	ICS090-CR3.6T	ICS090-CS3.6	ICS090-CS3.6T	
		6 mm	ICS090-CR6	ICS090-CR6T	ICS090-CS6	ICS090-CS6T	
		8 mm	ICS090-CR8	ICS090-CR8T	ICS090-CS8	ICS090-CS8T	
		12 mm	ICS090-CR12	ICS090-CR12T	ICS090-CS12	ICS090-CS12T	
		3-9 mm with Auto Iris	ICS090-CRV39A	ICS090-CRV39AT	ICS090-CSV39A	ICS090-CSV39AT	
	Clear	2.9 mm	ICS091-CR3	ICS091-CR3T	ICS091-CS3	ICS091-CS3T	
		3.6 mm	ICS091-CR3.6	ICS091-CR3.6T	ICS091-CS3.6	ICS091-CS3.6T	
		6 mm	ICS091-CR6	ICS091-CR6T	ICS091-CS6	ICS091-CS6T	
		8 mm	ICS091-CR8	ICS091-CR8T	ICS091-CS8	ICS091-CS8T	
		12 mm	ICS091-CR12	ICS091-CR12T	ICS091-CS12	ICS091-CS12T	
		3-9 mm with Auto Iris	ICS091-CRV39A	ICS091-CRV39AT	ICS091-CSV39A	ICS091-CSV39AT	
Color, Standard Resolution	Smoked	2.9 mm	ICS090-CA3	ICS090-CA3T	ICS090-CC3	ICS090-CC3T	
		3.6 mm	ICS090-CA3.6	ICS090-CA3.6T	ICS090-CC3.6	ICS090-CC3.6T	
		6 mm	ICS090-CA6	ICS090-CA6T	ICS090-CC6	ICS090-CC6T	
		8 mm	ICS090-CA8	ICS090-CA8T	ICS090-CC8	ICS090-CC8T	
		12 mm	ICS090-CA12	ICS090-CA12T	ICS090-CC12	ICS090-CC12T	
	Clear	2.9 mm	ICS091-CA3	ICS091-CA3T	ICS091-CC3	ICS091-CC3T	
		3.6 mm	ICS091-CA3.6	ICS091-CA3.6T	ICS091-CC3.6	ICS091-CC3.6T	
		6 mm	ICS091-CA6	ICS091-CA6T	ICS091-CC6	ICS091-CC6T	
		8 mm	ICS091-CA8	ICS091-CA8T	ICS091-CC8	ICS091-CC8T	
		12 mm	ICS091-CA12	ICS091-CA12T	ICS091-CC12	ICS091-CC12T	
	B-W Standard Resolution	Smoked	2.9 mm	ICS090-MA3	ICS090-MA3T	ICS090-MC3	ICS090-MC3T
			3.6 mm	ICS090-MA3.6	ICS090-MA3.6T	ICS090-MC3.6	ICS090-MC3.6T
6 mm			ICS090-MA6	ICS090-MA6T	ICS090-MC6	ICS090-MC6T	
8 mm			ICS090-MA8	ICS090-MA8T	ICS090-MC8	ICS090-MC8T	
12 mm			ICS090-MA12	ICS090-MA12T	ICS090-MC12	ICS090-MC12T	
Clear		2.9 mm	ICS091-MA3	ICS091-MA3T	ICS091-MC3	ICS091-MC3T	
		3.6 mm	ICS091-MA3.6	ICS091-MA3.6T	ICS091-MC3.6	ICS091-MC3.6T	
		6 mm	ICS091-MA6	ICS091-MA6T	ICS091-MC6	ICS091-MC6T	
		8 mm	ICS091-MA8	ICS091-MA8T	ICS091-MC8	ICS091-MC8T	
		12 mm	ICS091-MA12	ICS091-MA12T	ICS091-MC12	ICS091-MC12T	

\*Compatible with NVT and NITEK. Call your customer service representative for part numbers. A separate receiver is needed.

# SYSTEM MODELS

## ICS090 SERIES SYSTEM MODELS (Black Finish)

Camera Type	Lower Dome	Lens/Iris	BNC Connector (NTSC)	UTP-Unshielded Twisted Pair* (NTSC)	BNC Connector (PAL)	UTP-Unshielded Twisted Pair* (PAL)		
Color, High Resolution	Smoked	2.9 mm	ICS090B-CR3	ICS090B-CR3T	ICS090B-CS3	ICS090B-CS3T		
		3.6 mm	ICS090B-CR3.6	ICS090B-CR3.6T	ICS090B-CS3.6	ICS090B-CS3.6T		
		6 mm	ICS090B-CR6	ICS090B-CR6T	ICS090B-CS6	ICS090B-CS6T		
		8 mm	ICS090B-CR8	ICS090B-CR8T	ICS090B-CS8	ICS090B-CS8T		
		12 mm	ICS090B-CR12	ICS090B-CR12T	ICS090B-CS12	ICS090B-CS12T		
		3-9 mm with Auto Iris	ICS090B-CRV39A	ICS090B-CRV39AT	ICS090B-CSV39A	ICS090B-CSV39T		
	Clear	2.9 mm	ICS091B-CR3	ICS091B-CR3T	ICS091B-CS3	ICS091B-CS3T		
		3.6 mm	ICS091B-CR3.6	ICS091B-CR3.6T	ICS091B-CS3.6	ICS091B-CS3.6T		
		6 mm	ICS091B-CR6	ICS091B-CR6T	ICS091B-CS6	ICS091B-CS6T		
		8 mm	ICS091B-CR8	ICS091B-CR8T	ICS091B-CS8	ICS091B-CS8T		
		12 mm	ICS091B-CR12	ICS091B-CR12T	ICS091B-CS12	ICS091B-CS12T		
		3-9 mm with Auto Iris	ICS091B-CRV39A	ICS091B-CRV39AT	ICS091B-CSV39A	ICS091B-CSV39T		
Color, Standard Resolution	Smoked	2.9 mm	ICS090B-CA3	ICS090B-CA3T	ICS090B-CC3	ICS090B-CC3T		
		3.6 mm	ICS090B-CA3.6	ICS090B-CA3.6T	ICS090B-CC3.6	ICS090B-CC3.6T		
		6 mm	ICS090B-CA6	ICS090B-CA6T	ICS090B-CC6	ICS090B-CC6T		
		8 mm	ICS090B-CA8	ICS090B-CA8T	ICS090B-CC8	ICS090B-CC8T		
		12 mm	ICS090B-CA12	ICS090B-CA12T	ICS090B-CC12	ICS090B-CC12T		
		2.9 mm	ICS091B-CA3	ICS091B-CA3T	ICS091B-CC3	ICS091B-CC3T		
	Clear	3.6 mm	ICS091B-CA3.6	ICS091B-CA3.6T	ICS091B-CC3.6	ICS091B-CC3.6T		
		6 mm	ICS091B-CA6	ICS091B-CA6T	ICS091B-CC6	ICS091B-CC6T		
		8 mm	ICS091B-CA8	ICS091B-CA8T	ICS091B-CC8	ICS091B-CC8T		
		12 mm	ICS091B-CA12	ICS091B-CA12T	ICS091B-CC12	ICS091B-CC12T		
		B-W Standard Resolution	Smoked	2.9 mm	ICS090B-MA3	ICS090B-MA3T	ICS090B-MC3	ICS090B-MC3T
				3.6 mm	ICS090B-MA3.6	ICS090B-MA3.6T	ICS090B-MC3.6	ICS090B-MC3.6T
6 mm	ICS090B-MA6			ICS090B-MA6T	ICS090B-MC6	ICS090B-MC6T		
8 mm	ICS090B-MA8			ICS090B-MA8T	ICS090B-MC8	ICS090B-MC8T		
12 mm	ICS090B-MA12			ICS090B-MA12T	ICS090B-MC12	ICS090B-MC12T		
2.9 mm	ICS091B-MA3			ICS091B-MA3T	ICS091B-MC3	ICS091B-MC3T		
Clear	3.6 mm		ICS091B-MA3.6	ICS091B-MA3.6T	ICS091B-MC3.6	ICS091B-MC3.6T		
	6 mm		ICS091B-MA6	ICS091B-MA6T	ICS091B-MC6	ICS091B-MC6T		
	8 mm		ICS091B-MA8	ICS091B-MA8T	ICS091B-MC8	ICS091B-MC8T		
	12 mm		ICS091B-MA12	ICS091B-MA12T	ICS091B-MC12	ICS091B-MC12T		

\*Compatible with NVT and NITEK. Call your customer service representative for part numbers. A separate receiver is needed.

# OPTIONAL ACCESSORIES

## RECOMMENDED POWER SUPPLIES

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

## OPTIONAL ACCESSORIES

ICS090-SC	4-foot service/monitor cable; compatible with any standard monitor BNC connector
ICS090-PWI	White pendant mount adapter
ICS090-PBI	Black pendant mount adapter

## LENS PACK OPTIONS

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

The following lens packs are available for all Camclosures. All fixed focal length lenses ranging from 2.9 mm to 12 mm are interchangeable with any camera module. 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
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### Single Lens Pack

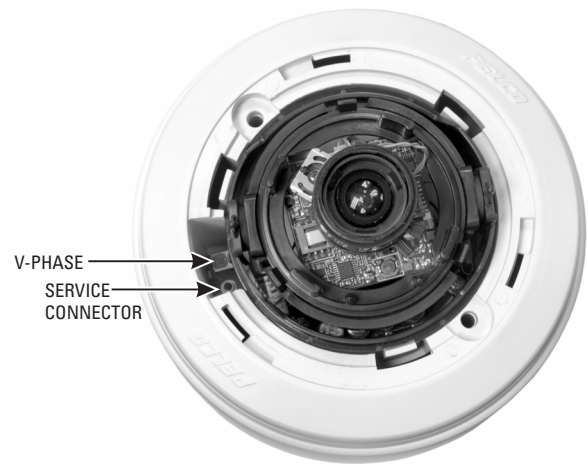
13FF3D	2.9 mm lens and mount
13FF3.6D	3.6 mm lens and mount
13FF6D	6 mm lens and mount
13FF8D	8 mm lens and mount
13FF12D	12 mm lens and mount

### 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



ICS090-SC 4-FOOT SERVICE/MONITOR CABLE



ICS090 SERIES CAMCLOSURE FEATURES EASY ACCESS TO V-PHASE ADJUSTMENT (COLOR ONLY) AND BUILT-IN SERVICE CONNECTOR FOR ON-SITE CAMERA SET-UP



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