

3920 Series

i-dome high performance dome cameras

COHU

High performance day/night DSP color camera, high speed positioner, sealed and pressurized enclosure, RS422 control

Ruggedized IP67 enclosure technology with TS-2 environmental/shock/power standards compliance

Embedded multi-protocol camera control support with optional NTCIP 1205 for easy integration

Image stabilization option for installations subject to extraordinary movement

Programmable presets, video tours, sector zones, and privacy zones

Comprehensive on-screen display features including camera ID, preset ID, compass direction, sector and privacy zone titles, absolute AZ/EL position indications, alarm status and maintenance displays provide concise operator information for efficient operation

APPLICATIONS

- **General Surveillance & Monitoring**
- **Traffic Management**
- **Access Control**



The 3920 Series *i-dome* from Cohu is the most flexible and well-made outdoor surveillance camera you have ever experienced. It is designed for applications that require high performance video, comprehensive features, and 365-days-a-year reliability in all kinds of weather. This is the professional's choice for infrastructure security, traffic management, access control, harsh environments, and process monitoring.

The small, unobtrusive package begins with a high performance day/night camera with integrated zoom lens. But comparisons to other dome cameras stop there. Its high-speed positioner can achieve 250° per second in preset mode. The mechanical assembly is metal, not plastic. The dome is premium acrylic. The legendary Cohu sealed and pressurized enclosure means a clean operating environment and low maintenance. The environmentally sealed cable connector offers superior vibration and moisture resistant characteristics. For installations subject to wind or vibration movement, the image stabilization assures a steady, clear image and enables the system designer to potentially utilize existing bridge signs and traffic light poles for camera mounting.

From its board-level design to rugged construction, you can expect the highest performance, value, and reliability with the most efficient cost of ownership in the Cohu *i-dome*.

3920 Series

i-dome High Performance Dome Cameras

Extended Zoom Range

The *i-dome* camera features a 23x or 35x optical zoom range (3.6 mm to 82.8 mm or 3.4 mm to 119 mm), with selectable automatic or manual focus. With its high resolution (520 HTVL for 35x) the *i-dome* is ready to produce clear images of just about anything within its field of view.

Day/Night Camera Technology

Automatic Day/Night switching technology, coupled with the camera's progressive scan sensor and internal scan converter, assures vivid color images during daylight, and high sensitivity monochrome images after dark. This greatly extends the night-time or low-light capability of the camera.

Fast Positioning

A high-speed positioner, with 0.1° accuracy, provides 360° continuous rotation and up to 64 user-defined preset positions, each with a two-line, 24-character title.

Image Stabilization

With this option, *i-dome* uses real time computer algorithms to correct for shaking and waving images caused by wind and vibration. The two modes of stabilization settings, 5 Hz and 16 Hz, allow a wide range of vibration compensation. In addition to the clear image, this option also allows the system designer to potentially specify lighter and less-rigid poles, or utilize existing bridge signs and traffic lights.

Multi-manufacturer protocol is standard

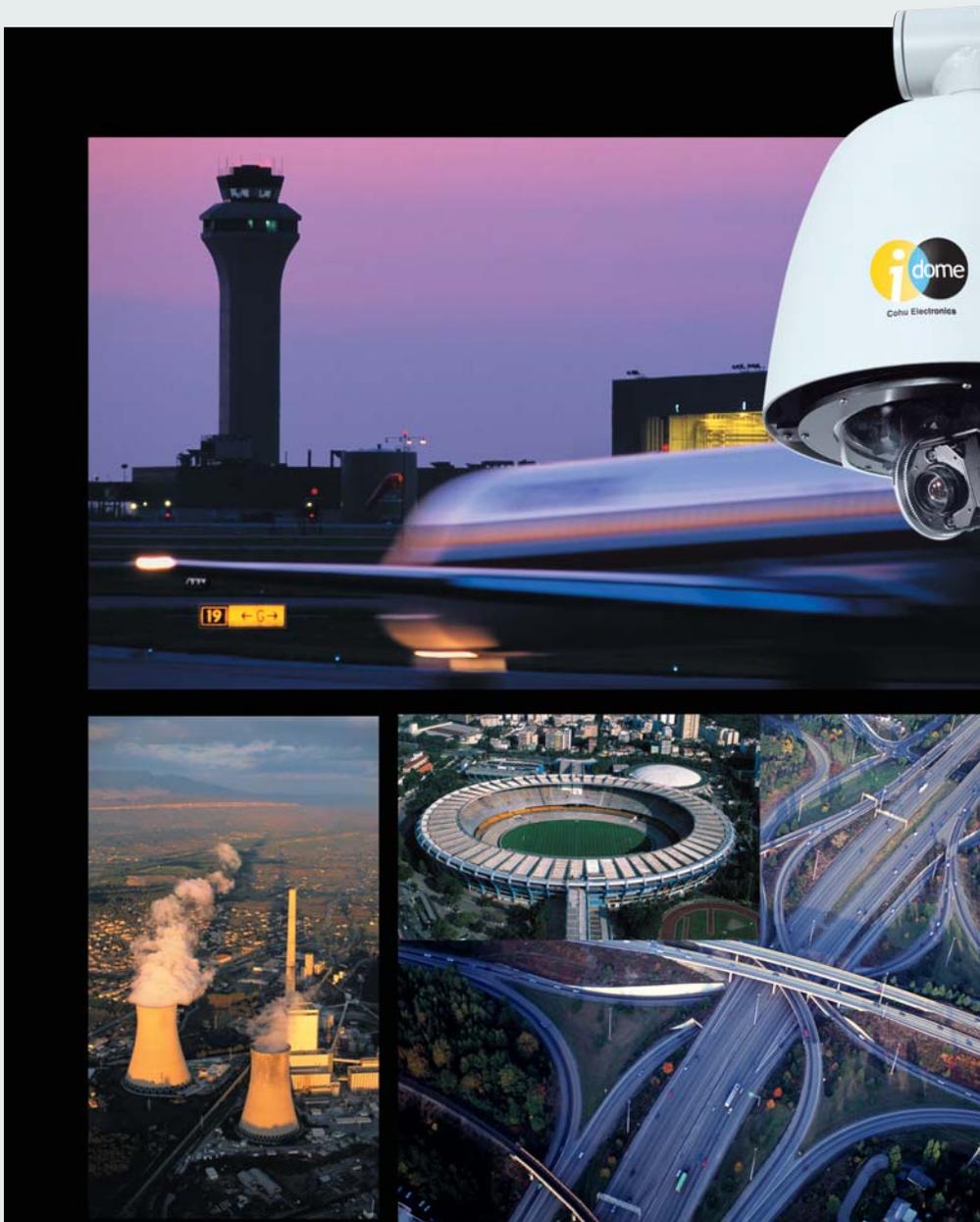
Cohu i-Series cameras (*i-dome* and *i-view II*) feature the exclusive Cohu multi-protocol control firmware. This means you can incorporate this Cohu camera into an existing control system from other major manufacturers. For traffic management video systems, *i-dome* can also be ordered with NTCIP control language. All camera and positioner functions are controlled by the integrated receiver/driver, operable via RS-232/422 serial communications with digital position feedback. WinMPC sets up camera and positioner functions.

Touring, Sector IDs and Privacy Zones

Up to eight tours, each with up to 32 preset positions and dwell time, can be stored in memory. Set up to sixteen sectors in a horizontal plane, each with its own identification title. In addition, eight programmable privacy zones can be set to prevent the viewing of selected scenes. A "freeze frame" selection between preset positions gives operators a clean transition between scenes.

Built for the Not-So-Great Outdoors

The *i-dome* housing provides a low profile installation that looks similar to a luminaire and creates very low wind loading. The dome is sealed and pressurized to provide maximum protection against grime and insects. It is rated IP67 and NEMA 4X and, additionally, meets NEMA power and operating temperature standards for TS-2 traffic control systems.



The i-Series Cameras are ideally suited to a wide variety of critical monitoring and surveillance applications.

3920 Series Specifications

SYSTEM SPECIFICATIONS

Pan/Tilt Drive

Angular Travel

360° continuous pan range,
-90° to +5° tilt range

Pan Speed (preset)

250°/sec

Pan Speed (manual)

0.1° to >80°/sec

Tilt Speed (preset)

80°/sec

Tilt Speed (manual)

0.1° to >40°/sec

Preset Accuracy

>0.1°

Presets

64 preset positions (each preset includes pan, tilt, zoom and focus coordinates and 24 character ID label)

Video Tours

8 tours, each consisting of 32 presets with dwell time per preset per tour

Sector Zones

Up to 16 programmable zones in the horizontal plane

Privacy Zones

8 programmable zones can be set for video blanking

Freeze Frame Transition

Selectable freeze frame or live video between preset positions

Compass Direction

8 or 16 direction points (i.e.: north, NE, east, SE, south, SW, west, and NW) can be displayed. Function can be on/off, 3-sec. time out or permanent

Absolute Position

Displayed in 0-359° AZ and +14° to -95° EL. Function can be on/off, 3-sec. time out or permanent

Cloning

Positioner settings (presets, title, etc.) can be stored to file for easy duplication

Title Generation

Camera ID

2 lines of 24 characters

Preset ID

1 Line of 24 characters

Sector Zone

1 line of 24 characters per zone

Privacy Zone

1 line of 24 characters per zone

Low Pressure Alarm Label

1 line of 24 characters

Compass/Position

1 line, includes compass direction and absolute position

CAMERA

Imager

1/4" color, NTSC, interline transfer CCD

Resolution

23X Lens: 470 horizontal TV lines
23X Lens & EIS: 470 horizontal TV lines
35X Lens & EIS: 520 horizontal TV lines

Pixels

23X Lens: 724 x 494
23X Lens & EIS: 711 x 485
35X Lens & EIS: 768 x 494

Progressive Scan

23X Lens: Yes
23X Lens & EIS: Not supported
35X Lens & EIS: Yes

Lens Zoom

23X Lens: 3.6 to 82.8 mm; f1.6 (w) f3.7 (t)
23X Lens & EIS: 3.6 to 82.8 mm; f1.6 (w) f3.7 (t)
35X Lens & EIS: 3.4 to 119 mm; f1.4 (w) f 4.2 (t)

Lens Horiz. Angle of view

23X Lens: 54° (w) 2.5° (t)
23X Lens & EIS: 41.5° (w) 1.9° (t)
35X Lens & EIS: 55.8° (w) 1.7° (t)

Iris/Focus/Shutter Operation

Auto/Manual

Wide Dynamic Range

23X Lens: On/off
23X Lens & EIS: Not supported
35X Lens & EIS: On/off

EIS @ 5 Hz Suppression

23X Lens: Not supported
23X Lens & EIS: 20dB suppression from 3-13 Hz
35X Lens & EIS: 20dB suppression from 3-13 Hz

EIS @ 16 Hz Suppression

23X Lens: Not supported
23X Lens & EIS: 20dB suppression from 7-17 Hz
35X Lens & EIS: 20dB suppression from 7-17 Hz

Digital Zoom

Auto/Manual (12X), not supported in EIS)

White Balance

Auto/Manual

Sync

Xtal/Phase adjust line lock

SNR

>50 dB

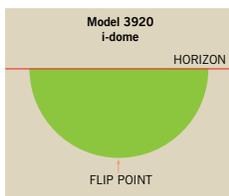
Sensitivity (scene)

23X Lens: 3.0 lux @ 1/60 sec. (color day); 0.2 lux @ 1/4 sec. (color day); 0.02 lux @ 1/4 sec. (mono night)
23X Lens & EIS: 2.0 lux @ 1/60 sec. (color day); 0.2 lux @ 1/4 sec. (color day); 0.01 lux @ 1/4 sec. (mono night)
35X Lens & EIS: 1.0 lux @ 1/60 sec. (color day); 0.1 lux @ 1/4 sec. (color day); 0.01 lux @ 1/4 sec. (mono night)

(continued next page)

Fast Positioning

A high-speed positioner with up to 0.1° accuracy provides 360° continuous rotation and up to 64 user-defined preset positions, each with a two-line, 24-character title. The Auto-Flip feature can track objects moving under the Model 3920 i-dome.



3920 Series Specifications (continued)

ELECTRICAL

Power Input

89 VAC to 135 VAC, 120 VAC nominal 60Hz.
Conforms to NEMA TS2 para. 2.1.2.
24 VAC also available

Power Consumption

104 W max with p/t and heaters operating

Power Interruption

Conforms to NEMA TS2 para. 2.1.4

Power Transients/Interruptions

Conforms to NEMA TS2 para 2.1.6

COMMUNICATIONS

Data Format

RS-422 and RS-232

Protocol

Cohu, Pelco D & P, Vicon, Bosch, A/D, Javelin. Kalatel, Optional NTCIP available

Firmware

Stored in flash memory; upload via serial port

MECHANICAL

Weight

14 lbs (6.3 kg)

Dimensions

see diagram

Connector

18-pin MS

ENVIRONMENTAL

Protection Rating

IP-67 and NEMA 4X; Sealed and pressurized to 5 psi with dry nitrogen

Ambient Temp. Limit

Operating: -34 to 74° C (-27 to 165° F)
Storage: -40 to 85° C (-40 to 185° F)
Conforms to NEMA TS2 para 2.1.5.1

Humidity

Up to 100% relative humidity

Vibration

Conforms to NEMA TS2, para. 2.1.9

Shock

Conforms to NEMA TS2, para. 2.1.10

Altitude

Sea level to equivalent of 3,000m/10,000 feet (508mm/20 inches of mercury)

Air Contaminants

Withstands exposure to sand, dust, fungus, and salt atmosphere, per MIL-E-5400T, paragraph 3.2.24.7, 3.2.24.8, and 3.2.24.9

Acoustic

Can withstand environments greater than 150 dB continuously for 30 minutes

EMI

FCC rules, Part 15, Subpart J, for Class B devices

ORDERING INFORMATION

392 X-XX0X/XXXX

High performance DSP camera with a high speed positioner in a sealed and pressurized dome

Power

4 - 24 VAC
5 - 115 VAC

Video

3 - NTSC Day/night with 23x zoom
4 - NTSC Day/night with 23x zoom and EIS
5 - NTSC Day/night with 35x zoom and EIS
7 - PAL Day/Night with 23x zoom
8 - PAL Day/Night with 35x zoom and EIS

Protocol

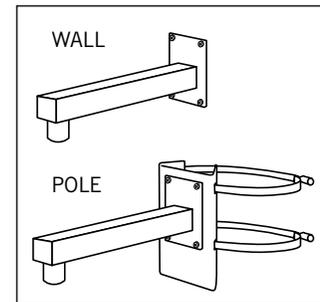
1 - Standard (Contact Cohu for current list of protocols supported)
2 - NTCIP 1205 Camera Control

Dome

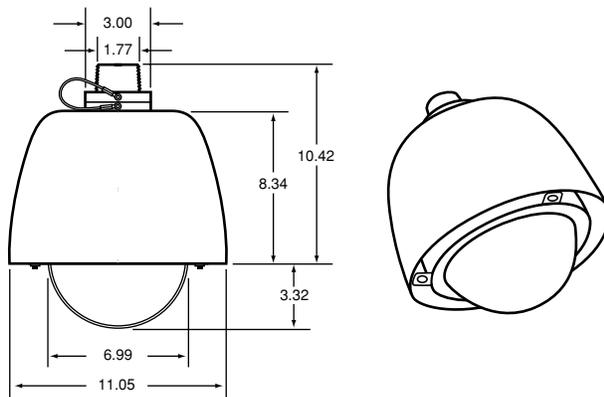
0 - Clear dome
1 - Smoke dome

Mount

WALL - Wall mount
POLE - Pole mount
PEND - Pendant mount



DIMENSIONS in inches



NEW

For IP-enabled video systems, this camera is available as 3940 Series.

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ISO 9001 Certified

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Cohu reserves the right to change specifications without notice.

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