



3920 Series *i-dome* high performance dome cameras

High performance day/night DSP color camera, high speed positioner, IP67 enclosure, RS232/422 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 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



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 unobtrusive package begins with a high performance day/night camera with integrated zoom lens. 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 IP67 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. It has been wind tested for reliability at 120 mph.

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*.

**Ranges reduced by environmental variables.*

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EXTENDED ZOOM RANGE

The *i-dome* camera features a 35x optical zoom range (3.4 mm to 119 mm), with selectable automatic or manual focus. With its high resolution (540 HTVL) 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 nighttime 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*) 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, PRIVACY ZONES, MASKING

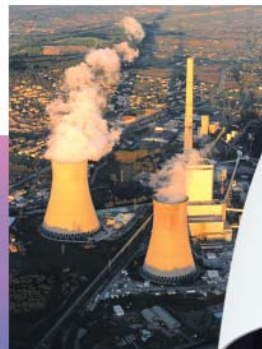
Up to eight tours, each with up to 32 preset positions and dwell time, can be stored in memory. Set up to sixteen sectors in a horizontal plane, each with its own identification title. In addition, eight programmable privacy zones can be set to prevent the viewing of selected scenes. A "freeze frame" 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 *i-dome* has been tested to withstand 120 mph (193 km/h) winds with 150 mph (241 km/h) gusts with no structural damage to the camera or support interface. The dome provides maximum protection against grime and insects. It is rated IP67 and NEMA 4X and, additionally, meets NEMA power, shock/ vibration, and operating temperature standards for TS-2 traffic control systems.

TOTAL SURVEILLANCE SOLUTIONS

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



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3920 Series Specifications

SYSTEM

Pan/Tilt Drive

Pan Range: 360° continuous rotation

Tilt Range: -90° to +5°

Pan Speed

Max Speed: 250°/sec

Preset: 250° movement (start to stop) <2 sec

Manual: 0.1° to >80°/sec

Tilt Speed

Max Speed: 120°/sec

Preset: 80° movement (start to stop) <2 sec

Manual: 0.1° to >40°/sec

Accuracy: <0.1°

Repeatability: <0.1°

Absolute Positioning

Set Position: 0.1° precision

Get Position: 0.1° precision

Presets

64 preset positions (each preset includes pan, tilt, zoom, focus 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

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 +95° to -95° EL.

Function can be on/off, 3-sec. time out or permanent

Title Generation

Camera ID: 2 lines of 24 characters

Preset ID: 1 Line of 24 characters

Sector ID: 1 line of 24 characters per zone

Privacy ID: 1 line of 24 characters per zone

Low Pressure: 1 line of 24 characters

Compass ID: 1 line, includes compass direction and absolute position

CAMERA

Image Sensor

1/4" Sony Ex-View HAD™

Total Pixels

NTSC: 811 x 508

PAL: 795 x 596

Resolution

Typical 540 HTVL; 400 VTVL

Day/Night Method

Removable IR cut filter

Sensitivity (F1.4 @ 50IRE, Progressive Scan Mode)

0.1 fc (1.0 lx) @ 1/60 shutter (color mode)

0.01 fc (0.10 lx) @ 1/4 shutter (color mode)

0.005 fc (0.05 lx) @ 1/2 shutter (color mode)

0.001 fc (0.01 lx) @ 1/4 shutter (mono mode)

Video Output

1.0 V p-p @ 75 ohms, Progressive Scan

Integration Settings

1/30, 1/15, 1/8, 1/4, 1/2 fields

Shutter Speed Settings

1/60, 1/120, 1/180, 1/250, 1/500, 1/1000,

1/2000, 1/4000, 1/10,000, 1/30,000

Wide Dynamic Range

Two shutter speeds in alternative video fields combined into one progressive scan frame

Electronic Image Stabilization

5hz Mode: 16db suppression @ 3-13hz

16hz Mode: 16db suppression @ 7-17hz

Sync

Crystal

LENS

Integrated Zoom: 35X optical zoom

Focal Range: 3.4mm to 119mm (±15%);

Aperture: f1.4 to f4.2

AFOV: 56° to 1.7° (±15%)

Lens Focus

Auto/manual

Digital Zoom

Up to 12X with smooth transition produces an effective focal length from 3.4mm to 1428mm (±15%)

OPERATIONAL CONTROL

Day/Night Mode

Auto, Color or Monochrome

Zoom

Zoom In/Out

Magnification: 1-35X Setting

Lens speed mode (Fast/Slow)

Lens Focus

Auto/manual selectable

Iris Control

Auto/manual selectable

Digital Zoom

Selectable digital zoom depth (OFF, 2x, 5x, 10x, 12x)

Electronic Image Stabilization

On/Off; 5hz/16hz selectable

Wide Dynamic Range

On/Off selectable

White Balance

Auto, Manual (Blue/Red), Indoor, Outdoor Modes

Shutter/Integration

Auto/manual selectable

Video Modes

Live/Freeze; Selectable

Freeze Video between Preset Movements;

On/Off

ELECTRICAL

Power Input

89 VAC to 135 VAC

Conforms to NEMA TS2 para. 2.1.2.

24 VAC ±15%

Power Consumption

104 W max with p/t and heaters operating

Power Interruption

Conforms to NEMA TS2 para. 2.1.4

Power Transients

Conforms to NEMA TS2 para 2.1.6

COMMUNICATIONS

Data Format

Half-duplex RS-422 (4-wire) or RS-232 (3-wire), 300 to 19.2K baud

Camera Protocol

Cohu, Pelco-D, Pelco-P, Bosch, Vicon

Firmware

Stored in flash memory; upload via serial port

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MECHANICAL

Construction / Finish

Powder Coated 1100 aluminum
External parts corrosion protected with stainless steel fasteners. Internal screws/ fasteners nylon or loctite thread-locking

Weight

14 lbs (6.3 kg)

Dimensions

see diagram

Field Connector

18-pin MS
Mating connector included

ENVIRONMENTAL

Protection Rating

IP-67 / NEMA 4X / ASTM-B117

Operating Temperature Limits

Standard: -29.2° to 131°F
(-34° to 55°C)

TS2: -29.2° to 165°F
(-34° to 74°C)

Per NEMA TS2, para. 2.1.5.1, using fig. 2.1 test profile

Humidity

Up to 100% relative humidity

Vibration

Conforms to NEMA TS2, para. 2.1.9

Shock

Conforms to NEMA TS2, para. 2.1.10

Wind

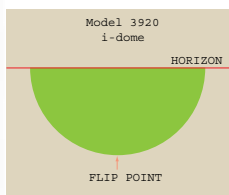
Survivability: 120 mph (193 km/h) with 25% gust factor. Mounting connector not included.

EMI

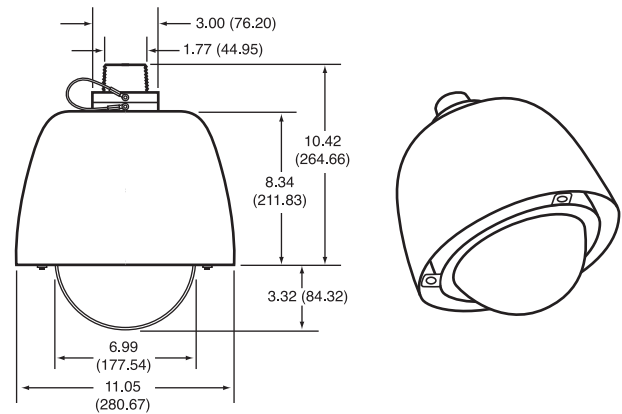
FCC rules, Part 15, Subpart J, for Class B devices

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.



DIMENSIONS in inches (mm)



ORDERING INFORMATION

392X-XX0X/XXXX

Power

- 4 - 24 VAC
- 5 - 115 VAC

Video

- 5 - NTSC Day/night with 35x zoom and EIS
- 8 - PAL Day/Night with 35x zoom and EIS

Protocol

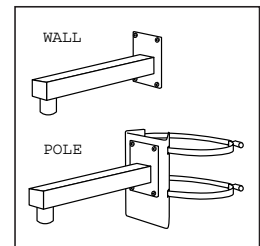
- 1 - Standard (Contact Cohu for current list of protocols supported)
- 2 - NTCIP 1205 Camera Control

Dome

- 0 - Clear dome
- 1 - Smoke dome

Mount

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



SHIPPING INFORMATION

Weight 18 lbs (8.2 kg)

Volume 15" x 15" x 20" (381 mm x 381 mm x 508 mm)

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

Cohu reserves the right to change specifications without notice. Trademarks are used for identification only.

www.cohu-cameras.com

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