



3960 Series *i-view*™ integrated positioner, camera & control

Striking, yet unobtrusive appearance

DSP technology for highest quality images day and night

Now with electronic image stabilization

8 or 16-point on-screen compass display, plus absolute position in degrees

High speed positioner can be operated inverted

A vertical tilt range greater than standard pan and tilts

Multi-manufacturer protocol control system for system-wide compatibility



i-view™ shown with optional wiper



i-view™ is fast becoming the new standard in high performance CCTV cameras and, with the addition of progressive new features, offers even more value and imaging advantages. This integrated camera/positioner provides what you can always expect from Cohu Electronics: quality, affordability, and style.

i-view™ has the right options and features to complete an individual site or a whole system.

Compass Setting and Display

Camera direction can be identified in 8 or 16 compass positions, with the ability to set the true north position. Plus, absolute scene position can be displayed in degrees, if desired.

Image Stabilization

Two frequency operating modes provide stable, jitter-free video under adverse conditions.

Multi-protocol Control System

You can incorporate quality Cohu cameras into an existing control system from other major manufacturers. Traffic management professionals can install *i-view*™ today for immediate NTCIP 1205 compatibility.

Digital Position Feedback

Each *i-view*™ site can provide the precise camera and positioner data to system management software.

There is a wide range of DSP functions to support the particular camera

site, including privacy zones, image manipulation and backlight control.

Higher Standards

Cohu designed this next generation camera and positioning system to meet the technical objectives of security professionals.

The *i-view*™ contains a high performance color DSP camera with integrated lens, a built-in camera control receiver, and a pan/tilt mechanism that is both attractive yet unobtrusive. Its sleek design allows for quick and easy mounting, and is unassuming in any installation.

Because it's made by Cohu Electronics, the camera is protected by our legendary PI67 camera enclosure that protects your investment from the damaging effects of water, pollutants and corrosives.

Unlike ordinary sunshields, the *i-view*™ sunshield is pre-positioned and needs no adjustments — reducing installation costs and maximizing performance.

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EXTENDED ZOOM RANGE

The *i-view*™ 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-view*™ is ready to produce clear images of just about anything within its field of view.

DAY/NIGHT CAMERA TECHNOLOGY

Automatic Day/Night switching technology 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 (120°/sec. max.) positioner, with up to 0.2° accuracy, provides 360° continuous rotation and up to 64 user-defined preset positions.

IMAGE STABILIZATION

i-view™ 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-view*™ can also be ordered with NTCIP control language. All camera and positioner functions are controlled by the integrated receiver/driver, operable via RS-422 or RS-232 serial communications with digital position feedback. WinMPC sets up camera and positioner functions.

TOURING, SECTOR IDs, 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. Eight programmable privacy zones can be set to prevent the viewing of selected scenes.

BUILT FOR THE NOT-SO-GREAT OUTDOORS

The *i-view*™ housing provides a low profile installation that creates very low wind loading. The 3960 Series has been tested to withstand 110 mph (177 km/h) winds with a 30% gust factor with no structural damage to the camera or support interface. The camera enclosure provides maximum protection against grime and insects. It is rated IP66, IP67, and NEMA 4X, and additionally meets NEMA power and shock/vibration standards for 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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3960 Series Specifications

SYSTEM

Pan/Tilt Drive

Pan Range: 360° continuous rotation

Tilt Range: -90° to +90°

Pan Speed

Max Speed: 120°/sec

Preset: 180° movement (start to stop) <2 sec

Manual: 0.1° to >80°/sec

Tilt Speed

Max Speed: 120°/sec

Preset: 180° movement (start to stop) <2 sec

Manual: 0.1° to >40°/sec

Accuracy: <0.2°

Repeatability: <0.2°

Absolute Positioning

Set Position: 0.2° precision

Get Position: 0.2° 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

Inverted Operation

Can be mounted in an inverted position.

Software setting compensates image and control for inversion

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 per second

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

54 W max; 154 W max with p/t heater (NEMA 4X icing option)

COMMUNICATIONS

Data Format

Half Duplex RS-422 (4 wire) or RS-232 (3-wire)

300 to 19.2K baud

Protocol

Cohu, A/D, Pelco-D, Pelco-P, Bosch, Vicon, Ultrak

Firmware

Stored in flash memory; upload via serial port

(continued next page)

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MECHANICAL

Construction / Finish

Powder Coated 356 aluminum alloy
External parts corrosion protected with stainless steel fasteners. Internal screws/ fasteners nylon or loctite thread-locking

Weight

18.5 lbs (8.4 kg)

Dimensions

see diagram

Field Connector

16-pin Amp or 18-pin MS option
Mating connector included

ENVIRONMENTAL

Protection Rating

Camera
IP-67/NEMA-4X/ASTM-B117;
Positioner
IP-66/NEMA-4X/ASTM-B117

Operating Temperature Limits

-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

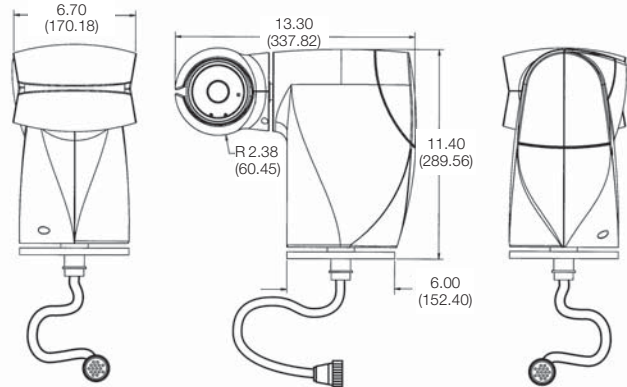
Wind

Survivability: 110 mph with 30% gust factor
(mounting connection not included)

EMI

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

DIMENSIONS in inches (mm)



ORDERING INFORMATION

396X-XXXX/XXXX

Power

- 4 - 24 VAC
- 5 - 115 VAC

Video

- 5 - Day/Night with 35X zoom and electronic image stabilization
- 8 - 8 - PAL Day/Night with 35X zoom and electronic image stabilization

Protocol

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

Options

- 0 - None
- 1 - P/T Heater option (NEMA 4X icing)
- 2 - Wiper option
- 3 - P/T Heater and Wiper option

Connector

- 0 - Standard Amphenol connector
- 1 - Environmental MS connector

Mount

- PEDD - Pedestal, small base
- LPED - Pedestal, large base
- WALL - Wall mount
- POLE - Pole mount
- CONR - Corner mount
- PARP - Parapet mount

SHIPPING INFORMATION

Weight 24 lbs (11 kg)

Volume 23" x 19" x 12" (584 mm x 482 mm x 304 mm)

Cohu reserves the right to change specifications without notice. Trademark names are used for reference only.