



COHU

3930 Series

DSP camera and lens in IP67 enclosure

Provides an efficient and lower cost “universal product” approach to fixed position camera sites

Unobtrusive appearance

DSP technology for highest quality images day and night

Image stabilization — Two operating modes provide the widest frequency range of vibration suppression

Stable, jitter-free video under adverse conditions

Wide range of DSP functions support the particular camera site

Higher standards — Complies with IP-67 and NEMA TS-2 environmental and electrical specifications

Multiple communication protocols

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



This one camera does it all for fixed-mount applications: color video by day, monochrome clarity by night, digital signal processing enhancements, sensitivity from near-IR through visible light, fast and efficient set up, and reduced maintenance.

The 3930 Series combines a high performance digital signal processing camera with integrated lens inside a legendary Cohu IP-67-rated sealed and pressurized enclosure. It offers an enormous economy of scale by eliminating the need to stock different lenses and associated hardware for many different fixed position camera sites. Customers have found this “universal product” approach saves them valuable storage costs and installation time because the 3930 Series will quickly and inexpensively adapt to many different surveillance sites.

The single-piece unit provides the operator or technician the ability to position the camera, and then use a computer and service monitor to precisely adjust the field of view and camera parameters to the desired scene. Camera and lens adjustments can be made on site (pole or luminaire, for example) or from a remote operations center, if RS-422 is provided to the camera site.

3930 Series

DSP Camera and Lens in IP67 Enclosure



The 3930 Series shares many of the same outstanding features of other cameras in the 3900 Series line. The enclosure provides maximum protection and reliability of the camera. The small, unobtrusive package is designed for outdoor video detection installations where remote lens and camera configuration is required.

Because it's made by Cohu Electronics, the camera is protected by our legendary IP67 camera enclosure that protects your investment in good video by eliminating intrusion of water, pollutants and corrosives that degrade the camera.

DAY/NIGHT CAMERA TECHNOLOGY

The Day/Night camera technology assures vivid color images during daylight, and high sensitivity monochrome images after dark. This greatly extends the nighttime or lowlight capability of the camera. This technology, coupled with the camera's progressive scan sensor and internal scan converter, makes the 3930 Series ideal for wide area detection, traffic management, and access control installations.

IMAGE STABILIZATION

The 3930 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 light traffic lights.

REMOTE FIRMWARE UPGRADES

When new features or enhancements are released, uploads are made at the site or from the Operations Center — eliminating expensive service procedures.

BUILT FOR THE NOT-SO-GREAT OUTDOORS

Cohu knows how to build for bad weather and environmental conditions. The 3930 camera meets NEMA TS-2 temperature specifications, and operates in temperatures ranging from -29.2° to +165°F. A thermostatically controlled

heater is standard. Cohu cameras last longer, too. The IP67 enclosure protects the camera against salt, grime, dirt, and moisture. And because there are no mechanical fans or blowers, you are assured of operational reliability and reduced maintenance.

This is an important distinction that sets apart Cohu from other manufacturers or suppliers who simply put a camera into a common security-market housing. Nearly 80% of all departments of transportation and federal facilities specify a pressurized enclosure to increase the camera reliability and reduce maintenance costs of traffic management video systems.

Cohu Electronics offers lifetime complimentary repressurization of its environmental enclosures. Any enclosure failing to hold 0.2 psig (gage) may be returned to Cohu for repressurization for only shipping cost.

TOTAL MONITORING SOLUTIONS



The 3930 Series DSP Cameras feature rugged environmental enclosures designed to assure years of reliable, trouble-free operation.

3930 Series Specifications

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

Title Generation

Camera ID: 2 lines of 24 characters

Low Pressure: 1 line of 24 characters

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

ELECTRICAL

Power Input

24 VAC or 115 VAC ±15%

Power Consumption

16 W max. with 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)

300 to 19.2K baud

Protocol

Cohu, AD, Pelco-D, Bosch, Vicon

Firmware

Stored in flash memory; upload via serial port

MECHANICAL

Construction/Finish

Powder Coated 6061 T6 aluminum

External parts corrosion protected with stainless steel fasteners.

Internal screws/fasteners nylon or loctite thread-locking

Weight

5.5 lbs (2.5 kg)

Dimensions

see diagram

Field Connector

18-pin MS environmental connector

Mating connector included

ENVIRONMENTAL

Protection Rating

IP-67 / NEMA 4X / ASTM-B117

Operating Temperature Limits

Operating: -29.2 to 165° F (-34 to 74° C)

Humidity

Up to 100% relative humidity

Vibration

.001 g2/Hz from 1 Hz to 10 Hz

.075 g2/Hz from 10 Hz to 2000 Hz

1 hour in any axis per MIL-STD-810E, 516.3

Shock

10 g, 11ms, any axis under non-operating conditions, per MIL-STD-810E, 514.3, categories 1,4,5,6,8,9,10

Wind

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

EMI

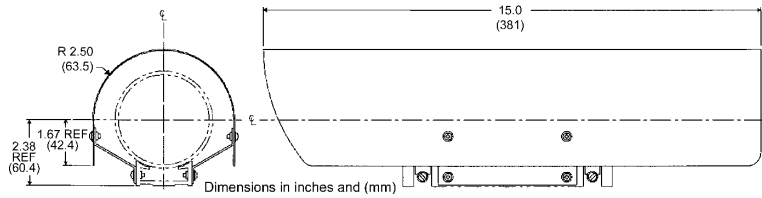
FCC rules, Part 15, Subpart J

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DSP Camera and Lens in IP67 Enclosure

DIMENSIONS *in inches (mm)*



ORDERING INFORMATION

3935 - X100

DSP camera and lens in
IP67 enclosure

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)

SHIPPING INFORMATION

Weight 8 lbs (2.07 kg)

Volume 20" x 12" x 12" (508 mm x 304 mm x 304 mm)

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

www.cohu-cameras.com

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