

3930 Series DSP camera and lens in sealed & pressurized enclosure

COHU

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 option. 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

APPLICATIONS

- **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 Sealed and Pressurized 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.

The 3930 Series offers three camera module options:

- Day/night camera with 23x lens
- Day/night camera with 23x lens and image stabilization
- Day/night camera with 35x lens and image stabilization

Because it's made by Cohu Electronics, the camera is protected by our legendary sealed and pressurized camera enclosure that protects your investment in good video by eliminating intrusion of water, pollutants and corrosives that degrade the camera. The camera enclosure is rated IP67. Cohu guarantees years of clean, reliable images and backs it with a world-class warranty.

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

With this option, 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 that can transmit clear picture.

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 -27° to +165°F. A thermostatically controlled heater is standard. Cohu cameras last longer, too. The sealed and pressurized 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.

Cohu environmental enclosures are designed to protect the customer's surveil-

lance investment and assure the long-term reliability of Cohu high performance CCTV cameras. 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.



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

3930 Series Specifications

CAMERA

Imager

1/4" color, NTSC or PAL, 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)

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)

Title Generation

Camera ID: 2 lines of 24 characters

ELECTRICAL

Power Input

24 VAC or 115 VAC \pm 15%

Power Consumption

16 W max. with heaters operating

COMMUNICATIONS

Data Format

RS-422

Protocol

Cohu, Pelco D & P, Vicon, Bosch, A/D, Ultrak, Javelin

Firmware

Stored in flash memory; upload via serial port

MECHANICAL

Weight

5.5 lbs (2.5 kg)

Dimensions

see diagram

Connector

18-pin MS style included

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)

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

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

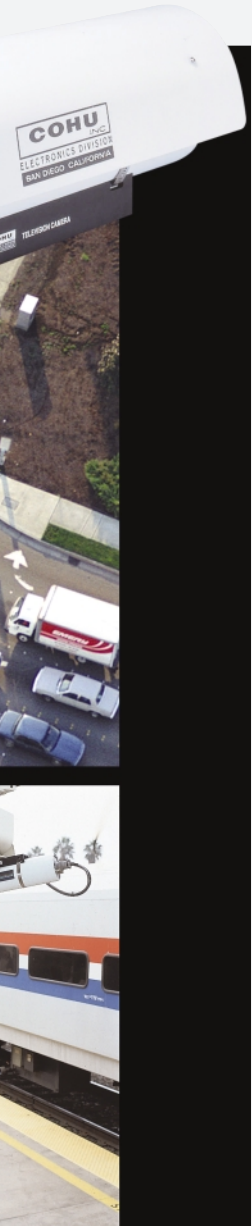
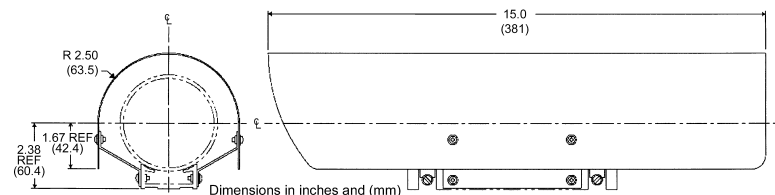
Acoustic

Can withstand environments greater than 150 dB continuously for 30 minutes

EMI

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

DIMENSIONS



3930 Series Ordering Guide

ORDERING INFORMATION

3935-X100

DSP camera and lens in
sealed and pressurized enclosure

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)



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Cohu reserves the right to change specifications without notice.



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