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TECHNOLOGY GROUP

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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



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.

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

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)

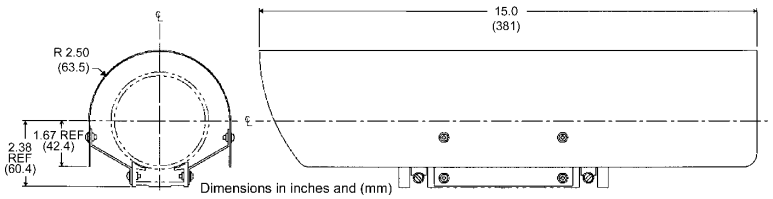
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FCC rules, Part 15, Subpart J

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3930 Series

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.

Cohu, Inc. / Electronics Division

COHU ELECTRONICS
12367 Crosthwaite Circle
Poway CA 92064-1245
Tel. +1 (858) 277-6700
Fax: +1 (858) 277-0221

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