



- 540TVL Image Resolution
- 35x Optical Zoom Power
- Electronic Image Stabilization
- Wide Range, Variable Speed, Smooth Positioning Movements
- Camera Presets, Tours and Sector/Privacy Zones
- Day/Night Technology
- Auto/Manual Focus and Iris Control
- Sealed and Pressurized IP67 Ingress Protection
- -34°C to 74°C Operation
- NTCIP 1205 Communication Option
- 120Vac or 24Vac Power Input
- Single Field Connector Install
- Pedestal, Wall and Pole and Mounting Options
- High-Torque Pan Option for High Wind Environments

The 3960 Series 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 up to 120° per second in preset mode. The mechanical assembly is metal, not plastic.

The legendary CoHuHD 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 utilize existing bridge signs and traffic light poles for camera mounting.

The 3960 Series 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 3960 Series produce s clear images of objects within its field of view.

Day/Night stechnology 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.

A high-speed positioner, with 0.25° accuracy, provides 360° continuous rotation and up to 64 user-defined preset positions, each with a two-line, 24-character title.

Electronic image stabilization corrects 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.

The 3960 Series provides embedded multi-protocol camera control. This means you can incorporate the 3960 Series into an existing control system from other major manufacturers. The 3960 Series can also be ordered with NTCIP 1205 camera control capability.

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.

The 3960 Series has been tested to withstand 110 mph (177 km/h) winds with no structural damage to the camera.

The 3960 Series is designed to operate in harsh weather with its IP67 enclosure protection. This eliminates the effects of water intrusion, pollutants and corrosives.

CohuHD delivers years of clean, reliable images and backs it with a world class two year warranty.

SYSTEM

PAN/TILT DRIVE

Pan Range: 360° continuous rotation
Tilt Range: -90° to +90°
Accuracy: <0.2°
Repeatability: <0.2°
Absolute Positioning
Set Position: 0.2° precision
Get Position: 0.2° precision

PAN SPEED

Max Speed: 120°/sec
Preset: 180° movement (start to stop) <2.5 sec
Manual: 0.1° to >80°/sec

TILT SPEED

Max Speed: 120°/sec
Preset: 180° movement (start to stop) <2.5 sec
Manual: 0.1° to >40°/sec

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)

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

S/N RATIO

>50db Weighted (4.5Mhz Filter), >40db Unweighted, AGC off

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

AGC

Maximum Gain setting adjustable from 0 to 40dB, with 28db default

OPTICS

LENS

35X optical zoom
3.4mm to 119mm (±15%);
Aperture: f1.4 to f4.2
AFOV: 56° to 1.7° (±15%)
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 or Slow Setting

FOCUS MODE

Auto/manual selectable

IRIS MODE

Auto/manual selectable

DIGITAL ZOOM

Selectable digital zoom (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;

FREEZE VIDEO BETWEEN PRESETS

On/Off



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CohuHD reserves the right to change specifications without notice



ELECTRICAL

POWER INPUT

120VAC [89 VAC to 135 VAC] Conforms to NEMA TS2 para. 2.1.2.
24 VAC ±15%

POWER CONSUMPTION

54 Watts Maximum Quiescent State
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

CAMERA PROTOCOL

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

FIRMWARE

Stored in flash memory; upload via serial port

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

ENVIRONMENTAL

PROTECTION RATING

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

OPERATING TEMPERATURE

-29.2° to 165°F (-34° to 74°C)
Per NEMA TS2, para. 2.1.5.1, using fig. 2.1 test profile

Note: Models 3966-xxxx and 3967-xxxx upper temperature range is derated to 149°F (65°C)

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 bracket not included)

EMI

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

ACCESSORIES

MOUNTS

Pedestal	7411542-001
Wall	8425-7
Pole	8503-0
Corner	8503-1
Parapat	8503-2
LPED Adapter	8481-9

MATING CONNECTOR

MS Type: 1310230-011
AMP Type: 8498-1

FIELD CABLES

CA291 Series: 24Vac, AMP connector
CA297 Series: 120Vac, AMP connector
CA292 Series: 24Vac, MS connector
CA293 Series: 24Vac, MS connector
CA295 Series: 120Vac, MS connector
CA296 Series: 120Vac, MS connector

SHIPPING INFORMATION

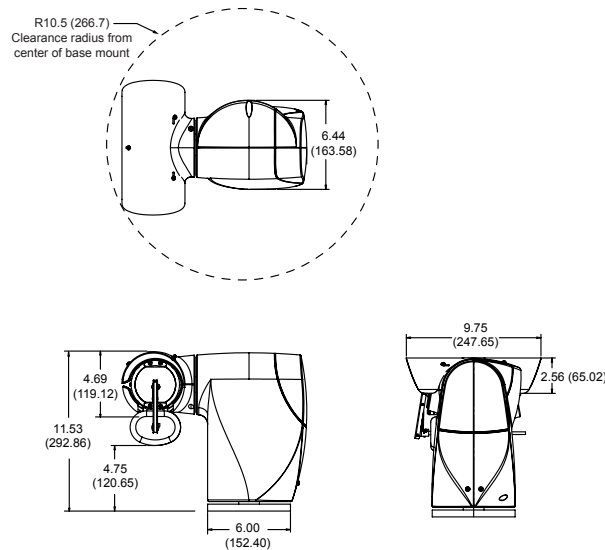
WEIGHT

24 lbs (11 kg)

VOLUME

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

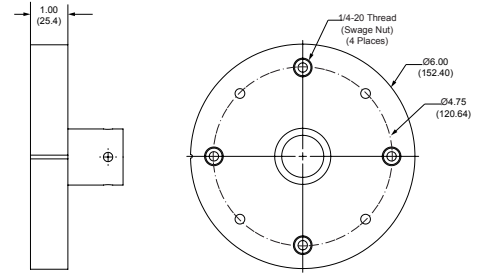
DIMENSIONS



ORDERING INFORMATION

PRODUCT MODEL STRUCTURE		
396 X - X X X X - X X X X	OPTIONS	OPTION DESCRIPTION
	PRODUCT SERIES	396 IVIEW II IP67/IP66 STANDARD DEFINITION POSITIONING SYSTEM
	OPERATING POWER	4 24VAC OPERATING POWER 5 120VAC OPERATING POWER 6 24VAC OPERATING POWER WITH HI-TORQUE PAN MOTOR 7 120VAC OPERATING POWER WITH HI-TORQUE PAN MOTOR
	CAMERA OPTIONS	5 480P30 X35 NTSC CAMERA WITH EIS 8 480P30 X35 PAL CAMERA WITH EIS
	SOFTWARE OPTIONS	0 STANDARD SUITE 1 NTCIP 1205 OVER RS422
	ENVIRONMENT OPTIONS	0 NONE 1 P/T HEATER BLANKET 2 CAMERA FACEPLATE WIPER 3 P/T HEATER BLANKET + CAMERA FACEPLATE WIPER
	CONNECTOR OPTIONS	0 STANDARD AMP. 16 PIN, NON-POTTED 1 ENVIRONMENTAL MS. 18 PIN, POTTED
	MOUNTING OPTIONS	PEDD PEDESTAL MOUNT, 4.75" BC LPED PEDESTAL MOUNT, 7" BC WALL WALL MOUNT POLE POLE MOUNT CONR CORNER MOUNT PARP PARPAPAT

PEDD MOUNTING FOOTPRINT



Dimensions in inches (mm)

CONNECTOR PINOUT

AMP Connector			MS Connector		
Pin	115Vac Function	24Vac Function	Pin	115Vac Function	24Vac Function
1	Video	Video	A	Video Ground	Video Ground
2	Video Ground	Video Ground	B	No Connection	24Vac HI
3	Chassis Ground	Chassis Ground	C	No Connection	No Connection
4	TX- RS422	TX- RS422	D	TX RS232	TX RS232
5	TX+ RS422	TX+ RS422	E	RX RS232	RX RS232
6	RX+ RS422	RX+ RS422	F	No Connection	No Connection
7	RX- RS422	RX- RS422	G	AC Ground	AC Ground
8	TX RS232	TX RS232	H	No Connection	No Connection
9	RX RS232	RX RS232	J	No Connection	No Connection
10	Data Ground	Data Ground	K	No Connection	No Connection
11	No Connection	No Connection	L	Video	Video
12	115Vac HI	115Vac HI	M	RX+ RS422	RX+ RS422
13	115Vac LOW	115Vac LOW	N	RX- RS422	RX- RS422
14	Cable Shield	Cable Shield	P	Data Ground	Data Ground
15	AC Ground	AC Ground	R	TX- RS422	TX- RS422
16	No Connection	No Connection	S	TX+ RS422	TX+ RS422
			T	115Vac LOW	24Vac LOW
			U	115Vac HI	No Connection