



- Superior HD Image Quality
- Powerful 30x Optical Zoom
- Electronic Image Stabilization
- Defog/Dehaze Analytics
- H.264/MJPEG Codecs
- Web Server Configuration, Operation and Viewing
- Variable Speed, Smooth Positioning Movements
- Presets, Tours, Sectors and Privacy Zones
- Automated Event Actions
- Pressurized IP67 Protection
- -40°C to 60°C Operation
- NTCIP 1205 v1.08 over IP Communication Support
- 120Vac or 24Vac Power
- Single Connector Simplicity
- Pendant, Wall, Pole and Corner Mounting Options
- ONVIF Profile S Compliant

CohuHD's 3920<sup>HD</sup> dome positioning system combines crystal clear HD image quality, bandwidth efficient H.264 compression, smooth variable speed positioning and IP67 protection delivering the CohuHD quality and performance you expect!

The 3920<sup>HD</sup> includes a 720p30 HD camera with up to 30x optical zoom, delivering full frame rate HD images over the entire zoom range.

The built-in zoom capability enables up to 30x optical magnification in high definition and achieves quick subject tracking through its high speed auto focusing system. True day/night technology using a removable IR cut filter produces exceptional low light sensitivity down to 0.005 lx.

For installations subject to wind or vibration, electronic 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 3920<sup>HD</sup> includes defog image processing, enhancing video performance in foggy conditions encountered in surveillance and traffic monitoring applications.

The 3920<sup>HD</sup> includes a variable hi-speed pan and tilt drive, with 360° continuous pan and +5 to -90° tilt. Fast positioning speeds result in 180° movements in less than 2.5 seconds.

Providing multiple video stream capability, the 3920<sup>HD</sup> delivers two independently configured H.264 streams or an H.264 with MJPEG or an H.264 with analog output.

Use of the IP and analog output allows integrating with analog based systems today while providing a smooth transition to HD Video over IP tomorrow.

The 3920<sup>HD</sup> provides a full function web server,

allowing complete administrative and operator control capabilities. Administrative features include configuring network settings, user password assignments, setting video streaming properties, configuring camera imaging properties, defining presets, tours and assigning camera ID labels.

The 3920<sup>HD</sup> is designed to operate in harsh weather with its IP67 pressurized enclosure protection. This eliminates the effects of water intrusion, pollutants and corrosives and is ideal for applications in marine, coastal areas, traffic monitoring, and other areas of high contamination.

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

DISCONTINUED

**CAMERA**

Sensor Type	1/3" CCD
Scanning System	Progressive
Pixel Array	1296 x 966
Active Resolution	1280 x 720
Frame Rate	30 fps
Camera Type	Day/Night (IR Cut Filter)
Day/Night Modes	Auto, Color, B/W
Color, 1/30, f1.6, 50 IRE	1.8 lux (0.18 fc)
Color, 1/30, f1.6, 30 IRE	0.74 lux (0.074 fc)
Monochrome, 1/30, f1.6, 50 IRE	0.18 lux (0.018 fc)
Monochrome, 1/4, f1.6, 30 IRE	0.02 lux (0.002 fc)
Zoom Lens	18x, 4.7 to 84.6mm
Aperture (f stop)	1.6 -> 2.8
HAFOV	55.2° to 3.2°
Focus	Auto / Manual [Near, Far]
Iris	Auto / Manual [Open, Close]
Digital Zoom	Not Available
Image Stabilization	Not Available
Dynamic Range Mode	On/Off
Back Light Comp Mode	On/Off
Shutter/Integration	1/4 -> 1/10,000
Defog Mode	Not Available
S/N Ratio	> 50db
White Balance	Auto/Manual [ 2500K to 9500K ]

**18x CAMERA**

Sensor Type	1/3" CCD
Scanning System	Progressive
Pixel Array	1296 x 966
Active Resolution	1280 x 720
Frame Rate	30 fps
Camera Type	Day/Night (IR Cut Filter)
Day/Night Modes	Auto, Color, B/W
Color, 1/30, f1.6, 50 IRE	1.8 lux (0.18 fc)
Color, 1/30, f1.6, 30 IRE	0.74 lux (0.074 fc)
Monochrome, 1/30, f1.6, 50 IRE	0.18 lux (0.018 fc)
Monochrome, 1/4, f1.6, 30 IRE	0.02 lux (0.002 fc)
Zoom Lens	18x, 4.7 to 84.6mm
Aperture (f stop)	1.6 -> 2.8
HAFOV	55.2° to 3.2°
Focus	Auto / Manual [Near, Far]
Iris	Auto / Manual [Open, Close]
Digital Zoom	Not Available
Image Stabilization	Not Available
Dynamic Range Mode	On/Off
Back Light Comp Mode	On/Off
Shutter/Integration	1/4 -> 1/10,000
Defog Mode	Not Available
S/N Ratio	> 50db
White Balance	Auto/Manual [ 2500K to 9500K ]

**20x CAMERA**

Sensor Type	1/3" CMOS
Scanning System	Progressive
Pixel Array	2096 x 1097
Active Resolution	1920 x 1080
Frame Rate	30 fps
Camera Type	Day/Night (IR Cut Filter)
Day/Night Modes	Auto, Color, B/W
Color, 1/30, f1.6, 50 IRE	1.7 lux (0.17 fc)
Color, 1/30, f1.6, 30 IRE	0.8 lux (0.08 fc)
Monochrome, 1/30, f1.6, 50 IRE	0.3 lux (0.03 fc)
Monochrome, 1/4, f1.6, 30 IRE	0.04 lux (0.004 fc)
Zoom Lens	20x, 4.7 to 94mm
Aperture (f stop)	1.6 -> 3.5
HAFOV	55° to 2.9°
Focus	Auto / Manual [Near, Far]
Iris	Auto / Manual [Open, Close]
Digital Zoom	Not Available
Image Stabilization	Not Available
Dynamic Range Mode	On/Off
Back Light Comp Mode	On/Off
Shutter/Integration	1/2 -> 1/30,000
Defog Mode	Not Available
S/N Ratio	> 50db
White Balance	Auto/Manual [ 2500K to 9500K ]

**30x CAMERA**

Sensor Type	1/3" CCD
Scanning System	Progressive
Pixel Array	1296 x 966
Active Resolution	1280 x 720
Frame Rate	30 fps
Camera Type	Day/Night (IR Cut Filter)
Day/Night Modes	Auto, Color, B/W
Color, 1/30, f1.6, 50 IRE	0.5 lux (0.05 fc)
Color, 1/30, f1.6, 30 IRE	0.3 lux (0.03 fc)
Monochrome, 1/30, f1.6, 50 IRE	0.05 lux (0.005 fc)
Monochrome, 1/4, f1.6, 30 IRE	0.005 lux (0.0005 fc)
Zoom Lens	30x, 4.4 to 132mm
Aperture (f stop)	1.4 -> 4.6
HAFOV	62.9° to 2.2°
Focus	Auto / Manual [Near, Far]
Iris	Auto / Manual [Open, Close]
Digital Zoom	2x
Image Stabilization	Off/On [5 Hz or 10 Hz]
Dynamic Range Mode	On/Off
Back Light Comp Mode	On/Off
Shutter/Integration	1/4 -> 1/10,000
Defog Mode	Off/On [ 3 Levels + Color Saturation ]
S/N Ratio	> 50db
White Balance	Auto/Manual [ 2500K to 9500K ]

**IP VIDEO**

Streams	Two (2) Individually configurable streams
Codecs	H.264 and MJPEG
Configurations	720p 18x, 30x Cameras - H.264 + H.264 - H.264 + MJPEG - H264 + Analog - MJPEG+ Analog 1080p 20x Camera - H.264 (1080p) - MJPEG (1080p) - H.264 (720p) + MJPEG - H264 (720p) + Analog
Resolutions	720p 18x, 30x Cameras - Stream 1 [720p, D1] - Stream 2 [D1, CIF] 1080p 20x Camera - Stream 1 [1080p, 720p] - Stream 2 [D1, CIF]

Frame Rates	30, 15, 7.5, 6, 5, 3.75, 3, 2, 1.875, 1 [Note: Stream 2 must be <= to Stream 1 rate]
frame	
Data Rates	Stream 1 [8 Mb to 256Kb] Stream 2 [2 Mb to 256Kb]
Camera Latency	Four (4) Frames [0.133 sec]

**DOME DRIVE**

Pan Range	360° continuous rotation
Tilt Range	5° to -90° [Continuous tilt with image flip and rotation at -90°]
Manual Pan Speed	0.1° to 80°/second
Manual Tilt Speed	0.1° to 40°/second
Peak Preset Speed	Maximum 250°/second
Preset Speed	< 2 seconds for 180° movement
Repeatability	+/- 0.1°
Resolution	+/- 0.1°
Presets	64, Includes pan, tilt, zoom, focus and preset

**ID**

Tours	8, Includes 32 presets with individual dwell times
Patterns	Not Available
Auto Park	Returns to a preset or tour after timer expires, Timer Value [ Off, 1 Minute to 999 Hours]
Sector Zones	8, Includes left/right boundary, enable/disable state, 24 character title
Privacy Zones	8, Includes left/right boundary, enable/disable state, blanks out video
Inverted Mounting	N/A

### VIDEO CONNECTIONS

RTP/RTSP	Eight (8) H.264, Eight (8) MJPEG
RTSP/Interleave	Eight (8) H.264, Eight (8) MJPEG
RTSP Multicast	Eight (8) H.264, Eight (8) MJPEG
HTTP Multicast	Unlimited, H.264 and MJPEG
HTTP Tunneling	Two (2) H.264, Ten (10) MJPEG
MPEG2 TS	Unlimited, H.264 and MJPEG

Note: When streaming at 1080p resolution, the number of connections is reduced by 1/2.

### NETWORK INTERFACE

Network Format	Ethernet 802.3 (100BaseT-TX)
Network Protocol	TCP, UDP, IPv4, IGMP, ICMP, DNS, DHCP, RTP, RTSP, NTP, HTTP, ARP, ONVIF Profile S, NTCIP 1205 v1.08
Media Players	VLC, Quick Time or any media player compliant with RFC 2326, 3984, 3550, 2435, ISO/IEC 13818-1
ONVIF Support	Profile S
Camera Protocols	Cohu T, Profile S, NTCIP 1205 v1.08
Security	Yes, 4 Levels
Software Upgrades	Accomplished using ethernet interface using camera web server

### ANALOG INTERFACE

Video	NTSC or PAL, using full 16:9 image compressed into 4:3 aspect ratio. Stream 2 must be configured for analog video.
Serial PTZ	RS422, 4 wire half duplex, 9600 baud
Camera Protocols	Cohu, Pelco D

### ON SCREEN DISPLAY (OSD)

User selection of standard or large font size. These are mutually exclusive of each other.

#### IP VIDEO OSD - Standard Font Size

Up to four OSD elements are selectable for inclusion in the camera's two IP video streams. (Note: Three elements maximum on a single stream.)

The OSD elements display on top or bottom of image, on right side of video. The logo element

displays on top or bottom of image on left side.

Camera Title	24 characters
Preset ID	24 characters
Sector Zone	24 characters
Position	3 characters, absolute or compass reading
Time/Date	24 Hour Format, Time Zone
Logo Display	xxx.bmp format, 96 x 96 pixels maximum, in multiples of 32 pixels

#### IP VIDEO OSD - Large Font Size

Two OSD elements are available for inclusion in video of stream 1 only. The OSD elements display on top or bottom of image.

Camera Title	15 characters
Position	3 characters (pan absolute or compass reading)

#### ANALOG VIDEO OSD - Standard Font Size

Camera Title	24 Characters
Preset ID	24 Characters
Sector Zone	24 Characters
Position	24 Characters

### EVENT MANAGEMENT

#### DIGITAL I/O

Digital Inputs	One (1) Sensor Input, Dry contact, N.O or N.C
Digital Outputs	One (1) Control Output, Open collector

### TRIGGERS

Internal Timer	Interval [Off, 1 Second to 999 hours], Duration [Off, 1 Second to Indefinite]
Digital Inputs	Active Input Triggers Action

### ACTIONS

Presets	Activates a Camera Preset
FTP Snapshot	Captures Image and sends to FTP site folder

### MECHANICAL

Construction	Powder coated aluminum. External parts corrosion protected with stainless steel fasteners.
Weight	14.0 lbs (6.3 kg)
Dimensions	11.0"D x 13.8"H [281 mm x 349 mm]
Connector Type	18 Pin MS
Shipping Dims	19 lbs, [8.6 Kg] 19" x 15" x 15" (482mm x 381mm x 381mm)

### ELECTRICAL

Input Voltage	120 Vac or 24 Vac (Model dependent)
Power	40 W, 110 W with Heater ON
Line Variation	120Vac Complies with Nema TS2 para 2.1.2

### ENVIRONMENTAL

Protection Rating	IP67, Pressurized with Dry Nitrogen, 3.5 psi
Operating Temp	-40°F to 140°F (-40°C to 60°C) Note: Minimum operating temperatures are with a 2 hour warm-up.
Water Spray	Per IEC 60529+A1, 1999, Para 14.2.6, Solid water stream delivered thru 12.5mm nozzle @ 25 gallons/minute @ 9ft for 3 minutes
Humidity	0-100%
Vibration	Compliant to NEMA TS2 Para 2.1.9, 2.2.3, 2.2.8
Shock	Compliant to NEMA TS2 Para 2.1.10, 2.2.4, 2.2.9
Corrosion	Per Nema 250-2003, paragraphs 5.10

### CERTIFICATIONS

FCC Class A	
ASTM-B117 Marine	

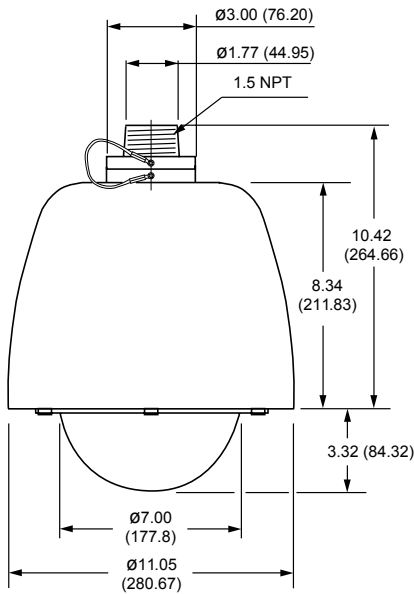
### ACCESSORIES

Mounts	Wall: 7411420-001 Pole: 8518-2
Cables	CA252 Series, 120Vac CA255 Series, 24Vac Field Cable 1310230-011
Connectors	
Power Supplies	24Vac (IP66) 7411543-017 (175 Watts, 115Vac or 220Vac Input)

### ORDERING MODEL NUMBERS

HD24-1000	Helios PTZ Dome System, 24Vac 720p30 x18 Camera	DISCONTINUED
HD24-2000	Helios PTZ Dome System, 24Vac 1080p30 x20 Camera	
HD24-3000	Helios PTZ Dome System, 24Vac 720p30 x30 Camera	
HD25-1000	Helios PTZ Dome System, 120Vac 720p30 x18 Camera	DISCONTINUED
HD25-2000	Helios PTZ Dome System, 120Vac 1080p30 x20 Camera	
HD25-3000	Helios PTZ Dome System, 120Vac 720p30 x30 Camera	

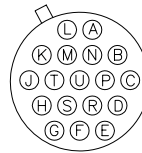
### DIMENSIONS



NPT - National Pipe Thread

Overall Dimensions in inches (mm)

### CONNECTOR PINOUT OPTIONS



Pin Location Diagram  
MS-type Connector  
View from the front (mating) side

Pin	MS Connector Pinouts	
	120 Vac	24 Vac
D		Ethernet Tx+
E		Ethernet Tx-
F		Ethernet Rx+
H		Ethernet Rx-
L		Composite Video Out
A		Video Return
P		Alarm/Data Gnd
C		Alarm1 In/Out
J		Alarm2 In/Out
K		Alarm3 In/Out
M		RS-422 Rx+
N		RS-422 Rx-
S		RS-422 Tx+
R		RS-422 Tx-
G		AC GND
B	SPARE	24 VAC HI
U	115 VAC HI	SPARE
T	115 VAC LO	24 VAC LO