



- Superior SD Image Quality
- Powerful 35x Optical Zoom
- Electronic Image Stabilization
- 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
- NEMA TS2 Temperature Range, -40°C to 74°C
- NTCIP 1205 over IP Communication Support
- 120Vac or 24Vac Power
- Single Connector Simplicity
- Pendant, Wall, Pole and Corner Mounting Options
- ONVIF Profile S Compliant

Cohu's 3920^{SD} series combines the advantages of SDTV imaging, efficient H.264 compression, a proven variable speed dome drive and advanced environment protection standards for delivering a best of class dome camera system.

The 3920^{SD} offers a 480p30 with 35x imaging for delivering SDTV video quality from wide to narrow angle zoom settings. True day/night technology using a removable IR cut filter produces exceptional low light sensitivity to as low as 0.0018 lx.

The 3920^{SD} includes a variable hi-speed pan and tilt drive, with 360° continuous pan and +5 to -90° tilt movements. Fast positioning speeds result in 180° movements in less than 2.5 seconds.

Providing dual output stream capability, the 3920^{SD} 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 SDTV Video over IP tomorrow.

The 3920^{SD} 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, defining camera positioning presets/tours, assigning camera ID labels.

The 3920^{SD} provides comprehensive ID labeling, allowing precise descriptors to be inserted onto the video for operator use. Camera location, presets and sector zones are defined using up to 23 characters.

For direct positioning indications, the camera system can display its azimuth and elevation position in degrees as well as use compass directions.

The 3920^{SD} is designed to operate in extreme weather with its IP67 sealed and pressurized enclosure protection. This eliminates the effects of water intrusion, pollutants and corrosives.

As well, the 3920^{SD} withstands the effects elevated temperature, electrical and mechanical environments complying with NEMA TS 2 standards. Cohu guarantees years of clean, reliable images and backs it with a world-class warranty.

CAMERA

Sensor	1/4" CCD
Scanning	2:1 Interlace
Pixel Array	811 x 508
Resolution	720 x 480
Frame Rate	30 fps
Camera Format	Day/Night (IR Cut Filter)
Day/Night Modes	Auto, Color, B/W

SENSITIVITY @ 50 IRE

Color, 1/30, f1.6	1.0 lux (0.1 fc)
B/W, 1/30, f1.6	0.1 lux (0.01 fc)

SENSITIVITY @ 35 IRE

Color, 1/30, f1.6	0.55 lux (0.05 fc)
B/W, 1/4, f1.6	0.00018 lux (0.000018fc)

OPTICS

Zoom Lens	35 x, 3.4 to 119mm
Aperture	f1.4 -> f4.2
HAFOV	55° to 1.7°
Focus	Auto / Manual [Near, Far]
Iris	Auto / Manual [Open, Close]
Digital Zoom	12 x

IMAGE PROCESSING

Defog Mode	Not Available
Image Stabilization	Off/On [5 Hz or 10 Hz]
Dynamic Range	On/Off
Back Light Comp	On/Off
Shutter/Integration	1/4 -> 1/30,000
S/N Ratio	> 50db

IP VIDEO

Streams	Two (2) Individually configurable streams
Codecs	H.264 and MJPEG
Configurations	H.264 + H.264, H.264 + MJPEG, H.264 + Analog, MJPEG + Analog
Resolutions	Stream 1 [D1] Stream 2 [D1, CIF]
Frame Rates	30, 15, 7.5, 6, 5, 3.75, 3, 2, 1.875, 1
Data Rates	Stream 1 (4 Mb to 256 Kb) Stream 2 (2 Mb to 256 Kb)
Camera Latency	Four (4) Frames (0.133 sec.)

POSITIONING 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
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
Security	Yes, 4 Levels

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)

IP VIDEO OSD

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.

Standard Font Size

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

Large Font Size

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

ANALOG VIDEO OSD

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

EVENT MANAGEMENT

DIGITAL I/O

Digital Inputs	Two (2) Sensor Inputs, 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
Digital Output EMAIL	Activates a Digital Output Sends message to EMAIL address

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
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CERTIFICATIONS

FCC Class A
ASTM-B117 Marine

ACCESSORIES

Mounts	Wall: 7411420-001 Pole: 8518-2
Cables	CA252 Series, 120Vac CA255 Series, 24Vac
Connectors	Field Cable, 1310230-011

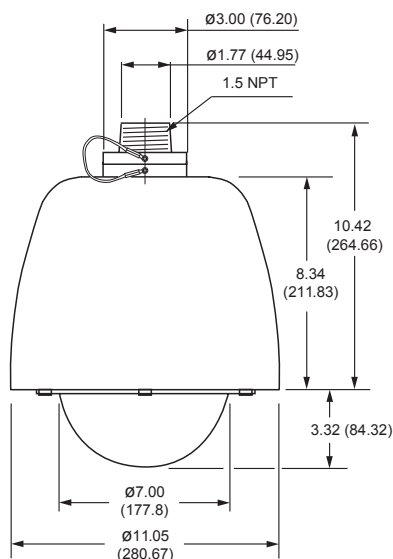
Power Supplies

24Vac (IP66)	7411543-017 (175 Watts, 115Vac or 220Vac Input)
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ORDERING MODEL NUMBERS

SD24-1000	Dome System, 24Vac 480p30 x35 Camera
SD25-1000	Dome System, 120Vac 480p30 x35 Camera

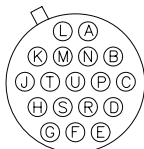
DIMENSIONS



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