

RISE 4220HD Series with Command Core™

Includes 4220-1000 and 4228-1000 Models

H.264 High-Definition, IP68 Dome Positioning System



Advanced Optics

- Superior 1080p image quality
- Powerful 30x optical zoom with 12x digital zoom (360x total) - Exceeds performance of 36x optics advertised on other IP cameras providing less than true 30x optical zoom - See our application note
- Image defog/dehaze analytics
- Electronic image stabilization (EIS)
- Dark scene enhanced intensity
- Bright source whiteout reduction
- Presets, tours, sectors and privacy zones

Rugged Construction

- Operates in hurricane force winds
- Built-in electrical transient/surge protection to CISPR 24 levels
- Precision positioning of 0.1°
- Pressurized IP68 Ingress Protection
- NEMA TS2 temperature range, -40°C to 75°C
- Three Year Standard Warranty
- Lifetime Warranty on moisture ingress into camera head enclosure

Installation and Interoperability

- ONVIF Profile S compliant
- NTCIP 1205 compliant
- H.264 Base/Main/High profiles and MJPEG encoding
- Web server configuration, operation and viewing
- Single CAT5e Cable Installation
- Pendant, wall and pole mounting bracket options

Command Core™ Action Engine

- Automated system responses
- Preset/Tour activations
- Digital I/O triggers and actions
- FTP/EMAIL image delivery
- Built-in configuration wizards
- Three trigger queuing modes

CohuHD Costar's RISE 4220HD dome positioning system combines crystal clear HD image quality, bandwidth efficient H.264 compression, smooth variable speed positioning and IP68 protection delivering the CohuHD quality and performance you expect!

The RISE 4220HD provides full 1080p imaging with 30x optical zoom, delivering full frame rate HD images over the entire zoom range for very cost effective long-range surveillance applications. The quality of RISE 4220HD HD zoom optics far exceeds realized magnification range and magnification of 36x optics advertised in other products.

True day/night technology using a removable IR cut filter produces exceptional low light sensitivity down to 0.00025 fc.

For installations subject to wind or vibration, electronic image stabilization assures steady, clear images.

The RISE 4220HD includes defog/dehaze image processing, enhancing video performance in foggy and hazy conditions encountered in surveillance and traffic monitoring applications.

The RISE 4220HD includes variable hi-speed pan and tilt drive, with 360° continuous pan and +10° to -90° tilt. Fast positioning speeds result in 180° movements in less than 1.5 seconds.

Providing multiple video stream profiles, the RISE 4220HD delivers up to 5 or more independently configured H.264/MJPEG streams.

The RISE 4220HD provides a full function web server, allowing complete administrative and operator control capabilities.

The RISE action engine generates automated system responses to input triggers including date/time schedules and repetitive timers that can activate output

actions including presets, image snapshots with FTP/EMAIL uploads, OSD displays and digital outputs.

The RISE 4220HD is designed to operate in harsh weather with its IP68 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 three-year warranty.



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(858) 391-1800



RISE 4220-1000 Series with Command Core™

H.264 High-Definition, IP68 Dome Positioning System



CAMERA

Sensor	1/2.8" CMOS
Scanning	Progressive
Resolution	1,920 x 1,080
	640 x 360 @ 3x dig. zoom
Digital Formats	YUV 4:2:2 SMPTE 274M, BT.709, BT.1120, 1080p, 1080i, 720p
Frame Rate	30 fps
Camera Format	Day/Night (IR Cut Filter)
Day/Night Modes	Auto, Color, B/W
S/N Ratio	>50 db

SENSITIVITY

Standard	(f1.4, 1/30, 30 IRE)
Color	0.25 lux (0.025 fc)
B/W	0.024 lux (0.0024 fc)
Digital Slow Shutter	(f1.4, 1/2, 30 IRE)
Color	0.015 lux (0.0015 fc)
B/W	0.0015 lux (0.00015 fc)

OPTICS

Zoom Lens	30x, 4.4 to 132mm Effective 264mm with 2x digital zoom
Aperture	f1.4 -> f4.6
Realized HAFOV	63.4° to 2.1° @ 1920x1080 Exceeds angular field of view range and magnification of 36x optics advertised by other IP cameras
Focus	Auto/Manual [Near, Far]
Focus Search	Normal, Bright, Point Source
Focus Sensitivity	Low, Normal, High
Iris	Auto/Manual [Open/Close]
Lens Speed	Three [Slow, Medium, Fast]
Digital Zoom	12x, Off/On [Depth]

IMAGE PROCESSING

Defog Mode	Off/Auto/Manual [3 Levels, Strength and Color Adj.]
Image Stabilization	Off/On
Enhanced Intensity	Off, Enhanced, Whiteout Reduction
Dynamic Range	>90dB Off/On [3 Levels, Normal, Combo, Contrast]
Back Light Comp	Off/On [Level Setting]
Shutter (AES)	Auto/Manual [1/2 -> 1/30,000]
Slow Shutter	Off/On [1/15->1/2] with Limit Setting
White Balance	Auto [Thru the Lens]/Manual [Red/Blue Adjustment]
Gamma Corr. (WB) Modes	Yes Normal, Mercury, Sodium Vapor
AGC	1 to 48db, Adjustable
Sharpness	Soft, Normal, Sharp, Sharpest
Noise Reduction	Normal, Medium, Strong, Fixed

IP STREAM

Video Streams	5 or more video streams dependent on available processing budget
Video Codec	H.264 Base, Main and High Profiles, MJPEG
Video Protocols	RTSP/RTP RTSP Interleave HTTP Tunneling RTP Multicast
Video Resolution	1080p, 720p, D1, VGA, CIF
Video Frame Rate	1 to 30 fps, 30 fps default
Video Data Rate	256Kbs to 8Mbs
Video Rate Cntrl	Variable or Constant
Video GOV	1 to 600, 30 default
Video Latency	Four frames (0.133 sec.)
Video Trans.	99.999% error free

NETWORK INTERFACE

Network Format	802.3u 100Base-T, MDI-X auto-sensing, full duplex
Network Protocol	TCP, UDP, IPv4, ICMP, DNS, IGMPv2/v3, DHCP, RTP, RTSP, RTCP, NTP, HTTP, SOAP, HTTPS ARP, FTP, SMTP, SNMP/NTCIP 1208, 2301, Telnet. ONVIF Profile S
Media Players	VLC, Quick Time or any media player compliant with RFC 2326, 3984, 3550, 2435, ISO/IEC 13818-1
ONVIF	Profile S
Camera Protocols	ONVIF, NTCIP 1205, CohuT, CohuHD legacy
Security	4 Levels: Admin, Operator, User, Anonymous [User Name + Password], Digest Authentication
Updates	File upload over network using camera web server interface
Configurations	Stored in Non-Volatile Memory
Browsers	IE11, Firefox, Chrome

COMMAND CORE ACTION ENGINE

Input Triggers	Digital input, FTP error, Valid or invalid login, Tour stopped, Timer, Scheduler, Preset reached, PTZ moved, Maintenance, User command
Output Actions	Digital output, FTP image, Send Email, Send Text, Start preset or Tour, Display OSD message, Timer/ Scheduler On/Off mode control, Delay, Reset system

ON SCREEN DISPLAY (OSD)

OSD Capacity	Up to 7 OSD Elements can be selected for display on video
OSD Elements	Text, Preset, Position, Compass, Date/Time, Sector, Maintenance, Action Event
OSD Characters	Up to 40 characters per text element
OSD Size	Adjustable from 12, 18, 24, 30, 36, 42, 48, 54, 60, 72, 84 or 96 pt. size
OSD Color	White, Black, Green, Red, Blue
OSD Transparency	Adjustable from 0-100%
OSD Background	Transparent, Black
OSD Location	Upper Right/Left, Lower Right/Left, Center, Custom
Banner Display	On/Off, Top/Bottom, 4 OSD elements
Logo Display	BMP, JPEG, GIF Format, [x,y] position, Transparency

POSITIONING DRIVE

Pan Range	360° continuous rotation
Tilt Range	+10° to -90°, 200° total
Preset Speed	Peak speed of 300°/sec 180° movement < 1.5 Seconds
Manual Speed	0.1° to 45°/second
Speed Resolution	> 64 Variable speed levels
Repeatability	+/- 0.1°
Resolution	+/- 0.1°
Presets	Up to 256, Includes pan, tilt, zoom, focus, preset ID, I/O output state
Tours	Up to 256, Includes presets with dwell, speed, direction and recurrence properties
Auto Park	Returns to a preset or tour after timer expires, Timer Value [Off, 1 Minute to 999 Hours]
Features	Auto focus/iris on PTZ, Proportional PTZ, Video freeze on preset, High wind/vibration mode, Set north calibration, Auto flip

PRIVACY MASKS

Capacity	Up to 8 Rectangular Masks.
Color	Red, orange, green, blue, purple, grey
Blur	Solid, fine, medium or coarse pixelated
Opacity	25, 50 or 75%
Brightness	4 levels of adjustment

ELECTRICAL

Input Voltage	PoE+ or PoE++ Model Dependent
Power	PoE++ 20w, 60w with heater ON PoE+ 15w, 25.5w with heater ON
Voltage Range	NEMA standard TS 2-2003 section 2.2.7 tests C thru H
Transient/Surge Emmissions	Certified to CISPR 24 levels Certified to CISPR 22 levels

MECHANICAL

Weight	12.5 lbs (5.7 kg) Camera 16.5 lbs (7.5 kg) Shipping
Dimensions	Refer to dimensional diagram 15"x15"x15" Shipping (381 x 381x 381 mm)
Construction	Powder Coated aluminum
Sunshield	Included as standard
Color	Light Gray Cardinal Coating T241-GR142

Dome window	Polycarbonate, Optically Correct
IK10	Camera System except dome window is IK10

ENVIRONMENTAL

Protection Rating	IP68, Pressurized with Dry Nitrogen, 3.5 psi. Water immersion at 1m for 24 hours with no water ingress
Operating Temp	4220-1000 PoE++ Model -30°F to 165°F (-34°C to 74°C) Per NEMA TS2, para 2.2.7 4228-1000 PoE+ Model -4°F to 165°F (-20°C to 74°C)
Internal Heaters	Two DC resistive heater assemblies, software controlled, to maintain internal heat for operation down specified operating temperatures above.
Relative Humidity	Operation from 0-100%
Vibration	Per NEMA TS2 para. 2.2.8. 5-30Hz sweep @ 0.5g applied in each of 3 mutually perpendicular planes.
Shock	Per NEMA TS2 para. 2.2.9. 10g applied in each of 3 mutually perpendicular planes
Corrosion	MIL-STD-810G, Method 509.5, Paragraph 4.5.2, ANSI NCSL Z540-1, ISO 17025:2005
Wind Survivability	Up to 150 mph - 120 mph for 45 minutes - 150 mph for 15 minutes

EMC CERTIFICATIONS

CE, FCC Part 15B, RoHS
AS/NZS CISPR 22:2009+A1:2010
CAN/CSA-CISPR 22-10
EN 55022:2010+AC: 2011
EN 55024:2010
EN 61000-3-2:2006 +A1:2009+A2:2009
EN 61000-3-3:2013
EN 61000-4-2: 2009
EN 61000-4-3: 2006 +A1:2008 +A2:2010
EN 61000-4-4: 2004
EN 61000-4-5: 2006
EN 61000-4-6: 2009
EN 61000-4-8: 2010
EN 61000-4-11: 2004

ACCESSORIES

Small Mounts

Wall	8438-4 or 7411420-001
Pole	8438-5 or 8518-2
Corner	8439-8

Large Mounts

Wall	7411420-001
Pole	8518-2

Field Cables

CAT5e Cables	8194602-xxx [where xxx = 025, 055, 100, 150, 200, 250, 300, 328] denoting cable length in feet. Includes RJ45 connectors at each end of cable.
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Power Supply

7412007-003	PoE++, 60W, 110/220vac IP50, -34 to 74C
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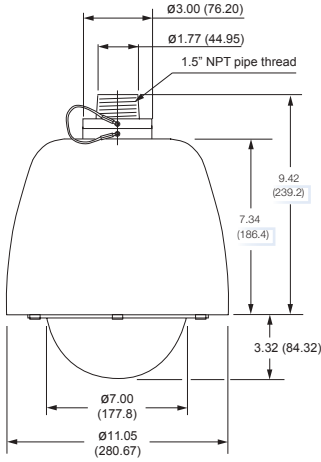
WARRANTY

Lifetime warranty on dome enclosure moisture ingress. Three (3) years on camera and positioner system.

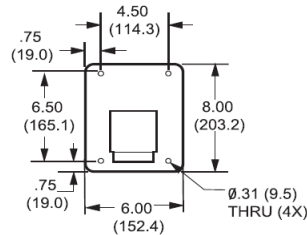
ORDERING INFORMATION

4220-1000	RISE IP68 Dome Camera System with 1080p 30x camera, H.264 IP encoder, pan/tilt positioner and IP68 enclosure system. PoE++ power. Includes a 45" RJ45 male pigtail.
4228-1000	RISE IP68 Dome Camera System with 1080p 30x camera, H.264 IP encoder, pan/tilt positioner and IP68 enclosure system. PoE+ power. Includes a 45" RJ45 male pigtail.

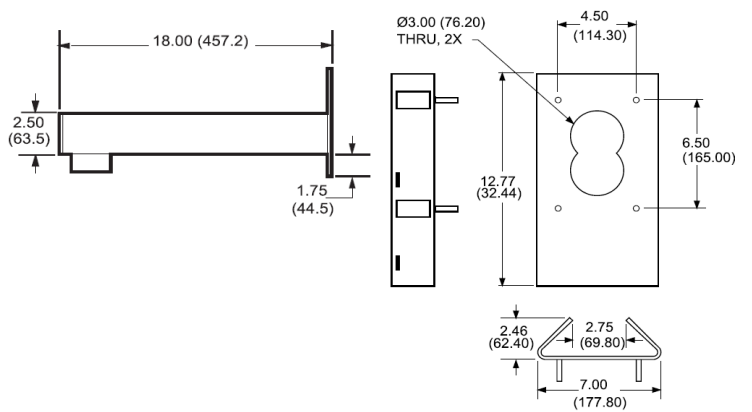
DIMENSIONS



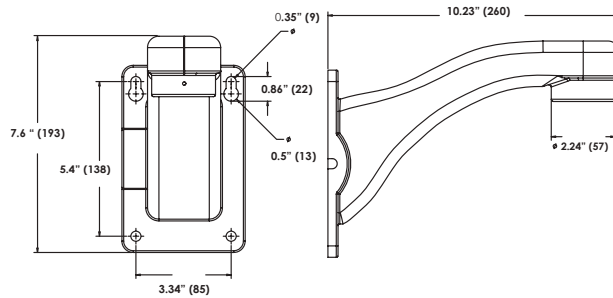
WALL MOUNT 7411420-011



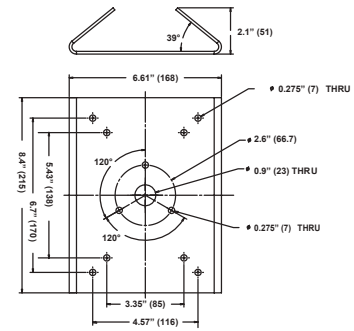
POLE MOUNT KIT 8518-2 (Includes 7411420-011)



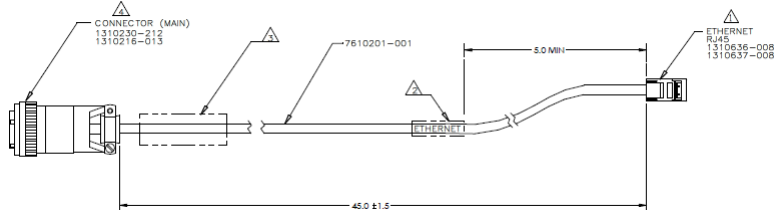
WALL MOUNT 8438-4



POLE MOUNT KIT 8438-5 (Includes 8438-4)



RJ45 PIGTAIL INCLUDED



RISE Series IP Video Cameras

Rugged Innovation with Superior Endurance

The RISE Series IP video cameras are designed and built by CohuHD Costar for critical infrastructure applications demanding high-quality images, rugged construction and seamless interoperability. The RISE Series delivers advanced performance at unbeatable pricing.

About CohuHD Costar™

CohuHD Costar is a leading manufacturer of high-definition video systems designed to satisfy the demanding performance requirements for critical infrastructure applications. CohuHD solutions integrate the latest high-definition video imaging and compression technologies into ruggedized camera products for monitoring in critical, sensitive environments.