Redvision™

NDAA Compliant

CCTV | IP PTZ

X4 COMMANDER S

Key Features

- Tough, rugged camera, Marine-Grade finish as standard
- PoE 90W (802.3bt Midspan) Version available
- Adaptive White Light and IR (zoom-linked) operation – 500m target range.
- Intelligent, Auto- PTZ Tracking

- VMS Integration, including Redvision VMS1000
- Rugged Mounting Bracket Options
- Brushless Stepper Motors for Resilience and Durability
- ONVIF Compliant
- SD Card recording option, up to 256GB.

ONVIF™
Member

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X4 COMMANDER rugged ball PTZ

The X4 COMMANDER rugged, ball PTZ cameras are designed for tough, outdoor, surveillance applications. The X4 COMMANDER uses advanced production techniques and state-of-the-art technology to offer a world-class, rugged CCTV camera with a best-in-class, feature set. The die-cast aluminium body is anodised before being powder coated, making the camera environmentally tough and resistant to malicious attack or vandalism.

Everything about the X4 COMMANDER rugged, ball PTZ is of high quality. All moving parts are designed to last; from its long-life, silicone wiper through to the motor technology used in its pan and tilt mechanism and its 37x optical zoom camera module, with exceptional low-light performance. The camera is perfectly balanced, minimising component wear and giving a mean time before failure (MTBF) rating of 7 years.

Intuitive, Operator Control

The X4 COMMANDER has intuitive, operator control, from fast pan and tilt speeds of up to 180° / second to speeds of less than 0.1° / second, for when an operator is precisely tracking a target. The COMMANDER also features long-life, super-efficient, white-light and IR LED illumination technologies, for night-time operation.

3D positioning allows operators simple control of the X4 COMMANDER PTZ. Quick and simple setup directly from the COMMANDER's Web User Interface; or tracking targets by mouse click from a compatible control platform, latency and over run are no longer an issue.

VMS Integration Including Redvision VMS1000

Redvision's VMS1000 (powered by Digifort) is an ONVIF-compliant VMS that can be used to manage a wide range of IP cameras, with an enhanced SDK level integration into all Redvision's cameras. This level of integration provides users with simple access to the cameras auxiliary commands, including wiper and white light control.

Simple Install, Maintenance Free

The X4 COMMANDER is designed for easy installation and configuration. A complete range of brackets, mounts and cable extensions allow upright or hanging installation in any environment, with a choice of RAL colour options to order. Cantilever arms enable the camera to view directly downwards on pole or tower mounts. The X4 COMMANDER™ mounting bracket has a 4" PCD mount with M8 clearance holes.

The X4 COMMANDER utilises a tooled silicone wiper option to keep the camera's view through the flat, scratch-resistant window free of water and dirt. A linkage-free, sprung steel mechanism reduces wiper wear and a polycarbonate window gives an even tougher option. Wiper activation is by a button press on VMS systems, including the VMS1000, or by pre-set.

Extensive Features

The X4 COMMANDER has an extensive range of features including four video streams for recording, visualisation, set-up and servicing; H265, H264 and MJPEG compression; optional 256GB maximum SD card-based edge storage; ONVIF compliance to Profile S, G and T; 400 pre-sets, 12 tours, 12 scans, 6 tracks and 20 privacy masks; alarms, motion detection, intelligent analytics and tracking; and its operating temperature range is -40°C to 70°C. A 90W PoE version (802.3bt Midspan) offers quick and easy connectivity via RJ45 socket, operating over a full 100m Cat 5e span.

Night-time performance

PTZ cameras have infra-red (IR) and white light illumination options, using long-life, super-efficient LEDs. DORI (Detection, Observation, Recognition and Identification) tests show that the X4 COMMANDER performs up to 500m. Utilising the latest in sensor technology, the 1/1.8" CMOS Starlight sensor has exceptional low-light performance down to 0.005 Lux in colour, and 0.0005 Lux in monochrome.

The X4 COMMANDER has Osram adaptive illumination, automatically adjusting IR and white light intensity in proportion to zoom and scene content. This feature ensures scene images are well-lit, but not bleached by over-exposure.

White light can be switched on as a visual deterrent to intruders.

Intelligent auto-PTZ tracking

The X4 COMMANDER™ has intelligent, auto PTZ tracking where the camera will automatically follow people or vehicles moving within a scene, adjusting zoom and focus in real-time.
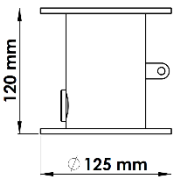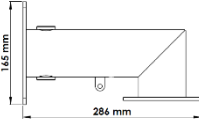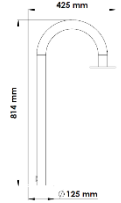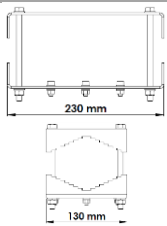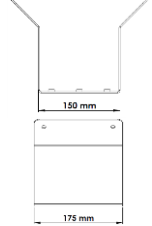
Image	Part Code and Description
	RVX4S-G: 37:1 4MP Zoom Ball PTZ, WIPER - Light Grey **RVX4S-POE-G:** 37:1 4MP Zoom Ball PTZ, WIPER. High-PoE (802.3bt Midspan) 60W - Light Grey **RVX4S-ALM-G:** 37:1 4MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, WIPER - Light Grey
	RVX4S-B: 37:1 4MP Zoom Ball PTZ, WIPER - Black **RVX4S-POE-B:** 37:1 4MP Zoom Ball PTZ, WIPER. High-PoE (802.3bt Midspan) 60W - Black **RVX4S-ALM-B:** 37:1 4MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, WIPER - Black
	RVX4S-IR-G: 37:1 4MP Zoom Ball PTZ, IR, WIPER - Light Grey **RVX4S-POE-IR-G:** 37:1 4MP Zoom Ball PTZ, IR, WIPER. High-PoE (802.3bt Midspan) 90W - Light Grey **RVX4S-ALM-IR-G:** 37:1 4MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, IR, WIPER - Light Grey
	RVX4S-IR-B: 37:1 4MP Zoom Ball PTZ, IR, WIPER - Black **RVX4S-POE-IR-B:** 37:1 4MP Zoom Ball PTZ, IR, WIPER. High-PoE (802.3bt Midspan) 90W - Black **RVX4S-ALM-IR-B:** 37:1 4MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, IR, WIPER – Black
	RVX4S-IRX-G: 37:1 4MP Zoom Ball PTZ, Extra Long-Range IR up to 500m, WIPER - Light Grey **RVX4S-POE-IRX-G:** 37:1 4MP Zoom Ball PTZ, Extra Long-Range IR up to 500m, WIPER. High-PoE (802.3bt Midspan) 90W - Light Grey **RVX4S-ALM-IRX-G:** 37:1 4MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, Extra Long-Range IR up to 500m, WIPER - Light Grey
	RVX4S-IRX-B: 37:1 4MP Zoom Ball PTZ, Extra Long-Range IR up to 500m, WIPER - Black **RVX4S-POE-IRX-B:** 37:1 4MP Zoom Ball PTZ, Extra Long-Range IR up to 500m, WIPER. High-PoE (802.3bt Midspan) 90W - Black **RVX4S-ALM-IRX-B:** 37:1 4MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, Extra Long-Range IR up to 500m, WIPER - Black
	RVX4S-IRWL-G: 37:1 4MP Zoom Ball PTZ, IR/ White Light, WIPER - Light Grey **RVX4S-POE-IRWL-G:** 37:1 4MP Zoom Ball PTZ, IR/ White Light, WIPER. High-PoE (802.3bt Midspan) 90W - Light Grey **RVX4S-ALM-IRWL-G:** 37:1 4MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, IR/ White Light, WIPER - Light Grey
	RVX4S-IRWL-B: 37:1 4MP Zoom Ball PTZ, IR/ White Light, WIPER - Black **RVX4S-POE-IRWL-B:** 37:1 4MP Zoom Ball PTZ, IR/ White Light, WIPER. High-PoE (802.3bt Midspan) 90W - Black **RVX4S-ALM-IRWL-B:** 37:1 4MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, IR/ White Light, WIPER - Black

Image	Part Code and Description	Drawing
	RVX4-STANDOFF-G: 120 mm Standoff mount bracket - Light Grey **RVX4-STANDOFF-B**: 120 mm Standoff mount bracket - Black	120 mm ⌀ 125 mm
	RVX4-WALL-G: Wall mount bracket - Light Grey **RVX4-WALL-B**: Wall mount bracket - Black	165 mm 286 mm
	RVX4-SWAN-G: Swan mount bracket - Light Grey **RVX4-SWAN-B**: Swan mount bracket - Black	425 mm 814 mm ⌀ 125 mm
	RVX4-POLE-G: Pole mount adaptor 60-90mm for Wall Bracket - Light Grey **RVX4-POLE-B**: Pole mount adaptor 60-90mm for Wall Bracket - Black	230 mm 130 mm
	RVX4-CNR-G: Corner Mount adapter for Wall Bracket - Light Grey **RVX4-CNR-B**: Corner Mount adapter for Wall Bracket - Black	150 mm 175 mm
	RVX4-BIRD-SPIKE: Multiple Anti-Perch Bird Spike Attachment	
	RVX2-PSU: 24V DC PSU for X2/X3/X4 non alarm and alarm ball PTZ	
Other	**RVX4-SD, RVX4-PC4, RV-POE-INJ-90W, RVX2-WASH**	

Camera

Image Sensor	1/1.8" Progressive Scan CMOS
Effective Pixels	2592(H)×1520(V)
Electronic Shutter	Auto/Manual, 1/5 ~ 1/20,000s
Min. illumination	Colour: 0.005Lux @ F1.5 Monochrome: 0.0005Lux @ F1.5 (AGC ON)
S/N Ratio	55 dB
Day/Night	Auto(ICR)/Day / Night/Timing
Wide Dynamic Range	True WDR
IR On/Off Control	Auto/Manual

Lens

Focal Length	6.8 ~ 251mm
Max. Aperture	F1.6 ~ F4.3
Angle of View	60.7° (Wide) ~ 2.33° (Tele)
Optical Zoom	37x
Focus Control	Auto/Manual

PTZ

Pan/Tilt Range	Pan: 360° continuous Tilt: 150° (Cantilever function gives 180° view range)
Manual Control Speed	Pan: 0.1° ~ 180°/s, Tilt: 0.1° ~ 90°/s
Preset Speed	Pan: 180°/s, Tilt: 90°/s
Presets	400
PTZ Mode	6 Track, 12 Scan, 12 Tour (up to 32 presets per tour)
3D Positioning	Supported
Power-Off Memory	Supported
PTZ Status Display	Supported
Idle Motion	Activate Preset/ Scan/ Tour/ Track if there is no command in the specified period

Video

Encoding	H.264 / H.265 / MJPEG / Smart Encode
Max. Resolution	4MP (2592×1520)
Streaming Capability	3 Streams
Stream/Frame Rate	Stream1: 2592×1520, 2560×1440, 2304×1296, 1920×1080, 1280×720 @ 25/30fps Stream2: 1920 x 1080, 1280 x 720, D1, VGA, 640×360, CIF, QVGA @ 25/30fps Stream3: VGA, CIF, QVGA @ 25/30fps
Bit Rate Control	CBR/VBR
Bit Rate	Stream1: 200kbps~12Mbps Stream2: 10kbps~3Mbps Stream3: 10kbps~1.5Mbps
Image Setting	HLC / BLC / Defog / WDR / Anti-shake (DIS) / Brightness / Saturation / Sharpness / Contrast / Exposure Control / Scene
Noise Reduction	2D/3D DNR
Region of Interest	Off/On (8 Zone, Rectangle)
Privacy Masking	Up to 20 Masks

Event

Alarm Triggers	IVA, Motion detection, Alarm input, Network alarm, SD alarm, Day/Night switch alarm
Event Actions	Alarm record, Alarm output, FTP upload, SMTP upload

Network

Interface	Ethernet RJ45, 10-100 Base-T connection
Protocols	IPv4/IPv6, 802.1x, HTTP, HTTPS, TCP/IP, UDP/IP, RTSP, DHCP, NTP, RTCP/RTP, PPPoE, SMTP, DNS, UPnP, FTP, ARP, SNMP, TLS/SSL, IGMP, DNS, DDNS, ICMP, QOS
Interoperability	ONVIF (Profile S, G and T), SDK, CGI
Streaming Method	Unicast, Multicast
Max. User Access	10 Users
Edge Storage	Built-in Micro SD slot, up to 256G
Web Viewer	Microsoft Windows: Chrome, Firefox, Microsoft Edge, Opera MacOS: Chrome, Firefox

Intelligence & Alarm

Auto Tracking	Supported
Alarm	Motion alarm, Disk alarm, Day/Night switch alarm, Network alarm, Audio abnormal alarm, Alarm push
Alarm I/O	4 in, 2 out (ALM Variant)
Object Detection	Face, human, vehicle detection and capture
Smoke and Fire Detection	Supported
Intelligent Analysis	Intrusion, Single line crossing, Double line crossing, Loitering, Wrong-way detection, Illegal parking, and Smart motion detection

Electrical and Physical

Power Supply	24VDC (-15% to +20%) via RVX2 PSU module; input 100~240VAC 50/60Hz. PoE Version: RJ45 socket, takes power & data (90W)
Power Consumption	24VDC: 50W. PoE: 802.3bt Midspan 90W (LED models)
Dimensions	Non-LED models: H 340mm W 191mm LED models: H 340mm W 293mm
Weight	8kg without lamps, 10kg with lamps
Operating Temperature	-40°C ~ +70°C (Light colours only, Black: 50°C)
Impact Rating	Meets IK10 standards (with Polycarbonate window fitted)
Corrosion Testing	BS EN ISO 9227:2022 1000 Hours Salt Spray
Ingress Protection	Meets IP68 standards
Vibration Testing	TEN 50556:2011, clauses 6.3.2 & 11 (Table 3, Class AL2) EN 60068-2-64-2008 Test Fh
EMC	See Technical Standards
Camera Body	Marine finish as standard, Aluminium, die-cast alloy, with pretreated, powder coated finish
Wiper Blade	Tooled silicone
Colour	RAL 7035 Light-Grey or RAL 9005 Black. Custom RAL made to order.

Lighting & DORI

Illumination Range	IR (850nm) to 500m (IRX Variant), 400m (IR/IRWL) White Light to 300m
DORI Category	Distance covered
Detection	IR Light: 500m (IRX) White Light: 300m
Observation	IR Light: 275m White Light: 225m
Recognition	IR Light: 175m White Light: 175m
Identify	IR Light: 90m White Light: 90m

418 mm · 418 mm · 412 mm · 418 mm · 418 mm · 412 mm

230 mm · 224 mm · 271 mm · 365 mm · 224 mm · 271 mm
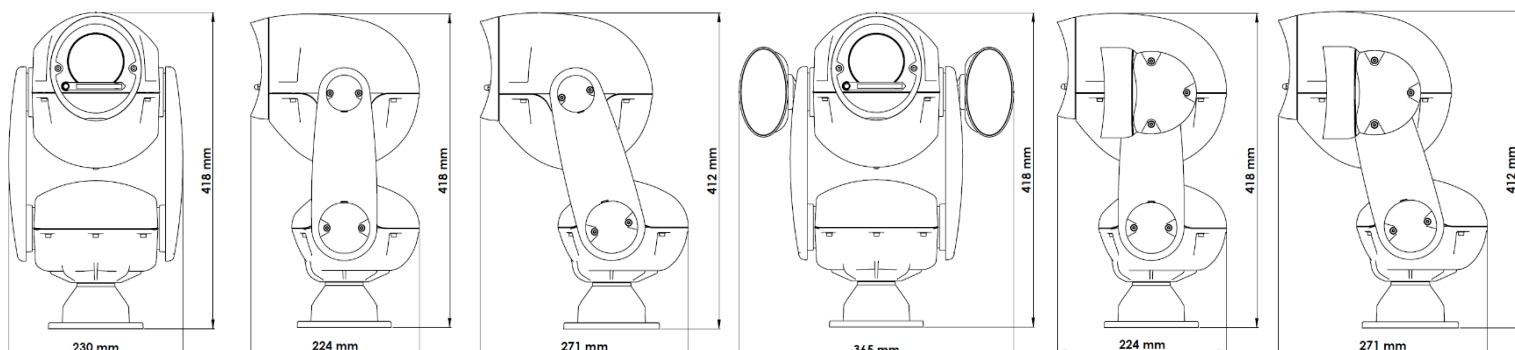
Environmental	
Cold Test	EN 60068-2-1:2007 Test Ae -40°C
Dry Heat Test	EN 60068-2-2:2007 Test Be +70°C
Damp Heat Test, Cyclic Test	EN 60068-2-30:2005 Test Db
Vibration Test	EN 50556:2018 Section 6.3.2 & Table 4 Class AL & Section 6.3.1.5 & EN 60068-2-64:2008 Test Fh
IPX8	IEC 60529:1989+A1:1999+A2:2013+COR1:2019
IP6X	IEC 60529:1989+A1:1999+A2:2013+COR1:2019
Salt Spray	BS EN ISO 9227:2022 1000 Hours Salt Spray

EMC Emission	
Conducted Emissions at Mains Power Port (150kHz-30MHz)	EN 55032:2015+A11:2020+A1:2020
Asymmetric Mode Conudcted Emissions (150kHz-30MHz)	EN 55032:2015+A11:2020+A1:2020
Radiated Emissions (30MHz – 1GHz)	EN 55032:2015+A11:2020+A1:2020
Radiated Emissions (Above 1Ghz)	EN 55032:2015+A11:2020+A1:2020
Harmonic Current Emission	EN IEC 61000-3-2:2019+A1:2021
Voltage Fluctuations and Flicker	EN 61000-3-3:2013+A1:2019+A2:2021

EMC Immunity	
Electrostatic Discharge	EN 55035:2017+A11:2020 & EN 50130-4:2011+A1:2014
Radiated Immunity (80MHz-1GHz, 1800MHz, 2600MHz, 3500MHz, 5000Mhz)	EN 55035:2017+A11:2020
Radiated Immunity (80MHz-2.7GHz)	EN 50130-4:2011+A1:2014
Electrical Fast Transients & Burst at AC Power Port	EN 55035:2017+A11:2020 & EN 50130-4:2011+A1:2014
Electrical Fast Transients & Bursts at Signal Port	EN 55035:2017+A11:2020 & EN 50130-4:2011+A1:2014
Surge at AC Power Port	EN 55035:2017+A11:2020 & EN 50130-4:2011+A1:2014
Surge at Signal Port	EN 55035:2017+A11:2020 & EN 50130-4:2011+A1:2014
Conducted Immunity at AC Power Port (150kHz-80MHz)	EN 55035:2017+A11:2020 & EN 50130-4:2011+A1:2014
Conudcted Immunity at Signal Port (150kHz-80MHz)	EN 55035:2017+A11:2020 & EN 50130-4:2011+A1:2014
Voltage Dips and Interruptions	EN 55035:2017+A11:2020 & EN 50130-4:2011+A1:2014
Mains Supply Voltage Variations	EN 50130-4:2011+A1:2014