



## 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<sup>TM</sup>
- Rugged Mounting Bracket Options
- Brushless Stepper Motors for Resilience and Durability
- ONVIF Compliant
- SD Card recording option, up to 256GB.

### 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 pre-treated 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.

### 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 Q; 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

The Redvision X4 COMMANDER™ rugged, ball 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 1/2" CMOS Starlight sensor has exceptional low-light performance down to 0.001 Lux in colour.

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.










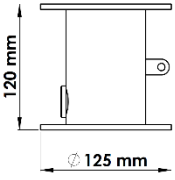

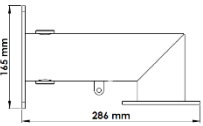


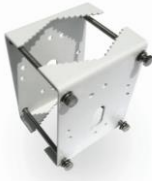
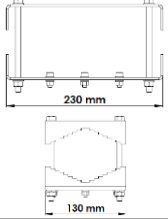

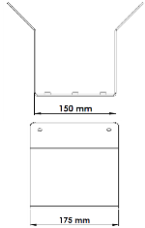


Image	Part Code and Description
	<p><b>RVX4-G:</b> 37:1 3MP Zoom Ball PTZ, WIPER - Light Grey</p> <p><b>RVX4-POE-G:</b> 37:1 3MP Zoom Ball PTZ, WIPER. High-PoE (802.3bt Midspan) 60W - Light Grey</p> <p><b>RVX4-ALM-G:</b> 37:1 3MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, WIPER - Light Grey</p>
	<p><b>RVX4-B:</b> 37:1 3MP Zoom Ball PTZ, WIPER - Black</p> <p><b>RVX4-POE-B:</b> 37:1 3MP Zoom Ball PTZ, WIPER. High-PoE (802.3bt Midspan) 60W - Black</p> <p><b>RVX4-ALM-B:</b> 37:1 3MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, WIPER - Black</p>
	<p><b>RVX4-IR-G:</b> 37:1 3MP Zoom Ball PTZ, IR, WIPER - Light Grey</p> <p><b>RVX4-POE-IR-G:</b> 37:1 3MP Zoom Ball PTZ, IR, WIPER. High-PoE (802.3bt Midspan) 90W - Light Grey</p> <p><b>RVX4-ALM-IR-G:</b> 37:1 3MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, IR, WIPER - Light Grey</p>
	<p><b>RVX4-IR-B:</b> 37:1 3MP Zoom Ball PTZ, IR, WIPER - Black</p> <p><b>RVX4-POE-IR-B:</b> 37:1 3MP Zoom Ball PTZ, IR, WIPER. High-PoE (802.3bt Midspan) 90W - Black</p> <p><b>RVX4-ALM-IR-B:</b> 37:1 3MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, IR, WIPER - Black</p>
	<p><b>RVX4-IRX-G:</b> 37:1 2MP Zoom Ball PTZ, Extra Long-Range IR up to 500m, WIPER - Light Grey</p> <p><b>RVX4-POE-IRX-G:</b> 37:1 2MP Zoom Ball PTZ, Extra Long-Range IR up to 500m, WIPER. High-PoE (802.3bt Midspan) 90W - Light Grey</p> <p><b>RVX4-ALM-IRX-G:</b> 37:1 2MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, Extra Long-Range IR up to 500m, WIPER - Light Grey</p>
	<p><b>RVX4-IRX-B:</b> 37:1 2MP Zoom Ball PTZ, Extra Long-Range IR up to 500m, WIPER - Black</p> <p><b>RVX4-POE-IRX-B:</b> 37:1 2MP Zoom Ball PTZ, Extra Long-Range IR up to 500m, WIPER. High-PoE (802.3bt Midspan) 90W - Black</p> <p><b>RVX4-ALM-IRX-B:</b> 37:1 2MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, Extra Long-Range IR up to 500m, WIPER - Black</p>
	<p><b>RVX4-IRWL-G:</b> 37:1 3MP Zoom Ball PTZ, IR/ White Light, WIPER - Light Grey</p> <p><b>RVX4-POE-IRWL-G:</b> 37:1 3MP Zoom Ball PTZ, IR/ White Light, WIPER. High-PoE (802.3bt Midspan) 90W - Light Grey</p> <p><b>RVX4-ALM-IRWL-G:</b> 37:1 3MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, IR/ White Light, WIPER - Light Grey</p>
	<p><b>RVX4-IRWL-B:</b> 37:1 3MP Zoom Ball PTZ, IR/ White Light, WIPER - Black</p> <p><b>RVX4-POE-IRWL-B:</b> 37:1 3MP Zoom Ball PTZ, IR/ White Light, WIPER. High-PoE (802.3bt Midspan) 90W - Black</p> <p><b>RVX4-ALM-IRWL-B:</b> 37:1 3MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, IR/ White Light, WIPER - Black</p>

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

## Camera Specification

<b>Camera module</b>	37x optical zoom, 16x digital zoom, 2MP, 1/2" CMOS Starlight sensor, True-ICR
<b>Lens</b>	6mm ~ 222mm FOV: 60° (Wide) ~ 2° (Tele)
<b>Sensitivity</b>	Colour: 0.001Lux @ F1.2 Monochrome: 0.0001Lux @ F1.2 (AGC ON)
<b>Shutter Speed</b>	Auto, 1-10,000/s
<b>Iris</b>	Auto/ Manual
<b>Noise Reduction</b>	3D Digital
<b>Image Enhancement</b>	dWDR, BLC, HLC, Defog
<b>Digital Image Stabilisation</b>	Yes
<b>P/T Range</b>	Pan: 360° continuous Tilt: 150° (Cantilever function gives 180° view range)
<b>P/T Speed</b>	Pan: 180°/sec Tilt: 90°/sec
<b>Privacy</b>	20 Masks, individual colour choice
<b>Preset Positions</b>	400
<b>Preset Tours</b>	12
<b>Autopan Scans</b>	12
<b>Mimic Patterns</b>	6
<b>P/T Coordinates</b>	Yes, OSD Display

## Video Streaming

<b>Video Compression</b>	H.265, H.264, MJPEG
<b>Streams</b>	3 + Service Stream
<b>Resolutions</b>	Stream 1: 1920 x 1080 (2MP), 1280 x 720 (1.2MP) Stream 2: D1, VGA, 640 x 360, CIF, QVGA Stream 3: VGA, CIF, QVGA
<b>RTSP Video</b>	RFC2326, Supports VLC & QuickTime
<b>FPS</b>	60fps max.
<b>Bitrate</b>	Stream 1: 200kbps ~ 12Mbps Stream 2: 100kbps ~ 6Mbps Stream 3: 100kbps ~ 6Mbps
<b>ROI</b>	Yes

## Network Interface

<b>Interface</b>	Ethernet RJ45, 10-100 Base-T connection
<b>Supported Protocols</b>	IPv4, HTTP, HTTPS, 802.1x, TCP, UDP, RTSP, DHCP, NTP, RTCP/RTP, PPPoE, SMTP, SNMP, DNS, UPnP, FTP, ICMP, IGMP, Unicast/ Multicast
<b>Languages (Web interface)</b>	English, French, Italian, Spanish, Russian
<b>ONVIF</b>	Profile S, G, Q
<b>Edge Storage (optional)</b>	Up to 256GB
<b>Security</b>	Base-64 authentication, HTTPS (SSL), 802.1x, IP Address Filtering

## Events

<b>Alarm I/O</b>	4 in, 2 out
<b>Intelligent Motion Tracking</b>	Yes
<b>Event Notifications/ Actions</b>	Email (5 recipients), FTP Upload, SD Event recording, alarm output, live stream display, mobile app push notification.
<b>Intelligent Analytics</b>	Perimeter, Virtual Fences, Loitering, Objects left/Removed, Speed, Illegal Parking, with scene calibration and scheduling, email recipients upon event, FTP upload, record event to SD, ONVIF event notification and video overlay.
<b>Motion Detection</b>	Detection grid, scheduling
<b>System Events</b>	SD, Network issue, ICR Switch

## Electrical & Physical

<b>Power Supply</b>	24VDC via RVX2 PSU module; input 100~240VAC 50/60Hz. PoE Version: RJ45 socket, takes power & data (90W)
<b>Power Consumption</b>	24VDC: 50W. PoE: 802.3bt Midspan 90W (LED models)
<b>Dimensions</b>	Non-LED models: H 418mm W 230mm LED models: H 418mm W 365mm
<b>Weight</b>	8kg without lamps, 10kg with lamps
<b>Operating Temperature</b>	-40°C ~ +70°C (Light colours only, Black: 50°C)
<b>Impact rating</b>	Meets IK10 standards (with Polycarbonate window fitted)
<b>Corrosion Testing</b>	ASTM B117 1000 hour Salt-Spray Test
<b>Ingress protection</b>	Meets IP68 standards
<b>Vibration testing</b>	TEN 50556:2011, clauses 6.3.2 & 11 (Table 3, Class AL2) EN 60068-2-64-2008 Test Fh
<b>EMC</b>	BS EN 55032:2015+A11:2020, Class A BS EN 50130-4:2011+A1:2014
<b>Camera body</b>	Marine finish as standard, Aluminium, die-cast alloy, with E-Coat, powder-coated finish
<b>Colour</b>	RAL 7035 Light-Grey or RAL 9005 Black. Custom RAL made to order.

## Lighting & DORI

<b>Illumination Range</b>	IR (850nm) to 500m White Light to 300m
<b>DORI Category</b>	<b>Distance covered</b>
<b>Detection</b>	IR Light: 500m White Light: 300m
<b>Observation</b>	IR Light: 275m White Light: 225m
<b>Recognition</b>	IR Light: 175m White Light: 175m
<b>Identify</b>	IR Light: 90m White Light: 90m

