

CCTV | IP PTZ

**X2 COMBAT 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
- 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 1TB.

## **X2 COMBAT Rugged PTZ Camera**

The X2 COMBAT rugged PTZ camera is purpose-built for demanding outdoor surveillance environments. Engineered with robust construction techniques and cutting-edge technologies, the X2 COMBAT delivers reliable, high-performance CCTV monitoring with an advanced feature set. Its tough, die-cast aluminium housing is anodised and then powder coated, offering excellent resistance to environmental wear, vandalism, and physical attack.

Every aspect of the X2 COMBAT is designed for durability and longevity. From the high-efficiency, long-life silicone wiper to the precision-engineered motor mechanisms in the pan and tilt assembly, each component is built to perform over time. The high-resolution camera module with 30x optical zoom offers superior low-light performance, while the camera's balanced mechanical design reduces strain on components—supporting a Mean Time Between Failure (MTBF) rating of up to 7 years.

### **Operator-Centric Control**

The X2 COMBAT provides intuitive and precise control for operators. It supports rapid pan and tilt speeds up to 180° per second, as well as ultra-slow movement below 0.1° per second for accurate target tracking. Integrated IR and white-light LED illumination ensures effective night-time operation with long operational life and low energy use.

Operators can take advantage of 3D positioning for seamless control—whether configuring the X2 COMBAT via its Web User Interface or tracking targets using mouse-click commands from compatible platforms. With ultra-low latency and no overshoot, the X2 COMBAT is responsive and accurate under manual or automated control.

### **Seamless VMS Integration – Including Redvision VMS1000**

The X2 COMBAT integrates easily with Redvision's VMS1000 (powered by Digifort), an ONVIF-compliant video management system. Thanks to a deep SDK-level integration with Redvision cameras, users have direct access to camera-specific functions such as wiper control and white light activation, streamlining both setup and operation.

### **Intelligent auto-PTZ tracking**

The X2 COMBAT includes intelligent auto-PTZ tracking capabilities. It can autonomously follow people or vehicles within the scene, dynamically adjusting zoom and focus to keep the subject clearly in view.

## **Effortless Installation, Minimal Maintenance**

Designed with installer convenience in mind, the X2 COMBAT offers straightforward mounting and configuration. A wide range of brackets, cable extensions, and mounts support both upright and pendant installations, with custom RAL colour options available. Cantilever brackets enable direct downward viewing on poles or towers.

A tooled silicone wiper keeps the camera's flat, scratch-resistant window clean in harsh weather. The sprung steel, linkage-free wiper mechanism reduces wear, while a tough polycarbonate window option is available for enhanced durability. Wiper activation is accessible via preset commands or direct button control in supported VMS platforms, including the VMS1000.

### **Comprehensive Feature Set**


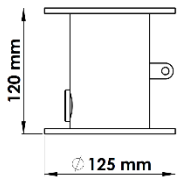

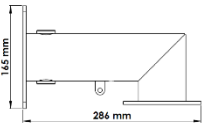

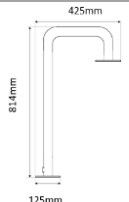

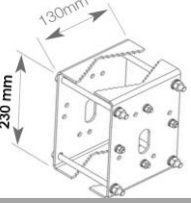

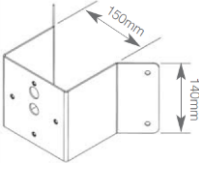


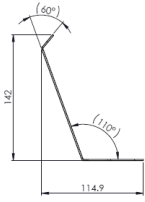

The X2 COMBAT is packed with advanced features, including support for up to four video streams for simultaneous recording, viewing, setup, and diagnostics. It supports H.265, H.264, and MJPEG compression formats, and offers edge storage options up to 1TB via SD card. The camera complies with ONVIF Profiles S, G, and T, and supports 400 presets, 12 tours, 12 scans, 6 auto-tracks, and up to 20 configurable privacy masks. Additional features include motion detection, intelligent analytics, alarm inputs, and support for operating temperatures between -40°C and +70°C. A 90W PoE model (802.3bt Midspan) allows for efficient connectivity via RJ45 over 100m of Cat5e cabling.

### **Exceptional Night Vision**

The X2 COMBAT offers powerful infrared (IR) and white light illumination via long-life LEDs. With Osram adaptive illumination technology, the intensity of lighting automatically adjusts based on zoom level and scene conditions to ensure optimal exposure and clarity without overexposure.

Equipped with a high-sensitivity 1/2.8" CMOS sensor, the X2 COMBAT delivers superb low-light imaging down to 0.01 Lux in colour and 0.001 Lux in monochrome. DORI performance tests indicate effective recognition and identification up to 300 metres. The white light can also be triggered manually or automatically as a visible deterrent to potential intruders.

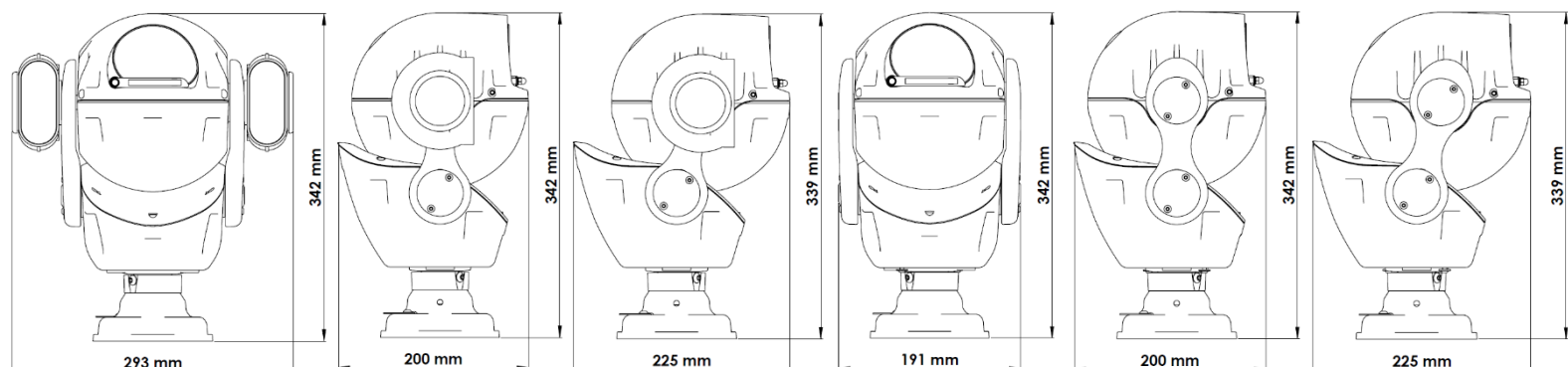
Image	Part Code and Description
	<b>RVX2S-G:</b> 30:1 4MP Zoom Ball PTZ, WIPER - Light Grey
	<b>RVX2S-POE-G:</b> 30:1 4MP Zoom Ball PTZ, WIPER. High-PoE (802.3bt Midspan) 60W - Light Grey
	<b>RVX2S-ALM-G:</b> 30:1 4MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, WIPER - Light Grey
	<b>RVX2S-B:</b> 30:1 4MP Zoom Ball PTZ, WIPER - Black
	<b>RVX2S-POE-B:</b> 30:1 4MP Zoom Ball PTZ, WIPER. High-PoE (802.3bt Midspan) 60W - Black
	<b>RVX2S-ALM-B:</b> 30:1 4MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, WIPER - Black
	<b>RVX2S-IR-G:</b> 30:1 4MP Zoom Ball PTZ, IR, WIPER - Light Grey
	<b>RVX2S-POE-IR-G:</b> 30:1 4MP Zoom Ball PTZ, IR, WIPER. High-PoE (802.3bt Midspan) 90W - Light Grey
	<b>RVX2S-ALM-IR-G:</b> 30:1 4MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, IR, WIPER - Light Grey
	<b>RVX2S-IR-B:</b> 30:1 4MP Zoom Ball PTZ, IR, WIPER - Black
	<b>RVX2S-POE-IR-B:</b> 30:1 4MP Zoom Ball PTZ, IR, WIPER. High-PoE (802.3bt Midspan) 90W - Black
	<b>RVX2S-ALM-IR-B:</b> 30:1 4MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, IR, WIPER - Black
	<b>RVX2S-IRWL-G:</b> 30:1 4MP Zoom Ball PTZ, IR/ White Light, WIPER - Light Grey
	<b>RVX2S-POE-IRWL-G:</b> 30:1 4MP Zoom Ball PTZ, IR/ White Light, WIPER. High-PoE (802.3bt Midspan) 90W - Light Grey
	<b>RVX2S-ALM-IRWL-G:</b> 30:1 4MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, IR/ White Light, WIPER - Light Grey
	<b>RVX2S-IRWL-B:</b> 30:1 4MP Zoom Ball PTZ, IR/ White Light, WIPER - Black
	<b>RVX2S-POE-IRWL-B:</b> 30:1 4MP Zoom Ball PTZ, IR/ White Light, WIPER. High-PoE (802.3bt Midspan) 90W - Black
	<b>RVX2S-ALM-IRWL-B:</b> 30:1 4MP Zoom Ball PTZ, 4 alarm inputs, 2 alarm outputs, IR/ White Light, WIPER - Black

Image	Part Code and Description	Drawing
	<b>RVX2-STANDOFF-G:</b> 120 mm Standoff mount bracket - Light Grey <b>RVX2-STANDOFF-B:</b> 120 mm Standoff mount bracket - Black	
	<b>RVX2-WALL-G:</b> Wall mount bracket - Light Grey <b>RVX2-WALL-B:</b> Wall mount bracket - Black	
	<b>RVX2-SWAN-G:</b> Swan mount bracket - Light Grey <b>RVX2-SWAN-B:</b> Swan mount bracket - Black	
	<b>RVX2-POLE-G:</b> Pole mount adaptor 60-90mm for RVX2-WALL - Light Grey <b>RVX2-POLE-B:</b> Pole mount adaptor 60-90mm for RVX2-WALL - Black	
	<b>RVX2-CNR-G:</b> Corner Mount adapter for RVX2-WALL - Light Grey <b>RVX2-CNR-B:</b> Corner Mount adapter for RVX2-WALL - Black	
	<b>RVX2-VISOR-G:</b> Sun & rain Visor (only applies when camera is mounted in upright position) - Light Grey <b>RVX2-VISOR-B:</b> Sun & rain Visor (only applies when camera is mounted in upright position) - Black	
	<b>RVX2-WASH:</b> Washer nozzle kit – compatible with standard CCTV wash pumps	
	<b>RVX2-PSU:</b> 24V DC PSU for X2 non alarm and alarm ball PTZ	
Other	<b>RVX2-SD, RVX2-PC4, RV-POE-INJ-90W</b>	



Camera	
Image Sensor	1/2.8" Progressive Scan CMOS
Effective Pixels	2592(H)×1520(V)
Electronic Shutter	Auto/Manual, 1/5 ~ 1/20,000s
Min. illumination	Colour: 0.01 Lux @ (F1.6, AGC ON) B/W: 0.001 Lux, 0 Lux (IR LED 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	5.3 ~ 159mm
Max. Aperture	F1.6 ~ F4.3
Angle of View	H: 55° ~ 2.3°, V: 41.6° ~ 1.7°
Optical Zoom	30x
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: 1920×1080, 1280×720, 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	Supported
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	
Protocols	IPv4/IPv6, 802.1x, HTTP, HTTPS, TCP/IP, UDP/IP, RTSP, DHCP, NTP, RTPC/RTP, PPPoE, SMTP, DNS, UPnP, FTP, ARP, SNMP, TLS/SSL, IGMP, DNS, DDNS, ICMP, QOS
Interoperability	ONVIF (Profile S, Profile G), SDK, CGI
Streaming Method	Unicast
Max. User Access	10 Users
Edge Storage	Built-in Micro SD slot, up to 1TB
Web Viewer	Microsoft Windows: ≤IE11, Chrome, Firefox, Microsoft Edge 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)
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	5.2kg without lamps, 5.8kg 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 anodised, 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 300m White Light to 250m
DORI Category	Distances calculated as per IEC 62676-4:
Detection (25PPM)	Wide: 99.5m, Tele: 2,583.7m
Observation (62.5PPM)	Wide: 39.8m, Tele: 1,033.5m
Recognition (125PPM)	Wide: 19.9m, Tele: 517.0m
Identify (250PPM)	Wide: 9.95m, Tele: 258.5m



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