

CCTV | IP & Analogue PTZ

X2 COMBAT P - HYBRID



Key Features

- Dual IP and Analogue PTZ Camera
- Pelco P and D Telemetry
- ONVIF (Profile G, T & M) Compliant
- Tough, rugged camera, Marine-Grade finish as standard
- Adaptive White Light and IR (zoom-linked) operation
- VMS Integration, including Digifort
- Rugged Mounting Bracket Options
- Brushless Stepper Motors for Resilience and Durability
- SD Card recording option, up to 1TB.
- Long Life Silicone Wiper

X2 COMBAT Hybrid rugged ball PTZ

The X2-COMBAT rugged, ball PTZ cameras are designed for tough, outdoor, surveillance applications. The X2-COMBAT 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 X2-COMBAT 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 30x 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.

Dual Analogue and IP PTZ

The Hybrid X2-COMBAT can be used as either an IP or an analogue PTZ camera. This allows users to install the unit into sites with legacy analogue infrastructure and keep the same HD camera for when an IP upgrade is permitted. The camera has coaxial video output, and Pelco P or D telemetry control; along with IP connectivity and ONVIF compliance.

Intuitive, operator control

The X2-COMBAT 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 COMBATTM 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 X2-COMBAT PTZ. Quick and simple setup directly from the COMBAT'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 Digifort

ONVIF is an open industry standard that defines a communication protocol for IP-based video surveillance devices. This allows different manufacturers' cameras and video management software (VMS) to interoperate. 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.

Simple install, maintenance free

The X2-COMBAT 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 X2-COMBAT mounting bracket has a 4" PCD mount with M8 clearance holes. A complete range of brackets, mounts and cable extensions are also available, which are zinc plated then powder coated.

The X2-COMBAT 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 X2-COMBAT has an extensive range of features including three video streams for recording, visualisation, set-up and servicing; H265, H264 and MJPEG compression; optional 1TB maximum SD card-based edge storage; ONVIF compliance to Profile G, T and M; 400 pre-sets, 12 tours, 12 scans, 6 tracks and 20 privacy masks; alarms, motion detection, intelligent analytics; and its operating temperature range is -40°C to 70°C.

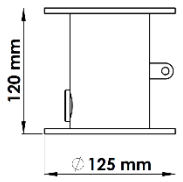
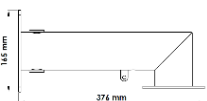
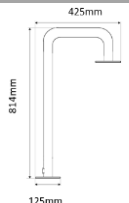
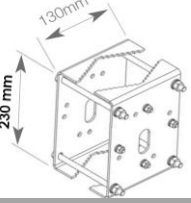
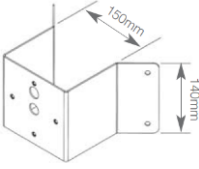
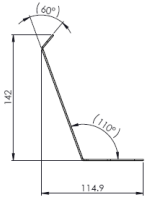
Night-Time Performance

The Redvision X2-COMBAT 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 X2-COMBAT performs up to 300m.

The X2-COMBAT 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.

Image	Part Code and Description
	RVX2P-HYB-G: 30:1 5MP Hybrid IP and Analogue Ball PTZ, WIPER - Light Grey
	RVX2P-HYB-B: 30:1 5MP Hybrid IP and Analogue Ball PTZ, WIPER - Black
	RVX2P-HYB-IR-G: 30:1 5MP Hybrid IP and Analogue Ball PTZ, IR, WIPER - Light Grey
	RVX2P-HYB-IR-B: 30:1 5MP Hybrid IP and Analogue Ball PTZ, IR, WIPER - Black
	RVX2P-HYB-IRWL-G: 30:1 5MP Hybrid IP and Analogue Ball PTZ, IR/ White Light, WIPER - Light Grey
	RVX2P-HYB-IRWL-B: 30:1 5MP Hybrid IP and Analogue Ball PTZ, IR/ White Light, WIPER - Black

Image	Part Code and Description	Drawing
	RVX2-STANDOFF-G: 120 mm Standoff mount bracket - Light Grey RVX2-STANDOFF-B: 120 mm Standoff mount bracket - Black	 120 mm 125 mm
	RVX2-WALL-G: Wall mount bracket - Light Grey RVX2-WALL-B: Wall mount bracket - Black	 115 mm 376 mm
	RVX2-SWAN-G: Swan mount bracket - Light Grey RVX2-SWAN-B: Swan mount bracket - Black	 425mm 814mm 125mm
	RVX2-POLE-G: Pole mount adaptor 60-90mm for RVX2-WALL - Light Grey RVX2-POLE-B: Pole mount adaptor 60-90mm for RVX2-WALL - Black	 130mm 230 mm
	RVX2-CNR-G: Corner Mount adapter for RVX2-WALL - Light Grey RVX2-CNR-B: Corner Mount adapter for RVX2-WALL - Black	 150mm 140mm
	RVX2-VISOR-G: Sun & rain Visor (only applies when camera is mounted in upright position) - Light Grey RVX2-VISOR-B: Sun & rain Visor (only applies when camera is mounted in upright position) - Black	
	RVX2-WASH: Washer nozzle kit – compatible with standard CCTV wash pumps	 142 114.9 (50°) (110°)
	RV-HYB-PSU: 24V DC PSU for X2 Hybrid Camera	
Other	RVX2-SD, RVX2-PC4, RV-HYB-CABLE-5/10/20	

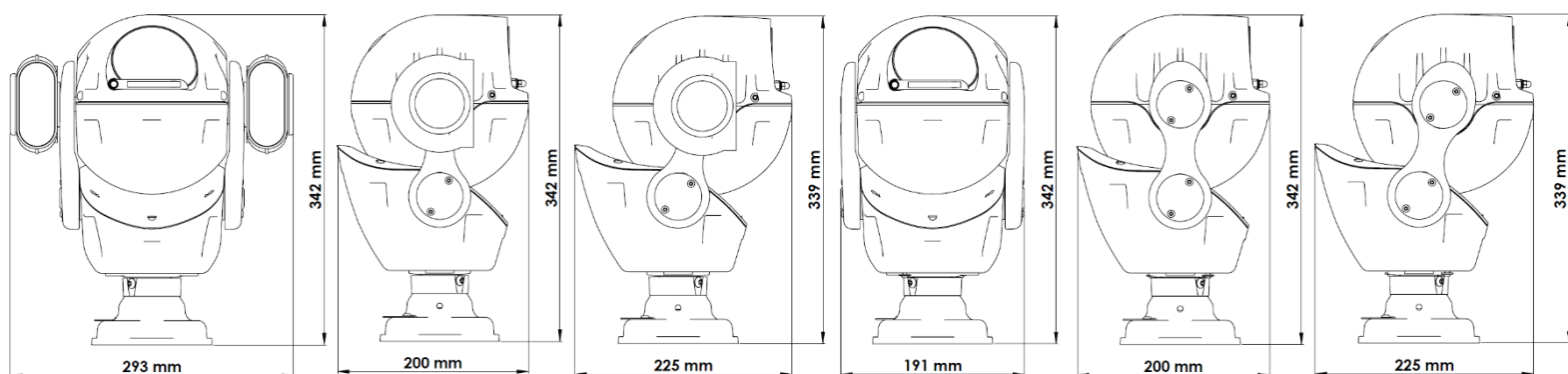
Camera	
Image Sensor	1/2.8" Progressive Scan CMOS
Max Resolution	5 MP (2592 × 1944)
Shutter Speed	1/5 to 1/100,000s
Min Illumination	Colour: 0.005 Lux @ (F1.6, AGC ON), B/W: 0.001 Lux @ (F1.6, AGC ON)
Day & Night	Auto (ICR)
S/N Ratio	55 dB
Lens	
Focal Length	5.3 to 159 mm
Max. Aperture	F1.6 to F4.4
Field of View (FOV)	H: 56.8° to 2.6°, V: 42.7° to 2.0°
Optical Zoom	30x
Digital Zoom	16x
Iris	Auto / Manual
Focus Control	Auto / Manual / Semi-automatic
Intelligent Analytics	
AI Multi-Target Detection	Supports face, human, and vehicle detection with snapshot capture Supports human and vehicle attribute analysis Supports tracking display modes: Full Frame, Four-Corner Frame, and Mosaic
Attribute Analysis	Human Attributes: Gender, age, glasses, hat, bag, upper clothing colour & style, lower clothing colour & style, reflective vest. Vehicle Attributes: Type, colour, brand, orientation
Intelligent Analysis	Intrusion detection, smart motion detection, single line crossing, double line crossing, loitering, wrong-way detection, area people limit, perimeter detection, illegal parking, running detection, fall detection, fight detection. Supports alarm triggering based on specified target types (human/vehicle)
Intelligent Tracking	Supported
Smoke and Flame Detection	Supported
People Counting	Supported
Video & Audio	
Number of Streams	3 Streams
Resolution	Stream 1: 2592 × 1944, 2592 × 1520, 1920 × 1080, 1280 × 720 Stream 2: 1920 × 1080, 1280 × 720, D1, VGA, CIF Stream 3: VGA, CIF, QVGA
Frame Rate	Up to 25/30 fps
Bit Rate Control	CBR/VBR
Bit Rate	Stream 1: 200 Kbps to 12 Mbps Stream 2: 100 Kbps to 6 Mbps Stream 3: 100 Kbps to 3 Mbps
Smart Encoding	Supported
Region of Interest (ROI)	Supported
Audio Compression	G.711 A-law, G.711 μ-law, RAW_PCM
Audio Bit Rate	64 kbps (G.711), 128 kbps (RAW_PCM)

Image	
Image Adjustment	Brightness, Sharpness, Contrast, Saturation adjustable
Scene Mode	Indoor, Outdoor, Mirror
Exposure Mode	Auto, Manual, Shutter priority, Iris priority
White Balance	Auto, Tungsten, Fluorescent, Daylight, Shadow, Manual
Day/Night Setting	Auto, Day, Night, Timer
Noise Reduction	2D/3D DNR
Image Enhancement	HLC, BLC, Defog, WDR, Anti-shake
Wide Dynamic Range	True WDR (120 dB)
Privacy Masking	Up to 20 zones, mask colour configurable
Event	
Alarm Triggers	IVS, Motion detection, Alarm input, Network alarm, Disk alarm, Day/Night switch alarm, Abnormal sound detection
Event Actions	Alarm record, FTP upload, Email notification, Snapshot, Alarm output, Audible alarm output
Network	
Protocols	IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPoE, RTSP/ RTCP/RTP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, ICMP, IGMP, SMTP, 802.1x, SNMP, Multicast
Application Programming Interface	ONVIF (Profile T/G/M), SDK, CGI
Max Concurrent Streams	10 channels
User/Host Level	32+ users, 3 user levels: Administrator, Operator, and Media User
Web Viewer	Chrome, Firefox, Microsoft Edge
Language	English, Polish, Italian, Portuguese, Spanish, Russian, French, Czech, Hungarian, Japanese, Korean. Default: English
Security	
OS / Firmware Protect	Encrypted firmware, Secure boot, Signed firmware
User Authentication	Digest authentication, Brute-force attack protection
Network Authentication	IEEE 802.1X (EAP-TLS)
Secure Communication	HTTPS, WSS (WebSocket Secure), SRTP
Access Control	IP-based access control, Auto logout
Data Protect	Encryption credentials
Audit	Access, system, and event logs
Secure Storage	AES-256 encrypted SD card storage
Supply Chain Security	SBOM
Analogue Connectivity	
Coaxial Video	CVBS
Resolution	650 TVL, D1 (720x576 pixels)
Telemetry	Pelco P and D
Electrical and Physical	
Power Supply	24VDC (-15% to +20%) via PSU module; input 100~240VAC 50/60Hz.
Power Consumption	24VDC: 50W.
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
Relative Humidity	≤95%, non-condensing
Vibration Testing	See technical standards
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 & OODPCVS (EN 62676-4)

Illumination Range	IR (850nm) to 300m White Light to 250m
Overview	128m to 3,862m
Outline	64.4m to 1931m
Discern	32.2m to 965m
Perceive	20.6m to 618m
Characterise	10.3m to 309m
Validate	5.15m to 154.5m
Scrutinise	1.72m to 51.5m



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 Conducted 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
Conducted 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