

COEX™ C2000 4K IP TriMode PTZ Camera Station with Integrated Junction Box

The COEX™ C2000 4K IP TriMode PTZ Camera Station with Integrated Junction Box has a unique compact and lightweight design developed specifically to meet the worldwide demand for surveillance and process monitoring of harsh industrial and marine environments, providing unprecedented visual feedback in all lighting conditions.



The COEX C2000 marine camera stations are manufactured from the highest-grade, corrosion-resistant, electro-polished 316L stainless steel. They are designed for toughness and durability to operate in the most adverse environments, from freezing temperatures to the blistering heat of desert conditions.

This premium-performance camera station combines Full 4K video with 20x optical zoom and the latest thermal imaging technology, providing comprehensive coverage of a wide range of specific site applications where the benefits of using visible and thermal imaging are required.

Featuring the latest encoding technology (3rd generation IP encoder), the camera station is capable of quad-stream H.264 and H.265 encoding for simultaneous live view and recording.

Utilising the advanced radiometry feature, the camera station can provide real-time temperature data and differential temperature monitoring of critical devices and applications.

The C2000 4K IP TriMode PTZ Camera Station with Integrated Junction Box has cybersecurity measures built-in, including encrypted video streaming, HTTPS, and 802.1x protocols.

This camera station is compatible with a variety of VMS platforms through ONVIF Profile S and T compliance.

Options

- Integral wiper
- COEX MEWS5 wash systems
- Advanced radiometry⁹
- Continuous rotation

	316L STAINLESS STEEL	
	4K UHD	THERMAL SENSOR
	Quad Streaming	

Specifications

CERTIFICATIONS / RATINGS ⁷		[OPTIONS]
EMC	EMC EN61000-6-2, EN61000-6-4 Class A limits	
CE / UKCA	IEC62368-1	
DNV	TAA00001M2	
ENVIRONMENTAL		
Operating Temperature ¹⁰	-45°C to +60°C [+70°C] / -49°F to +140°F [+158°F]	
Storage Temperature	-45°C to +80°C / -49°F to +176°F	
Ingress Protection	IP66 to IEC60529, Type 6 Enclosure	
Salt Mist	IEC60068-2-52 & IEC60945 Section 8.12	
Vibration	0.7 g to IEC60068-2-6 & IEC60945	
Wind Loading	Operational to 130 km/h, survival to 268 km/h	
Humidity	5% to 95%	
MECHANICAL		
Material	Electro-polished 316L stainless steel	
Window	Optical: HD grade toughened glass, thermostatically operated demister [Wiper ²] Thermal: Germanium window with DLC (Diamond-Like Carbon) coating and impact guard	
Pan Turning Circle	Ø 630 mm / 24.80"	
Tilt Turning Circle	Ø 416 mm / 16.38"	
Mounting Orientation	Upright or inverted	
Mounting Base	8 x M8 tapped holes, equispaced on a 4" (101.6 mm) P.C.D.	
Dimensions ¹¹ (W x D x H)	412 x 310 x 452 mm / 16.22" x 12.21" x 17.80"	
Weight ¹	24 kg / 52.9 lb	
Cable Gland Entries	3 x M20 / [3 x M25] / [3 x 1/2" NPT]	
ELECTRICAL		
	Integrated PSU	(Without Integrated PSU)
Power Requirements	(100 to 240) V AC 50/60 Hz	24 V AC/DC (±10%) 50/60 Hz
Power Rating	1.5 A max @ 100 V (Inrush 30 A max)	-
Power Consumption ¹¹	40 VA Quiescent 99 VA Operating (with heater) 115 VA Max	11 VA Quiescent 72 VA Operating 80 VA Operating (with heater) 100 VA Max
Wash Control ¹¹	24 V DC (0.75 A max) switched output [Volt free (2.5 A 240 V AC max) switched output] [Switched live (0.2 A) with neutral output]	
Auxiliary Inputs ¹³	1 x contact closure input (5 V pull up) [additional inputs available on request]	
Relay Outputs ¹³	1 x volt free switched output (24 V 0.75 A max) [up to 2 available on request]	
Audio ¹³	[Line Input]	
CAMERA OPERATION		
	362° Rotation	[Continuous Rotation]
Pan Operation	0° to 42°/sec, mechanical limits, programmable soft-stops, preset positioning	0° to 42°/sec, programmable soft-stops, preset positioning
Tilt Operation	180° rotation, 0° to 21°/sec, mechanical limits, programmable soft stops, preset positioning	
Preset Memory	128 user programmable preset positions (pan, tilt, zoom, and focus), preset accuracy <0.05°, absolute positioning	
PTZ Features	Proportional pan & tilt control in relation to zoom depth, intelligent focus	
Wash/Wipe ¹¹	[Optional wash/wipe with auto-wiper off]	
ONVIF Control Features	PTZ control (continuous, relative and absolute), focus control, preset store/recall, auxiliary controls (wash/wipe/auto focus), wash/wipe control mappable to ONVIF presets for control systems that have no support for auxiliary commands, alarm inputs, and relay outputs	

DAY/NIGHT CAMERA / LENS	
Image Sensor	1/2.5 Exmor-R CMOS sensor
Signal System	4K 2160p 25/29.97 FPS FHD 1080p 25/29.97/50/59.94 FPS
Effective Pixels	8.51 mega pixels
Zoom Range	20x zoom (up to 240x with digital zoom)
Focal Length / Aperture	4.4 mm (wide) to 88 mm (tele), F2.0 to F3.8
Angle of View (H)	70.2° (wide) to 4.1° (tele), 60° (wide) to 3.5° (tele) with image stabilizer on
Minimum Illumination (50IRE, High Sensitivity Mode)	0.4 lux (1/30 s) 0.06 lux (1/4 s, 1/3 s)
Minimum Illumination (50IRE)	1.6 lux (1/30 s) 0.21 lux (1/4 s, 1/3 s)
Electronic Shutter	1/1 to 1/10,000 sec, 28 steps
Signal / Noise Ratio	> 50 db (weight on)
Features	Digital zoom on/off, auto/manual focus, auto/manual iris, auto/manual IR cut filter remove (ICR), auto exposure (AE), automatic gain control (AGC), auto white balance (AWB), backlight compensation (BLC), auto slow shutter, visibility enhancer (VE), defog, highlight compensation (HLC), Noise Reduction (NR)
Image Stabilization	EIS

THERMAL IMAGER	T306	T318	T614	T618	T624	T636
Image Sensor	Uncooled LWIR VOx microbolometer					
Pixel Pitch	12 µm					
Thermal Sensitivity	<50 mK at f/1.0					
Spectral Response	8 - 14 µm					
Refresh Rate	<9Hz [$<60\text{Hz}$] [25 Hz / 30 Hz]					
Pixel Resolution ⁶	320 x 256			640 x 512		
Fixed Focal Length	6.3 mm f/1.0	18 mm f/1.0	14 mm f/1.0	18 mm f/1.0	24 mm f/1.0	36 mm f/1.0
Angle of View	34.1° x 27.3°	12.7° x 9.7°	30.7° x 24.8°	24.3° x 19.5°	18.2° x 14.6°	12.2° x 9.8°
Features	8x digital zoom, auto/manual gain mode (AGC), auto/manual FFC(NUC), selectable colour palettes, second generation digital detail enhancement (DDE), image optimisation, active contrast enhancement (ACE), information based histogram equalisation (IBHEQ)					
Advanced Radiometry	When used with Synergy, the advanced radiometry feature provides four regions of interest per preset position that can be individually monitored or compared against one another for temperature threshold changes.					

VIDEO ENCODING	
Compression Standards	H.264 (MPEG4 part 10/AVC) high, main, base profiles H.265 (MPEG-H part 2/HEVC), MJPEG
Bitrate Mode	Constant Bitrate (CBR), Variable Bitrate (VBR)
Encoding Capability	Simultaneous streaming of both day/night and thermal images Up to 2 independently configurable encoded video streams per image sensor
Stream Bitrate ⁶	100 kb/s to 25 Mb/s
Image Resolution ^{6/8}	Day/Night Camera: 4K (3840 x 2160), Full HD 1080p (1920 x 1080), 720p (1280 x 720), D1 (720 x 576/480), 4CIF (704 x 576), CIF (352 x 288) Thermal Imager: Native (640x512 or 320x256), D1 (720 x 576/480), VGA (640 x 480), QVGA (320 x 240)
Image Rate ⁶	Thermal (Full, half, quarter, sixth), 4K (up to 60 IPS)
GOP Structure	I-frame only, 5 to 240 frames
Region of Interest (ROI)	Configurable per encoded video stream, ability to crop a selected area of the image source for encoding (variable resolution and aspect ratio)

AUDIO ENCODING	
Compression Standards	ARM AACLC, ARM AACLC MPEG2, ARM AACHE, ARM AACHE V2
Sample Rate	48 kHz, 44.1 kHz, 32 kHz, 16 kHz
Stream Bitrate	12 to 384 kb/s (AACHE and AACHE V2 32 to 64 kb/s)

NETWORK DEVICE	
Interface Options ^{*5}	Ethernet (100Base-T, 10-Base-T), Auto/full/half duplex, Auto/10/100, Configurable MTU Size [Fibre optic SFP connectivity] [Media converter]
Protocols	TCP/IP, UDP, ICMP, DHCP, DNS, HTTP, HTTPS, NTP, RTSP/RTP/RTCP, TSRTSP, RTMP, RTMPS, SRT, IGMP, SNMP, SYNS, SSL, TLS, 802.1x (EAP)
Control Protocol	SYNS, ONVIF (Profile S, T compliant)
Video Stream Delivery	RTSP/RTP (Unicast: UDP/TCP, Multicast UDP), TSRTSP, RTMP, RTMPS, SRT
Network Discovery	SYNS, WS-Discovery (ONVIF)
Device Security	Multiple users and 7 access levels protecting access to the web interface, ONVIF and RTSP services, HTTPS support, HTTP disable, 802.1x (EAP), video streaming disabled until change of default password, unicast stream disable
Supported Internet Browsers ^{*11}	Chrome/Firefox/Edge (No Active-X browser components required)
System Maintenance	Field upgradeable firmware, diagnostic logs Hardware system supervisor providing temperature management, cold-start, auto-shutdown and watchdog control

[FIBRE OPTICS] ^{*5}	100FxLP	100Fx/20km	100Fx/30km	100WLFxA	1000Lx	1000WLxA
Optical interface	100Base-Fx	100Base-Fx	100Base-Fx	100Base-Fx	1000Base-Lx	1000Base-Lx
Fibres Required	Dual	Dual	Dual	Single	Dual	Single
Wavelength	1310 nm	1310 nm	1310nm	Tx 1310 nm Rx 1550 nm	1310 nm	Tx 1310 nm Rx 1550 nm
Transmit Optical Power	(-20 to -10) dBm	(-15 to -8) dBm	(-5 to 0) dBm	(-14 to -8) dBm	(-9 to -3) dBm	(-9 to -3) dBm
Receive Sensitivity	< -31 dBm	< -31 dBm	< -31 dBm	< -33 dBm	< -22 dBm	< -22 dBm
Standard Optical Link Budget	> 11db	> 16dB	> 26dB	> 19dB	> 13dB	> 13dB
Optical Connector	LC	LC	LC	SC	LC	SC
Fibre Management	Integral fibre management with termination capacity for spare fiber cores					
Features	[Link loss forwarding, fault detection]			Link loss forwarding, fault detection		

[MEDIA CONVERTER] ^{*5}	Ethernet over Coax
Connectivity	Auto-optimising for 75 Ω coaxial cable: 280m (920ft) full-rate over video-grade RG-59 (Up to 350m depending on cable quality) 350m (1150ft) full-rate over RG-6 500m (1640ft) full-rate over RG-11
Interface Data Rate	Auto-configuring for speed (10BASE-T or 100BASE-T) and duplex
Features	Retrofit existing analogue CCTV installations to Ethernet-based systems, allow the connectivity of camera stations outside the permitted run length of 100Base-Tx Ethernet cabling

NOTE: *1 Dependent on certification and equipment fitted. *2 Wipers are consumable items that need regular replacement. Please refer to the manual for recommendations and maintenance. *3 Dependent on cable tail option. *4 Wash output relay option shall be specified at the time of order. *5 Exact interface option and media type must be specified at the time of order. Maximum transmission distance dependent on cable infrastructure quality and integrity. *6 Maximum permissible resolution, bitrate and framerate per additional stream will be reduced dependent on the configuration of the primary stream. *7 Exact certification requirements must be specified at the time of order. *8 Dependent on lens selection. *9 Advanced Radiometrics Service Pack 1. Advanced Radiometrics Service Pack 2 with added bonus features to follow. *10 Dependent on configuration. *11 Other browsers may be compatible but not tested.

PART CODE STRUCTURE

C2 - A B C D - E - F G H J

(Example) C2 - 2 V 85 T306 - W - B 3 E X

A - CAMERA HOUSING SIZE	
2	Size 2 camera housing

B - FIXED/PTZ	
C	PTZ - Continuous pan
V	PTZ - Non-continuous pan

C - DAY/NIGHT CAMERA	
85	4K UHD, 20x zoom

D - THERMAL IMAGING MODULE	
T306	Medium resolution, 35° HFOV
T318	Medium resolution, 13° HFOV
T614	High resolution, 32° HFOV
T618	High resolution, 25° HFOV
T624	High resolution, 18° HFOV
T636	High resolution, 12° HFOV

E - WIPER	
	Without wiper
W	Standard wiper
B	Brush wiper

J - SPECIAL	
	Standard build
X	Special build

H - OUTPUT TRANSMISSION TYPE	
C	Coax
E	Ethernet Base-T
S	Singlemode fibre
M	Multimode fibre

G - BASE/MOUNTING TYPE	
3	Base type 3 (with PSU)
4	Base type 4 (without PSU)

F - TECHNOLOGY SERIES	
B	3rd Gen, IP encoder