

# COEX™ C2000 Thermal IP Fixed Camera Station

The COEX™ C2000 Thermal IP Fixed Camera Station 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, while allowing constant visual feedback in zero-light 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 delivers superb thermal imaging in all lighting conditions and across long distances.

Featuring the latest encoding technology (3<sup>rd</sup> generation IP encoder), the camera station is capable of triple-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 Thermal IP Fixed Camera Station 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**

- Advanced radiometry\*6


# Specifications

CERTIFICATIONS / RATINGS		[OPTIONS]		
EMC	EN61000-6-2, EN61000-6-4 Class A limits			
CE / UKCA	IEC62368-1			
DNV	TAA00001M2			
ENVIRONMENTAL				
Operating Temperature <sup>*7</sup>	-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 & IP67 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	Germanium window with DLC (Diamond-Like Carbon) coating			
Mounting Orientation	Upright or inverted			
Mounting Base	Standard J-Bracket 1 x Ø 10.5 mm / 0.41" fixing hole	Bracket Type 1 (Alternative Fixed Mounting) Qty. x1 centrally located 12.5mm hole with Qty. x2 M8 slotted fixing holes (105° rotation) equispaced on a 72mm P.C.D		
Dimensions <sup>*1</sup> (W x D x H)	166 x 310 x 230 mm / 6.54" x 12.21" x 9.06"			
Weight <sup>*1</sup>	5 kg / 11 lb			
Cable Gland Entries	1 x M20			
ELECTRICAL				
Input Power Options	24 V AC/DC (±10%) 50/60 Hz			
Power Consumption <sup>*1</sup>	8 VA Quiescent 12 VA Max			
Auxiliary Inputs <sup>*2</sup>	1 x contact closure input (5 V pull up) [up to 4 available on request]			
Relay Outputs <sup>*2</sup>	1 x volt free switched output (24 V 0.75 A max) [up to 2 available on request]			
Audio <sup>*2</sup>	[Line Input]			
CAMERA OPERATION				
Preset Memory	128 user programmable preset positions (digital zoom)			
ONVIF Control Features	Digital zoom control, preset store/recall, alarm inputs, and relay outputs			
THERMAL IMAGER	T306	T318	T618	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 [<60Hz] [25 Hz / 30 Hz]			
Pixel Resolution	320 x 256		640 x 512	
Fixed Focal Length	6.3 mm f/1.0	18 mm f/1.0	18 mm f/1.0	36 mm f/1.0
Angle of View	34.1° x 27.3°	12.7° x 9.7°	24.3° x 19.5°	12.2° x 9.8°
Radiometric Functionality Available	Yes	No	Yes	No
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	Up to 3 independently configurable encoded video streams
Stream Bitrate <sup>*3</sup>	100 kb/s to 25 Mb/s
Image Resolution <sup>*3/5</sup>	Native (640x512 or 320x256), D1 (720 x 576/480), VGA (640 x 480), QVGA (320 x 240)
Image Rate <sup>*3</sup>	Full, half, quarter, sixth
GOP Structure	I-frame only, 5 to 240 frames
Text Overlay	Multi-colour, variable font size overlays per encoded video stream
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**

Interface Options	Ethernet (100Base-T, 10-Base-T), Auto/full/half duplex, Auto/10/100, Configurable MTU Size
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 <sup>*8</sup>	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

NOTE: \*1 Dependent on certification and equipment fitted. \*2 Dependent on cable tail option. \*3 Maximum permissible resolution, bitrate and framerate per additional stream will be reduced dependent on the configuration of the primary stream. \*4 Exact certification requirements must be specified at the time of order. \*5 Dependent on lens selection. \*6 Advanced Radiometrics Service Pack 1. Advanced Radiometrics Service Pack 2 with added bonus features to follow. \*7 Dependent on configuration. \*8 Other browsers may be compatible but not tested.

## PART CODE STRUCTURE

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

(Example) C2 - 1 F T306 - B 1 E X

### A - CAMERA HOUSING SIZE

1 Size 1 camera housing

### B - FIXED/PTZ

F Fixed

### C - DAY/NIGHT CAMERA

N/A

### D - THERMAL IMAGING MODULE

T306 Medium resolution, 35° HFOV

T318 Medium resolution, 13° HFOV

T618 High resolution, 25° HFOV

T636 High resolution, 12° HFOV

### E - WIPER

N/A

### J - SPECIAL

Standard build

X Special build

### H - OUTPUT TRANSMISSION TYPE

E Ethernet Base-T

### G - BASE/MOUNTING TYPE

Standard fixed mounting

1 Alternative fixed mounting

### F - TECHNOLOGY SERIES

B 3rd Gen, IP encoder