

# COEX™ C2000 HD IP TriMode PTZ Camera Station

The COEX™ C2000 HD IP TriMode PTZ 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, 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 HD (1080p) video with 30x 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 (2<sup>nd</sup> generation IP encoder), the camera station is capable of quad-stream H.264 and H.265 encoding for simultaneous live view and recording.

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

The C2000 HD IP TriMode PTZ 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

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


# Specifications

CERTIFICATIONS / RATINGS**		[OPTIONS]
cCSAus	CLASS 3862 66, CLASS 3862 96, CAN/CSA C22.2 No.62368-1, UL No.62368-1	
EMC (US & Can.)	FCC CFR47 Part 15 Class A, ICES-003 Class A	
EMC	EMC EN61000-6-2, EN61000-6-4 Class A limits	
CE / UKCA	IEC62368-1	
DNV	TAA00001M2	
C-TICK	On Request	
ENVIRONMENTAL		
Operating Temperature	-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	
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	4 x M8 tapped holes, equispaced on a 4" (101.6 mm) P.C.D.	
Dimensions*1 (W x D x H)	412 x 310 x 338 mm / 16.22" x 12.21" x 13.31"	
Weight*1	18 kg / 39.7 lb	
Cable Gland Entries	1 x M20	
ELECTRICAL		
Power Requirements	24 V AC/DC (±10%) 50/60 Hz	
Power Consumption*1	11 VA Quiescent	
	72 VA Operating	
	80 VA Operating (with heater)	
Wash Control*1	100 VA Max	
Auxiliary Inputs*3	24 V AC/DC (0.75 A max) switched output	
Relay Outputs*3	1 x contact closure input (5 V pull up) [additional inputs available on request]	
Audio*3	1 x volt free switched output (24 V 0.75 A max) [up to 2 available on request]	
	[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*1	[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	1/2.8" Progressive scan Exmor CMOS sensor
Signal System	1080p 25/30/50/60 FPS
Effective Pixels	Approximately 2.13 megapixels
Zoom Range	30x zoom (up to 360x with digital zoom)
Focal Length / Aperture	4.3 mm (wide) to 129 mm (tele), F1.6 to F4.7
Angle of View (H)	63.7° (wide) to 2.3° (tele)
Minimum Illumination (50IRE, ICR OFF)	0.1 lux (1/30 s, Slow Shutter Off, High Sensitivity Off), 0.01 lux (1/30 s, Slow Shutter Off, High Sensitivity On), 0.013 lux (Slow Shutter 1/4 s, High Sensitivity Off), 0.0012 lux (Slow Shutter 1/4 s, High Sensitivity On)
Minimum Illumination (50IRE, ICR ON)	0.006 lux (Slow Shutter Off, High Sensitivity Off), 0.0015 lux (Slow Shutter Off, High Sensitivity On)
Minimum Illumination (30IRE, ICR ON)	0.0008 lux (Slow Shutter 1/4 s, High Sensitivity On)
Wide Dynamic Range	On/off, 130 dB @ 1080p30
Electronic Shutter	Auto (1/1 to 1/10,000 s, 22 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, wide dynamic range (WDR), anti-shake, defog, on-screen text display (OSD), image invert
Image Stabilization	EIS

THERMAL IMAGER	T315	T345	T625	T650
Image Sensor	Uncooled LWIR VOx microbolometer			
Pixel Pitch	17 µm			
Thermal Sensitivity	<50 mK at f/1.0			
Spectral Response	7.5- 13.5 µm			
Refresh Rate	7.5 Hz / 8.3 Hz [25 Hz / 30 Hz]			
Pixel Resolution	336 x 256		640 x 512	
Fixed Focal Length	9 mm f/1.25	25 mm f/1.1	25 mm f/1.1	50 mm f/1.2
Angle of View	35° x 27°	13° x 10°	25° x 20°	12.4° x 9.9°
Depth of Field	1.1 m	11 m	11 m	36 m
Hyperfocal Distance	2.1 m	21 m	21 m	71 m
Features	Continuous digital zoom, auto/manual gain mode (AGC), auto/manual FFC(NUC), selectable color palettes, polarity, second generation digital detail enhancement (DDE), image optimization, active contrast enhancement (ACE), information based histogram equalization (IBHEQ), smart scene optimization (SSO)			
Human Detection <sup>*4/5</sup>	~285 m	~930 m	~930 m	~1700 m

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 <sup>*6</sup>	100 kb/s to 25 Mb/s
Image Resolution <sup>*6</sup>	Day/Night Camera: 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 (640 x 512, 336 x 256), D1 (720 x 576/480), VGA (640 x 480), QVGA (320 x 240)
Image Rate <sup>*6</sup>	Thermal (Full, half, quarter, sixth), HD (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	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	Chrome/Firefox/IE/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 Wipers are consumable items that need regular replacement. Please refer to the manual for recommendations and maintenance. \*3 Dependent on cable tail option. \*4 Based on Johnson criteria and best conditions. \*5 Human detection values shown are nominal values and should be used as estimates only. Exact human detection calculations depend on a wide variety of environmental conditions, video encoding parameters and type of monitor or display used. \*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.

## PART CODE STRUCTURE

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

(Example) C2 - 2 V 75 T315 - W - E [ ] 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

75 HD (1080p), 30x zoom

### D - THERMAL IMAGING MODULE

T315 Medium resolution, 35° HFOV

T345 Medium resolution, 13° HFOV

T625 High resolution, 25° HFOV

T650 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

E Ethernet Base-T

### G - BASE/MOUNTING TYPE

Standard PTZ mounting

### F - TECHNOLOGY SERIES

E 2nd Gen, IP encoder

## Synectics

sales@synecticsglobal.com

[synecticsglobal.com](http://synecticsglobal.com)

Specifications subject to change. E & OE.  
Copyright © Synectic Systems Group Limited 2021. All Rights Reserved.

MANUFACTURER OF



CAMERA STATIONS

Reference Numbers:  
06DS 0529 Iss 3