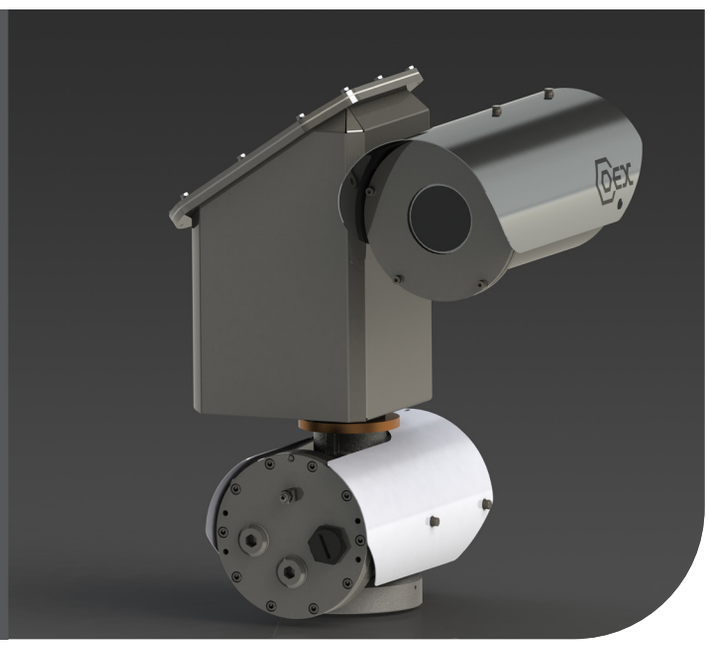
COEX™ C2000 Thermal IP PTZ Camera Station with Integrated Junction Box

The COEX™ C2000 Thermal IP 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, 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.

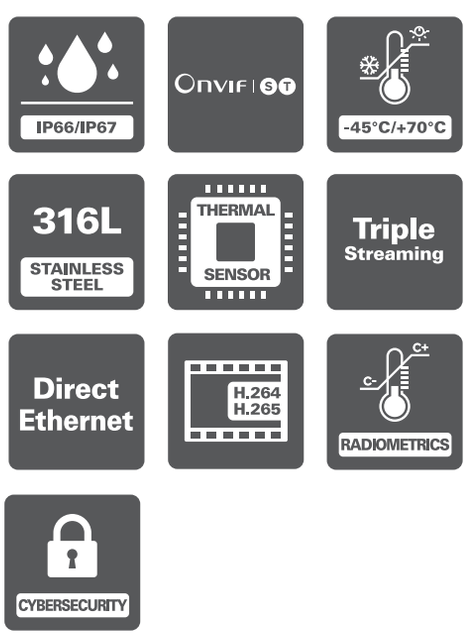
Featuring the latest encoding technology (3rd generation IP encoder), the camera station is capable of triple-stream H.264 and H.265 encoding for simultaneous live view and recording.

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 Thermal IP PTZ Camera Station has cybersecurity measures built-in, including encrypted video streaming, HTTPS, and 802.1x protocols.

Providing the capability for the direct entry and termination of field cables, the self-contained junction box also accommodates the management of fiber optic cores, power supply, and optional media converters for signal transmission.

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



Options

- Continuous rotation
- Advanced radiometry

SYNECTICS

Specifications

CERTIFICATIONS / RATINGS*1	[OPTIONS]
EMC	EN61000-6-2, EN61000-6-4 Class A limits
CE / UKCA	IEC62368-1
DNV	Pending

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
Humidity	5% to 95%

MECHANICAL	
Material	Electro-polished 316L stainless steel
Window	Germanium window with DLC (Diamond-Like Carbon) coating
Pan Turning Circle	Ø 530 mm / 20.87"
Tilt Turning Circle	Ø 360 mm / 14.17"
Mounting Orientation	Upright or inverted
Mounting Base	8 x M8 tapped holes, equispaced on a 4" (101.6 mm) P.C.D.
Dimensions*1 (W x D x H)	452 mm x 310 mm x 363 mm / 17.80" x 12.21" x 14.29"
Weight*1	22 kg / 48.5 lbs
Cable Gland Entries	3 x M20 / [3 x M25] / [3 x ½" NPT]

ELECTRICAL	Integrated PSU	[Without Integrated PSU]
Input Power Options	(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*1	40 VA Quiescent 89 VA Operating (with heater) 115 VA Max	11 VA Quiescent 71 VA Operating 84 VA Operating (with heater) 100 VA Max
Auxiliary Inputs*3	[1 x contact closure input]	
Relay Outputs*3	1 x volt free switched output (24 V 0.75 A max)	
Audio*3	[Line Input/Output]	

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, digital zoom), preset accuracy <0.05°, absolute positioning	
ONVIF Control Features	PTZ control (continuous, relative and absolute), 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 × 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	Yes	No	Yes	No
Features	8x digital zoom, auto/manual gain mode (AGC), auto/manual FFC (NUC), selectable color palettes, second generation digital detail enhancement (DDE), image optimization, active contrast enhancement (ACE), information based histogram equalization (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*3	100 kb/s to 25 Mb/s
Image Resolution*3	Native (640x512 or 320x256), D1 (720 x 576/480), VGA (640 x 480), QVGA (320 x 240)
Image Rate*5	Full, half, quarter, sixth
GOP Structure	I-frame only, 5 to 240 frames
Text Overlay	Multi-color, 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*3	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, TSRTP, 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), TSRTP, 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

[FIBER OPTICS]*3	**100FxLP**	**100Fx/20km**	**100Fx/30km**	**100WLFxA**	**1000Lx**	**1000WLxA**
Optical Interface	100Base-Fx	100Base-Fx	100Base-Fx	100Base-Fx	1000Base-Lx	1000Base-Lx
Fibers 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
Fiber Management	Integral fiber management with termination capacity for spare fiber cores					
Features	[Link loss forwarding, fault detection]				Link loss forwarding, fault detection	

[MEDIA CONVERTER]*3	**Ethernet over Coax**
Connectivity	Auto-optimizing 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 analog 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 Dependent on cable tail option. *3 Exact interface option and media type must be specified at the time of order. Maximum transmission distance dependent on cable infrastructure quality and integrity. *4 Maximum permissible resolution, bitrate and framerate per additonal stream will be reduced dependent on the configuration of the primary stream.

PART CODE STRUCTURE

	C2	-	A	B	C	D	-	E	-	F	G	H	J
(Example)	C2	-	1	V		T306	-		-	B	3	E	X

A - CAMERA HOUSING SIZE

1	Size 1 camera housing

B - FIXED/PTZ

C	PTZ - Continuous pan
V	PTZ - Non-continuous pan

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

F - TECHNOLOGY SERIES

B	3rd Gen, IP encoder

G - BASE/MOUNTING TYPE

3	Base type 3 (with PSU)
4	Base type 4 (without PSU)

H - OUTPUT TRANSMISSION TYPE

C	Coax
E	Ethernet Base-T
S	Singlemode fibre
M	Multimode fibre

J - SPECIAL

	Standard build
X	Special build

Reference Number:
06\DS 0746 Iss 1