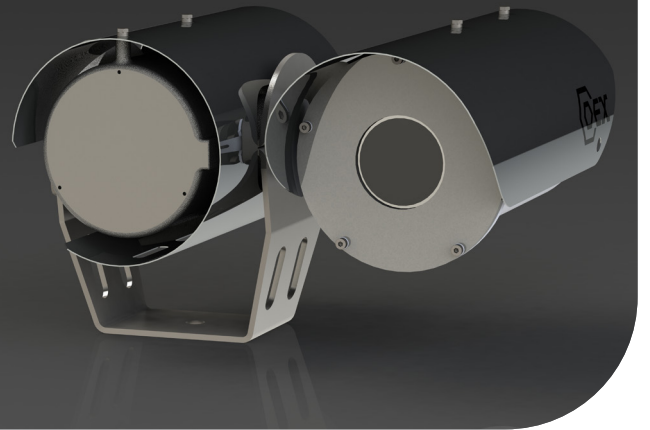


# COEX™ C2000 Thermal IP Fixed Camera Station with Integrated Junction Box

The COEX™ C2000 Thermal IP Fixed 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 (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.

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

This camera station is a versatile option for pre-existing systems, ensures a straightforward installation process, and is compatible with a variety of VMS platforms through ONVIF Profile S and T compliance.

### Options

- Advanced radiometry\*<sup>5</sup>

|                                |                |                  |
|--------------------------------|----------------|------------------|
| <b>316L</b><br>STAINLESS STEEL | H.264<br>H.265 | IP66/IP67        |
| ONVIF S T                      | -45°C/+60°C    | Triple Streaming |
| CYBERSECURITY                  | THERMAL SENSOR | RADIOMETRICS     |

# Specifications

| CERTIFICATIONS / RATINGS <sup>1</sup> |  | [OPTIONS]   |               |              |
|---------------------------------------|--|---|---------------|--------------|
| EMC                                   | EN61000-6-2, EN61000-6-4 Class A limits  |   |               |              |
| CE / UKCA                             | IEC62368-1   |   |               |              |
| DNV                                   | TAA00001M2   |   |               |              |
| ENVIRONMENTAL                         |  |   |               |              |
| Operating Temperature <sup>6</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<br>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                         | 1 x Ø 12 mm / 0.47" hole on mounting base  |   |               |              |
| Dimensions <sup>*1</sup> (W x D x H)  | 353 mm x 310 mm x 219 mm / 13.90" x 12.21" x 8.62  |   |               |              |
| Weight <sup>*1</sup>                  | 14 kg / 31 lbs approx.   |   |               |              |
| Cable Gland Entries                   | 1 x M20  |   |               |              |
| 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 <sup>*1</sup>       | 40 VA Quiescent<br>50 VA Operating (with heater)<br>115 VA Max   | 9 VA Quiescent<br>14 VA Operating<br>22 VA Operating (with heater)<br>27 VA Max |               |              |
| Wash Control <sup>*1</sup>            | 24 V AC/DC (0.75 A max) switched output  |   |               |              |
| Auxiliary Inputs <sup>*3</sup>        | 1 x contact closure input (5 V pull up) [additional inputs available on request]   |   |               |              |
| Relay Outputs <sup>*3</sup>           | 1 x volt free switched output (24 V 0.75 A max) [up to 2 available on request]   |   |               |              |
| Audio <sup>*3</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             | 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<br>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>*4</sup>   | 100 kb/s to 25 Mb/s  |
| Image Resolution <sup>*4</sup> | Native (640x512 or 320x256), D1 (720 x 576/480), VGA (640 x 480), QVGA (320 x 240)   |
| Image Rate <sup>*4</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 <sup>*2/3</sup>         | 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 <sup>*7</sup> | Chrome/Firefox/Edge (No Active-X browser components required)  |
| System Maintenance                        | Field upgradeable firmware, diagnostic logs<br>Hardware system supervisor providing temperature management, cold-start, auto-shutdown and watchdog control   |

| [FIBRE OPTICS] <sup>*3</sup> | 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<br>Rx 1550 nm              | 1310 nm        | Tx 1310 nm<br>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 fibre cores |                 |               |                                       |                |                          |
| Features                     | [Link loss forwarding, fault detection]                                   |                 |               | Link loss forwarding, fault detection |                |                          |

| [MEDIA CONVERTER] <sup>*3</sup> | Ethernet over Coax  |
|---------------------------------|---|
| Connectivity                    | Auto-optimising for 75 Ω coaxial cable:<br>280m (920ft) full-rate over video-grade RG-59 (Up to 350m depending on cable quality)<br>350m (1150ft) full-rate over RG-6<br>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,<br>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 additional stream will be reduced dependent on the configuration of the primary stream. \*5 Advanced Radiometrics Service Pack 1. Advanced Radiometrics Service Pack 2 with added bonus features to follow. \*6 Dependent on configuration. \*7 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**  
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