

# COEX™ C3000 HD IP TriMode Fixed Camera Station

The COEX™ C3000 HD IP TriMode Fixed Camera Station has a unique compact and lightweight design developed specifically for hazardous-area applications. C3000 camera stations are designed for both toughness and durability as demanded for operation in the most adverse of environments, providing unprecedented visual feedback in all lighting conditions.



COEX C3000 hazardous-area camera stations operate in the most extreme environments worldwide. Designed for toughness, durability, and certified to perform in ambient temperatures from -55°C to +70°C without compromise, they are ideal for oil and gas, marine, and industrial installations.

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

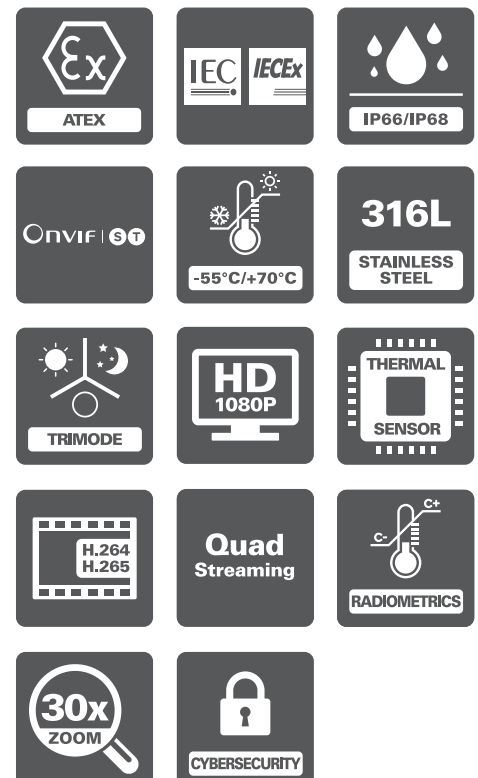
Utilising the advanced radiometry feature, the camera station can provide real-time temperature data and differential temperature monitoring of critical devices and applications.

The C3000 HD IP TriMode 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

- Integral wiper
- COEX FEWS3 wash systems
- Fibre optics<sup>\*10</sup>
- Advanced radiometry<sup>\*7</sup>



# Specifications

CERTIFICATIONS / RATINGS <sup>5</sup>		[OPTIONS]
ATEX / IECEx / UKCA	ATEX II 2GD, Ex db IIB/IIC Gb; Ex tb IIIC Db; T4 / T5 / T6 EN60079-0, EN60079-1, EN60079-31, IEC60079-0, IEC60079-1, IEC60079-31	
ATEX / IECEx / UKCA Certified Temperature	-55°C to +40°C (T6), +50°C (T5), +60/70°C (T4)	
EMC	EN61000-6-2, EN61000-6-4 Class A limits	
CE / UKCA	IEC62368-1	
DNV	TAA00001M2	
INMETRO	BRA 24.GE0010X	
ENVIRONMENTAL		
Operating Temperature <sup>8</sup>	-45°C to +70°C / -49°F to +158°F	
Storage Temperature	-45°C to +80°C / -49°F to +176°F	
Ingress Protection	IP66 & IP68 (30m Submersion for 4 hrs) 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 <sup>2</sup> ] Thermal: Germanium window with DLC (Diamond-Like Carbon) coating and impact guard	
Mounting Orientation	Upright or inverted	
Mounting Base	Standard J-Bracket 1 x Ø 12 mm / 0.47" hole on mounting base	Bracket Type 1 (Alternative Fixed Mounting) Qty. x 1 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)	233 x 310 x 259 mm / 9.17" x 12.21" x 10.20"	
Weight <sup>*1</sup>	14.5 kg / 32 lbs	
Cable Gland Entries	1 x M20	
ELECTRICAL		
Input Power Options	24 V AC/DC (±10%) 50/60 Hz	
Power Consumption <sup>*1</sup>	9 VA Quiescent 14 VA Operating 22 VA Operating (with heater) 27 VA Max	
Wash Control <sup>*1</sup>	Volt free switched output (24 V 0.75 A max)	
Auxiliary Inputs <sup>*3</sup>	1 x contact closure input (5 V pull up) [up to 4 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 (zoom, focus)	
Wash/Wipe <sup>*1</sup>	[Optional wash/wipe with auto-wiper off]	
ONVIF Control Features	Zoom and 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)	Approx. 64.0° (Wide) to 2.4° (Tele)
Minimum Illumination (50% IRE, High Sensitivity Mode ON)	ICR-OFF mode: 0.009 lx (Shutter Speed: 1/30 s), 0.0012 lx (Shutter Speed: 1/4 s or 1/3 s) ICR-ON mode: 0.00008 lx (Shutter Speed: 1/30 s)
Minimum Illumination (50% IRE, High Sensitivity Mode OFF)	ICR-OFF mode: 0.09 lx (Shutter Speed: 1/30 s), 0.012 lx (Shutter Speed: 1/4 s or 1/3 s) ICR-ON mode: 0.00063 lx (Shutter Speed: 1/30 s)
Minimum Illumination (30% IRE, High Sensitivity Mode ON)	ICR ON mode: 0.000005 lx (Shutter Speed: 1/4 s or 1/3 s, 30%)
Wide Dynamic Range	On/off
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), defog, on-screen text display (OSD), image invert
Image Stabilization	Super Image Stabilizer (Super/Super+)

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 [ $<60\text{Hz}$ ] [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	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	Simultaneous streaming of both day/night and thermal images Up to 2 independently configurable encoded video streams per image sensor
Stream Bitrate*4	100 Kb/s to 25 Mb/s
Image Resolution*4/6	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 (640x512 or 320x256), D1 (720 x 576/480), VGA (640 x 480), QVGA (320 x 240)
Image Rate*4	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 [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>9</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

[FIBRE OPTICS] <sup>10</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 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 fiber management with termination capacity for spare fibre cores					
Features	[Link loss forwarding, fault detection]			Link loss forwarding, fault detection		

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 Maximum permissible resolution, bitrate and framerate per additional stream will be reduced dependent on the configuration of the primary stream. \*5 Exact certification requirements must be specified at the time of order. \*6 Dependent on lens selection. \*7 Advanced Radiometrics Service Pack 1. Advanced Radiometrics Service Pack 2 with added bonus features to follow. \*8 Dependent on configuration. \*9 Other browsers may be compatible but not tested. \*10 Exact interface option and media type must be specified at the time of order. Maximum transmission distance dependent on cable infrastructure quality and integrity.

## PART CODE STRUCTURE

C3 - A B C D - E - F G H J

(Example) C3 - 2 F 95 T306 - W - B 1 B X

### A - CAMERA HOUSING SIZE

2 Size 2 camera housing

### B - FIXED/PTZ

F Fixed

### C - DAY/NIGHT CAMERA

95 HD (1080p), 30x zoom

### 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

Without wiper

### J - SPECIAL

Standard build

X Special build

### H - OUTPUT TRANSMISSION TYPE

E Ethernet Base-T

S Singlemode fibre

M Multimode fibre

### G - BASE/MOUNTING TYPE

Standard fixed mounting

1 Alternative fixed mounting

### F - TECHNOLOGY SERIES

B 3rd Gen, IP encoder