

# Evolution ExD Camera Range



360° IP Cameras with explosion proof design

Taking the next step in 360° total situational awareness

## Introduction

This compact and lightweight camera has been designed for use in potentially explosive atmospheres, harsh and hazardous environmental conditions.

The camera housing is manufactured completely from Stainless Steel 316L which is ideally suited for use within the offshore and onshore environments. Stainless Steel screws and mounting bracket are incorporated ensuring a totally corrosion free unit.

This is a unique explosion proof solution integrating world leading 360-degree surveillance technology that provides Total Situational Awareness with no blind spots and no moving parts.



## ATEX approved dome for Zone 1/21 and 2/22 use

- Zone 1/21 and Zone 2/22 use
- ATEX approved for Gas and Dust
- Cert. No DNV-2004-OSL-ATEX-0115
- Weatherproof IP66/67 protection (IP68 on request)
- Stainless steel 316L Construction
- Light weight, approx 9kg\*
- Small, 251x Ø158 mm
- Optional Heater / Fibre transceiver / Integrated 230VAC or 115VAC PSU\*
- Camera and housing comes pre-configured, no configuration needed to plug and play
- A range of mounting accessories allows for ceiling, wall, pole and pendant mounting

\*Model dependent



## Available Models

- Evolution ExD Indoor Camera  
5MP 360° camera  
POE only
- Evolution ExD Outdoor Camera  
5MP 360° camera  
115VAC / 230VAC; 15W heater
- Evolution ExD Extreme Outdoor Camera  
5MP 360° camera  
115VAC / 230VAC; 15W heater  
IP connection via cable or via on-board  
single or multi-mode fibre converter

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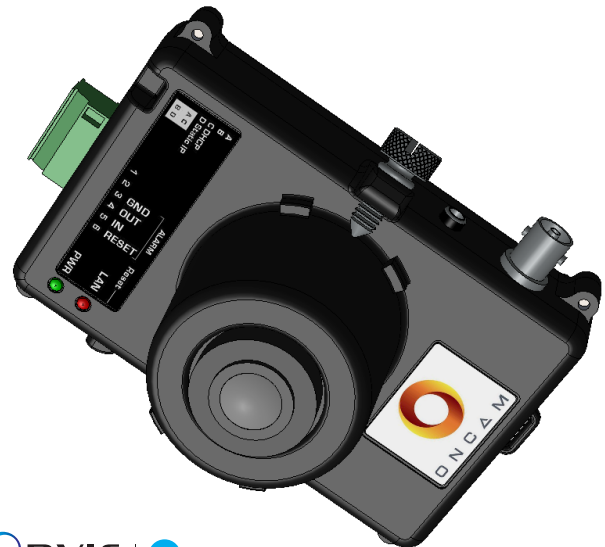
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## Evolution camera module on-board; 5MP sensor and no moving parts

- Constant 360° surveillance; no blind spots
- No moving parts; no maintenance; silent operation
- Up to 30fps @1MP and 1/4MP
- 0.2 lux minimum illumination; enhanced WDR
- H.264 / MJPEG multistream

## Advanced event management

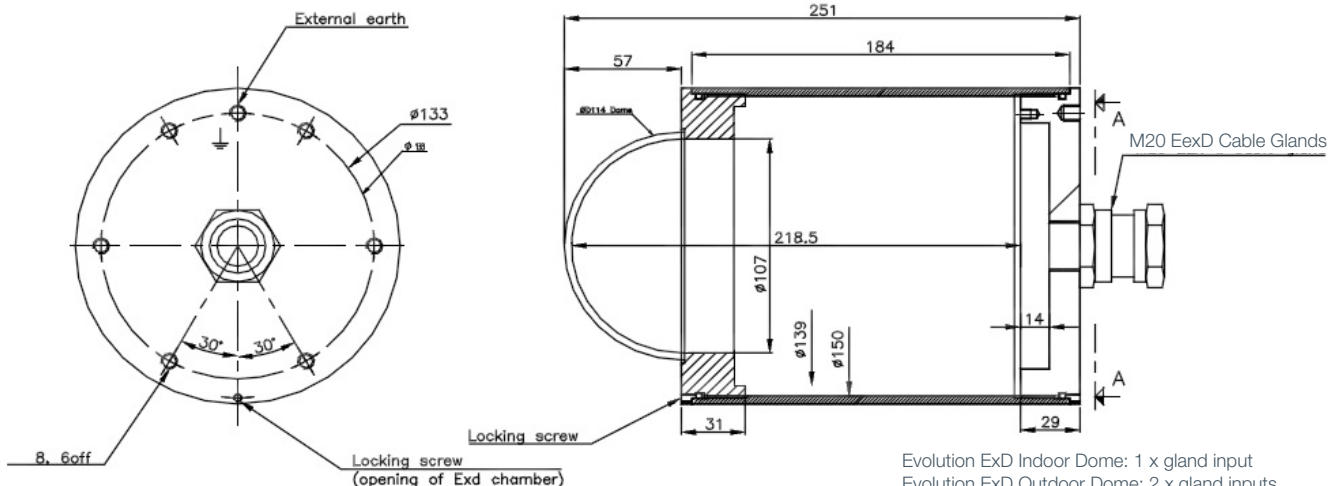
- SD Card for local recording and advanced event management
- Up to 10 configurable privacy regions
- Up to 16 polygonal Video Motion Detection regions
- Local alarm digital input and output
- Audio microphone input



## Extensive NVR/VMS platform integration; Full live and retrospective dewarping

- Market leading Oncam Grandeye 3D dewarping software
- Camera features are accessible via VMS platforms
- Simultaneous multiple video streams; with resolutions from 528x480 to 2144x1944
- 8x zoom capability through client-side dewarping
- H.264/MJPEG streaming with multiple quality levels
- Optimises bandwidth and storage utilisation
- Configurable password protection
- Intuitive web-based interface for viewing and configuration
- Supports major VMS / NVR / HDVR systems

Bottom section and fixing arrangements



Evolution ExD Indoor Dome: 1 x gland input  
Evolution ExD Outdoor Dome: 2 x gland inputs  
Evolution ExD Outdoor Extreme Dome: 2 x gland inputs

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## TECHNICAL SPECIFICATIONS

	Indoor	Outdoor		Outdoor Extreme			
Model	EVO-05-EIP	EVO-05-EOA	EVO-05-EOE	EVO-05-ESA	EVO-05-ESE	EVO-05-EMA	EVO-05-EME
<b>General</b>							
Field of View	360°						
Image Sensor	5 megapixel; Array Format (Active) 2592H x 1944V = 5,038,848 pixels; 1/2.5-Inch CMOS Sensor						
Angle of View	180° hemisphere						
Lens	185° 1.6mm / F2.0						
Minimum Illumination	0.2 lux = 50 IRE F/2.0 (6500k)						
Frame Rate	30fps typical for 1MP resolution and ¼MP resolution, 15fps typical for 2MP resolution and up to 10fps for 4MP full resolution						
Video Motion Detection	16 polygonal regions; configurable response; adjustable characteristics						
External Input	1x contact input						
External Output	1x contact output						
Security	Configurable password protection						
Advanced Event Management	Triggered by motion, external input or HTTP event, Result configurable; external output, FTP/SMTP upload, Local recording (with firmware 1.8.1 and above)						
Networking	TCP/IP, HTTP, DHCP, DNS, NTP, FTP, SMTP, RSTP, uPNP						
Privacy	10 configurable privacy regions						
SD Card	Built-in SD Card slot						
Audio Connections	Audio in; Microphone input via 3.5mm jack; via RTSP using G711 codec (µLaw - 8K sample rate), via ONVIF S						
Analogue Video Out	BNC connection – selectable between PAL or NTSC						
Signal-to-Noise Ratio	45dB						
White Balance Range	Auto White Balance (Range = approx. 2500K~8000K)						
<b>Electrical</b>							
Ports (camera module)	RJ45 for 100Base-TX; 2.1mm DC Input jack; 6-pin 1.5mm Phoenix for external I/O, BNC for test video output						
Network Cable Type (camera module)	CAT5 or better for 100Base-TX						
Fibre Optic Convertor Onboard	-	-	-	Single Mode	Single Mode	Multi-Mode	Multi-Mode
Power Input Requirements (housing)	POE	115VAC	230VAC	115VAC	230VAC	115VAC	230VAC
Power Input (camera module)	12V, 1.0A (min) "LPS or NEC Class 2" power supply or Power over Ethernet (PoE), IEEE standard 802.3af						
Power Consumption	8W max	8W+15W heater	approx. 30W	approx. 30W	approx. 30W	approx. 30W	approx. 30W
<b>Video</b>							
Video Stream 1 & 2 Codec's	H.264 High, Level 5 / MJPEG (both streams configurable)						
Video Stream 1 & 2 Compression Level	Multi-levels of compression adjustment						
Video Stream 1 & 2 Pixel Resolution	Fisheyes at: ¼ MegaPixel (528x480), 1Mp (1056x960) , 2Mp (1488x1360), 4Mp (2144x1944)						
Video Stream 3 Codec	MJPEG						
Video Stream 3	Multi-levels of compression and frame rate adjustment (max 15 fps)						
Video Stream 3 Pixel Resolution	Fisheye at: ¼ Megapixel (528x480)						
Image Control	Settings: brightness/contrast/saturation/exposure compensation; compression quality; wall/ceiling/table mount						
Image Enhancement	Electronic WDR 60dB						
PTZ Functionality	8x zoom with Oncam Grandeye 3D client-side dewarping software						
VMS / NVR / HDVR Supported	Most major VMS / VMS / HDVR systems (contact Oncam Sales for latest list)						
Web Browser Compatibility	Internet Explorer IE9 (with ActiveX plug-in, supplied); Firefox 23 ; Chrome 29; using Quicktime, minimum version 7						
Number of Unicast Users Supported	Up to 20 simultaneous users depending on the resolutions settings						
Bit Rate Control	Selectable options: constant bit rate control; capped bit rate control; constant quality control						
<b>Mechanical</b>							
Camera Mount	Ceiling, wall or pole via accessories brackets which are available from Oncam Grandeye						
Enclosure & Weight	Stainless Steel 316L; approx 9kg (19.8lbs)						
Housing Entries	1 x M20 Gland Input for ExD Indoor / 2 x M20 Gland Inputs for ExD Outdoor and Outdoor Extreme M20 Rapid Ex Barrier Glands for cables 6.1mm - 11.7mm (Oncam Grandeye part code: OXG-01-ESA) M20 Rapid Ex Barrier Glands for cables 9.5mm - 15.9mm (Oncam Grandeye part code: OXG-02-ESA)						
Dimensions	L: 251mm x Ø158mm (9.88" x Ø6.22")						
<b>Minimum system requirements</b>							
Processor and Memory	Computer with 1Ghz 32-bit (x86) or 64-bit (x64) processor and with minimum of 512 MB						
Operating System	Windows Vista 32-bit with service pack 2 (SP2) of higher / 64-bit with service pack (SP2) of higher						
Hard Drive Space	Windows Vista 32-bit = minimum 70MB / Windows Vista 64-bit = minimum 120MB						
Display	Super VGA (800 x 600) of higher-resolution monitor with 256 colours						
Peripherals	100Mbps or greater network connection, mouse or compatible pointing device, keyboard						

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Electrical / Connections					
Operating Temperature Range	-40 to +55°C (-40 to +131°F)				
Storage Temperature Range	-40 to +70°C (-40 to +158°F)				
Operating Humidity	Up to 98% (In accordance with BS EN 60068-2-30)				
Ingress Protection Rating	IP66-rated				
Certifications / Ratings / Patents					
Patents	15 patents; 15 patents pending; 20 licensed patents				
Approvals	IEEE802.3af Class 2; EMC: (CISPR Class A) FCC; CE; ICES-003; Safety: UL60950				
Other Related Products					
Hardware/Software Solutions	Oncam Grandeye SDK integration pack, Evolution 5MP Camera Range, Evolution Accessories, IP Configuration Tool, 360-degree Viewer, OnVu360 Mobile Apps (iOS, Android)				
Frame Rate, Resolution & Storage Needs					
H.264					
4MP *	2144 x 1944	10fps	Constant bit rate settings	5 Mbits/s	24hrs = 54GB **
2MP	1488 x 1360	15fps	Constant bit rate settings	3 Mbits/s	24hrs = 40GB **
1MP	1056 x 1056	15fps	Constant bit rate settings	1.5 Mbits/s	24hrs = 16GB **
1/4MP	528 x 480	15fps	Constant bit rate settings	0.8 Mbits/s	24hrs = 8GB **
MJPEG					
4MP	2144x1944	10fps	Average file size: 640KB	Average bit rate: 52.4 Mbits/s	24hrs = 552.96GB **
2MP	1488x1360	15fps	Average file size: 350KB	Average bit rate: 43.0 Mbits/s	24hrs = 453.60GB **
1MP	1056x1056	15fps	Average file size: 188KB	Average bit rate: 23.1 Mbits/s	24hrs = 243.65GB **
1/4MP	528x480	15fps	Average file size: 62KB	Average bit rate: 7.6 Mbits/s	24hrs = 80.35GB **

\* Factory / Default settings

\*\* Based on the same scene, with constant average light conditions

ExD range mounting options			
Image	Part	Product Code	Description
	Heavy duty wall mount bracket	OBE-07-ESA	Stainless steel 316L Weight: 0.8kg
	Heavy duty pole mount adapter	OBE-08-ESA	Ø 50mm to 150mm Stainless steel 316L Weight: 0.8kg (Must be used with Wall Bracket OBE-07-ESA)
	Heavy duty ceiling mount bracket	OBE-09-ESA	230mm high Stainless steel 316L Weight: 4kg

ExD range accessory glands			
Image	Part	Product Code	Description
	Indoor and outdoor cable gland for use in Zone 1/21 and Zone 2/22	OXG-01-ESA	Rapid Ex Barrier Glands for cables 6.1mm - 11.7mm
	Indoor and outdoor cable gland for use in Zone 1/21 and Zone 2/22	OXG-02-ESA	Rapid Ex Barrier Glands for cables 9.5mm - 15.9mm

**Ordering**

**E V O - 0 5 - E O A**

Series         
EVO = Evolution Range

Camera         
05 = 5 Megapixel Sensor

Format         
E = Standard  
(MJPEG/H.264)

Housing         
I = Indoor (without heater)  
O = Outdoor  
S = Outdoor extreme single-mode fibre  
M = Outdoor extreme multi-mode fibre

Communications / Power input         
P = POE  
A = 115VAC (US market)  
E = 230VAC (EU & UK market)

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