

# MAXIMUS MMX

EX-PROOF FULL HD CAMERA IN A COMPACT DESIGN



IP66/IP67  
IP68/IP69

TYPE 4X  
TYPE 6P



- Certifications for use in Zones 1 and 2, IIB T6 or T5 Group (Gas) and in Zones 21 and 22, IIIC T85°C or T100°C Group (Dust)
- AISI 316L stainless steel construction
- Camera Full HD 1080p, 3x or 10x with image stabilizer

ONVIF® | Q S T



## MAXIMUM RESISTANCE IN THE MOST CRITICAL ENVIRONMENTS

The explosion-proof Full HD camera MAXIMUS MMX is perfect for efficient video surveillance and control of processes in hazardous environments where the atmosphere is potentially explosive due to the presence of inflammable gases or dust, typical of the Oil&Gas, marine or industrial and foodstuff sectors.

The housing is entirely manufactured in stainless steel AISI 316L offering complete resistance to corrosion. Thanks to its compactness (only 116mm) and contained weight (only 6.5 kg (14.3lb)), it can be installed in narrow locations typical of industrial or naval surroundings.

The IP66/IP67/IP68/IP69 level guarantees complete protection against bad weather and water immersion.

Another important feature of the camera is the extended certification temperature range of -40°C to 70°C.

The MAXIMUS MMX product with 10x Full HD camera is Lloyd's Register Type Approval System Test Specification Number 1 certified and therefore can be used in Marine and Offshore applications for environmental categories ENV1, ENV2, ENV3 and ENV5 (eg. passenger ships, open-air decks, closed spaces and technical areas that may be subject to heat generated by other equipment, potentially explosive areas, docking procedures).

## HIGH QUALITY IMAGE

The Full HD, 1080p camera, with 3x or 10x motorised zoom lens, offers multiple video streams (H.264/AVC, MJPEG, JPEG, MPEG4) and provides exceptional image quality, picking out every detail in a scene, even in the harshest environmental conditions. The cameras are equipped with a digital image stabiliser.

## 100% MADE IN VIDEOTECH

Videotec guarantees the extreme robustness and reliability of all its "all-in-one products" with hundreds of validation tests. Mechanics, electronics, positioning, networking, software and firmware are developed end-to-end by the internal Videotec team, with total know-how of all the network products offered.

At the heart of Videotec's product development is the concept of cyber-sustainability. To help customers protect their video surveillance systems and keep them secure, Videotec provides constant updates, training and support throughout the lifecycle of its products, regardless of how old the device is or whether it is still for sale.

## TECHNICAL DATA

### MECHANICAL

AISI 316L stainless steel construction

External shot peened and electro-polished surfaces

Sunshield

Supports for wall, ceiling or parapet installation

Unit weight:

- 6.5kg (14.3lb) (housing only + mounting bracket)
- 8.5kg (18.7lb) (housing with 4m (13ft) armoured multipolar cable)

### CABLE GLANDS

Cable entry: 1 hole, 1/2" NPT

Cable gland Ex d 1/2"NPT (with pre-installed cable only)

### HOUSING'S WINDOW

Material: Tempered glass

Usable diameter: 73.5mm (2.9in)

### ELECTRICAL

Supply voltage/Current consumption

- 24Vac  $\pm$ 10%, 1.32A, 50/60Hz
- 24Vdc  $\pm$ 5%, 0.9A
- PoE+ (IEEE 802.3at)

Power consumption:

- 21W (24Vac, 1.32A, 50/60Hz)
- 20W (24Vdc, 0.9A)
- 21W (PoE+)

Armoured cable

- External diameter: 16.8mm (0.66in) $\pm$ 0.4mm (0.016in)
- Diameter under armature: 12.4mm (0.5in) $\pm$ 0.3mm (0.012in)
- Colour: black RAL 9005

Armoured cable composition:

- 3x1.5mm<sup>2</sup> (15AWG)
- 4x2x0.22mm<sup>2</sup> (24AWG) (cat. 5E F/STP)

### NETWORK

Ethernet connection: 100 Base-TX

Connector: RJ45

### CYBERSECURITY

Digitally signed firmware

Password restricted access (HTTP digest)

Support of various user access levels

Control of accesses IEEE 802.1X

HTTPS cryptography using TLS1.0, TLS1.1, TLS1.2 and TLS1.3

Centralised certificate management

Complies with ONVIF Security Service specifications

### VIDEO

Video encoder

- Communication protocol: ONVIF, Profile Q, Profile S and Profile T
- Device configuration: TCP/IPv4-IPv6, UDP/IPv4-IPv6, HTTP, HTTPS, NTP, DHCP, WS-DISCOVERY, DSCP, IGMP (Multicast), SOAP, DNS
- Streaming: RTSP, RTCP, RTP/IPv4-IPv6, HTTP, Multicast
- Video compression: H.264/AVC, MJPEG, MPEG4, snapshot JPEG
- 3 independent video streams Full HD
- Image resolution: from 320x180pixel up to 1920x1080pixel in 8 steps
- Selectable frame rate from 1 to 60 images per second (fps)
- Web Server
- Motion Detection
- QoS: Differentiated DSCPs for streaming and device management
- SNMP and NTCIP protocols

## CAMERAS

### Day/Night Full HD 3x

Resolution: Full HD 1080p (1920x1080pixel)

Signal system: max 1080p/30fps

Image Sensor: 1/2.8 type Exmor™ CMOS sensor

Effective pixels: 3.27Megapixel

Minimum Illumination, colour (ICR-OFF):

- 1lx, 1/30s, F1.2, 50% (Normal mode)
- 0.25lx, 1/30s, F1.2, 50% (High sensitivity mode)

Minimum Illumination, B/W (ICR-ON):

- 0.1lx, 1/30s, F1.2, 50% (Normal mode)
- 0.03lx, 1/30s, F1.2, 50% (High sensitivity mode)

Lens:

- From f= 3.0mm (wide) up to 9.0mm (tele)
- From F1.2 up to F2.1

Zoom: 3x (36x with digital zoom)

Horizontal Viewing Angle: From 90° (wide) up to 32° (tele)

Minimum object distance: 300mm (11.8in) (wide to tele)

Shutter speed: From 1/1s up to 1/10000s, 22 steps

White balance: Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium vapor lamp (Fix, Auto), Manual

Wide Dynamic Range: On/Off

Exposure Control: Auto, Manual, Priority (Shutter priority, Iris priority), Brightness

S/N Ratio: 50dB

Gain limit: up to 28dB

Backlight Compensation

### Day/Night Full HD 10x

Resolution: Full HD 1080p (1920x1080pixel)

Signal system: 1080p/60fps max

Image Sensor: 1/3" CMOS sensor

Effective pixels: 2.48Megapixel

Minimum Illumination, colour (ICR-OFF):

- 0.5lx IRE 50%
- 0.125lx IRE 50% (Slow Shutter)

Minimum Illumination, B/W (ICR-ON):

- 0.1lx IRE 50%
- 0.025lx IRE 50% (Slow Shutter)

Lens:

- From f= 5.1mm (wide) up to 51mm (tele)
- From F1.6 up to F1.8

Zoom: 10x (320x, with digital zoom)

Horizontal Viewing Angle: from 54° (wide) up to 4.9° (tele)

Minimum object distance: from 100mm (3.9in) (wide) up to 1000mm (39.4in) (tele)

Shutter speed: from 1/8s up to 1/30000s, 14 steps

White balance: Auto, Indoor, Outdoor, Manual

Wide Dynamic Range: On/Off, Light level

Exposure Control: Auto, Manual, Shutter priority, Iris priority, Brightness

S/N Ratio: 50dB

De-fog: Off, Auto, Manual

Privacy zones masking: maximum 8 settable masks

Backlight Compensation

Digital image stabilization: On/Off

## ENVIRONMENT

For indoors and outdoors installation

Certification temperature: from -40°C (-40°F) up to +65°C (149°F) (T6/T85°C) or +70°C (158°F) (T5/T100°C)

Operating temperature:

- Continuous functioning: from -40°C (-40°F) up to +65°C (149°F)
- Temperature test complies with NEMA-TS 2-2003 (R2008) par. 2.1.5.1, test profile fig. 2-1 (from -34°C (-29.2°F) to +74°C (165.2°F)) (only for models with Day/Night camera 10X zoom, FullHD)
- De-icing function intervention (cold start): from -40°C (-40°F) up to -10°C (14°F)

Relative humidity: from 5% up to 95%

## CERTIFICATIONS

|  |
|--|
| Electrical safety (CE): EN60950-1, IEC60950-1, EN62368-1, IEC62368-1   |
| Electromagnetic compatibility (CE): EN61000-6-4, EN61000-3-2, EN61000-3-3, EN50130-4, EN55032 (Class A)          |
| RoHS (CE): EN IEC 63000  |
| Outdoor installation (CE): EN60950-22, IEC60950-22   |
| IP protection degree (EN/IEC60529): IP66, IP67, IP68 (2 hours, 5m (16ft)), IP69                                  |
| Vibration test: EN50130-5, EN60068-2-6   |
| UL certification (UL60950-1, CAN/CSA C22.2 No. 60950-1-07, UL62368-1 CAN/CSA C22.2 No. 62368-1-14): cULus Listed |
| Electromagnetic compatibility (North America): FCC part 15 (Class A), ICES-003 (Class A)                         |
| Level of protection Type (UL50E): 4X, 6P   |
| BIS certification: IS 13252 (PART 1)/IEC60950-1 (certification only valid for the code: MMX2D0ZA)                |
| RCM (Australian and New Zealand Regulatory Compliance Mark)  |
| NDAA-compliant   |

## CERTIFICATIONS - EXPLOSION-PROOF APPLICATIONS

|   |
|---|
| ATEX (EN IEC 60079-0, EN 60079-1, EN 60079-31)  |
| IECEX (IEC 60079-0, IEC 60079-1, IEC 60079-31)  |
| EAC EX (TR CU 012/2011)   |
| INMETRO (ABNT NBR IEC 60079-0, ABNT NBR IEC 60079-1, ABNT NBR IEC 60079-31)                             |
| KCs (Employment and labor department 2021-22)   |
| UL listed for USA (UL 60079-0, UL 60079-1, UL 60079-31)   |
| UL listed for Canada (CAN/CSA-C22.2 NO. 60079-0, CAN/CSA-C22.2 NO. 60079-1, CAN/CSA-C22.2 NO. 60079-31) |
| UK Ex (EN IEC 60079-0, EN 60079-1, EN 60079-31)   |
| <i>For further details on certifications and markings, consult the relevant table.</i>                  |

## CERTIFICATIONS - MARINE APPLICATIONS

|  |
|--|
| Lloyd's Register Marine Type Approval certification (only for models with Day/Night camera 10X zoom, FullHD): <ul style="list-style-type: none"><li>• Test Specification Number 1 (ENV1, ENV2, ENV3, ENV5)</li></ul> |
| Electromagnetic compatibility: EN60945   |
| Salty fog resistance: EN60068-2-52   |
| Tested at 70°C (158°F) for 16 hours in compliance with EN60068-2-2   |

## ACCESSORIES

|             |  |
|-------------|--|
| CMAN0401    | Armoured black cable, available by the metre (minimum order 10m (32.8ft)): 1 Ethernet cable, 3 power supply conductors         |
| CMSN0400    | Unarmoured multipolar black cable, available by the metre (minimum order 10m (32.8ft)): 1 Ethernet cable, 3 power supply wires |
| MBX1MAA     | Explosion-proof communication box in stainless steel, IN 230Vac, with EMC filter for marine certification                      |
| MBX2MAA     | Explosion-proof communication box in stainless steel, IN 24Vac, with EMC filter for marine certification                       |
| MBX3MAA     | Explosion-proof communication box in stainless steel, IN 120Vac, with EMC filter for marine certification                      |
| MBA155A     | Explosion-proof communication box in aluminium, IN 230Vac  |
| MBA255A     | Explosion-proof communication box in aluminium, IN 24Vac   |
| MBA355A     | Explosion-proof communication box in aluminium, IN 120Vac  |
| OCTEXB1/2P  | Barrier cable gland in nickel-plated brass EX 1/2" NPT, unarmoured cable IECEX-ATEX-EAC Ex                                     |
| OCTEXBA1/2P | Barrier cable gland in nickel-plated brass EX 1/2" NPT, armoured cable IECEX-ATEX-EAC Ex                                       |
| OCTEX1/2C   | Cable gland in nickel-plated brass EX 1/2" NPT, unarmoured cable IECEX-ATEX-EAC Ex   |
| OCTEXA1/2C  | Cable gland in nickel-plated brass EX 1/2" NPT armoured cable IECEX-ATEX-EAC Ex  |
| OCTEXS1/2C  | Cable gland in nickel-plated brass EX 1/2" NPT, unarmoured cable IECEX-ATEX-EAC Ex   |

*For further details about cable glands part numbers, please refer to the relevant table.*

*For further details on cable codes please refer to the relevant datasheet.*

## BRACKETS AND ADAPTORS

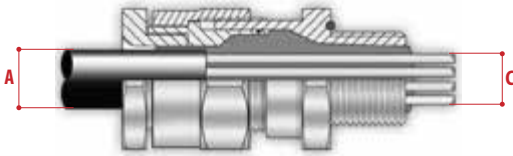
|          |   |
|----------|---|
| MMXCWCOL | Pole and corner adaptor module in stainless steel AISI 316L |
|----------|---|

## PACKAGE

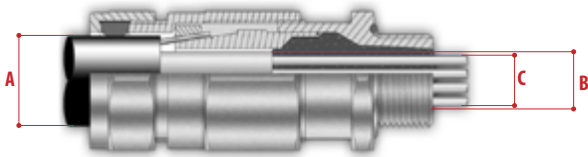
| Model Number | Weight        | Dimensions (WxHxL)             | Master carton |
|--------------|---------------|--------------------------------|---------------|
| MMX2D0ZA     | 8kg (18lb)    | 32.5x19x23cm (12.8x7.5x9in)    | 2             |
| MMX2DAZA     | 11kg (24.2lb) | 64x20.8x59cm (25.2x8.2x23.2in) | -             |
| MMX2DBZA     | 14kg (31lb)   | 64x20.8x59cm (25.2x8.2x23.2in) | -             |

**CABLE GLANDS AND ACCESSORIES 1/2" NPT**

| Type                    | Certification     | Operating temperature             | Cable            | Model Number | Maximum diameter of the external sheath (A) | Maximum diameter of the internal sheath (B) | Maximum diameter of the conductors bundle (C) |
|-------------------------|-------------------|-----------------------------------|------------------|--------------|---|---|---|
| Barrier cable gland     | IECEX/ATEX/EAC Ex | -60°C (-76°F) / +135°C (+275°F)   | Unarmoured cable | OCTEXB1/2P   | 14.0mm (0.55in)                             | -   | 12.5mm (0.5in)                                |
|                         |                   |                                   | Armoured cable   | OCTEXBA1/2P  | 15.5 - 21.1mm (0.61-0.83in)                 | 14mm (0.6in) max                            | 12.5mm (0.5in)                                |
| Cable gland with gasket | IECEX/ATEX/EAC Ex | -60°C (-76°F) / +100°C (+212°F)   | Unarmoured cable | OCTEX1/2C    | 3.2 - 8.0mm (0.12-0.31in)                   | -   | -   |
|                         |                   |                                   | Unarmoured cable | OCTEXS1/2C   | 6.5 - 11.9mm (0.26 - 0.47in)                | -   | -   |
|                         |                   |                                   | Armoured cable   | OCTEXA1/2C   | 12.5 - 20.5mm (0.49 - 0.8in)                | 10 - 14.3mm (0.4 - 0.56in)                  | -   |
| Plug EX 1/2"NPT         | IECEX/ATEX/EAC Ex | -100°C (-148°F) / +400°C (+752°F) | -                | OEXPLUG1/2P  | -   | -   | -   |



Barrier cable gland with unarmoured cable



Barrier cable gland with armoured cable



Cable gland with gasket with unarmoured cable



Cable gland with gasket with armoured cable

| MAXIMUS MMX - CERTIFICATIONS AND MARKINGS (WITH CABLE) |  |                             |  |
|--|--|-----------------------------|--|
| Certification  | Marking  | Ambient temperature         | Cable input temperature                            |
| ATEX   | Ⓜ II 2 G Ex db IIB T6...T5 Gb<br>Ⓜ II 2 D Ex tb IIIC T85°C...T100°C Db | -40°C ≤ Ta ≤ +65°C or +70°C | +83.2°C with Ta ≤ +65°C<br>+88.2°C with Ta ≤ +70°C |
| IECEX  | Ex db IIB T6...T5 Gb<br>Ex tb IIIC T85°C...T100°C Db                   |                             |  |
| EAC Ex   | 1Ex db IIB T6...T5 Gb X<br>Ex tb IIIC T85°C...T100°C Db X              |                             |  |
| INMETRO  | Ex db IIB T6...T5 Gb<br>Ex tb IIIC T85 °C...T100 °C Db                 |                             |  |
| UK Ex  | Ⓜ II 2 G Ex db IIB T6...T5 Gb<br>Ⓜ II 2 D Ex tb IIIC T85°C...T100°C Db |                             |  |

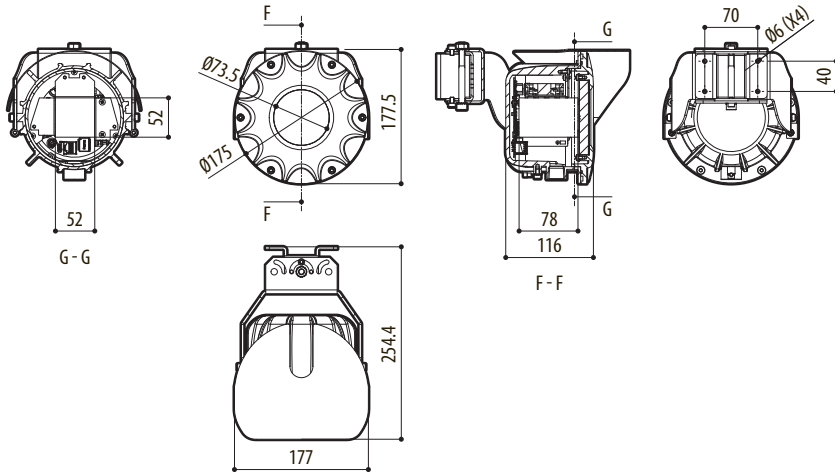
| MAXIMUS MMX - CERTIFICATIONS AND MARKINGS (WITHOUT CABLE) |   |                             |  |
|---|---|-----------------------------|--|
| Certification   | Marking   | Ambient temperature         | Cable input temperature                            |
| ATEX  | Ⓜ II 2 G Ex db IIB T6...T5 Gb<br>Ⓜ II 2 D Ex tb IIIC T85°C...T100°C Db  | -40°C ≤ Ta ≤ +65°C or +70°C | +83.2°C with Ta ≤ +65°C<br>+88.2°C with Ta ≤ +70°C |
| IECEX   | Ex db IIB T6...T5 Gb<br>Ex tb IIIC T85°C...T100°C Db  |                             |  |
| EAC Ex  | 1Ex db IIB T6...T5 Gb X<br>Ex tb IIIC T85°C...T100°C Db X   |                             |  |
| KCs   | Ex db IIB T6...T5 Gb<br>Ex tb IIIC T85°C...T100°C Db  |                             |  |
| INMETRO   | Ex db IIB T6...T5 Gb<br>Ex tb IIIC T85 °C...T100 °C Db  |                             |  |
| Hazardous Location America                                | Class I, Zone 1, AEx db IIB T6...T5 Gb<br>Zone 21, AEx tb IIIC T85°C...T100°C Db<br>Class I, Div 2 Group C, D T6...T5<br>Class II, Div 2, Group F and G T6...T5 |                             |  |
| Hazardous Location Canada                                 | Ex db IIB T6...T5 Gb X<br>Ex tb IIIC T85°C...T100°C Db X<br>Class I, Div 2 Group C, D T6...T5<br>Class II, Div 2, Group F and G T6...T5                         |                             |  |
| UK Ex   | Ⓜ II 2 G Ex db IIB T6...T5 Gb<br>Ⓜ II 2 D Ex tb IIIC T85°C...T100°C Db  |                             |  |

| MAXIMUS MMX - CONFIGURATION OPTIONS |                                |   |   |              |   |
|-------------------------------------|--------------------------------|---|---|--------------|---|
|                                     | Voltage                        | Camera  | Connections   | Video Output | ONVIF Profiles  |
| <b>MMX</b>                          | <b>2</b> 24Vdc/<br>24Vac, PoE+ | <b>C</b> Day/Night camera 3X<br>zoom, FullHD  | <b>0</b> Without cable, without cable<br>gland                        | <b>Z</b> IP  | <b>A</b> Complies with ONVIF, Profile Q,<br>Profile S and Profile T |
|                                     |                                | <b>D</b> Day/Night camera 10X<br>zoom, FullHD | <b>A</b> Cable gland Ex d 1/2" NPT and<br>4m (13ft) armoured cable    |              | <b>J</b> Complies with ONVIF, Profile S<br>and Profile T            |
|                                     |                                |   | <b>B</b> Cable gland Ex d 1/2" NPT and<br>10m (32.8ft) armoured cable |              |   |

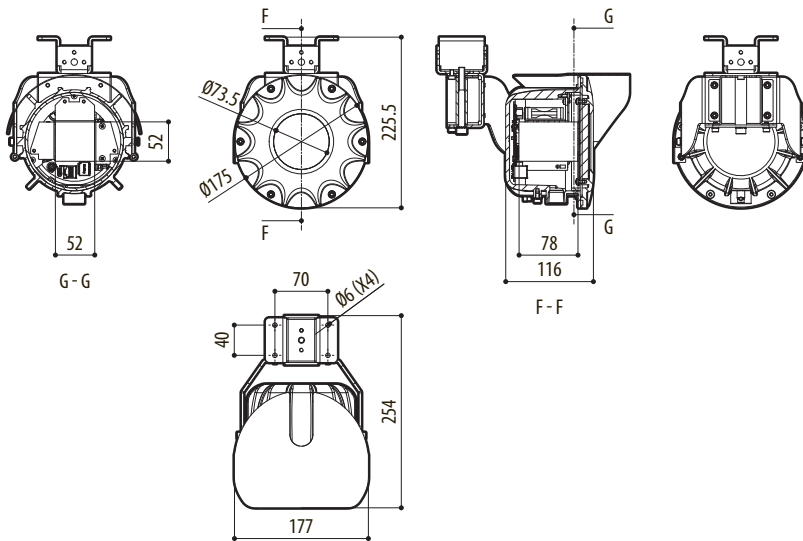
## TECHNICAL DRAWINGS

The indicated measurements are expressed in millimetres.

### WALL MOUNTING



### PARAPET OR CEILING MOUNTING



### MAXIMUS MMX