MAXIMUS MPX DELUX
EXPLOSION-PROOF FULL HD PTZ CAMERA WITH NEW DELUX TECHNOLOGY, FOR DAY/NIGHT VIEWING WITH EXCEPTIONAL NIGHT BRIGHTNESS

DESCRIPTION

MAXIMUS MPX DELUX is an explosion-proof FULL HD PTZ camera which integrates new DELUX imaging and encoding technology for outdoor video surveillance, allowing recordings to be produced with incredibly bright and vivid colours both by day and by night. This camera is ideal for efficient video surveillance and control of processes in critical environments where the atmosphere is potentially explosive due to the presence of inflammable gases or dust, typical of the Oil&Gas, marine or industrial sectors.

Thanks to the superior light sensitivity of the sensor, the DELUX technology means that it is possible to make bright recordings with sharp, clearly defined colours in the very low light conditions typically found at night, working at as low as 0.006 lux (0.0006 lux in black and white).

MAXIMUS MPX DELUX is a Day/Night Full HD 1080p camera with 30x optical zoom and a frame rate of 60fps. It is capable of precisely identifying the details in a scene, even in dynamic, rapidly changing situations. DELUX technology for MAXIMUS MPX DELUX has introduced new, advanced performance in proportional zoom control and management of privacy masking for sensitive areas.

The video images are sent via the network with compression H.264/AVC, MJPEG, JPEG and up to a maximum of 3 simultaneous and independent Full HD video streams.

The MAXIMUS MPX series products are 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).

CERTIFICATIONS

Certifications for use in Zone 1 and 2, Group IIC T6 (Gas), and in Zone 21 and 22, Group IIIC T85° (Dust)
Marine Certification: Lloyd’s Register Marine Type Approval
Electropolished AISI 316L stainless steel ex-proof PTZ unit
Camera Full HD 1080p, 30x, 60fps
Minimum Illumination:
• Colour: 0.006lx
• B/W: 0.0006lx
Video compression H.264/AVC, MJPEG, JPEG and MPEG4
Certified ONVIF, Profile S, Profile Q
Digitally signed firmware
Complies with ONVIF Security Service specifications
Day/Night (Auto ICR: automatic removal of IR filter)
De-fog function
Up to 3 simultaneous video streams in FULL HD
1 alarm input and 1 relay output
Variable speed: from 0.1°/s up to 100°/s Pan and Tilt
Position accuracy: 0.02°
Speed proportional to Zoom
¼” NPT threaded hole for use of cable glands or conduit
Integrated wiper
Operating temperature: from -40°C (-40°F) up to +60°C (140°F)
**TECHNICAL DATA**

**GENERAL**
- AISI 316L stainless steel construction
- Passivated and electropolished external surfaces
- Dynamic positioning control system

**MECHANICAL**
- 1 hole 3/4” NPT for cable gland
- Zero backlash
- Horizontal rotation: 360°, continuous rotation
- Vertical rotation: from -90° up to +90°
- Horizontal speed (variable): from 0.1°/s up to 100°/s
- Tilt speed (variable): from 0.1°/s up to 100°/s
- Accuracy of preset positions: 0.02°
- 12mm (0.47in) thick tempered glass window
- Integrated wiper
- Unit weight: 27kg (60lb)

**ELECTRICAL**
- Supply voltage/Current consumption:
  - 230Vac, 0.5A, 50/60Hz
  - 24Vac, 5A, 50/60Hz
  - 120Vac, 1A, 50/60Hz
- Power consumption:
  - 120W max

**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

**VIDEO**
- Video encoder:
  - Communication protocol: ONVIF, Profile S and Profile Q
  - Device configuration: TCP/IP/-IPv6, UDP/IP/-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, JPEG, MPEG4
  - 3 independent video streams Full HD
  - Image resolution: from 320x180pixel up to 1920x1080pixel in 6 steps
  - Selectable frame rate from 1 to 60 images per second (fps)
  - Web Server
  - Directional OSD (maximum 4 settable areas)
  - Motion Detection
  - QoS: Differentiated DSCPs for streaming and device management

**CAMERAS**
- Day/Night Full HD 30x DeLux
  - Resolution: Full HD 1080p (1920x1080pixel)
  - Image Device: 1/2.8” Exmor™ R CMOS sensor
  - Effective Pixels: approx. 2.38 Megapixels
  - Minimum Illumination:
    - Colour: 0.006lx (F1.6, 30 IRE)
    - B/W: 0.0006lx (F1.6, 30 IRE)
  - Focal length: from 4.5mm (wide) up to 135mm (tele)
  - Zoom: 30x (480x with digital zoom)
  - Iris: from F1.6 up to F9.6, 10 steps (Auto, Manual)
  - Horizontal Viewing Angle: from 61.6° (wide end) up to 2.50° (tele end)
  - Vertical Viewing Angle: from 37.07° (wide end) up to 1.44° (tele end)
  - Shutter speed: from 1/1s up to 1/10000s (Auto, Manual)
  - White balance: Auto, Manual
  - Gain: from 0dB up to 36dB (Auto, Manual)
  - Wide Dynamic Range: 120dB
  - Focus System: Auto, Manual, Trigger
  - Picture Effects: E-flip, Color enhancement
  - Noise removal: 2D, 3D
  - Exposure Control: Auto, Manual, Priority (Iris Priority, Shutter Priority), Brightness, Custom
  - De-fog: On/Off
  - Privacy zones masking (maximum 8 settable masks)

**ENVIRONMENT**
- For indoors and outdoors installation
- Operating temperature: from -40°C (-40°F) up to +60°C (140°F)
- Wind resistance:
  - PTZ static: 230km/h (143mph) max.
  - PTZ operational at the maximum speed: 210km/h (130.5mph) max.
- Relative humidity: from 10% up to 95% (no condensation)
CERTIFICATIONS
Electrical safety (CE): EN60950-1, IEC60950-1
Electromagnetic compatibility (CE): EN61000-6-4, EN61000-3-2, EN61000-3-3, EN50130-4, EN55032 (Class A)
RoHS (CE): EN50581
Outdoor installation (CE): EN60950-22, IEC60950-22
IP protection degree (EN/IEC60529): IP66
Vibration test: EN50130-5, EN60068-2-6
UL certification (UL60950-1, CAN/CSA C22.2 No. 60950-1-07): cULus Listed (only for 24Vac version)
Electromagnetic compatibility (North America): FCC part 15 (Class A), ICES-003 (Class A)
Level of protection Type (UL50E): 4X (only for 24Vac version)
BIS certification: IS 13252(PART 1):2010/ IEC 60950-1 : 2005 (certification only valid for the code: MPXHD21VW02008)

CERTIFICATIONS - EXPLOSION-PROOF APPLICATIONS
ATEX (EN 60079-0+A11, EN 60079-1, EN 60079-31)
IECEx (IEC 60079-0, IEC 60079-1, IEC 60079-31)
EAC (TR CU 012/2011)
INMETRO (ABNT NBR IEC 60079-0, ABNT NBR IEC 60079-1, ABNT NBR IEC 60079-31)
UL listed for USA (UL 60079-0, UL 60079-1, UL 60079-31), only for 24Vac version
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), only for 24Vac version
KCs (Employment and labor department 2016-54)
For further details on certifications and markings, consult the relevant table.

CERTIFICATIONS - MARINE APPLICATIONS
Lloyd’s Register Marine Type Approval certification (the 24Vac versions require a filter accessory FM1010):
- Test Specification Number 1 (ENV1, ENV2, ENV3, ENV5)
Electromagnetic compatibility: EN60945
Salty fog resistance: EN60068-2-52
Tested at 70°C (158°F) for 16 hours in compliance with EN60068-2-2

BRACKETS AND ADAPTORS
MPXWBA AISI 316L stainless steel wall bracket
MPXOW AISI 316L stainless steel corner adapter module
MPXCOL AISI 316L stainless steel pole adapter module
MPXWBA AISI 316L stainless steel parapet or ceiling mounting bracket

ACCESSORIES
WASEX2T4AT Tank 10l (2.6gal) with integrated manual pump controlled by ATEX certified solenoid valve, delivery head up to 20m (66ft) max, IN 24Vac/Vdc
WASEX2T46OR Tank 10l (2.6gal) with integrated manual pump controlled by ATEX certified solenoid valve, delivery head up to 20m (66ft) max, IN 24Vac/Vdc
WASEX2T41N Tank 10l (2.6gal) with integrated manual pump controlled by INMETRO certified solenoid valve, delivery head up to 20m (66ft) max, IN 24Vac/Vdc

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
MBA1SSA Explosion-proof communication box in aluminium, IN 230Vac
MBA2SSA Explosion-proof communication box in aluminium, IN 24Vac
MBA3SSA Explosion-proof communication box in aluminium, IN 120Vac
OCTEX3/4C Cable gland in nickel-plated brass with gasket EX 3/4” NPT, unarmoured cable IECEX-ATEX-EAC Ex
OCTEX3A3/4C Cable gland in nickel-plated brass with gasket EX 3/4” NPT, armoured cable IECEX-ATEX-EAC Ex
OCTEX3B3/4C Barrier cable gland in nickel-plated brass 3/4” NPT, unarmoured cable IECEX-ATEX-EAC Ex
OCTEX3B3/4P Barrier cable gland in nickel-plated brass 3/4” NPT, unarmoured cable IECEX-ATEX-EAC Ex
OCTEXBA3/4C Barrier cable gland in nickel-plated brass 3/4” NPT, armoured cable IECEX-ATEX-EAC Ex
OCTEXBA3/4P Barrier cable gland in nickel-plated brass EX 3/4” NPT, armoured cable IECEX-ATEX-EAC Ex
OCTEX3/4 Cable gland in nickel-plated brass with gasket EX 3/4” NPT, unarmoured cable ATEX
OCTEXA3/4 Cable gland in nickel-plated brass with gasket EX 3/4” NPT, armoured cable ATEX
OCTEXB1/2C Barrier cable gland in nickel-plated brass EX 1/2” NPT, unarmoured cable IECEX-ATEX-EAC Ex
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
OCTEXS1/2C 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
OCTEX1/2-3/4P Cable glands reduction in nickel-plated brass EX 3/4” - 1/2” NPT IECEX-ATEX-EAC Ex
OCTEX1/2-3/4P Cable glands reduction in nickel-plated brass EX 3/4” - 1/2” NPT IECEX-ATEX-EAC Ex
OCTEXP3/4C Conduit cable gland nickel-plated brass 3/4” NPT IECEX-ATEX- c CSA us - EAC Ex (operating temperature: from -60°C (-76°F) up to +80°C (+176°F))
OCABLMPXARM4 Cabling for MPX/MPXHD, 4m (13ft) (armoured cable and barrier cable gland): 1 Ethernet cable, 3 power supply wires, 1 coaxial video cable, 7 wires for alarms, relay and telemetry
OCABLMPXARM10 Cabling for MPX/MPXHD, 10m (32.8ft) (armoured cable and barrier cable gland): 1 Ethernet cable, 3 power supply wires, 1 coaxial video cable, 7 wires for alarms, relay and telemetry
FM1010 EMC filter for Marine certification
For further details about cable glands part numbers, please refer to the relevant table.

PACKAGE
Model Number Weight Dimensions (WxHxL) Master carton
MPXHD11VW02008 30.4kg (67lb) 54x31x49cm (21x12x19in) -
### SELECTION DIAGRAM FOR CABLE GLANDS AND ACCESSORIES 1/2" NPT

<table>
<thead>
<tr>
<th>Type</th>
<th>Certification</th>
<th>Operating temperature</th>
<th>Cable</th>
<th>Model Number</th>
<th>Diameter of the external cable</th>
<th>Under armor cable diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrier cable gland</td>
<td>IECEx/ATEX/Ex</td>
<td>-60°C / +80°C (-76°F / +176°F)</td>
<td>Unarmoured cable</td>
<td>OCTEXB1/2C</td>
<td>3.0 - 8.0mm (0.12-0.31in)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-60°C (-76°F) / +135°C (275°F)</td>
<td>Unarmoured cable</td>
<td>OCTEXB1/2P</td>
<td>12.5 - 14.0mm (0.5-0.55in)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Armoured cable</td>
<td>OCTEXB1A/2P</td>
<td>15.5 - 21.1mm (0.61-0.83in)</td>
<td>-</td>
</tr>
<tr>
<td>Cable gland with gasket</td>
<td>IECEx/ATEX/Ex</td>
<td>-60°C / +100°C (-76°F / +212°F)</td>
<td>Unarmoured cable</td>
<td>OCTEX1/2C</td>
<td>3.2 - 8.0mm (0.12-0.31in)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unarmoured cable</td>
<td>OCTEXS1/2C</td>
<td>6.5 - 11.9mm (0.26 - 0.47in)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Armoured cable</td>
<td>OCTEX1A/2C</td>
<td>12.5 - 20.5mm (0.49 - 0.8in)</td>
<td>10 - 14.3mm (0.4 - 0.56in)</td>
</tr>
<tr>
<td>Plug EX 1/2&quot;NPT</td>
<td>IECEx/ATEX/Ex</td>
<td>-100°C (-148°F) / +400°C (752°F)</td>
<td>—</td>
<td>OEXPLUG1/2P</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### SELECTION DIAGRAM FOR CABLE GLANDS AND ACCESSORIES 3/4" NPT

<table>
<thead>
<tr>
<th>Type</th>
<th>Certification</th>
<th>Operating temperature</th>
<th>Cable</th>
<th>Model Number</th>
<th>Diameter of the external cable</th>
<th>Under armor cable diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrier cable gland</td>
<td>IECEx/ATEX/Ex</td>
<td>-60°C / +80°C (-76°F / +176°F)</td>
<td>Unarmoured cable</td>
<td>OCTEXB3/4C</td>
<td>13.0 - 20.2mm (0.51-0.79in)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-60°C (-76°F) / +135°C (275°F)</td>
<td>Armoured cable</td>
<td>OCTEXB3A/4C</td>
<td>16.9 - 26.0mm (0.66-1.02in)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unarmoured cable</td>
<td>OCTEXB3/4P</td>
<td>17.8 - 20.0mm (0.70-0.79in)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Armoured cable</td>
<td>OCTEXB3A/4P</td>
<td>16.8 - 23.9mm (0.66-0.94in)</td>
<td>-</td>
</tr>
<tr>
<td>Cable gland with gasket</td>
<td>IECEx/ATEX/Ex</td>
<td>-60°C / +100°C (-76°F / +212°F)</td>
<td>Unarmoured cable</td>
<td>OCTEX3/4C</td>
<td>13.0 - 20.2mm (0.51-0.79in)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Armoured cable</td>
<td>OCTEX3A/4C</td>
<td>16.9 - 26.0mm (0.66-1.02in)</td>
<td>11.1 - 19.7mm (0.44 - 0.78in)</td>
</tr>
<tr>
<td></td>
<td>ATEX</td>
<td>-40°C / +100°C (-40°F / +212°F)</td>
<td>Unarmoured cable</td>
<td>OCTEX3/4</td>
<td>14.0 - 17.0mm (0.55-0.67in)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Armoured cable</td>
<td>OCTEX3A/4</td>
<td>18.0 - 23.0mm (0.71-0.91in)</td>
<td>14 - 17mm (0.55 - 0.67in)</td>
</tr>
<tr>
<td>Plug EX 3/4&quot;NPT</td>
<td>IECEx/ATEX/Ex</td>
<td>-100°C (-148°F) / +400°C (752°F)</td>
<td>—</td>
<td>OEXPLUG3/4P</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Conduit sealing fitting</td>
<td>IECEx-ATEX-ES</td>
<td>-60°C / +80°C (-76°F / +176°F)</td>
<td>—</td>
<td>OCTEXP3/4C</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Reduction 3/4&quot; NPT x 1/2&quot; NPT</td>
<td>IECEx/ATEX/Ex</td>
<td>-100°C (-148°F) / +400°C (752°F)</td>
<td>—</td>
<td>OCTEX1/2-3/4P</td>
<td>-</td>
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### MAXIMUS MPX DELUX - CERTIFICATIONS AND MARKINGS

<table>
<thead>
<tr>
<th>Certification</th>
<th>Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEX</td>
<td>(Ex) II 2G Ex db IIC T6 Gb Ta ≤ -40°C to +60°C</td>
</tr>
<tr>
<td>IECEx</td>
<td>Ex db IIC T6 Gb Ta ≤ -40°C to +60°C</td>
</tr>
<tr>
<td>EAC EX</td>
<td>Ex db IIC T6 Gb Ta ≤ -40°C to +60°C</td>
</tr>
<tr>
<td>INMETRO</td>
<td>Ex db IIC T6 Gb Ta ( -40°C \leq T_a \leq +60°C )</td>
</tr>
<tr>
<td>KCs</td>
<td>Ex d IIC T6</td>
</tr>
<tr>
<td>UL listed for USA (only 24Vac)</td>
<td>Class I Zone 1 Ex db IIC T6</td>
</tr>
<tr>
<td>UL listed for Canada (only 24Vac)</td>
<td>Ex db IIC T6 Gb</td>
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</table>
### MAXIMUS MPX DELUX - CONFIGURATION OPTIONS

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Camera</th>
<th>Video Output</th>
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</thead>
<tbody>
<tr>
<td>MPXHD 1</td>
<td>230Vac</td>
<td>V With alarm board W With wiper Z IP H.264/AVC, ONVIF protocol Profile S and Profile Q 00B</td>
</tr>
<tr>
<td>2 24Vac</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 120Vac</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### TECHNICAL DRAWINGS

*The indicated measurements are expressed in millimetres.*

![TECHNICAL DRAWINGS 1](image1)

![TECHNICAL DRAWINGS 2](image2)