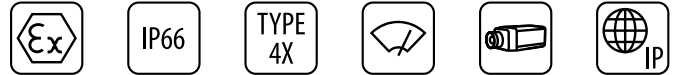


# MAXIMUS MPXHD

EXPLOSION-PROOF FULL HD PTZ CAMERA



MPXHD



## DESCRIPTION

MAXIMUS MPXHD is a Full HD ex-proof PTZ which produces high definition images and is ideal for effective video surveillance and process control in harsh settings where the presence of gases or flammable dust can create a potentially explosive environment (a reality often found in the oil and gas industries or marine and industrial sectors)

The Full HD, 1080p, 60fps camera incorporates an outstanding 30x optical zoom, able to accurately identify the smallest details in a scene, with the ability to transmit images via Ethernet, H.264/AVC and MJPEG compression and ONVIF Profile S compatibility to allow for use with third-party products. The response to the operator's commands is instantaneous, for a fast and accurate detection of a target in all conditions.

The care taken in the design, the choice of high quality components and the strong, the AISI 316L stainless steel construction with IP66 protection guarantees perfect operation and durability in temperatures ranging from -40°C to +60°C.

Thanks to the built-in wiper, images are always perfectly clear; also available is the WASEX washer kit with certified explosion-proof pump, which reduces the need for maintenance.

The ATEX/IECEX/EAC Ex/INMETRO certified versions are available as pre-wired options, with armoured cable and barrier cable gland, simplifying installation and making these PTZ cameras the perfect solution for use in the most demanding video surveillance installations, and in the most extreme conditions.

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



## FEATURES

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: 1.4lx, F1.6 AGC on, 1/30s 50 IRE (Normal mode)
- Colour: 0.35lx, F1.6 AGC on, 1/30s, 50 IRE (High Sensitivity mode)
- B/W: 0.05lx, F1.6 AGC on, 1/30s, 50 IRE (Normal mode)
- B/W: 0.013lx, F1.6 AGC on, 1/30s, 50 IRE (High sensitivity mode)

Day/Night (Auto ICR: automatic removal of IR filter)

Video compression H.264/AVC and MJPEG

Certified ONVIF, Profile S

Up to 4 simultaneous video streams

1 alarm input and 1 relay output

Variable speed: 0.1°-100°/s Pan and Tilt

Position accuracy: 0.02°

¾" NPT threaded hole for use of cable glands or conduit

Extremely easy electrical connections directly into the unit, thanks to the explosion-proof inspection box

Integrated wiper

Total control of the auxiliary functions through the Videotec PTZ ASSISTANT

Operating temperature: from -40°C (-40°F) up to +60°C (140°F)

Options:

- Prewired versions with armoured cable and barrier cable gland (IEC/EN60079-14) (except for UL versions). Option supplied as accessory

## TECHNICAL DATA

### GENERAL

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

### MECHANICAL

One 3/4" NPT hole for cable gland  
Zero backlash  
Horizontal rotation: 360°, continuous rotation  
Vertical rotation: from -90° up to +90°  
Horizontal speed (variable): from 0.1° to 100°/s  
Tilt speed (variable): from 0.1° 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: 10BASE-T/100BASE-T  
Connector: RJ45  
Cable length: 100m max

### VIDEO

Video encoder

- Communication protocol: ONVIF, Profile S
- Device configuration: TCP/IPv4-IPv6, UDP/IPv4-IPv6, HTTP, HTTPS, NTP, DHCP, WSDISCOVERY, QoS, DSCP, IGMP (Multicast), SOAP, DNS, SNMP
- Streaming: RTSP, RTCP, RTP/IPv4, Multicast
- Video compression: H.264/AVC, MJPEG
- 2 independent video streams Full HD or 4 independent video streams depending on the configuration
- Image resolution: from FullHD to 352x240 in 18 steps
- Selectable frame rate from 1 to 60 images per second (fps)
- Web Server
- Directional OSD
- Motion detection

### I/O INTERFACE

I/O alarm board

- Alarm inputs: 1
- Relay outputs: 1 (1A, 30Vac/60Vdc max)

### CAMERAS

#### Day/Night Full HD 30x

Resolution: Full HD 1080p (1920x1080pixel)  
Image Device: 1/2.8 type Exmor™ CMOS sensor  
Effective Pixels: approx. 2.38 Megapixels  
Minimum Illumination, colour (ICR-OFF):

- 1.4lx, 1/30s, 50 IRE (Normal mode)
- 0.35lx, 1/30s, 50 IRE (High sensitivity mode)
- 0.19lx, 1/3s, 50 IRE (Normal mode)
- 0.05lx, 1/3s, 50 IRE (High sensitivity mode)

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

- 0.05lx, 1/30s, 50 IRE (Normal mode)
- 0.013lx, 1/30s, 50 IRE (High sensitivity mode)
- 0.002lx, 1/3s, 30 IRE (High sensitivity mode)

Lens: f=4.3 mm (wide) ~ 129.0 mm (tele), from F1.6 to F4.7  
Zoom: 30x (360x with digital zoom)  
Horizontal Viewing Angle: from 63.7° (wide end) up to 2.3° (tele end)  
Minimum object distance: from 10mm (wide) up to 1200mm (tele)  
Shutter speed: 1/1 to 1/10000 s, 22 steps  
White balance: Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium vapor lamp (Fix, Auto, Outdoor Auto), One-push, Manual  
Gain: Auto, Manual, Gain Limit (from 3dB up to 43dB, steps: 3dB)  
Wide Dynamic Range: On/Off/Visibility enhancer, Light level, Brightness Compensation selection, Compensation level  
Focus System: Auto (Sensitivity: Normal, Low), One-push AF, Manual, Focus compensation with ICR On, Interval AF, Zoom trigger AF  
Picture Effects: E-flip, Mirror image, Color enhancement  
Exposure Control: Auto, EV Compensation, Manual, Priority (Shutter priority, Iris priority), Brightness, Slow AE  
S/N Ratio: more than 50dB  
Wide-D (wide dynamic range): Yes (130dB)  
De-fog: Yes (On/Off)  
Backlight Compensation: Yes

### ENVIRONMENT

For installation indoors and outdoors  
Operating temperature: from -40°C (-40°F) up to +60°C (140°F)  
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, ICE60950-22

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)

## 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 EX (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° for 16 hours in compliance with EN60068-2-2

## BRACKETS AND ADAPTORS

MPXWBA AISI 316L stainless steel wall bracket

MPXCW AISI 316L stainless steel corner adapter module

MPXCOL AISI 316L stainless steel pole adapter module

MPXWBTA 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

WASEX2T4GOR Tank 10l (2.6gal) with integrated manual pump controlled by EAC EX certified solenoid valve, delivery head up to 20m (66ft) max, IN 24Vac/Vdc

WASEX2T4IN Tank 10l (2.6gal) with integrated manual pump controlled by INMETRO certified solenoid valve, delivery head up to 20m (66ft) max, IN 24Vac/Vdc

MBA155A	Explosion-proof communication box in aluminium, 230Vac
MBA255A	Explosion-proof communication box in aluminium, 24Vac
MBA355A	Explosion-proof communication box in aluminium, 120Vac
OCTEX3/4C	Cable gland in nickel-plated brass with gasket EX 3/4" NPT, unarmoured cable IECEX-ATEX-EAC Ex
OCTEXA3/4C	Cable gland in nickel-plated brass with gasket EX 3/4" NPT, armoured cable IECEX-ATEX-EAC Ex
OCTEXB3/4C	Barrier cable gland in nickel-plated brass 3/4" NPT, unarmoured cable IECEX-ATEX-EAC Ex
OCTEXB3/4P	Barrier cable gland in nickel-plated brass EX 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
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))
MPXCABLARM4	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
MPXCABLARM10	Cabling for MPX/MPXHD, 10m (394in) (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
MPXHD1FVW0200A	30.4kg (67lb)	54x31x49cm (21x12x19in)	-

**SELECTION DIAGRAM FOR CABLE GLANDS AND ACCESSORIES 1/2" NPT**

Type	Certification	Operating temperature	Cable	Model Number	Diameter of the external cable	Under armor cable diameter
Barrier cable gland	IECEX/ATEX/EAC Ex	-60°C / +80°C (-76°F / +176°F)	Unarmoured cable	OCTEXB1/2C	3.0 - 8.0mm (0.12-0.31in)	–
		-60°C (-76°F) / +135°C (275°F)	Unarmoured cable	OCTEXB1/2P	12.5 - 14.0mm (0.5-0.55in)	–
			Armoured cable	OCTEXBA1/2P	15.5 - 21.1mm (0.61-0.83in)	–
Cable gland with gasket	IECEX/ATEX/EAC Ex	-60°C / +100°C (-76°F / +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	–	–

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

Type	Certification	Operating temperature	Cable	Model Number	Diameter of the external cable	Under armor cable diameter
Barrier cable gland	IECEX/ATEX/EAC Ex	-60°C / +80°C (-76°F / +176°F)	Unarmoured cable	OCTEXB3/4C	13.0 - 20.2mm (0.51-0.79in)	–
			Armoured cable	OCTEXBA3/4C	16.9 - 26.0mm (0.66-1.02in)	–
		-60°C (-76°F) / +135°C (275°F)	Unarmoured cable	OCTEXB3/4P	17.8 - 20.0mm (0.70-0.79in)	–
			Armoured cable	OCTEXBA3/4P	16.8 - 23.9mm (0.66-0.94in)	–
Cable gland with gasket	IECEX/ATEX/EAC Ex	-60°C / +100°C (-76°F / +212°F)	Unarmoured cable	OCTEX3/4C	13.0 - 20.2mm (0.51-0.79in)	–
			Armoured cable	OCTEXA3/4C	16.9 - 26.0mm (0.66-1.02in)	11.1 - 19.7mm (0.44 - 0.78in)
	ATEX	-40°C / +100°C (-40°F / +212°F)	Unarmoured cable	OCTEX3/4	14.0 - 17.0mm (0.55-0.67in)	–
			Armoured cable	OCTEXA3/4	18.0 - 23.0mm (0.71-0.91in)	14 - 17mm (0.55 - 0.67in)
Plug EX 3/4"NPT	IECEX/ATEX/EAC Ex	-100°C (-148°F) / +400°C (752°F)	–	OEXPLUG3/4P	–	–
Conduit sealing fitting	IECEX-ATEX- c CSA us - EAC Ex	-60°C / +80°C (-76°F / +176°F)	–	OCTEXP3/4C	–	–
Reduction 3/4" NPT x 1/2" NPT	IECEX/ATEX/EAC Ex	-100°C (-148°F) / +400°C (752°F)	–	OCTEX1/2-3/4P	–	–

**MAXIMUS MPXHD - CERTIFICATIONS AND MARKINGS**

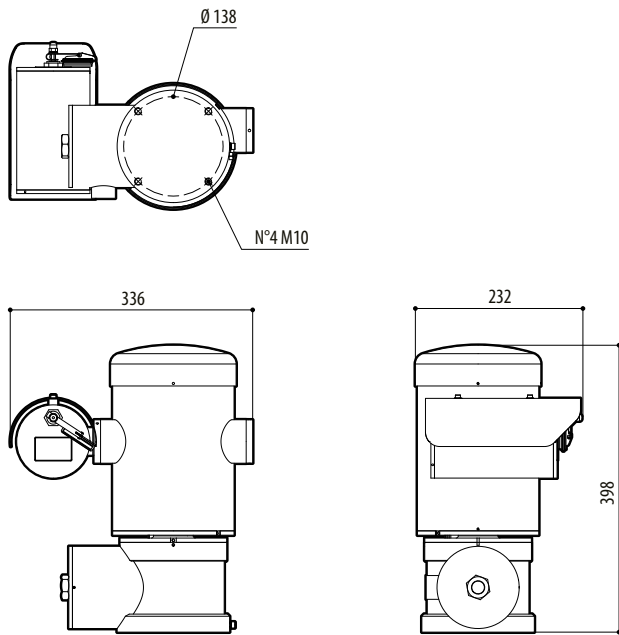
Certification	Marking
ATEX	⊕ II 2G Ex db IIC T6 Gb Ta -40°C to +60°C ⊕ II 2D Ex tb IIIC T85°C Db Ta -40°C to +60°C IP66
IECEX	Ex db IIC T6 Gb Ta -40°C to +60°C Ex tb IIIC T85°C Db Ta -40°C to +60°C IP66
EAC EX	Ex II 2G Ex db IIC T6 Gb Ta -40°C to +60°C Ex II 2D Ex tb IIIC T85°C Db Ta -40°C to +60°C IP66
INMETRO	Ex db IIC T6 Gb -40°C ≤ Ta ≤ +60°C Ex tb IIIC T85°C Db -40°C ≤ Ta ≤ +60°C IP66
KCs	Ex d IIC T6 Ex tb IIIC T85°C -40°C ≤ Ta ≤ +60°C
UL listed for USA (only 24Vac)	Class I Zone 1 AEx db IIC T6 Zone 21 AEx tb IIIC T85°C Class I, Division 2, Group A, B, C and D, T6 Class II, Division 2, Group F and G, T6
UL listed for Canada (only 24Vac)	Ex db IIC T6 Gb Ex tb IIIC T85°C Db Class I, Division 2, Group A, B, C and D, T6 Class II, Division 2, Group F and G, T6

## MAXIMUS MPXHD - CONFIGURATION OPTIONS

	Voltage	Camera				Video Output	
<b>MPXHD</b>	<b>1</b> 230Vac	<b>F</b> Day/Night camera 30X zoom, FullHD	<b>V</b> With alarm board	<b>W</b> With wiper	<b>0</b>	<b>Z</b> IP H.264/AVC, Protocol ONVIF Profile S	<b>00A</b>
	<b>2</b> 24Vac						
	<b>3</b> 120Vac						

## TECHNICAL DRAWINGS

The indicated measurements are expressed in millimetres.



MAXIMUS MPXHD