

# MAXIMUS MPX

EX-PROOF PTZ DAY/NIGHT CAMERA



MAXIMUS MPX

## DESCRIPTION

MAXIMUS MPX is an ex-proof PTZ camera that offers a superior image quality and an exceptional precision even in poorly lit environments. This ex camera 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 area is always monitored, thanks to the speed and detection accuracy of the target.

Made of AISI316L stainless steel, which is excellently resistant to UV rays, salt mist and air pollution.

All models are available in Analogue or IP version.

The flexible operator control of pan/tilt/zoom functions allows the video transmission over the local area network (LAN) or over the Internet with the H.264/AVC compression, compatible with ONVIF Profile S.

The Videotec's PTZ ASSISTANT plug-in software supports any VMS with the control of all special functions such as wiper and washer pump.

The WASEX washer kit, with tank and pump controlled by an ex-proof solenoid valve, allows flawless and maintenance-free cleaning of the front glass.

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

## CERTIFICATIONS



## MAIN 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

Day/Night camera:

- True Progressive Scan
- High resolution: up to 550 TV Lines
- Advanced image stabiliser (Stable Zoom Mode)
- Day/Night (Auto ICR: automatic removal of IR filter)

Up to 2 simultaneous video streams (IP-based version)

Variable speed: from 0.1°/s up to 100°/s Pan and Tilt

Position accuracy: 0.02°

3/4" 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 (IP-based version)

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

Options

- IP-based control, H.264/AVC and JPEG, 25fps, Full D1 (compatible with ONVIF protocol, Profile S)
- Prewired versions with cable and barrier cable gland (IEC/EN 60079-14) (except for UL versions). Option supplied as accessory

## TECHNICAL DATA

### GENERAL

AlSi 316L stainless steel construction

Passivated and electropolished external surfaces

Dynamic positioning control system

Functions: Autopan, Preset, Patrol, Tour (maximum 3), Autoflip

Up to 999 units, addressable by means of dip-switches

### MECHANICAL

1 3/4" NPT hole for cable glands

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

Connector (only for the IP versions of the product):

- RJ45, 10BASE-T/100BASE-T

### SERIAL COMMUNICATIONS

Serial communication protocol: AMERICAN DYNAMICS, ERNITEC, PANASONIC, PELCO D, VIDEOTEC MACRO

Maximum number of presets for serial communication protocol

- VIDEOTEC MACRO: 250
- ERNITEC: 250
- PANASONIC: 250
- PELCO D: 99
- AMERICAN DYNAMICS: 95

Firmware updating from console in remote mode (PELCO D, VIDEOTEC MACRO)

Configuration through OSM

Fiber optic connector: ST (standard)

Version uncabled or with MPXCABL:

- 2 half-duplex serial RS-485 interfaces or full-duplex RS-422

Version with MPXCABLARM:

- 1 serial interface RS-485 half-duplex

## VIDEO

Analog version:

- 1 video output 75 Ohm 1Vpp (PAL/NTSC)
- 16-character string for zone and preset titling

IP version:

Video encoder

- Communication protocol: ONVIF, Profile S
- Device configuration: TCP/IPv4-IPv6, UDP/IPv4-IPv6, HTTP, NTP, DHCP, WS-DISCOVERY, QoS, IGMP (Multicast)
- Streaming: RTSP, RTCP, RTP/IPv4
- Video compression: H.264/AVC, MJPEG
- Independent video streams: 2
- Image resolution: from Full D1 (720x576 for PAL, 720x480 for NTSC) to 352x240 in 18 steps
- Web Server

### I/O INTERFACE

I/O alarm board

Version uncabled or with MPXCABL:

- 5 alarm inputs
- 2 relay outputs (1A 30Vac/60Vdc max)

Version with MPXCABLARM:

- 2 alarm inputs
- 1 relay output (1A 30Vac/60Vdc max)

### 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

ATEX (EN 60079-0: 2012+A11: 2013, EN 60079-1: 2014, EN 60079-31: 2014):

- Ex II 2 G Ex db IIC T6 Gb T<sub>a</sub> -40°C to +60°C
- Ex II 2 D Ex tb IIIC T85°C Db T<sub>a</sub> -40°C to +60°C
- IP66

IECEX (IEC 60079-0: 2011, IEC 60079-1: 2014-06, IEC 60079-31: 2013):

- Ex db IIC T6 Gb T<sub>a</sub> -40°C to +60°C
- Ex tb IIIC T85°C Db T<sub>a</sub> -40°C to +60°C
- IP66

EAC EX:

- Ex II 2G Ex db IIC T6 Gb T<sub>a</sub> -40°C to +60°C, IP66
- Ex II 2D Ex tb IIIC T85°C Db T<sub>a</sub> -40°C to +60°C, IP66

INMETRO:

- Ex db IIC T6 Gb -40 °C ≤ T<sub>a</sub> ≤ +60 °C
- Ex tb IIIC T85°C Db -40 °C ≤ T<sub>a</sub> ≤ +60 °C
- IP66

cULus Listed, TYPE 4X (only for 24Vac version)

UL listed for USA (only for 24Vac version):

- Class I, Zone 1, AEx d IIC T6
- Zone 21, AEx tb IIIC T85°C
- Class I, Division 2, Groups A, B, C, and D, T6
- Class II, Division 2, Groups E, F and G, T6

UL listed for Canada (only for 24Vac version):

- Ex db IIC T6 Gb
- Ex tb IIIC T85°C Db
- Class I, Division 2, Groups A, B, C, and D, T6
- Class II, Division 2, Groups E, F and G, T6

KCs 16- KA4BO-0311X - 16- KA4BO-0312X

- Ex d IIC T6
- Ex tb IIIC T85°C
- 40 °C ≤ T<sub>a</sub> ≤ +60 °C

Lloyd's Register Marine Type Approval (the 24Vac and 120Vac versions require a filter accessory FM1010)

- Test Specification Number 1:2015 (ENV1, ENV2, ENV3, ENV5)

## 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
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
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
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
OCTEXBA3/4C	Barrier cable gland in nickel-plated brass 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
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
OCTEX1/2-3/4C	Cable glands reduction in nickel-plated brass 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))
OEXPLUG3/4	Plug EX 3/4" NPT IECEX-ATEX-EAC Ex
MPXCABL4	Cabling for MPX/MPXT, 4m (13ft) (unarmoured cable and barrier cable gland): 2 Ethernet cables, 3 power supply wires, 2 coaxial video cables, 15 wires for alarms, relays and telemetry
MPXCABL10	Cabling for MPX/MPXT, 10m (394in) (unarmoured cable and barrier cable gland): 2 Ethernet cables, 3 power supply wires, 2 coaxial video cables, 15 wires for alarms, relay and telemetry
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
MPX1QVW000A	30.4kg (67lb)	54x31x49cm (21x12x19in)	-

ANALOGUE CAMERAS (DAY/NIGHT)		
	Day/Night 36x	
	PAL	NTSC
Optical zoom	36x	
Wide Dynamic Range (ON, OFF, Auto)	✓	
True progressive SCAN	✓	
Digital image stabilisation	✓	
White balance	Auto, ATW, Indoor, Outdoor (Fix/Auto), Sodium Vapor Lamp (Fix/Auto), Manual	
High horizontal resolution	Up to 550 TV Lines	
Day/Night (Auto ICR)	✓	
Image Sensor	1/4" EXView HAD CCD	
Number of effective Pixels	~ 440000 pixel	~ 380000 pixel
Min. Lighting Colour (IR-Cut Filter = OFF) (Interlace Mode)	1.4Lux / 1/50s 0.1 Lux / 1/3s	1.4Lux / 1/60s 0.1 Lux / 1/4s
Min. Lighting B/W (Interlace Mode)	0.01 Lux / 1/3s	0.01 Lux / 1/4s
"Shutter Time" automatic increase to improve the night surveillance	✓	
S/N ratio	More than 50dB	
AE control	Automatic, Shutter priority, Diaphragm priority, Brightness priority and Manual	
Back light compensation	On/Off	
Spherical masking (3D) of Privacy zones with automatic upgrade	✓	
Privacy Zone Masking	On/Off (24 positions)	
Maximum number of masking blocks to be displayed	8	
Resolution of masking blocks	160x120 HxV	
Masking	Up to 15 different masking types: 14 colour types or mosaic	
Focusing system	Auto (Sensitivity: Normal, Low), Trigger PTZ, Manual	
"Smart" lens control	Automatic Lens Reset	
High Zoom and Wide Horizontal Field of View Capability	✓	
Optical zoom	36x, f=3.4 (wide) to 122.4mm (tele) / F1.6 to F4.5	
Digital Zoom	12x (432x with optical zoom)	
Horizontal field of view	57.8 degrees (wide) to 1.7 degrees (tele)	
Minimum object distance	10mm (0.4in) (wide) to 1500mm (59.1in) (tele)	
Shutter speed	1/1 ÷ 1/10000s	

1/2" NPT CABLE GLAND SELECTION GUIDE						
Cable gland type	Certification	Operating temperature	Cable	Cable glands product code	Diameter of the external cable (mm)	Under armor cable diameter (mm)
Barrier	IECEX/ATEX/EAC Ex	-60°C / +80°C (-76°F / +176°F)	Unarmoured cable	OCTEXB1/2C	3 - 8 (0.12 - 0.3in)	—
With gasket	IECEX/ATEX/EAC Ex	-60°C / +100°C (-76°F / +212°F)	Unarmoured cable	OCTEX1/2C	3.2 - 8 (0.13 - 0.3in)	—
			Unarmoured cable	OCTEXS1/2C	6.5 - 11.9 (0.26 - 0.47in)	—
			Armoured cable	OCTEXA1/2C	12.5 - 20.5 (0.49 - 0.8in)	10 - 14.3 (0.4 - 0.56in)

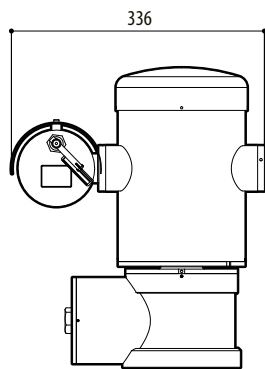
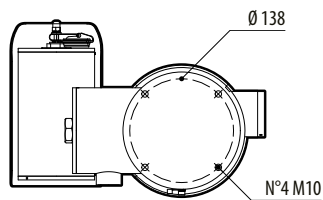
3/4" NPT CABLE GLAND SELECTION GUIDE						
Cable gland type	Certification	Operating temperature	Cable	Cable glands product code	Diameter of the external cable (mm)	Under armor cable diameter (mm)
Barrier	IECEX/ATEX/EAC Ex	-60°C / +80°C (-76°F / +176°F)	Unarmoured cable	OCTEXB3/4C	13 - 20.2 (0.5 - 0.8in)	—
			Armoured cable	OCTEXBA3/4C	16.9 - 26 (0.67 - 1in)	—
With gasket	IECEX/ATEX/EAC Ex	-60°C / +100°C (-76°F / +212°F)	Unarmoured cable	OCTEX3/4C	13 - 20.2 (0.5 - 0.8in)	—
		-60°C / +80°C (-76°F / +176°F)	Armoured cable	OCTEXA3/4C	16.9 - 26 (0.67 - 1in)	11.1 - 19.7 (0.44 - 0.78in)
	ATEX	-40°C / +100°C (-40°F / +212°F)	Unarmoured cable	OCTEX3/4	14 - 17 (0.55 - 0.67in)	—
			Armoured cable	OCTEXA3/4	18 - 23 (0.7 - 0.9in)	14 - 17 (0.55 - 0.67in)

MAXIMUS MPX - CONFIGURATION OPTIONS							
	Voltage	Day/Night camera				Video Output	
<b>MPX</b>	<b>1</b> 230Vac	<b>P</b> Day/Night camera 36x optical zoom lens, PAL	<b>V</b> With alarm board	<b>W</b> With wiper	<b>0</b>	<b>0</b> Analog control	<b>00A</b>
	<b>2</b> 24Vac	<b>N</b> Day/Night camera 36x optical zoom lens, NTSC				<b>Z</b> IP H.264/AVC, Protocol ONVIF Profile S	
	<b>3</b> 120Vac						

*Not all combinations are possible.*

## TECHNICAL DRAWINGS

*The dimensions of the drawings are in millimetres.*



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