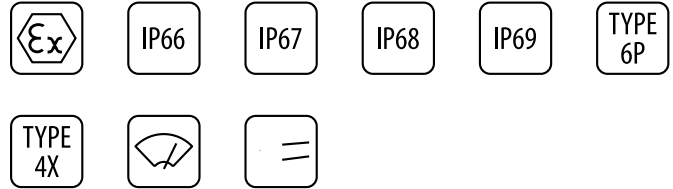


# MAXIMUS MVX

HIGH-SPEC EX-PROOF DAY/NIGHT CAMERA IN A COMPACT DESIGN



MAXIMUS MVX + NXWBS1

## DESCRIPTION

The explosion-protected MAXIMUS MVX is perfect 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 Day/Night high-resolution camera, with sensor 1/4" and motorised 36x zoom for easier setup, ensures superior image quality even in low lighting and difficult environmental conditions.

One striking advantage offered by these cameras is their extremely easy and secure "plug and play" installation, with multipolar wiring. These cameras arrive ready to use, avoiding the complex electrical connections that are typical of this type of device.

The housing is compact yet functional and is made entirely out of AISI316L stainless steel. Its resistance to corrosion is not only guaranteed, but is also enhanced by way of polishing processes.

Another important feature of the camera is the extended certification temperature range of -60°C to 65°C, along with a sophisticated cold start system, which allows it to operate in harsh environments as standard.

An equally noteworthy point is that the IP66/IP67/IP68 ratings guarantee the complete protection against harsh weather and submersion in up to 5 metres of water for 2 hours. Moreover, the IP69 rating allows the device to be cleaned with high pressure water jets.

These cameras come with wipers and an explosion-proof washer kit is also available, allowing for flawless, maintenance-free cleaning of the front glass.

The MAXIMUS MVX range of cameras meets every installation need, providing maximum performance and excellent value for money.

The MAXIMUS MVX 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



## MAIN FEATURES

Certifications for use in Zones 1 and 2, IIC T5 and T6 Group (Gas) and in Zones 21 and 22, IIIC T100°C and T85°C Group (Dust)

Marine Certification: Lloyd's Register Marine Type Approval

AISI 316L stainless steel construction

External shot peened and electro-polished surfaces

Day/Night camera 36x, 1/4":

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

Autofocus

1 alarm input and 1 relay output

4m (13ft) / 10m (33ft) preinstalled armoured multipolar cable with cable gland or, alternatively, with 4m (13ft) / 10m (33ft) cable tail (for installation with conduit, conduit sealing fitting and conduit not included)

Integrated wiper

Power supply: 12-24Vdc/24Vac

IP66/IP67/IP68/IP69

## TECHNICAL DATA

### GENERAL

AISI 316L stainless steel construction  
External shot peened and electro-polished surfaces  
Silicone O-ring seals  
Configuration via OSM

### MECHANICAL

Sunshield  
Integrated wiper  
Unit weight:  

- 8.5kg (18.7lb) (housing with 4m (13ft) multi-polar cable shield)
- 12kg (26.5lb) (housing with 10m multi-polar cable shield)

### CABLE GLANDS

Cable entry: 1 hole, 3/4", NPT  
Cable gland Ex db 3/4"NPT and 4m/10m (13ft/33ft) preinstalled multipolar armored cable or with 4m/10m (13ft/33ft) cable tail (for installation with conduit, conduit sealing fitting and conduit not included)

### HOUSING'S WINDOW

Material: Thermally tempered glass  

- Dimensions: 51x41mm (2x1.6in)
- Thick: 12mm (0.47in)

### ELECTRICAL

Supply voltage/Current consumption (heating switched on, Ton 15°C±3°C (59°F±5°F), Toff 22°C±3°C (72°F±5°F)):

- 24Vac ±10%, 2.2A, 50/60Hz
- 24Vdc ±5%, 2.2A
- 12Vdc ±5%, 3.5A

Armoured cable:

- external diameter = 20.00 ± 0.50mm (0.79±0.20in)
- diameter under armature = 15.20mm (0.60in)
- colour: Black RAL9005

Armoured cable composition:

- 3 x 2.5mm<sup>2</sup>
- 7 x 0.34mm<sup>2</sup>
- 1 x coax 75ohm RG179

Cable tail composition:

- 3 x 2.5mm<sup>2</sup>, rated external diameter = 8.7mm (0.34in)
- 7 x 0.34mm<sup>2</sup>, rated external diameter = 6.4mm (0.25in)
- 1 x coax 75ohm RG59, rated external diameter = 4.9mm (0.19in)

### NETWORK

Ethernet connection (only for the IP versions of the product): 10BASE-T/100BASE-T  
Connector: RJ45  
Cable length: 100m max

### SERIAL COMMUNICATIONS

Serial interface  

- RS-485 line, half-duplex
- Cable length: 1200m max
- Addressable units: 255 (configuration via OSM)

Serial communication protocol  

- PANASONIC 850: 9600baud, 19200baud
- PELCO D: 2400baud, 9600baud
- MACRO: 9600baud, 38400baud

### VIDEO

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
- Web Server

### I/O INTERFACE

I/O alarm board  

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

Cable length: 200m (656ft) max  
Version with integrated wiper  

- Remote wiper activation: 1 input, dry contact NO

## CAMERAS

### Day/Night 36x

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 (PAL); ~ 380000 pixel (NTSC)

Minimum Illumination, color (ICR-OFF, Interlace Mode):

- 1.4lx (1/50s), 0.1lx (1/3s), PAL
- 1.4lx (1/60s), 0.01lx (1/4s), NTSC

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

- 0.01lx (1/3s), PAL
- 0.01lx (1/4s), NTSC

"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

Focusing system: Auto (Sensitivity: Normal, Low), Trigger PTZ, Manual

"Smart" lens control: Automatic Lens Reset

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

## ENVIRONMENT

For installation indoors and outdoors

Operating temperature:

- Cold start from -40°C (-40°F) up to +65°C (149°F)
- Running from -50°C (-58°F) up to +65°C (149°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)

IECEX (IEC 60079-0: 2011 Ed.6, IEC 60079-1: 2014 Ed.7, IEC 60079-31: 2013 Ed.2)

INMETRO (ABNT NBR IEC 60079-0:2008 + Errata 1:2011, ABNT NBR IEC 60079-1:2009 + Errata 1:2011, ABNT NBR IEC 60079-31:2011)

EAC Ex (TR CU 012/2011)

ETL listed for USA (UL 60079-0: Ed: 6, UL 60079-1:Ed:7, UL 60079-31: Ed.2), cable tail versions

ETL listed for Canada (C22.2-60079-0:2015, CSA C22.2-60079-1Ed: 3 CSA C22.2-60079-31Ed: 2), cable tail versions

TYPE 6P, TYPE 4X (UL50E)

IP protection degree (EN/IEC60529):

- IP66
- IP67
- IP68 (2 hours, 5m (16ft))
- IP69 (housing only)

Lloyd's Register Marine Type Approval (only if used with the filter accessory FM1010)

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

## 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

MBA1SSA Explosion-proof communication box in aluminium, 230Vac

MBA2SSA Explosion-proof communication box in aluminium, 24Vac

MBA3SSA Explosion-proof communication box in aluminium, 120Vac

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))

FM1010 EMC filter for Marine certification

## BRACKETS AND ADAPTORS

NXWBS1 AISI 316L stainless steel wall bracket with joint

MHXWFWCA AISI316L stainless steel ball joint

NXFWBT AISI 316L stainless steel parapet mounting bracket

NXCOW AISI 316L stainless steel pole adapter module

NXCW AISI 316L stainless steel corner adapter module

## PACKAGE

Model Number	Weight	Dimensions (WxHxL)	Master carton
MX2BOWA000A	12.5kg (28lb)	60x30x60cm (24x12x24in)	-

**MAXIMUS MVX RANGE CERTIFICATIONS AND MARKINGS (VERSIONS WITH ARMoured CABLE)**

Certification	Marking	Ambient temperature
ATEX	Ⓜ II 2 G Ex db IIC T5 Gb Ⓜ II 2 D Ex tb IIIC T100°C Db IP66/IP68	-60°C ≤ Ta ≤ +65°C
	Ⓜ II 2 G Ex db IIC T6 Gb Ⓜ II 2 D Ex tb IIIC T85°C Db IP66/IP68	-60°C ≤ Ta ≤ +55°C
IECEX	Ex db IIC T5 Gb Ex tb IIIC T100°C Db IP66/IP68	-60°C ≤ Ta ≤ +65°C
	Ex db IIC T6 Gb Ex tb IIIC T85°C Db IP66/IP68	-60°C ≤ Ta ≤ +55°C
INMETRO	Ex db IIC T5 Gb Ex tb IIIC T100°C Db IP66/IP68	-60°C ≤ Ta ≤ +65°C
	Ex db IIC T6 Gb Ex tb IIIC T85°C Db IP66/IP68	-60°C ≤ Ta ≤ +55°C
EAC Ex	Ex II 2G Ex db IIC T5 Gb Ex II 2D Ex tb IIIC T100°C Db IP66/IP68	-60°C ≤ Ta ≤ +65°C
	Ex II 2G Ex db IIC T6 Gb Ex II 2D Ex tb IIIC T85°C Db IP66/IP68	-60°C ≤ Ta ≤ +55°C

**MAXIMUS MVX RANGE CERTIFICATIONS AND MARKINGS (CABLE TAIL VERSIONS, FOR INSTALLATION WITH CONDUIT)**

Certification	Marking	Ambient temperature
ATEX	Ⓜ II 2 G Ex db IIC T5 Gb Ⓜ II 2 D Ex tb IIIC T100°C Db IP66/IP68	-50°C ≤ Ta ≤ +65°C
	Ⓜ II 2 G Ex db IIC T6 Gb Ⓜ II 2 D Ex tb IIIC T85°C Db IP66/IP68	-50°C ≤ Ta ≤ +55°C
IECEX	Ex db IIC T5 Gb Ex tb IIIC T100°C Db IP66/IP68	-50°C ≤ Ta ≤ +65°C
	Ex db IIC T6 Gb Ex tb IIIC T85°C Db IP66/IP68	-50°C ≤ Ta ≤ +55°C
INMETRO	Ex db IIC T5 Gb Ex tb IIIC T100°C Db IP66/IP68	-50°C ≤ Ta ≤ +65°C
	Ex db IIC T6 Gb Ex tb IIIC T85°C Db IP66/IP68	-50°C ≤ Ta ≤ +55°C
EAC Ex	Ex II 2G Ex db IIC T5 Gb Ex II 2D Ex tb IIIC T100°C Db IP66/IP68	-50°C ≤ Ta ≤ +65°C
	Ex II 2G Ex db IIC T6 Gb Ex II 2D Ex tb IIIC T85°C Db IP66/IP68	-50°C ≤ Ta ≤ +55°C
Hazardous Location America	Class I Zone 1 AEx db IIC T5 Gb Class I Div 2 Group A,B,C&D T5 Zone 21 AEx tb IIIC T100°C Db Class II Div 2 Group E,F&G T100°C	-50°C ≤ Ta ≤ +65°C
	Class I Zone 1 AEx db IIC T6 Gb Class I Div 2 Group A,B,C&D T6 Zone 21 AEx tb IIIC T85°C Db Class II Div 2 Group E,F&G T85°C	-50°C ≤ Ta ≤ +55°C
Hazardous Location Canada	Ex db IIC T5 Gb Class I Div 2 Group A,B,C,D T5 Ex tb IIIC T100°C Db Class II Div 2 Group E, F and G T100°C	-50°C ≤ Ta ≤ +65°C
	Ex db IIC T6 Gb Class I Div 2 Group A,B,C,D T6 Ex tb IIIC T85°C Db Class II Div 2 Group E, F and G T85°C	-50°C ≤ Ta ≤ +55°C

## MAXIMUS MVX CONFIGURATION OPTIONS WITH CABLE GLAND AND SHIELDED CABLE

	Voltage	Camera		Connections	Video output	Models	
<b>MVX</b>	<b>2</b> 12-24Vdc/ 24Vac	<b>P0</b> Day/Night camera 36x optical zoom lens, PAL	<b>W</b> With wiper	<b>A</b> Cable gland Ex d 3/4" NPT and 4m (13ft) armored cable	<b>0</b> Analog control	<b>00</b> T5 -60°C/+65°C	<b>A</b>
		<b>N0</b> Day/Night camera 36x optical zoom lens, NTSC		<b>B</b> Cable gland Ex d 3/4" NPT and 10m (33ft) armored cable		<b>02</b> T6 -60°C/+55°C	

## MAXIMUS MVX CONFIGURATION OPTIONS WITH CABLE TAIL (FOR INSTALLATION WITH CONDUIT, CONDUIT SEALING FITTING AND CONDUIT NOT INCLUDED)

	Voltage	Camera		Connections	Video output	Models	
<b>MVX</b>	<b>2</b> 12-24Vdc/ 24Vac	<b>P0</b> Day/Night camera 36x optical zoom lens, PAL	<b>W</b> With wiper	<b>F</b> 4m (13ft) cable tail	<b>0</b> Analog control	<b>01</b> T5 -50°C/+65°C	<b>A</b>
		<b>N0</b> Day/Night camera 36x optical zoom lens, NTSC		<b>G</b> 10m (33ft) cable tail		<b>03</b> T6 -50°C/+55°C	

## TECHNICAL DRAWINGS

The measurements indicated are expressed in millimetres.

