

# MAXIMUS MHX

## STAINLESS STEEL EX-PROOF CAMERA

TYPE  
4X

IP66  
IP67

INTEGRATED CAM

WIPER

### FEATURES

Made of AISI 316L electropolished stainless steel  
Integrated Day/Night camera 10x, 1/3"  
2 3/4" NPT threaded holes for use of cable glands or conduit  
Integrated telemetry receiver for version with wiper  
Sunshield and heater included  
IP66/IP67

### OPTIONS:

Housing without camera  
Wiper

### DESCRIPTION

These explosion-proof cameras of MAXIMUS series have been certified and designed to meet the strictest standards regarding installation in potentially explosive environments, given the presence of gas and flammable dusts. The MAXIMUS range ensures excellent performance for monitoring critical processes in areas with risk of explosion, such as refineries, gas pipelines, oil tankers, offshore platforms, industrial processes, chemical industries, etc. Equipped with heating, the housing has the same installation and operating temperatures, comprised between -40° C and + 60° (-40°F / +140°F). In the version with wiper, MHX is equipped with an integrated telemetry receiver that allows, through the RS485 serial interface, to receive data from the remote control for the activation of the wiper / washer and for switching an eventual external illuminator (or controlled from the Day \ Night camera switch). The wiring is made easier thanks to the removable connectors on the circuit board. The control board, with removable connectors, is also equipped with an input for the wiper activation through a dry contact. The housing can eventually be controlled by VMS through a video encoder with RS485 serial port.



MHX



MHX



MHX + MHXWBS



**TECHNICAL DATA****GENERAL**

AISI 316L stainless steel construction  
 Passivated and electropolished external surfaces  
 Silicone O-ring seals

**MECHANICAL**

2 3/4" NPT holes for cable entry  
 Sunshield  
 Unit weight: 16.5kg (36lb)

**HOUSING'S WINDOW**

- Material: Tempered glass

Dimensions:

- Diameter: 75mm (3.0in)
- Thick: 12mm

**ELECTRICAL**

Power supply/Current consumption:

- 230Vac, 0.34A, 50/60Hz
- 120Vac, 0.5A, 50/60Hz
- 24Vac, 2.2A, 50/60Hz

Power absorbed by heating (Ton 10°C±4°C (50°F±7°F), Toff 22°C±3°C (77°F±5°F)):

- 230Vac: 60W max
- 120Vac: 40W max
- 24Vac: 30W max

**COMMUNICATIONS**

Serial interface: 1 RS-485 line, half-duplex  
 Addressable units: Up to 31, via dip-switch

**PROTOCOLS**

PELCO D: 2400baud, 9600baud  
 VIDEOTEC MACRO: 9600baud, 38400baud  
 PELCO is registered trademark.

*The product may be interfaced with devices not manufactured by VIDEOTEC. It is possible that the interface protocols have changed or are in a different configuration from earlier tested units by VIDEOTEC. VIDEOTEC recommends a test prior to installation. VIDEOTEC will not be liable for any installation costs or lost revenues in the event a compatibility problem will occur.*

**I/O INTERFACE**

Version with wiper

- Remote wiper activation: 1 input, dry contact NO
- Day/Night camera status: 1 input
- Wash system activation relay: 1 output, 60Vdc max or 30Vac max, 1A
- Illuminator activation relay: 1 output, 60Vdc max or 30Vac max, 1A

**CAMERA**

Installable cameras in versions without it:

- Power consumption (assembly, camera and lens): 13W max
- Cameras dimensions/Lenses that can be installed (WxHxL): 80x82x245mm (3.1x3.2x9.6in) max
- Minimum distance between camera and housing's window: 10mm (0.4in)

**ENVIRONMENT**

Indoor/Outdoor

Operating temperature/Installation temperature: from -40°C (-40°F) a +60°C (140°F)

Operating temperature/Installation temperature (MHX2-AU, in 24Vac and with pre-installed camera): from -40°C (-40°F) a +54°C (129°F)

**CERTIFICATIONS**

ATEX (EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009):

- Ex II 2 G Ex d IIB T6 Gb Ta -40°C to +60°C or
- Ex II 2 G Ex d IIC T6 Gb Ta -20°C to +60°C or Ta -40°C to +60°C and/or
- Ex II 2 D Ex tb IIIC T85°C Db Ta -40°C to +60°C

IECEX (IEC 60079-0: 2011 Ed.6, IEC 60079-1: 2007-04 Ed.6, IEC 60079-31: 2008 Ed.1):

- Ex d IIB T6 Gb Ta -40°C to +60°C or
- Ex d IIC T6 Gb Ta -20°C to +60°C or Ta -40°C to +60°C and/or
- Ex tb IIIC T85°C Db Ta -40°C to +60°C
- IP66/IP67 (EN60529:1991/A1 2001)

INMETRO (ABNT NBR IEC 60079-0:2008 + Errata 1:2011, ABNT NBR IEC 60079-1:2009 + Errata 1:2011, ABNT NBR IEC60079-31:2011):

- Ex d IIB T6 Gb -40 °C à/to +60 °C ou/or
- Ex d IIC T6 Gb -20°C à/to +60°C e/ou and/or -40°C/+60°C
- Ex tb IIIC T85°C Db -40 °C à/to +60 °C
- IP66/IP67

cULus Listed, TYPE 4X (only MHX2...A-U versions, in 24Vac and with pre-installed camera)

UL listed for USA (only MHX2...A-U versions, in 24Vac and with pre-installed camera):

- Class I, Zone 1, AEx d IIC T6
- Zone 21, AEx tb IIIC T85°C

UL listed for Canada (MHX2/A-U, only MHX2...A-U versions, in 24Vac and with pre-installed camera):

- Ex d IIC T6 Gb
- Class II, Groups E, F and G

EAC EX:

- Ex d IIC T6 Gb
- Ex tb IIIC T85 Db

**ACCESSORIES**

WASEX2T4AT	Tank 10l with integrated manual pump controlled by ATEX certified solenoid valve, delivery head up to 20m (66ft) max, IN 24Vac/Vdc
WASEX2T4GOR	Tank 10l with integrated manual pump controlled by EAC certified solenoid valve, delivery head up to 20m (66ft) max, IN 24Vac/Vdc
WASEX2T4IN	Tank 10l with integrated manual pump controlled by INMETRO certified solenoid valve, delivery head up to 20m (66ft) max, IN 24Vac/Vdc
OCTEX3/4C	Cable gland with gasket EX 3/4" NPT, unarmoured cable IECEX-ATEX-EAC
OCTEXA3/4C	Cable gland with gasket EX 3/4" NPT, armoured cable IECEX-ATEX-EAC
OCTEXB3/4C	Barrier cable gland 3/4" NPT, unarmoured cable IECEX-ATEX-EAC
OCTEXBA3/4C	Barrier cable gland 3/4" NPT, armoured cable IECEX-ATEX-EAC
OCTEX3/4	Cable gland with gasket EX 3/4" NPT, unarmoured cable ATEX
OCTEXA3/4	Cable gland with gasket EX 3/4" NPT, armoured cable ATEX
USB485	USB-RS485 converter
OEXPLUG3/4	Plug EX 3/4" NPT IECEX-ATEX-EAC

**BRACKETS AND ADAPTORS**

MHXWBS	AISI 316L stainless steel wall bracket
MPXCW	AISI 316L stainless steel corner adapter module
MPXCOL	AISI 316L stainless steel pole adapter module
MHXWFWCA	AISI316L stainless steel ball joint
NXFWBT	AISI 316L stainless steel parapet mounting bracket

MAXIMUS MHX - CONFIGURATION OPTIONS						
	Voltage	Certification	Options		Day/Night camera 10x	
<b>MHX</b>	<b>1</b> 230Vac	<b>C</b> IIC -40°C	<b>S</b> Without wiper	<b>0</b> With sunshield	<b>00</b> Without camera	<b>A</b> ATEX / IECEx / INMETRO
	<b>2</b> 24Vac		<b>W</b> With wiper		<b>B0</b> Day/Night camera 10x optical zoom lens, PAL	<b>A-U</b> UL Listed for USA and CANADA <sup>1</sup>
	<b>3</b> 120Vac				<b>K0</b> Day/Night camera 10x optical zoom lens, NTSC	

<sup>1</sup> MHX2...A-U, only versions in 24Vac and with pre-installed camera. Operating temperature -40°C / + 54°C (-40°F / 122°F)

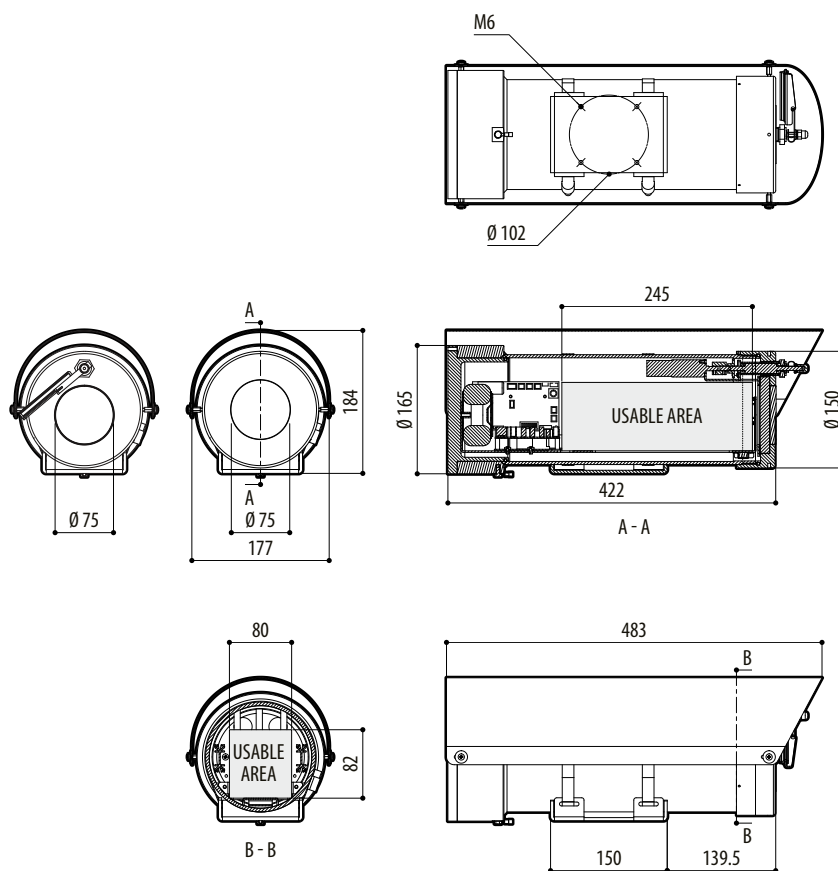
ANALOG CAMERAS (DAY/NIGHT)		
	Day/Night 10x High sensitivity	
	PAL	NTSC
Optical zoom	10x	
White balance	Auto, ATW, Indoor, Outdoor	
High horizontal resolution	Up to 530 TV Lines	
Day/Night (Auto ICR)	✓	
Image Sensor	1/3" Super HAD CCD II	
Number of effective Pixels	~ 440000 pixel	~ 380000 pixel
Min. Color illumination (IR-Cut Filter = OFF)	0.25Lux / 1/50s 0.015 Lux / 1/3s	0.25lux / 1/60s 0.015 Lux / 1/4s
Min. B/W illumination	0.0004 Lux / 1/3s	0.0004 Lux / 1/4s
"Shutter Time" automatic increase to improve the night surveillance	✓	
S/N ratio	Greater than 50dB	
AE control	Automatic, Shutter priority, Diaphragm priority, Brightness priority and Manual	
Back light compensation	On/Off	
"Smart" lens control	Automatic Lens Reset	
Optical zoom	10x, f=5.1 (wide) to 51mm (tele) / F1.8 to F2.1	
Digital Zoom	12x (120x with optical zoom)	
Angle of view (A)	52 degrees (wide) to 5.4 degrees (tele)	
Minimum object distance	150mm (5.9in) (wide) to 800mm (31.5in) (tele)	
Electronic Iris Speed	1/1 ÷ 1/10000s	

3/4" NPT CABLE GLAND SELECTION LAYOUT							
Zone, Gas	Cable gland type	Certification	Operating temperature	Cable	Cable glands part code	Diameter of the external cable	Under armor cable diameter
IIC, Zone 1 or Zone 2 IIB or IIA, Zone 1	Barrier	IECEX/ATEX/EAC	From -60°C (140°F) a +80°C (+176°F)	Not armored	OCTEXB3/4C	From 13mm (0.5in) a 20.2mm (0.8in)	—
				Armored	OCTEXBA3/4C	From 16.9mm (0.7in) a 26mm (1in)	—
IIB or IIA, Zone 2	With gasket	IECEX/ATEX/EAC	From -60°C (140°F) a +100°C (212°F)	Not armored	OCTEX3/4C	From 13mm (0.5in) a 20.2mm (0.8in)	—
				Armored	OCTEXA3/4C	From 16.9mm (0.7in) a 26mm (1in)	From 11.1mm (0.4in) a 19.7mm (0.8in)
		ATEX	From -20°C (-4°F) a +80°C (+176°F)	Not armored	OCTEX3/4	From 14mm (0.6in) a 17mm (0.7in)	—
				Armored	OCTEXA3/4	From 18mm (0.7in) thick glass a 23mm (0.9in)	From 14mm (0.6in) a 17mm (0.7in)

For a correct installation of the MHX/MHXT housing, cable entries and field wiring must be suitable for an operating temperature of at least +30°C above ambient.

**TECHNICAL DRAWINGS**

Sizes in millimeters.



MAXIMUS MHX