

# MAXIMUS MHX

## EX-PROOF HOUSING



### MAIN FEATURES

Certifications Ex d for use in Zone 1 and 2, Group IIC (Gas), and in Zone Ex tb 21 and 22 (Dust)

Made of AISI 316L electropolished stainless steel

2 3/4" NPT threaded holes for use of cable glands or conduit

Integrated telemetry receiver for version with wiper

Sunshield and heater included

Power supply: 230Vac, 24Vac or 120Vac

Environment temperature: -40°C / +60°C (-40°F / +140°F)

### OPTIONS:

Wiper

### DESCRIPTION

These explosion-proof housings of MAXIMUS range 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.

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 + MHXWBS1



**TECHNICAL DATA****GENERAL**

ANSI 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 WINDOWS**

- Material: Tempered glass

Dimensions:

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

**ELECTRICAL**

Supply voltage/Current consumption:

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

Heater (Ton 15°C±4°C (59°F±7°F), Toff 22°C±3°C (72°F±5°F))

**COMMUNICATIONS**

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

**PROTOCOLS**

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

*The product may be interfaced with devices not manufactured by VIDEOTECH. It is possible that the interface protocols have changed or are in a different configuration from earlier tested units by VIDEOTECH. VIDEOTECH recommends a test prior to installation. VIDEOTECH 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**

Compatible cameras:

- 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...A-U, in 24Vac and with pre-installed camera by Videotec): from -40°C (-40°F) a +54°C (129°F)  
 Relative Humidity 10-95% (no condensation)

**CERTIFICATIONS**

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

- Ex II 2 G Ex d IIC T6 Gb Ta -40°C to +60°C
- 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 IIC T6 Gb Ta -40°C to +60°C
- 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 IIC T6 Gb -40°C à/to +60°C
- Ex tb IIIC T85°C Db -40°C à/to +60°C
- IP66/IP67

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

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

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

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

- Class I, Zone 1, Ex d IIC T6 Gb
- Class II, Groups E, F and G

EAC EX:

- Ex II 2G Ex d IIC T6 Gb, Ta -40°C/+60°C
- Ex II 2D Ex tb IIIC T85°C Db Ta -40°C/+60°C, IP66/IP67

KCs 16- KABO-0172X - 16- KABO-0171X

- Ex d IIC T6
- Ex tb IIIC T85°C

**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 EX 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 Ex
OCTEXA3/4C	Cable gland with gasket EX 3/4" NPT, armoured cable IECEX-ATEX-EAC Ex
OCTEXB3/4C	Barrier cable gland 3/4" NPT, unarmoured cable IECEX-ATEX-EAC Ex
OCTEXBA3/4C	Barrier cable gland 3/4" NPT, armoured cable IECEX-ATEX-EAC Ex
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
OCTEXB1/2C	Barrier cable gland EX 1/2" NPT unarmoured cable ATEX-IECEX-EAC Ex
OCTEX1/2C	Cable gland in nickel-plated brass EX 1/2" NPT, unarmoured cable IECEX-ATEX-EAC Ex, with gasket from 3 to 8mm (0.12 to 0.31in)
OCTEXS1/2C	Cable gland in nickel-plated brass EX 1/2" NPT, unarmoured cable IECEX-ATEX-EAC Ex, with gasket from 7.5 to 11.9mm (3 to 4.7in)
OCTEX1/2-3/4C	Cable glands reduction in nickel-plated brass 3/4" - 1/2" NPT IECEX-ATEX-EAC Ex
OEXPLUG3/4	Plug EX 3/4" NPT IECEX-ATEX-EAC Ex
USB485	USB-RS485 converter

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	AISI 316L stainless steel ball joint
NXFWBT	AISI 316L stainless steel parapet mounting bracket

PACKAGE			
Model Number	Weight	Dimensions (WxHxL)	Master carton
MHX	19kg (42lb)	58x34x22cm (23x13.4x8.7in)-	

ELECTRICAL RATING		
Supply voltage	Max peak electrical ratings (comprising the max power dissipation of the end user camera/lens and heater)	Maximum power dissipation for end user fitted camera/lens
230Vac	0.34A, 50/60Hz, 80W	13W
120Vac	0.5A, 50/60Hz, 60W	13W
24Vac	2.2A, 50/60Hz, 53W	13W
12Vdc	2.8A, 34W	13W

AVAILABLE MODELS						
Model Number	230Vac	24Vac	120Vac	Wiper	Sunshield	ATEX / IECEX / EAC EX / INMETRO
MHX1CS000A	✓	–	–	–	✓	✓
MHX1CW000A	✓	–	–	✓	✓	✓
MHX2CS000A	–	✓	–	–	✓	✓
MHX2CW000A	–	✓	–	✓	✓	✓
MHX3CS000A	–	–	✓	–	✓	✓
MHX3CW000A	–	–	✓	✓	✓	✓

MAXIMUS MHX CERTIFICATIONS AND MARKINGS		
Certification	Marking	Product Nr. Ending
ATEX	Ex II 2 G Ex d IICT6 Gb Ta -40°C to +60°C, Ex II 2 D Ex tb IIIC T85°C Db Ta -40°C to +60°C	...A
IECEX	Ex d IICT6 Gb Ta -40°C to +60°C, Ex tb IIIC T85°C Db Ta -40°C to +60°C	...A
EAC Ex	Ex II 2 G Ex d IICT6 Gb, Ta -40°C/+60°C, Ex II 2D Ex tb IIIC T85°C Db Ta -40°C/+60°C, IP66/IP67	...A
INMETRO	Ex d IICT6 Gb -40°C à/to +60°C, Ex tb IIIC T85°C Db -40°C à/to +60°C	...A
UL listed for USA (only 24Vac)	Class I, Zone 1, AEx d IICT6, Zone 21, AEx tb IIIC T85°C	...A-U <sup>1</sup>
UL listed for Canada (only 24Vac)	Class I, Zone 1, Ex d IICT6 Gb, Class II, Groups E, F and G	...A-U <sup>1</sup>

<sup>1</sup> UL Certifications only for 24Vac versions and with pre-installed camera by Videotec. Operating temperature -40°C / + 54°C (-40°F / 122°F)

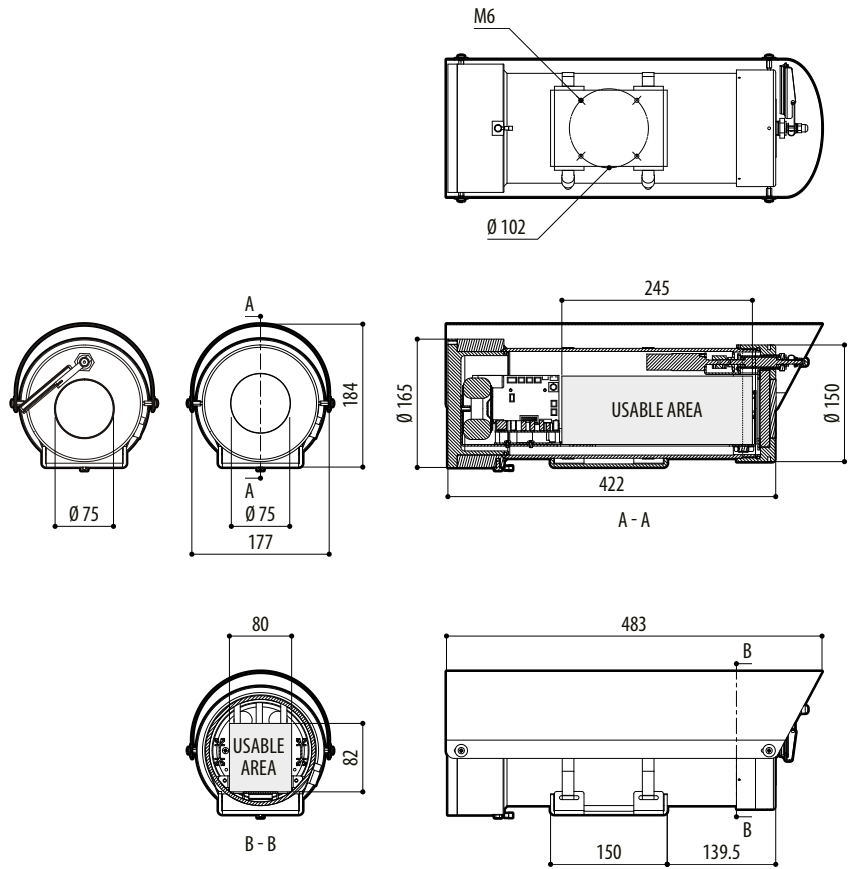
3/4" NPT CABLE GLAND SELECTION GUIDE							
Zone, Gas	Cable gland type	Certification	Operating temperature	Cable	Cable glands part code	Diameter of the external cable (mm)	Under armor cable diameter (mm)
IIC, Zone 1 or Zone 2 IIB or IIA, Zone 1	Barrier	IECEX/ATEX/EAC Ex	-60°C / +80°C (-76°F / +176°F)	Not armoured	OCTEXB3/4C	13 - 20.2	–
				Armored	OCTEXBA3/4C	16.9 - 26	–
IIB or IIA, Zone 2	With gasket	IECEX/ATEX/EAC Ex	-60°C / +100°C (-76°F / +212°F)	Not armoured	OCTEX3/4C	13 - 20.2	–
				Armored	OCTEXA3/4C	16.9 - 26	11.1 - 19.7
		ATEX	-20°C / +80°C (-4°F / +176°F)	Not armoured	OCTEX3/4	14 - 17	–
				Armored	OCTEXA3/4	18 - 23	14 - 17

1/2" NPT CABLE GLAND SELECTION GUIDE						
Zone, Gas	Cable gland type	Certification	Operating temperature	Cable	Cable glands part code	Diameter of the external cable (mm)
IIC, Zone 1 or Zone 2 IIB or IIA, Zone 1	Barrier	IECEX/ATEX/EAC Ex	-60°C / +80°C (-76°F / +176°F)	Not armoured	OCTEXB1/2C	3 - 8
IIB or IIA, Zone 2	With gasket	IECEX/ATEX/EAC Ex	-60°C / +100°C (-76°F / +212°F)	Not armoured	OCTEX1/2C	3 - 8
				Not armoured	OCTEXS1/2C	7.5 - 11.9

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