

MAXIMUS MHX

EX-PROOF HOUSING



MHX + MHXWBS1

DESCRIPTION

These explosion-proof housings for the MAXIMUS range have been certified and designed to meet the strictest standards regarding installation in potentially explosive environments, i.e. where there is the presence of gas and flammable dusts.

The MAXIMUS range ensures excellent performance for monitoring critical processes in areas that carry a 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, of between -40°C and $+60^{\circ}\text{C}$ (-40°F / $+140^{\circ}\text{F}$).

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.

CERTIFICATIONS



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

Ambient temperature: from -40°C (-40°F) up to $+60^{\circ}\text{C}$ (140°F)

Internal usable area (WxHxL): 80x82x245mm (3.1x3.2x9.6in)

Options:

- Wiper

TECHNICAL DATA

GENERAL

AlSi 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

Tempered window glass

- Usable diameter: 75mm (3.0in)
- Thick: 12mm (0.47in)

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

CAMERAS

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

For installation indoors and outdoors
Operating temperature/Installation temperature: from -40°C (-40°F) up to +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) up to +54°C (129.2°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 2G Ex db IIC T6 Gb
- Ex II 2D Ex tb IIIC T85°C Db, Ta -40°C to +60°C

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

- Ex db IIC T6 Gb
- Ex tb IIIC T85°C Db Ta -40°C to +60°C

INMETRO (ABNT NBR IEC 60079-0:2013, ABNT NBR IEC 60079-1:2016, ABNT NBR IEC 60079-31:2014):

- Ex db IIC T6 Gb
- Ex tb IIIC T85°C Db Ta -40°C à/to +60°C

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 db 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 versions MHX2...A-U, in 24Vac with pre-installed camera by Videotec):

- 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

EAC EX (TR CU 12/2011):

- Ex II 2G Ex db IIC T6 Gb
- 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 (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
USB485	USB-RS485 converter

For further details about cable glands part numbers, please refer to the relevant table.

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

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

MAXIMUS MHX - CERTIFICATIONS AND MARKINGS		
Certification	Marking	Product Nr. Ending
ATEX	Ex II 2G Ex db IIC T6 Gb Ex II 2D Ex tb IIIC T85°C Db Ta -40°C to +60°C	...A
IECEX	Ex db IIC T6 Gb Ex tb IIIC T85°C Db Ta -40°C to +60°C	...A
EAC Ex	Ex II 2G Ex db IIC T6 Gb Ex II 2D Ex tb IIIC T85°C Db, Ta -40°C to +60°C, IP66/IP67	...A
INMETRO	Ex db IIC T6 Gb Ex tb IIIC T85°C Db Ta -40°C a/to +60°C	...A
KCs	Ex d IIC T6 Ex tb IIIC T85°C	...A
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, Groups A, B, C, and D, T6, Class II, Division 2, Group E, F and G, T6	...A-U ¹
UL listed for Canada (only 24Vac)	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, Group E, F and G, T6	...A-U ¹

¹ UL Certifications only for 24Vac versions and with pre-installed camera by Videotec. Operating temperature -40°C / + 54°C (-40°F / 129.2°F)

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)	–
			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)

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)

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.

AVAILABLE MODELS

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

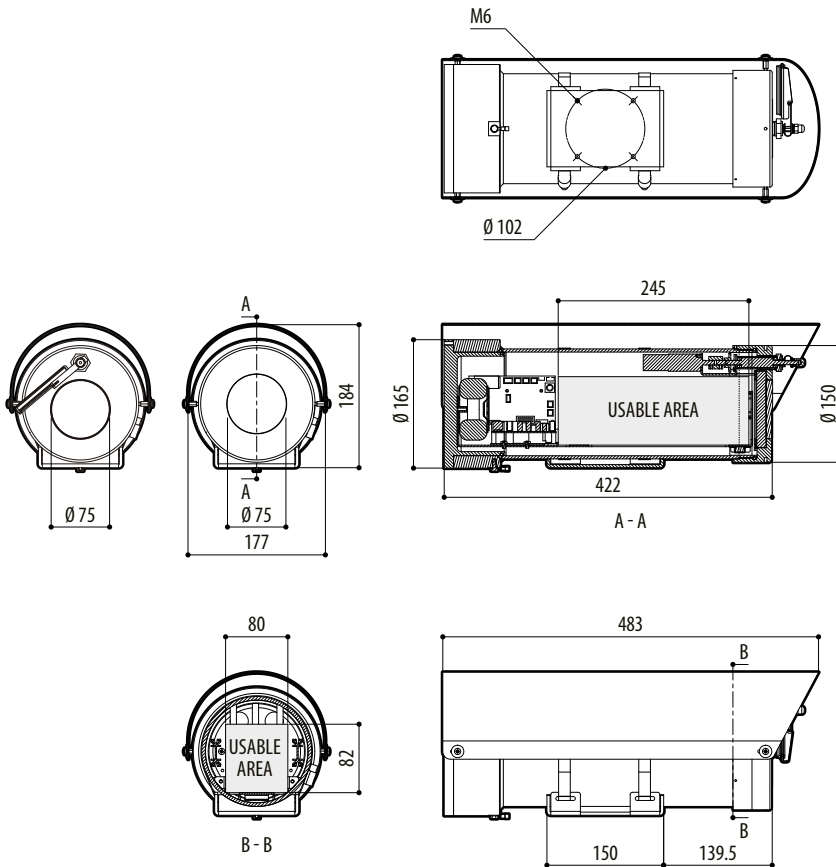
MAXIMUS MHX - CONFIGURATION OPTIONS

	Voltage	Certification	Options		Day/Night camera 10x	
MHX	1 230Vac	C IIC -40°C	S Without wiper	0 With sunshield	00 Without camera	A ATEX / IECEX / INMETRO
	2 24Vac		W With wiper			A-U UL Listed for USA and CANADA ¹
	3 120Vac					

¹ MHX2...A-U, UL Certifications only for 24Vac versions and with pre-installed camera by Videotec. Operating temperature -40°C / + 54°C (-40°F / 129.2°F)

TECHNICAL DRAWINGS

The dimensions of the drawings are in millimetres.



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