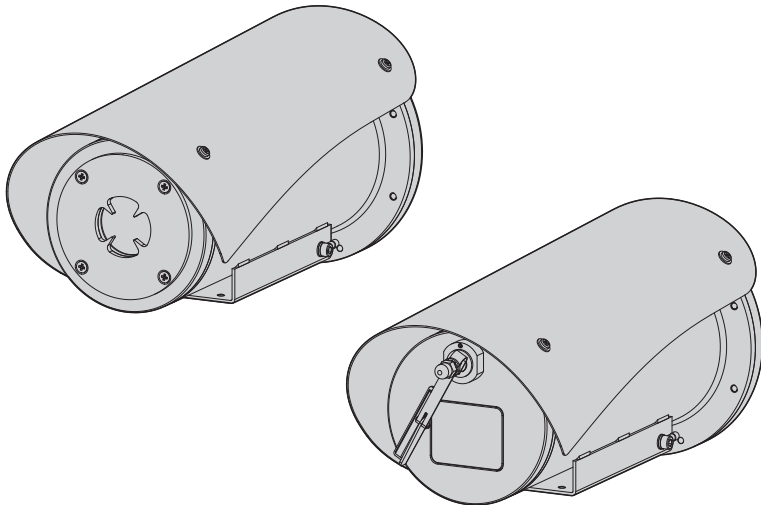




MAXIMUS MVX, MAXIMUS MVXT, MAXIMUS MVXHD

Ex-proof stainless steel housing

MANUAL A



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1 About this manual

Read all the documentation supplied carefully before installing and using this product. Keep the manual in a convenient place for future reference.

1.1 Typographical conventions

⚠ DANGER!
Explosion hazard.
Read carefully to avoid danger of explosion.

⚡ DANGER!
High level hazard.
Risk of electric shock. Disconnect the power supply before proceeding with any operation, unless indicated otherwise.

⚠ CAUTION!
Medium level hazard.
This operation is very important for the system to function properly. Please read the procedure described very carefully and carry it out as instructed.

i INFO
Description of system specifications.
We recommend reading this part carefully in order to understand the subsequent stages.

2 Notes on copyright and information on trademarks

The mentioned names of products or companies are trademarks or registered trademarks.

ONVIF® is a trademark of Onvif, Inc.

3 Safety rules

⚠ CAUTION! The external equipotential connections must be set up through the eyelet on the outside of the product. Do not use as a protective terminal.

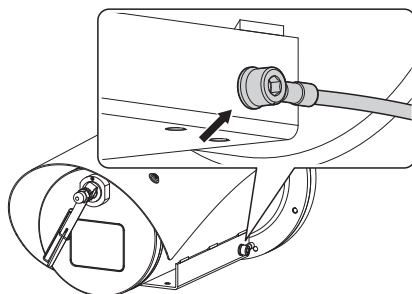


Fig. 1

⚠ CAUTION! The electrical system to which the unit is connected must be equipped with a 10A max automatic bipolar circuit breaker. The minimum distance between the circuit breaker contacts must be 3mm (0.1in). The circuit breaker must be provided with protection against the fault current towards the ground (differential) and the overcurrent (magnetothermal).

⚠ CAUTION! TNV-1 installation type. The installation is type TNV-1, do not connect it to SELV circuits.

⚠ CAUTION! Device installation and maintaining must be performed by specialist technical staff only.

⚠ CAUTION! For continued protection against risk of fire, replace only with same type and rating of fuse. Fuses must be replaced only by service personnel.



CAUTION! This device must be connected to an earth conductor (protective earth). The connection must be made only through the internal connection (J7, 8.4 Connector board description, page 22 e 9.2.1 Connecting the power supply, page 25).

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- To reduce the risk of ignition don't open or disconnect the device when a potentially explosive atmosphere is present. Keep the product tightly closed when in operation.
- Installation of this equipment shall be carried out by suitably trained technical personnel in accordance with the applicable code of practice IEC/EN60079-14.
- The temperature of the surfaces of the device is increased by exposure to direct sunlight. The surface temperature class of the device was determined only with ambient ambient temperature, without taking into consideration direct sunlight.
- Choose an installation surface that is strong enough to sustain the weight of the device, also bearing in mind particular environmental aspects, such as exposure to strong winds.
- Since the user is responsible for choosing the surface to which the unit is to be anchored, we do not supply the fixing devices for attaching the unit firmly to the particular surface. The installer is responsible for choosing fixing devices suitable for the specific purpose on hand. Use methods and materials capable of supporting at least 4 times the weight of the device.
- Make sure the product is to be secured to building before operation.
- The equipment is intended for installation in a Restricted Access Area by specialist technical staff.
- The main insulation must be set up externally to the product by a safety transformer and/or an insulated direct current power supply unit.
- Device shall be supplied by PS2 energy source.
- To feed the product use a safety transformer and/or a voltage isolated power supply with the appropriate characteristics. The characteristics of output power must not exceed the following values. Supply voltage: 26.4Vac or 26.4Vdc max. Output current: 5A max.
- A power disconnect device must be included in the electrical installation, and it must be very quickly recognizable and operated if needed.
- For technical services, consult only and exclusively authorized technicians.
- The manufacturer declines all responsibility for any damage caused by an improper use of the appliances mentioned in this manual. Furthermore, the manufacturer reserves the right to modify its contents without any prior notice. The documentation contained in this manual has been collected and verified with great care. The manufacturer, however, cannot take any liability for its use. The same thing can be said for any person or company involved in the creation and production of this manual.
- Before starting any operation, make sure the power supply is disconnected.
- Be careful not to use cables that seem worn or old.
- Never, under any circumstances, make any changes or connections that are not shown in this handbook. Improper use of the appliance can cause serious hazards, risking the safety of personnel and of the installation.
- Use only original spare parts. Non-original spare parts could cause fire, electrical discharge or other hazards.
- Before proceeding with installation, check the supplied material to make sure it corresponds to the order specification by examining the identification labels (4.2 Product marking label, page 12).

- This device was designed to be permanently secured and connected on a building or on a suitable structure. The device must be permanently secured and connected before any operation.
- Comply with all the national standards during the device installation.
- A power disconnect device must be included in the electrical installation, and it must be very quickly recognizable and operated if needed.
- This is a Class A product. In a domestic environment this product may cause radio interference. In this case the user may be required to take adequate measures.
- Connect the device to a power source corresponding to the indications given on the marking label. Before proceeding with installation make sure that the power line is properly isolated. For devices powered at 24Vac the supply voltage should never exceed the ($\pm 10\%$) limit. For devices powered 12Vdc and 24Vdc the supply voltage should never exceed the ($\pm 5\%$) limit.
- In the case of a 24Vac power supply, you must provide for adequate separation from the AC power supply line using double or reinforced insulation between the main power supply line and the secondary circuit.
- To comply with the main supply voltage dips and short interruption requirements, use a suitable Uninterruptible Power Supply (UPS) to power the unit.
- Make all connections, installation and maintenance work in a non-explosive atmosphere.
- Installation category (also called Overvoltage Category) specifies the level of mains voltage surges that the equipment will be subjected to. The category depends upon the location of the equipment, and on any surge voltage protection provided. Equipment in an industrial environment, directly connected to major feeders/short branch circuits, is subjected to Installation Category III. If this is the case, a reduction to Installation Category II is required. This can be achieved by use of an insulating transformer with an earthed screen between primary and secondary windings, or by fitting UL listed Surge Protective Devices (SPDs) from live to neutral and from neutral to earth. The SPD devices shall be designed for repeated limiting of transient voltage surges and the following rated operation conditions: Type 2 (SPDs permanently connected to the power network and intended for installation on the load side of the service equipment); Nominal Discharge Current (I_n) 20kA min. For example: FERRAZ SHAWMUT, STT2240SPG-CN, STT2BL240SPG-CN rated 120Vac/240Vac, ($I_n=20kA$). Maximum distance between installation and reduction is 5m.
- National deviations for Norway and Sweden: Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing (and to a cable distribution system using coaxial cable) may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN60728-11). In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5MHz. The insulation shall withstand a dielectric strength of 1,5kV r.m.s., 50Hz or 60Hz, for 1 min.
- Utstyr som er kopleet til beskyttelsesjord via nettplugg og/eller via annet jordtilkopleet utstyr - og er tilkopleet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel-TV nettet.

3.1 ATEX-IECEx certificate details

3.1.1 Temperature

The relation between ambient temperature range, gas group and Ex code is as follows:

MARKING DETAILS		
Ambient temperature	ATEX marking	IECEx marking
$-60^{\circ}\text{C} \leq \text{Ta} \leq +65^{\circ}\text{C}$	⊕ II 2 G Ex db IIC T5 Gb	Ex db IIC T5 Gb
$-50^{\circ}\text{C} \leq \text{Ta} \leq +65^{\circ}\text{C}$	⊕ II 2 D Ex tb IIIC T100°C Db IP66/IP68	Ex tb IIIC T100°C Db IP66/IP68
$-40^{\circ}\text{C} \leq \text{Ta} \leq +65^{\circ}\text{C}$		
$-60^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$	⊕ II 2 G Ex db IIC T6 Gb	Ex db IIC T6 Gb
$-50^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$	⊕ II 2 D Ex tb IIIC T85°C Db IP66/IP68	Ex tb IIIC T85°C Db IP66/IP68
$-40^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$		

Tab. 1

3.1.2 Characteristics of installable cameras

CHARACTERISTICS OF INSTALLABLE CAMERAS				
	Consumption		Dimensions (WxHxL)	
	With video encoder IP	Without video encoder IP	With video encoder IP	Without video encoder IP
Housing				
MVX	6W	8W	70mm (2.8in)x65mm (2.6in)x120mm (4.7in)	70mm (2.8in)x65mm (2.6in)x140mm (5.5in)
MVXT	6W	8W	70mm (2.8in)x65mm (2.6in)x120mm (4.7in)	70mm (2.8in)x65mm (2.6in)x140mm (5.5in)
MVXHHD	6W	8W	70mm (2.8in)x65mm (2.6in)x100mm (3.9in)	70mm (2.8in)x65mm (2.6in)x140mm (5.5in)

Tab. 2

3.1.3 Installation instructions

All cable connectors/glands shall be ATEX/IECEx certified, as appropriate, in type of explosion protection "db" and/or "tb", rated IP66/IP68, suitable for the conditions of use and correctly installed.


When conduit is used, a suitable ATEX/IECEx certified stopping box shall be used, as appropriate, in type of explosion protection "db" and/or "tb", rated IP66/IP68, suitable for the conditions of use and correctly installed. The stopping box must be fitted within 50mm (1.97in) from the enclosure entry.

Unused cable entries are to be sealed off using closing devices ATEX/IECEx certified, as appropriate, in type of explosion protection "db" and/or "tb", rated IP66/IP68, suitable for the conditions of use and correctly installed.

For ambient temperatures below -10°C ($+14^{\circ}\text{F}$) use field wiring suitable for minimum ambient temperature.

Cables, cable glands and accessories or other connection elements must be used that are suitable to resist a temperature over: $+80^{\circ}\text{C}$

3.1.4 Installation options

 The housing can be installed in any position.

3.1.5 Special conditions for safe use

- The cameras to be installed shall not be electromagnetic or contain lasers, continuous wave sources or ultrasonic energy radiating equipment.
- The cameras to be installed shall not contain cells or batteries.
- The cameras must have basic geometric shapes.
- The space between the installed camera and the inner surface of the housing window must be as follows: 4mm (0.16in)

3.1.6 Additional information

The product have passed the tests for Ingress Protection in accordance with EN/IEC60529: IP66, IP68.

4 Identification

4.1 Product description and type designation

The MAXIMUS MVX series explosion-proof housing has been designed for use with cameras operating in industrial environments in which there may be an explosive atmosphere due to gas, vapours, mists, or air or powder mixtures.

The MAXIMUS MVX housing are made of micro shot peened AISI 316L stainless steel.

The rear flange incorporates the internal slide where the camera must be positioned, it contains also the internal electronics that manages the power supply and the heating devices of the housing.

The cables must feed in through a threaded 3/4" NPT hole drilled into the bottom of the rear cover plate. The connections must be set up in compliance with IEC/EN60079-14.

The housings of the MAXIMUS MVX family have a weatherproof standard of IP66/IP68 and can be installed according to the following temperatures.

T5: from -60°C (-76°F) up to +65°C (149°F) or from -50°C (-58°F) up to +65°C (149°F)

T6: from -60°C (-76°F) up to +55°C (131°F) or from -50°C (-58°F) up to +55°C (131°F)

4.2 Product marking label

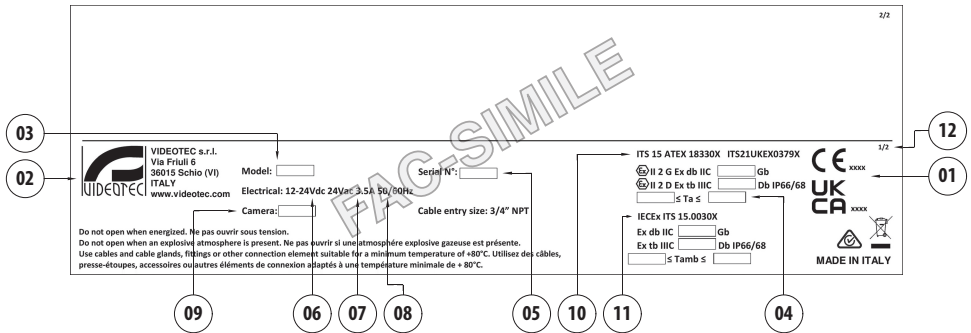


Fig. 2

1. CE mark and number of notified body that carries out production checks.
2. Manufacturer's name and address.
3. Model identification code.
4. Ambient temperature of use referring to model identification code
5. Serial number (the second and the third digits define the year of manufacture)
6. Supply voltage (V)
7. Current consumption (A)
8. Frequency (Hz)
9. Power consumption camera/lens (W).
10. ATEX certification:
 - ATEX certificate number
 - Classification for zone type, protection method, temperature class for which this product may be used in compliance with the ATEX directive

ATEX MARKING		
Ambient temperature	Gas marking	Dust marking
-60°C to +65°C	⊕ II 2 G Ex db IIC T5 Gb	⊕ II 2 D Ex tb IIIC T100°C Db
-50°C to +65°C		
-40°C to +65°C		
-60°C to +55°C	⊕ II 2 G Ex db IIC T6 Gb	⊕ II 2 D Ex tb IIIC T85°C Db
-50°C to +55°C		
-40°C to +55°C		

Tab. 3

11. IECEx certification:

- IECEx certificate number
- Classification for zone type, protection method and temperature class for which this product may be used in compliance with the IECEx standard

IECEx MARKING		
Ambient temperature	Gas marking	Dust marking
-60°C to +65°C	Ex db IIC T5 Gb	Ex tb IIIC T100°C Db
-50°C to +65°C		
-40°C to +65°C		
-60°C to +55°C	Ex db IIC T6 Gb	Ex tb IIIC T85°C Db
-50°C to +55°C		
-40°C to +55°C		

Tab. 4

12. The housing may feature additional labels for the markings of other certifications. The labels will be numbered and detailed data on the marking will be reported in an additional document, which will accompany the housing.

5 Product coding

MAXIMUS MVX - PRODUCT CODING									
	Voltage	Camera	Accessories	Connection	Video output	Model	Release		
MVX	2 12Vdc-24Vdc/24Vac	00 Without camera	S Without accessories	0 Without cable, without cable gland	0 Analog	00 T5 -60°C/+65°C	A	First release	
		** Pre-installed camera	W With wiper	* Connection devices	Z IP H.264	01 T5 -50°C/+65°C			
						02 T6 -60°C/+55°C			
						03 T6 -50°C/+55°C			
						04 T5 -40°C/+65°C			
						05 T6 -40°C/+55°C			

Tab. 5

MAXIMUS MVXT - PRODUCT CODING									
	Voltage	Camera	Accessories	Connection	Video output	Model	Release	Thermal camera frequency	
MVXT	2 12Vdc-24Vdc/24Vac	00 Without camera	S Without accessories	0 Without cable, without cable gland	0 Analog	00 T5 -60°C/+65°C	A	First release	Empty 7.5-8.3Hz
		** Pre-installed camera		* Connection devices	Z IP H.264	01 T5 -50°C/+65°C	B	Second release	H 25-30Hz
						02 T6 -60°C/+55°C			
						03 T6 -50°C/+55°C			
						04 T5 -40°C/+65°C			
						05 T6 -40°C/+55°C			

Tab. 6

MAXIMUS MVXHD - PRODUCT CODING														
	Voltage		Camera		Accessories		Connection		Video output		Model		Release	
MVXHD	2	12Vdc-24Vdc/24V ac	00	Without camera	S	Without accessories	0	Without cable, without cable gland	0	Without video encoder	00	T5 -60°C/+65°C	A	First release
			**	Pre-installed camera	W	With wiper	*	Connection devices	Z	IP H.264	01	T5 -50°C/+65°C	B	Second release
											02	T6 -60°C/+55°C		
											03	T6 -50°C/+55°C		
											04	T5 -40°C/+65°C		
											05	T6 -40°C/+55°C		

Tab. 7

6 Versions

6.1 Tempered glass

The product can be equipped with tempered glass.

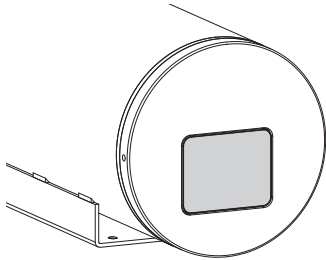


Fig. 3

6.2 Integrated wiper

The product can be equipped with a wiper.

The integrated wiper can be controlled remotely from a keyboard or dry contact.

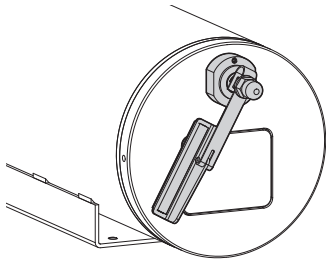


Fig. 4

6.3 Germanium window



When the unit is working the protection grid must always be installed. Failure to follow this instruction may create serious safety hazards for people and for the installation, and will also invalidate the warranty.

The version with germanium window has been developed for applications with thermal cameras.

This version is fitted with a protective AISI 316L stainless steel grid.

Depending on the chosen camera it is possible to install 2 different germanium windows with their relative grids.

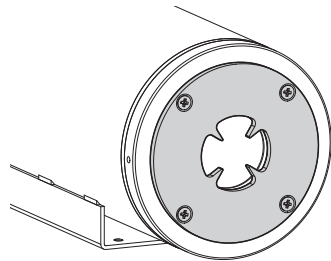


Fig. 5 Small grid.

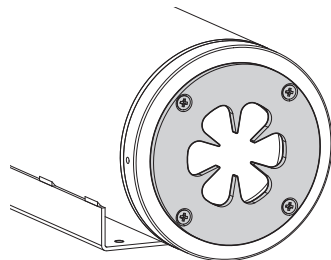


Fig. 6 Big grid.

7 Preparing the product for use



Any change that is not expressly approved by the manufacturer will invalidate both the warranty and certification.

7.1 Safety precautions before use



Make sure that all the equipment are certified for the application and for the environment in which they will be installed.



Before starting any operation, make sure the power supply is disconnected.



A power disconnect device must be included in the electrical installation, and it must be very quickly recognizable and operated if needed.



Before starting any operation, make sure the power supply is disconnected.



Make connections and tests in the laboratory before carrying out installation on site. Use appropriate tools for the purpose.



Before proceeding with any operations, make sure that the mains voltage is correct.



Given the considerable weight of the system, use an appropriate transport and handling system. The staff must carry out the handling of the product in compliance with the common accident prevention standards.

If the device comes into contact with harsh substances, it is the responsibility of the user to take suitable precautions to prevent damage and not compromise the type of protection.

- **Aggressive substances:** Acidic liquids or gases that may attack metals, or solvents that may affect polymeric materials.
- **Suitable precautions:** Regular checks as part of routine inspections or establishing from the material's data sheet that it is resistant to specific chemicals.

It is the responsibility of the end users to make sure that the materials used to build the product are suitable for the intended installation site. If in doubt, contact the manufacturer.

7.2 Unpacking

When the product is delivered, make sure that the package is intact and that there are no signs that it has been dropped or scratched.

If there are obvious signs of damage, contact the supplier immediately.

When returning a faulty product we recommend using the original packaging for shipping.

Keep the packaging in case you need to send the product for repairs.

7.3 Contents

Check the contents to make sure they correspond with the list of materials as below:

- Flameproof housing
- Spacer and screws for mounting the sunshield
- Documentation
- Cable tie
- Silicone sheath
- O-ring replacement part kit
- Instruction manuals
- Sunshield
- Bolts and screws (support assembly)

7.4 Safely disposing of packaging material

The packaging material can all be recycled. The installer technician will be responsible for separating the material for disposal, and in any case for compliance with the legislation in force where the device is to be used.

7.5 Preparatory work before installation



Use appropriate tools for the installation. The particular nature of the site where the device is to be installed may mean special tools are required for installation.



The installer must ensure the earth continuity between the product and the system.



Choose an installation surface that is strong enough to sustain the weight of the device, also bearing in mind particular environmental aspects, such as exposure to strong winds.



Make sure the product is to be secured to building before operation.



CAUTION! Device installation and maintaining must be performed by specialist technical staff only.



For technical services, consult only and exclusively authorized technicians.



The product must be fastened with suitable equipment. The fastening means must guarantee mechanical sealing when a force equal to at least 4 times the weight of the device is applied.



Since the user is responsible for choosing the surface to which the unit is to be anchored, we do not supply the fixing devices for attaching the unit firmly to the particular surface. The installer is responsible for choosing fixing devices suitable for the specific purpose on hand.

It is possible to install the unit with several brackets.

We strongly recommend using only approved brackets and accessories during installation.

7.5.1 Parapet mounting

First of all secure the base of the adapter to the final destination. Use screws that can bear at least 4 times the weight of the unit.

Apply a generous amount of thread locking compound (Loctite 270).

Tighten the screws.

The thread compound must cure for one hour, allow for this period prior to completing the installation.

It's possible to secure the base (01) to the column adapter NXFWBT using 4 countersunk screws (02) provided.

Secure the joint (03) to the base through nuts and washers supplied.

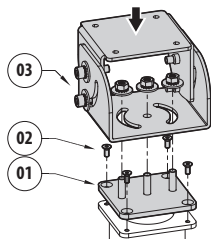


Fig. 7

Fasten the housing at the junction with the screws and washers provided.

Apply a generous amount of thread locking compound (Loctite 270).

Tighten the screws.

Pay attention to the fixing. Tightening torque: from 6Nm up to 8Nm.

The thread compound must cure for one hour, allow for this period prior to completing the installation.

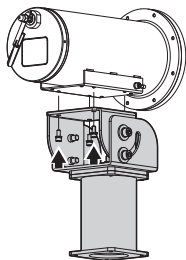


Fig. 8

7.5.2 Fixing with wall mount bracket

The bracket can be fixed to the vertical wall. Use screws and wall fixing devices that can bear at least four times the weight of the unit.

To fix the device to the bracket, use 4 plane washers, 4 stainless steel grower washer, 4 socket head stainless steel screw provided.

Make sure the thread are free of dirt and debris.

Apply a generous amount of thread locking compound (Loctite 270) on the 4 screws.

Tighten the screws.

The thread compound must cure for one hour, allow for this period prior to completing the installation.

Pay attention to the fixing. Tightening torque: from 6Nm up to 8Nm.

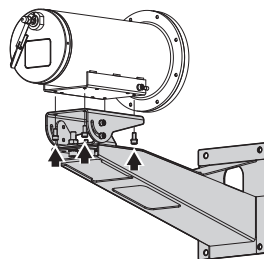


Fig. 9

7.5.3 Fixing the unit to the pole mount adapter or corner mount adapter

To install the product on a pole or at a wall corner, first of all fix the unit to the wall bracket (7.5.2 Fixing with wall mount bracket, page 19).

7.5.3.1 Fixing with pole mount

Fix the wall bracket to the pole mount adapter using 4 washers, 4 stainless steel grower washer and 4 hexagon stainless steel bolts (A4 class 70) M10x30mm.

Make sure the thread are free of dirt and debris.

Apply a generous amount of threadlocker (Loctite 270) on the 4 threaded holes on the pole mount adapter.

Tighten the screws.



Pay attention to the fixing. Tightening torque: 35Nm.

The thread compound must cure for one hour, allow for this period prior to completing the installation.

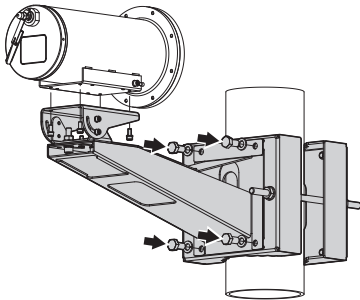


Fig. 10

7.5.3.2 Fixing with corner adapter

Fix the wall bracket to the corner mount adapter using 4 washers, 4 stainless steel grower washers and 4 hexagon stainless steel bolts (A4 class 70) M10x30mm.

Make sure the thread are free of dirt and debris.

Apply a generous amount of threadlocker (Loctite 270) on the 4 threaded holes on the corner module.

Tighten the screws.



Pay attention to the fixing. Tightening torque: 35Nm.

The thread compound must cure for one hour, allow for this period prior to completing the installation.

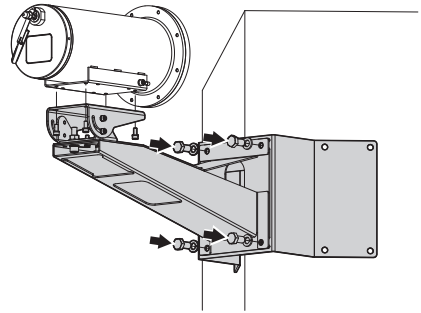





Fig. 11


8 Assembly

 **Make all connections, installation and maintenance work in a non-explosive atmosphere.**

 **Make sure that all the equipment are certified for the application and for the environment in which they will be installed.**

 **CAUTION! The electrical system to which the unit is connected must be equipped with a 10A max automatic bipolar circuit breaker. The minimum distance between the circuit breaker contacts must be 3mm (0.1in). The circuit breaker must be provided with protection against the fault current towards the ground (differential) and the overcurrent (magnetothermal).**

 **Electrical connections must be performed with the power supply disconnected and the circuit-breaker open.**


 **A power disconnect device must be included in the electrical installation, and it must be very quickly recognizable and operated if needed.**


 **Be careful not to use cables that seem worn or old.**

 **CAUTION! Device installation and maintaining must be performed by specialist technical staff only.**

 **Comply with all the national standards during the device installation.**

 **The housing can be installed in any position.**

 **The cameras to be installed shall not contain cells or batteries.**


 **VIDEOTEC strongly recommend to test the device configuration and performance before putting it in the final installation site.**

8.1 Range of use

The unit is designed for use in a fixed location, for surveillance of areas classified as zone 1-21 and zone 2-22 with potentially explosive atmospheres.

The unit has been built and certified in compliance with directive 2014/34/UE and with the international standards IECEx, which define its range of application and minimum safety requirements.

8.2 Housing opening


 **During opening and closure operations of the product, pay attention not to damage the flameproof joint.**

To install the camera open the rear flange of the enclosure.

Take out the screws, remove the washers and take the bottom out of the housing.

Screws properties

- Diameter/Screw pitch: M5x0.8
- Material: A4 Class 70
- Screw head: ISO 4762
- Length: 12mm (0.47in)
- Yield stress (min): 450N/mm²

 **Be very careful when opening the version with built-in wiper. Take the slide out slowly to avoid damaging the connections. Disconnect the connectors before taking the slide out completely.**

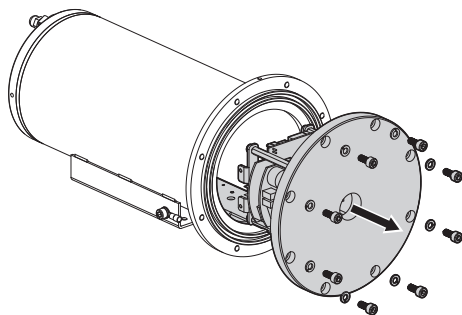


Fig. 12

8.3 Control board description

BOARD DESCRIPTION	
Connector/ Terminal	Function
J1	Power supply line/Video signal (analog camera)
J2	Wiper sensors
J3	Relays and alarm (camera)
J4	Power supply line (blower)
J5	Power supply line (wiper)
J6	Power supply line (camera)
DIP1	Serial line configuration

Tab. 8

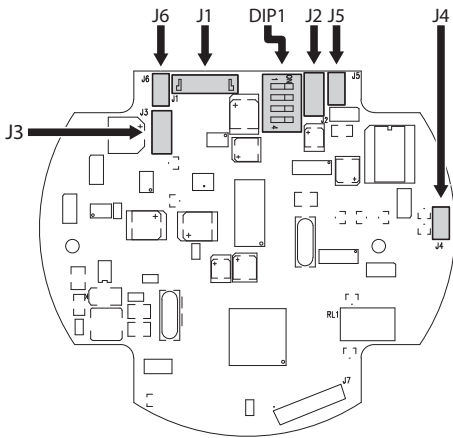


Fig. 13

8.4 Connector board description

BOARD DESCRIPTION	
Connector/ Terminal	Function
J1	Video output (digital)
J5	Video output (camera)
J6	Power supply line (IP video encoder)
J7	Power supply line (housing)
J8	Video output (analogic)
J11	Relay, alarms, serial line, factory default
J12	Signal cables (IP video encoder)
J13	Camera power supply
FUS1	Fuse

Tab. 9

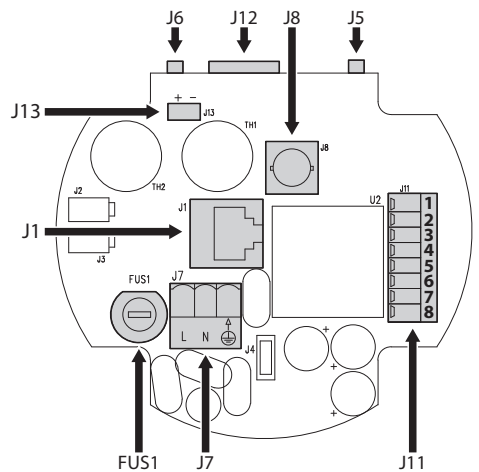


Fig. 14

8.5 How to install the camera

⚠ The cameras to be installed shall not contain cells or batteries.

⚠ For additional information on installable cameras, refer to the relative chapter (3.1.2 Characteristics of installable cameras, page 10).

Mount the camera/lens on the inner slide so that the mounting height allows a perfect view through the window.

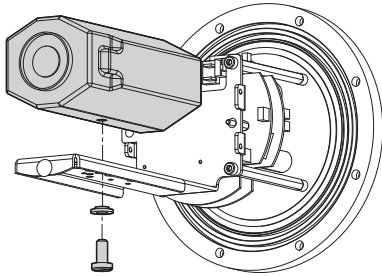


Fig. 15

Minimum installation distance between the camera and the housing glass: 4mm (0.16in) (the distance is the edge of the slide).

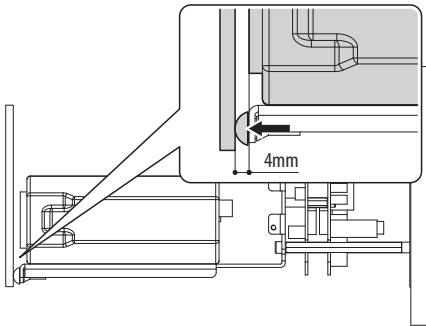


Fig. 16

8.6 Connection of the camera

CONNECTION OF THE CAMERA

Version	Power supply	Video signal	Communication lines
Generic IP version	J13 (connectors board)	Camera connector/ Direct connection to the camera	-
Analog version/ Digital SD version	J1 (control board)	J1 (control board)	J1 (control board)
Digital HD version	J6 (control board)	J12 (connectors board)	J12 (connectors board)

Tab. 10

i The IP version video signal cable is connected directly to the camera.

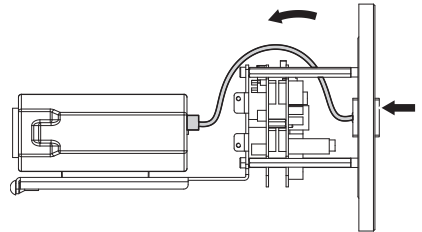





Fig. 17

9 Installation

 **Do not open the device when powered and in explosive atmosphere.**

 **Make all connections, installation and maintenance work in a non-explosive atmosphere.**

 **Make sure that all the equipment are certified for the application and for the environment in which they will be installed.**

 **CAUTION! The electrical system to which the unit is connected must be equipped with a 10A max automatic bipolar circuit breaker. The minimum distance between the circuit breaker contacts must be 3mm (0.1in). The circuit breaker must be provided with protection against the fault current towards the ground (differential) and the overcurrent (magnetothermal).**

 **Electrical connections must be performed with the power supply disconnected and the circuit-breaker open.**

 **A power disconnect device must be included in the electrical installation, and it must be very quickly recognizable and operated if needed.**

 **Be careful not to use cables that seem worn or old.**


 **CAUTION! Device installation and maintaining must be performed by specialist technical staff only.**

 **Comply with all the national standards during the device installation.**

 **The housing can be installed in any position.**

 **All disconnected wires must be electrically isolated.**

 **The cameras to be installed shall not contain cells or batteries.**

 **VIDEOTEC strongly recommend to test the device configuration and performance before putting it in the final installation site.**

9.1 Cable entry

To prevent the spread of flames or explosions from the unit to the conduit system or cable gland to the external environment, use connection in conformity with IEC/EN60079-14.

Non-sheathed single cores shall not be used, unless they are installed inside conduit systems.

All cable glands shall be ATEX/IECEx certified, as appropriate, in type of explosion protection "db" and/or "tb", rated IP66/IP68, suitable for the conditions of use and correctly installed.


It is compulsory to install a resin-treated device between the housing and the safe area (barrier cable gland or stopping box).

When conduit is used, a suitable ATEX/IECEx certified stopping box shall be used, as appropriate, in type of explosion protection "db" and/or "tb", rated IP66/IP68, suitable for the conditions of use and correctly installed. The stopping box must be fitted within 50mm (1.97in) from the enclosure entry.

9.2 Connection of the connector board

9.2.1 Connecting the power supply

 Electrical connections must be performed with the power supply disconnected and the circuit-breaker open.

 When commencing installation make sure that the specifications for the power supply for the installation correspond with those required by the device.

 **CAUTION! TNV-1 installation type. The installation is type TNV-1, do not connect it to SELV circuits.**

 Check that the power supply socket and cable are adequately dimensioned.


 Safety earth connections, use suitable cable sections: 2.5mm² (13AWG).


CONNECTING THE POWER SUPPLY

Colour	Terminals
Power supply 24Vac/24Vdc/12Vdc	
Defined by the installer	~/+
Defined by the installer	~/-
Yellow/Green	⊕

Tab. 11

The power supply cables must be connected to the connector board power supply terminal, being careful when fixing the ground cable (J7, 8.4 Connector board description, page 22).

 Earth cable should be about 10mm longer than the other two, so that it will not be disconnected accidentally if pulled.

 The power supply cable must be covered by the silicone sheath (01) supplied. The silicone sheath must be fastened with the corresponding cable tie (02).

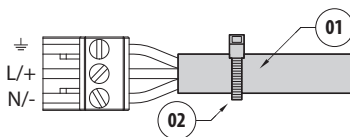


Fig. 18

In relation to the type of power supply, comply with the maximum lengths for the power supply cables set forth in the table.

CABLES SPECIFICATIONS		
Cable section	Supply voltage	Maximum cable length
1mm ² (17AWG)	12Vdc	5m (16ft)
	24Vdc	15m (49.2ft)
	24Vac	30m (98ft)
1.5mm ² (16AWG)	12Vdc	7m (23ft)
	24Vdc	25m (82ft)
	24Vac	45m (147.6ft)
2.5mm ² (13AWG)	12Vdc	15m (49.2ft)
	24Vdc	40m (131ft)
	24Vac	80m (262ft)

Tab. 12

9.2.2 Video cable connection

CAUTION! In order to reduce the risk of fire, only use cables with sections greater than or equal to 0.14mm^2 (26AWG).

We suggest the following coaxial cables:

- RG59
- RG174A/U UL1354

Use of Ethernet cables with the following characteristics is highly recommended:

- STP (shielded)
- Category 5E

9.2.2.1 Video cable connection (analog output signal)

The video cable leading out of the housing must be connected to the analog video output (J8, 8.4 Connector board description, page 22).

9.2.2.2 Video cable connection (IP generic camera)

i Do not connect RS-485 cable and the video cable when using an IP camera.

The Ethernet network cable leading out of the housing must be connected directly to the generic IP camera.

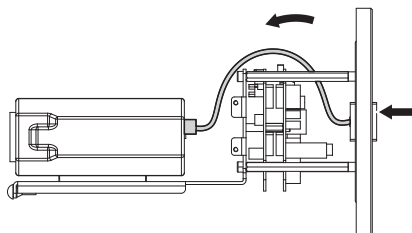


Fig. 19

9.2.2.3 Video cable connection (digital output signal)

i Do not connect RS-485 cable and the video cable when using an IP camera.

The Ethernet network cable leading out of the housing must be connected to the digital video output (J1, 8.4 Connector board description, page 22).

9.2.3 I/O cable connection

CAUTION! TNV-1 installation type. The installation is type TNV-1, do not connect it to SELV circuits.

i Use a shielded multipolar cable. Connect the braiding of the shielded cable to terminal 8 (J11, Tab. 13, page 26).

The output signal cables must be connected to the connector for the relays, alarms, serial line, factory default (J11, 8.4 Connector board description, page 22).

DESCRIPTION OF THE TERMINAL (J11)	
Terminal contacts	Function
1	RS-485 A (+)
2	RS-485 B (-)
3	Relay 1, Terminal A
4	Relay 1, Terminal B
5	Digital input
6	GND
7	Reset
8	Shield

Tab. 13

9.2.3.1 Serial line connection

The product has an RS-485 serial communication line, Half-duplex, Internally terminated (switch 4 of the DIP1 is positioned by default ON).

The setting may need to be changed for analogue camera versions. Position switch 4 of the DIP1 OFF to configure line RS-485 as Not terminated internally (8.3 Control board description, page 22).

Connect the serial line to the relay connector, alarms, serial line, factory default (J11, terminal 1/terminal 2, 8.4 Connector board description, page 22).

9.2.3.2 Relays connection



The relay can be used with the specifications outlined below. Working voltage: up to 30Vac or 60Vdc. Current: 1A max. Use suitable cable sections with the following characteristics: from 0.25mm² (23AWG) up to 1.5mm² (15AWG).

Due to the absence of polarity, both terminals of the same relay can be connected either to alternating or direct current voltages.

The clean contact is NO (normally open).

9.2.3.3 Wiper connection

The wiper can be operated remotely using an NO (normally open) dry contact. Connect the dry contact cables to the connector of relay, alarms, serial line, factory default (J11, terminal 5/terminal 6, 8.4 Connector board description, page 22).

For the version with built-in wiper, connect the wiring to the sensor connectors and the wiper power supply line connectors (J2, J5, 8.3 Control board description, page 22).

9.3 Ground connection



CAUTION! The external equipotential connections must be set up through the eyelet on the outside of the product. Do not use as a protective terminal.

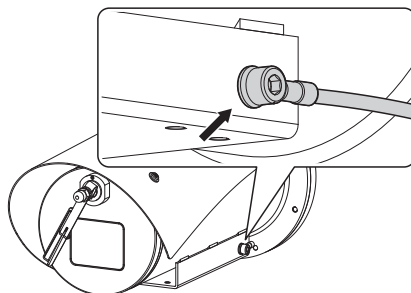


Fig. 20

The unit must be connected with an equipotential bonding to the earth with an external cable having the following minimum section: 4mm² (11AWG).

Connect the earth equipotential bonding cable with the provided eyelet. Suitable for cables: from 4mm² up to 6mm².

Fasten the eyelet using the screw (M5) and the toothed washer supplied.

Characteristics of the screw (M5)

- Material: A4 Class 70
- Screw head: ISO 4762
- Length: 12mm (0.47in)

The equipotential earth connection is necessary for carrying out additional connections required by law.

9.4 Housing closure

! Test system operation for positive results before closing the product and allowing the presence of a hazardous atmosphere.

! During opening and closure operations of the product, pay attention not to damage the flameproof joint.

! Vor dem Schließen des Bodens des Produkts die Integrität der O-Ring-Dichtung sicherstellen. If the sealing is damaged replace it with the one supplied.

i In the integrated wiper version connect the wiring before closing the housing (J2, J5, 8.3 Control board description, page 22).

Verify that there is no dirt or debris.

Arrange the cables so that there is no interference during the back cover closure.

Insert the rear flange if the housing body having aligned holes in between the two parts.

! Be very careful not to damage the O-ring gasket.

Tighten the screws and the washers previously removed.

Screws properties

- Diameter/Screw pitch: M5x0.8
- Material: A4 Class 70
- Screw head: ISO 4762
- Length: 12mm (0.47in)
- Yield stress (min): 450N/mm²

! The screws must always be fixed using the provided washers.

! Pay attention to the fixing. Tightening torque: From 8Nm up to 9Nm.

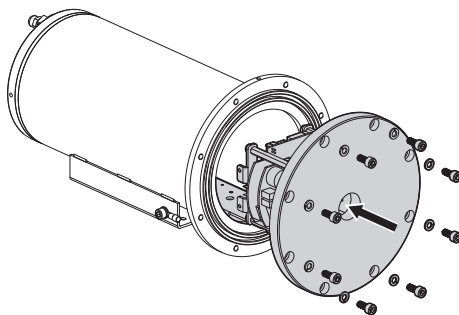


Fig. 21

9.5 Sunshield mounting

i Remove the protective film before the sunshield installation (if present).

You can fix the sunshield to the housing using the screws supplied.

Apply a generous amount of thread locking compound (Loctite 270) into the threaded holes in the base of the device.

The thread compound must cure for one hour, allow for this period prior to completing the installation.

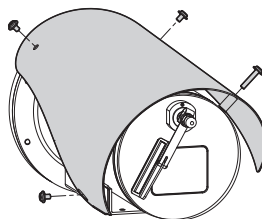


Fig. 22

10 Instructions for safe operation

10.1 Safe operation



Before proceeding with the following operations, make sure that the mains voltage is correct.

10.1.1 Commissioning

Read the whole of this user's handbook very carefully before starting the installation.

VIDEOTEC strongly recommend to test the device configuration and performance before putting it in the final installation site. Use appropriate tools for the purpose.

Test system operation for positive results before closing the product and allowing the presence of a hazardous atmosphere.

Make sure that all the devices are certified for the application and for the environment in which they will be installed.

To reduce the risk of ignition don't open the device when a potentially explosive atmosphere is present.

After commissioning the system keep this handbook in a safe place, available for later consultation.

10.1.2 Safety rules

Make sure that all precautions for personal safety have been taken.

Before starting any operation, make sure the power supply is disconnected.

Before powering the system, install an overload protection device in the electrical equipment for the building.

Installation of the electrical equipment must comply with the local legislation in force.

The device must be installed only and exclusively by qualified technical personnel.

10.1.3 Explosion prevention rules

Use appropriate tools for the area in which you are working.

Always remember that the device must be connected to an appropriate earth conductor.

Before doing any technical work or maintenance on the device, make sure that potentially explosive atmosphere is not present.

Before starting any operation, make sure the power supply is disconnected.

Do not open any kind of cap if there is a possibility of your being in a potentially explosive atmosphere.

- Make all connections, installation and maintenance work in a non-explosive atmosphere.

11 Switching on

The unit is switched on by connecting the power supply.

To switch off the unit disconnect the power.

11.1 Before powering the product in an explosive atmosphere



Make sure that the unit and other components of the installation are closed so that it is impossible to come into contact with live parts.



Make sure that the device has been connected to an earth link as described.



Ensure the rear cover plate is correctly closed.



Ensure that the sealing of cable entry systems (if any) has been performed properly and the time of glue hardening has been observed.



Make sure that all parts are fastened down firmly and safely.

12 Maintenance



Before doing any technical work or maintenance on the device, make sure that potentially explosive atmosphere is not present.



CAUTION! Device installation and maintaining must be performed by specialist technical staff only.



Before doing any technical work on the device, disconnect the power supply.



The manufacturer declines all liability for damage to any of the apparatus mentioned in this handbook, when resulting from tampering, use of non-original spare parts, installation, maintenance and repairs performed by non-authorized, non-skilled personnel.



For damage to any parts, repair or replacement must be done by, or under supervision of VIDEOTEC.



Whenever replacing the parts as indicated, always use VIDEOTEC original spare parts and meticulously follow the maintenance instructions supplied with every spare parts kit.



Contact the manufacturer for information on the dimensions of the explosion proof joint.



For all maintenance interventions, we recommend you return the product to the laboratory that will perform all required operations.

When contacting VIDEOTEC for assistance please provide the serial number and the identification code of the model.

12.1 Fuses replacement

⚠ CAUTION! For continued protection against risk of fire, replace only with same type and rating of fuse. Fuses must be replaced only by service personnel.

The used fuse is described below.

FUSES REPLACEMENT	
Supply voltage	Fuse (FUS1)
12Vdc	T 2A H 250V 5x20
24Vdc	T 2A H 250V 5x20
24Vac, 50/60Hz	T 2A H 250V 5x20

Tab. 14

As an alternative, use an approved fuse featuring the same characteristics.

It is necessary to loosen the screws that secure the slide to the spacers on the bottom and disconnect the connectors from the board.

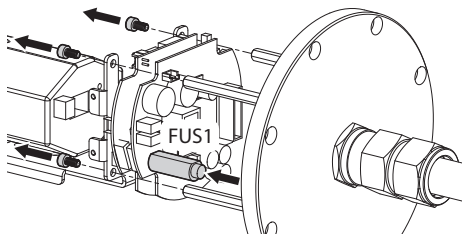
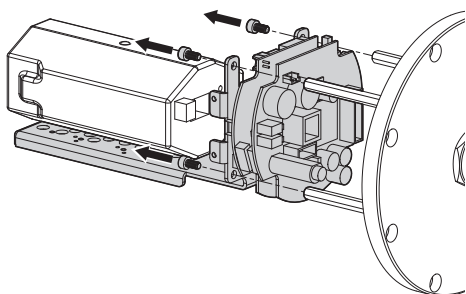


Fig. 23

12.2 Slide replacing



It is necessary to loosen the screws that secure the slide to the spacers on the bottom and disconnect the connectors from the board.

Fig. 24

12.3 Replacing the rear flange gasket

In the event of o-ring gasket deterioration replace it using the gasket supplied. Use only VIDEOTECH original spare parts.

Replace the gasket being careful to insert it correctly into its specific position.

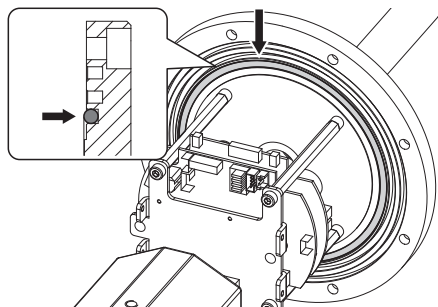


Fig. 25

12.4 Replacement of the wiper blade

In models equipped with a wiper, the worn blades can be replaced.

Unscrew the rivet nut fastening the blade and remove it. Replace the worn blade with a new one. Re-position the rivet nut adjusting fastening until the blade correctly adheres to the glass. Activate the wiper to check the blade is correctly adjusted.

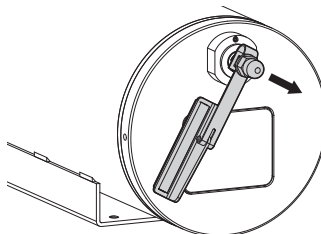


Fig. 26

13 Cleaning

i Frequency will depend on the type of environment in which the product is used.

13.1 Cleaning the glass window

The product must be cleaned with water or with another liquid detergent that does not create a hazard.

13.2 Cleaning the germanium window

! When the unit is working the protection grid must always be installed. Failure to follow this instruction may create serious safety hazards for people and for the installation, and will also invalidate the warranty.

! Avoid ethyl alcohol, solvents, hydrogenated hydrocarbide, strong acid and alkali. Such products may irreparably damage the surface.

! When cleaning the window, take care not to scratch or damage the outer surface treated with carbon coating. Damage to this coating could also interfere with the transparency of the surface to infrared light.

Cleaning should be done with mild detergent diluted with water.

Remove the protective grid unscrewing the screws and washers on the front of the enclosure using a spark-proof tool.

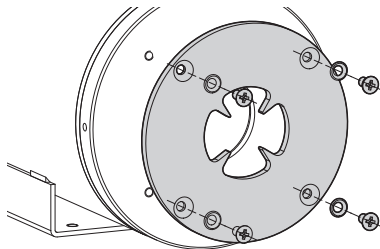


Fig. 27 Small grid.

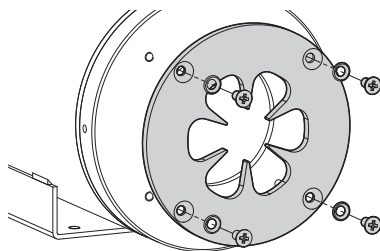


Fig. 28 Big grid.

After the cleaning, mount the protection grid with its screws and washers.

13.3 Cleaning the product

! The outside surface of the product must never be covered in more than 5 mm of dust.

The device should be cleaned using a damp cloth; compressed air must not be used.

14 Information on disposal and recycling

The European Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE) mandates that these devices should not be disposed of in the normal flow of municipal solid waste, but they should be collected separately in order to optimize the recovery stream and recycling of the materials that they contain and to reduce the impact on human health and the environment due to the presence of potentially hazardous substances.



The symbol of the crossed out bin is marked on all products to remember this.

The waste may be delivered to appropriate collection centers, or may be delivered free of charge to the distributor where you purchased the equipment at the time of purchase of a new equivalent or without obligation to a new purchase for equipment with size smaller than 25cm (9.8in).

For more information on proper disposal of these devices, you can contact the responsible public service.

15 Troubleshooting



Contact an authorised support centre if the problems persist or you have any other issues that are not described here.

PROBLEM	The product does not turn on.
CAUSE	Wrong cabling, broken fuse.
SOLUTION	Make sure the connections are correct. Check continuity of the fuse and, if faulty, replace it with the indicated model.
PROBLEM	The wiper is frozen and unresponsive to commands.
CAUSE	The wiper is either jammed or broken.
SOLUTION	Check that the wiper is free to move. Make sure the wiper cables are not disconnected or damaged.

16 Technical data

16.1 MAXIMUS MVX

16.1.1 Mechanical

Sunshield

Integrated wiper

Unit weight:

- 6kg (13.3lb) (housing only)
- 8.5kg (18.7lb) (housing with 4m (13ft) armoured multipolar cable)
- 12kg (26.5lb) (housing with 10m armoured multipolar cable)

16.1.2 Cable glands

Cable entry: 1 hole, 3/4" NPT

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

16.1.3 Housing's window

Material: Tempered glass

Dimensions: 51x41mm (2x1.6in)

Thick: 12mm (0.47in)

16.1.4 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

16.1.5 Network

Ethernet connection: 10 Base-T/100 Base-T or 100 Base-TX

Connector: RJ45

Cable length: 100m max

16.1.6 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

16.1.7 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

16.1.8 Cameras

Power consumption (assembly, camera and lens)

- Without video encoder IP: 8W
- With video encoder IP: 6W

Minimum distance between camera and housing's window: 4mm (0.16in)

Cameras dimensions/Lenses that can be installed (WxHxL)

- Without video encoder: 70x65x140mm (2,6x2,5x5,5in)
- With video encoder: 70mmx65mmx120mm

16.1.9 Environment

For indoors and outdoors installation

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)

Always refer to the temperature in the marking.

Relative humidity: from 5% up to 95%

16.1.10 Certifications

ATEX (EN 60079-0, EN 60079-1, EN 60079-31)

- Ⓔ II 2 G Ex db IIC T5 Gb
- Ⓔ II 2 D Ex tb IIIC T100°C Db IP66/IP68
-60°C ≤ Ta ≤ +65°C or -50°C ≤ Ta ≤ +65°C or -40°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 or -50°C ≤ Ta ≤ +55°C or -40°C ≤ Ta ≤ +55°C

IECEx (IEC 60079-0, IEC 60079-1, IEC 60079-31)

- Ex db IIC T5 Gb
- Ex tb IIIC T100°C Db IP66/IP68
-60°C ≤ Ta ≤ +65°C or -50°C ≤ Ta ≤ +65°C or -40°C ≤ Ta ≤ +65°C
- Ex db IIC T6 Gb
- Ex tb IIIC T85°C Db IP66/IP68
-60°C ≤ Ta ≤ +55°C or -50°C ≤ Ta ≤ +55°C or -40°C ≤ Ta ≤ +55°C

IP protection degree (EN/IEC60529): IP66, IP67, IP68 (2 hours, 5m (16ft)), IP69

Level of protection Type (UL50E): 4X, 6P

16.2 MAXIMUS MVXT

16.2.1 Mechanical

Sunshield

Unit weight:

- 6kg (13.3lb) (housing only)
- 8.5kg (18.7lb) (housing with 4m (13ft) armoured multipolar cable)
- 12kg (26.5lb) (housing with 10m armoured multipolar cable)

16.2.2 Cable glands

Cable entry: 1 hole, 3/4", NPT

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

16.2.3 Housing's window

Germanium window (big grid)

- Usable diameter: 57mm (2.2in)
- Thick: 10mm (0.4in)
- External treatment: antiscratch (Hard Carbon Coating - DLC)
- Internal treatment: antireflection
- Spectral range: from 7.5µm up to 14µm
- Medium transmittance (from 7.5µm up to 11.5µm): 87.3%
- Medium transmittance (from 11.5µm up to 14µm): 67.3%

Germanium window (small grid)

- Usable diameter: 40mm (1.6in)
- Thick: 8mm (0.3in)
- External treatment: antiscratch (Hard Carbon Coating - DLC)
- Internal treatment: antireflection
- Spectral range: from 7.5µm up to 14µm
- Medium transmittance (from 7.5µm up to 11.5µm): 87.5%
- Medium transmittance (from 11.5µm up to 14µm): 72.1%

16.2.4 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

16.2.5 Network

Ethernet connection: 10 Base-T/100 Base-T or 100 Base-TX

Connector: RJ45

Cable length: 100m max

16.2.6 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

16.2.7 I/O interface

I/O alarm board

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

Cable length: 200m (656ft) max

16.2.8 Cameras

Power consumption (assembly, camera and lens)

- Without video encoder IP: 8W
- With video encoder IP: 6W

Minimum distance between camera and housing's window: 4mm (0.16in)

Cameras dimensions/Lenses that can be installed (WxHxL)

- Without video encoder: 70x65x140mm (2,6x2,5x5,5in)
- With video encoder: 70mmx65mmx120mm

16.2.9 Environment

For indoors and outdoors installation

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)

Always refer to the temperature in the marking.

Relative humidity: from 5% up to 95%

16.2.10 Certifications

ATEX (EN 60079-0, EN 60079-1, EN 60079-31)

- Ⓔ II 2 G Ex db IIC T5 Gb
- Ⓔ II 2 D Ex tb IIIC T100°C Db IP66/IP68
-60°C ≤ Ta ≤ +65°C or -50°C ≤ Ta ≤ +65°C or -40°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 or -50°C ≤ Ta ≤ +55°C or -40°C ≤ Ta ≤ +55°C

IECEx (IEC 60079-0, IEC 60079-1, IEC 60079-31)

- Ex db IIC T5 Gb
- Ex tb IIIC T100°C Db IP66/IP68
-60°C ≤ Ta ≤ +65°C or -50°C ≤ Ta ≤ +65°C or -40°C ≤ Ta ≤ +65°C
- Ex db IIC T6 Gb
- Ex tb IIIC T85°C Db IP66/IP68
-60°C ≤ Ta ≤ +55°C or -50°C ≤ Ta ≤ +55°C or -40°C ≤ Ta ≤ +55°C

IP protection degree (EN/IEC60529): IP66, IP67, IP68 (2 hours, 5m (16ft)), IP69

Level of protection Type (UL50E): 4X, 6P

16.3 MAXIMUS MVXHD

16.3.1 Mechanical

Sunshield

Integrated wiper

Unit weight:

- 6kg (13.3lb) (housing only)
- 8.5kg (18.7lb) (housing with 4m (13ft) armoured multipolar cable)
- 12kg (26.5lb) (housing with 10m armoured multipolar cable)

16.3.2 Cable glands

Cable entry: 1 hole, 3/4" NPT

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

16.3.3 Housing's window

Material: Tempered glass

Dimensions: 51x41mm (2x1.6in)

Thick: 12mm (0.47in)

16.3.4 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

16.3.5 Network

Ethernet connection: 10 Base-T/100 Base-T or 100 Base-TX

Connector: RJ45

Cable length: 100m max

16.3.6 I/O interface

I/O alarm board

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

Cable length: 200m (656ft) max

16.3.7 Cameras

Power consumption (assembly, camera and lens)

- Without video encoder IP: 8W
- With video encoder IP: 6W

Minimum distance between camera and housing's window: 4mm (0.16in)

Cameras dimensions/Lenses that can be installed (WxHxL)

- Without video encoder: 70x65x140mm (2,6x2,5x5,5in)
- With video encoder: 70mmx65mmx100mm (2,7x2.5x3.9in)

16.3.8 Environment

For indoors and outdoors installation

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)

Always refer to the temperature in the marking.

Relative humidity: from 5% up to 95%

16.3.9 Certifications

ATEX (EN 60079-0, EN 60079-1, EN 60079-31)

⊕ II 2 G Ex db IIC T5 Gb

⊕ II 2 D Ex tb IIIC T100°C Db IP66/IP68

-60°C ≤ Ta ≤ +65°C or -50°C ≤ Ta ≤ +65°C or -40°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 or -50°C ≤ Ta ≤ +55°C or -40°C ≤ Ta ≤ +55°C

IECEx (IEC 60079-0, IEC 60079-1, IEC 60079-31)

Ex db IIC T5 Gb

Ex tb IIIC T100°C Db IP66/IP68

-60°C ≤ Ta ≤ +65°C or -50°C ≤ Ta ≤ +65°C or -40°C ≤ Ta ≤ +65°C

Ex db IIC T6 Gb

Ex tb IIIC T85°C Db IP66/IP68

-60°C ≤ Ta ≤ +55°C or -50°C ≤ Ta ≤ +55°C or -40°C ≤ Ta ≤ +55°C

IP protection degree (EN/IEC60529): IP66, IP67, IP68 (2 hours, 5m (16ft)), IP69

Level of protection Type (UL50E): 4X, 6P

17 Technical drawings

i The indicated measurements are expressed in millimetres.

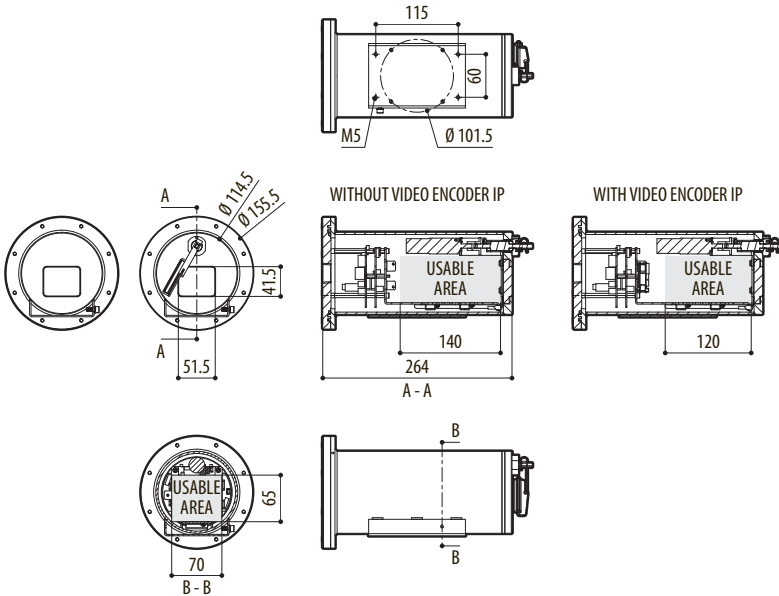


Fig. 29 MAXIMUS MVX.

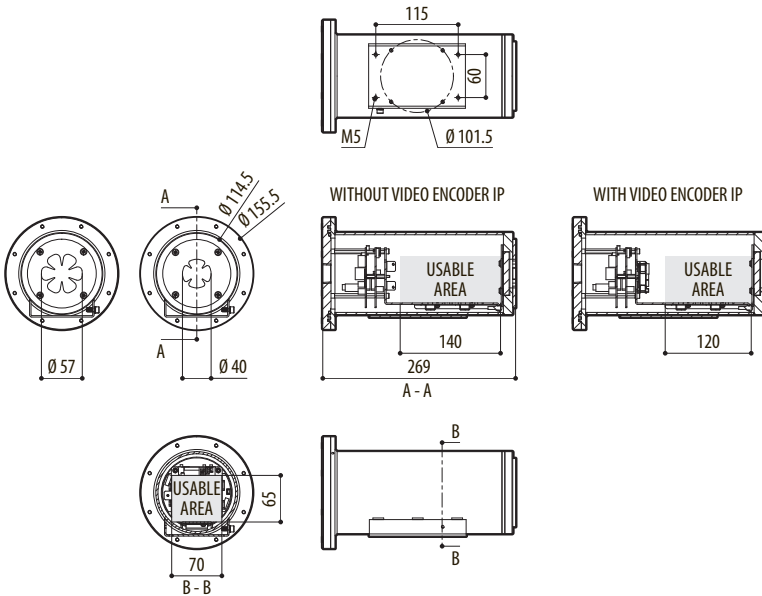


Fig. 30 MAXIMUS MVXT.

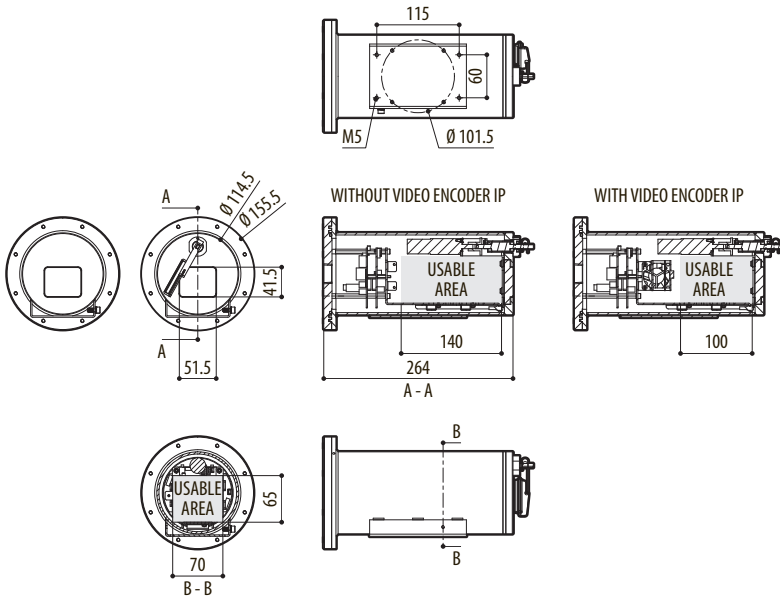


Fig. 31 MAXIMUS MVXHD.



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