

EX129 Series

Hazardous Area Fixed Camera Station



Installation manual



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DESCRIPTION

The **EX129** Series includes a full range of stainless steel fixed camera stations specifically designed for Hazardous Area applications. The design of the housings ensures the best protection from external agents along with easy installation and maintenance service. **EX129** fixed camera stations are equipped with the latest generation zoom module day/night and thermal imaging cameras, but they are also available for Customer's specified cameras.

The **EX129** Series units have been designed and certified to the ATEX Directive 2014/34/EU to the following:

- II 2 G Ex db op pr IIC T6 Gb -40°C ≤ Tamb ≤ +60°C
- II 2 D Ex tb IIIC T85°C Db -40°C ≤ Tamb ≤ +60°C
- II 2 G Ex db op pr IIB T5 Gb -40°C ≤ Tamb ≤ +75°C
- II 2 D Ex tb IIIC T100°C Db -40°C ≤ Tamb ≤ +75°C

This product is designed for use with flammable gases and vapours covered by apparatus groups IIA, IIB and IIC with temperature classes T1 to T6 (environmental temperature up to 60°C), with flammable gases and vapours covered by apparatus groups IIA and IIB with temperature classes T1 to T5 (environmental temperature up to 75°C) and with flammable dust covered by apparatus groups IIIA, IIIB and IIIC with temperature T=85°C. The surface temperature class of the device was determined only with ambient air temperature, without taking into consideration direct sunlight. The IP rating of the unit is IP66/IP67.

This product must only be installed by suitably trained personnel in accordance with the relevant code of practice (e.g. EN60079-14). These instructions are intended for their sole use.

CAUTION: It is recommended to use proper certified cable glands and connection cables (supplied upon request).



MODELS


EX129-XY	Standalone camera housing
EX129WW-XY	Standalone camera housing with wiper
EX129IR-XY	Standalone camera housing with IR germanium window
EX129IRS-XY	Standalone camera housing with IR sapphire window
EX129IR-SW-XY	Standalone camera housing with IR germanium window without front guard

X is a variable character referred to the cable entry (X).




It can be A (for M25) or B (for M20), C (for rear flange with up to four M25 entries) or D (for rear flange with up to four M20 entries).

PRELIMINARY REMARKS




	Prior to installation and operation, read carefully all instructions the in this manual and heed all warnings.
	Unpack this equipment and handle it carefully. If the package appears to be damaged, notify the shipper immediately.
	Use the original packaging to transport the unit. Disconnect power supply before moving it. In case of returning the equipment, the original packaging must be used.
	Any change performed on the unit that is not previously approved by the manufacturer will void both the certification and the warranty.
	Trying to manually force the wiper will result in damaging the device and will void the warranty.
	Fasteners used for the assembly shall be M5-08x12 grade A4-70.
	WARNING: Hazardous moving parts: the device is remotely controlled and may change position at any time. When installing, choose a place where moving parts could not hit anyone or any object, creating hazardous situations.
	All the electrical connections should be realized in a non-explosive atmosphere.
	Earth ground attachment point is a stud M4-0.7 x16 A4-70 ISO 4762 with dual nut and dual serrated washer. During installation it is important to connect it to an appropriate grounding location using a (minimum) 10 AWG copper stranded wire.
	Before performing any operation, turn off the power. The installation of the unit can be performed only by qualified personnel in accordance with the relevant code of practice (e.g. EN60079-14) and with all the relevant local and national standards including but not limited to the use of special pipes, tapes, sealants, cables and glands.
	When leaving the unit unused for long periods, disconnect supply cables.
	For security reasons, do not install the unit in the proximity of water containers and never push objects or pour liquids into the unit. The unit can be safely used in damp environments or outdoors, as long as the connectors are properly sealed.

	No ventilation is needed for the unit, as it is completely sealed.
	When a fibre optical cable is used on the equipment it shall be suitably protected against mechanical damage external to the equipment (wire armoured cable, fitted in conduit, within a cable tray etc.).
	The camera must be installed so that the risk of impact with the glass window is low.

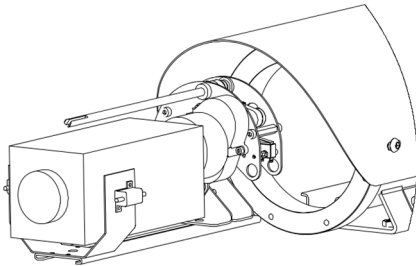
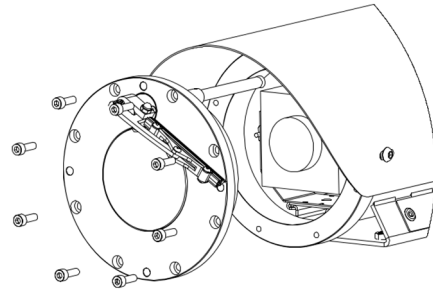
INSTALLING THE UNIT

	Make sure that the installation surface can support at least four times the weight of the unit in normal operating conditions. In case of excessive external stress (e.g. vibration, strong winds or impact), the equipment may need additional means of protection.
	Proper stainless steel hardware should be carefully chosen to fasten the unit to the surfaces. Proper tools should be used during the installation, in accordance to environmental requirements.
	Use caution when lifting and assembling the unit. It is recommended that non-slip protective gloves be worn during installation. The unit could bear sharp edges.
	Electrical connections (such as plugs and cords) must be protected from potential hazardous environmental factors (e.g. foot traffic, hitting objects).
	Use appropriate tools for the purpose. The particular nature of the site where the device is to be installed may require special tools for installation.
	During installation it is important to connect the earth ground attachment point of the unit to an appropriate grounding location using a (minimum) 10 AWG copper stranded wire.
	An all-pole mains switch with an opening distance between the contacts at least 3 mm in each pole must be incorporated in the electrical installation. The switch must be equipped with protection against the fault current towards the ground (differential) and the overcurrent (magnetothermal, maximum 15A). It must be very quickly recognizable and readily accessible. A suitable blow fuse must also be installed for protection.
	For connection to the mains, use a multipolar cable having minimum 3x0,75 mm ² (18 AWG).
	Fasten all the cables inside the housing with cables ties or other fixing means to avoid the electrical contact with surrounding parts in case that terminal blocks screw off.
	Ensure that the unit case is properly earthed, connecting all the earth ground studs.
	Do not connect the unit to a supply circuit unless the installation is completed. Check the proper position of the O-ring seals in their groove.
	It is recommended that all the connections and performed and tested on a safe area laboratory before installing on field.

Perform the electrical connections

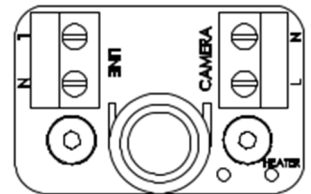
	Any action performed on the unit which is not described in this manual may damage it.
	Pointing the camera at the sun may damage it.
	Complete the installation performing the camera connection referring to the manual of the camera.
	Check carefully the supply voltage marked on the label. Incorrect Power Supply Voltage may damage the unit. Do not overload the terminal connection, as it may cause a fire or electrical shock hazard.
	Open only the covers pointed out in this installation manual. Other covers should be open only by the manufacturer.
	Make sure the threads of the unit are free of dirt and debris. A minimum of 10mm depth and 5 threads of engagement must be maintained for all threaded holes.
	To maintain the certification requirements and the IP rating of the unit, adequate certified cable glands must be used. Each unused cable gland hole must be closed using a proper plug suitable for the housing marking.
	Keep the unit tightly closed when operating. Disconnect the equipment from the supply circuit and wait at least 5 minutes before opening.
	Do not connect the unit to a supply circuit unless the installation is completed. Check the proper position of the O-ring seals in their groove.

Extract the front flange by removing the eight screws.
Be careful not to lose the O-Ring.



Slide the upper rail away from the lower rail.

Feed the cables through the rear cable glands (included upon request) and perform electrical connections on the board, according to the following indications:
- supply voltage (on "LINE" connector: line on L pin and neutral on N pin);
- video output (on the camera).



Only on housings with wiper system

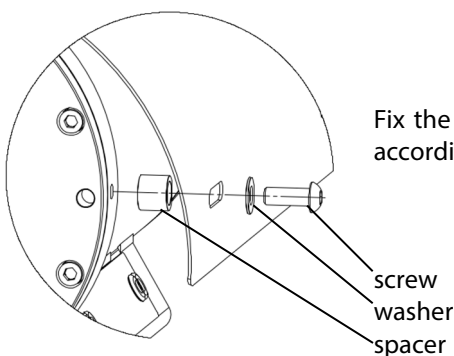
Permanent 24VAC voltage must be connected between the GREEN wire (line) and the GREY wire (neutral/GND) of the terminal block.

To activate the wiper, connect the GREY wire (neutral/GND) to the BLUE wire. A normally open switch, connected between GREY and BLUE, can be used for this operation.

When the BLUE wire is connected to the GREY wire (neutral/GND), the wiper works and continues to work until the wire is disconnected, then it parks itself to its initial position.



Fix the cable glands according to the manufacturer instructions. A minimum of 10mm depth and 5 threads of engagement must be maintained for all threaded holes.

Whenever all the connections are performed, close the housing.
Carefully place the O-ring in its groove on the front flange.
Use the screws at the bottom of the housing to fasten it to its support.



Fix the sunshield to the housing using the screw and the spacer provided in the kit according to the image.

MAINTENANCE

	Please read and be familiar with the following instructions before servicing the unit.
	Ensure proper operating condition of the unit performing safety checks upon completion of maintenance.
	Disconnect the unit from the supply circuit before cleaning. Do not use caustic or abrasive cleaning products.
	Use only replacement parts specified by the manufacturer.
	Inspection and maintenance of the equipment must be carried out in accordance with the applicable standards (i.e. EN 60079-17). Repair of the equipment must be carried out in accordance with the applicable standards (i.e. EN 60079-19).
	Disconnect the unit from the supply circuit and report to qualified service personnel whenever any damage to the equipment has been detected.
	Do not use electrical equipment that seem worn or old.

This equipment has been designed to fit in harsh environments requiring little or no maintenance. Suggested inspection interval is 6 months, but extremely harsh environments may require more frequent inspection and maintenance checks. On each inspection check the O-ring seal and the window wiper blade integrity. Replace them if necessary.

Regularly perform the following routine activities:

- Clean the glass: use water or a liquid detergent that will not generate a hazardous situation.
- Clean the germanium window: remove the protective guard unscrewing the 3 screws using a no sparking hex wrench. Use water or a liquid detergent that will not generate a hazardous situation. Be careful not to scratch the carbon coating. Using ethyl alcohol, solvents, hydrogenated hydrocarbons, strong acids or alkalis will irreparably damage the germanium window. Once completed the cleaning, properly reassemble the protective guard.
- Clean the unit: the layer of filth upon the unit should never exceed 5mm thick. Use a dry or damp cloth. Do not use compressed air.
- Check electrical connections: check cables and electrical connections for integrity and tightness. If the cables seem wore or damaged, refer to the extraordinary maintenance section.
- Check mounting accessories: check mounting bolts and screws for integrity and tightness. Replace or tighten any damaged/loose mounting hardware.

Extraordinary maintenance:

Any intervention which is not listed in the routine activities list must be done in absence of potentially explosive atmosphere.

Any repair or replacement must be done by, or under supervision of, Tecnovideo. Use only original spare parts.

The manufacturer declines all liability for any damage resulting from tampering, use of non-original spare parts and service carried out without following the directives of the present manual.

If the equipment is likely to come into contact with aggressive substances, then it is the responsibility of the user to take suitable precautions that prevent it from being adversely affected, thus ensuring that the type of protection is not compromised.

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.

TECHNICAL DATA

General & Mechanical

Construction: AISI316L Stainless Steel
 Finish: Electro-polished
 Cable entries *see Models section*

Electrical

Thermostatically controlled Heater: T[°C] ON = 12 ± 4°C, T[°C] OFF = 20 ± 3°C
 Supply voltage: 24, 115, 230V~ (specified at order)
 Power consumption: 25W MAX

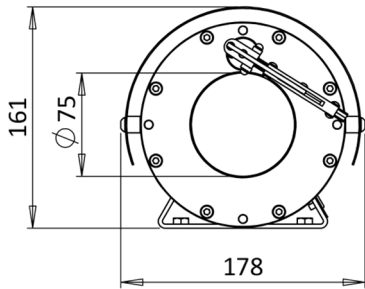
Certifications

Weatherproof standard: IP66/IP67
 Rating: II 2 G Ex db op pr IIC T6 Gb -40°C ≤ Tamb ≤ +60°C
 II 2 D Ex tb IIIC T85°C Db -40°C ≤ Tamb ≤ +60°C
 II 2 G Ex db op pr IIB T5 Gb -40°C ≤ Tamb ≤ +75°C
 II 2 D Ex tb IIIC T100°C Db -40°C ≤ Tamb ≤ +75°C

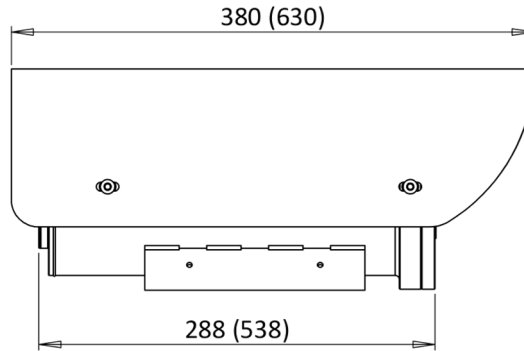
ATEX Standards: EN 60079-0:2012; EN 60079-1:2014; EN 60079-28:2015; EN 60079-31:2014
 IECEx Standards: IEC 60079-0:2011; IEC 60079-1:2014-06; IEC 60079-28:2015; IEC 60079-31:2013
 CE compliant

DIMENSIONS

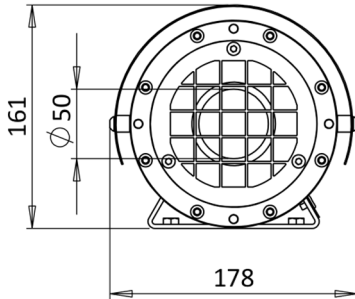
FRONTAL VIEW



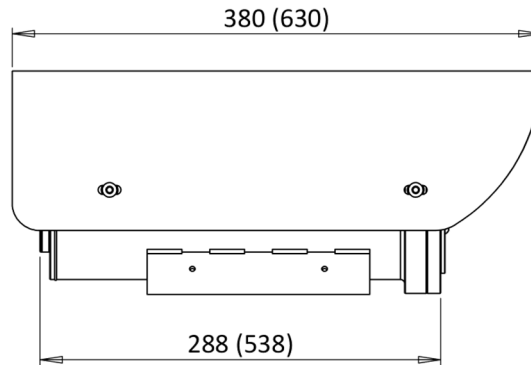
SIDE VIEW



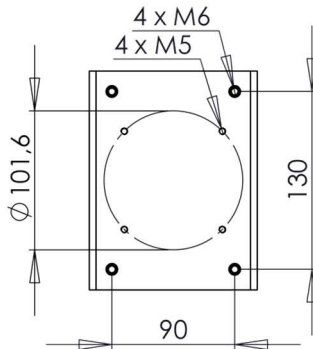
FRONTAL VIEW



SIDE VIEW



MOUNTING PATTERN



Dimensions (in brackets) refer to 500 mm tube length models

MAX INTERNAL DIMENSIONS

Model	Internal dimensions	Internal diameter
EX129/EX129IR	80x80x160	95
EX129-M/EX129IR-M	80x80x285	95
EX129-L/EX129IR-L	80x80x405	95
EX129WW	80x80x145	85
EX129WW-M	80x80x265	85
EX129WW-L	80x80x390	85

SAMPLE LABEL

TECNOVIDEO
CCTV SYSTEMS AND ACCESSORIES
TECNOVIDEO S.R.L. - Via San L. Murialdo, 8 - 36030 Villaverfa (VI) - ITALY

MODEL
Serial No.: XXXXXXXXXXXXXXXX/YY
Description Voltage: XXXX Max Power: XXX IP66/IP67
II 2 G Ex db op pr IIC T6 Gb -40°C ≤ Tamb ≤ +60°C
II 2 D Ex tb IIC T85°C Db -40°C ≤ Tamb ≤ +60°C
II 2 G Ex db op pr IIB T5 Gb -40°C ≤ Tamb ≤ +75°C
II 2 D Ex tb IIC T100°C Db -40°C ≤ Tamb ≤ +75°C

CE²⁵⁸⁵
Made in Italy

WARNING: DO NOT OPEN WHEN ENERGISED OR WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
CERT. NO. ExVeritas 15ATEX0085X & IECEx EXV 15.0003X
www.tecnovideoctv.com

Every unit must carry a marking plate similar to the one above.
DESCRIPTION: brief description of the unit (such as camera housing, P&T unit, ...);
MODEL: model name of the unit (such as EX129, EXPTZ, ...);
S/N: Tecnovideo serial number followed by the year of manufacturing;
VOLTAGE: supply voltage of the unit;
MAX POWER: maximum dissipated power of the unit.

EU DECLARATION OF CONFORMITY

We declare under our sole responsibility that the following apparatus:

Product description: **EX129 Series:** stainless steel camera housing
EXPT Series: stainless steel Pan & Tilt unit
EXPTZ Series: stainless steel PTZ camera station

Model or Type No.: **EX129-XY:** Standalone camera housing
EX129WW-XY: Standalone camera housing with wiper
EX129IR-XY: Standalone camera housing with IR germanium window
EX129IRS-XY: Standalone camera housing with IR sapphire window
EX129IR-SW-XY: Standalone camera housing with IR window without front guard
EX129P-XY: Pan & Tilt camera housing
EX129WWP-XY: Pan & Tilt camera housing with wiper
EX129IRP-XY: Pan & Tilt camera housing with IR germanium window
EX129IRSP-XY: Pan & Tilt camera housing with IR sapphire window
EX129IRP-SW-XY: Pan & Tilt camera housing with IR window without front guard
EXPT: Pan & Tilt unit
EXPTZ: PTZ camera station with one integrated camera housing
EXPTZD: PTZ camera station with two integrated camera housings
EXPTZH: PTZ hybrid camera station with one integrated camera housing and one mounting bracket

-XY are two variable characters which refer to the cable entry (X) and to the length of the camera housing.

Are in conformity with the following relevant EC legislation:

ATEX directive 2014/34/EU
EMC directive 2014/30/EU
Low Voltage Directive 2014/35/EU
RoHS Directive 2011/65/EU
WEEE Directive 2012/19/EU

The following Notified Body has been involved in the conformity assessment process:

Notified Body ExVeritas
Notified Body No. 2585
Role: Issue of ATEX EU Type Examination certificate
Certificate No. ExVeritas 15 ATEX 0085X
IECEX EXV 15.0003X

Additional information:

ATEX coding II 2 G Ex db op pr IIC T6 Gb -40°C ≤ Tamb ≤ +60°C
II 2 D Ex tb IIIC T85°C Db -40°C ≤ Tamb ≤ +60°C
II 2 G Ex db op pr IIB T5 Gb -40°C ≤ Tamb ≤ +75°C
II 2 D Ex tb IIIC T100°C Db -40°C ≤ Tamb ≤ +75°C

IP rating IP66/IP67

Name of Manufacturer: Tecnovideo S.r.l.
Address: Via San L. Murialdo, 8 36030 Villaverla (VI)
Country: Italy


Location Villaverla
Date of issue 15/06/2017

Name Christian Fabris
Organisational role Managing Director

Villaverla
15/06/2018

Moreno De Pretto
Certification Manager

Preserve this manual as a reference for future needs.

	<p>Used electrical, electronic and stainless steel products should not be mixed with general waste. For proper treatment, recovery and recycling of old products, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/95/EC and 2002/96/EC. By disposing of these products correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. For more information about collection and recycling of old products, please contact your local municipality or your waste disposal service. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.</p>
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The manufacturer declines all liability for any consequence resulting from improper installation practices, tampering or improper uses of the product.

The descriptions and illustrations contained in this manual are not binding. The manufacturer reserves the right to make any alterations deemed appropriate for the technical, manufacturing and commercial improvement of the product, while leaving the essential product features unchanged, at any time and without undertaking to update the present publication.

The manufacturer declines all responsibility for any consequences resulting from improper use of the product, or use which is different from that expected and specified in the present documents.