



EX Fixed Series

Installation manual



Ex d 316L Fixed camera station

SIQURA

Note: To ensure proper operation, please read this manual thoroughly before using the product and retain the information for future reference.

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Brand names

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Liability

TKH Security accepts no liability for claims from third parties arising from improper use other than that stated in this manual.

Although considerable care has been taken to ensure a correct and suitably comprehensive description of all relevant product components, this manual may nonetheless contain errors and inaccuracies. We invite you to offer your suggestions and comments by email via info@tkhsecurity.com. Your feedback will help us to further improve our documentation.

How to contact us

If you have any comments or queries concerning any aspect related to the product, do not hesitate to contact:

TKH Security B.V.
Meridiaan 32
2801 DA Gouda





Contents

English

Introduction	4
Description	5
Before you continue	6
Install the unit.....	7
Maintain the unit.....	12
Technical data.....	14
Dimensions	15
Marking	17

Portuguesa

Introdução	22
Descrição	23
Antes de continuar	25
Instale a câmera	26
Manter a câmera	31
Dados técnicos	33
Dimensões	34
Marcação	36
Certificates	38





Introduction

Preserve this manual as a reference for future needs.

	Used electrical, electronic and stainless-steel products should not be mixed with general waste. For proper treatment, recovery, and recycling of old products, 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 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, contact your local municipality or your waste disposal service. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.
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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.





Description

The EX Fixed 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. EX Fixed camera stations are equipped with the latest generation zoom module day/night and thermal imaging cameras. They are also available for customer-specified cameras.

The EX Fixed Series units have been designed and certified to the ATEX Directive 2014/34/EU, UKSI 2016:1107 (as amended by 2019:696) and to INMETRO to the following:

II 2 G Ex db op pr IIC T6 Gb $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$

II 2 D Ex tb IIIC T85°C Db $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$

II 2 G Ex db op pr IIB T5 Gb $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +75^{\circ}\text{C}$

II 2 D Ex tb IIIC T100°C Db $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +75^{\circ}\text{C}$

This product is designed for use with flammable gases and vapors covered by apparatus groups IIA, IIB and IIC with temperature classes T1 to T6 (environmental temperature up to 60°C), with flammable gases and vapors 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.

The EX FIX IR illuminators have been designed and certified to the ATEX Directive 2014/34/EU, UKSI 2016:1107 (as amended by 2019:696) and to INMETRO to the following:

II 2 G Ex db op is op pr IIC T5 Gb $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$

II 2 D Ex tb op is IIIC T100°C Db $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$

II 2 G Ex db op is op pr IIB T4 Gb $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$

II 2 D Ex tb op is IIIC T135°C Db $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$

This product is designed for use with flammable gases and vapors covered by apparatus groups IIA, IIB and IIC with temperature classes T1 to T5 (environmental temperature up to 40°C), with flammable gases and vapors covered by apparatus groups IIA and IIB with temperature classes T1 to T4 (environmental temperature up to 60°C) and with flammable dust covered by apparatus groups IIIA, IIIB and IIIC with temperature T=100°C (environmental temperature up to 40°C) or with temperature T=135°C (environmental temperature up to 60°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.





Before you continue

	Prior to installation and operation, carefully read all instructions 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.
	The bolts used for the assembly shall be M5-08x12 grade A4-70. Tightening/loosening screws using automatic tools (such as drill drivers) may result in damaged threads
	WARNING: The device is equipped with remotely controlled moving parts.
	All the electrical connections should be realized in a non-explosive atmosphere.
	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.
	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 glands are properly sealed.
	When leaving the unit unused for long periods, disconnect supply cables.
	The internal transformer of the unit should never be used to power external devices.
	The EX FIX IR illuminator emits an high intensity IR light. Wear protective eyewear. Avoid direct eye and skin exposure. Please follow safety precautions given in IEC 60825-1 and IEC 62471.
	No ventilation is needed for the unit, as it is completely sealed.
	When a fiber optical cable is used on the equipment it shall be suitably protected against mechanical damage external to the equipment (wire armored 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.
	Remove the protective PVC sheet from the sunshield in a non-explosive atmosphere before installation





Install the unit

	Any action performed on the unit which is not described in this manual may damage it.
	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 (vibration, strong winds or impact, for example), 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).
	Open only the covers pointed out in this installation manual. Other covers should be opened only by the manufacturer.
	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.
	Pointing the camera at the sun may damage it.
	Complete the installation performing the camera connection referring to the manual of the camera.
	After the installation of the unit, the desiccant bag must be placed inside the camera, assuring it won't be damaged by rotating and moving parts.
	Carefully check the supply voltage marked on the label. An incorrect power supply voltage may damage the unit. Do not overload the terminal connection, as it may cause a fire or electrical shock hazard.
	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.
	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 15 A). Recommended for 115 Vac / 230 Vac: 2 A Delayed Fuse T (Time delay) or equivalent resettable devices such as magnetothermal. Recommended for 24 Vac: 4 A Delayed Fuse T (Time delay) or equivalent resettable devices such as magnetothermal. These ratings include inrush current for startup or temporary overload. It must be very quickly recognizable and readily accessible. Install a suitable overcurrent protection.
	For connection to the mains, use a multipolar cable having minimum 3x1,5 mm ² (15 AWG). The mains cable must be protected.



	Fasten all the cables inside the housing with cables ties or other fixing means to avoid the electrical contact with surrounding parts in case cables get loose.
	Make sure that the unit case is properly earthed, connecting all the earth ground studs. Earth cable should be about 10 mm longer than the other cables on the connector, in such way that it will not be accidentally disconnected if the cable is stretched or pulled.
	Do not connect the unit to a supply circuit unless the installation is completed.
	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.
	Make sure the threads of the unit are free of dirt and debris. A minimum of 10 mm depth and 5 threads of engagement must be maintained for all threaded holes.
	Check the proper position of the O-ring seals in their groove.
	Keep the unit tightly closed when operating.
	Disconnect the equipment from the supply circuit and wait at least five minutes before opening.
	It is strongly advised to perform and test all the connections on a safe area laboratory before installing on field.
	The EX FIX IR illuminator emits an high intensity IR light. Wear protective eyewear. Avoid direct eye and skin exposure. Please follow safety precautions given in IEC 60825-1 and IEC 62471.

Installation procedure

1. Open the housing

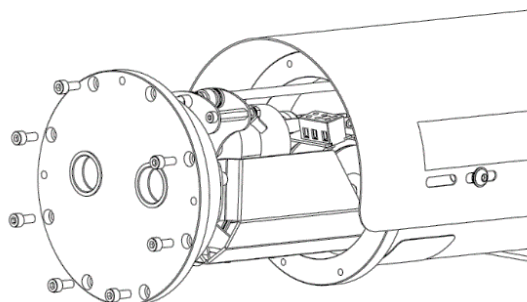
- Extract the back flange by removing the eight screws.
- Be careful not to lose the O-Ring.

2. Extract the unit

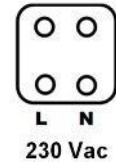
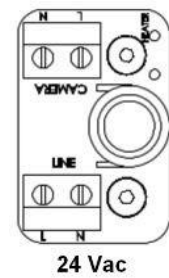
- Slide the rail to access the internal components.
- Be careful not to damage any cables.

3. Connect cabling

- Feed the cables through the rear cable glands.



- Perform the electrical connections on the board.
- Supply voltage:
 - 24 Vac supply voltage (on "LINE" connector: line on L pin and neutral on N pin).
 - 230 (115) Vac supply voltage (on "LINE" connector: line on L pin and neutral on N pin).
 - Video output and/or network connector on camera.
 - Connect the earth cable to the 2-way screw terminal block.



Only on housings with wiper system

Permanent 24 Vac 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.

4. Fix cable glands

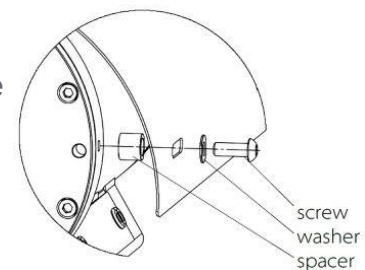
Fix the cable glands according to the manufacturer's instructions. A minimum of 10 mm depth and 5 threads of engagement must be maintained for all threaded holes.

5. Close the housing

- When 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.

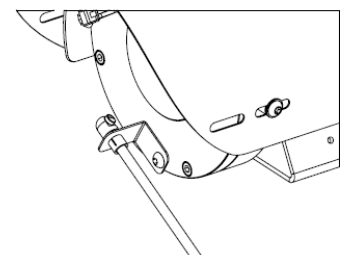
6. Attach sunshield

- Attach the sunshield to the housing using the screw and the spacer provided in the kit according to the image. Remove the protective PVC sheet from the sunshield in a non-explosive atmosphere before installation.

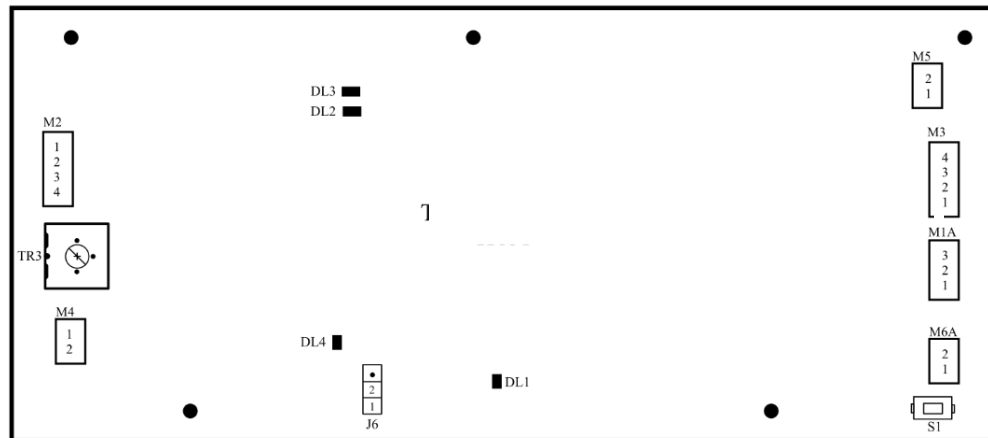


7. Install the nozzle

- Attach the nozzle at the front of the camera.



8. IR LED illuminator (EX-FIX IR only)



	Pin	
M1	1	GND
	2	24V~ /V= (V2/-)
	3	24V~ /V= (V1/+)
M2	1	IR LEDs (V+)
	2	IR LEDs (V-)
	3	Light sensor photocell C +
	4	Light sensor photocell E -
M3	1	OUT Day&Night_COM photorelay
	2	OUT Day&Night_NO photorelay
	3	IN cmd STROBO C+
	4	IN cmd STROBO E-

	Pin	
M4	1	Not connected
	2	Not connected
M5	1	+12V= AUX
	2	0V= AUX
M6	1	IN cmd START C+ or Dry contact
	2	IN cmd START E- or Dry contact

Connector	Name	Notes
M1	AC/DC Power supply Input	-
M2	IR LEDs power & Light sensor photocell	Supply voltage to the IR LEDs & external Light sensor photocell signal
M3	Day&Night photorelay	Output signal for day/night mode (night=ON, day=OFF).
M4	Factory Reserved	Not connected
M5	DC output	For auxiliary equipment: do not exceed 0.1A
M6	Inputs	Dry contact/Open collector (NPN) input for IR LEDs activation (Example: external camera output)

IR LED calibration and settings

The IR01 board installed inside the IR LED illuminator is equipped with four LEDs. The DL1 LED (green) is on when the board is correctly powered. The DL2 LED (yellow) is on when the IR LEDs are interrupted (open-led). The DL3 LED (red) is on when the IR LEDs are not activated or when the IR LEDs are in short-circuit if activated. The DL4 LED (yellow) is on when the IR LEDs are in the activation phase during its hysteresis delay-time.

S1 button is used for manual IR LEDs activation test.

TR3 trimmer is used for adjusting the sensitivity of the light sensor photocell. Counter clockwise rotation decreases sensitivity. Clockwise rotation increases it. Setting it to 0 disable the activation from light sensor photocell.

J6 jumper is used for instant or delayed IR LEDs Activation. Connection between 1 and 2 triggers on hysteresis delayed activation and deactivation (in this case, DL4 shows the delayed phase). Connection between 2 and 3 triggers on instant activation and deactivation (in this case, DL4 is always OFF).





Maintain the unit

	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 or deformation to the equipment has been detected.
	Do not use electrical equipment that seems worn or old.

Inspections

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

Routine activities

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 three 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. Do not use ethyl alcohol, solvents, hydrogenated hydrocarbons, strong acids or alkalis. These will irreparably damage the germanium window. Once the cleaning is completed, properly reassemble the protective guard.

> Clean the unit

The layer of filth upon the unit should never exceed 5 mm thickness. Use a dry or damp cloth. Do not use compressed air to clean the unit.



➤ **Check electrical connections**

Check cables and electrical connections for integrity and tightness. If the cables seem worn 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 part replacement must be done by, or under supervision of, Siqua. 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 datasheet that it is resistant to specific chemicals.

Technical data

Mechanical	
Construction	AISI316L Stainless Steel
Finish	Electro-polished
Cable entries	M25x1.5

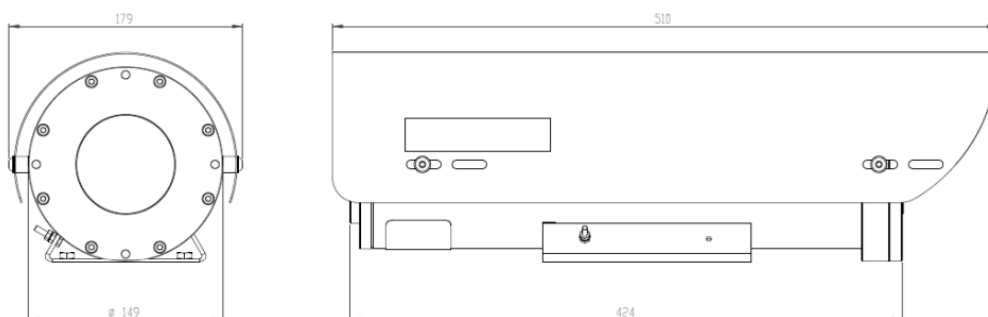
Electrical	
Heater	T[°C] ON = 12 ± 4°C, T[°C] OFF = 20 ± 3°C
Supply voltage	24 V~ 50/60 Hz, 115 V~ 50/60 Hz, 230 V~ 50/60 Hz
Power consumption	25 W Max

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 60079-0:2018; EN 60079-1:2014; EN 60079-28:2015; EN 60079-31:2014
IECEx Standards	IEC 60079-0:2017; IEC 60079-1:2014-06; IEC 60079-28:2015; IEC 60079-31:2013
INMETRO	ABNT NBR IEC 60079-0; ABNT NBR IEC 60079-1; ABNT NBR IEC 60079-28; ABNT NBR IEC 60079-31
UKEX	UKSI 2016:1107 (as amended by UKSI 2019:696) Schedule 3A, Part 2
Compliance	CE, UKCA, INMETRO

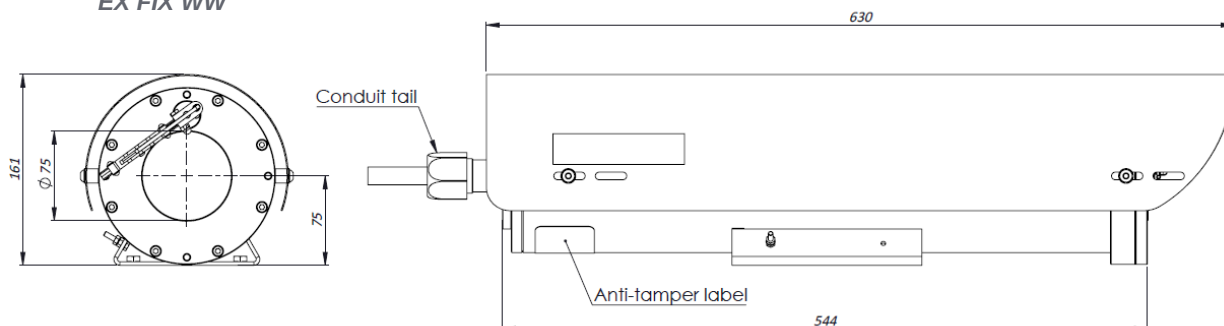
Certifications EX-FIX IR (Illuminator)	
Weatherproof standard	IP66/IP67
Rating	II 2 G Ex db op is op pr IIC T5 Gb -40°C ≤ Tamb ≤ +40°C II 2 D Ex tb op is IIIC T100°C Db -40°C ≤ Tamb ≤ +40°C II 2 G Ex db op is op pr IIB T4 Gb -40°C ≤ Tamb ≤ +60°C II 2 D Ex tb op is IIIC T135°C Db -40°C ≤ Tamb ≤ +60°C
ATEX Standards	EN 60079-0:2018; EN 60079-1:2014; EN 60079-28:2015; EN 60079-31:2014
IECEx Standards	IEC 60079-0:2017; IEC 60079-1:2014-06; IEC 60079-28:2015; IEC 60079-31:2013
INMETRO	ABNT NBR IEC 60079-0; ABNT NBR IEC 60079-1; ABNT NBR IEC 60079-28; ABNT NBR IEC 60079-31
UKEX	UKSI 2016:1107 (as amended by UKSI 2019:696) Schedule 3A, Part 2
Compliance	CE, UKCA, INMETRO

Dimensions

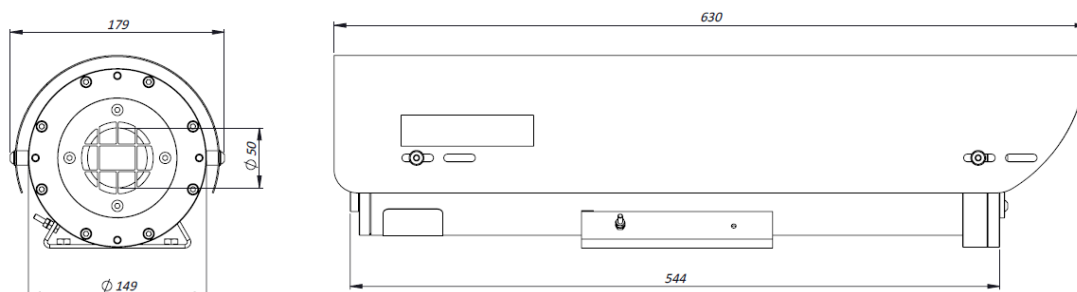
EX FIX



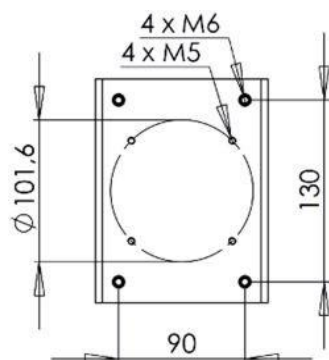
EX FIX WW



EX FIX IR



Mounting pattern



Dimensions in millimeters - Tolerances according to QMS - Design and product specifications subject to change without notice



Marking

Every unit must carry a marking plate similar to the one below

Marking EX-FIX (W/T)



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MODEL
Serial No.: XXXXXXXXXXXXXXXXX/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 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



CERT. NO. ExVeritas 15ATEX0087X & IECEx EXV 15.0004X
CERT. NO. ExVeritas 21UKEX0805X

ATENÇÃO - NÃO ABRA QUANDO UMA ATMOSFERA EXPLOSIVA ESTIVER PRESENTE
WARNING: DO NOT OPEN WHEN ENERGISED OR WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT

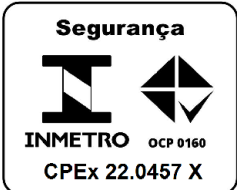
www.TKHSecurity.com



2804
Made in Italy



2585



Segurança
INMETRO OCP 0160
CPEX 22.0457 X



Marking EX-FIX IR (Illuminator)



TKH Security B.V. - Meridiaan 32 - 2801 DA Gouda - The Netherlands

MODEL
Serial No.: XXXXXXXXXXXXXXXXX/YY
Description Voltage: XXXX Max Power: XXX IP66/IP67



- II 2 G Ex db op is op pr IIC T5 Gb -40°C ≤ Tamb ≤ +40°C
- II 2 D Ex tb op is IIIC T100°C Db -40°C ≤ Tamb ≤ +40°C
- II 2 G Ex db op is op pr IIB T4 Gb -40°C ≤ Tamb ≤ +60°C
- II 2 D Ex tb op is IIIC T135°C Db -40°C ≤ Tamb ≤ +60°C



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CERT. NO. ExVeritas 21UKEX0805X

ATENÇÃO - NÃO ABRA QUANDO UMA ATMOSFERA EXPLOSIVA ESTIVER PRESENTE
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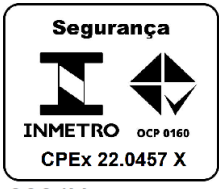
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CPEX 22.0457 X



MODEL	Model name of the unit EX FIXED-XY Standalone camera housing EX FIXED WW-XY Standalone camera housing with wiper EX FIXED IR-XY Standalone camera housing with IR germanium window EX FIXED IRS-XY Standalone camera housing with IR sapphire window EX FIXED IR-SW-XY Standalone camera housing with IR germanium window without front guard EX FIXED LED-XY: Standalone camera housing for IR Spotlight EX FIXED WW LED-XY: Standalone camera housing with wiper for IR Spotlight 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).
Serial No.	TKH Security serial number, followed by the year of manufacturing
Description	Brief description of the unit (such as camera housing, FIXED unit, ...)
Voltage	Supply voltage of the unit
Max Power	Maximum dissipated power of the unit





EX Fixed Series

Manual de instalação



Ex d 316L Câmera Fixa

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Nota: Para garantir o bom funcionamento, leia este manual cuidadosamente antes de usar o produto e retente as informações para referência futura.

Nada desta publicação pode ser copiado, traduzido, reproduzido e/ou publicado por meio de impressão, fotocópia ou por qualquer outro meio sem a permissão prévia por escrito da TKH Security.

A TKH Security reserva-se o direito de modificar as especificações indicadas neste manual.

Marcas

Quaisquer marcas mencionadas neste manual são marcas registradas de seus respectivos proprietários.

Responsabilidade

A TKH Security não se responsabiliza por reclamações de terceiros decorrentes de uso indevido que não seja o indicado neste manual.

Mesmo que foi tomado um cuidado considerável para garantir uma descrição correta e adequada de todos os componentes relevantes do produto, este manual pode, no entanto, conter erros e imprecisões. Convidamos você a oferecer suas sugestões e comentários por e-mail via info@tkhsecurity.com Seu feedback nos ajudará a melhorar ainda mais nossa documentação.

Como entrar em contato conosco

Se você tiver quaisquer comentários ou consultas sobre qualquer aspecto relacionado ao produto, pode entrar em contato:

TKH Security B.V.
Meridiaan 322801 DA Gouda
The Netherlands





Conteúdo

Introdução	22
Descrição	23
Antes de continuar	25
Instale a câmera	26
Manter a câmera	31
Dados técnicos	33
Dimensões	34
Marcação	36
Certificates	38





Introdução

Preserve este manual como referência para necessidades futuras.

	Os produtos elétricos, eletrônicos e de aço inoxidável usados não devem ser misturados com resíduos gerais. Para o tratamento adequado, recuperação e reciclagem de produtos antigos, leve-os aos pontos de coleta aplicáveis, de acordo com a legislação nacional e as Diretrizes 2002/95/CE e 2002/96/CE. Ao descartar esses produtos corretamente, você ajuda a economizar recursos valiosos e evitar quaisquer potenciais efeitos negativos sobre a saúde humana e o meio ambiente que poderiam surgir de um manuseio inadequado de resíduos. Para obter mais informações sobre coleta e reciclagem de produtos antigos, entre em contato com seu município local ou seu serviço de descarte de resíduos. As penalidades podem ser aplicadas para o descarte incorreto desses resíduos, de acordo com a legislação nacional.
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O fabricante declina toda responsabilidade por qualquer consequência resultante de práticas inadequadas de instalação, adulteração ou uso inadequado do produto.

As descrições e ilustrações contidas neste manual não são vinculantes. O fabricante reserva-se o direito de fazer quaisquer alterações consideradas adequadas para a melhoria técnica, de fabricação e comercial do produto, deixando as características essenciais do produto inalteradas, a qualquer momento e sem se comprometer a atualizar a presente publicação.

O fabricante declina toda responsabilidade por quaisquer consequências resultantes do uso indevido do produto ou uso que seja diferente do esperado e especificado nos documentos atuais.





Descrição

A Série Fixa EX inclui uma gama completa de câmeras fixas de aço inoxidável especificamente projetadas para aplicações de Área Perigosa. O desenho das câmeras garante a melhor proteção dos agentes externos, juntamente com um fácil serviço de instalação e manutenção. As câmeras fixas EX são equipadas com o módulo zoom de última geração dia/noite e câmeras de imagem térmica. Eles também estão disponíveis para câmeras especificadas pelo cliente.

As câmeras EX FIXED series foram projetados e certificados de acordo com a Diretiva ATEX 2014/34/EU, UKSI 2016:1107 (modificada por 2019:696) e de acordo a Portaria INMETRO nº 179/2010 para o seguinte:

II 2 G Ex db op pr IIC T6 Gb $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$

II 2 D Ex tb IIIC T85°C Db $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$

II 2 G Ex db op pr IIB T5 Gb $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +75^{\circ}\text{C}$

II 2 D Ex tb IIIC T100°C Db $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +75^{\circ}\text{C}$

Este produto foi projetado para a utilização com gases e vapores inflamáveis abrangidos pelos grupos de aparelhos IIA, IIB e IIC com classes de temperatura de T1 a T6 (temperatura ambiente de até 60°C), com gases e vapores inflamáveis abrangidos pelos grupos de aparelhos IIA e IIB com classes de temperatura de T1 e T5 (temperatura ambiente de até 75°C) e com poeiras inflamáveis abrangidas pelos grupos de aparelhos IIIA, IIIB e IIIC com temperatura T=85°C. A classe de temperatura superficial do dispositivo foi determinada apenas com temperatura do ar ambiente, sem considerar a luz solar direta. A classificação IP da unidade é IP66/IP67. Este produto deve ser instalado exclusivamente por pessoal devidamente treinado de acordo com o código de prática aplicável (por exemplo ABNT NBR IEC 60079-14). Estas instruções destinam-se apenas à utilização destes produtos.



Os iluminadores EX FIX IR foram desenhadas e certificadas para a Diretiva ATEX 2014/34/UE, UKSI 2016:1107 (alteradas em 2019:696) e de acordo com a Portaria INMETRO nº 179/2010 para o seguinte: para o seguinte:

II 2 G Ex db op is op pr IIC T5 Gb	$-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$
II 2 D Ex tb op is IIIC T100°C Db	$-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$
II 2 G Ex db op is op pr IIB T4 Gb	$-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$
II 2 D Ex tb op is IIIC T135°C Db	$-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$

Este produto foi projetado para a utilização com gases e vapores inflamáveis abrangidos pelos grupos de aparelhos IIA, IIB e IIC com classes de temperatura de T1 a T5 (temperatura ambiente de até 40°C), com gases e vapores inflamáveis abrangidos pelos grupos de aparelhos IIA e IIB com classes de temperatura de T1 e T4 (temperatura ambiente de até 60°C) e com poeiras inflamáveis abrangidas pelos grupos de aparelhos IIIA, IIIB e IIIC com temperatura T=100°C (temperatura ambiente de até 40°C) ou com temperatura T=135°C (temperatura ambiente de até 60°C). A classe de temperatura da superfície do dispositivo foi determinada apenas com temperatura do ar ambiente, sem levar em consideração a luz solar direta. A classificação IP da unidade é IP66/IP67

Este produto só deve ser instalado por pessoal devidamente treinado de acordo com o código de prática relevante (EN60079-14). Estas instruções destinam-se ao seu exclusivo uso.

ATENÇÃO: Recomenda-se usar glândulas de cabo e cabos de conexão certificados



Antes de continuar

	Antes da instalação e operação, leia cuidadosamente todas as instruções deste manual e ouça todos os avisos.
	Desempacotar este equipamento e manuseá-lo com cuidado. Se o pacote aparecer danificado, notifique o expedidor imediatamente.
	Use a embalagem original para transportar a unidade. Desconecte a fonte de alimentação antes de movê-la. Em caso de devolução do equipamento, deve ser utilizada a embalagem original.
	Qualquer modificação efetuada na unidade que não tenha sido previamente aprovada pelo fabricante acarreta a perda de validade tanto da certificação como da garantia..
	Tentar forçar manualmente o limpador resultará em danos ao dispositivo e anulará a garantia.
	Os parafusos utilizados para a montagem devem ser M5-08x12 grau A4-70. Parafusos de aperto/afrouxamento usando ferramentas automáticas (como drivers de perfuração) podem resultar em roscas danificadas
	Todas as conexões elétricas devem ser realizadas em uma atmosfera não explosiva.
	Antes de efetuar qualquer operação, desligue a alimentação elétrica. A instalação da unidade pode ser efetuada exclusivamente por pessoal qualificado de acordo com o código de prática aplicável (por exemplo, ABNT NBR IEC 60079-14) e respeitando todas as normas locais e nacionais aplicáveis, incluindo, mas sem limitações, a utilização de tubos especiais, fitas, selantes, cabos e prensa-cabos.
	Por razões de segurança, não instale a câmera nas proximidades dos recipientes de água e nunca empurre objetos ou despeje líquidos na unidade. A câmera pode ser usada com segurança em ambientes úmidos ou ao ar livre, desde que as glândulas estejam devidamente seladas.
	Ao deixar a câmera sem uso por longos períodos, desconecte os cabos de alimentação.
	O transformador interno da câmera nunca deve ser usado para alimentar dispositivos externos.
	Não é necessária ventilação para a câmera, pois está completamente selada.
	Se no equipamento for utilizado um cabo de fibra óptica, ele deverá ser devidamente protegido contra danos mecânicos externos ao equipamento (cabo armado, instalado em conduíte, no interior de uma eletrocalha, etc.).
	A câmera deve ser instalada para que o risco de impacto com a janela de vidro seja baixo.
	A unidade deve ser mantida hermeticamente fechada durante seu funcionamento
	A unidade emite uma luz de IV de alta intensidade. Use óculos de proteção. Evite a exposição direta dos olhos e da pele. Respeite as precauções de segurança apresentadas nas normas IEC 60825-1 e IEC 62471.





Instale a câmera



Qualquer ação realizada na câmera que não esteja descrita neste manual pode danificá-la.

Certifique-se de que a superfície de instalação pode suportar pelo menos quatro vezes o peso da câmera em condições normais de funcionamento. Em caso de estresse externo excessivo (vibração, ventos fortes ou impacto), o equipamento pode precisar de meios adicionais de proteção.

O hardware de aço inoxidável deve ser cuidadosamente escolhido para fixar a câmera nas superfícies. As ferramentas adequadas devem ser utilizadas durante a instalação, de acordo com as exigências ambientais.

Tenha cuidado ao levantar e montar a câmera. Recomenda-se usar luvas de proteção antiderrapante durante a instalação. A carcaça da câmera pode ter bordas afiadas.

As conexões elétricas (como plugues e cabos) devem ser protegidas contra potenciais fatores ambientais perigosos (tráfego de pedestres, atingindo objetos).

Abra apenas as tampas apontadas neste manual de instalação. Outras capas devem ser abertas apenas pelo fabricante.

Use somente ferramentas apropriadas. A natureza particular do local onde o dispositivo deve ser instalado pode exigir ferramentas especiais para instalação.

Apontar a câmera diretamente ao sol pode danificá-la.

Complete a instalação realizando a conexão da câmera referente ao manual da câmera.

Após a instalação da unidade, o saco dessecante deve ser colocado dentro da câmera, garantindo que não será danificado por peças giratórias e móveis.

Verifique cuidadosamente a tensão de alimentação marcada na etiqueta. Uma tensão de alimentação incorreta pode danificar a unidade. Não sobrecarregue a conexão terminal, pois pode causar um incêndio ou risco de choque elétrico.

O ponto de ligação à terra é um parafuso M4-0.7 x16 A4-70 ISO 4762 com porca dupla e arruela serrilhada dupla.

Durante a instalação, é importante conectá-lo a um local de aterramento apropriado utilizando um cabo de cobre trançado de seção (mínima) 10 AWG

Um interruptor de rede de polo com uma distância de abertura entre os contatos de pelo menos 3 mm em cada poste deve ser incorporado na instalação elétrica. O interruptor deve ser equipado com proteção contra a corrente de falha em direção ao solo (diferencial) e à sobrecorrente (magnetotérmal, máximo 15 A). Recomendado para 115 Vac / 230 Vac: 2 A Fusível Atrasado T (Atraso de tempo) ou dispositivos redefinidos equivalentes, como magnetotermal. Recomendado para 24 Vac: 4 A Fusível Atrasado T (Tempo de atraso) ou dispositivos reajustáveis equivalentes, como magnetotermal. Essas classificações incluem corrente de pico para inicialização ou sobrecarga temporária. Deve ser rapidamente reconhecível e facilmente acessível. Instale uma proteção sobrecorrente adequada.



	Para conexão com a rede, use um cabo multipolar com mínimo de 3x1,5 mm ² (15 AWG). O cabo de rede deve ser protegido.
	Fixar todos os cabos dentro da caixa com cabos ou outros meios de fixação para evitar o contato elétrico com as peças circundantes no caso de os cabos se soltarem.
	Certifique-se de que as roscas da unidade estejam isentas de sujeira e detritos. É necessário manter uma profundidade mínima de 10 mm e uma conexão com pelo menos 5 fios de rosca completamente encaixados.
	Não conecte a unidade a um circuito de alimentação antes de a instalação estar concluída. Certifique-se de que os O-rings estejam colocados corretamente nos sulcos correspondentes.
	Para manter os requisitos de certificação e a classificação IP da unidade, é necessário utilizar prensa-cabos certificados adequados. Todos os furos de prensa-cabos não utilizados devem ser fechados com bujão adequado à marcação da caixa.
	Certifique-se de que os fios da unidade estão livres de sujeira e detritos. Deve ser mantido um mínimo de 10 mm de profundidade e 5 roscas de engajamento para todos os orifícios roscados.
	Remova a folha de PVC protetora do protetor solar em uma atmosfera não explosiva antes da instalação
	Isole o equipamento do circuito de alimentação e aguarde pelo menos 5 minutos antes de abri-lo.
	É muito aconselhável realizar e testar todas as conexões em um laboratório de área segura antes de instalar em campo.

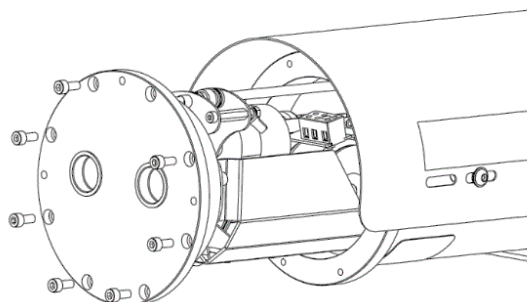
Procedimento de instalação

1. Abra a carcaça

- Extrair o prato traseiro removendo os oito parafusos.
- Tenha cuidado para não perder o Anel-O.

2. Extrair a câmera

- Deslize o trilho para acessar os componentes internos.
- Tenha cuidado para não danificar nenhum cabo.

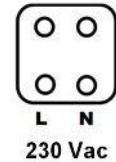
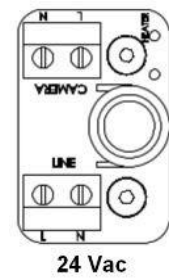


3. Conecte o cabeamento

- Alimente os cabos através das glândulas dos cabos traseiros.



- Faça as conexões elétricas na placa.
- Tensão de alimentação:
 - Tensão de alimentação 24 Vac (no conector "LINE": linha no pino L e neutra no pino N).
 - Tensão de alimentação 230 (115) Vac (no conector "LINE": linha no pino L e neutra no pino N).
 - Saída de vídeo e/ou conector de rede na câmera.
 - Conecte o cabo de terra ao bloco do terminal do parafuso de 2 vias.



So em carcaças com sistema de limpador

A tensão permanente de 24 Vac deve ser conectada entre o fio Verde (linha) e o fio Cinza (neutro/GND) do bloco terminal.

Para ativar o limpador, conecte o fio Cinza (neutro/GND) ao fio Azul. Um interruptor normalmente aberto, conectado entre Cinza e Azul, pode ser usado para esta operação.

Quando o fio Azul estiver conectado ao fio Cinza (neutro/GND), o limpador funciona e continua a funcionar até que o fio seja desconectado, então ele se estaciona na posição inicial.

4. Fixar glândulas de cabo

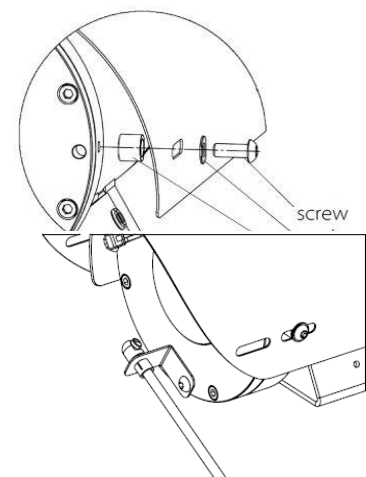
Fixar as glândulas do cabo de acordo com as instruções do fabricante. Deve ser mantido um mínimo de 10 mm de profundidade e 5 roscas de engajamento para todos os orifícios roscados.

5. Feche a carcaça

- Quando todas as conexões forem realizadas, feche a carcaça.
- Coloque cuidadosamente o O-anel em seu sulco no prato frontal.
- Use os parafusos na parte inferior da carcaça para fixá-lo ao suporte.

6. Anexar protetor solar

- Fixar o protetor solar na carcaça usando o parafuso e o espaçador fornecido no kit de acordo com a imagem. Remova a folha de PVC protetora do protetor solar numa atmosfera não explosiva antes da instalação.

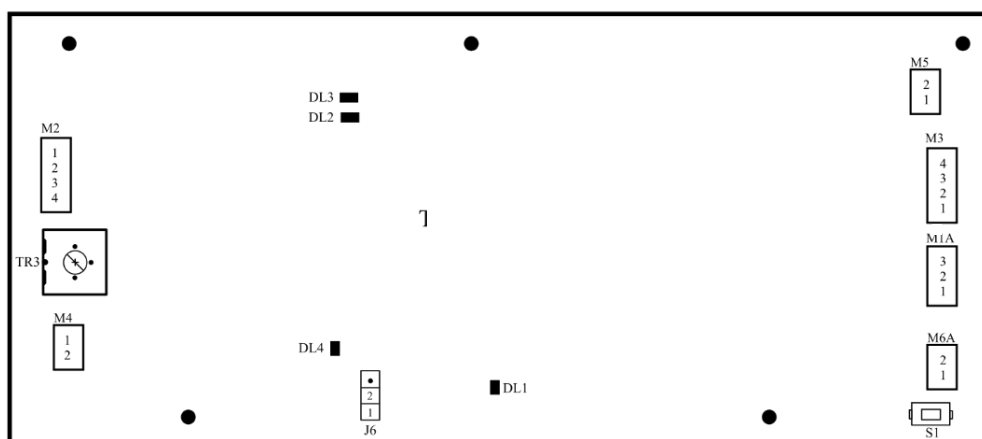


7. Instale o bico

- Coloque o bocal na frente da câmera.



8. IR LED illuminator (EX-FIX IR only)



Pin		Pin	
M1	1 GND	M4	1 Não conectado
	2 24V~/V= (V2/-)		2 Não conectado
	3 24V~/V= (V1/+)	M5	1 +12V= AUX
M2	1 IR LEDs (V+)		2 0V= AUX
	2 IR LEDs (V-)	M6	1 IN cmd Começar C+ or Contato seco
	3 Fotocélula com sensor de luz C +		2 IN cmd Começar E- or Contato seco
	4 Fotocélula com sensor de luz E -		
M3	1 OUT Day&Night_COM fotorelé		
	2 OUT Day&Night_NO fotorelé		
	3 IN cmd ESTROBO C+		
	4 IN cmd ESTROBO E-		

Conector	Nome	Notas
M1	Entrada de alimentação CA/CC	-
M2	Fotocélula do sensor de energia e luz de LEDs IR	Tensão de alimentação para os LEDs IR e sinal de fotocélula do sensor de luz externo
M3	Fotorelé Dia e Noite	Sinal de saída para o modo dia/noite (noite=ON, dia=OFF).
M4	Reservado de fábrica	Não conectado
M5	Saída CC	Para equipamentos auxiliares: não exceda 0,1A
M6	Entradas	Entrada de contato seco/coletor aberto (NPN) para ativação de LEDs IR (Exemplo: saída de câmera externa)



Calibração e configurações do LED IR

A placa IR01 instalada dentro do iluminador LED IR está equipada com quatro LEDs. O LED DL1 (verde) acende quando a placa é alimentada corretamente. O LED DL2 (amarelo) acende quando os LEDs IR são interrompidos (led aberto). O LED DL3 (vermelho) acende quando os LEDs IR não estão ativados ou quando os LEDs IR estão em curto-circuito se ativados. O LED DL4 (amarelo) está aceso quando os LEDs IR estão na fase de ativação durante seu tempo de atraso de histerese.

O botão S1 é usado para teste de ativação manual dos LEDs IR.

O aparador TR3 é usado para ajustar a sensibilidade da fotocélula do sensor de luz. A rotação no sentido anti-horário diminui a sensibilidade. A rotação no sentido horário aumenta.

Configurando para 0 desabilita a ativação da fotocélula do sensor de luz.

O jumper J6 é usado para ativação instantânea ou retardada dos LEDs IR.

Conexão entre 1 e 2 triggers na ativação e desativação atrasadas da histerese (neste caso, DL4 mostra a fase atrasada). Conexão entre 2 e 3 triggers na ativação e desativação instantânea (neste caso, DL4 está sempre OFF).



Manter a câmera

	Leia e esteja familiarizado com as seguintes instruções antes de atender a unidade.
	Garanta condições operacionais adequadas da unidade efetuando verificações de segurança ao concluir a manutenção.
	Isole a unidade do circuito de alimentação antes de efetuar a respectiva limpeza. Não utilize produtos de limpeza cáusticos ou abrasivos.
	Utilize exclusivamente peças de reposição especificadas pelo fabricante.
	As operações de inspeção e manutenção do equipamento devem ser feitas de acordo com as normas aplicáveis (ou seja, ABNT NBR IEC 60079-17). A reparação do equipamento deve ser feita de acordo com as normas aplicáveis (ou seja, ABNT NBR IEC 60079-19).
	Isole a unidade do circuito de alimentação e informe o pessoal de manutenção qualificado se encontrar qualquer dano no equipamento.
	Não utilize equipamentos elétricos que pareçam estar desgastados ou velhos.

Inspeções

Este equipamento foi desenhado para uso em ambientes severos que requerem pouca ou nenhuma manutenção. O intervalo sugerido de inspeção é de seis meses, mas ambientes extremamente severos podem exigir verificações mais frequentes de inspeção e manutenção. Em cada inspeção, verifique as vedações do anel O e a integridade da lâmina do limpador de janelas. Substitua-os, se for necessário.

Atividades de rotina

Realizar regularmente as seguintes atividades de rotina:

➤ **Limpe o vidro**

Use água ou um detergente líquido que não gerará uma situação perigosa.

➤ **Limpe a janela de Germânio**

Remova a proteção, desparafusando os três parafusos usando uma chave hexa sem faíscas e não magnética. Use água ou detergente líquido que não gere uma situação perigosa. Tenha cuidado para não arranhar o revestimento de carbono. Não use álcool etílico, solventes, hidrocarbonetos hidrogenados, ácidos fortes ou álcalis. Estes danificarão irreparavelmente a janela de germânio. Uma vez concluída a limpeza, remonte adequadamente a proteção.

➤ **Limpe a câmera**

A camada de sujeira sobre a carcaça nunca deve exceder a espessura de 5 mm. Use um pano seco ou úmido. Não use ar comprimido para limpar a câmera.

➤ **Verifique as conexões elétricas**

Revise os cabos e conexões elétricas para verificar integridade e o aperto. Se os cabos parecerem desgastados ou danificados, consulte a seção de manutenção Extraordinária.

➤ **Verifique os acessórios de montagem**

Revise parafusos e parafusos de montagem para verificar integridade e o aperto. Substitua ou aperte qualquer hardware de montagem danificado/solto.

Manutenção extraordinária

Qualquer intervenção que não esteja listada na lista de atividades de rotina deve ser feita na ausência de atmosfera potencialmente explosiva. Qualquer reparo ou substituição de peças deve ser feito por, ou sob supervisão de, Siqua. Use apenas peças de reposição originais. O fabricante declina toda a responsabilidade por qualquer dano resultante de adulteração, uso de peças de reposição não originais e serviço realizado sem seguir as diretrizes do presente manual.

Se é provável que o equipamento entre em contato com substâncias agressivas, então é responsabilidade do usuário tomar as precauções adequadas que o impeçam de ser afetado negativamente, garantindo assim que o tipo de proteção não seja comprometida.

Substâncias agressivas: Líquidos ácidos ou gases que podem atacar metais, ou solventes que podem afetar materiais poliméricos.

Precauções adequadas: verificações regulares como parte de inspeções de rotina ou estabelecer a partir da folha técnica do material que ele é resistente a produtos químicos específicos.

Dados técnicos

Mecânico	
Construção	Aço inoxidável AISI316L
Acabado	Eletro-polido
Entradas de cabos	M25x1.5

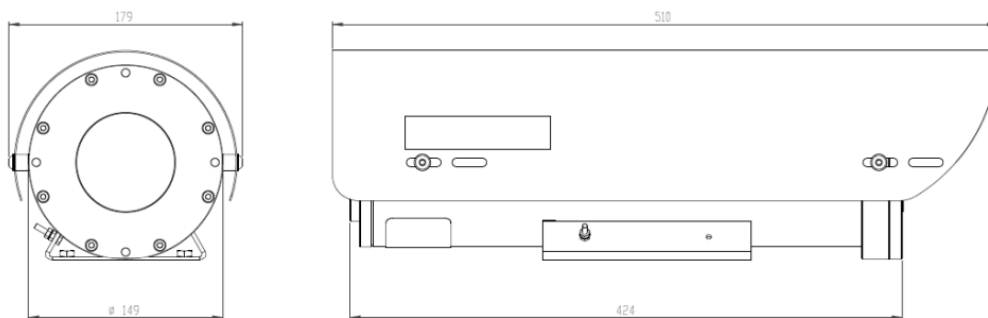
Elétrico	
Aquecedor controlado termostaticamente	T[°C] ON = 12 ± 4°C, T[°C] OFF = 20 ± 3°C
Tensão de alimentação	24 V~ 50/60 Hz, 115 V~ 50/60 Hz, 230 V~ 50/60 Hz
Consumo de energia	25 W Max

Certificações	
Padrão à prova de intemperes	IP66/IP67
Classificação	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
Padrões ATEX	EN 60079-0:2018; EN 60079-1:2014; EN 60079-28:2015; EN 60079-31:2014
Padrões INMETRO	ABNT NBR IEC 60079-0; ABNT NBR IEC 60079-1; ABNT NBR IEC 60079-28; ABNT NBR IEC 60079-31
Padrões IECEx	IEC 60079-0:2017; IEC 60079-1:2014-06; IEC 60079-28:2015; IEC 60079-31:2013
UKEX	UKSI 2016:1107 (alterado por UKSI 2019:696) Agenda 3A, Parte 2
Conformidade	CE, UKCA, INMETRO

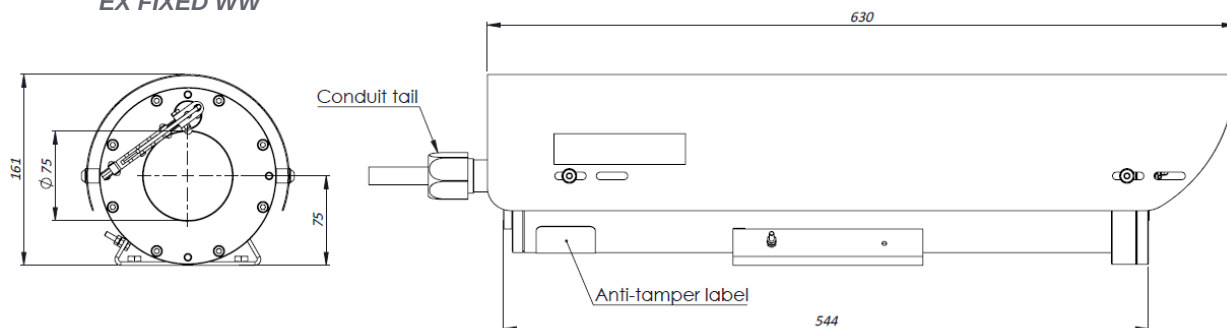
Certifications EX-FIX IR (Illuminator)	
Padrão à prova de intemperes	IP66/IP67
Classificação	II 2 G Ex db op is op pr IIC T5 Gb -40°C ≤ Tamb ≤ +40°C II 2 D Ex tb op is IIIC T100°C Db -40°C ≤ Tamb ≤ +40°C II 2 G Ex db op is op pr IIB T4 Gb -40°C ≤ Tamb ≤ +60°C II 2 D Ex tb op is IIIC T135°C Db -40°C ≤ Tamb ≤ +60°C
Padrões ATEX	EN 60079-0:2018; EN 60079-1:2014; EN 60079-28:2015; EN 60079-31:2014
Padrões IECEx	IEC 60079-0:2017; IEC 60079-1:2014-06; IEC 60079-28:2015; IEC 60079-31:2013
Padrões INMETRO	ABNT NBR IEC 60079-0; ABNT NBR IEC 60079-1; ABNT NBR IEC 60079-28; ABNT NBR IEC 60079-31
UKEX	UKSI 2016:1107 (as amended by UKSI 2019:696) Schedule 3A, Part 2
Compliance	CE, UKCA, INMETRO

Dimensões

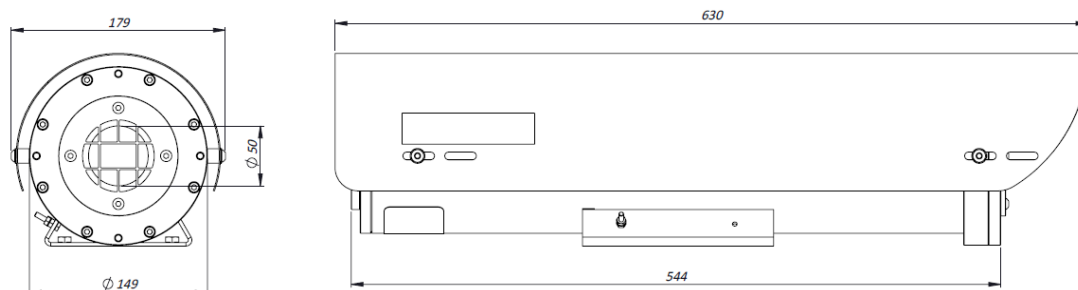
EX FIXED



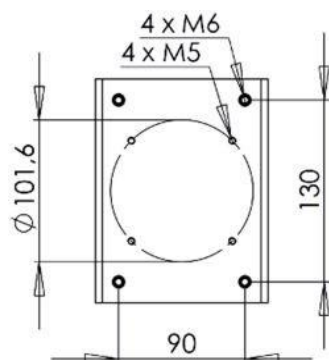
EX FIXED WW



EX FIXED IR



Padrão de montagem



Dimensões em milímetros - Tolerâncias de acordo com QMS - Desenho e especificações do produto sujeitos a alterações sem aviso prévio



Marcação

Cada unidade deve levar uma placa de marca semelhante à abaixo

Marking EX-FIX (W/T)



TKH Security B.V. - Meridiaan 32 - 2801 DA Gouda - The Netherlands

MODEL
Serial No.: XXXXXXXXXXXXXXXXXXXX/YY
Description Voltage: XXXX Max Power: XXX IP66/IP67



- II 2 G Ex db op pr IIC T6 Gb $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$
- II 2 D Ex tb IIC T85°C Db $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$
- II 2 G Ex db op pr IIB T5 Gb $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +75^{\circ}\text{C}$
- II 2 D Ex tb IIC T100°C Db $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +75^{\circ}\text{C}$

CERT. NO. ExVeritas 15ATEX0087X & IECEx EXV 15.0004X
CERT. NO. ExVeritas 21UKEX0805X

Segurança

INMETRO OCP 0160
CPEX 22.0457 X



ATENÇÃO - NÃO ABRA QUANDO UMA ATMOSFERA EXPLOSIVA ESTIVER PRESENTE
WARNING: DO NOT OPEN WHEN ENERGISED OR WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT

www.TKHSecurity.com



2804
Made in Italy



2585



Marking EX-FIX IR (Illuminator)



TKH Security B.V. - Meridiaan 32 - 2801 DA Gouda - The Netherlands

MODEL
Serial No.: XXXXXXXXXXXXXXXXXXXX/YY
Description Voltage: XXXX Max Power: XXX IP66/IP67



- II 2 G Ex db op is op pr IIC T5 Gb $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$
- II 2 D Ex tb op is IIC T100°C Db $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$
- II 2 G Ex db op is op pr IIB T4 Gb $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$
- II 2 D Ex tb op is IIC T135°C Db $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$

CERT. NO. ExVeritas 15ATEX0087X & IECEx EXV 15.0004X
CERT. NO. ExVeritas 21UKEX0805X

Segurança

INMETRO OCP 0160
CPEX 22.0457 X



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MODEL	Nome do modelo da câmera EX FIXED-XY Caixa da câmera autônoma EX FIXED WW-XY Caixa de câmera autônoma com limpador EX FIXED IR-XY Caixa de câmera autônoma com janela germânia IR EX FIXED IRS-XY Caixa de câmera autônoma com janela safira IR EX FIXED IR-SW-XY Câmera autônoma com janela germânia IR sem protetor frontal X é um caractere variável referido à entrada do cabo (X). Pode ser A (para M25) ou B (para M20), C (para prato traseiro com até quatro entradas M25) ou D (para prato traseiro com até quatro entradas M20).
Serial No.	No. de Serial TKH Security, seguido pelo ano de fabricação
Description	Breve descrição da câmera (como carcaça de câmera, unidade FIXA, ...)
Voltage	Tensão de alimentação
Max Power	Máxima potência dissipada



Certificates

EU Declaration of conformity

TKH GROUP TKH SECURITY EU Declaration of Conformity

Ratings and product markings	
Marking for EX models, ATEX / IECEx:	For IIC gas group applications: II 2 G, Ex db op pr IIC T8 Gb -40°C < Tamb < +80°C II 2 D, Ex tb IIC T85°C Db IP66/IP67 or increased ambient temperature range for IIB gas group: II 2 G, Ex db op pr IIB T5 Gb -40°C < Tamb < +75°C II 2 D, Ex tb IIC T100°C Db IP66/IP67
EX model markings:	Refer to ExVeritas certificates for additional markings of housing models: EX FIXED series, EX PT and EX PTZ series.
EX-IR spotlight model markings:	Different markings apply for the EX-PTZ230D-IR and EX-PTZ24D-IR spotlights. Temperature class +40°C or +80°C, see actual product marking plate for details.
EX-Washer markings:	Washers have a different marking, Ex d or Ex e, Temperature Class and IP protection rating. See datasheets or actual product marking plate for details.
Laser safety:	Equipment with optional fiber optic will not be marked, due to the exception for Class 1 optical radiation sources in EN/IEC 60079-28 (edition2, 2015)
Power ratings:	Fixed camera models: 25W, PTZ camera models: single 66W / dual 120W

The object of this declaration is in conformity with the relevant EU harmonisation legislation	
LVD: 2014/35/EU, EMC Directive 2014/53/EU, ATEX Directive 2014/34/EU (ATEX 114)	RoHS: 2011/65/EU + 2015/863/EU, REACH Regulation (EC) 1907/2006, WEEE: 2012/19/EU

Reference to ATEX / IECEx certificates and standards	
ATEX:	Ex equipment is approved by Notified Body number: 2804, ExVeritas Aps, Denmark ATEX certificate No: ExVeritas 15ATEX0087X Issue 5 (2021)
IECEx:	Ex equipment is approved by ExVeritas Limited, Wrexham, LL13 9UZ, UK Certificate No: IECEx EXV 15.0004X Issue No. 4 (2021) (database: www.iecex.com)
EN Standards:	EN 60079-0:2018, EN 60079-1:2014, EN 60079-28:2015, EN 60079-31:2014
IEC Standards:	IEC 60079-0:2017, IEC 60079-1:2014, IEC 60079-28:2015, IEC 60079-31:2013

Reference to harmonised and non-harmonised standards	
Safety:	TKH Security B.V. The Netherlands EN 62388-1:2014/AC:2015 - Audio/video, ICT equipment - Part 1: Safety requirements
Standards:	TKH Security B.V. The Netherlands
EMC:	EN 61000-6-4:2007+A1:2011 - Generic, Emission, Industrial (Class A) EN 50322:2015 - Emission, (Class A) EN 61000-3-2:2014 - Limits for harmonic current emissions EN 61000-3-3:2013 - Voltage fluctuations and flicker EN 61000-6-2:2009+AC:2009 - Generic, Immunity, Industrial
Standards:	EN 50130-4:2011+A1:2014 - Alarm systems

Year of affixing the CE mark: 2016	
This declaration of conformity is issued under the sole responsibility of the manufacturer:	
Name:	TKH Security B.V.
Address:	Meridiaan 32, 2801 DA, Gouda, The Netherlands
Signed for and on behalf of TKH Security:	
Date:	2021-08-20
Name:	W.D. Hermelink
Title:	Product Certification Engineer

Doc ID: EX- and SA-Cameras - EU Declaration of Conformity - Rev. F - 2021-08-20.docx

TKH Security B.V. | +31(0)320 462 07 00 | info.nl@tkhsecurity.com | tkhsecurity.com

TKH GROUP TKH SECURITY EU Declaration of Conformity

TKH Security Headquarters
Pleinlaan 55
2718 SZ, Zoetermeer
The Netherlands

Our Brands: FimoQ | Protect | Park Assist | ParkEyes | Siqua | VDO
Installations in over 80 countries

Product identification	
Description:	Analog or digital network, surveillance cameras, EX camera series and SA camera series including support equipment: washer systems, Ex conduit, mounting brackets and sun shields. • Explosion protected, EX camera models in 316L stainless steel housings intended for use in potentially explosive atmosphere, according ATEX / IECEx / UKEX • Safe Area, SA camera models in 316L stainless steel housings intended for use in non-Ex-locations (explosion protection not required)

Brand:	SA-QUIRA
Series	SA-FIX, SA-PTZ (Safe Area) camera series and EX-FIX, EX-PTZ (Explosion proof) camera series
SA models:	SA-FIX24(W) Safe Area Fixed Camera 316L 24VAC, (Wiper) SA-FIX15(W) Safe Area Fixed Camera 316L 115VAC, (Wiper) SA-FIX230(W) Safe Area Fixed Camera 316L 230VAC, (Wiper) SA-FIX24T Safe Area Fixed Thermal Camera 316L 24VAC SA-FIX15T Safe Area Fixed Thermal Camera 316L 115VAC SA-FIX230T Safe Area Fixed Thermal Camera 316L 230VAC SA-FIXAC Safe Area Fixed Air-cooled Camera 316L with vortex cooler, PoE SA-PTZ24(L) Safe Area PTZ Camera 316L 24VAC (Large) SA-PTZ15(L) Safe Area PTZ Camera 316L 115VAC (Large) SA-PTZ230(L) Safe Area PTZ Camera 316L 230VAC (Large) SA-PTZ24T Safe Area PTZ Thermal Camera 316L 24VAC SA-PTZ15T Safe Area PTZ Thermal Camera 316L 115VAC SA-PTZ230T Safe Area PTZ Thermal Camera 316L 230VAC SA-PTZ15D Safe Area PTZ Dual Spectrum Camera 316L 115VAC SA-PTZ230D Safe Area PTZ Dual Spectrum Camera 316L 230VAC SA-PTZ24D-IR Safe Area PTZ camera with integrated IR, 316L 24VAC SA-PTZ230D-IR Safe Area PTZ camera with integrated IR, 316L 230VAC

EX models:	EX-FIX115T EX Fixed Thermal Camera 316L 115VAC EX-FIX115W EX Fixed Thermal Camera 316L 115VAC, Wiper EX-FIX230T EX Fixed Thermal Camera 316L 230VAC EX-FIX230W EX Fixed Thermal Camera 316L 230VAC, Wiper EX-FIX24T EX Fixed Thermal Camera 316L 24VAC EX-FIX24W EX Fixed Thermal Camera 316L 24VAC, Wiper EX-PTZ115T EX PTZ Thermal Camera 316L 115VAC EX-PTZ115D EX PTZ Thermal Camera 316L 115VAC EX-PTZ230D EX PTZ Dual Spectrum Camera 316L 230VAC EX-PTZ230D-IR EX PTZ Dual Spectrum Camera 316L 230VAC EX-PTZ230T EX PTZ Thermal Camera 316L 230VAC EX-PTZ24T EX PTZ Thermal Camera 316L 24VAC EX-PTZ24D-IR EX PTZ camera with integrated IR, 316L 24VAC EX-PTZ24T EX PTZ Thermal Camera 316L 24VAC
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Integrated camera options	• Optical and Dual cameras will have a BC982X2H3(-AS) or BC980H2(-AS) integrated optical camera. The BC model names may have suffixes for lens, image or mechanical properties. • Thermal and Dual cameras will have a TC or TCR1 integrated thermal camera. The TC / TCR1 model names will have suffixes indicating resolution, speed, focal distance, or firmware.
Camera interface	Cameras will have one of the following interfaces: INT-RJ, INT-RJ5, INT-RJ10, INT-SM, INT-SM5, INT-SM10, INT-MM, INT-MM5, INT-MM10, RJ = Fast Ethernet interface, SM and MM = fiber optic interface.

TKH Security B.V. | +31(0)320 462 07 00 | info.nl@tkhsecurity.com | tkhsecurity.com

ATEX Certificate



Schedule

13 Description of Equipment or Protective System

The equipment consists of camera enclosure which can be supplied with a pan and tilt unit with terminal enclosure all of which are constructed from 316L stainless steel. The camera enclosure has the option of either toughened float glass or IR germanium windows. The IR models are supplied either with or without a fixed window guard. Models designed for use without the fixed guard are identified by the use of an -SW in the model number. The two window types are cemented into the window frame end caps using a silicone based cement. The pan and tilt unit can be fitted with either a single or dual camera enclosures. The camera enclosure can be either fitted to the pan and tilt unit or standalone. The camera enclosure has the option to have an anti-condensation heater and/or wiper motor fitted. The terminal enclosure has the option for either a hollow shaft with a cable fed through or a slip-ring unit to transfer power to the pan and tilt unit. The mounted cameras can use fibre optical connections, the fibre optical cables internal and external to the camera housing are protected to op pr requirements.

Models

EX FIXED-XY	Standalone camera housing
EX FIXED WW-XY	Standalone camera housing with wiper
EX FIXED IR-XY	Standalone camera housing with IR germanium window
EX FIXED IRS-XY	Standalone camera housing with IR sapphire window
EX FIXED IR-SW-XY	Standalone camera housing with IR germanium window without front guard
EX FIXED P-Y	Pan & Tilt camera housing
EX FIXED WWP-Y	Pan & Tilt camera housing with wiper
EX FIXED IRP-Y	Pan & Tilt camera housing with IR germanium window
EX FIXED RSP-Y	Pan & Tilt camera housing with IR sapphire window
EX FIXED RP-SW-Y	Pan & Tilt camera housing with IR germanium window without front guard
EX PT	Pan & Tilt unit
EX PTZ	PTZ Camera station with one integrated camera housing
EX PTZ D	PTZ Camera station with two integrated camera housings
EX PTZ H	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 (Y) where:

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

Y can be S (for 250mm), L (for 500mm), M (for 375mm), N (for 320mm) or O (for 430mm).

The enclosure meets IP66/67

Certificate: EXVeritas 15ATEX0087X

Issue 5

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Page 2 of 5

FO-08-DK-37-1 V1



1 EU - Type Examination Certificate

Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

Certificate Number: EXVeritas 15ATEX0087X Issue: 5

Equipment: Camera Enclosures and Pan and Tilt Units
(see description for full product list)

Manufacturer: TKH Security B.V.

Address: Meridian 32,
2801 DA, Gouda, The Netherlands.

This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

ExVeritas, Notified Body number 2804 in accordance with Article 17 of the Council Directive 2014/34/EU of 28 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems for use in potentially explosive atmospheres given in Annex II to the Directive

Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with the following Standards and section 16 of this certificate:

EN IEC 60079-0: 2018 EN 60079-1: 2014 EN 60079-28: 2015
EN 60079-31: 2014

If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

This EU-Type Examination Certificate relates only to the design, construction, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

The marking of the equipment shall include the following:

 II 2 G Ex db op IIC T6 Gb -40°C ≤ T_{amb} ≤ +60°C
II 2 D Ex tb IIIC T85°C Db -40°C ≤ T_{amb} ≤ +60°C

See also additional coding for issue 3 on page 3 issue 4 on page 4 of the certificate.

On behalf of ExVeritas



Peter Lauritzen
Managing Director



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Page 1 of 5

FO-08-DK-37-1 V1



Schedule

13.1 Details of changes

Issue 2

The following changes are incorporated in issue 2 of the certificate

- Revision of the model numbers to differentiate between the sapphire window and germanium window IR models.
- Update of the applied standards from EN 60079-1:2007 to EN 60079-1:2014, from EN 60079-28:2006 to EN 60079-28:2015 and from EN 60079-31:2008 to EN 60079-31:2014.
- Inclusion of an adhesive marking label.
- Option to remove the welded shoulder from single pan and tilt units.
- Inclusion of a "hybrid" model EXPZHX, PTZ dual head version with one hollow shaft for an integrated camera housing and one solid shaft for the mounting of certified accessories.

Issue 3

The following changes are incorporated in issue 3 of the certificate

- Introduction of a revised rear flange assembly to the fixed camera housing which mirrors the front window assembly and incorporates up to four M20 or M25 threaded cable entries.
- Increase in the upper ambient temperature range from +60°C to +75°C for IIB gases only with the coding becoming:

II 2 G Ex db op pr IIB T5 Gb -40°C ≤ T_{amb} ≤ +75°C
II 2 D Ex tb IIIC T100°C Db -40°C ≤ T_{amb} ≤ +75°C

- Amendment of the pan and tilt unit, reducing wall thicknesses along with additional material removal in order to reduce the weight of the unit.

Issue 4

The following changes are introduced in issue 4 of the certificate

- Reinstate the original gaps for the operating shafts
- Reinstate the original cement used on the cemented flamepath on the windows
- Update of manufacturers address
- Introduction of an IR spotlight as follows.

The Camera station with IR Spotlight consists of an IR unit housed within the Siqua Ex d camera unit. The IR Spotlight has the following input parameters:

Max input voltage = 240 Vac 50/60 Hz

Max input power = 25 W

The following models with IR unit are available:

EX FIXED LED-XY: Standalone camera housing for IR Spotlight
EX FIXED WW LED-XY: Standalone camera housing with wiper for IR Spotlight
EX FIXED P LED-Y: Pan & Tilt camera housing for IR Spotlight
EX FIXED WWP LED-Y: Pan & Tilt camera housing with wiper for IR Spotlight

-XY are two variable characters which refer to the cable entry (X) and to the length of the camera housing (Y) where:
X can be A (for M25), B (for M20), C (for rear flange with up to four M25 entries) or D (for rear flange with up to four M20 entries).

Y can be S (for 250mm), L (for 500mm), M (for 320mm) or O (for 430mm).

Certificate: ExVeritas 15ATEX0087X

Issue 5

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Page 3 of 5

FO-CB-DK-37-1 V1



Schedule

The enclosure meets IP68/67.

The coding for the camera units with IR spotlight are as follows:

II 2 G Ex db op is op pr IIC T5 Gb -40°C ≤ T_{amb} ≤ +40°C

II 2 D Ex tb op is IIIC T100°C Db -40°C ≤ T_{amb} ≤ +40°C

II 2 G Ex db op is op pr IIB T4 Gb -40°C ≤ T_{amb} ≤ +60°C

II 2 D Ex tb op is IIIC T135°C Db -40°C ≤ T_{amb} ≤ +60°C



Issue 5

The following changes are introduced in issue 5 of the certificate:

- Transfer of the certificate from ExVeritas UK, Notified Body number 2686 to ExVeritas Denmark, Notified Body number 2804. Certificate number remains unchanged.
- Change of company name from Siqua B.V. to TKH Security B.V.
- Update to the latest edition of 60079-0.
- Rationalisation of compliance drawing list

14 Descriptive Documents

14.1 Associated Report and Certificate History:

Report Number	Cert Issue Date	Issue	Comment
R0576/A1	2015.11.16	1	Initial issue of the Prime Certificate
R0586/A1	2016.07.14	2	Issue of the first variation
R1690/A1	2018.09.03	3	Issue of the second variation
R2096/A1	2019.07.16	4	Issue of the third variation
R3096/A3	2021.06.03	5	Issue of the fourth variation

14.2 Compliance Drawings:

Issue 5

Title:	Drawing No.:	Issue:	Date:
Related Certificate	ExVeritas 15ATEX0085X	9	18/12/2020
Schedule Drawing Ex Marking Plate TKH – (ATEX 2017)	SD00049-S	02	07/01/2021
Schedule Drawing Ex Marking Plate TKH Spotlight – (ATEX 2017)	SD00060	01	07/01/2021
Minimum requirements for installation manuals of hazardous area products	-	20210108	2021/01/08
Minimum requirements for installation manuals of hazardous area products with spotlight	-	20210108	2021/01/08

Certificate: ExVeritas 15ATEX0087X

Issue 5

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Page 4 of 5

FO-CB-DK-37-1 V1



Schedule

15 Conditions of Certification

15.1 Special Conditions for Safe Use

- 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.
- Fasteners used for the assembly shall be M5-Q.8 x 12 Grade A4-70

15.2 Conditions for Use (Routine tests)

Routine Tests

- The manufacturer must carry out routine pressure tests to a value no less than 24.8 Bar on each camera and pan and tilt housing post production to ensure the equipment's capability to withstand overpressure

Special conditions for manufacture

- The power dissipated within the camera housing shall not exceed 25W. The power dissipated within the pan and tilt unit shall not exceed 70W.
- The cross-sectional area occupied by the internal equipment within the camera housing shall not exceed 60% of the available area.

16 Essential Health and Safety Requirements

Essential Health and Safety Requirements are addressed by the standards listed in section 9 and where required the report listed in section 14.1

The manufacturer shall inform the Notified Body of any modifications to the design of the product described by this schedule.

Certificate: EXVeritas 1SATEX0087X

Issue 5

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Page 5 of 5

FO-08-0K-37-1 V1

		IECEx Certificate of Conformity	
Certificate No.: IECEX EXV 15.0004X		Page 2 of 5	
Date of Issue: 2021-06-03		Issue No.: 4	
Manufacturer: TNH Security B.V. Meridiaan 32 2801 DA Gouda Netherlands			
Additional manufacturing locations:			
This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended			
STANDARDS : The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards			
IEC 60079-0:2017 Edition: 7.0		Explosive atmospheres - Part 0: Equipment - General requirements	
IEC 60079-1:2014-06 Edition: 7.0		Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"	
IEC 60079-28:2015 Edition: 2		Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation	
IEC 60079-31:2013 Edition: 2		Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"	
This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.			
TEST & ASSESSMENT REPORTS: A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:			
Test Reports:			
GB/EX/EXV/18.0025/00		GB/EX/EXV/19.0030/00	
GB/EX/EXV/18.0025/00		GB/EX/EXV/19.0030/00	
Quality Assessment Report:			
GB/EX/QAR/17.0017/02		GB/EX/EXV/18.0025/00	

EQUIPMENT: Equipment and systems covered by this Certificate are as follows:

The equipment consists of a camera enclosure which can be supplied in a pan and tilt unit with terminal enclosures. The IR camera is constructed from 316L stainless steel. The camera enclosure has the option of either toughened float glass or IR germanium windows. The IR models are supplied either with or without a fixed window guard. Models designed for use without the fixed guard are identified by the use of the suffix 'A' in the model number. The two window types are cemented into the window frame and caps using a silicone based cement. The pan and tilt unit can be fitted with either a single or dual camera enclosures. The camera frame and caps using a silicone based cement. The pan and tilt unit can be fitted with either a single or dual camera enclosures. The camera enclosure can be either fitted to the pan and tilt unit or stand alone. The camera enclosure has the option to have an anti-condensation heater and/or wiper motor fitted. The terminal enclosure has the option for either a follow through cable and through or a slip-ring unit to transfer power to the pan and tilt unit. The mounted cameras are supplied with the cable and the cable gland. The cable gland is essential to prevent the cable from being pulled out of the camera. A list of model numbers is detailed in the Annex.

The enclosure meets IP68/67

SPECIFIC CONDITIONS OF USE: YES as shown below:

- SPRUE CONDITIONS OF USE: TCS as shown below.
1. When a fibre optical cable is used on the equipment it shall be suitably protected against mechanical damage external to the equipment (e.g. wire armouring cable, filled in conduit, within a cable tray etc).
 2. The camera must be installed so that the risk of impact with the glass window is low.
 3. Fasteners used for the assembly shall be MS-Q.8x12 Grade A4-70

Equipment (continued):

Technical Documents:

Title:	Drawing No.:	Rev. Level:	Date:
'Schedule Drawing Ex. Marking Plate T1H - (ATEX 2017)	SD00049- S	02	07/01/2021
'Schedule Drawing Ex. Marking Plate T1H Spotlight - (ATEX 2017)	SD00090	01	07/01/2021
'Minimum requirements for installation manuals of hazardous area products	-	20210108	20210108
'Minimum requirements for installation manuals of hazardous area products with spotlight	-	20210108	20210108

Note: An * is included before the title of documents that are new or revised



IECEx Certificate of Conformity

Certificate No.: **IECEx EXV 15.0004X**

Page 5 of 5

Date of issue: **2021-06-03**

Issue No: **4**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Update to latest edition of IEC 60079-0
- Change of company name/address

Annex:

[IECEx EXV 15.0004X ANNEX Issue 4.pdf](#)



UNITED KINGDOM CONFORMITY ASSESSMENT
UK TYPE EXAMINATION CERTIFICATE

Product Intended for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1

Type Examination Certificate Number: ExVeritas 21UKEX0805X Issue: 0

Product: Camera Enclosures and Pan and Tilt Units
(See description for full product list)

Manufacturer: TKH Security B.V.

Address: Meridian 32,
2801 DA, Gouda, The Netherlands

This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

ExVeritas Limited Approved Body number 2585, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2018, UKSI 1816:1107 (as amended by UKSI 1019:089), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0: 2018
EN 60079-1: 2014
EN 60079-28: 2015

Except in respect of those requirements listed at section 18 of the schedule to this certificate.

If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

This TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

The marking of the equipment shall include the following:

II 2 G Ex db op pr II C T6 Gb $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$ III 2 D Ext tb III C T85°C Db -40°C ≤ T_{amb} ≤ +60°C

See also additional coding in equipment description section of the certificate.

On behalf of ExVeritas

**S Clarke CEng MSc FIET
Managing Director**

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FO-CB-76 V1

Schedule

The camera station can also be provided with an IR spotlight which consists of an IR unit housed within the Ex d camera unit. The IR Spotlight has the following input parameters:

Max input voltage = 240 Vac 50/60 Hz

Max input power = 25 W

The following models with IR unit are available:

- EX FIXED LED-XY: Standalone camera housing for IR Spotlight
- EX FIXED WW LED-XY: Standalone camera housing with wiper for IR Spotlight
- EX FIXED P LED-Y: Pan & Tilt camera housing for IR Spotlight
- EX FIXED WWP LED-Y: Pan & Tilt camera housing with wiper for IR Spotlight

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

X can be A (for M20), B (for M20), C (for rear flange with up to four M20 entries) or D (for rear flange with up to four M20 entries). Y can be S (for 250mm), L (for 375mm), M (for 320mm) or O (for 430mm).

The coding for the camera units with IR spotlight are as follows:

- II 2 G Ex db op is op pr IIC T5 Gb -40°C ≤ T_{amb} ≤ +40°C
- II 2 D Ex tb op is IIIC T100°C Db -40°C ≤ T_{amb} ≤ +40°C
- II 2 G Ex db op is op pr IIB T4 Gb -40°C ≤ T_{amb} ≤ +60°C
- II 2 D Ex tb op is IIIC T135°C Db -40°C ≤ T_{amb} ≤ +60°C



14 Descriptive Documents

14.1 Associated Report and Certificate History:

Report Number	Cert Issue Date	Issue	Comment
R3886/A3	2021/06/03	0	Initial issue of the Prime Certificate

14.2 Compliance Drawings:

Issue 0

Title:	Drawing No.:	Rev. Level:	Date:
Related Certificate	ExVeritas 21UKEX0803X	Issue 0	2021/06/03
Related Drawing EX MARKING PLATE T1H	S000005	00	02/04/2021
SPOTLIGHT (UKCA)	S000006	00	02/04/2021
SCHEDULED DRAWING EX MARKING PLATE T1H - (UKCA)	-	2021/05/03	2021/05/03
Minimum requirements for installation manuals of hazardous area products.	-	2021/05/03	2021/05/03
Minimum requirements for installation manuals of hazardous area products with spotlight	-	2021/05/03	2021/05/03

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Page 3 of 4

FO-CB-76 V1

Schedule

15 Specific Conditions of Use

15.1 Special Conditions for Safe Use

- 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.
- Fasteners used for the assembly shall be M5-D 8 x 12 Grade A4-70

15.2 Routine tests

- The manufacturer must carry out routine pressure tests to a value no less than 24.8 Bar on each camera and pan and tilt housing post production to ensure the equipment's capability to withstand overpressure

15.3 Special conditions for manufacture

- The power dissipated within the camera housing shall not exceed 25W. The power dissipated within the pan and tilt unit shall not exceed 70W.
- The cross-sectional area occupied by the internal equipment within the camera housing shall not exceed 80% of the available area.

16 Essential Health and Safety Requirements (Regulations Schedule 1)

Essential Health and Safety Requirements are addressed by the standards listed in section 9 and where required the report listed in section 14.1

The manufacturer shall inform the ExVeritas of any modifications to the design of the product described by this schedule.

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Page 4 of 4

FO-CB-76 V1

CERTIFICADO DE CONFORMIDADE EX
Ex Certificate of Conformity

Modelo com Avaliação do Sistema de Gestão da Qualidade
do Processo de Produção e Ensaios no Produto
Model with Assessment of Quality Management System of Production
Process and Test on Product



Certificado Nº:
Certificate Nº:
CPEX 22.0457X

Revisão nº.: 0
Issue nº.:
25/03/2022

Certificado de Conformidade válido somente acompanhado das páginas de 1 a 6
Certificate valid only accompanied of pages 1 through 6

As atividades de instalação, inspeção, manutenção, reparo, revisão e recuperação dos equipamentos são de responsabilidade dos usuários e devem ser realizadas de acordo com as recomendações do fabricante. The installation activities, inspection, maintenance, repair, overhaul and recovery of equipment are the responsibility of users and must be implemented in accordance with the requirements of current technical standards and manufacturer's recommendations;

Por se tratar de um processo de certificação cujo solicitante não é estabelecido legalmente no Brasil, o usuário deverá atender ao item 10.1 da Portaria Interministerial nº 178 de 18 de maio de 2010, e o fabricante é responsável pelo atendimento ao item 7 desta mesma Portaria.

This certification process is related to applicant who is not legally established in Brazil, the user must comply with item 10.1 of Interministerial Regulation No. 178 (May 18th 2010), and the manufacturer is responsible for compliance with item 7 of this same applicable Regulation.

Marcação de advertência:
Warning marking:
ATENÇÃO – NÃO ABRA QUANDO UMA ATMOSFERA EXPLOSIVA ESTIVER PRESENTE.

Condições específicas de utilização segura:
Specific conditions for safe use:
Se aplicável, listar condições.
Quando um cabo de fibra óptica é usado no equipamento, ele deve ser adequadamente protegido contra danos mecânicos externos ao equipamento (cabo blindado, instalado em um condutor, dentro de uma bandeja de cabos, etc.).
A câmera deve ser instalada de forma que o risco de impacto com a janela de vidro seja baixo.
Os parafusos de fixação usados para a montagem devem ser M5 - 0,8 x 12 Grau A4 - 70.
A bateria (se instalada) não pode ser substituída pelo usuário e só pode ser substituída pelo fabricante.

Condições de fabricação:
Conditions of manufacturing:
O aparelho deve ser submetido a um teste de rotina de sobrepressão com uma pressão de 24,8 bar por um período de 10 segundos, conforme exigido pela cláusula 16 da ABNT NBR IEC 60079-1. Não deve haver deformação ou dano ao invólucro.
A poluição dissipada dentro do invólucro da câmera não deve exceder 25 W. A potência dissipada dentro da unidade panorâmica com inclinação não deve exceder 70 W.
A área da seção transversal ocupada pelo equipamento interno dentro da caixa da câmera não deve exceder 60 % da área disponível.

DOCUMENTAÇÃO CONTROLADA, DESCRITIVA DO PRODUTO (CONFIDENCIAL);
DESCRIPTIVE CONTROLLED DOCUMENTS OF THE PRODUCT (CONFIDENTIAL):

Tabela / Table 1 – Documentação descritiva

Identificação Identification	Revisão Issue	Identificação Identification	Revisão Issue
RACT 22052.1 (Conf.)	25/03/2022	Manual de Instalação	20220323
SD00070	00	SD00079	00
SD00080	00	-	-

FPCEI 31 RS

Página / page 5

CERTIFICADO DE CONFORMIDADE EX
Ex Certificate of Conformity

Modelo com Avaliação do Sistema de Gestão da Qualidade
do Processo de Produção e Ensaios no Produto
Model with Assessment of Quality Management System of Production
Process and Test on Product



Certificado Nº:
Certificate Nº:
CPEX 22.0457X

Revisão nº.: 0
Issue nº.:
25/03/2022

Certificado de Conformidade válido somente acompanhado das páginas de 1 a 6
Certificate valid only accompanied of pages 1 through 6

REGISTRO DE AVALIAÇÃO DA CONFORMIDADE TÉCNICA E DETALHES DE REVISÕES DO CERTIFICADO:
TECHNICAL CONFORMITY ASSESSMENT REGISTER AND DETAILS OF CERTIFICATE ISSUES:

Tabela / Table 2 – Histórico do certificado

Revisão Revision	Data de revisão Revision date	Certificado Certificate	Descrição Description	Processo Process
0	25/03/2022	CPEX 22.0457X	Emissão inicial	22052.1

FPCEI 31 RE

Página / page 6

| TKH Security Siqua EX Fixed Series | Manual de instalação v6

49-50



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