

ExCam[®] XF P1377

User Manual



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1 Introduction

The ExCam XF P1377 is a powerful mega-pixel IP camera of the latest generation, with 5-megapixel resolution at 2592 x 1944 pixels. It is certified according to ATEX, IECEx and EAC-Ex, and also has MASC certification and PESO-Approval. The camera has a high-definition television resolution. It is equipped with a powerful remote zoom and focus lens (with i-CS).



The ExCam series is certified both in accordance with the European (ATEX) and international (IECEx) directive. The explosion-protected housing is approved for ATEX group II for zones 1, 2, 21 and 22 including the explosion groups IIC / IIIC. The T08 ExCam certification allows not only stationary device installation but also mobile applications (hand-held use, etc.). To see other approvals, please visit our website at www.samcon.eu.

When designing the ExCam XF P1377, we focused very much on safety, mechanical precision and a high quality stainless steel.

2 Technical data

2.1 Explosion protection

Identification marks acc. to Directive 2014/34/EU:

Model key:	T08-VA2.3.K3.BOR2-LL.H-005.N-P  II 2G (zone 1 and 2)  II 2D (zone 21 and 22)
Explosion protection (gas):	Ex db IIC T5 Gb
Explosion protection (dust):	Ex tb IIIC T95°C Db
Protection class:	IP 68 (IEC /EN 60529)
Transport/storage temperature:	0°C...+40°C
Ambient temperature (EX):	-60°C...+60°C
Named testing laboratory:	TÜV Rheinland (number 0035)
EU type approval certificate:	TÜV 18 ATEX 8218X (2018)
IECEx Certificate of Conformity:	TUR 18.0023X (2018)
EAC-Ex TUR Report:	TC RU C-DE.A5.61.B.00381/19
Other certificates:	see https://www.samcon.eu/en/products/network/excam-xf-p1377/

2.2 Electrical parameters of the camera

Supply of 24 V DC for the heating:

Voltage supply:	24 V DC
Power consumption:	approx. 40W @ -60°C (temperature-dependent)

Power supply of the camera over Ethernet (PoE):

Voltage supply:	PoE, IEEE 802.3af/802.3at type 1 class 3
Reference voltage:	+48 V DC (44...54 V DC)
Maximum power consumption:	10.7 W
Typical power consumption:	5.4 W

2.3 Connection cable Ex-d - Ex-e (SKDP03-T)

Description:	Data transfer and power supply of the camera module (compliant with DIN EN 60079-14)
Jacket colour:	green (GN), similar to RAL3001
Outside diameter:	12.4 ± 0.3 mm
Bending radius:	8 x D _a when installed and 4 x D _a after installation
Data line:	4 x 2 x AWG23/1 CAT.6a
Performance elements:	3G1.5 (BK-BU-GN/YE)
Properties:	PUR halogen-free, flame-retardant, UV-resistant, chemical resistance, shielded (see www.samcon.eu)

Quick link:

https://www.samcon.eu/fileadmin/documents/en/60-Assembling%26mounting/SKDP03-T_Datasheet.pdf

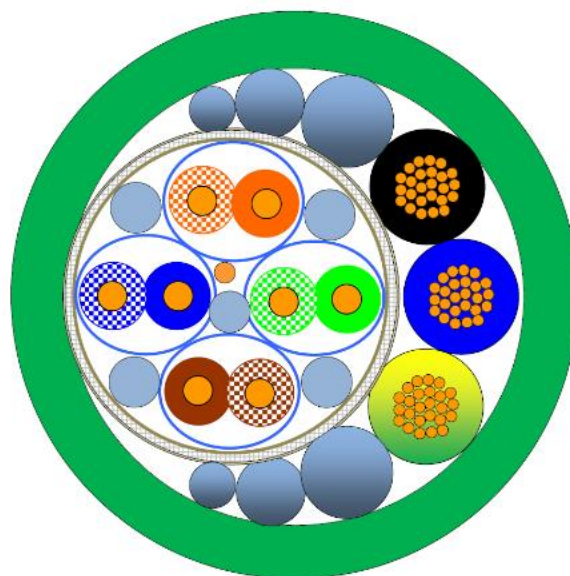


Fig. 2-1 Sectional view of SKDP03-T

2.4 Video-technical characteristics

We use the AXIS P1377 network camera in a pressure-resistant enclosure. For details, please refer to the Product Documentation, video-technical data of AXIS®:

<https://www.axis.com/products/axis-p1377>



2.5 Other technical data

	Camera (Ex-d)
Permissible ambient temperature	0°C ... +60°C (for PoE power supply) -60°C ... +60°C (for additional 24 V DC power supply)
Protection class as per EN 60529/IEC 529	IP68 (test conditions: 24h/3m water column 5°C°)
Housing material	Stainless steel, mat. no. 1.4404
Weight	7.8 kg
Dimensions	D113mm x 310mm

Tab. 2-1. Other technical data

3 Safety Instructions

Please absolutely observe the safety directions stated in the Ex-installation instructions of the T08 ExCam series!



Quick link:

<https://www.samcon.eu/fileadmin/documents/en/22-Ex-Network-Cameras/ExCam-Series-T08-EX-Installation-Manual-2018.pdf>

It is absolutely mandatory to observe the national safety regulations and regulations for prevention of accidents, as well as the safety instructions given below in this User Manual!



Attention!

Cameras of the type T08 ExCam are not suitable for use in zone 0 and zone 20. The ambient temperature, temperature class and explosion group as stated on type plate must be observed! Alterations are not permitted! The camera is to be operated in sound conditions and in the intended way.



Attention!

Only original parts of SAMCON Prozessleittechnik GmbH may be used for repairs. Repairs concerning the explosion protection may only be carried out in accordance with the nationally applied regulations and by SAMCON Prozessleittechnik GmbH.



Attention!

Prior to installation, take external sources of heat or cold into account! The temperature ranges prescribed for storage, transportation, and operating must be adhered to!



Attention!

Observe the warnings given on the type plate:

“WARNING – DO NOT OPEN IN HAZARD AREAS“

“WARNING – DO NOT OPEN WHILE ENERGIZED“



The use in hazardous areas with regard to temperature and dust layers is defined in the respective national regulations.



When installing the ExCam, adhere to the requirements of the EN/IEC 60079-14.

4 Installation

For erecting and operating the camera, the relevant national regulations, as well as the generally accepted rules of technology shall prevail. Before mounting the camera, thoroughly check it for any transport damage, especially on the housing and cable. Installation, electrical connection and the first start must only be carried out by qualified specialists.

Work preparation:



Attention!

Prepare your work carefully and in accordance with the relevant regulations.



Attention!

Depending on classification of hazard areas, a work approval has to be obtained.

When you open the pressure-resistant enclosure under voltage, it is absolutely necessary to prevent potentially explosive atmosphere!

To ensure the best image quality delivered by the network camera, plan the installation site carefully (consider light conditions, object distance or size, angle and minimum object distance to the focus).

- Use appropriate tools and aids.
- When working, ensure a safe stand.
- Make sure that any static charge is avoided



Attention!

Please observe the national security, installation and accident prevention regulations (e.g. DIN EN 60079-14) and the safety instructions in this User Manual, as well as the ones in the Installation Guidelines!



Attention!

Adhere to the provisions of the IECEx, ATEX and EX installation instructions for mounting and commissioning!



Attention!

Please pay attention to the national and local regulations for mounting heavy loads. If in doubt, take appropriate security measures.

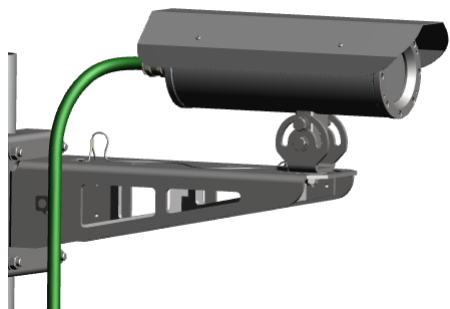

Drawings for drill hole patterns and further information can be viewed on our product page:

Quick link:

<https://www.samcon.eu/en/products/network/excam-xf-p1377/>



Option mounting accessories

Wall bracket WMB-...		<p>WALL MOUNT EXCAM XF (01569-001) Wall bracket for devices of T08-VA3 series Suitable for hanging the camera on walls. Material: stainless steel 1.4404 Load bearing: 45 kg Dimensions: 445 x 140 x 185 mm</p>
Pole adapter PMB-...		<p>WALL MOUNT EXCAM XF (01570-001) Pole adapter for VA wall mount Material: stainless steel 1.4404 Suitable for pole diameters between 50 and 105 mm Load-bearing capacity: 45 kg Dimensions: 120 x 180 (x 130 at masts of Ø 60 mm)</p>

Tab. 4-1 Mounting Accessories

5 Electrical connection



Attention!

The electrical connection of the equipment may only be carried out by officially qualified and skilled personnel!



Attention!

It is absolutely necessary to ground the ExCam® series housing via a PA connection.



Attention!

Please observe the national security, installation and accident prevention regulations (e.g. DIN EN 60079-14) and the safety instructions in this User Manual, as well as the ones in the Installation Guidelines!

The delivered ExCam® XF P1377 is equipped with an electrical connection cable of the type SKDP03-T. The maximum transmission range from the camera to the next active network interface is 100 meters and can be individually specified by the client. The user is NOT authorised to do electrical connection procedures inside the pressure-resistant enclosure.

5.1 Potential equalization

The potential equalization/grounding of the camera body is absolutely necessary, in order to avoid static charges and thus formation of sparks. For this purpose, a screw terminal is provided at the rear side, at the bottom (right) (see Figure 5.1). The cross-section of the equipotential bonding should comply with the National Ground Rules (at least 4 mm²).

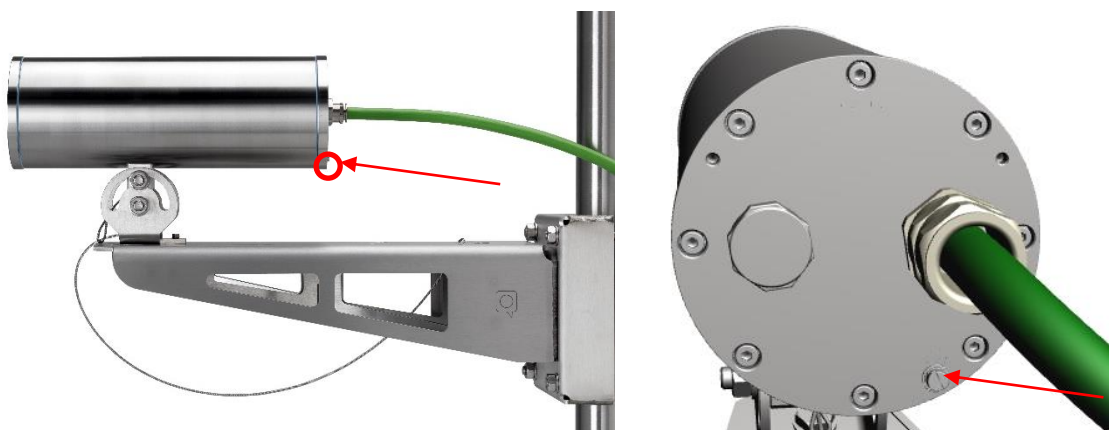


Fig. 5-1 ExCam XF P1377 Equipotential Bonding

Wiring table:

Potential	Colour (IEC 60757)	Cross-section	Comment
PA	GN/YE	4 mm ² (rigid)	Terminal: slotted screw M4x0.7 (DIN 84) with washer Ø9mm (DIN 125A), Keep 3Nm tightening torque!

Tab. 5-1 Equipotential Bonding

5.2 Connection and Fusing

Cable gland flange 1F, type 6, M20 SKDP03-T - digital video stream Control system and power supply (PoE) of the camera module

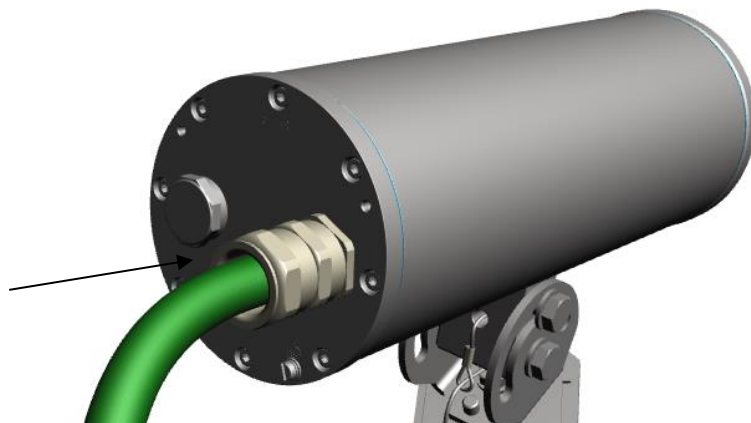


Fig. 5-2. Cable gland (KLE) and supply line

The green system cable is intended for communication and data transfer to the connected network devices and, at the same time, for voltage supply (PoE) to the camera. To ensure the power supply of ExCam XF P1377 (*Powered Device/ PD*), it is necessary to make sure that the power-over-Ethernet provider (*Power Sourcing Equipment/ PSE*) on the connection side (for example PoE Midspan PoE injector, switch, etc.) fulfils the specification IEEE 802.3af and 802.3at type 1 Class 3 (*"classification current: 26-30 mA @48VDC, max. feed-in power (power source equipment): 15.4 W, maximum offtake (power device): 6.49 - 12.95 W"*). The data transfer of the ExCam XF P1377 series is done via a 100 Mbit/s Ethernet connection (100BASE-TX).

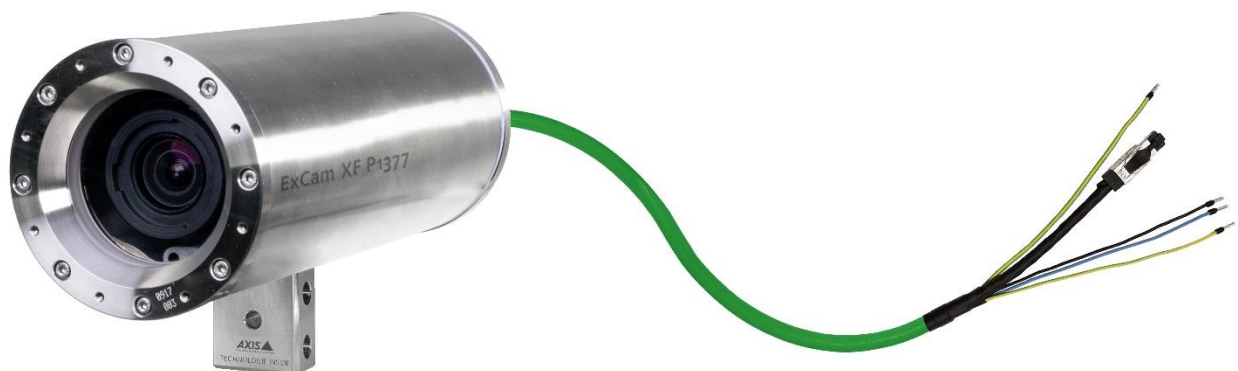


Fig. 5-3. ExCam XF P1377 T08-VA2.3.K3.BOR2-LL.H-005.N-P

5.2.1 Network interface / plug assignment (RJ45)

Standardly, of the camera's cable end is furnished with an RJ45 Ethernet plug with Power over Ethernet (PoE). This plug (Fig. 5-3) should be coupled with the RJ45 PoE socket of the network device (PSE). Prior to connecting it to the camera, the network device can already be supplied with power, hence you need not to observe any "power ON" priority.

5.2.2 Connecting the heating (24V DC)

For the housing heating (type LL), you need a second power supply with separate supply fusing at L+ potential. Pin configuration and power supply fusing should be in accordance with Tab.5.2.

Potential/ Wire no.	Colour (IEC60757)	Conductor	Voltage	Maximum power consumption / fusing (type LL)
L+ / 1	BK	1.5mm ² , stranded wire	+24 V DC	40 W of continuous power Fine-wire fuse (L+) 4000 mA -T- slow-blow (high inrush load!)
L- / 2	BU	1.5mm ² , stranded wire	0 V DC/GND	

Tab.5.2 Wire assignment in power cables

5.2.3 Connection to a terminal box (alternatively)

If you have to connect the camera to a terminal box, please remove the plug properly, according to good professional practice. In this case it is imperative to ensure a correct routing of the individual wires according to the EIA/TIA-568B (see Tab. 5.3). As a rule of thumb, the core wires of the same colour coding (IEC60757) should be connected.

Especially in EMC-critical environments, it is important to ensure that the cable shield is properly grounded on the terminal box side.



Attention!
Never open the Ex-e terminal box under voltage!



Attention!
Adhere to the international installation regulations for connection chambers with increased safety (Ex-e).



Attention!
Adhere to the separate Usual Manual for the Ex-e connection chamber attached in the annex.

In accordance with standard EIA/TIA-568B for 100BaseTX and 24 V DC for terminal boxes, we recommend the following core wire assignment for the SKDP03-T cable:

Camera (Ex-d) (T568B)	Colour SKDP03-T (IEC60757)	Terminal ExTB-3	Cross- sectional surface	Comment
Tx+	WH / OG	1	0.25 mm ²	Solid conductor
Tx-	OG	2	0.25 mm ²	Solid conductor
Rx+	WH / GN	3	0.25 mm ²	Solid conductor
Rx-	GN	4	0.25 mm ²	Solid conductor
(PoE +48 VDC)	WH / BU	5	0.25 mm ²	Solid conductor
(PoE +48 VDC)	BU	6	0.25 mm ²	Solid conductor
(PoE GND)	WH / BN	7	0.25 mm ²	Solid conductor
(PoE GND)	BN	8	0.25 mm ²	Solid conductor
GND/SHD	YE / GN	PE	2.5 mm ²	Flex
L+	BK	9	1.5 mm ²	L+ 24VDC
L-	BU	10	1.5 mm ²	L- 24VDC
PE	YE / GN	PE	1.5 mm ²	PE

Tab. 5-3. Wire assignment of terminal box ExTB-3

Video Tutorial:

Please view our video tutorial:

“SAMCON 01 Wiring the cable SKDP03-T to the junction box ExTB-3”

<https://go.samcon.eu/v01>



Fig. 5-4 Video Tutorial ExTB-3

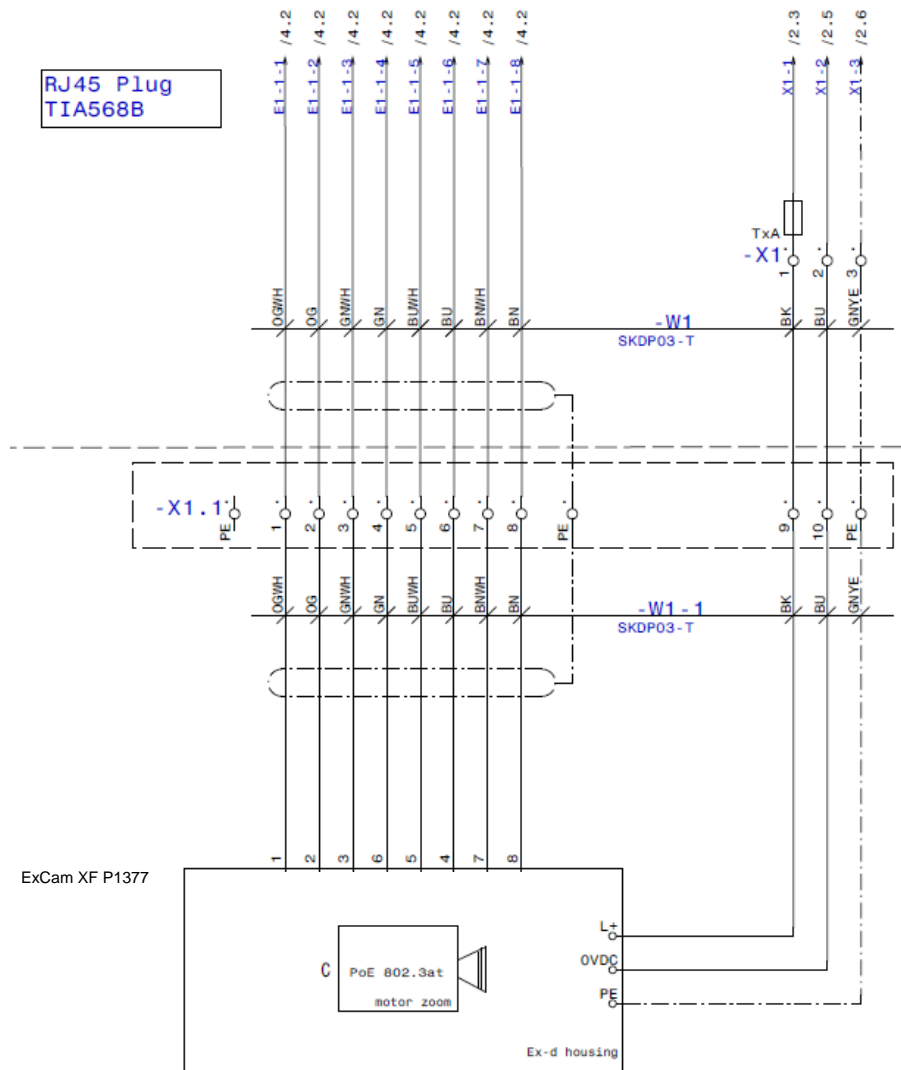


Fig. 5-5 Sample circuit of terminal box ExtTB-3

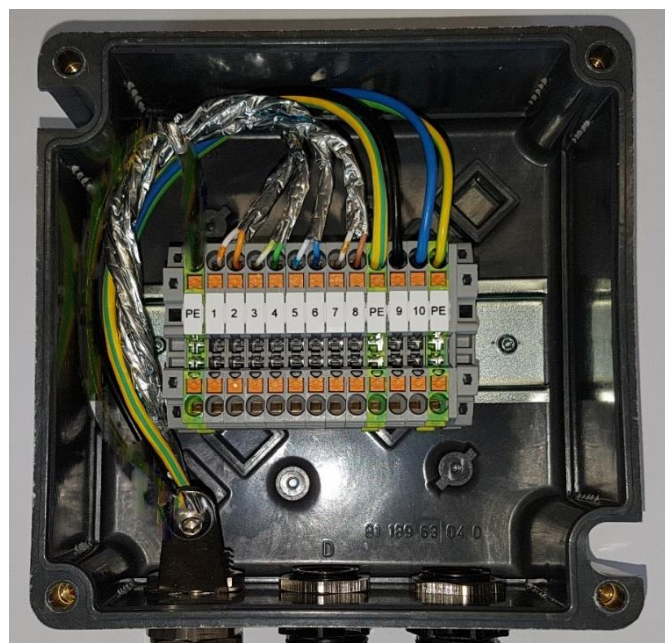


Fig. 5-6 Photo of the occupied terminal box ExtTB-3



Attention!

Introduce the foiling up to about 15 mm to the terminals, in order to prevent alien crosstalk. Make sure that the foiling cannot cause any short circuit of the data pairs!



Attention!

Bring the twisted pair composite approximately 10mm close to the terminals, in order to ensure the interference immunity.



Attention!

Use only terminals approved by SAMCON.



Attention!

Finally, check your network installation by per Class-D Link Test.

5.3 Example: external connection and fusing via the terminal box

There are several options of routing the ExTB-3 terminal box in a safe area:

5.3.1 Example: direct routing from the ExTB-3 to the safe area

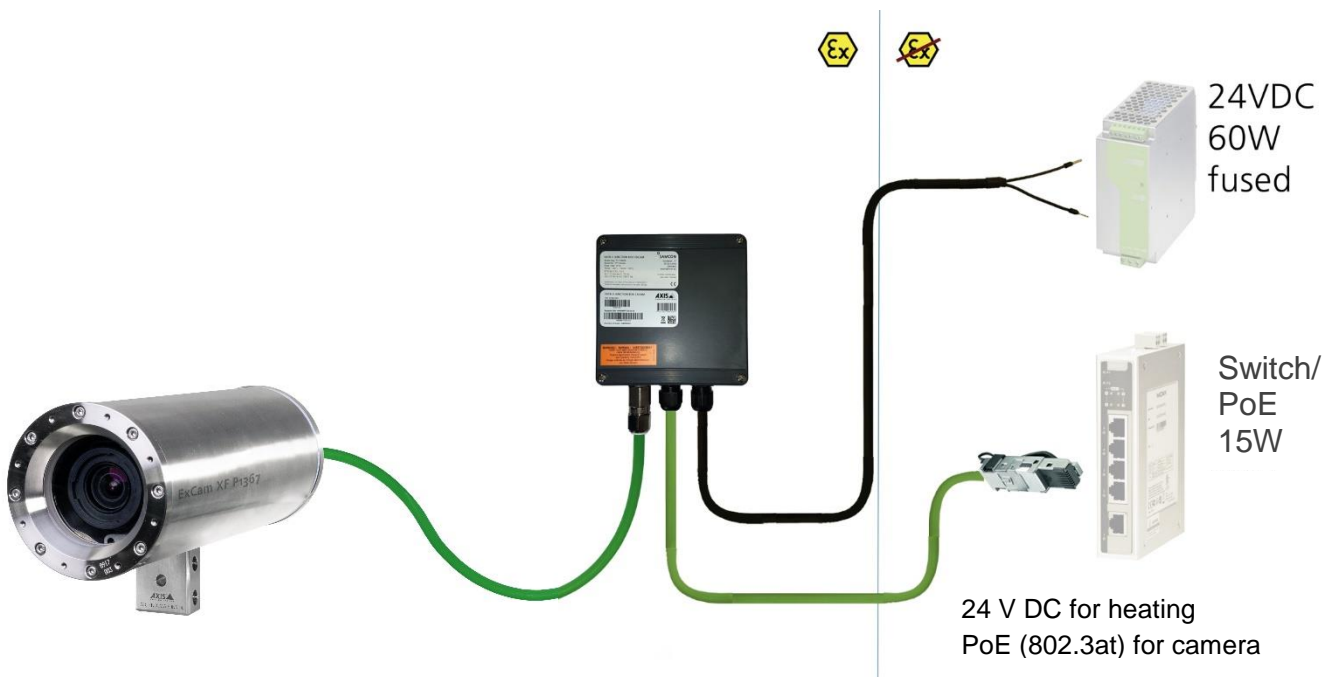


Fig 5-7 ExTB-3 -> Safe area

In the case of direct routing from ExTB-3 to the safe area, the power supply and the voltage signal are led from the safe area to the terminal box. Please observe the terminal box assignment, as described above.



Attention!
 Cables and wires must comply with the requirements of the IEC 60079-0/1/7 & 14.



Attention!
 The supply line must have a sufficient cross-section. The cable protection must comply with national and international regulations.

5.3.2 Example: Routing via ExConnection Rail (optional accessories)

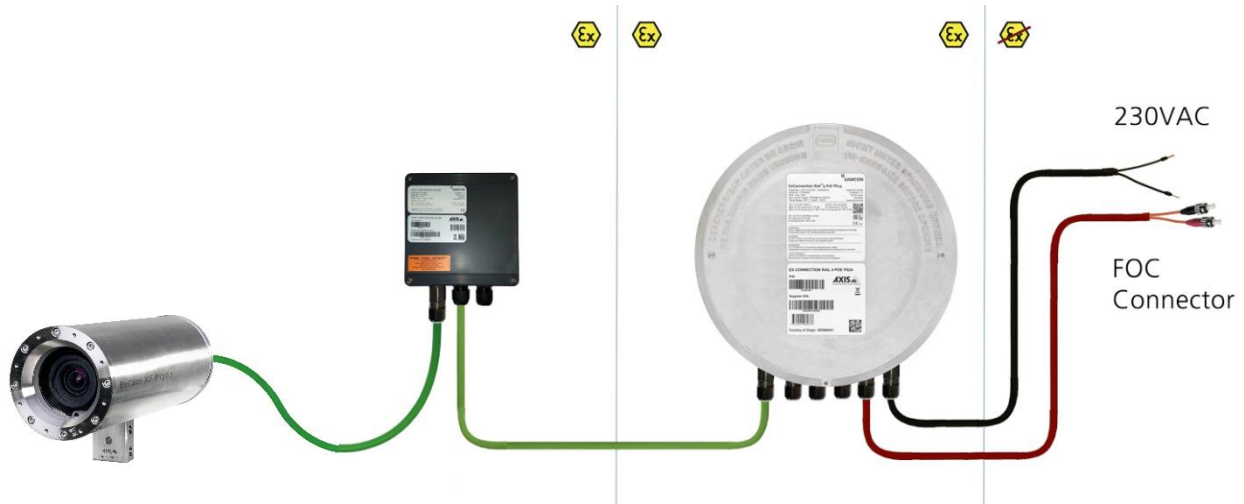


Fig. 5-8 ExTB-3 -> ExConnection Rail

In the case of routing the ExTB-3 into an ExConnection Rail, larger installation distances can be covered.

Please note:

In hazardous areas, the ExConnection Rail (optional accessories) acts as a PoE+ switch, a media converter from copper to fibre-optic cable, as well as a power supply for the cameras.

5.3.3 Appropriate cables & cable entries

An integral part of the device safety is the correct selection of the cables, wires and cable entries.



Attention!
Cables and wires must comply with the requirements of the IEC 60079-0/1/7 & 14.



Attention!
The supply line must have a sufficient cross-section. The cable protection must comply with national and international regulations.

To view non-binding configuration and planning guidelines, please visit our website:



Particularly for installations requiring a suitable barrier gland, make sure that you handle them correctly and observe the rules and notes given in the respective mounting and assembly instructions.

We show the basic procedures in the following video tutorial:

“SAMCON 02 Mounting and installing Ex-d barrier glands to ExConnection Rails”
<https://go.samcon.eu/v02>

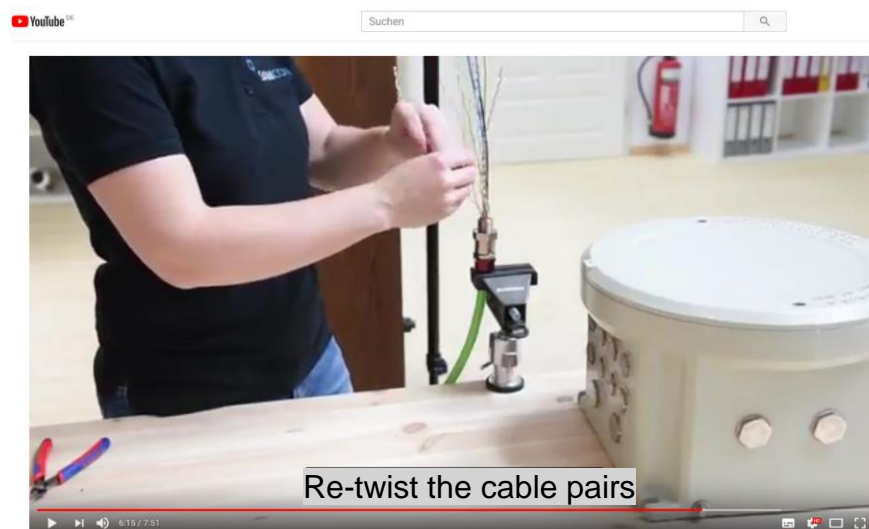


Fig. 5-9 Barrier gland

5.3.4 Cable kits - "plug and play" connection packages

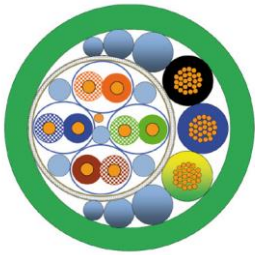
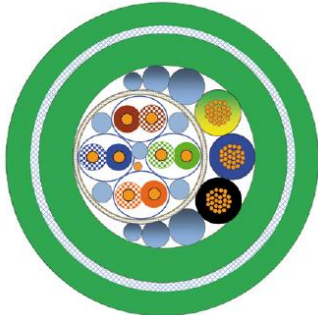
As an option, there are various cable kits for different cables are available in different lengths. The connection packages include everything you need for a professional system installation:



- ✓ 10/25/95 m SKDP03-T system cable, digital (a)
- ✓ 1 barrier gland with sealing compound (b)
- ✓ 5 ml of Loctite thread locking (c)
- ✓ One CAT6 RJ45 industrial connectors (5.5 - 10.5 mm) (d)
- ✓ Heat-shrinkable tube 40 cm, yellow-green (e)
- ✓ Heat-shrinkable tube 10 cm, black (e)
- ✓ 8 cable end sleeves (e)
- ✓ 1 set of documents

Fig. 5-10 Cable kit – plug & play connection package

Available connection packages:

Length	Non-reinforced cable SKDP03-T	Reinforced cable ASKDP03-T
		
10 meters	SKDP03-T CABLE EXCAM 10M (01540-001) This cable set includes: 10 meters SKDP03-T system cable, digital 1 barrier gland Ex-d 5 ml Loctite 243 screw locking 1 x CAT6 RJ45 industrial plug 1 set of documents	ASKDP03-T CABLE EXCAM 10M (01543-001) This cable set includes: 10 meters ASKDP03-T system cable, digital 1 bolted connection Ex-d 1 bolted connection Ex-e 5 ml Loctite 243 screw locking 1 x CAT6 RJ45 industrial plug 1 set of documents

25 meters	SKDP03-T CABLE EXCAM 25M (01541-001) This cable set includes: 25 meters SKDP03-T system cable, digital 1 barrier gland Ex-d 5 ml Loctite 243 screw locking 1 x CAT6 RJ45 industrial plug 1 set of documents	ASKDP03-T CABLE EXCAM 25M (01545-001) This cable set includes: 25 meters ASKDP03-T system cable, digital 1 bolted connection Ex-d 1 bolted connection Ex-e 5 ml Loctite 243 screw locking 1 x CAT6 RJ45 industrial plug 1 set of documents
95 meters	SKDP03-T CABLE EXCAM 95M (01542-001) This cable set includes: 95 meters SKDP03-T system cable, digital 1 barrier gland Ex-d 5 ml Loctite 243 screw locking 1 x CAT6 RJ45 industrial plug 1 set of documents	ASKDP03-T CABLE EXCAM 95M (01542-001) This cable set includes: 95 meters ASKDP03-T system cable, digital 1 bolted connection Ex-d 1 bolted connection Ex-e 5 ml Loctite 243 screw locking 1 x CAT6 RJ45 industrial plug 1 set of documents

Tab. 5-4 Available cable kits

5.3.5 Fusing

PoE power supply requires no fuses.

The power supply fusing depends on the cable cross-section and length.



Attention!

Recommendation for fusing relates to 40W@24VDC at 100 meters 1.5 mm²



Attention!

When the heating switches on, high current peaks occur! Use slow-blow fuses.



Attention!

Please pay attention to the national and international regulations regarding selectivity and line protection.

Potential/ Wire no.	Colour (IEC60757)	Conductor	Voltage	Maximum power consumption/fusing:
L+ / 1	BK	1.5mm ² , stranded wire	+24 V DC	40 W of continuous power Fine-wire fuse (L+) 4000 mA -T- slow-blow (high inrush load!)
L- / 2	BU	1.5mm ² , stranded wire	0 VDC / GND	
PE	YE/GN	1.5mm ² , stranded wire	PE	

Tab. 5-5 Recommendation for fusing

5.3.6 Tests prior to switching on the voltage



Attention!

Prior to starting the device, perform all tests as indicated by the national regulations. Furthermore, check the correct function and installation of the device in accordance with this User Manual and other applicable regulations.



Attention!

Incorrect installation and operation of the camera may lead to a loss of warranty!



Attention!

Do not switch on the camera at temperatures below 0°C!

6 Working in the camera housing

The customer may open the housing only if it is absolutely necessary. Only exchanging the SD memory card or a hardware reset are reasons for this.

Open the pressure-resistant housing extremely carefully! After having finished the work, securely re-close it and ensure that the explosion protection is restored! To do this, you need to proceed step by step, as described in the instructions below.

6.1 Work preparation:



Attention!

Prepare your work carefully and in accordance with the relevant regulations.



Attention!

Depending on classification of hazard areas, it is imperative to obtain a work approval first!

If you adjust the camera yourself or open the pressure-resistant enclosure (Ex-d) under voltage, it is absolutely imperative to prevent potentially explosive atmosphere!

6.2 Opening the pressure-resistant housing



„WARNING – MUST NOT BE OPENED IN HAZARD AREAS“

Note: Depending on classification of hazard areas, a work approval has to be obtained.

Even after switching on the power supply, it is absolutely imperative to avoid potentially explosive atmosphere when opening the camera housing. Opening the housing requires disassembly and working in a safe (i.e. non-explosive!) area.



Attention!

Pay attention not to damage the thread surface of the flame-proof gap.



Attention!

Pay attention not to damage the housing seals. Keep them clean!

If the ExCam XF P1377 is equipped with a weather protection roof (optional accessory), remove the roof before you start working! To do so, untighten the 4x8mm lens screws M4*0.7 at the front and rear sides of the bracket holders (Fig. 6-1).

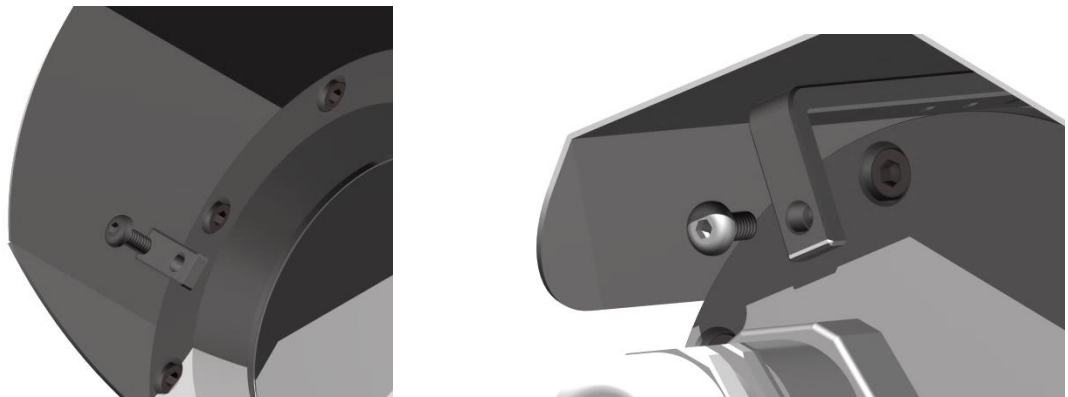


Fig. 6-1 Removing the weather protection roof (1/2) (this illustration is an example)

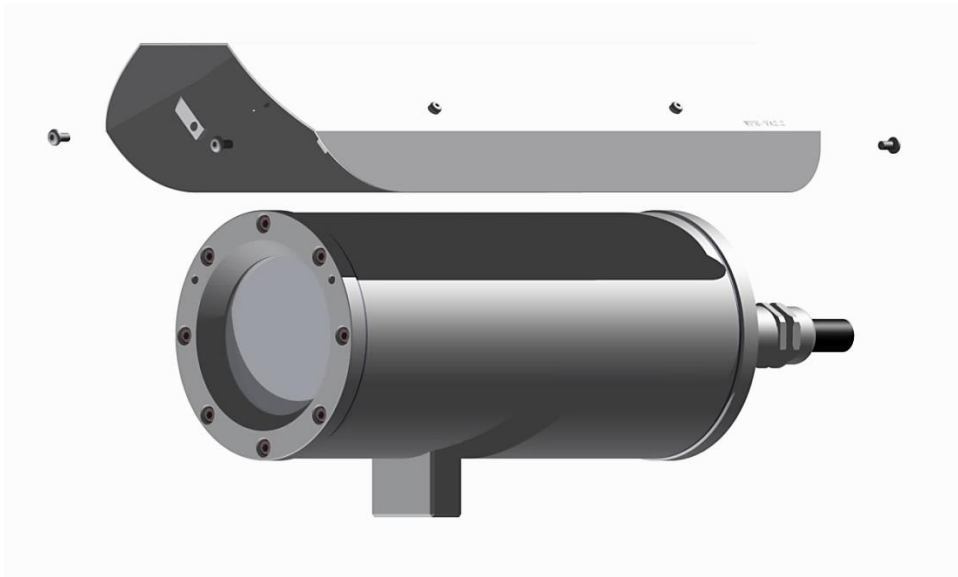


Fig. 6-2 Removing the weather protection roof (2/2) (similar illustration)

To open the ExCam XF P1377's stainless steel housing (T07 VA2.3.x.x) of, loosen the eight cylinder-head hexagon screws (DIN 912/ ISO 4762) together with their spring rings (DIN 127A) on the rear side of the cable and power supply flange (see Fig. 6-3).

Caution: Do not touch the screw threads with your skin or clothes! On the threads, there is LOCTITE® 243™ (chemical basis is dimethacrylate ester) applied to prevent the bolted connection from unintentional loosening because of impacts and vibrations and to seal them tightly. It is not permitted for the customer to open the front-side sight glass flange! There is no need of such an action.

Carefully pull out the cable and supply flange to the rear, as straight as possible. Because of negative pressure, it may be difficult to remove the flange. The cylindrical clearance fit (H8f7 - DIN ISO 286) of the camera body and flange may not be tilted! Risk of damage to the flame-proof gap (DIN EN 60079-1:2012)!

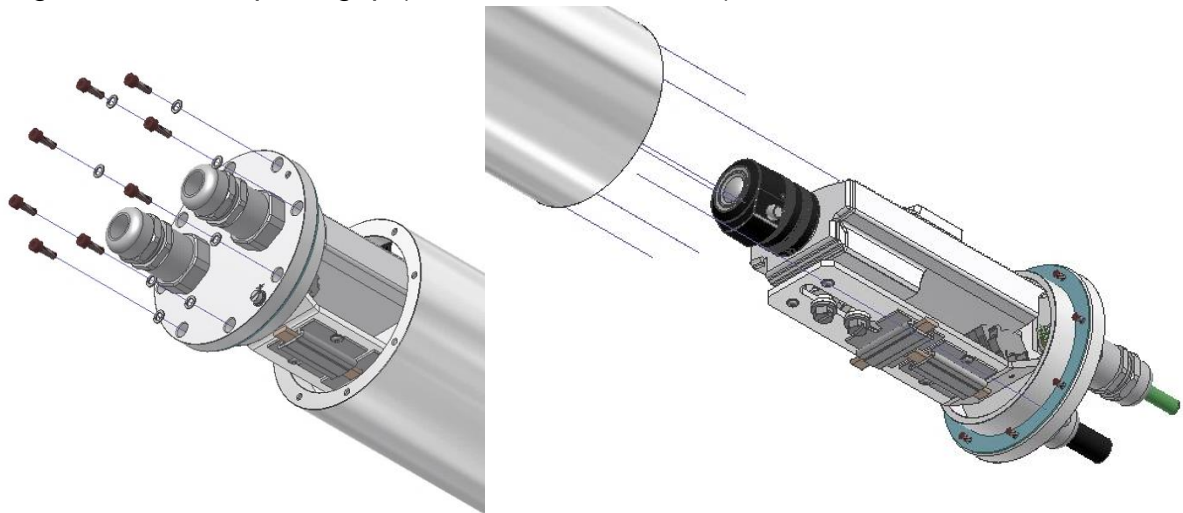


Fig. 6-3 Opening the ExCam XF P1377 (similar illustration)

Attention: The mounting adapter with the housing's PTC heater, camera module and optics, as well as the CB06 temperature control and (if applicable) auxiliary relays and terminal box are fixed on the cable and supply flange. Dealing with these components, too, you have to work very carefully and precisely in order to avoid canting and damage to the in-built components!

Caution: Do not touch the cylindrical fit surface with your skin or clothes! On the surface, there is oil lubricating paste to protect the surface against fretting corrosion and mechanical stresses.

When you open the housing, heed that you do not damage the GYLON® flat seal (blue, RAL5012) and do not make it dirty. The flat gasket is loosely attached to the cable and power supply flange. It is fixed only by the bolted connections!



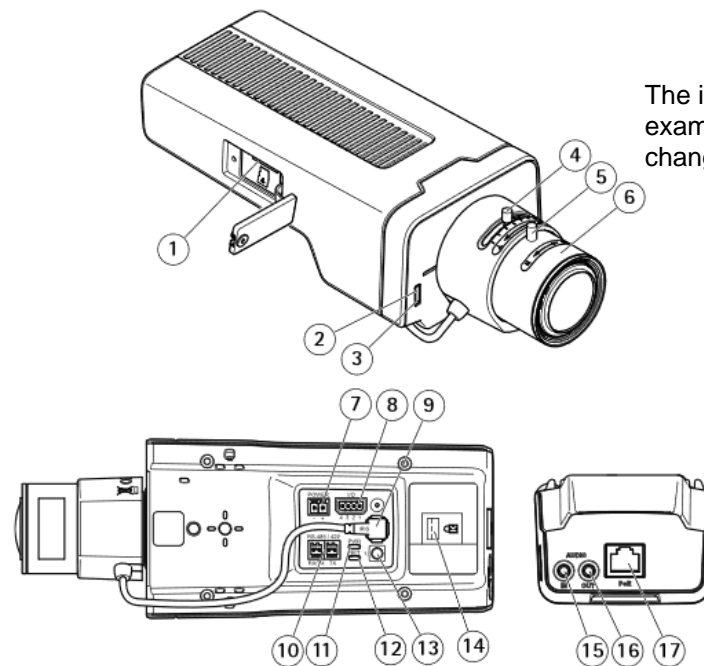
Attention!

Make sure not to damage the surface of the drill hole and the shaft (fitting) of the flame-proof gap.



Attention!

Pay attention not to damage the seals. Keep them clean!



The illustration is only an example, the lens is changed

- 1 MicroSD card slot
- 2 Status LED
- 3 Built-in microphone.
- 4 Zoom slider
- 5 Setting screw for the focus ring
- 6 Focus ring
- 7 Power supply (DC)
- 8 I/O port
- 9 Iris connector
- 10 RS485/422 port
- 11 Power LED
- 12 Network LED
- 13 Control key
- 14 Safety slot
- 15 Audio input
- 16 Audio output
- 17 Network connection port (PoE)

Fig. 6-4. Mounting adapter with built-in components

6.3 Removing/inserting a SD memory card

Note:

The ExCam XF P1377 disposes of a micro SDHC memory card slot (see Fig. 6-4 1). Saved video files can be played and deleted via the web interface. They are also available in a download list. Moreover, the videos available on the memory card can also be accessed via an FTP server in the network.

If the memory card has to be replaced by the user, it should be, as far as possible, empty and pre-formatted with an ext4 or vFAT file system.



When touching electrical components, observe potential equalization (grounding of the body): carry electrostatic-discharge clothes, a PE wristband etc.!

6.4 Status LED

The user can see the Status LED (Fig. 6-4) only if the camera housing is open.

6.5 Hardware Reset

To re-set all parameters of the ExCam XF P1377 (including the IP address) to default setting, a hardware reset has to be carried out.

The parameters can be either reset via the web interface or manually. If the camera in the network can no longer be reached or its state is uncontrollable, the reset should be performed manually. To do so, proceed as follows:

1. Disconnect the camera installation module (Axis P1377) from the power supply.
2. Press and hold the control button 13 (see the illustration 6-4) and, at the same time, connect the system to the voltage supply (PoE).
3. Press and hold the control button until status indicator 2 (Fig. 6-4) lights yellow (wait about 30 seconds).
4. Release the control button. When the status indicator lights green (it can take about 1 minute), P1377 will be reset to the factory settings axis. If there is a DHCP server in the network, the IP address will be the following: 192.168.0.90 (subnet masking 255.255.255.0).
5. IP address and password can be redefined. If the hardware reset is not satisfactory, or the network camera shows serious conflicts, or does not work as usually (errors in the browser visualisation, frozen images, control commands no longer processed, slowing down of the system, etc.), it may be necessary to re-install the current firmware, or to install an update (see Chapter 7).

6.6 Closing of the pressure-resistant housing

For closing the housing, proceed in reverse order as when opening. Use exclusively original screws included in the supply.

The cable and power-supply flange (K3) is fixed by 8 cylinder-head screws M4*0.7 (ISO metric right-turning) with 30 mm thread length (DIN 912/ ISO 4762, grade 6g). Materials of bolted connections are identical to the pressure-resistant stainless steel housing (standard material no. 1.4404 AISI316L). Check whether the threaded holes are undamaged and clean. Before closing, it is also absolutely imperative to check the flame-proof gap (circular cylindrical fit).



Attention!

If any mechanical damages occurred to the fitting gap, it is no longer allowed to use the housing!



Attention!

Do not lock-in any foreign objects in the housing.

Dismantled screw locks (spring washers DIN 127A) must be used again.

The GYLON® gasket must be used in undamaged condition, according to the flange hole pattern, and placed between the flange and the body. The lateral position of the flat surface/ contact surface is arbitrary.

If, when closing the housing, you see that the surface of the fitting gap is dirty or insufficiently lubricated, clean it with a clean cloth and de-grease it with a suitable cleaning agent. Then re-grease it with lubricant suitable for this specific application (e.g., Molykote® P-40 gel for standard applications or special grease OKS 403 in the event of heavy seawater influence).

The screwed connections of flange and body components must always be tightened *crosswise* at a torque of **3 Nm**! Do not tighten the screws too strongly! It can cause rupture of the cylinder head or over-stretching the threads, and thus leading to an impairment of the pressure resistance or ignition protection class!



Cylinder-head bolts for explosion-proof connection of the camera body with the flange component must always be tightened at a 3 Nm torque - crosswise and evenly!

6.7 Battery

ExCam XF P1377 is equipped with a high-temperature resistant Panasonic button cell BR2330A/VAN. This cell supplies energy to the internal real time clock (RTC). The customer is not allowed to replace the battery! In this case, please contact the manufacturer.

7 Settings of the lens

The ExCam XF P1377 lens can be set up only via the web interface or the visualization software. The user cannot do any mechanical settings on at remote zoom lens. To configure the focus and tele-range, you can use the control function (slider) via the web interface and mouse command (see Fig. 7-1).

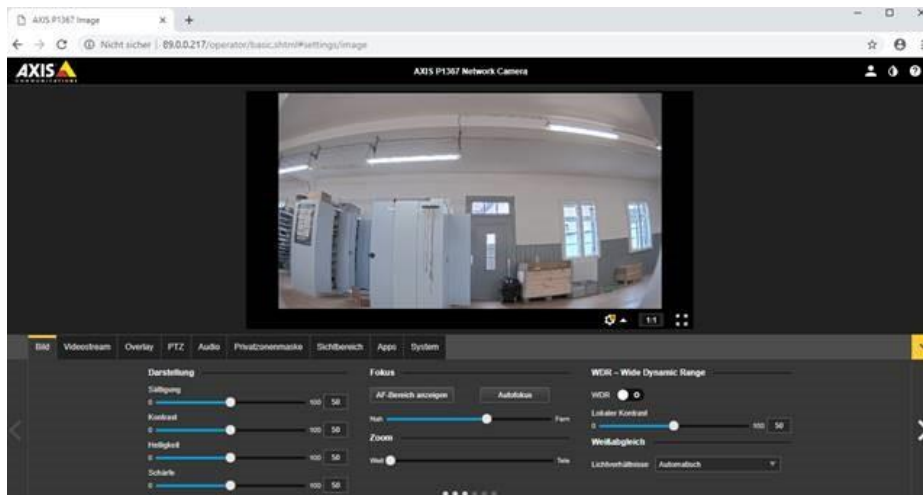


Fig. 7-1. User Interface for setting the zoom and focus

This step is only necessary if the camera factory settings are unsatisfactory, or if user settings (focus, sharpness, digital zoom, etc.) to be done via the web interface do not allow the user to achieve the desired results.

	P 1377
Lens type	Varifocal, IR-corrected, CS-mount, mega-pixel
Iris control	ICS iris, F1.2/ 2.7 mm
aspherical technology	No
Focal length	2.8 – 8.5 mm
Image angle, horizontal	110° (wide) - 38° (tele)
Control characteristic (iris)	automatic (the camera module contains an analogue circuit)
MOD (min. object distance)	0.30 m (wide) 1.00 m (tele)

Tab.7-1 Lens Data



Please note!

If not agreed otherwise, the ExCam® XF P1377 is pre-configured by the manufacturer to the maximum sensor resolution and low image compression (high image quality and high network bandwidth). The focus is optimized for objects at approximately 10 metres distance.

The focus of the ExCam XF P1377 network camera is optimised by the manufacturer to about 10 m object distance. The complete viewing angle is located in the "wide" area. This means a horizontal viewing angle of 110°. Usually, no adjustment is required. To focus the objects at a smaller or greater distance, or to change the zoom range (wide -> tele), you can change the lens settings, as follows:

1. Via a web browser (Mozilla Firefox, MS Internet Explorer, etc.), open the user interface of ExCam XF P1377 (for network access, see Chapter 8). Navigate in the "Setup" menu via the "Basic Setup" pull-down menu to the "Focus" settings.
2. Follow the shown instructions and first click on the "Open iris" button. If this button is disabled, this means that the iris is already open.
3. Now click on "Reset", to reset the lens level to the default value.
4. Release the zoom and sharpness regulators on the lens, by turning it counter-clockwise. By moving the two regulators, adjust the zoom strength and image sharpness. Check the image quality in the window below.
5. Re-tighten the zoom and sharpness regulators.
6. The click on the button "Fine-tune focus automatically" in the configuration menu and wait until the automatic optimization is finished.
7. To re-enable the iris, click "Enable iris". If the button is disabled, this means that the iris is already activated.
8. If necessary, you can make further settings in the "Advanced" tab.

Please note:

Before you start the automatic fine tuning, adjust the image sharpness as precisely as possible with the aid of the sharpness regulator or focus wizard. The sharpness regulator usually provides the best results.

8 Network access and visualization

The most important procedures of the camera's initial commissioning are described below. The configuration menu of the web surface allows an intuitive navigation and offers several configuration possibilities. For detailed documentation and information how to use the web Interface, please see the User Manual for Axis or visit the following website:

<https://www.axis.com/products/axis-p1377>



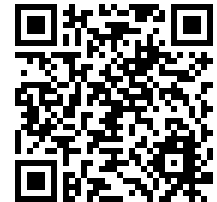
The delivered ExCam XF P1377 is set to the applicable net frequency (50Hz or 60Hz). If the camera is used at a location with a differing net frequency, the image might start to flicker, particularly in surroundings with fluorescent tubes. In such a case, the applicable settings have to be carried out within the menu “System Options > Advanced > Plain Config”.

User: root
Password: root

8.1 Browser Support

A list of the currently supported web browsers, operating systems, required add-ons, etc. can be viewed at:

http://www.axis.com/techsup/cam_servers/tech_notes/browsers.htm



8.2 Assigning the IP address

The ExCam XF P1377 is intended for use in an Ethernet network and requires an IP address to access and control it. In most of today’s networks, a DHCP server is integrated. This server automatically assigns an IP address.

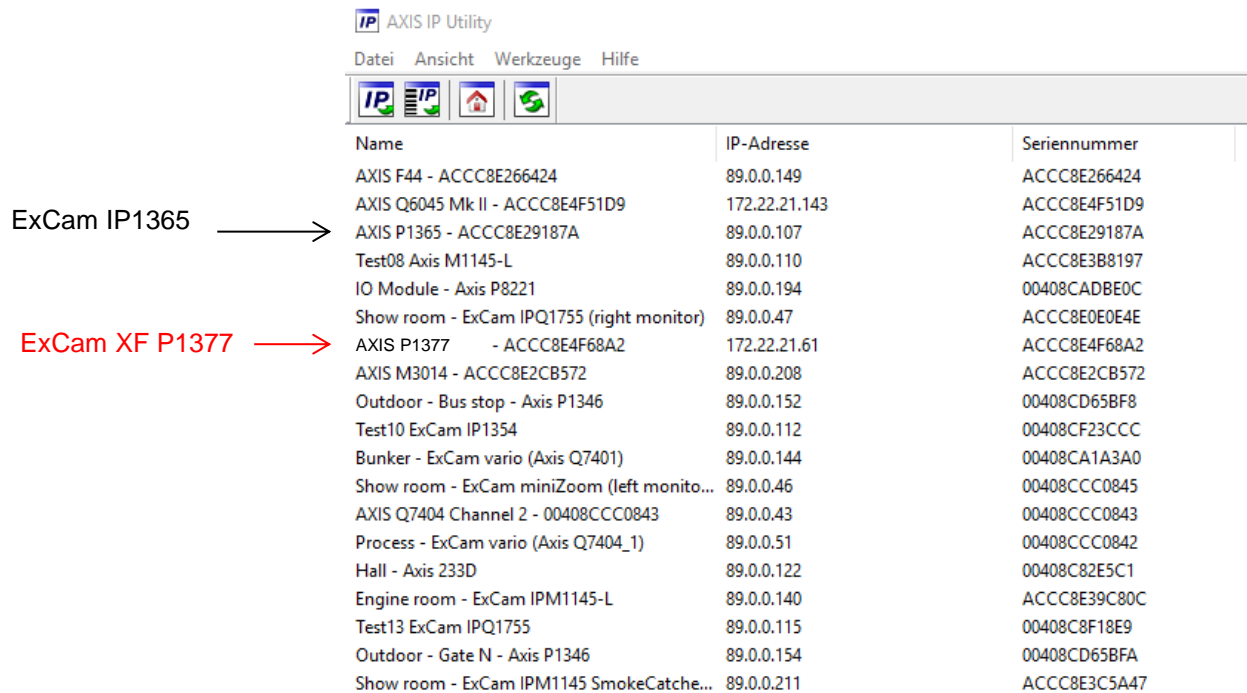
If there is no DHCP server available in the network, the IP default address of ExCam XF P1377 is “**192.168.0.90**” (subnet masking **255.255.255.0**).

With the “AXIS IP Utility”, it is possible to determine the IP address under Windows; the included USB stick contains this application.



If it is not possible to assign the IP address, it might be necessary to change the firewall settings!

The “AXIS IP Utility” tool automatically recognizes all ExCam devices and visualises them in the device list. It can also be used to manually assign a static IP address. For this purpose, the ExCam XF P1377 network camera should be installed in the same physical network segment (physical subnet) as the computer on which the AXIS IP Utility is running. The network signature of ExCam XF P1377 is "AXIS P1377" (see Fig. 8-1). MAC address and serial number for clear device identification are also detected and displayed.



Name	IP-Adresse	Seriennummer
AXIS F44 - ACCC8E266424	89.0.0.149	ACCC8E266424
AXIS Q6045 Mk II - ACCC8E4F51D9	172.22.21.143	ACCC8E4F51D9
ExCam IP1365 → AXIS P1365 - ACCC8E29187A	89.0.0.107	ACCC8E29187A
Test08 Axis M1145-L	89.0.0.110	ACCC8E3B8197
IO Module - Axis P8221	89.0.0.194	00408CADBE0C
Show room - ExCam IPQ1755 (right monitor)	89.0.0.47	ACCC8E0E0E4E
ExCam XF P1377 → AXIS P1377 - ACCC8E4F68A2	172.22.21.61	ACCC8E4F68A2
AXIS M3014 - ACCC8E2CB572	89.0.0.208	ACCC8E2CB572
Outdoor - Bus stop - Axis P1346	89.0.0.152	00408CD65BF8
Test10 ExCam IP1354	89.0.0.112	00408CF23CCC
Bunker - ExCam vario (Axis Q7401)	89.0.0.144	00408CA1A3A0
Show room - ExCam miniZoom (left monito...	89.0.0.46	00408CCC0845
AXIS Q7404 Channel 2 - 00408CCC0843	89.0.0.43	00408CCC0843
Process - ExCam vario (Axis Q7404_1)	89.0.0.51	00408CCC0842
Hall - Axis 233D	89.0.0.122	00408C82E5C1
Engine room - ExCam IPM1145-L	89.0.0.140	ACCC8E39C80C
Test13 ExCam IPQ1755	89.0.0.115	00408C8F18E9
Outdoor - Gate N - Axis P1346	89.0.0.154	00408CD65BFA
Show room - ExCam IPM1145 SmokeCatcher	89.0.0.211	ACCC8E3C5A47

Fig. 8-1 Axis IP Utility

8.3 Password/ Identification

The following user name is set at the factory: **root**

The following password is set at the factory: **root**

9 Maintenance/ Modification

The applicable regulations for the maintenance and servicing of electrical devices in potentially explosive atmospheres must be adhered to.

The required maintenance intervals are specific to the individual devices. The operating company has to determine these intervals depending on the application parameters. The maintenance tasks especially include examination of parts on which the ignition protection depends (e.g., proper condition of the casing, seals and cable entry points). If maintenance measures are necessary they have to be initiated and/or executed.

10 Repair

Repairs may only be carried out with original parts of SAMCON Prozessleittechnik GmbH. Damaged pressure-resistant housings have to be replaced completely. If in doubt, send the part in question back to SAMCON Prozessleittechnik GmbH.

Repairs concerning the explosion protection must only be carried out in accordance with nationally applied regulations by SAMCON Prozessleittechnik GmbH or by an electrical technician authorized by SAMCON Prozessleittechnik GmbH. Rebuilding of or alterations to the devices are not permitted.

11 Disposal/ Recycling

When disposing of the device, nationally applicable regulations must be observed.

This Document is subject to alterations and additions.

12 Drawings & 3D models

All drawings, 3D models, certificates and other information are available in the download area of the product page on our website:

Quick link:

<https://www.samcon.eu/en/products/network/excam-xf-p1377/>



Analog Ex Cameras (CVBS)

Network Ex Cameras (TCP/IP)

ExCam IPM3016

ExCam IPM114x

ExCam IP1365

ExCam IPQ1645

ExCam IPQ1785

ExCam IPP5635

ExCam IPQ6055

Robust Cameras (non-ex)

Ex-d Camera Enclosures

Connection Systems

Cables for Ex-Areas

Downloads:

- [Datasheet](#)
- [3D-Model](#)
- [Usermanual](#)
- [CAD-files \(DXF\)](#)
- [Ex Installation Manual](#)
- [ATEX Type Examination](#)
- [IECEX Cert.-of-Conformity](#)
- [MASC-Certification](#)
- [EAC-Ex-Certification](#)
- [PESO-APPROVAL \(India\)](#)
- [EU Dec. of Conformity](#)

ExCam[®] XF P1377

The ExCam XF P1377 is a powerful IP-megapixel camera (5 megapixels) for use in hazardous areas – **not only offering superb HDTV resolution (2592 x 1944) but also a powerful remote zoom and focus lens (i-CS)**. The ExCam series is certified according to European regulations (ATEX) as well as international ones (IECEX), EAC-Ex and more.

Features.

- Broad Certification Landscape for Hazardous Areas (ATEX, IECEX & EAC-Ex and more)
- Arctic-Temperature-Control (-60°C)
- Single-Cable-Solution (PoE / 24VDC)
- Protection Level of IP68 (IEC 60529)
- High Resolution: 2592x1944 (5 MP at 25/30 fps)
- Powerful Remote Zoom and Focus Lens
- Lightfinder and WDR Technologies
- Easy VMS Integration
- Economical

Explosion-proof IP-camera with ATEX-, IECEX- and EAC-Ex-certification

Besides the European regulations (ATEX), the ExCam series is also certified according to international regulations (IECEX) as well as the Russian custom-union (EAC-Ex). The housings' certification comprises ATEX group I (mining) with a low risk of mechanical threat and ATEX group II (Gas and Dust) for zone 1, 2 as well as 21

If you wish additional technical information, please contact us at:
support@samcon.eu

13 Certificates and further documentation

Certificates and further documentation are available in the download area at the product website:

Quick link:

<https://www.samcon.eu/en/products/network/excam-xf-p1377/>





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