

ExCam IPM1145-(L)



User manual

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Revision history

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Rev.-Index	Date	Name	Remarks	Authorization of the EX Supervisor
0	Sep 03, 2015	T. Gruber	Compilation of the document	
1	Apr 13, 2016	T. Gruber	Revisions: Termination of ExCam IPM1144-L, Deletion of the document overview	
2	Nov. 06 th 2018	S.Seibert	Adding the PoE+ Versions	
3	Apr. 02 nd ,2020	E.Schneider	Changes of cool.Jacket with water cooling; Aktualization of the cable SKD02-T → AWG23	

1 Introduction

The ExCam IPM1145-(L) is a high-performance digital camera system (type T08), manufactured by SAMCON Prozessleittechnik GmbH. The system is intended for network transmission via IP/ TCP/ RTSP protocols and Web Interface access. The explosion-proof device is very compact in design, covers all relevant features of a professional CCTV surveillance camera and is available as ExCam IPM1145, ExCam IPM1145-L or ExCam IPM1145(-L) PoE+.

Via the data cable, the camera systems are also supplied with power via Power-over-Ethernet (PoE IEEE802.3af/at) so that ideally only one connection cable is required.

The high-performance of the ExCam IPM1145-(L) regarding its usage for industrial process, plant, or person surveillance is based on a high-resolution output (1080p) to achieve a detailed and high contrast picture quality even at difficult light settings, day/night functionality, edge storage, individually configurable H.264 and Motion JPEG video streams, an intelligent and fast P-Iris aperture control as well as optional I/O interfaces. The highly efficient infrared LEDs of the ExCam IPM1145-L are adjustable to meet the individual application requirements to allow a surveillance of objects also in complete darkness.

The camera system is suitable for indoor as well as outdoor applications preferably within hazardous areas of the chemical and/or petro-chemical industry, at offshore plants, in mines, and at biogas plants. The Ex d stainless steel housing allows additional alloys, a powder coating, or coats of varnishes as well as various mechanical accessories in order to extend the resistance towards extreme environmental conditions (salt water, acid, solar radiation, high mechanical strains etc.). Due to the usage of high-quality PTFE sealings, not only the protection level IP68 is reached but also the chemical resistance is maximized.



Figure 1.1 – ExCam IPM1145-L with wall mount bracket and roof




2 Technical Data

2.1 Parameters of the explosion protection

Identification marks according to

Directive 94/9/EG (until April 20, 2016):

Directive 2014/34/EU:

 II 2G (zone 1 and 2)
 II 2D (zone 21 and 22)
 I M2

Explosion protection (gas):

Ex d IIC T6 Gb or
 Ex d IIC T5 Gb or
 Ex d IIB T6 Gb or
 Ex d IIB T5 Gb

Explosion protection (dust):

Ex tb IIIC T80°C Db IP68 or
 Ex tb IIIC T95°C Db IP68 or
 Ex tb IIIB T80°C Db IP68 or
 Ex tb IIIB T95°C Db IP68

Explosion protection (mining)

Ex d I Mb

Protection level:

IP 68 (IEC /EN 60529)

Transportation and storage
ambient temperature (EX)¹

ExCam IPM1145:

-60°C to +65°C (temperature class T6)
 -60°C to +70°C (temperature class T5)

ExCam IPM1145-L:

-60°C to +60°C (temperature class T6)
 -60°C to +65°C (temperature class T5)

Nominated body:

TÜV Rheinland (number 0035)

EC Type Examination:

TÜV 14 ATEX 7539 X_1st supplement
 IECEx TUR 14.0026X_issue No.1

Additional certificates:

EAC-Ex TC_RU_C_DE.MIO62.B.01921

Test protocol ATEX:

557/Ex.539.01/14

Test report IECEx:

DE/TUR/ExTR14.0026/01

Quality Assessment Report:

DE/BVS/QAR14.0006/00

¹ Maximum ambient temperature range relevant for explosion protection might deviate to the maximum functional temperature range. For maximum functional temperature range (MTBF) see chapter 3.12

Product compliance

Gas explosion protection:	<ul style="list-style-type: none">- IEC 60079-0:2011, EN 60079-0:2012- IEC 60079-1:2007, EN 60079-1:2008- IEC 60079-11:2011, EN 60079-11:2012- IEC 60079-18:2009, EN 60079-18:2009- IEC 60079-28:2006/ ISH1:2014, EN 60079-28:2007 (Beiblatt 1:2014-09)- GOST R IEC 60079-0:2011- GOST IEC 60079-1:2011
Dust explosion protection:	<ul style="list-style-type: none">- IEC 60079-31:2008, EN 60079-31:2009- GOST R IEC 60079-31:2010
Others:	<ul style="list-style-type: none">- IEC 60079-14:2013, EN 60079-14:2014- DIN 7080:2005-05- IEC 60529:1989 + A1:1999, DIN EN 60529:1991 + A1:2000- DIN VDE 0118-1:2010-02

2.2 Electrical parameters of the camera module

2.2.1 ExCam IPM1145-(L) (PoE+) (Camera and Heater)

Power supply:	PoE, IEEE 802.3at type 2 class 4
Reference power:	48 V DC (44...54 V DC)
Maximum power input:	24.9 W (30 W from the PSD)

2.2.2 ExCam IPM1145

Power supply:	PoE, IEEE 802.3af/ 802.3at type 1 class 2
Reference power:	48 V DC (44...54 V DC)
Maximum power input:	6.0 W

2.2.3 ExCam IPM1145-L

Power supply:	PoE, IEEE 802.3af/ 802.3at type 1 class 3
Reference power:	48 V DC (44...54 V DC)
Maximum power input:	10.5 W

2.3 Electrical parameters of the PTC heat load circuit (optional)

Reference power U_N :	24 V DC
Nominal voltage P_N :	20 W at type L ($T_{AMB} \geq -30^\circ\text{C}$) 40 W at type LL ($T_{AMB} \geq -60^\circ\text{C}$)

Attention!

The power consumption of the housing heating is determined by the ambient temperature or, respectively, by the PTC features² found in the modules' individual operating points. In addition, the performance of the PTC load circuit is influenced by the switching-on characteristics of the CB06 circuit board, the load operation of the internal camera module as well as the convection cooling on the outside (heat dissipation via housing).

Per module, the switch-on power can reach $P_{max} > 100\text{W}$! Supply cable fine wire fuses have to be dimensioned accordingly by the end user. A super-slow (-TT-) trigger characteristic is recommended.

The typical continuous power rating at the low temperature range ($T_{AMB} -30^\circ\text{C}$) is $P_{(-30^\circ\text{C})} = 12.2 \text{ W}$ at a saturated condition

The typical continuous power rating at the artic temperature range ($T_{AMB} -60^\circ\text{C}$) is $P_{(-60^\circ\text{C})} = 26.8 \text{ W}$ at a saturated condition

The typical start-up peak at the low temperature range (1x HP05 heating element) is $I_{max} > 4000\text{mA}$!

The typical start-up peak at the artic temperature range (2x HP05 heating element) is $I_{max} > 8000\text{mA}$!

The typical in-rush-duration for $I_{PTC} < 1000\text{mA}$ per module is $t_{ON} \leq 45\text{s}$

The typical in-rush-duration for $I_{PTC} < 500\text{mA}$ per module is $t_{ON} \leq 120\text{s}$ (saturated range/ steady current)

2.4 Connection cable SKD02-T

Description:	Samcon System Cable Digital (type „SKD02-T“) for low temperature ranges, data transfer and power supply of the camera modules M1145 and M1145-L (DIN EN 60079-14: 2014 conform)
Sheath color:	Yellow-green (GN), similar RAL6018
Ex d marshalling:	via the cable gland 1 ³ located on the right (according to <u>DIN EN 60079-14:2014</u> [chapter 10.6.2])

² $P_{HP05} = K \times A \times T$ ($K=5.5\text{W}/\text{m}^2$)

³ According to the current standard DIN EN 60079-14:2014, the dimensioning/execution of the cable gland with or without integrated pressure barrier / compound grouting does not depend anymore on the marked gas explosion group (IIB, IIC) or the Ex d pressure chamber volume ($<2000\text{cm}^3$, $\geq 2000\text{cm}^3$) but solely on the length of the suitable connection cable ($<3\text{m}$, $\geq 3\text{m}$)

	At a cable connection length of ≥ 3 m: (without integrated pressure barrier/ with elastomer sealing on the outer sheath) e.g.: „ADE 4F MsNi Type5 - M20x1.5 (CAPRI)“, with additional strain relief;
	At a connection cable length of < 3 m: (with integrated pressure barrier / epoxide compound grouting of the single conductors and duroplast/elastomer sealing of the outer sheath) e.g.: „8163/2 PXSS2K - M20x1.5 (R. Stahl GmbH)“
Outer diameter:	8.9 ± 0.3mm
Bending radius:	8 x outer diameter at installation 4 x outer diameter after installation
Weight:	102 kg/km
Temperature range:	-30°C to +80°C (at point of installation) -60°C to +80°C (fixed installed)
Conductor design:	4 x 2 x AWG23/1 blank, CAT.6a
Isolation:	SFS-PE foamed
Core diameter:	1.43 ± 0.02 mm
Color code:	IEC 708-1
Pair shielding:	Compound aluminum foil
Shielding:	Copper braid, multiple wires 0-10 vz, opt. coverage approx. 85%
Outer sheath:	PUR FHF
Characteristics:	PUR halogen free, flame resistant (EN 60332-1-2), UV and ozone resistant, high chemical resistance, EMV shielded (q.v. www.samcon.eu , data sheet SKD02-T)
User interface:	P (Plug) version: RJ-45 Stecker (EIA/TIA-568B), e.g. Weidmüller IE-PS-RJ45-FH-BK, Phoenix Contact VS-08-RJ45-5-Q/IP20 etc., 10BASE-T/100BASE-TX PoE K (terminal block) version: about 12 cm stripped: 8 x single conductors twisted pair (solid conductor $A=0.33\text{mm}^2$, $\varnothing=0.64$ mm approx. 6 mm stripped), 1 x shield (Cu braid tinned 1.5 mm^2 , ferule color code according to DIN 46228) 10BASE-T/ 100BASE-TX PoE

2.5 Power Supply cable (optional)

Description:	Ölflex® 440P ⁴ (<i>U.I. Lapp GmbH</i>), power supply for the PTC heat load circuit as well as for the electronical regulation of the CB06 for T08 Ex-Cam with the model key „L“ and „LL“, (DIN EN 60079-14: 2014 conform)
Sheath color:	Silver grey (GY) matt, similar RAL7001
Ex d marshalling:	via cable gland 2 ⁵ located on the left (according to <u>DIN EN 60079-14:2014</u> [Chapter 10.6.2]) At a cable connection length of ≥ 3 m : (without integrated pressure barrier/ with elastomer sealing on the outer sheath) e.g.: „ADE 4F MsNi Type5 - M20x1.5 (CAPRI)“, with additional strain relief; At a connection cable length of < 3m : (with integrated pressure barrier / epoxide compound grouting of the single conductors and duroplast/elastomer sealing of the outer sheath) e.g.: „8163/2 PXSS2K - M20x1.5 (R. Stahl GmbH)“
Outer diameter:	7.5 mm
Outer sheath:	Polyurethane mixture Tmpu according to EN 50363-10-2 / VDE 0207-363-10-2
Bending radius:	12.5 x outer diameter (occasional movement) 4.0 x outer diameter (fixed installation)
Conductor design:	3G1.5 (0012838), 3 x 1.5 mm ² (ø=1.4 mm), Fine wired tinned copper strand according to IEC 60228 / VDE 0295, class 5, with protective earth (GN/YE)
Copper index:	43.0 kg/km
Weight:	96.0 kg/km
Tensile strength:	15 N/mm ²
Characteristics:	Resistant to oil and drilling fluids according to IEC 61892-4: supplement D, wear and notching resistant, halogen free (VDE 0472-815) and flame-retardant according to IEC 60332-1-2, resistant to hydrolysis and microbes, UV resistant, additional testing requirements according to IEC 60811, EN 50396 and EN 50396

⁴ Further cables available upon request, e.g. „Ölflex® Petro FD 865 CP“ (high resistance against oil and drilling liquids) or „XPLE Armoured 3 x 2.5“ (extremely robust, particularly designed for offshore environments)

⁵ According to the current standard DIN EN 60079-14:2014, the dimensioning/execution of the cable gland with or without integrated pressure barrier / compound grouting does not depend anymore on the marked gas explosion group (IIB, IIC) or the Ex d pressure chamber volume (<2000cm³, ≥2000cm³) but solely on the length of the suitable connection cable (<3m, ≥3m)

Conductor identification code:	(q.v. www.samcon.eu , data sheet Ölflex 440P) Black conductors with white numbers with GN/YE- protective earth according to DIN EN 50334 / VDE 0293-334
Classification:	ETIM 5.0 Class-ID: EC 000104, ETIM 5.0 type: Control cable
Conductor insulation:	Thermal Plastic Elastomer (TPE)
Nominal current U ₀ /U:	300/500 V AC/DC
Test voltage:	3000 V
Temperature range:	-40°C to +90°C (occasional movement) -50°C to +90°C (fixed installation)
User interface:	P (Plug) version: <i>n/a / upon request</i> K (terminal block) version: 3x 1.5 mm ² (3G1.5) Cu strand with ferules (color code according to DIN 46228). Sheath about 12 cm stripped and furnished with bend relief / shrink tubing

2.6 Technical specification of the camera modules

Note:

Technical details of the internal CCTV module such as light sensitivity, resolution, frame rate sensor, shutter times, lens details, streaming functions, supported network protocols, event trigger, storage options, and picture parameter setting via the web interface are thoroughly provided in the data sheets of the camera manufacturer and not part of the T08 ExCam user manual.

2.6.1 Axis M1145

Data sheet:

http://www.axis.com/files/datasheet/ds_M1145_1480602_en_1604.pdf

User manual:

http://www.axis.com/files/manuals/um_m1145_57266_en_1512.pdf

2.6.2 Axis M1145-L

Data sheet:

http://www.axis.com/files/datasheet/ds_m1145l_1480603_en_1506.pdf

User manual:

http://www.axis.com/files/manuals/um_m1145l_57268_en_1512.pdf

2.7 IR-LED Illumination

2.7.1 Axis M1145

Specification:

n/a

(the Axis M1145 camera module does not have integrated IR LED illumination with additional photo diode for measuring the light conditions)

2.7.2 Axis M1145-L

Specification:

2 x highly efficient LEDs⁶

- with optimized infrared spectral components ($\lambda_{\text{centroid}} = 850 \text{ [nm]}$), allows high-contrast black and white pictures in darkness and under difficult light conditions
- Adjustable intensity and illumination angle, typical range up to 8 m
- Light sensor for automatic activation or deactivation of the infrared diodes
- Includes a particularly developed chloroprene rubber adapter for limiting the scattering angle due to infrared light reflections within the pressure resistant housing (q.v. optimization of shadowing and interferences due to multiple LED light reflections at the borosilicate sight glass of the stainless steel housing)
- Radiation angle: Max 30°

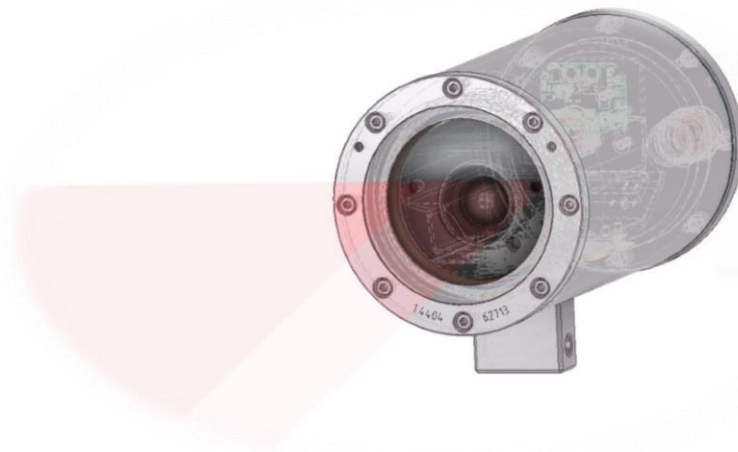


Figure 2.1 – ExCam IPM1145-L

⁶ Depending on the adjusted illumination angle, it is possible that at turned on IR LED illumination, the angle of view is slightly restricted or a minor shadowing is noticeable

2.8 Temperature range (MTBF)

2.8.1 ExCam IPM1145(-L) PoE+

Permitted functional ambient temperature (MTBF)⁷: -30°C to +40°C (type L)

2.8.2 ExCam IPM1145

Permitted functional ambient temperature (MTBF):

0°C to +40°C	(type N)
0°C to +70°C	(type H) (T5)
-30°C to +40°C	(type L)
-60°C to +40°C	(type LL)
-30°C to +70°C	(type LH) (T5)

2.8.3 ExCam IPM1145-L

Permitted functional ambient temperature (MTBF):

0°C to +40°C	(type N)
0°C to +65°C	(type H) (T5)
-30°C to +40°C	(type L)
-60°C to +40°C	(type LL)
-30°C to +65°C	(type LH) (T5)

2.9 Other technical data

Protection level EN 60529/ IEC 529: IP68
Test conditions (>IP67): 24h/ 3m water column, pH-neutrality, temperature of the liquid medium: $+5^{\circ} C \leq T_{Water} \leq +20^{\circ} C$.
 An additional mechanical protection against water jets is recommended

Housing material⁸ of the pressure resistant enclosure (DIN EN 60079-1: 2008) according to DIN EN 10027-2: 2015-07 (making system for steel):

Housing material (standard) MNo.: 1.4404 (X2CrNiMo17-12-2),
AISI 316L / V4A

⁷ Functional temperature range concerning the operational temperature range of the installed non-Ex components according to AXIS manufacture declarations (MTBF – mean time between failures) under consideration of thermal power loss and the temperature coefficient of the Ex d housing. The functional temperature ranges always lay within the explosion protection relevant temperature ranges which correspond to the values of the EC-type examination. For explosion protection relevant ambient temperatures (ATEX, IECEx, EAC-Ex) please refer to chapter 2.1 – Explosion Protection)

⁸ The available stainless steel materials dispose of different specific characteristics such as mechanical and chemical resistance. It is possible to optimize the corrosion behavior in highly acidiferous environments or at offshore applications by selecting the applicable housing material. An electro-polished or powder-coated surface in various RAL colors (standard: RAL7035) is possible.

Housing material (optional)

MNo.: 1.4301 (X5CrNi18-10),

AISI 304 / V2A

MNo.: 1.4305 (X8CrNiS18-9),

AISI 303

MNo.: 1.4401 (X5CrNiMo17-12-2),

AISI 316 / V4A

MNo. 1.4571 (X6CrNiMoTi17-12-2),

AISI 316Ti / V4A

Protective coating⁹:

Standard color RAL7035 (all RAL colors and special colors possible!), DURALMIT® 2K-PUR structure, type DSPT (isocyanate netted, polyester modified acrylate resin, fine structure (1.6...2.0 [mm] nozzle), surface resistance $\leq 9^{*11}[\Omega]$, layer thickness ≤ 0.2 [mm], screw connections, flat gaskets and cable glands are excluded from the coating

Additional metallic/non-metallic materials of the Ex d housing protection system:

Zincd spring steel MNo.: 1.0330, PTFE with glass microbeads (GYLON® Style 3504 blue), silicone-coating (Silcoset 105 incl. CureAgent 28), VMQ (silicone), thermos transfer foil made of polyester (acetone resistant), cable glands made of brass, nickel-plated (MsNi)

Sight glass material:

Borosilicate glass (Ilmadur 10/ I-420) (DIN7080:2005-05)

Internal materials:

Aluminum die cast, zincd (protection housing of the camera module), polyamide (PA6.6/ PA2000) and polyoxymethylen (POM) isolators and supporting adapters, T08 aluminum universal adapter (EN AW-ALSi1MgMn), PTC-ceramics, infrared anti-reflection adapter made of chloroprene rubber (CR4100/ Z-150), PUR and additional thermoplastic plastics, optical and electronical components etc.

Attention: *The Axis module is equipped with an ML614R battery which supplies the real time*

⁹ The protective coating of the housing underlies the explosion protection! Affected are exclusively the outside metal surfaces. The gaps preventing the transmission of an ignition / threads as well as the sealings remain unaffected. The modification of the housing surface meets the requirements acc. to DIN EN 60079-0: 2012 chapter 7 – non-metallic housings and non-metallic housing components (UV resistance, temperature index TI or relative heat index RTI-mechanical acc. to ANSI/UL 746B or heat and cold resistance). The avoidance of electrostatic charges is reached by the surface resistance $\leq 9^{*11} \Omega$ (max. 50% relative humidity) and the limitation of the layer thickness to 0.2mm (IIC)/ 2mm (IIB). Due to the surface coating, the thermal value and the convection cooling changes. The maximum permitted power loss feed into the housing is not affected by it!

clock (RTC). These lithium button cells (3.0 V) dispose of 1.2 dimethoxymethane; ethylen glycol dimethylether (EGDME), CAS-No. 110-71-4

Weight (without accessories): 4700 g (with „K1“ cable gland flange)
 5950 g (with „K2“ cable gland flange)
 6600 g (PoE+)

Weight accessories: 900 g (wall mount bracket WMB-VA2.1)
 700 g (wall mount bracket WMB-S)
 800 g (Twin adapter WMB-xTA)
 650 g (Hood WPR-VA2.1)
 100 g (Hinge attachment SCH-VA2.1)
 450 g (clamp attachment CMB-S)
 1000 g (Samcon cool.Jacket)
Further accessories upon request!

Dimension Housing (BxHxT)¹⁰: 113.0mm x 138.5mm x 210.2mm (K1 flange)
 113.0mm x 138.5mm x 226.0mm (K2 flange)
 113.0mm x 138.5mm x 260.2mm (PoE+)

Fitting of the flame proof gap preventing the transmission of ignition (cylinder) (EX) of the T07-VA2.1.x.x housing:

Flange / body Nominal diameter: 91 mm (plain cylindrical)
 Clearance fit: H8 f7 (DIN ISO 286)
 Tolerance: (-71...-36) µm ... (0...+54) µm
 Gap length > 12.5mm (acc. to DIN EN 60079-1)
 largest gap length < 0.15mm (DIN EN 60079-1)
 Average surface finish: R_a ≈ 2.0 µm
 (DIN ISO 468) / R_a ≤ 6.3 µm acc. to DIN EN 60079-1: 2008 [5.2.2]

Cable glands 2 x M20*1.5_12 mm (ISO metrical fine thread acc. to DIN13-2), quality 6H (medium or fine acc. to ISO 965-1 / ISO 965-3), supporting/gripping threads ≥ 5 (acc. to requirements of DIN EN 60079-1: 2008 [5.3] table 3 „Cylindrical gaps“)

¹⁰ Dimension stainless steel housing T07 VA2.1.x.x with mounting, without cable gland, without external accessories, for further / more detailed dimension please refer to chapter 10 – Technical Drawings

Media resistance:

Checked upon request only!

Generally: Resistance to corrosion as well as chemically high-resistance to a variety of substances used in the industrial environment and suitable for offshore applications (q.v. the general specifications of stainless steel MNo.: 1.4404, surface finish of the Ex d housing, Gylon flat sealing etc.)

- The resistance significantly depends on the following factors: *Temperature, concentration, duration and media type (liquid, gas, steam etc.). The resistance towards environmental influences and mechanical strain can be maximized by an optional certified protective coating! To increase the corrosion characteristics it is also possible to electro-polish the applicable components -*

3 Safety guidelines

Please observe the safety guidelines indicated in the current version of the T08 ExCam series EX installation manual!

4 Illustration of the model key

The following model options are currently available for the T08 ExCam IPM1145-(L):

Ex product name ¹⁾	Model options					
	Type ²⁾	Housing combination ³⁾	Gas expl. group ⁴⁾	Cable length [m] SKD02-T /Ölflex®440P ⁵⁾	Cable Termin. ⁶⁾	Temp. range ⁷⁾
ExCam IPM1145	T08-	VA2.1.K1.BOR-	C-	005-	K-	N
ExCam IPM1145-L	T08-	VA2.1.K1.BOR-	C-	005-	P-	N
	T08-	VA2.1.K2.BOR-	C-	005-	K-	N
	T08-	VA2.1.K2.BOR-	C-	005-	P-	N
	T08-	VA2.1.K1.BOR-	C-	005-	K-	L
	T08-	VA2.1.K1.BOR-	C-	005-	P-	L
	T08-	VA2.1.K2.BOR-	C-	005-	K-	L
	T08-	VA2.1.K2.BOR-	C-	005-	P-	L
	T08-	VA2.1.K1.BOR-	C-	005-	K-	LL
	T08-	VA2.1.K1.BOR-	C-	005-	P-	LL
	T08-	VA2.1.K1.BOR-	C-	005-	K-	H
	T08-	VA2.1.K1.BOR-	C-	005-	P-	H
	T08-	VA2.1.K1.BOR-	C-	005-	K-	LH
	T08-	VA2.1.K1.BOR-	C-	005-	P-	LH
	...PoE+	T08-	VA2.2.K1.BOR-	C-	x	x

Table 4.1 – Model key

Explanation:

- 1) **ExCam IPM1145-(L)** = Functional camera description of the T08 ExCam Series regarding the installed camera module and characteristics: Sensor resolution, light sensitivity, camera angle of view, aperture control, power intake, zoom characteristics (wide/tele range, optical/digital, motor controlled/varifocal), special features (e.g. IR LEDs, Lightfinder or WDR technology) etc.
- 2) **T08** = Production type concerning the certifications of the „T08 ExCam Series“, EC type examination: „TÜV 14 ATEX 7539 X_1st supplement“, „IECEX TUR 14.0026X_1st supplement“ and EAC-Ex TC-RU-C-DE.MIO62.B.01921“
- 3) **VA2.1.K1.BOR** = T07 Ex d housing with large diameter ($\varnothing_{VA}=113$ mm) and large sight glass ($Q_{BOR}=72$ mm) effective, translucent area)
VA2.1.K1.BOR = T07 housing with minimum body length
VA2.2.K1.BOR = T07 housing with medium body length
VA2.1.K1.BOR = K1 cable gland flange (straight cable gland(s) - *Standard* -
VA2.1.K2.BOR = K2 cable gland flange (orthogonal cable gland)
VA2.1.K1.BOR = Borosilicate sight glass DIN7080 (standard execution, for video cameras within visible spectral range: $\lambda = 350...2000$ [nm]. Not suitable for thermographic applications)
- 4) **C** = Explosion group IIC/ IIIC (Standard execution. Suitable for all gases including hydrogen, acetylene, carbon disulfide, flammable fibrous material and non-conductive dusts)

- 5) **005** = Length of the connection line in meter at delivery. The standard cable length is 5 m (minimum/maximum cable length: 001...100 [m])

*Information: According to **DIN EN 60079-14:2014 [chapter 10.6.2]** it is, at a cable length of ≥ 3 m, possible to use cable glands **without an integrated pressure barrier** as well as an elastomer sealing on the outer sheath and an additional strain relief. At a cable length of ≤ 3 , the cable gland has to be carried out **with an integrated pressure barrier**, this means with epoxide compound grouting of the single conductors and with duroplast / elastomer sealing on the outer sheath, dimensioned appropriately! The dimension of the cable glands are hence variable.*

- 6) **K** = Terminal block termination (standard)
 SKD02-T: CAT6a, 8x single conductor AWG23/1 „twisted pair“ solid conductor copper blank, 0.33 mm² / Ø=0.64 mm, approx. 6 mm striped, 1x shield CU-braid tinned 1.5 mm² with ferules blue
 Ölflex 440P: Supply, 3G1.5mm², Cu Sheath about 12 cm stripped and furnished with bend relief / shrink tubing

- P** = Plug- termination (optional)
 SKD02-T: CAT6a, RJ-45 network plug (heavy duty), AWG 26-22, e.g.: Type Weidmüller „IE-PS-RJ45-FH-BK“ or type Phoenix Contact „VS-08-RJ45-5-Q/IP20“, contact assignment always acc. to specification EIA/TIA-568B 1
 Ölflex 440P: Q.v. terminal block termination
 Plug-termination *n/a* or upon request

- (7) **N** = Normal ambient temperature range (MTBF): T_{AMB_N}: 0 to +40 [°C]
L = Low ambient temperature range (MTBF): T_{AMB_L}: -30 to +40 [°C]
LL = Lowest ambient temperature range (MTBF): T_{AMB_LL}: -60 to +40 [°C]
H = High ambient temperature range (MTBF): T_{AMB_H}: 0 to +70 [°C]
LH = Broad ambient temperature range (MTBF): T_{AMB_LH}: -30 to +70 [°C]

Note:

The upper temperature limits of type H and type LH of the functional temperature range (MTBF) depend on the maximum power consumption of the applicable model options and are limited by the explosion proof temperature range. Currently, model options ExCam IPM1145 and the ExCam IPM1145-L are available. For the ExCam IPM1145-L, the upper temperature limit is reduced to: **T_{AMB} ...+65°C (T5)**.

5 Commissioning



Attention!

Please observe the national regulations regarding security, installation, and accident prevention (e.g. DIN EN 60079-14 or DIN VDE 0118-1:2010-02) for the erecting of electrical plants in mining etc.) as well as the safety guidelines described in this user manual and the EX installation manual!



Attention!

Please observe the installation and commissioning advices described in the ATEX/ IECEx/ EAC-Ex Ex-installation manual!

5.1 Step 1: Installation

Install the ExCam® IPM1145-(L) at the desired location. Mounting options and conditions, accessories, as well as safety guidelines are described in the EX installation manual of the T08 ExCam® series.

5.2 Step 2: Electrical connection



Attention!

The electrical connection of the equipment must be executed by qualified personnel only!



Attention!

It is mandatory that the housing of the ExCam® Series has to be grounded via a PE-connection!



Attention!

The minimum cable length of the connection line must not be less than one meter! The connection cable has to be laid in a protected manner!



Attention!

Please observe the national regulations regarding security, installation, and accident prevention (e.g. DIN EN 60079-14 VDE 0118-1:2010-02), as well as the safety guidelines described in this user manual and the EX installation manual!

The ExCam® IPM1145-(L) Series is delivered with the electrical connection cable type SKD02-T suitable for the hazardous area. Optionally, the camera can dispose of a power cable (standard is a type „Ölflex® 440P“). The maximum cable length is 100 m (depending on electromagnetic tolerance) and can be determined individually to reflect the particular customer specifications. The minimum cable length is 1 meter.

The ExCam® IPM1145-(L) is manufactured with a pigtail reflecting the desired cable length. Any electro-technical work inside the camera's flameproof enclosure done by the user is prohibited. Depending on the model option, the ending of the camera's cable connection is either stripped to the blank Cu conductors or furnished with a plug.

5.2.1 Potential equalization

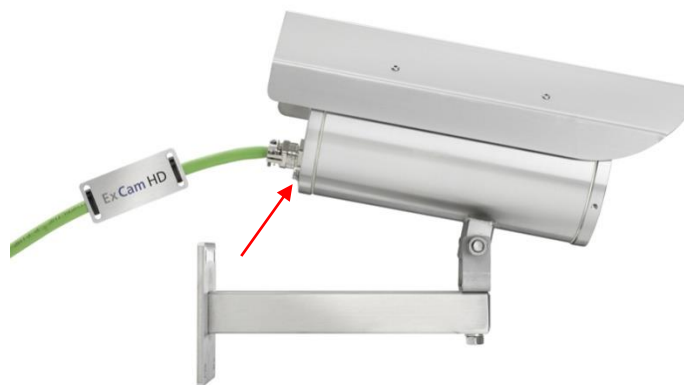


Figure 5.1 – ExCam IPM1145-(L) potential equalization

The potential equalization / earthing of the camera housing is mandatory in order to avoid electrostatic charging and hence spark generation. The screw terminal at the lower right hand side of the housing's rear side is intended for that purpose (q.v. figure 5.1). The profile of the potential equalization has to reflect the national grounding instructions (min. 4mm²).

Connection table:

Potential	Color (IEC 60757)	Profile	Comment
PE	GN/YE	4 mm ² (fix)	Screw terminal: Slotted screw M4 x 0.7 (DIN 84) with washer Ø 9 mm (DIN 125A)), 3Nm Tightening torque has to be observed!

Table 5.1 – Potential equalization

5.2.2 Connection and protection

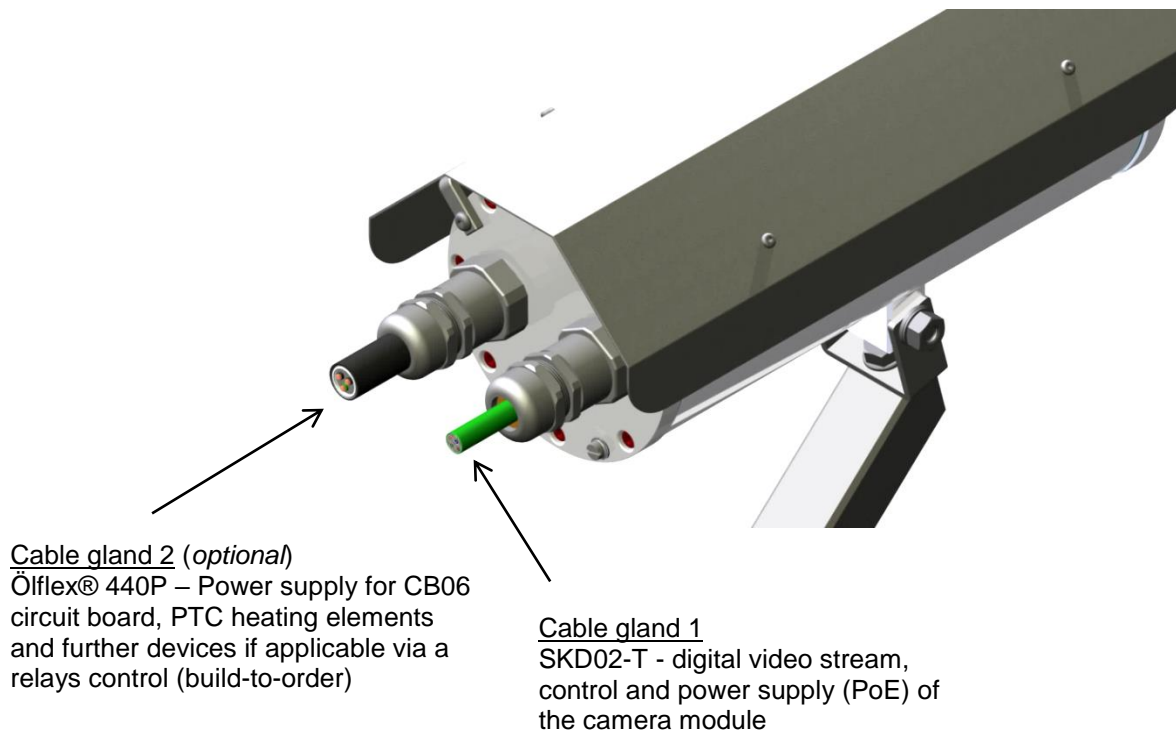


Figure 5.2 – Cable glands and supply cable



Figure 5.3 – ExCam IPM1145-(L) T08-VA2.1.K1.BOR-C-XXX-K-X



Figure 5.4 – ExCam IPM1145(-L) T08-VA2.1.K1.BOR-C-XXX-P-X

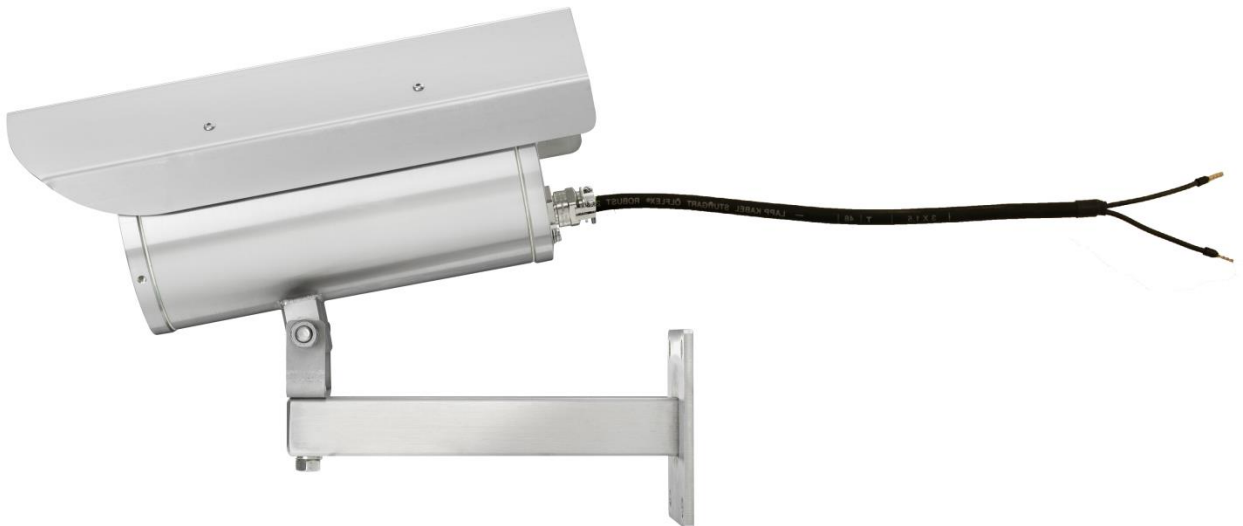


Figure 5.5 – ExCam IPM1145(-L) T08-VA2.1.K1.BOR-C-XXX-X-L(L)

ExCam IPM1145(-L)

Use PoE PSE for 802.3at type 1 class 3 or
Use PoE PSE for 802.3at type 2 class 4 (30W)

ExCam IPM1145(-L) PoE+

Use PoE PSE for 802.3at type 2 class 4 (30W)

The standard pin assignment of the SKD02-T in accordance with EIA/TIA-568B for 100BaseTX with PoE (IEEE 802.3af/at) is as follows:

Pin / Potential		Color SKDxx (IEC60757)	Plug / pin contact (TIA-568B)	Cross sec- tion area	Remarks
Mode A	Mode B				
Tx+ / PoE ±48 VDC	Tx+	WH / OG	1	0.64 mm ²	Solid conductor
Tx- / PoE ±48 VDC	Tx-	OG	2	0.64 mm ²	Solid conductor
Rx+ / PoE GND	Rx+	WH / GN	3	0.64 mm ²	Solid conductor
n.a.	PoE +48 VDC	BU	4	0.64 mm ²	Solid conductor
n.a.	PoE +48 VDC	WH / BU	5	0.64 mm ²	Solid conductor
Rx- / PoE GND	Rx-	GN	6	0.64 mm ²	Solid conductor
n.a.	PoE GND	WH / BN	7	0.64 mm ²	Solid conductor
n.a.	PoE GND	BN	8	0.64 mm ²	Solid conductor
shield/ GND (complete conductor bunch)		BK	9	n/a	Shield braid of tinned copper wires Ø=0.13 mm (AWG 36)
shield (single, twisted pair pins)		n/a	n/a (10)	n/a	Aluminum synthetic strapp, twisted

Table 5.2 – Pin assignment SKD02-T and plug contact RJ45

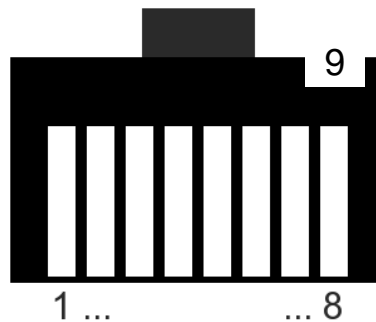


Figure 5.6 – RJ45 Contact assignment

Particularly in EMC critical environments, it is important to earth the shield at the terminal block side (q.v. figure 5.3 – pin with black shrink tubing and blue ferule).

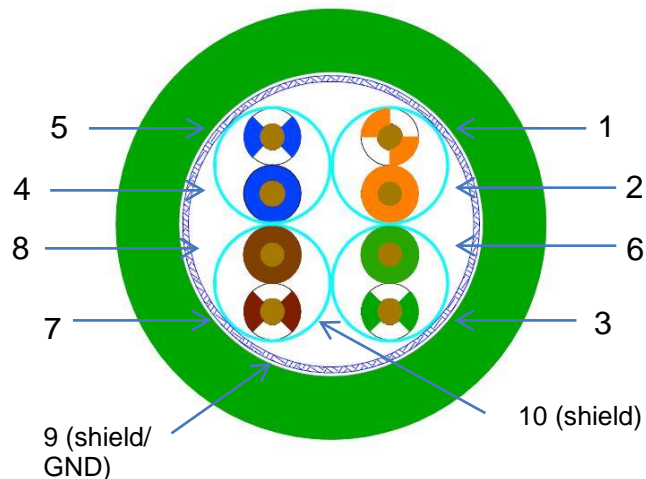


Figure 5.7 – SKD02-T Pin assignment

If the camera is equipped with a heating or a cooling (type L, LL, LH), a second power supply with a separate supply protection at the „L+“ has to be available. Standardly, the supply is carried out via the supply cable Ölflex® 440P (cable gland 2, q.v. figure 5.2 and 5.5). Connection assignment and supply protection according to table 5.3.

Potential/ Pin no.	Color „Ölflex Robust 440P“ (IEC60757)	Cond. design	Voltage	Maximum power in- put / protection (type L)	Maximum power in- put / protection (type LL)
L+ / 1	BK	1.5 mm ² litz wire	+24 VDC	20 W / fuse (L+) 2000 mA -T- time lag (high inrush current!)	40 W / fuse (L+) 4000 mA -T- time lag (high inrush current!)
L- / 2	BK	1.5 mm ² litz wire	0 VDC / GND		

Table 5.3 – Pin assignment supply cable for heating type L

Power supply fuse type H q.v. table 5.4 or upon request available!

Note:

If the camera is equipped with a camera cooling system (SAMCON **cool.Jacket** for model key type H), also an additional cable gland at the camera housing is required. A „decentral“ magnet valve (ex or non-ex, depending on the application) is accessed in order to control the supply of the cooling water. For further information, please refer to the applicable user manual of this accessory. The magnet valve’s power supply is executed via an integrated circuit board control and the transistor outputs of the Axis M1145-(L) camera module. The electrical control of the cool.Jacket can either be done via the SKD02-T cable (4 x free conductors at PoE supply Mode A/ phantom power) or a 3G1.5 supply cable of type Ölflex® 440P.

The standard wiring is executed via the power cable and as described in table 6.4 below:

Potential/ Pin no.	Color Ölflex® 440P (IEC60757)	Cond. design	Voltage U_N	Nominal power I_N	Nominal capacity P_N	Power supply fuse rating
L+ / 1	BK	1.5mm ² , litz wire	+24 VDC	486 mA	11.7 W	Fine fuse 1000 mA -f- flink
L- / 2	BK	1.5mm ² , litz wire	0 VDC / GND			
PE / 3	GN/GY	1.5mm ² , litz wire	0 VDC			

Table 5.4 – Pin assignment supply cable for cooling type H

5.2.3 Tests prior to switching on voltage



Attention!

Prior to commissioning, all tests as indicated by the national regulations have to be executed. In addition, it is mandatory that the proper functioning of the operating device in accordance with this user manual and all other applicable regulation has been executed.



Attention!

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



Attention!

When commissioning the camera at temperature below 0 °C, it has to be secured that the camera is not switched-on prior to the housing heating. The PTC heating has to warm up the housing before turning on the camera. This can be realized, for example, by the means of an external time relay.

5.3 Testing of the status LED

The camera module's status LED is located in the back of the stainless steel enclosure and is only visible when the housing is open.

The status of the ExCam IPM1145-(L) is reflected by the LED indicators is as follows:

Status LED		
Operation mode	Color	Comment
	Green	At normal operation, a constant green light shows Note: It is possible to configure the status LED in such a manner that in normal operation it is not illuminated or only blinks when the camera is accessed
	Yellow	It is illuminated permanently when the camera is turned on as well as when the camera is set back to default settings
	Red	In case of an activation failure the light blinks slowly
Usage of the focus assistant	n.a.	

Table 5.5 – Status and control LED

5.4 Step 3: Adjusting the lens

Parametrization measures at the lens of the ExCam IPM1145-(L) are exclusively done via the Web Interface or the visualization software. Mechanical adjustments at the varifocal lens by the user are not possible. The camera models ExCam IPM1145 and ExCam IPM1145-L dispose of a so called „remote Zoom“ functionality (q.v. figure 5.8)

The remote zoom function is less capable than a motor zoom lens (slower response time, lower range) but more compact. It allows the user making the final settings via the computer in order to conveniently set the best focus and resolution. Due to the remote focus function, the manual focus adjustment becomes obsolete and the settings can be done via the computer also.

Concerning the configuration and the additional camera settings please refer to chapter 2.6.1 and 2.6.2

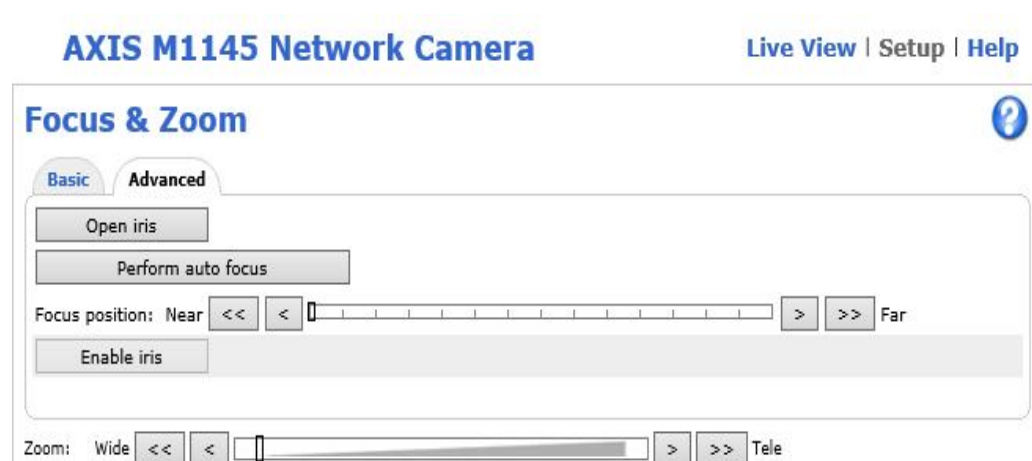


Figure 5.8 – Remote Zoom control of the ExCam IPM1145-L

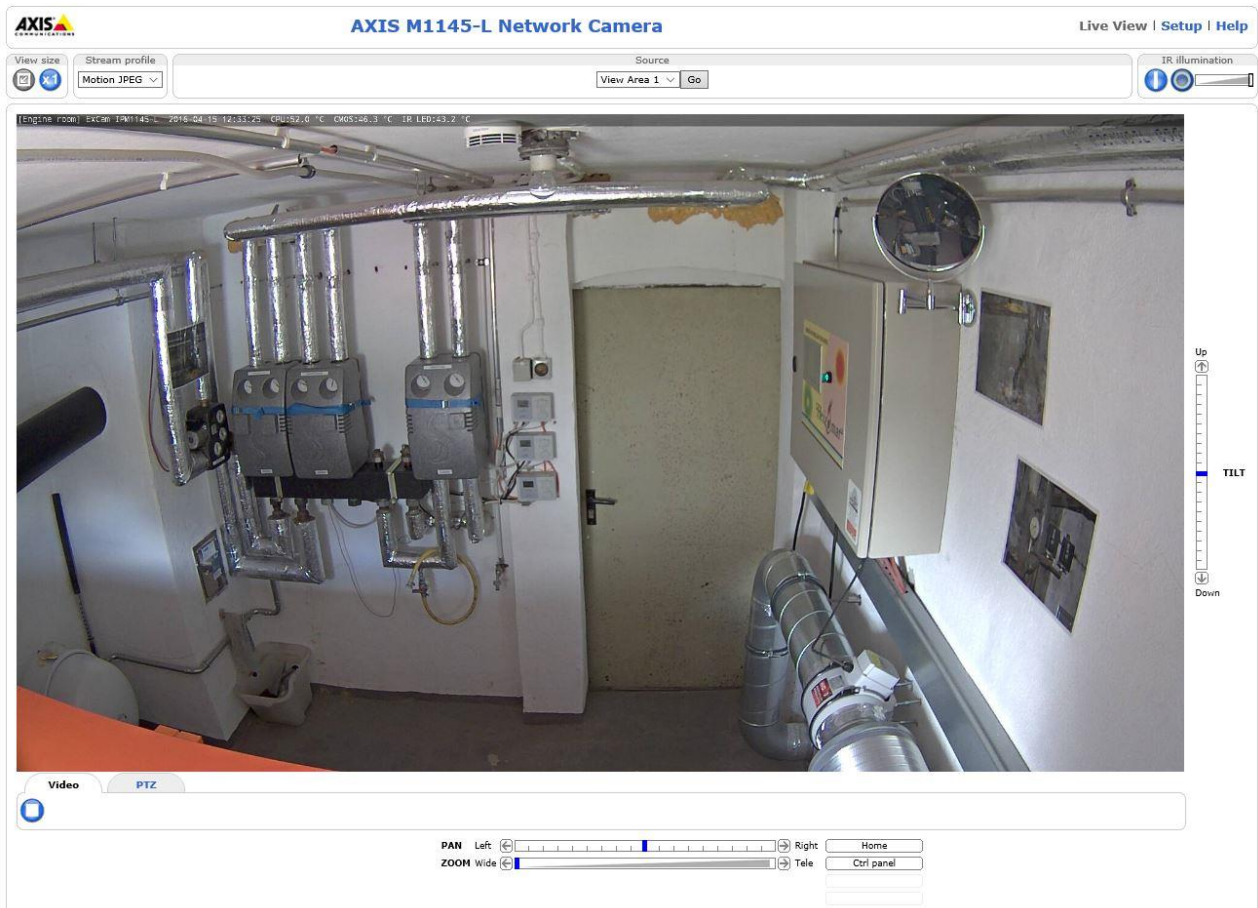


Figure 5.9 – Live View with IR control of the ExCam IPM1145-L

	IPM1145	IPM1145-L
Lens type	Vario-Focus-lens, integrated infrared cut filter, lens fixed installed in the module (no CS mount), motorized remote zoom and remote focus	
Lens	P-Iris, F1.4 / f3.0 – 10.5 mm	
Aspherical technology	Nein	
Focal distance	3.0 – 10.5 mm	
Horizontal angle of view	75°(wide) – 34°(tele)	
Iris control	Precision-automatic	
MOD (Minimum object distance)	0.30 m (wide) / 1.00 m (tele)	

Table 5.6 – Lens data



Information!

If not determined differently, the default setting for the ExCam® IPM1145-(L) is set to maximum sensor resolution (HDTV 1080p/ 16:9) and low picture compression (high picture quality, high bandwidth requirement). The focus is optimized for a distance of approx. 10 m. It is possible to individually adjust the ExCam IPM1145-(L) settings to meet the requirements of objects, environmental conditions, or network and hardware performances. The same is valid for passwords, user names, streaming profiles, or IP addresses etc. which can also be pre-configured.

5.4.1 Work preparation



Attention!

Please carry out any preoperational work carefully and in accordance with the applicable regulations!



Attention!

Depending on the zone classification, it might be necessary to obtain a work permit/clearance!

When opening the pressure resistant enclosure (Ex d) under load, potentially explosive atmosphere must be avoided by any means!

For the network camera to deliver the best picture quality possible, please select the appropriate installation place; considering the light conditions, object distance and size, angle of view and the minimum object distance for focusing (MOD).

- Use appropriate tools
- Make sure you have a secure foothold
- Avoid static charge

5.4.2 Opening the pressure-resistant housing

Opening the pressure resistant housing (DIN EN 60079-1: 2008) of the ExCam IPM1145-(L) is only allowed for exchanging / extracting the SD storage card or in case a “Hardware Reset“ of the camera module is necessary.

All other mechanical or electrical manipulations within the Ex d housing by the user is prohibited. Such work is only to be carried out by SAMCON Prozessleittechnik GmbH. After completion of the work, the pressure resistant enclosure has to be tightened securely again. Please be very careful and follow thoroughly the steps of this manual.



„WARNING – DO NOT OPEN IN HAZARDOUS AREA“

Note: Depending on the zone classification, it might be necessary to obtain a work permit/clearance!

Even after disconnecting the camera from power, when opening the pressure resistant enclosure (Ex d), potentially explosive atmosphere must be avoided by any means or the camera has to be de-installed and the work has to be carried out in the safe area (non-EX)!

If the T08 ExCam IPM1145-L is equipped with a protection roof, this has to be removed first. To do so, loosen the 4 x 8mm screws M4*0.7 situated on the both ends of the brackets (figure 5.10 and 5.11).

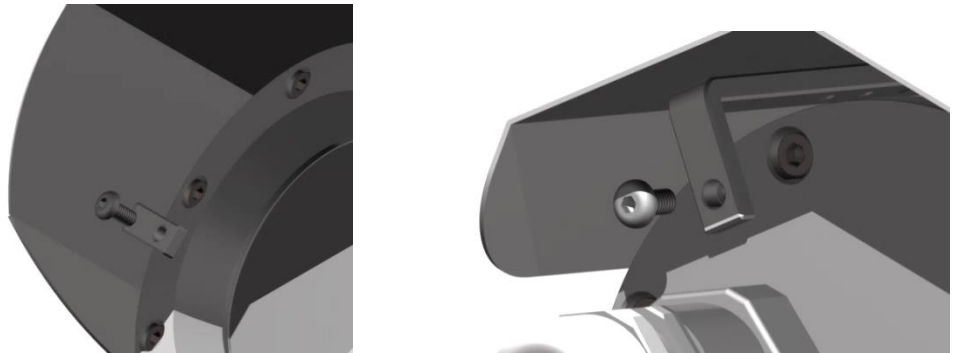


Figure 5.10 – Removing the protection roof (1/2)

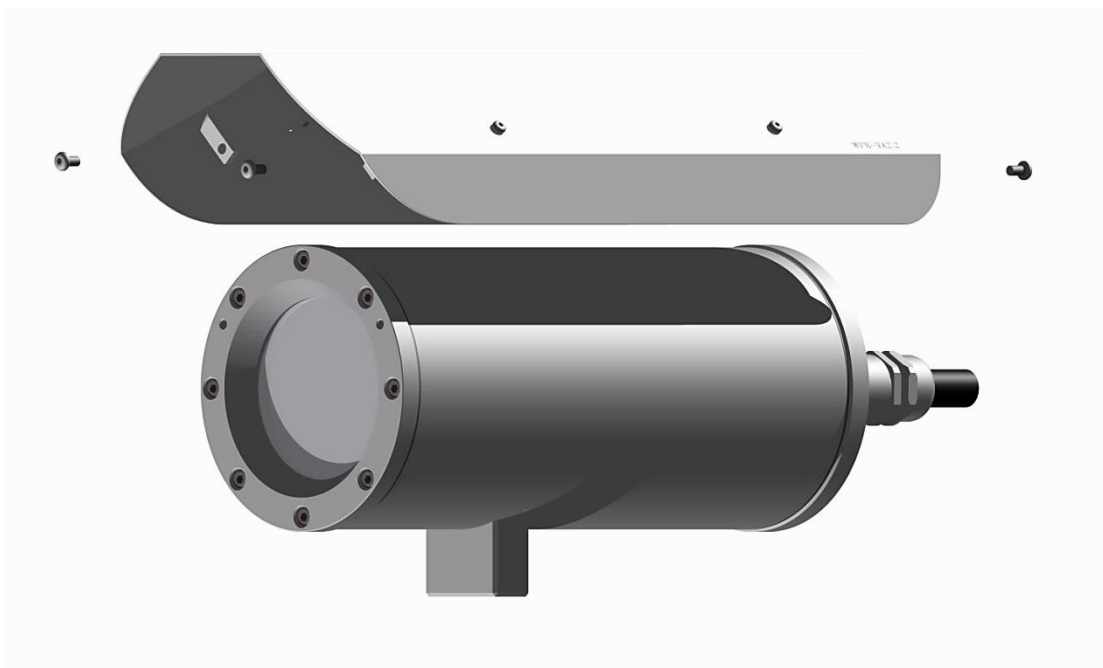


Figure 5.11 – Removing the protection roof (2/2)

To open the stainless steel enclosure (T07 VA2.1.x.x) of the ExCam IPM1145-(L), loosen the eight hexagon socket screws (DIN 912/ ISO 4762) located at the cable gland flange of the stainless steel housing, including the washer springs (DIN 127 A) (q.v. figure 5.12). Avoid skin or clothing contact with the screw threads as they dispose of LOCTITE® 243™ (chemical basis: Dimethacrylatester). It is used to protect the screws from losing due to shocks, vibrations but also for sealing purposes. It is not allowed to open the sight glass flange!

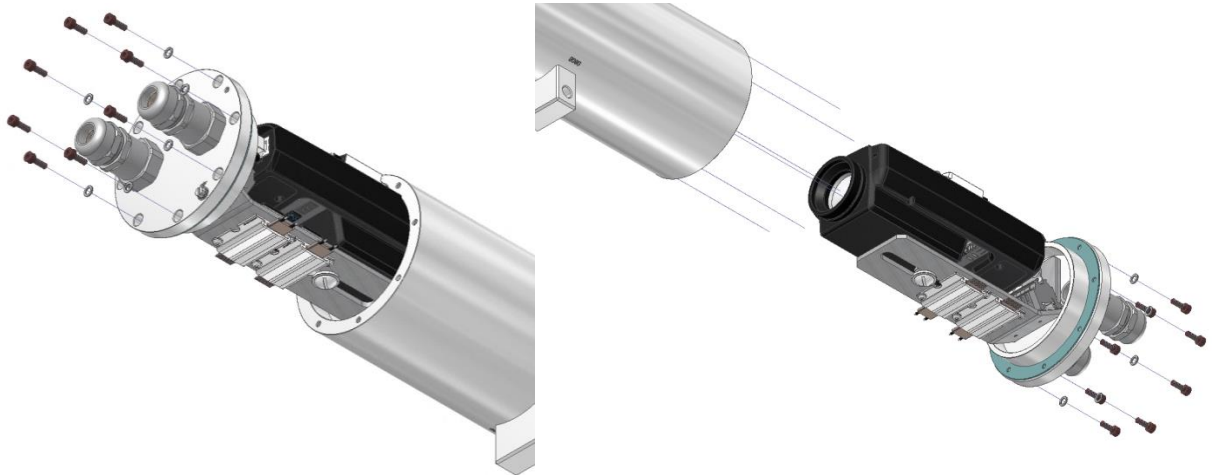


Figure 5.12 – Opening the ExCam IPxxx

Pull out very carefully the lead flange in a straight manner, ensuring that the board module does not tilt. Due to the created lower pressure this might require some additional effort. The cylindrical clearance fit (H8f7 - DIN ISO 286) of the body as well as flange components must not be tilted as this runs the risk of damaging the flame proof gap preventing the transmission of ignition (DIN EN 60079-1:2012)!

Attention: The mounting adapter with the heating module, the temperature controller, the camera module and the optical module are fixed to the cable gland flange. Beware also of tilting and work very carefully to avoid damaging the components! Avoid skin and clothing contact with the cylindrical fit, the surface is treated with lubrication paste (oleaginous) to protect the surface against frictional corrosion and mechanical strain.

When opening the housing, make sure not to damage or to pollute the Gylon sealing (blue)! The sealing is not firmly attached to the cable and supply flange and only fixed by the means of the screw connections.



Attention!

Beware not to damage the surface of bore hole and shaft (fit) at the flame proof gap preventing the transmission of ignition.



Attention!

Please make sure not to damage housing sealings and to keep them clean.

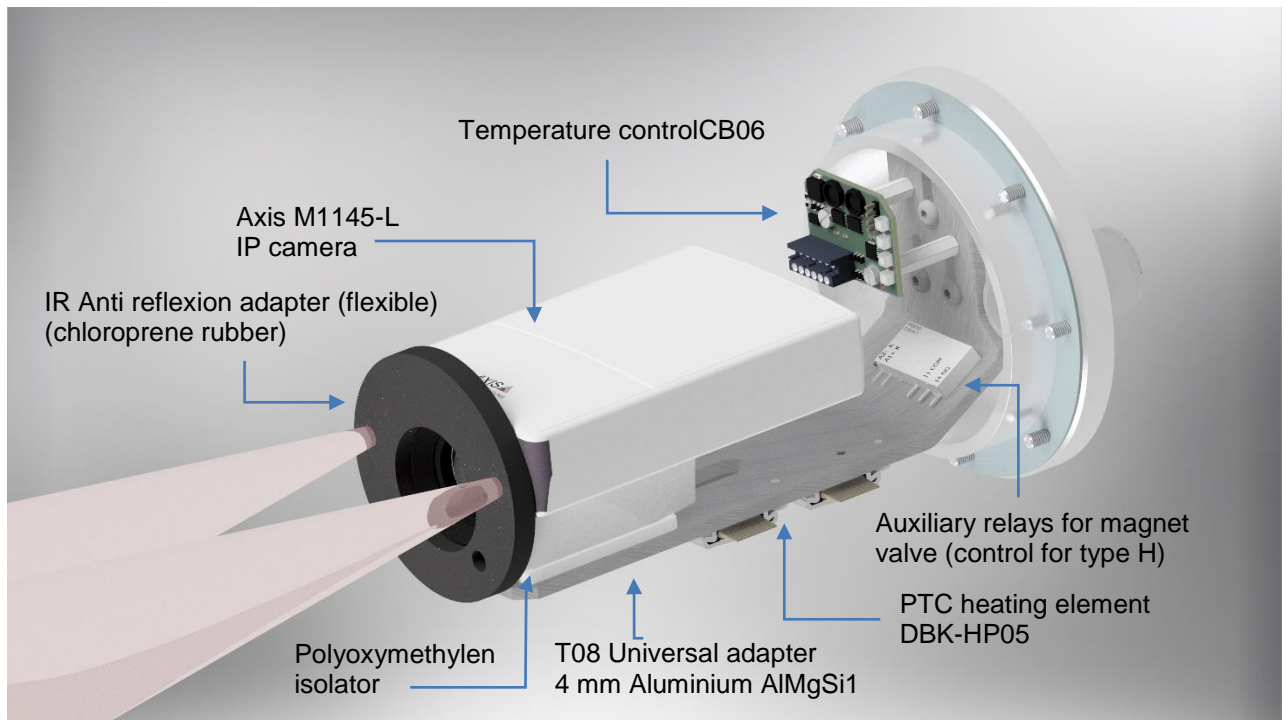


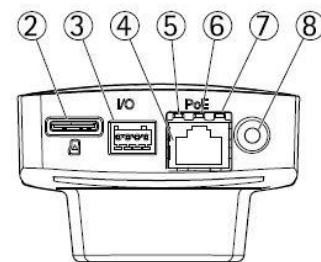
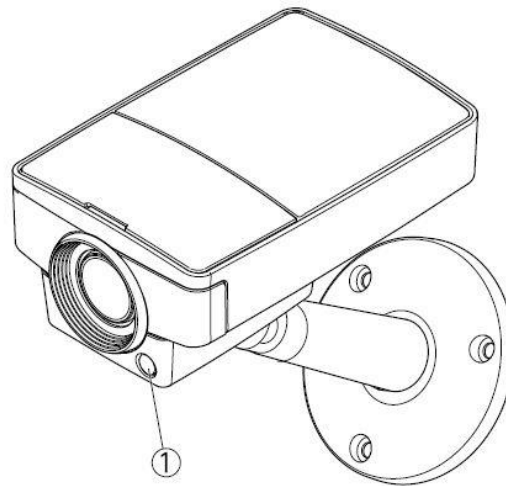
Figure 5.13 – ExCam IPM1145-L installation components

5.4.3 Extracting/inserting an SD storage card

Note:

The ExCam IPM1145-(L) can at a customer`s request be delivered with a 16GB microSDHC storage card. Saved video files can be viewed or deleted via the web interface; they are also available in a download list or as an ftp file to the network. The videos saved on the storage card can be accessed also via the FTP server within the network. If the SD card has to be changed, the new storage card should be blank and pre-formatted with an „ext4“ or „vFAT“ data system.

The SD card slot is located on the bottom side behind the camera module (q.v. figure 5.14).



1. *Light sensor (only for AXIS M1145-L)*
2. *microSD card slot*
3. *I/O connector*
4. *Network connector*
5. *Network LED*
6. *Status LED*
7. *Power LED*
8. *Control button*

Dimensions (HXWXD)

44 x 75 x 114 mm (1.7 x 3.0 x 4.4 in)

Figure 5.14 – microSD card slot

Please pay attention when inserting / extracting the storage card. Do not damage electronic parts, clamps, the CB06 circuit board, or the cable gland! Do not bend the mounting adapter as otherwise the optical axis of the equipment is not guaranteed anymore! Do not subject the black infrared-antireflexion adapter made of neopren (see Fig.6.13) to mechanical stress and don't remove it.



When touching electrical components, potential equalization (grounding of the body) has to be observed (ESD clothing, PE wristband etc.)!

5.4.4 Hardware Reset

In order to change all parameters, including the IP address, of the ExCam IPM1145-(L), to the default settings, a hardware reset has to be carried out.

It is possible to reset the parameters either via the web interface or manually. If the camera cannot be accessed anymore via the network or in an uncontrollable state, the reset has to be done manually. To do so, please follow the steps below:

1. Disconnect the camera module (Axis M1145-(L)) from power
2. Press control button 8 (q.v. figure 5.14); simultaneously switch-on power (PoE)
3. Keep the control button pressed until the status light 6 (Abb.6.14) blinks yellow. This may take up to 30 seconds
4. Release the control button. As soon as the status light is green, the camera module Axis M1145-(L) has been reset to Axis default settings. This may take up to one minute. If no DHCP Server is available within the network, the IP address is 192.168.0.90 (subnet masking 255.255.255.0).
5. Now, IP address and password can be re-assigned. If the hardware reset was not successful or if the cameras still does not work properly anymore, (faulty browser visualization, picture freezing, control functions are not carried out, the system generally displays slow response times etc.), please re-install the applicable firmware or carry out an update (qv. chapter 6.4).

5.4.5 Closing of the pressure-resistant housing

For closing the housing, please follow, in reversed order, the steps described in the chapter 6.4.2 regarding the opening of the housing. Do not use any other screws than those which are part of the delivery scope. For the execution with a „K1“ cable gland, 8 x cylinder head screws M4 x 0.7 (ISO metric right-hand thread) with a thread length of 12 mm (DIN 912/ ISO 4762, quality 6g) are used. The material of the screw connection is variable, e.g. stainless steel MNo. 1.4301 (A2-70) corresponding to the pressure resistant housing or a titan execution (Ti22) in metallic red.

For the execution with a „K2“ cable gland, 7 x cylinder head screws M4 x 0.7 (ISO metric right-hand thread) with a thread length of 30 mm are used.

Please check that the bore holes and flameproof joint (cylindrical fit) are clean and intact.



Attention!

In case the flameproof joint has been damaged mechanically, the housing must not be used anymore!



Attention!

Do not lock-in any foreign objects inside the housing

Please make sure that the disassembled screw locks (washer spring DIN 127A) are re-assembled.

The GYLON® flat sealing must be intact and has to be reassembled according to the hole-pattern of the flange. There is no restriction regarding the installation direction of the sealing.

If, when closing the housing, it is noted that the surface of the flameproof joint is dirty or not lubricated sufficiently, please clean it with a clean cloth and suitable cleaning detergent. Afterwards, re-lubricate it with a suitable lubrication agent (e.g. Molykote® P-40 paste for standard applications or special lubrication agents such as OKS 403 for sea-water environments).

The screw connection of the flange and housing have to be tightened in crosswise sequence with a torque of **3 Nm** Please avoid extensive tightening – this might lead to a torn screw etc. affecting improperly the enclosure's pressure resistance (Ex).

For the fixed installation of the ExCam IPM1145-(L), either with a wall mount bracket, with a hinge attachment for sight-glass installations or for the optional installation of a roof, please observe the instructions of the EX installation manual! Additional accessories are available upon request.

The T08 ExCam series is certified to also be used for mobile applications (hand-held etc.)!



The cylinder head screws for the safe connection of the housing body and the flange have to be tightened with a torque of 3 Nm! Tighten the screws in a crosswise sequence.

6 Network access and visualization

The following steps describe the most important steps for the initial commissioning of the camera. The configuration menu of the web surface allows an intuitive navigation and offers several configuration possibilities. For a comprehensive user manual of the web surface, please refer to the to the Axis user manual which can be found on the provided USB stick or which can be accessed at:

ExCam IPM1145

<http://www.axis.com/us/en/products/axis-m1145/support-and-documentation>

ExCam IPM1145-L

<http://www.axis.com/us/en/products/axis-m1145-l/support-and-documentation>

Network access of the ExCam IPM1145-(L) is supported by most operating systems and browsers. The recommended browsers are Internet Explorer with MS Windows, Safari with Macintosh and Firefox with Windows and additional operating systems.

To carry out „video streaming“ via the Microsoft Internet Explorer, installing the “AXIS Media Control” (AMC) is required. The installation request is executed during the initial commissioning. In order to visualize the „H.264“ video streams, QuickTime™ is recommended. For „Motion JPEG“ coded video streams, Java Applet is suggested which requires JVM (J2SE) 1.5 or higher, or JRE (J2SE) 5.0 or higher.

At delivery, the ExCam IPM1145-(L) is set to the applicable net frequency (50Hz or 60Hz). If the camera is used at a location with a differing net frequency, a flickering of the picture might be noticeable, 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” (requires a system reboot).

6.1 Browser Support

A list with the currently supported web browsers, operating systems, and required add-ons can be viewed at:

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

6.2 Assigning the IP address

The ExCam IPM1145-(L) is an Ethernet network camera requiring an IP address to access it. Usually a DHCP server is integrated in most networks which automatically assigns an IP address. In case there is no DHCP server available in the network, the ExCam IPM1145-(L)'s default address "192.168.0.90" (subnet masking 255.255.255.0) is used. With the "AXIS IP Utility", it is possible to determine the IP address under Windows; the included USB stick contains this application. It is also available for download:

<http://www.samcon.eu/downloads-ex-videokameras-atex/download-treiber-software/>



In case it is not possible to assign the IP address, it might be necessary to change the firewall settings or to consult the network administrator!

The "AXIS IP Utility" tool automatically recognizes all ExCam devices and displays them (also applies to the subnet). It can also be used to manually assign a static IP address. Please note that the ExCam IPM1145-(L) network camera has to be installed within the same network segment (physical subnet) as the computer on which the "AXIS IP Utility" tool is executed.

For example, the ExCam IPM1145 has the following default network marking: „AXIS M1145 – ACCC8E3A4EBB“ (q.v. figure 6.1). MAC address and serial number are also determined and displayed so that a non-ambiguous identification is possible. The network name (host name) of the network camera (web server) can be changed as desired by the user (max. 64 characters).

	Test02 Axis P1346	89.0.0.104	00408CD65BF7
	Test10 ExCam IP1354	89.0.0.112	00408CF23CCC
	Show room - ExCam IP1354 (left stand)	89.0.0.44	ACCC8E2DEDD4
ExCam IPM1145	Show room - ExCam IPM1145 SmokeCatcher	89.0.0.211	ACCC8E3C5A47
	AXIS Q7401 - 00408CA1BE19	89.0.0.99	00408CA1BE19
	Show room - ExCam miniZoom (left monitor)	89.0.0.46	00408CCC0845
ExCam IPQ6045	AXIS Q6045 Mk II - ACCC8E4F7C6F	89.0.0.203	ACCC8E4F7C6F
	AXIS 243SA - 00408C9DFF01	89.0.0.98	00408C9DFF01
	Outdoor - Bus stop - Axis P1346	89.0.0.152	00408CD65BF8
	Show room - ExCam IPQ6045	89.0.0.201	00408CF5BB5C
	AXIS P1365 - ACCC8E29187A	89.0.0.107	ACCC8E29187A
	Test06 Axis Q1765-LE	89.0.0.108	00408CEC8A61
	Test13 ExCam IPQ1755	89.0.0.115	00408C8F18E9
	Hall - Axis 233D	89.0.0.122	00408C82E5C1

Figure 6.1 – Axis IP Utility

6.3 Password / identification

The default user name is: **root**

The default password is: **root**

When a system reset of the equipment has been carried out, please follow the instructions below.

In order to allow access to the camera, the password for the standard administrator user „root“ has to be determined. When accessing the camera for the first time, the dialog field „Configure Root Password“ is displayed and the password can be determined there. For security considerations, it is possible to use an encrypted HTTPS-connection requiring an HTTPS certificate (see steps below).

For assigning the password via a standard HTTP connection, please just enter the password directly in the dialog window „Configure Root Password“.

For using an encrypted HTTPS connection when determining the password, please follow the below steps:

1. Click on the button „Create self-signed certificate“
2. Enter the desired information and click „OK“. The certificate is issued and the password can be entered. Please note that the entire data transfer of the ExCam IPM1145-(L)
3. Enter the desired password and repeat it in order to ensure correct spelling. Click on „OK“ to configure that password
4. Enter the username „root“ (it is not possible to delete the default administrator user name „root“)
5. Enter the previously determined password and click on „OK“. In case you have forgotten the password, the ExCam IPM1145-(L) has to be reset to default settings
6. Click on „Yes“ in order to install AMC (AXIS Media Control). After the completion of the installation, it is possible to view the video streams with the Microsoft Internet Explorer or Mozilla Firefox (administrator rights are required)
7. The page „Live View“ of the IPM1145-(L) is now displayed. With the setup link it is possible to open the menu options to allow personal camera settings

7 Maintenance / Servicing / Alterations

The national regulations concerning the maintenance and servicing of electrical devices within hazardous areas are to be observed.

The required maintenance intervals are specific to the individual devices. The operating company has to determine these intervals depending on the application parameters. During maintenance, focus has to be put on checking parts concerning the ignition protection category such as the integrity of the housing, the sealings and the cable glands. If maintenance measures are necessary they have to be initiated and/or executed.

8 Repairs and Maintenance

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

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

9 Disposal / Recycling

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

This document is subject to alterations and additions.

10 Drawings

See CAD shapes at <http://samcon.eu>

11 Notes



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