ExCam® Series

T08 - Installation Manual

SAMCON
Prozessleittechnik GmbH

Contents

List of illustrations

History of revisions

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02				
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1 Introduction

The ExCam Series (Type 08) is an electrical device. It is certified according to ATEX, IECEx and EAC-Ex as a pressure-resistant camera system to be used in gas and dust explosive areas as well as in mines susceptible to firedamp. At the front side, the camera systems dispose of a flange with a sight glass (optical adapter); on the rear side it is equipped with a flange which allows introducing one or more ex-certified cable and cable glands (CG) or sealing plugs, respectively.The T08 camera system is a very flexible system and can be used for various applications. The main usage is within hazardous areas in the chemical as well as petro-chemical industry, offshore plants, and mines susceptible to firedamp as well as biogas plants. The cameras are certified to be used in ex-zones 1, 2, 21, 22 including the explosion groups IIC (e.g. acetylene) and IIIC (conductive and flammable dusts). The Ex-d housings are available in different steel qualities due to which the housing's resistance towards extreme environmental conditions (sea water corrosion, high-acid environments etc.) is additionally extended.

Within the pressure-resistant enclosure, various camera modules and lenses reflecting different technical specifications are used. Accessory components such as PTC heating elements, miniature fans, NIR LED, lighting devices, mechanical components, and clamps made of aluminum, are optional. Criteria for selecting the camera module are, for example, transmission technology (digital or analog), control functions (IR cut filter, iris, focus), light sensitivity, angle of view, object distance, resolution, optical zoom range, frame rate, or transmission delay. Thermal imaging applications are possible as well. Therefore, the T08 range covers vast areas regarding industrial process observation as well as security surveillance – inside plants or outside.

2 Technical Data

2.1 Parameters of the Explosion Protection

2.1.1 T08-VAx.x.x.x-X-X-X-X

Identification marks according to directive 2014/34/EU:	⟨Ex⟩ II 2G (Zone 1 and 2) ⟨Ex⟩ II 2D (Zone 21 and 22) ⟨Ex⟩ 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 or
Explosion protection (Dust):	Ex tb IIIC T80°C Db IP68 or Ex tb IIIC T95°C Db IP68
Explosion protection (Mining)	Ex d I Mb

2.1.2 T08-TNXCD-X-X-X-X

Identification marks according to directive 2014/34/EU:	⟨Ex⟩ II 2G (zones 1 and 2) ⟨Ex⟩ II 2D (zones 21 and 22)
Explosion protection (Gas):	Ex d IIC T6 Gb or Ex d IIB T6 Gb or
Explosion protection (Dust):	Ex tb IIIC T80°C Db IP66 or Ex tb IIIC T80°C Db IP67 or Ex tb IIIC T80°C Db IP68 or

2.1.3 Conformity of Standards (Gas)

Conformity of standards (Gas)	IEC 60079-0:2011, EN 60079-0:2012 IEC 60079-1:2008, 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
Conformity of standards (Dust)	IEC 60079-31:2008, EN 60079-31:2009 GOST R IEC 60079-31-2010
Notified body:	TÜV Rheinland (No. 0035)
ATEX:	TÜV 14 ATEX 7539X
IECEx:	IECEx TUR14.0026X
EAC-Ex:	No. TC RU C-DE.MIO62.B.01921
Supplement/ Rev. Index:	01
Test Report ATEX:	557/Ex539.00/14
Test Report IECEx:	DE/TUR/ExTR14.0026/00
Quality Assessment Report:	DE/BVS/QAR14.0006/00

2.2 Electrical Parameters

2.2.1 Power Supply

These are maximum values as part of the approval. Please refer to the device-specific values in the respective user manual!

Type T08..:

Power Supply:	U_{IN}:	12 … 60 V DC or
	U_{IN}:	20 … 240 V AC

2.2.2 Power and Temperatures

The below table 3-1 illustrates the maximum thermal supply input of all T08 ExCam housing types in relation to the ambient temperature and temperature classes. Performance limits have been evaluated during certification as well as during the T08 explosions protection concept and are obligatory.

	T6 (85°C – 5K)				T5 (100°C – 15K)				
	T_{AMB}				T_{AMB}				
T08-	40°C	50°C	60°C	70°C	40°C	50°C	60°C	70°C	75°C
VA1.1.x.x	17.4 W	13.0 W	8.7 W	4.3 W	19.6 W	15.2 W	10.9 W	6.5 W	4.3 W
VA1.1.x.x* *(coated)*	19.0 W	14.3 W	9.5 W	4.8 W	21.4 W	16.7 W	11.9 W	7.1 W	4.8 W
VA1.2.x.x	18.2 W	13.6 W	9.1 W	4.5 W	20.5 W	15.9 W	11.4 W	6.8 W	4.5 W
VA1.2.x.x* *(coated)*	21.1 W	15.8 W	10.5 W	5.3 W	23.7 W	18.4 W	13.2 W	7.9 W	5.3 W
VA2.1.x.x	22.2 W	16.7 W	11.1 W	5.6 W	25.0 W	19.4 W	13.9 W	8.3 W	5.6 W
VA2.1.x.x* *(coated)*	25.0 W	18.8 W	12.5 W	6.3 W	28.1 W	21.9 W	15.6 W	9.4 W	6.3 W
VA2.2.x.x	25.0 W	18.8 W	12.5 W	6.3 W	28.1 W	21.9 W	15.6 W	9.4 W	6.3 W
VA2.2.x.x* *(coated)*	26.7 W	20.0 W	13.3 W	6.7 W	30.0 W	23.3 W	16.7 W	10.0 W	6.7 W
TNXCD	57.1 W	42.9 W	28.6 W	n.A.	n.A				

2.3 Other Technical Data

Permitted temperature (storage)[1]:

T08-VAx.x.x.x

-60° C … +85° C (T_{max})

T08-TNXCD

-20° C … +80° C (T_{max}) /with Viton O-ring

-30° C … +80° C (T_{max}) / with NBR 70 O-ring

-50° C … +80° C (T_{max}) / with VMQ- silicone O-ring

[1] Ex-relevant temperature limit (laboratory test: 336 h max. 90 % rest humidity / -65° C+5 K.…105° C – 20 K safety margin)

Permitted ambient temperature: (during operation)[2]	T08-VAx.x.x.x -60° C … +75 °C (T_{Amb}) T08-TNXCD -20° C … +60° C (T_{Amb}) / with Viton O-ring -30° C … +60° C (T_{Amb}) / with NBR 70 O-ring -50° C … +60° C (T_{Amb}) / with VMQ-silicone O-ring
Max. surface temperature T6:	T08-VAx.x.x.x/ T08-TNXCD +80° C ($T_{VA\_SUR\ T6}$)
Max. surface temperature T5:	T08-VAx.x.x.x +85° C ($T_{VA\_SUR\ T5}$) T08-TNXCD n.a. ($T_{VA\_SUR\ T5}$)
Functional temperature (MTBF)[3]:	*Please refer to the individual operating manual of the T08 series, e.g. ExCam IP135x, PM1145-L, IPQ6045, etc.!*
Protection level EN 60529/IEC 529:	T08-VAx.x.x.x IP68 (test condition: 24 h/ 3 m water column at 5° C). An additional mechanical protection against water jets is recommended T08-TNXCD IP68 (permanent submission, standard) IP66 (Water jets, upon request)
Media resistance:	*Upon request*
Housing material:	Stainless steel (non-corrosive / EN 10027-2) WNr.: 1.4301 (X5CrNi18-10), AISI 304 WNr.: 1.4305 (X8CrNiS18-9), AISI 303 WNr.: 1.4401 (X5CrNiMo17-12-2), AISI 316 WNr.: 1.4404 (X2CrNiMo17-12-2), AISI 316L WNr.: 1.4571 (X6CrNiMoTi17-12-2), AISI 316Ti

[2] Ex-relevant „maximum“ ambient temperature limit during operation/ of performance limits

[3] Functional temperature range (MTBF) is always within the ex-relevant temperature limits and depends on the functional range of the camera model, or, if applicable, on additional mechanical and electrical installed components or installation/dimensioning of PTC heating element or the cooling system „SAMCool Jacket“ etc.

Fitting for the flameproof gap (cylinder)
according to DIN ISO 286-1

T08-VA1.x :	d_{f7}^{H8}, nominal diameter: 57mm, Tolerance: -60...-30 [µm] – 0...+46 [µm] Gap length: L_1=13.0 [mm], L_2=16.2 [mm]
T08-VA2.x :	d_{f7}^{H8}, nominal diameter: 91mm, Tolerance: -71...-36 [µm] – 0...+54 [µm] Gap length: L_1=15.0 [mm], L_2=23.0 [mm]

Fitting for the flameproof gap
TNXCD Dome Enclosure

T08-TNXCD:	Metric fine thread, M188*1.5, quality 6H, supporting threads >5

Surface of the cylindrical fitting
Average surface finish according to DIN ISO 468

T08-VA1.x:	$R_a \leq 6.3$ µm
T08-VA2.x:	$R_a \leq 6.3$ µm

3 General Safety Instructions

Attention!
Cameras of type ExCam are not suitable for use in zone 0 and zone 20. The temperature class and explosion group as stated on the type plate has to be observed. Alterations are not permitted. The camera is to be operated in sound condition 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!
External heat and/ or cooling sources are to be taken into account during the setting up. The permissible temperature range has to be observed.

Attention!
When using the ExCam in the mining sector with a "high" risk of mechanical danger, it is mandatory to protect the transparent parts (glass) of the device (accessory)!

Attention!
The instructions stated on the type and instruction plates have to be observed!

Camera modules with autofocus:
„WARNING – MAY NOT BE OPENED WHILE ENERGIZED.“

Adjustable camera modules or lenses:
„WARNING – MAY NOT BE OPENED IN HAZARD AREAS.“

Note: Depending on the zone classification, it might be necessary to obtain a work permit/clearance! When adjusting the camera settings potentially explosive atmosphere must be avoided by any means!

The scope of application for dust-zones with regard to temperature and dust deposits can be found in the national installation regulations.

Prior to start the cameras operation, the equipment has to be checked according to the instructions described in chapter Commissioning.

Always follow the national security and accident prevention regulations as well as the security advices described in the following of this user manual!

4 Application

The cameras of the ExCam® series are designed and intended for the surveillance of plants as well as of processes at inner as well as outside areas within hazardous areas. The information stated on the type and on the instruction plate(s) has to be observed when using the camera. The information in chapter 3 and 4 has to be considered during operation. Without a written statement of Samcon Prozessleittechnik GmbH, the equipment may not be used for applications differing from the described and intended ones.

The T08 camera is suitable for applications in hazardous areas of zones 1 and 2 as well as zones 21 and 22 in accordance with EN 60079-10! The camera may only be used within the certified ignition protection type and temperature class.

Attention!
The instructions on the type and instruction plates have to be observed!

Attention!
When using the ExCam in the mining sector with a „high“ risk of mechanical danger, suitable protection measures for the optical components are obligatory and have to be implemented (accessories)

Attention!
The ExCam with a model key comprising TNXCD must not be used in the mining sector

Attention!
The ExCam with a model key comprising TNXCD must only be used stationary (not hand-held)

The used housing materials including the exterior metal parts are made of high-quality materials guaranteeing an application-specific corrosion protection and chemical resistance in "regular industrial climate".

5 Transportation and Storage

- Avoid impacts
- Check the equipment regarding possible damages at the packaging or the camera
- Store the camera in its original packaging and in a dry and weatherproof place until installation
- Avoid exposing the equipment to extreme heat or cold

6 Commissioning

6.1 Installation

The national regulations and accepted rules of technology are decisive for the installation and operation of the camera. Before installation, check the camera for possible damages to the housing and cables. Installation, electrical connection, and start-up should only be carried out be qualified personnel.

Attention!
External heat and/or cold sources should be taken into account during installation. The permissible temperature range should not be exceeded

Attention!
The connecting cable has to have a minimum length of 1 meter. The connecting cable has to be laid shielded and in a protected manner

Attention!
When using the ExCam in the mining sector with a "high" risk of mechanical danger, it is mandatory to protect the transparent parts (glass) of the device (accessory)!

6.1.1 Type T08-VAx.x.x.x

For the observation of plants and/or persons, the camera can be installed on a rotatable installation bracket (accessory). The pin which is laterally welded to the housing is intended for this purpose and disposes of a 6.5 mm or an 8.5 mm drilling. The wall mount bracket is available in different dimensions and may be installed in any position which is allowed by the four available drillings.

Figure 10-1 T08-VAx.x.x.x mounting options

For process observations, the camera can be mounted via a hinge attachment.

A thorough description and availability of the accessory components is included in the individual user manual.

6.1.2 Type T08-TNXCD

The PTZ camera type T08-TNXCD is mounted in a hanging manner (transparent dome copula facing downwards). For installing the dome camera at the wall, the six M8x1.25 threaded holes located at the cover flange and correspondingly at the wall mount bracket with L-profile (accessories) can be used. The installation at a ceiling can be realized via eyelets and a chain link construction. In addition, the housing has to be secured by the means of a “safety“ for protecting heavy loads against dropping (included in the delivery scope).

6.2 Opening and closing of the unit

6.2.1 Type T08-VAx.x.x.x

Attention! The pressure tight housing type T08-VAx.x.x.x may only be opened when allowed in the user manual of the camera, e.g. for manually adjusting Varifocal lenses, for the removal / exchange of the SD storage card, the exchange of the Gylon sealing etc.

Attention! Observe all warnings on the camera labels:

Camera modules with autofocus:
„WARNING – MAY NOT BE OPENED WHILE ENERGIZED“

Adjustable camera modules or lenses:
„WARNING – MAY NOT BE OPENED IN HAZARD AREAS“

NOTE: Depending on classification of the hazard area, a work permit/clearance has to be obtained. Prevent explosive atmospheres while assembling!

The T08 ExCam Series may exclusively be opened due to functional aspects and when the applicable user manual explicitly allows it. For all other purposes, the explosion proof housing may only be opened and closed by authorized personnel of SAMCON Prozessleittechnik GmbH.

If, when looking through the borosilicate sight glass, a damage, irregularities, or alterations such as loose parts, discoloring or liquid inclusion (not water condensation!), are visible inside the ExCam, SAMCON Prozessleittechnik GmbH has to check the camera.

The following has to be observed:

Prior to opening the housing of the type T08-VAx.x.x.x it might be necessary to demount the hood or other accessory.

- The housing must only be opened on the rear flange of the cable and supply flange. It is not allowed to remove the optic-adapter in the front

- The following screw connections of flange and body components of the camera housings can be removed or untightened:

    - T08-VA1.x.K1.x: 6x M4*0,7 cylinder head screw hexagon socket 10mm, 1.4404 A4-70 (DIN912/ ISO4762)
    - T08-VA1.x.K2.x: 5x M4*0.7 cylinder head screw hexagon socket 25mm, 1.4404 A4-70 (DIN912/ ISO4762)
    - T08-VA2.x.K1.x: 8x M4*0,7 cylinder head screw hexagon socket 12mm, 1.4404 A4-70 (DIN912/ ISO4762)
    - T08-VA2.x.K2.x: 7x M4*0.7 cylinder head screw hexagon socket 30mm, 1.4404 A4-70 (DIN912/ ISO4762)

- Use adequate tools or the hex-wrench included in the delivery scope and pay attention not to lose the associated feather rings (DIN 127 A) (q.v. figure 10-7)

- Avoid skin or clothing contact with the screw threads as they dispose of LOCTITE ® 243™ (chemical basis: Dimethacry-latester). It is used to protect the screws from losing due to shocks, vibrations, but also for sealing purposes

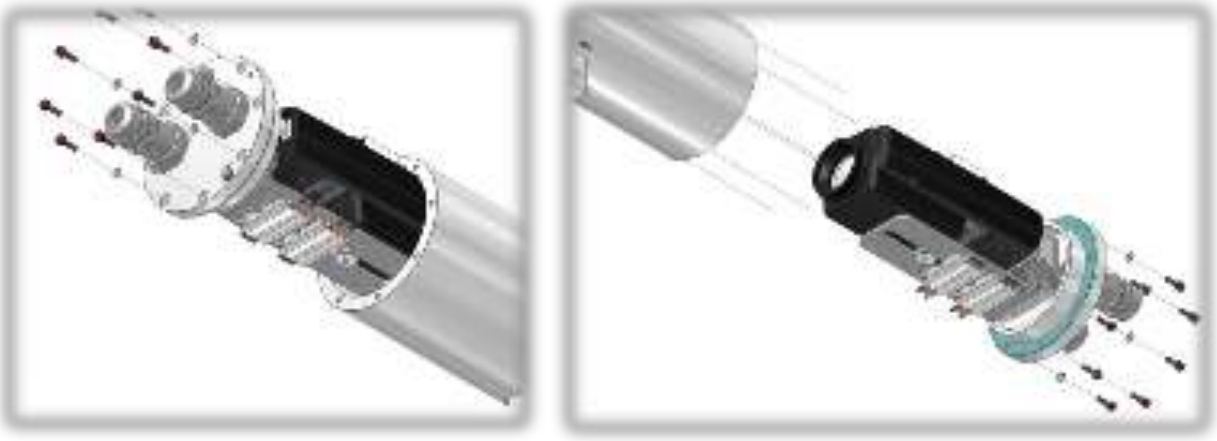

Figure 10-7 Opening of the ExCam T08-VAx.x.x.x

- Pull out very carefully the lead flange in a straight manner (q.v. figure 10-7), ensuring that it 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 of the flange components must not be tilted as this runs the **risk of damaging the flame proof gap pre-venting the transmission of ignition (DIN EN 60079-1:2008)!**
  Avoid skin or clothing contact at the cylindrical fit as it disposes of oleaginous fitting compound (MOLYKOTE P-40) to protect the surface for frictional corrosion and mechanical strain

- Attention: Installed components (camera module, optic, temperature controller etc.), which are fixed to the cable and supply flange have to be treated very carefully to avoid damages!

- Attention: When removing the flange, do not damage or pollute the Gylon sealing (style 3504 blue)!

- After completion of the measure, the housing has to be closed again immediately. Do not lock-in any foreign objects!

- For closing the housing, please follow, in reversed order, the steps described for the opening of the housing. Please observe the following warning instructions:

Attention!
Make sure to completely insert the flange in order to guarantee the ignition protection type and the housing IP protection level

Attention!
Extensive tightening of the screw connection may damage the camera

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

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

- Only the original screws as part of the delivery scope may be used. They have to be clean and intact. Demounted screw locks (washer spring DIN 127 A) have to be re-assembled

- The Gylon 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 deter-gent. Afterwards, re-lubricate it with a suitable lubrication agent

- 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 resulting into damaging the housing's pressure resistance and / or ignition protection level

6.2.2 Type T08-TNXCD

Attention! The pressure-tight dome housing type T08-TNXCD may only be opened when allowed by the user manual of the camera, e.g. for a manual adjustment, for the removal / exchange of the SD storage card, the exchange of the O-Ring sealing, hardware reset etc.

Attention! Observe all warnings on camera labels:

„WARNING – MAY NOT BE OPENED WHILE ENERGIZED“

or

„WARNING – MAY NOT BE OPENED IN HAZARD AREAS“

NOTE: Depending on the classification of the hazard area, a work permit/clearance has to be obtained. Prevent explosive atmospheres while assembling!

The T08 ExCam Series may exclusively be opened due to functional aspects and when the applicable user manual explicitly allows it. For all other purposes, the explosion proof housing may only be opened and closed by authorized personnel of the company SAMCON Prozessleittechnik GmbH.
If, when looking through the transparent polycarbonate dome cupola a damage, irregularities, or alterations such as loose parts, discoloring, or liquid inclusion (not water condensation!) are visible inside the ExCam, SAMCON Prozessleittechnik GmbH has to check the camera.

The following has to be observed:

- Prior to opening the housing of the type T08-TNXCD it might be necessary to de-install the hood or other accessory

- Demount the housing from the wall mount bracket / chain links to allow an opening of the housing at a suitable location
  Attention: Connecting cables have to be carried along and must not be damaged / bent (bending radius) or have to de-connected from the Ex e terminal box or the Ex e / Ex d plug connector etc.!

- The housing must only be opened at the rear flange of the cable and supply flange. It is not allowed to remove the optic-adapter

- In order to open the housing, the body has to be fixed. The cover flange with the cable (pig tail) has to remain flexible (e.g. with screw clamps at the edge of a work bench)

- The first step is to loosen the stainless steel countersunk head screw with hexagon socket (DIN 7991) at the flange component (q.v. figure 10-8)

Figure 10-8 Disassembly of the countersunk head screw type T08-TNXCD

- Counterclockwise, unscrew the cover flange with fine thread (M188x1.5) (ISO-metric profile clockwise). It is suggested to equip the external M8x1.25 thread holes with screws, eyelets etc. in order to facilitate the rotary movement (q.v. figure 10-9). Attention: Also rotate the cable (pig tail) if necessary!

- Attention: Pull out very carefully and a very straight manner the cover flange with the multi-level mounting adapter, the electronics, and the PTZ module etc. to avoid tilting and through this damaging the installation parts!

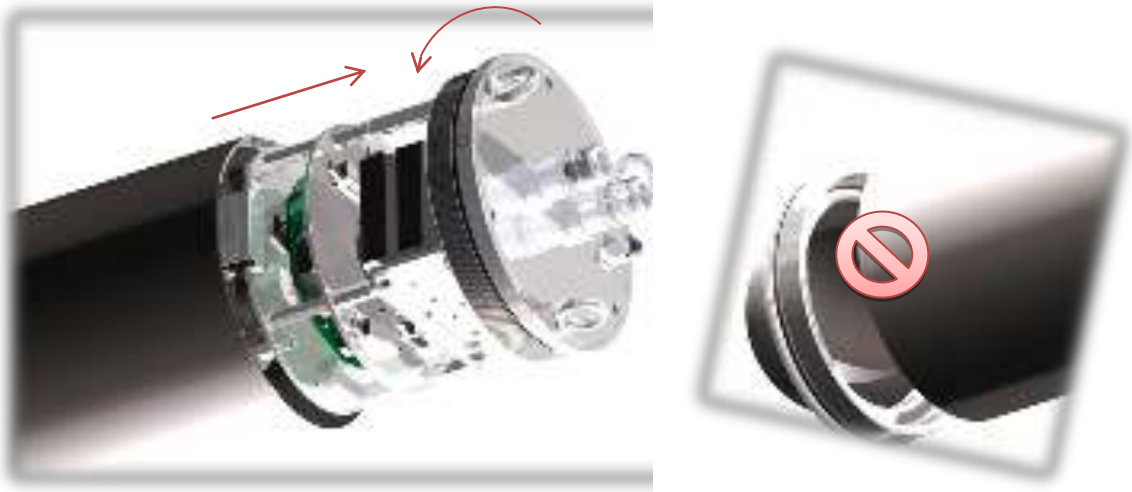

Figure 10-9 Opening of the cover flange type T08-TNXCD

- The metric fine thread (M188x1.5/ larger 5 supporting thread holes / quality 6g) located at the flange as well as body component may not be damaged! **Danger through damaging the flame proof gap preventing the transmission of ignition (DIN EN 60079-1:2008)!**
  Avoid skin or clothing contact at the cylindrical fit as it disposes of oleaginous fitting compound (MOLYKOTE P-40) to protect the surface for frictional corrosion and mechanical strain

- Attention: Installed components (camera module, temperature controller, pan and tilt drives, and mechanical parts etc.), which are fixed to the cable and supply flange have to be treated very carefully to avoid damages and the drifting of the optical axis!

- Attention: When removing the flange, do not damage or pollute the black O-Ring sealing (VMQ-Silikon, NBR-70 or Viton) (q.v. figure10-10)!

Figure 10-10 Position of the O-Ring sealing type T08-TNXCD

- After completion of the measures, the housing has to be closed again immediately. Do not lock-in any foreign objects!

- For closing the housing, please follow, in reversed order, the steps described for the opening of the housing. Please observe the following warning instructions:

Attention!
Make sure to completely insert the flange in order to guarantee the ignition protection type and the housing IP protection level

Attention!
Tighten the flange by hand, there is no tightening torque defined

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

Attention!
Make sure that the O-Ring seal of the housing fits properly into the groove and is neither damaged nor polluted

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

It is mandatory to reassemble the countersunk head screws with hexagon sockets (DIN 7991). The tightening torque of 2.5 Nm has to be observed

6.3 Electrical Connection and Commissioning

Attention!
The electrical connection of the device may only be carried out by qualified personnel

The electrical connection and commissioning must be executed in accordance with national regulations by authorized personnel only.

Please note the electrical connection specifications of the device user manual!

Attention!
The housing of the ExCam® series must be earthed via the PA connection (earthing screw)

Attention!
The heating has to be fused externally

If the camera will have to be commissioned at temperatures below 0° C, it has to make sure that the camera is turned on time delayed. Before the camera is allowed to be used, the housing has to be heated up which can be realized via an external time relay.

Before commissioning the camera, the tests as indicated in the individual national regulations have to be exceuted. In addition, the correct functioning and installation of the equipment in accordance with this installation manual as well as with other regulations that apply, has the be ensured.

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

The functional commissioning of the applicable camera is described in the associated user manual.

7 Maintenance/ Modification

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

The necessary maintenance intervals depend on the operating condition and have to be individually determined by the user. Especially parts on which the type of protection depends are to be examined as part of the maintenance (e.g. sound condition of the casing, the seals and the cable entry points). Repair works should be carried out when the need for them is recognised during maintenance.

8 Reparation

Reparations must only be carried out with original parts of SAMCON Prozessleittechnik GmbH. Damaged pressure-resistant casing should be replaced completely. In case of doubt, send the part in question back to SAMCON Prozessleittechnik GmbH.
Reparations concerning the explosion protection must only be carried out in accordance with nationally applied regulations by SAMCON Prozessleittechnik GmbH or a qualified electrical technician authorised by SAMCON Prozessleittechnik GmbH.
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

Equipment drawings can be found in the individual datasheets.
DXF files, 3D models, drawings of accessories can be found at www.samcon.eu
For additional information, please contact us at support@samcon.eu

11 Certificates

11.1 EC – declaration of conformity

EG/EU - Konformitätserklärung

EC/EU – Declaration of Conformity / CE/UE – Déclaration de Conformité

SAMCON

Schillerstraße 17

35102 Lohra-Altenvers

ExCam® T08…

TÜV 14 ATEX 7539 X

Dipl.-Ing. Steffen Seibert

Geschäftsführer

11.2 Manufacturer's declaration concerning the cable and cable entry points

Herstellererklärung

Declaration of manufacturer / Déclaration de fabricant

Der Hersteller / The manufacturer / Le fabricant

SAMCON
Prozessleittechnik GmbH

Schillerstraße 17
35102 Lohra-Altenvers

erklärt in alleiniger Verantwortung, dass die verwendeten Kabel und Kabelleitungseinführungen für sein Produkt
declares under its sole responsibility that Cable and Cable Glands for his product
[illegible]

ExCam T08…

gekennzeichnet mit / marked with / marqué avec

Model Keys: T08-VAx.x.x.x-X-X-X-X

Gas:
Ex II 2G Ex d IIC T* Gb

Dust:
Ex II 2D Ex tb IIIC T** °C Db IP68

Mining:
Ex I M2 Ex d I Mb

Model Keys: T08-TNXCD-X-X-X-X

Gas:
Ex II 2G Ex [illegible]

Dust:
Ex II 2D [illegible]

Optional and additional type of Protection markings for all Types:

[illegible]

bescheinigt mit EG Baumusterprüfbescheinigung & IECEx Zertifikat
certified by EC type examination certificate & IECEx certificate
[illegible]

TÜV 14 ATEX 7539X & IECEx TUR14.0026X

[illegible]

DIN EN 60079-14:2014
IEC 60079-14:2013

Digital unterschrieben von Steffen Seibert
[illegible]

Dipl.-Ing. Steffen Seibert
[illegible]

[illegible]

11.3 EC-Type Examination Certificate

(1) **EC TYPE-EXAMINATION CERTIFICATE**

(2) Equipment and Protective Systems intended for use in Potentially Explosive Atmosphere - **Directive 94/9/EC**

(3) EC Type-Examination Certificate Number

TÜV 14 ATEX 7539 X

(4) **Equipment:** **ExCam Series T08**

(5) **Manufacturer:** SAMCON Prozesstechnik GmbH
(6) **Address:** Schelerstraße 17,
D-35102 Lohra-Altenvers

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

(8) The TÜV Rheinland Zertifizierungsstelle for ex-protected products of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmosphere, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report 557/Ex539.00/14.

(9) Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

EN 60079-0: 2012 **EN 60079-1: 2007** **EN 60079-31:2009** **EN 60079-28: 2007**

except of the requirements, which are listed under item (18).

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

(11) This EC-Type-Examination Certificate relates only to the design and specification for construction of the equipment or protective system. It does not cover the process for actual manufacture or supply of the equipment or protective system, for which further requirements of the directive are applicable.

(12) The marking of the equipment shall include the following:

I M2 Ex d I Mb

II 2 G Ex d IIC T6 Gb or Ex d IIC T5 Gb
II 2 G Ex d IIB T6 Gb or Ex d IIB T5 Gb

II 2 D Ex tb IIIC T80 °C Db IP68 or II 2 D Ex tb IIIC T95 °C Db IP68

TÜV Rheinland-ExNB for explosion protected equipment

Cologne, 2014-07-29

Dipl.-Ing. Heinz Farkas

This EC-Type-Examination Certificate without signature and stamp shall not be valid.
This EC-Type-Examination Certificate may be circulated only without alteration. Extracts or alterations are subject to approval by the TÜV Rheinland Notified Body of TÜV Rheinland Industrie Service GmbH, Am Grauen Stein, 51105 Köln
Tel.: + 49 (0) 221 806-0 Fax: + 49 (0) 221 806 1111

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(13) Annex to

(14) # EC-Type Examination Certificate
TÜV 14 ATEX 7539 X

(15) **Description of equipment**

15.1 Equipment and type:

ExCam Series T08 VA1.x VA2.x

15.2 Description

General product information

The ExCam Series Type 08 is an electrical device. It is certified according to ATEX and IECEx as a pressure-resistant camera system to be used in gas and dust explosive areas as well as in mines susceptible to firedamp.
At the front side, the camera systems dispose of a flange with a sight glass , on the rear side it is equipped with a flange which allows introducing ex-certified cable and cable glands or sealing plugs.
The cameras are certified to be used in ex-zones 1, 2, 21, 22 including the explosion groups IIC and IIIC and group M2 resp. Mb.
The Ex-d housings are available in different steel qualities due to which the housing's resistance towards extreme environmental conditions (sea water corrosion, high acid environments etc.) is additionally extended.
Within the pressure-resistant enclosure, various camera modules and lenses reflecting different technical specifications. Accessory components such as PTC heating elements, miniature fans, NIR LED, lighting devices, mechanical components and clamps made of aluminum are optional. Criteria for selecting the camera module are, for example, transmission technology (digital or analog), control functions (IR cut filter, iris, focus), light sensitivity, angle of view, object distance, resolution, optical zoom range, frame rate, or transmission delay. Thermal imaging applications are possible as well.

15.3 Technical Data

Typ T08 VA1.2 supply voltage: 12...80V DC
Typ T08 VA2.2 supply voltage: 12...80V DC or 230V (50/60 Hz) AC

Maximum input power:

	T6 Tamb 40°C	50°C	60°C	70°C
VA1.2.x.x	18,2 W	13,6 W	9,1 W	4,5 W
VA2.2.x.x	25,0 W	18,8 W	12,5W	6,3 W

	T5 Tamb 40°C	50°C	60°C	70°C	75°C
VA1.2.x.x	20,5 W	15,9 W	11,4 W	6,8 W	4,5 W
VA2.2.x.x	28,1 W	21,9 W	15,6 W	9,4 W	6,3 W

Types T08 VA1.1 and VA 2.1 are not included.

The ambient temperature range is: - 60 °C <= Ta <= + 75°C

(16) Test-Report No. 857/Ex539.00/14

(17) Special Conditions for safe use

The connecting cable needs a minimum length of 1 meter. The connecting cable has to be laid shielded.

External heat and/ or cooling sources have to be taken into account during the setting up. The permissible temperature range has to be observed.

When using the ExCam in the mining sector with a "high" risk of mechanical danger, it is mandatory to protect the transparent parts (Glas) of the device.

The housing of the ExCam® series must be earthed via the PA connection.

The heating has to be fused externally.

In case of repair of the flamepath forming parts see manufacturer information.

All used Cable glands and plugs have to be certified.

(16) Basic Safety and Health Requirements

Covered by afore mentioned standard

TÜV Rheinland ExNB für explosion protected equipment

Cologne, 2014-07-29

Dipl.-Ing. Heinz Farke

1st Supplement

to

EC - Type Examination Certificate

TÜV 14 ATEX 7539 X

Device: ExCom Series T08

Manufacturer: SAMCON Prozessleittechnik GmbH
Address: Schillerstraße 17,
D-35102 Lohra-Altenvers

Description of supplements and modifications:

Adding the Models T08-1NXCD... (BARTEC TECHNOR AS) only for Gas and Dust
Adding the Models T08-VAx.1... (SAMCON GmbH)
Adding the Models T08-VAx.k*... ((SAMCON GmbH) (* = housing protective coating))

(10) **The following modifications are valid for this 1st Supplement**

Standard basis

EN 60079-0:2012, EN 60079-1:2007 EN 60079-11:2012
EN 60079-15:2009, EN 60079-28:2007 (Addition 1:2014-09)
EN 60079-31:2009

Code for type of protection

Gas:
Ex II 2 G Ex d IIC T6 Gb II 2 G Ex d IIC T6 Gb
Ex II 2 G Ex d IIB T6 Gb II 2 G Ex d IIB T6 Gb

Dust:
Ex II 2 D Ex tb IIIC T80°C Db IP65 II 2 D Ex tb IIIC T80°C Db IP65

Mining:
Ex I M2 Ex d I Mb

Optional and additional Type of Protection markings for all Types:
[ia] = for models with separate certified [ia] intrinsically safe circuits
[ib] = for models with separate certified [ib] intrinsically safe circuits
[op is] = for models with separate certified [op is] FDC connectors
[op pr] = for models with separate certified [op pr] FDC Connectors
mb = for models with separate certified II" Barrier

This 1st Supplement to the EC - Type Examination Certificate without signature and stamp is not valid.
[illegible]
TÜV Rheinland Certification and Evaluation GmbH, Am Grauen Stein, 51105 Köln
Tel. +49 (0)221 806-0 Fax +49 (0)221 806 1349

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DAkkS Deutsche Akkreditierungsstelle D-ZE-16032-01-00

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SAMCON
Prozessleittechnik GmbH

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15.1 Equipment and Type

ExCam Series T08-VA...
ExCam Series T08-TNXCD...

15.2 Description

The amendment relates to the Equipment and Types:
ExCam Series T08-VA...
ExCam Series T08-TNXCD...

15.3 Technical Data

Supply Voltage:

Type: T08-VA...: 12 ... 60V DC or 240V (50/60 Hz) AC
Type: T08-TNXCD...: 12 ... 60V DC or 240V (50/60 Hz) AC

Maximum Input Power:

Type: T08-VA...:

T08-	T6 (85°C – 0K)				T5 (100°C – 15K)				
	T_{amb}				T_{amb}				
	40°C	50°C	60°C	70°C	40°C	50°C	60°C	70°C	75°C
VA1.1.x.x	17,4 W	13,0 W	8,7 W	4,3 W	19,6 W	15,2 W	10,9 W	6,5 W	4,3 W
VA1.1.x.x* *(coated)*	19,0 W	14,3 W	9,5 W	4,8 W	21,4 W	16,7 W	11,9 W	7,1 W	4,8 W
VA1.2.x.x	18,2 W	13,6 W	9,1 W	4,5 W	20,5 W	15,9 W	11,4 W	6,8 W	4,5 W
VA1.2.x.x* *(coated)*	21,1 W	15,8 W	10,5 W	5,3 W	23,7 W	18,4 W	13,2 W	7,9 W	5,3 W
VA2.1.x.x	22,2 W	16,7 W	11,1 W	5,6 W	25,0 W	19,4 W	13,9 W	8,3 W	5,6 W
VA2.1.x.x* *(coated)*	25,0 W	18,5 W	12,5 W	6,3 W	28,1 W	21,9 W	15,6 W	9,4 W	6,3 W
VA2.2.x.x	25,0 W	18,5 W	12,5 W	6,3 W	28,1 W	21,9 W	15,6 W	9,4 W	6,3 W
VA2.2.x.x* *(coated)*	26,7 W	20,0 W	13,3 W	6,7 W	30,0 W	23,3 W	16,7 W	10,0 W	6,7 W

Type: T08-TNXCD...

T08-	T6 (85°C – 0K)				
	T_{amb}				
	40°C	45°C	50°C	55°C	60°C
TNXCD	57,1 W	50,0 W	42,9 W	35,7 W	28,6 W

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Ambient Temperature Range:

T08-VA	-60°C ≤ T_{amb} ≤ +75°C
T08-INOX[illegible]:	for Gas
	-60°C ≤ T_{amb} ≤ +60°C
	for Dust
	-20 °C ... +60 °C (T_{amb}) with Viton O-Ring
	-30 °C ... +60 °C (T_{amb}) with NBR 70 O-Ring
	-50 °C ... +60 °C (T_{amb}) with VMQ-Silicon O-Ring

(16) <u>**Test Report No.**</u> 557/Ex 338.01/14

Parts of the device, which already fulfil the requirements for the category, were not approved and assessed by TÜV Rheinland Industrie Service.

The applicability and assembly of mechanical and electrical parts and components were assessed and approved by TÜV Rheinland Industrie Service with respect to the requirements of explosion protection.

(17) <u>**Special conditions for safe use**</u>

The original certificate has to be observed.

(18) <u>**Basic Safety and Health Requirements**</u>

Covered by mentioned standards in the original certificate.

TÜV Rheinland ExNB for explosion protected equipment

Cologne, 2015-03-31

Dipl.-Ing. Kalapcic-Brück

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Deutsche
Akkreditierungsstelle
[illegible]

11.4 IECEx Certificate of Conformity

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx TUR 14.0028X — Issue No: 0 — Cert Issue history: Issue No. 0 (2014-07-28)

Status: Current — Page 1 of 3

Date of Issue: 2014-07-28

Applicant: SAMCON Prozesstechnik GmbH
Schillerstraße 17
D-35102 Lohra-Altenvers
Germany

Electrical Apparatus: ExCam Series T08
Optional accessory:

Type of Protection: Flxd and Ex t

Marking:
Ex d I Mb,
Ex d IIC T5 Gb, Ex d IIC T5 Gb,
Ex d IIB T5 Gb, Ex d IIB T5 Gb
Ex tb IIIC T83°C Db, Ex tb IIIC T85°C Db

Approved for issue on behalf of the IECEx Certification Body: Heinz Fabis

Position: Deputy Head of ExCB

Signature: (for printed version)

Date: 2014-07-25

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:
TÜV Rheinland Industrie Service GmbH
Am Grauen Stein
51105 Cologne
Germany

TÜVRheinland

IECEx Certificate of Conformity

Certificate No:	IECEx TUR 14.0025X	Issue No: 8
Date of Issue:	2014-07-28	Page 2 of 3

Manufacturer: SAMCON Prozessleittechnik GmbH
Schillerstraße 17
D-35102 Lahn-Allendorf
Germany

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-28 : 2006-08 Edition:1	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
IEC 60079-31 : 2008 Edition:1	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

DE/TUR/ExTR14.0026/00

Quality Assessment Report:

DE/PTB/QAR14.0009/00

IECEx Certificate of Conformity

Certificate No:	IECEx TUR 14.0020X	Issue No: 0
Date of Issue:	2014-07-29	Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The ExCam Series Type 08 is an electrical device. It is certified according to ATEX and IECEx as a pressure-resistant camera system to be used in gas and dust explosive area as well as in mines susceptible to firedamp. At the front side, the camera systems dispose of a flange with a sight glass , on the rear side it is equipped with a flange which allows introducing ex-certified cable and cable glands or sealing plugs. The cameras are certified to be used in ex-zones 1, 2, 21, 22 including the explosion groups IIC and IIIC and group I resp. MB. The Fluid housings are available in different steel qualities due to which the housing's resistance towards extreme environmental conditions (sea water corrosion, high acid environments etc.) is additionally extended.
Within the pressure-resistant enclosure, various camera modules and lenses reflecting different technical specifications. Accessory components such as PTC heating elements, miniature fans, IR LED, lighting devices, mechanical components and clamps made of aluminium are optional. Criteria for selecting the camera module are, for example, trans-mission technology (digital or analog), control functions (IR cut filter, Iris, Focus), light sensitivity, angle of view, object distance, resolution, optical zoom range, frame rate, or transmission delay. Thermal imaging applications are possible as well.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. The connecting cable needs a minimum length of 5 meter. The connecting cable has to be laid shielded.
2. External heat and/ or cooling sources have to be taken into account during the setting up. The permissible temperature range has to be observed.
3. When using the ExCam in the mining sector with a "high" risk of mechanical danger.
It is mandatory to protect the glas parts of the device.
4. The housing of the ExCam08 series must be earthed via the PA connection.
5. The heating has to be fused externally.
6. In case of repair of the flameproth forming parts see manufacturers information.
7. All used Cable glands and plugs have to be certified.

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx TUR 14.0025X	Issue No.: 1	Certificate history: Issue No. 1 (2016-2-01) Issue No. 0 (2014-7-29)
Status:	Current		
Date of Issue:	2016-02-01	Page 1 of 6	

Applicant: SAMCON Prozessleittechnik GmbH
Schillerstraße 17
D-35102 Lohra-Altenvers
Germany

Electrical Apparatus: ExCam Series T08
Optional accessory:

Type of Protection: Ex d and Ex t

Marking:
Ex d I Mb,
Ex d IIC T6 Gb, Ex d IIC T5 Gb
Ex d IIB T6 Gb, Ex d IIB T5 Gb,
Ex tb IIC T80°C Db
Ex tb IIC T85°C Db

Approved for issue on behalf of the IECEx Certification Body: Dipl.-Ing. Klaus-Peter Graffi

Position: Head of Certification Body

Signature:
(for printed version)

Date: 2015-09-[illegible]

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

TÜV Rheinland Industrie Service GmbH
Am Grauen Stein
51105 Cologne
Germany

TÜVRheinland

IECEx Certificate of Conformity

Certificate No.: IECEx TUR 14.0026X

Date of Issue: 2015-03-31

Issue No.: 1

Page 2 of 5

Manufacturer: SAMCON Prozessleittechnik GmbH
Schillerstraße 17
D-35102 Lohra Altenvers
Germany

Additional Manufacturing location (s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-28 : 2006-08 Edition: 1	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
IEC 60079-31 : 2008 Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"

This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

DE/TUR/ExTR14.0026/00

DE/TUR/ExTR14.0026/01

Quality Assessment Report:

DE/TUR/QAR14.0006/00

IECEx Certificate of Conformity

Certificate No.:	IECEx TUN 14.0038X	
Date of Issue:	2015-03-31	Issue No: 1
		Page 3 of 5

Schedule

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

The ExCam Series Type 08 is an electrical device. It is certified according to ATEX and IECEx as a pressure-resistant camera system to be used in gas and dust explosive areas as well as in mines susceptible to firedamp. At the front side, the camera systems dispose of a flange with a sight glass, on the rear side it is equipped with a flange which allows introducing ex-certified cable and cable glands or sealing rings. The cameras are certified to be used in ex-zones 1, 2, 21, 22 including the explosion groups IIC and IIIC and group I resp. Mb. The ExCam housings are available in different steel qualities which the housing's resistance towards extreme environmental conditions (sea water corrosion, high acid environments etc.) is additionally extended.
Within the pressure-resistant enclosure, various camera modules and lenses reflecting different technical specifications.
Accessory components such as PTC heating elements, miniature fans, NIR LED lighting devices, mechanical dampers and clamps made of aluminium are optional. Criteria for selecting the camera module are, for example, transmission technology (digital or analog), colour, tuned day/night (IR cut filter, etc., focus), light sensitivity, angle of view, object distance, resolution, optical zoom range, frame rate, or transmission delay. Thermal imaging applications are possible as well.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. The connecting cable needs a minimum length of 1 meter. The connecting cable has to be laid shielded.
2. External heat and/ or cooling sources have to be taken into account during the setting up. The permissible temperature range has to be observed.
3. When using the ExCam in the mining sector with a "high" risk of mechanical danger, it is mandatory to protect the glass parts of the device.
4. The housing of the ExCam® series must be earthed via the PA connection.
5. The heating has to be fused externally.
6. In case of repair of the flameproof forming parts ask manufacturer's information.
7. Allowed Cable glands and plugs have to be certified.

IECEx Certificate of Conformity

Certificate No.: IECEx TUR 14.0002X

Date of issue: [illegible]

Issue No.: 1

Page 4 of [illegible]

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

The assembly of the certified empty enclosure [illegible] manufacturer BARTEC [illegible] for Gas and Dust. Type T08 VA1.1 and VA2.1 are now included.

Ambient temperature:

TCB-[illegible]

[illegible] °C ... +75 °C (T_{Amb})

TCB-[illegible] (for Gas Ex)

[illegible] °C ... +60 °C (T_{Amb})

TCB-[illegible] (for Dust Ex) -20 °C ... +60 °C (T_{Amb})

Type: T08 VA...x.x.x	[illegible]				[illegible]				
	T_{amb}				T_{amb}				
	40°C	50°C	60°C	70°C	40°C	50°C	60°C	70°C	75°C
VA1.1.x.x	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
VA1.1.x.x (window)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
VA2.1.x.x	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
VA2.1.x.x (window)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

IECEx Certificate of Conformity

Certificate No: [illegible]

Date of issue: 2015-03-31   Issue No: 1

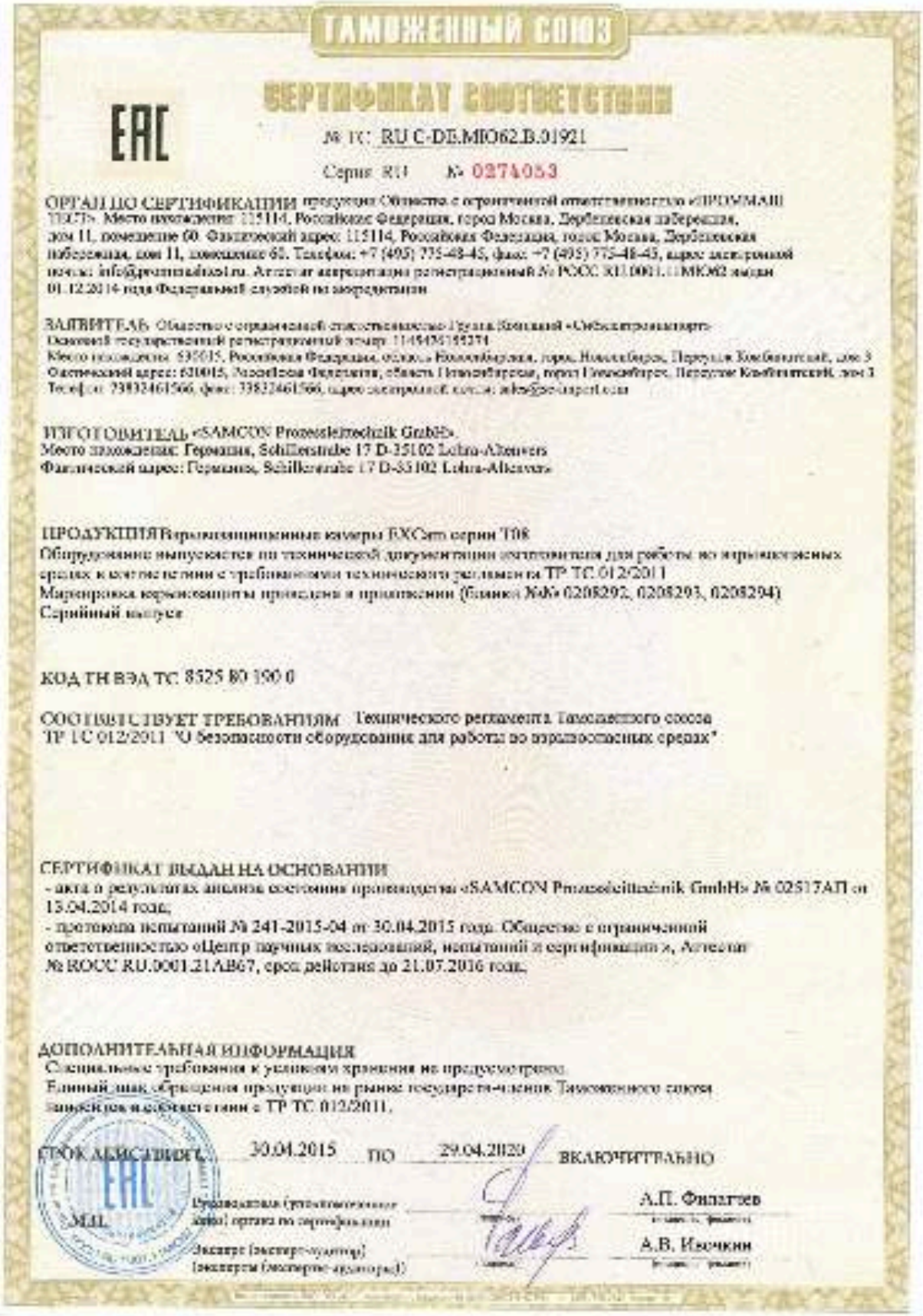
Page 5 of 5

Additional information:

Type: [illegible]	T6 (85°C - 5K)				
	T_{amb}				
	40°C	45°C	50°C	55°C	60°C
[illegible]	47,1 W	45,0 W	42,[illegible] W	3[illegible] W	28,5 W

Type: T6 VA...T06	T6 (85°C - 5K)				T5 (100°C - 5K)				
	T_{amb}				T_{amb}				
	40°C	50°C	60°C	70°C	40°C	50°C	60°C	70°C	80°C
[illegible]	17,[illegible] W	13,2 W	8,7 W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4,4 W
[illegible]	19,5 W	14,3 W	[illegible]	[illegible]	21,4 W	[illegible]	[illegible]	7,1 W	4,5 W
[illegible]	18,2 W	13,5 W	[illegible]	4,5 W	20,2 W	15,[illegible] W	[illegible]	[illegible]	4,5 W
[illegible]	2[illegible] W	15,9 W	[illegible]	[illegible]	2[illegible] W	[illegible]	[illegible]	[illegible]	[illegible]

11.5 EAC-Ex Certification



ТАМОЖЕННЫЙ СОЮЗ

EAC

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ ТС: RU C-DE.МЮ62.В.01921

Серия: RU № 0274053

ОРГАН ПО СЕРТИФИКАЦИИ продукции Общества с ограниченной ответственностью «ПРОММАШ ТЕСТ». Место нахождения: 115114, Российская Федерация, город Москва, Дербеневская набережная, дом 11, помещение 60. Фактический адрес: 115114, Российская Федерация, город Москва, Дербеневская набережная, дом 11, помещение 60. Телефон: +7 (495) 775-48-45, факс: +7 (495) 775-48-45, адрес электронной почты: info@promtest.ru. Аттестат аккредитации регистрационный № РОСС RU.0001.11МЮ62 выдан 01.12.2014 года Федеральной службой по аккредитации

ЗАЯВИТЕЛЬ Общество с ограниченной ответственностью Группа Компаний «Сибэлектромонтаж»
Основной государственный регистрационный номер: 1145476155274
Место нахождения: 630015, Российская Федерация, область Новосибирская, город Новосибирск, Переулок Комбинатский, дом 3
Фактический адрес: 630015, Российская Федерация, область Новосибирская, город Новосибирск, Переулок Комбинатский, дом 3
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ИЗГОТОВИТЕЛЬ «SAMCON Prozesstechnik GmbH».
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ПРОДУКЦИЯ Взрывозащищенные камеры EXCam серии T08
Оборудование выпускается по технической документации изготовителя для работы во взрывоопасных средах в соответствии с требованиями технического регламента ТР ТС 012/2011
Маркировка взрывозащиты приведена в приложении (бланки №№ 0208292, 0208293, 0208294)
Серийный выпуск

КОД ТН ВЭД ТС: 8525 80 190 0

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ Технического регламента Таможенного союза ТР ТС 012/2011 "О безопасности оборудования для работы во взрывоопасных средах"

СЕРТИФИКАТ ВЫДАН НА ОСНОВАНИИ
- акта о результатах анализа состояния производства «SAMCON Prozesstechnik GmbH» № 02517АП от 13.04.2014 года;
- протокола испытаний № 241-2015-04 от 30.04.2015 года. Общество с ограниченной ответственностью «Центр научных исследований, испытаний и сертификации», Аттестат № РОСС RU.0001.21АВ67, срок действия до 21.07.2016 года.

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ
Специальные требования к условиям хранения не предусмотрены.
Единый знак обращения продукции на рынке государств-членов Таможенного союза наносится на основании настоящего сертификата.

СРОК ДЕЙСТВИЯ С 30.04.2015 ПО 29.04.2020 ВКЛЮЧИТЕЛЬНО

М.П. Руководитель (уполномоченное лицо) органа по сертификации А.П. Филатов

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ТАМОЖЕННЫЙ СОЮЗ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ТС RU C-DE.МО62.В.01921

Серия RU № 0206292

1. **Взрывозащищенные камеры EXCam серии T08.**

Сертификат соответствия распространяется на взрывозащищенные камеры EXCam типов T08 VA 1.x, T08 VA 2.x, T08-1NXCD, T08 VAx.x* (* - корпус с защитным покрытием)

2. **Описание оборудования и средств взрывозащиты**

Взрывозащищенные камеры EXCam предназначены для видеонаблюдения в подземных выработках шахт, рудников и их наземных строениях, опасных по рудничному газу и/или горючей пыли, в соответствии с присвоенной маркировкой взрывозащиты.
Корпуса камер выполнены из нержавеющей стали.
На передней стороне корпуса установлено смотровое стекло, на задней части камеры установлены сертифицированные кабельные вводы и заглушки.
Электрические параметры:
Напряжение питания: 60 В постоянного тока или 240 В (50/60 Гц) переменного тока
Максимальная выходная мощность:
Модель T08 VA:

T08	T6 (85°C) $T_{окр}$				T5 (100°C) $T_{окр}$				
	40°C	50°C	60°C	70°C	40°C	50°C	60°C	70°C	75°C
VA1.1.x.x	17,4 Вт	13,0 Вт	8,7 Вт	4,3 Вт	19,6 Вт	15,2 Вт	10,9 Вт	6,5 Вт	4,3 Вт
VA1.1.x.x * (с покрытием)	19,0 Вт	14,3 Вт	9,5 Вт	4,8 Вт	21,4 Вт	16,7 Вт	11,9 Вт	7,1 Вт	4,8 Вт
VA1.2.x.x	18,2 Вт	13,6 Вт	9,1 Вт	4,5 Вт	20,5 Вт	15,9 Вт	11,4 Вт	6,8 Вт	4,5 Вт
VA1.2.x.x * (с покрытием)	21,1 Вт	15,8 Вт	10,5 Вт	5,3 Вт	23,7 Вт	18,4 Вт	13,2 Вт	7,9 Вт	5,3 Вт

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Серия RU № 0208293

VA2.1.x.x	22,2 Вт	16,7 Вт	11,1 Вт	5,6 Вт	25,0 Вт	19,4 Вт	13,9 Вт	8,3 Вт	5,6 Вт
VA2.1.x.x * (с покрытием)	25,0 Вт	18,8 Вт	12,5 Вт	6,3 Вт	28,1 Вт	21,9 Вт	15,6 Вт	9,4 Вт	6,3 Вт
VA2.2.x.x	25,0 Вт	18,8 Вт	12,5 Вт	6,3 Вт	28,1 Вт	21,9 Вт	15,6 Вт	9,4 Вт	6,3 Вт
VA2.2.x.x * (с покрытием)	26,7 Вт	20,0 Вт	13,3 Вт	6,7 Вт	30,0 Вт	23,3 Вт	16,7 Вт	10,0 Вт	6,7 Вт

Модель T08-TNXCD:

	T6 (85°C)				
	T_{amb}				
T08-	40°C	45°C	50°C	55°C	60°C
TNXCD	57,1 Вт	50,0 Вт	42,9 Вт	35,7 Вт	28,6 Вт

Степень защиты оболочки не ниже IP67/IP68 по ГОСТ 14254-96.

Диапазон рабочей температуры:

T08-VA: $-60°C \le T_{amb} \le +75°C$

T08-TNXCD: Тип -50°C $\le T_{amb} \le +60°C$

Тип -20 °C … 160 °C (T_{amb}) / уплотнительные кольца Viton O-Ring

-30 °C … +60 °C (T_{amb}) / уплотнительные кольца NBR 70 O-Ring

-50 °C … 160 °C (T_{amb}) / уплотнительные кольца VMQ-Silicon O-Ring

Взрывобезопасность камеры обеспечивается выполнением требований ТР ТС 012/2011 и требований стандартов на соответствующий вид взрывозащиты.

Данный сертификат удостоверяет соответствие требованиям взрывобезопасности ТР ТС 012/2011 и не рассматривает любые другие виды опасности при использовании камеры.

3. Взрывозащищенные камеры KXCam серии T08 соответствуют требованиям:

ТР ТС 012/2011	Технический регламент Таможенного союза «О безопасности оборудования для работы во взрывоопасных средах»;
ГОСТ Р МЭК 60079-0-2011	Взрывоопасные среды. Часть 0. Оборудование. Общие требования;
ГОСТ IEC 60079-1-2011	Часть 1. Оборудование с видом взрывозащиты «взрывонепроницаемые оболочки "d"».
ГОСТ Р МЭК 60079-31-2010	Часть 31. Оборудование с видом взрывозащиты от воспламенения пыли «t».

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Серия RU № 0208294

4. Маркировка взрывозащиты

1Ex d IIB T6/T5 Gb или 1Ex d IIC T6/T5 Gb
- 60°C ≤ T_{amb} ≤ + 75°C
Ex tb IIIC T80°C Db IP68 или Ex tb IIIC T95°C Db IP68
PB Ex d I Mb

Маркировка специальным знаком взрывобезопасности Ex производится в соответствии с ТР ТС 012-2011.

5. Специальные условия применения

Знак «X» и маркировка взрывозащиты вчер указывают на особые условия их безопасного применения, заключающиеся в следующем:
- корпус должен быть заземлен, через заземляющий зажим PA;
- при настройке камер должны учитываться внешние источники тепла или охлаждения.
- при использовании EXCam в горнодобывающей промышленности с большим риском механических повреждений, должна быть предусмотрена защита прозрачной части устройства;
- используются только сертифицированные кабельные вводы и заглушки.

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