High Quality Cameras for Hazardous Areas.

www.samcon.eu
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SAMCON - The Company

SAMCON Prozesseleittechnik GmbH was founded in 1992 and is located in Lohra-Altenvers, near Marburg and currently has 18 employees. The company is specialized in the development, production and sale of devices, software as well as engineering services in the area of process control engineering. The focus is on camera and communication systems for hazardous areas. The general manager of the company is Steffen Seibert.

Since 2008, the company has met the requirements for quality management specified by the directive 2014/34/EU (ATEX) and produces camera and communication systems for hazardous areas. In 2014, SAMCON extended their quality management system, now also comprising ISO 9001:2008 as well as IECEx QAR. Since 2007, SAMCON has been an Axis development partner and in 2013 this partnership was extended as both companies now jointly cooperate as technology partners.

SAMCON cameras are certified by the TÜV, the German Technical Inspection Authority. Whether simple explosion proof camera-monitor systems are required or complex CCTV systems have to be implemented - SAMCON always strive to offer the best solution to our customers. SAMCON’s most important objectives are high quality planning, well thought-out equipment technology, safety, and of course customer satisfaction.

Camera and Communications Systems for Hazardous Areas.

In the area of automation technology, a tendency is noticeable that CCTV systems (Closed Circuit Television) extend and even replace classical sensor technology. With the digitalization of video streams the possibilities increase to effectively integrate them into existing process control systems and procedures. The requirement spectrum of CCTV systems in hazardous areas ranges from rather simple observations by the means of static passive video sources, to cameras disposing of a zoom function and intelligent evaluation units, to complex PTZ cameras such as dome camera systems.

Due to the constantly increasing demands which explosion proof cameras have to fulfil as well as our effort to realize and implement our customers’ requirements, our current scope comprises:

- Development, manufacturing and direct distribution of explosion proof camera systems and the applicable components
- Compilation of technical concepts to realize CCTV systems in hazardous areas
- Planning and project implementation of CCTV systems in hazardous areas
- Planning and development of analog and digital signal processing and analytical systems

Our Customers

Chemical and Pharmaceutical Industry.

Hardly any field has been so strongly altered by automated technology like the chemical industry. Process values that were still processed in large part manually in the 1960s led the way to equipment with process control systems and central measuring stations of today. Our camera systems increase the automation level of chemical and pharmaceutical production plants.

Explosion Proof Cameras - Onshore & Offshore.

Oil and gas are still important energy sources and are hard to replace, especially for mobile applications. The ExCam series, especially the stainless steel models, are extremely robust: The weather resistant stainless steel casings have a rating of IP68 which means they are absolutely dust-tight and watertight during temporary submersion, making them ideally suited for all offshore uses.

Explosion Proof Cameras for Refineries and Fuel Depots.

In most large refineries and fuel depot sites, process and safety monitoring requirements fit together seamlessly. Operating procedures are often only controlled and coordinated from a central control room. If information about what is happening on site is important it is possible to transfer the applicable information via camera technology to the measuring station.

Cameras for Electronic and Mechanical Industries.

Cameras and optical sensors have long been an essential part of control systems in mechanical engineering. In general, two different fields of applications are distinguished: video surveillance and industrial image processing. In both types of application it is common to use cameras to confer at least some of the abilities of human sight on machines.
The **ExCam Series** consists of different video cameras that are approved for dust and gas explosion risk zones, as well as mining, in accordance with the EU Directive 2014/34/EU (ATEX) as well as international ones (IECEx). Furthermore it is also certified according EAC-Ex to meet the requirements of the custom union. The cameras certification comprises ATEX group I (mining) with a low risk of mechanical threat as well as ATEX group II for zone 1, 2 as well as 21 and 22 including the explosion groups IIC / IIIC with a high risk of mechanical threat. In accordance with the requirements of the impact and free-fall tests (DIN EN 60079: 0 2012), the housings are suitable for fix and portable applications!

### Media Resistance and Sealings

Due to high-quality materials used for the ExCam series it meets the requirements of a comprehensive media resistance list! It is also possible to freely select different stainless steel alloys to reflect the best execution for the application. Even a coating or powder coating of the housing is feasible to realize individual media resistance requirements. The particularly designed GYLON (PTFE) flat sealing does not only ensure the housing to be watertight (IP68) but also supports the resistance towards several chemicals. The extremely robust and scratch-proof as well as high-impact resistant borosilicate glass fits perfectly into the high-quality materials of the housing body.

### Mining

As one of the first flameproof camera protection systems, the ExCam series meets all mining requirements (environments susceptible of fire damp) and is certified according to ATEX/IECEx for equipment group I M2 (Mb). If the housing series is used in mining environments with a low risk of mechanical damages it is even not necessary to equip the housing with an additional device in order to protect the borosilicate glass! As a result, the ExCam series allows for the first time a usage of stationary as well as portable surveillance systems underground.

### Temperatures

Also with regard to the allowed ambient temperatures the ExCam Series sets new standards. The temperature limits with integrated heater are -60°C. Equipped with an active cooling system we can reach +130°C. Using active cooling, even high-end cameras can be used at high ambient temperatures!
### ExCam - Comparison Chart

<table>
<thead>
<tr>
<th>Product</th>
<th>Model-Keys</th>
<th>Ex-Certification*1</th>
<th>Prot.- Level</th>
<th>Enclosure Material*2</th>
<th>Tmin</th>
<th>Tmax *3</th>
<th>Power Supply</th>
<th>Lens/ IR-Filter</th>
<th>Min. -Illumination</th>
<th>Angle of View</th>
<th>Signal *5</th>
<th>Video-comp. / Resolution*5</th>
<th>More Info</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analoge CVBS-Signal</strong></td>
<td></td>
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</tr>
<tr>
<td>ExCam e.Vario</td>
<td>T08-VA1.2...</td>
<td>ATEX, IECEx &amp; EAC-Ex: Dust, Gas</td>
<td>IP68</td>
<td>Stainless Steel</td>
<td>-40°C + 50°C</td>
<td>14 V DC to 30 V DC</td>
<td>2.6 W</td>
<td>Varifocal/YES</td>
<td>0.1 lx</td>
<td>65° (wide)-31.2° (tele)</td>
<td>CVBS</td>
<td>MJPEG H.264 1920x1080</td>
<td></td>
</tr>
<tr>
<td>ExCam mini-Zoom</td>
<td>T08-VA1.2...</td>
<td>ATEX, IECEx &amp; EAC-Ex: Dust &amp; Gas</td>
<td>IP68</td>
<td>Stainless Steel</td>
<td>-60°C + 50°C</td>
<td>12 V DC to 30 V DC</td>
<td>6.5 W</td>
<td>10 x Motor Zoom / YES</td>
<td>0.0004 lx</td>
<td>52° (wide)-5.4° (tele)</td>
<td>CVBS VISCA®</td>
<td>MJPEG H.264 720x576</td>
<td></td>
</tr>
<tr>
<td>ExCam mini-Tube</td>
<td>T08-VA0.1...</td>
<td>ATEX &amp; IECEx: Dust &amp; Gas</td>
<td>IP68</td>
<td>Stainless Steel</td>
<td>-10°C + 50°C</td>
<td>12 V DC</td>
<td>1.8 W</td>
<td>FIX / NO</td>
<td>0.01 lx</td>
<td>92.6°</td>
<td>AHD TVI</td>
<td>1/2.8&quot; CMOS</td>
<td></td>
</tr>
</tbody>
</table>

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*1: Ex Certification (see Model Key):
ATEX Marking & Certification:
Gas: Ex db IIC T6 Gb 1.4301 / 1.4401 / 1.4404
Dust: Ex tb IIC T80°C Db (AIS 316 / 316L)
Mining: Ex d I T6 Mb

IECEx & EAC-Ex Marking & Certification:
Gas: Ex d IIC T6 Gb
Dust: Ex tb IIC T80°C Db
Mining: Ex d I T6 Mb

*2: Housing Materials:
Aluminum or Stainless Steel

*3: Ambient Temperature:
Please see Model key.

*4: Video signal:
PAL CVBS/FBAS as standard

*5: Video comp. / Resolution:
NTSC Models on demand
# TCP/IP Network Cameras

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>ExCam IPM 3016</strong></td>
<td>T08-VA1.2, ExCam IPM 1145</td>
<td>ATEX Dust &amp; Gas, IECEx Dust &amp; Gas</td>
<td>IP68 Stainless Steel</td>
<td>-60°C +55°C</td>
<td>PoE, IEEE 802.3at Class 3</td>
<td>3.8 W</td>
<td>2.9 W</td>
<td>0.4 lx</td>
<td>90° (wide)</td>
<td>17° (tele)</td>
<td>TCP/IP RTSP HTTP VAPIX ONVIF</td>
<td>MPEG H.264 1920x1080</td>
</tr>
<tr>
<td><strong>ExCam IPM 1145</strong></td>
<td>T08-VA2.1, ExCam IPM 1145-L</td>
<td>ATEX Dust, Gas &amp; Mining, IECEx Dust, Gas &amp; Mining</td>
<td>IP68 Stainless Steel</td>
<td>-60°C +40°C (+70°C with accessory)</td>
<td>PoE, IEEE 802.3af Class 3</td>
<td>6 W</td>
<td>REMOTE ZOOM, FOCUS, IR-LED/D/YES</td>
<td>Color: 0.4 lx, 80°V</td>
<td>0.08 lx</td>
<td>95° (wide)</td>
<td>34° (tele)</td>
<td>TCP/IP RTSP HTTP VAPIX ONVIF</td>
</tr>
<tr>
<td><strong>ExCam IPQ 1785</strong></td>
<td>T08-VA2.3, ExCam IPQ 1785</td>
<td>ATEX Dust, Gas &amp; Mining, IECEx Dust, Gas &amp; Mining</td>
<td>IP68 Stainless Steel</td>
<td>-60°C +60°C (+130°C with accessory)</td>
<td>PoE, IEEE 802.3af Class 3</td>
<td>10.5 W</td>
<td>REMOTE ZOOM &amp; FOCUS, Infrared IR-LEDs/YES</td>
<td>Color: 0.01 lx, 1 lx</td>
<td>0.1 lx</td>
<td>75° (wide)</td>
<td>34° (tele)</td>
<td>TCP/IP RTSP HTTP VAPIX ONVIF</td>
</tr>
<tr>
<td><strong>ExCam IPQ 1725</strong></td>
<td>T08-VA0.1, ExCam IPQ 5695</td>
<td>ATEX &amp; IECEx Dust, Gas</td>
<td>IP68 Stainless Steel</td>
<td>-20°C +50°C</td>
<td>PoE, IEEE 802.3af Class 2</td>
<td>4.0 W</td>
<td>2.5 W</td>
<td>VARO FOCUS/NO</td>
<td>Color: 0.22 lx</td>
<td>32° (wide)</td>
<td>33° (tele)</td>
<td>TCP/IP RTSP HTTP VAPIX ONVIF</td>
</tr>
<tr>
<td><strong>ExCam IPQ 1280</strong></td>
<td>T08-VA0.1, ExCam IPQ 5695</td>
<td>ATEX &amp; IECEx Dust, Gas</td>
<td>IP68 Stainless Steel</td>
<td>-30°C +60°C</td>
<td>PoE, IEEE 802.3af Class 2</td>
<td>4.0 W</td>
<td>2.5 W</td>
<td>-</td>
<td>35.4°</td>
<td>-</td>
<td>TCP/IP RTSP HTTP VAPIX ONVIF</td>
<td>MPEG H.264 2084156</td>
</tr>
<tr>
<td><strong>ExCam IPQ 5695</strong></td>
<td>T08-TNCD, ExCam IPQ 5695</td>
<td>ATEX, IECEx, EAC-Ex Dust &amp; Gas</td>
<td>IP68 Stainless Steel</td>
<td>-50°C +50°C</td>
<td>PoE, IEEE 802.3af Class 1</td>
<td>19 W</td>
<td>32xMotor Zoom, PTZ/YES</td>
<td>Color: 0.1 lx, 0.02 lx</td>
<td>0.1 lx</td>
<td>58.3° (wide)</td>
<td>2.4° (tele)</td>
<td>TCP/IP RTSP HTTP VAPIX ONVIF</td>
</tr>
<tr>
<td><strong>ExCam IPQ 6075</strong></td>
<td>T08-TNCD, ExCam IPQ 6075</td>
<td>ATEX, IECEx &amp; EAC-Ex Dust &amp; Gas</td>
<td>IP68 Stainless Steel</td>
<td>-50°C +60°C</td>
<td>PoE, IEEE 802.3af Class 1</td>
<td>17.1 W</td>
<td>40xMotor Zoom, PTZ/YES</td>
<td>Color: 0.1 lx, 0.002 lx</td>
<td>0.1 lx</td>
<td>65° (wide)</td>
<td>2° (tele)</td>
<td>TCP/IP RTSP HTTP VAPIX ONVIF</td>
</tr>
</tbody>
</table>

**1: Ex Certification (see Model Key):**
- ATEX Marking & Certification:
  - Gas: Ex d IIC T6 Gb
  - Dust: Ex d IIC T80°C Db
  - Mining: Ex d I T6 Mb
- IECEx & EAC-Ex Marking & Certification:
  - Gas: Ex db IIC T6 Gb
  - Dust: Ex tb IIC T80°C Db
  - Mining: Ex d I T6 Mb

**2: Housing Materials:**
- Aluminum or Stainless Steel:
  - 14301 / 1.4401 / 1.4404 (AISI 316 / 316L)
- IPQ1785:
  - Stainless Steel
- IPQ1645:
  - IPQ1725:
  - IPQ1725:
- IPQ5695:
  - IPQ6075:

**3: Ambient Temperature:**
- Please see Model key.

**4: Video signal:**
- PAL CVBS/FBAS as standard
- NTSC Models on demand

**5: Video signal:**
- PAL CVBS/FBAS as standard
- NTSC Models on demand

*See Model key.*

### Additional Information
- **Model Key:**
  - T08-VA0.1... ATEX & IECEx
  - T08-VA2.3... ATEX:
  - T08-VA2.5... ATEX:
- **Video Signal:**
  - IPQ1785:
  - IPQ1645:
- **Power Supply:**
  - Class 3 802.3af PoE, IEEE
  - Max. 17.1W (PoE+)
  - 802.3at PoE, IEEE
  - Max. 19W (PoE+)
The ExCam e.Vario - Powerful Day/Night Motor Zoom Camera with IR Cut

ExCam e.Vario

in a stainless steel housing

**ExCam e.Vario**

The ExCam e.Vario T08 is a motorized zoom camera certified according to Directive 2014/34/EU (ATEX), IECEx, and EAC-Ex. With its 1/2.8” CMOS sensor and the IR cut filter it is one of the most light sensitive cameras of its class. It delivers excellent image quality, high light sensitivity and high resolution pictures. Although small in size it delivers a motorized zoom lens, allowing it to be optimally adapted to a specific angle and lighting situation by remote control.

**Group I (Mining)**

<table>
<thead>
<tr>
<th>Category</th>
<th>ATEX</th>
<th>IECEx</th>
<th>EAC-Ex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ma</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**Application**

- Zone 0, 1, 2, 21, 22

**Product / Model Description**

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ExCam e.Vario T08-VA1.2.K1.BOR-L.N-005.N-X</td>
<td>Camera with housing heating for low temperatures: Equipped with a self-regulating heater to meet low temperature ranges. Ambient temperature limit: -40°C &lt; T_{amb} &lt; +50°C</td>
</tr>
<tr>
<td>ExCam e.Vario remote control</td>
<td>Remote control for ExCam e.Vario to control focus and zoom without opening the housing! Signal: RS-485 Power supply: 12 V DC or 3V battery <a href="http://www.samcon.eu">www.samcon.eu</a>, Product group: C</td>
</tr>
<tr>
<td>Video converter</td>
<td>Video converter converts the AHD video signal into a 4CIF signal for the connection of non-HD capable video server Video input: AHD, Tvi, CVi, FBAS Video output: HDMI, VGA, FBAS (PAL, NTSC) Power supply: 12 V DC; Operating temperature: 0°C to 55°C OSD Menu: Brightness, Contrast, color, resolution, PIP, 4:3/16:9, etc. Product group: C</td>
</tr>
<tr>
<td>Eneo Multisignal Videoserver</td>
<td>Multisignal converter converts HD-TVI, AHD, FBAS to IP Resolution: max. 1920 x 1080 (FullHD) Automatic Signal- and resolution detection Power supply: 12 V DC; Operating temperature: 0°C to +45°C Product group: C</td>
</tr>
<tr>
<td>Axis P7304</td>
<td>4-Channel Ethernet video server Video compr.: MJPEG and H.264, H.265; transmission rate: 30 fps Resolution: 1920x1080 (max.); Digital In/Outputs: 4 configurable Interfaces: 2xRJ422/485; Required IP addresses: 1 for 4 channels Power supply: 8-28 V DC or PoE class 1 Product group: C</td>
</tr>
</tbody>
</table>

A wide range of mounting accessories…

Illustrations show models with accessories that are subjected to an extra charge.
The ExCam niteZoom - Powerful Day/Night Motor Zoom Camera with IR Cut

ExCam niteZoom

The ExCam niteZoom T08 is a zoom camera certified according to Directive 2014/34/EU (ATEX), IECEx, and EAC-Ex. With its 1/3'' Super HAD CCD II sensor and the IR cut filter it is one of the most light sensitive cameras of its class. As a result the ExCam niteZoom delivers high resolution pictures even at an illumination level of only 0.0004 lx. Despite its compact dimensions, it has a 10x motorized zoom lens, allowing it to be optimally adapted to a specific angle and lighting situation.

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ExCam niteZoom T08-VA1.2.K1.BOR-C-XXX-X-L</td>
<td>Camera with housing heating for low temperatures: Equipped with a self-regulating heater to meet low temperature ranges. Ambient temperature limit: -30°C &lt; T_{amb} &lt; +50°C.</td>
</tr>
<tr>
<td>ExCam niteZoom T08-VA1.2.K1.BOR-C-PPP-X-LL</td>
<td>Camera with housing heating for arctic temperatures: Equipped with a self-regulating heater to meet extremely low temperature ranges. Includes two cable glands certified for -60°C with integrated pressure barrier: Ambient temperature: -60°C &lt; T_{amb} &lt; +40°C.</td>
</tr>
<tr>
<td>Axis P7304</td>
<td>4-Channel Ethernet video server Videocompr.: MJPEG and H.264, H.265; transmission rate: 30 fps. Resolution: 1920x1080 (max.); Digital In/Outputs: 4 configurable Interfaces: 2xRS422/485; Internal recording storage: via SD Slot. Required IP addresses: 1 for 4 channels. Power supply: 8-28 V DC or PoE class 1. Product group: C.</td>
</tr>
</tbody>
</table>

A wide range of mounting accessories...

Illustrations show models with accessories that are subjected to an extra charge.
The ExCam miniTube - Ultra compact Day/Night Multisignal Camera

ExCam miniTube

The ExCam miniTube T08 is a fix multisignal camera certified according to Directive 2014/34/EU (ATEX) and IECEx. Thanks to its 1/2.8” CMOS sensor it offers excellent image quality and an improved light sensitivity and colour rendering. As a result the ExCam miniTube delivers high resolution pictures even at an illumination level of only 0.01 lx. Despite its ultracompact dimensions, it has a high resolution of 1080p (1920x1080) 25p/30p.

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ExCam miniTube</td>
<td>Multisignal Camera in a stainless steel housing in accordance with Directive 2014/34/EU (ATEX) and IECEx. Lens: 1/2.8” CMOS Minimal illumination: 0.01 lx F1.2 Angle of view: 92.6° (wide) to 54.6° (tele) Interface: VISCA@RS422 Explosion protection (gas): Ex II 2G Ex db IIC T6 Gb Explosion protection (dust): Ex II 2D Ex tb IIIC T80°C Db IP68 Protection Level: IP 68 (IEC / EN 60529) Ambient temperature limit: -10°C &lt; T_{amb} &lt; +50°C <a href="http://www.samcon.eu/en/products/analog/excam-minitube/">www.samcon.eu/en/products/analog/excam-minitube/</a> <a href="http://www.samcon.eu">www.samcon.eu</a>, product group: A, tariff number: 8525 8019</td>
</tr>
<tr>
<td>ExCam miniTube T08-VA0.1.K1.BOR-N.N-005.N-P</td>
<td>Camera with terminal block termination</td>
</tr>
<tr>
<td>Video converter</td>
<td>Video converter converts the AHD video signal into a 4CIF signal for the connection of non-HD capable video server. Video input: AHD, TVi, CVi, FBAS Video output: HDMI, VGA, FBAS (PAL, NTSC) Power supply: 12 V DC; Operating temperature: 0°C to 55°C OSD Menue: Brightness, Contrast, color, resolution, PIP, 4:3/16:9, etc. Product group: C</td>
</tr>
<tr>
<td>Eneo Multisignal Videoserver</td>
<td>Multisignal converter converts HD-TVI, AHD, FBAS to IP Resolution: max. 1920 x 1080 (FullHD) Automatic Signal- and resolution detection Power supply: 12 V DC; Operating temperature: 0°C to +45°C Product group: C</td>
</tr>
<tr>
<td>Axis P7304</td>
<td>4-Channel Ethernet video server Videocompr.: MPEG and H.264, H.265; transmission rate: 30 fps Resolution: 1920x1080 (max.); Digital In/Outputs: 4 configurable Interfaces: 2xRS422/485; Internal recording storage: via SD Slot Required IP addresses: 1 for 4 channels Power supply: 8-28 V DC or PoE class 1 Product group: C</td>
</tr>
</tbody>
</table>

A wide range of mounting accessories... can be found on page 26!
The ExCam IPM3016 is a powerful IP-megapixel camera for the application in hazardous areas. It offers ultra compact size and Full HDTV resolution (1920p) in combination with 3 lenses (17°, 47°, 90°). With ATEX, IECEx, and EAC-Ex approval for gas and dust areas, the camera has a variety of certifications.

<table>
<thead>
<tr>
<th>ExCam IPM3016</th>
<th>T08-VA1.2.K1.BOR-N.N-005.N-P-090</th>
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</thead>
<tbody>
<tr>
<td>Product / Model</td>
<td>Description</td>
</tr>
<tr>
<td>ExCam IPM3016</td>
<td>Network camera in a stainless steel housing in accordance with Directive 2014/34/EU (ATEX), IECEx, and EAC-Ex (CR TU) PoE, IEEE 802.3af/ 802.3at, type1 class 1 (max. 3.8 W, typ. 2.9 W) Minimal illumination: 0.35 lx at 50 IRE F2.4 Horizontal angle: 90° (wide) fix @16/9, [optional lens 46° (normal), 17° (tele)] Video compression: H.264 (MPEG-4 Part 10/AVC) Main and High Profiles, H.265 (MPEG-H Part 2/HEVC) Main Profile Motion JPEG Resolution: 2016 x 1512 to 320 x 240 (4:3) or 2304 x 1296 to 640x360 (16:9) Ex.-protection (gas): Ex II 2G Ex db IIC T6 Gb Ex.-protection (dust): Ex II 2D Ex tb IIC T80°C Db Protection level: IP 68 (IEC / EN 60529) Ambient temperature range: -5°C &lt; T&lt;sub&gt;amb&lt;/sub&gt; &lt; +55°C <a href="http://www.samcon.eu/en/products/network/excam-ipm3016/">www.samcon.eu/en/products/network/excam-ipm3016/</a> Included accessories: 5 meter cable connected to RJ45 plug Product group: A, tariff number: 8525 8019</td>
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<table>
<thead>
<tr>
<th>ExCam IPM3016</th>
<th>T08-VA1.2.K1.BOR-LL.N.N-005.N-090</th>
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<tbody>
<tr>
<td>Product / Model</td>
<td>Description</td>
</tr>
<tr>
<td>ExCam IPM3016</td>
<td>Camera with terminal box termination: Included accessories: 5 m cable pre-mounted and pre-wired to an ex-e terminal box (see Ex-TB3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ExCam IPM3016</th>
<th>T08-VA1.2.K1.BOR-X.N-005.N-X-046</th>
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<tbody>
<tr>
<td>Product / Model</td>
<td>Description</td>
</tr>
<tr>
<td>ExCam IPM3016</td>
<td>Camera with alternative lens: HFoV 46° (normal)</td>
</tr>
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</table>

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<thead>
<tr>
<th>ExCam IPM3016</th>
<th>T08-VA1.2.K1.BOR-X.N-005.N-X-017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product / Model</td>
<td>Description</td>
</tr>
<tr>
<td>ExCam IPM3016</td>
<td>Camera with alternative lens: HFoV 17° (tele)</td>
</tr>
</tbody>
</table>

A wide range of mounting accessories...

Illustrations show models with accessories that are subjected to an extra charge.

<table>
<thead>
<tr>
<th>Group II (Gas &amp; Dust)</th>
<th>ATEX / IECEx / EAC-Ex-Ex</th>
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<tr>
<td>Application</td>
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</table>

<table>
<thead>
<tr>
<th>Group I (Mining)</th>
<th>ATEX / IECEx / EAC-Ex-Ex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
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<tr>
<td>Application</td>
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</tr>
</tbody>
</table>
### ExCam IPM1145 (-L)

The **ExCam IPM1145 (-L)** is a network camera, approved according to Directive 2014/34/EU (ATEX), IECEx, and EAC-Ex. As interchangeable lenses are not available for this series, this allows an extremely compact design and a cost-effective manufacturing! In addition, due to the fixed mounted lenses, functions such as Remote-Zoom and Remote-Focus are available: It is now possible to adjust the angle of view electronically without the necessity to open the housing. Also, some models of the series offer integrated IR-LED illumination!

### Specifications

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ExCam IPM1145 T08-VA2.1.K1.BOR-C-005-X-N</td>
<td>Network camera in a stainless steel housing in accordance with Directive 2014/34/EU (ATEX), IECEx, and EAC-Ex (CR TU)</td>
</tr>
<tr>
<td></td>
<td>Power supply: PoE, IEEE 802.3af Class 2 (6 W)</td>
</tr>
<tr>
<td></td>
<td>Minimal illumination: 0.4 lx (Color), F1.4, 0.08 lx (BW), F1.4</td>
</tr>
<tr>
<td></td>
<td>Resolution: 1920 x 1080 (ca. 2 megapixel) to 160 x 90</td>
</tr>
<tr>
<td></td>
<td>Functions: Remote-Zoom, Remote-Focus, etc...</td>
</tr>
<tr>
<td></td>
<td>Explosion protection (gas): Ex II 2G Ex d IIC T6 Gb</td>
</tr>
<tr>
<td></td>
<td>Explosion protection (dust): Ex II 2D Ex tb IIIC T80° C Db IP68</td>
</tr>
<tr>
<td></td>
<td>Protection level: IP 68 (IEC / EN 60529)</td>
</tr>
<tr>
<td></td>
<td>Ambient temperature: 0°C &lt; T_{amb} &lt; +40°C</td>
</tr>
</tbody>
</table>

www.samcon.eu, product group: A, tariff number: 8525 8019

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| ExCam IPM1145 T08-VA2.1.K1.BOR-C-005-X-L | Camera with housing heating for low temperatures:  
Equipped with a self-regulating heater to meet low temperature ranges:  
Ambient temperature: -30°C < T_{amb} < +40°C |

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| ExCam IPM1145 T08-VA2.1.K1.BOR-C-005-X-LL | Camera with housing heating for arctic temperatures:  
Equipped with a self-regulating heater to meet extremely low temperature ranges.  
Includes two cable glands certified for -60°C with integrated pressure barrier:  
Ambient temperature: -60°C < T_{amb} < +40°C |

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
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<tr>
<td>ExCam IPM1145-L T08-VA2.1.K1.BOR-C-005-X-N</td>
<td>Network camera in a stainless steel housing in accordance with Directive 2014/34/EU (ATEX), IECEx, and EAC-Ex (CR TU)</td>
</tr>
<tr>
<td></td>
<td>Power supply: PoE, IEEE 802.3af Class 3 (10.5 W)</td>
</tr>
<tr>
<td></td>
<td>Minimal illumination: 0.4 lx (Color), F1.4, 0.08 lx (BW), F1.4</td>
</tr>
<tr>
<td></td>
<td>Resolution: 1920 x 1080 (ca. 2 megapixel) to 160 x 90</td>
</tr>
<tr>
<td></td>
<td>Functions: Remote-Zoom, Remote-Focus, etc...</td>
</tr>
<tr>
<td></td>
<td>Explosion protection (gas): Ex II 2G Ex d IIC T6 Gb</td>
</tr>
<tr>
<td></td>
<td>Explosion protection (dust): Ex II 2D Ex tb IIIC T80° C Db IP68</td>
</tr>
<tr>
<td></td>
<td>Protection level: IP 68 (IEC / EN 60529)</td>
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<td>Ambient temperature: 0°C &lt; T_{amb} &lt; +40°C</td>
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www.samcon.eu, product group: A, tariff number: 8525 8019

...see next page for further options
<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ExCam IPM 1145-L T08-VA2.1.K1.BOR-C-005-X-L</td>
<td>Camera with housing heating for low temperatures: Equipped with a self-regulating heater to meet low temperature ranges: Ambient temperature: $-30^\circ C &lt; T_{amb} &lt; +40^\circ C$</td>
</tr>
<tr>
<td>ExCam IPM 1145-L T08-VA2.1.K1.BOR-C-005-X-L-LL</td>
<td>Camera with housing heating for arctic temperatures: Equipped with a self-regulating heater to meet extremely low temperature ranges. Includes two cable glands certified for $-60^\circ C$ with integrated pressure barrier: Ambient temperature: $-60^\circ C &lt; T_{amb} &lt; +40^\circ C$</td>
</tr>
<tr>
<td>ExCam IPM 114x T08-VA2.1.K1.BOR-C-XXX-X-xH</td>
<td>Option <strong>cool.Jacket „laminar Flow“</strong> Active cooling system for hot ambient temperatures. The cool.Jacket works like an intercooler, using the on-site cool water. The cold compressed water flows through the cool.Jacket cooling it down. The cool.Jacket is mounted on top of the camera housing to cool it down so that the inside temperature is kept below the maximum value. Ambient temperature: $x^\circ C &lt; T_{amb} &lt; + 70^\circ C$ <a href="http://www.samcon.eu">www.samcon.eu</a>, Product Group: B, tariff number: 8525 8019</td>
</tr>
<tr>
<td><strong>Cooling unit</strong></td>
<td>Mobile cooling unit with integrated flow controller</td>
</tr>
<tr>
<td><strong>Option Mining</strong></td>
<td>Explosion protection (mining): Ex I M2 Ex d I Mb upon request</td>
</tr>
<tr>
<td><strong>A wide range of mounting accessories...</strong></td>
<td>...can be found on #page 26</td>
</tr>
</tbody>
</table>
**ExCam IPQ1645**

The ExCam IP1645 is a network camera, approved according to Directive 2014/34/EU (ATEX), IECEx, and EAC-Ex. Due to **Power over Ethernet (PoE)**, it is possible to have only one cable for transmitting data as well as power! The ExCam IP1645 delivers several different video streams at the same time and supports **MJPEG** and **H.264** in **HD resolution**. Further outstanding features of this camera are the **unparalleled light sensitivity**, **high resolution** (1920x1080) as well as the **extrem broad temperature range**!

### Product / Model Description

**ExCam IPQ1645**

**T08-VA2.3.K3.BOR2-N.H-005.N-P**

Network camera in a stainless steel housing in accordance with Directive 2014/34/EU (ATEX), IECEx, and EAC-Ex (CR TU)

PoE, IEEE 802.3af / 802.3at Typ 1 Class 3: Max. 9.5 W (typical: 4.5 W)

Minimal illumination: Color: 0.03 lx, Black/White: 0.01 lx

Horizontal angle of view: 85° - 42° (HD, 16/9)

Video compression: H.264 & Motion JPEG

Explosion protection (gas): Ex II 2G Ex db IIC T6 Gb

Explosion protection (dust): Ex II 2D Ex tb IIC T80°C Db

Protection level: IP 68 (IEC / EN 60529)

Ambient temperature limit: -10°C < T < +60°C


Product Group: A, tariff number: 8525 8019

---

**ExCam IPQ1645**

**T08-VA2.3.K3.BOR2-N.H-005.N-T**

Camera with terminal box termination:

Included accessories: 5 m cable pre-mounted and pre-wired to an ex-e terminal box (see Ex-TB3)

---

**ExCam IPQ1645**

**T08-VA2.3.K3.BOR2-LL.N-005.N-P**

Camera with housing heating for arctic temperatures:

Equipped with a self-regulating heater to meet extremely low temperature ranges.

Includes two cable glands certified for -60°C with integrated pressure barrier:

Ambient temperature: -60°C < T < +45°C

---

**ExCam IPQ1645**

**T08-VA2.3.K3.BOR2-LL.N-005.N-T**

Camera with housing heating for arctic temperatures and terminal box termination:

Equipped with a self-regulating heater to meet extremely low temperature ranges.

Includes two cable glands certified for -60°C with integrated pressure barrier:

Ambient temperature: -60°C < T < +45°C

Included accessories: 5 m cable pre-mounted and pre-wired to an ex-e terminal box (see Ex-TB3)

---

**ExCam IPQ1645**

**T08-VA2.3.K3.BOR2-N.HH-010.N-T**

Camera with **cool.Jacket „laminar Flow“ (VA2.3 Series)**

Aktive cooling system for hot ambient temperatures (surcharge):

The cooling element is flooded with cooling water. So the inside temperature is kept below the maximum permitted value of the camera module by the principle of heat exchange.

Explosion protection (gas): Ex II 2G Ex db IIC T3 Gb

Explosion protection (dust): Ex II 2D Ex tb IIC T195°C Db

Ambient temperature: -10°C < T < +130°C


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**Cooling unit**

Mobile cooling unit with integrated flow controller

---

**Option Mining**

Explosion protection (mining): Ex I M2 Ex d I Mb upon request

---

A wide range of mounting accessories...

...can be found on **#page_26**!
ExCam IPQ1785

FullHD resolution meets super Motorzoom lens! The **ExCam IPQ1785** is a network camera with motor zoom, approved according to Directive 2014/34/EU (ATEX), IECEx, and EAC-Ex. Due to **Power over Ethernet (PoE)** is possible to have only one cable for transmitting data as well as power! The ExCam IPQ1785 delivers several different video streams at the same time and supports **MJPEG and H.264** in 2 Megapixel resolution of 1920 x 1080 pixels.

### Product / Model Description

**ExCam IPQ1785**
T08-VA2.3.K3.BOR2-N.H-005.N-P

- Network camera in stainless steel housing
- In accordance with Directive 2014/34/EU (ATEX), IECEx, and EAC-Ex (CR TU)
- PoE: IEEE 802.3af Type 1, Class 3 (max. 12.95 W, typ. 7.7 W)
- Minimal illumination: Color: 0.16 lx, Black/White: 0.03 lx
- Horizontal angle of view: 60° - 2.3° (HD, 16/9) (Motorzoom)
- Video compression: H.264 (MPEG-4 Part 10/AVC), Motion JPEG
- Resolution: 1920 x 1200 (WUXGA) to 160 x 90
- Explosion protection (gas): Ex II 2G Ex db IIC T5 Gb
- Explosion protection (dust): Ex II 2D Ex tb IIIC T95°C Db
- Protection level: IP 68 (IEC / EN 60529)
- Ambient temperature: $-10°C < T_{amb} < +60°C$

**ExCam IPQ1785**
T08-VA2.3.K3.BOR2-N.H-005.N-T

- Camera with terminal box termination:
- Included accessories: 5 m cable pre-mounted and pre-wired to an ex-e terminal box (see Ex-TB3)
**The ExCam IPP1275 - Ultra compact Varifocal-Camera**

**ExCam IPP1275**

The **ExCam IPP1275** is a network camera, approved according to Directive 2014/34/EU (ATEX) & IECEx. It is a *ultra compact* camera for use in hazardous areas – not only offering superb HDTV resolution (1920 x 1080) but also a powerful varifocal lens. The ExCam IPP1275 is a *modular* Ex-Network-Camera. This means that it consists of two units: the ultra compact *sensor unit* (lens and image sensor) and the *main unit* (network, power and memory card slot). It is ultra compact and cost effective.

<table>
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**Group I (Mining) ATEX / IECEx...**

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<td>Application</td>
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**Product / Model**

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<tr>
<th><strong>ExCam IPP1275</strong> T08-VA0.1.K1.BOR-N.N-005.N-P</th>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Modular network camera: Sensor Unit in stainless steel housing in accordance with Directive 2014/34/EU (ATEX) and IECEx.</td>
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</tr>
<tr>
<td>Main Unit P12 MkII for safe areas</td>
<td></td>
</tr>
<tr>
<td>PoE, IEEE 802.3af/802.3at Type1 Class 2 (typ. 2.5 W, max. 4 W)</td>
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</tr>
<tr>
<td>Minimal illumination: 0.22 lx, F2.0</td>
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</tr>
<tr>
<td>Horizontal angle of view: 82° - 53°</td>
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<td>Resolution: 1920 x 1080</td>
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<tr>
<td>Functions: Fixed lens, Varifocus, 2.8 mm to 6 mm</td>
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<tr>
<td>Explosion protection (gas): Ex II 2G Ex db IIC T6 Gb</td>
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</tr>
<tr>
<td>Explosion protection (dust): Ex II 2D Ex tb IIIC T80°C Db</td>
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<tr>
<td>Protection Level (Sensor-/Main Unit): IP 68/IP66 (IEC / EN 60529)</td>
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<td>Ambient temperature: -20°C &lt; T&lt;sub&gt;amb&lt;/sub&gt; &lt; +50°C</td>
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<th><strong>Description</strong></th>
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<tbody>
<tr>
<td>Modular network camera: Sensor Unit in stainless steel housing.</td>
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</tr>
<tr>
<td>Main Unit P12 MkII in Ex-d housing in accordance with</td>
<td></td>
</tr>
<tr>
<td>Directive 2014/34/EU (ATEX) and IECEx.</td>
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<tr>
<td>Explosion protection Sensor Unit (gas): Ex II 2G Ex db IIC T6 Gb</td>
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</tr>
<tr>
<td>Explosion protection Sensor Unit (dust): Ex II 2D Ex tb IIIC T80°C Db</td>
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</tr>
<tr>
<td>Explosion protection Main Unit (gas): Ex II 2G Ex d IIC T6 Gb</td>
<td></td>
</tr>
<tr>
<td>Explosion protection Main Unit (dust): Ex II 2D Ex tb IIIC T80°C Db</td>
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</tr>
<tr>
<td>Protection Level (Sensor-/Main Unit): IP 68/IP66 (IEC / EN 60529)</td>
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</tr>
<tr>
<td>Ambient temperature: -20°C &lt; T&lt;sub&gt;amb&lt;/sub&gt; &lt; +50°C</td>
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</tr>
<tr>
<td>Product group: A, tariff number: 8525 8019</td>
<td></td>
</tr>
</tbody>
</table>

A wide range of mounting accessories... 

...can be found on #page_26!
The ExCam IPP1280 - Ultra compact Thermal Network Camera

ExCam IPP1280

The ExCam IPP1280 is a thermal network camera, approved according to Directive 2014/34/EU (ATEX) & IECEx. It is an ultra compact camera for use in hazardous areas – offering all advantages of thermal detection. The ExCam IPP1280 is a modular Ex-Network-Camera. This means that it consists of two units: the ultra compact sensor unit (lens and image sensor) and the main unit (network, power and memory card slot). It is ultra compact and cost effective.

Product / Model Description
---
ExCam IPP1280 T08-VA0.1.K1.GER-N-N-005.N-P
Modular thermal network camera: Sensor Unit in stainless steel housing in accordance with Directive 2014/34/EU (ATEX) and IECEx.
Main Unit P12 MkII for safe areas
PoE, IEEE 802.3af/802.3at Type1 Class 2 (typ. 2.5 W, max. 4 W)
Uncooled microbolometer, spectral range 8 µm to 14 µm
Horizontal angle of view: 35.4°
Resolution: 208 x 156
Explosion protection (gas): Ex II 2G Ex db IIC T6 Gb
Explosion protection (dust): Ex II 2D Ex tb IIIC T80°C Db
Protection Level (Sensor-/Main Unit): IP 68/IP66 (IEC / EN 60529)
Ambient temperature Sensor Unit: -30°C < T<sub>amb</sub> < +60°C
Ambient temperature Main Unit: -20°C < T<sub>amb</sub> < +50°C
Product group: A, tariff number: 8525 8019

ExCam IPP1275 T08-VA0.1.K1.GER-N-N-005.N-TD
Modular thermal network camera: Sensor Unit in stainless steel housing,
Main Unit P12 MkII in Ex-d housing in accordance with Directive 2014/34/EU (ATEX) and IECEx.
Explosion protection Sensor Unit (gas): Ex II 2G Ex db IIC T6 Gb
Explosion protection Sensor Unit (dust): Ex II 2D Ex tb IIIC T80°C Db
Explosion protection Main Unit (gas): Ex II 2G Ex d IIC T6 Gb
Explosion protection Main Unit (dust): Ex II 2D Ex d IIC T80°C Db
Protection Level (Sensor-/Main Unit): IP 68/IP66 (IEC / EN 60529)
Ambient temperature Sensor Unit: -30°C < T<sub>amb</sub> < +60°C
Ambient temperature Main Unit: -20°C < T<sub>amb</sub> < +50°C
Product group: A, tariff number: 8525 8019

A wide range of mounting accessories…

…..can be found on #page_26!
The ExCam IPP5655 - PoE Network Dome Camera with 32x Motor Zoom & FullHD

ExCam IPP5655

The ExCam IPP5655 is a powerful network dome camera which can deliver 2 megapixel resolution at 1920 x 1080p points. It is certified in accordance with Directive 2014/34/EU (ATEX), IECEx, and EAC-Ex. The camera can continuously turn on its own axis. The picture is automatically turned very precisely and rapidly. Outstanding optical, electronical and mechanical features are combined in this camera.

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ExCam IPP5655 T08-TNXCD-N.N-005.N-T</td>
<td>Camera with terminal box termination: Included accessories: 5 m cable pre-mounted and pre-wired to an ex-e terminal box (see Ex-TB3)</td>
</tr>
<tr>
<td>ExCam IPP5655 T08-TNXCD-LL.N-005.N-P</td>
<td>Camera with housing heating for arctic temperatures: Equipped with a self-regulating heater to meet extremely low temperature ranges. Includes two cable glands certified for -60°C with integrated pressure barrier. Ambient temperature: -50°C &lt; T_{amb} &lt; +50°C</td>
</tr>
<tr>
<td>ExCam IPP5655 T08-TNXCD-LL.N-005.N-T</td>
<td>Camera with housing heating for arctic temperatures and terminal box termination: Equipped with a self-regulating heater to meet extremely low temperature ranges. Includes two cable glands certified for -60°C with integrated pressure barrier. Ambient temperature: -50°C &lt; T_{amb} &lt; +50°C Included accessories: 5 m cable pre-mounted and pre-wired to an ex-e terminal box (see Ex-TB3)</td>
</tr>
</tbody>
</table>

A wide range of mounting accessories... ...can be found on [page 26](#)!
The **ExCam IPQ6075** is a powerful network dome camera which can deliver 2 megapixel resolution at 1920 x 1080p points. It is certified in accordance with Directive 2014/34/EU (ATEX), IECEx, and EAC-Ex. The camera can continuously turn on its own axis. The picture is automatically turned very precisely and rapidly. **Outstanding optical, electronical and mechanical features** are combined in this camera.

<table>
<thead>
<tr>
<th>Group II (Gas &amp; Dust)</th>
<th>ATEX / IECEx/ EAC-Ex</th>
<th>Group I (mining)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone</td>
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</tr>
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</tr>
<tr>
<td>ExCam IPQ6075</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ExCam IPQ6075
T08-TNXCDD-N.H-005.N-T
Camera with terminal box termination:
Included accessories: 5 m cable pre-mounted and pre-wired to an ex-e terminal box (see Ex-TB3)

ExCam IPQ6075
T08-TNXCDD-LH-H-005.N-P
Camera with housing heating for arctic temperatures:
Equipped with a self-regulating heater to meet extremely low temperature ranges.
Includes two cable glands certified for -60°C with integrated pressure barrier.
Ambient temperature: -50°C < T<sub>amb</sub> < +60°C

ExCam IPQ6075
T08-TNXCDD-LL.H-005.N-T
Camera with housing heating for arctic temperatures and terminal box termination:
Equipped with a self-regulating heater to meet extremely low temperature ranges.
Includes two cable glands certified for -60°C with integrated pressure barrier.
Ambient temperature: -50°C < T<sub>amb</sub> < +60°C
Included accessories: 5 m cable pre-mounted and pre-wired to an ex-e terminal box (see Ex-TB3)

A wide range of mounting accessories... …can be found on page 26!
RoughCam Series

Our RoughCam Series comprises mechanically process as well as security cameras which are extremely robust. All RoughCams meet the same high quality standards as our ExCams and are therefore perfect for even the roughest industrial conditions. The stainless steel housing in combination with borosilicate glass and high-end sealings make our RoughCams resistant to nearly all media; withstanding even the highest mechanical demands.

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RoughCam e.Vario T10-VA1.2.K1.BOR-N.N-005.N-X</td>
<td>Varifocal camera in a stainless steel housing (IP68) equipped with motorized varifocal lens. Minimal illumination: 0.5 lx (color), 0.1 lx (b/w) Angle of view: 65° (wide) to 31° (tele) Day/night function within IR cut filter. Power supply: 14VDC to 30VDC Max. power: 2.64W Ambient temperature limit: -10°C &lt; T_{amb} &lt; +50°C See data sheet for technical data - <a href="http://www.samcon.eu">www.samcon.eu</a> Product group: B, tariff number: 8525 8019</td>
</tr>
<tr>
<td>RoughCam niteZoom T10-VA1.2.K1.BOR-005-X-N</td>
<td>Camera with motor zoom in a stainless steel housing (IP68) Minimal illumination: 1/4 s, 1/3 s Mode &amp; ICR on: 0.0004 lx Angle of view: 52° (wide) to 5,4° (tele) Interface: VISCA@RS422 Ambient temperature limit: 0°C &lt; T_{amb} &lt; +50°C See data sheet for technical data - <a href="http://www.samcon.eu">www.samcon.eu</a> Product group: B, tariff number: 8525 8019</td>
</tr>
<tr>
<td>RoughCam IPM3016 T10-VA1.2.K1.BOR-N.N-005.N-P-090</td>
<td>Network camera in a stainless steel housing (IP68) Minimal illumination: 0.35 lx at 50 IRE F2.4 Horizontal angle: 90° fix @16/9, [optional lens 46° (normal), 17° (tele)] Video compression: H.264 (MPEG-4 Part 10/AVC) Main and High Profiles H.265 (MPEG-H Part 2/HEVC) Main Profile Motion JPEG Resolution: 1 2016 x 1512 to 320 x 240 (4:3) or 2304 x 1296 to 640 x 360 (16:9) Ambient temperature limit: -5°C &lt; T_{amb} &lt; +55°C See data sheet for technical data - <a href="http://www.samcon.eu">www.samcon.eu</a> Product group: B, tariff number: 8525 8019</td>
</tr>
<tr>
<td>RoughCam IPM1145 T10-VA2.1.K1.BOR-005-X-N</td>
<td>Network camera in a stainless steel housing Power supply: PoE, IEEE 802.3af Class 2 (6 W) Minimal illumination: 0.4 lx (Color), F1.4, 0.08 lx (B/W), F1.4 Horizontal angle: 95° - 34° (HD, 16/9) Resolution: 1920 x 1080 (ca. 2 megapixel) to 160 x 90 Functions: Remote-Zoom, Remote-Focus, etc... Protection level: IP 68 (IEC / EN 60529) Ambient temperature: 0°C &lt; T_{amb} &lt; +40°C <a href="http://www.samcon.eu">www.samcon.eu</a>, product group: B, tariff number: 8525 8019</td>
</tr>
</tbody>
</table>

Illustrations show models with accessories that are subjected to an extra charge.
## RoughCam Series

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| RoughCam IPM1145-L T10-VA2.1.K1.BOR-005-X-N | Network camera in a stainless steel housing  
Power supply: PoE, IEEE 802.3af Class 2 (6 W)  
Minimal illumination: 0.4 lx (Color), F1.4, 0.08 lx (B/W), F1.4  
IR-LED=ON: 0 lx  
Horizontal angle (camera): 95° - 34°, F1.4 (HD, 16/9)  
Resolution: 1920 x 1080 (ca. 2 megapixel) to 160 x 90  
Functions: Remote-Zoom, Remote-Focus, etc.  
Protection level: IP 68 (IEC / EN 60529)  
Ambient temperature: 0°C < T<sub>amb</sub> < +40°C  
www.samcon.eu, product group: B, tariff number: 8525 8019 |
PoE, IEEE 802.3af / 802.3at Type 1 Class 3 (max. 9.5 W, typ. 4.5 W)  
Minimum illumination: Color: 0.03 lx, Black/White: 0.01 lx  
Horizontal angle of view: 85° - 42° (HD, 16/9)  
Video compression: H.264 & Motion JPEG  
Resolution: 1920 x 1200 (WUXGA) to 160 x 90  
Protection level: IP 68 (IEC / EN 60529)  
Ambient temperature: -10°C < T<sub>amb</sub> < +60°C  
Product group: B, tariff number: 8525 8019 |
PoE, IEEE 802.3af Type1, Class 3 (max. 12.95 W, typ. 7.7 W)  
Horizontal angle of view: 60° - 2.3° (HD, 16/9) (Motorzoom)  
Video compression: H.264 (MPEG-4 Part 10/AVC), Motion JPEG  
Resolution: 1920 x 1200 (WUXGA) to 160 x 90  
Protection level: IP 68 (IEC / EN 60529)  
Ambient temperature: -10°C < T<sub>amb</sub> < +60°C  
Product group: B, tariff number: 8525 8019 |
| RoughCam       | For our RoughCam series, we have the same configuration options as for our ExCam series!  
If you are unsure which option fits to which camera?  
Ask us: sales@samcon.eu  
A wide range of mounting accessories...  
...can be found on [page 26](#) |
Camera Housing (Ex)

The **T07 housing series** is an extremely powerful camera housing concept suitable for hazardous areas and is certified according to European regulations (ATEX) as well as international ones (IECEx) (**U-Component-Certificate**). The housings’ certification comprises ATEX group I (mining) and ATEX group II (gas & dust). In accordance with the requirements of the impact and free-fall tests (DIN EN 60079: 0 2012), the housings are suitable for fix and mobile (portable) applications!

**Table: Product / Model & Description**

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T07-VA0.1.K1.BOR</td>
<td>Explosion proof camera housing in stainless steel according to Directive 2014/34/EU (ATEX) and IECEx (component certification) Dimensions (without pin): 48x48x127 mm, weight: 500g Void volume: 136 cm³ Explosion protection (gas): Ex db IIC Gb Explosion protection (dust): Ex tb IIIC Db Protection level: IP 68 (IEC / EN 60529) Ambient temperature: -60°C &lt; Tamb &lt; +135°C Product group: A</td>
</tr>
<tr>
<td>T07-VA0.1.K1.GER</td>
<td>Explosion proof camera housing in stainless steel according to Directive 2014/34/EU (ATEX) and IECEx (component certification) Dimensions (without pin): 48x48x127 mm, weight: 540g Void volume: 136 cm³ Explosion protection (gas): Ex db IIC Gb Explosion protection (dust): Ex tb IIIC Db Protection level: IP 68 (IEC / EN 60529) Ambient temperature: -30°C &lt; Tamb &lt; +135°C Product group: A</td>
</tr>
<tr>
<td>T07-VA1.2.K1.BOR</td>
<td>Explosion proof camera housing in stainless steel according to Directive 2014/34/EU (ATEX) and IECEx (component certification) Dimensions (without pin): 79x79x157 mm, weight: 2200 g Void volume: 480 cm³ Explosion protection (gas): Ex d IIC Gb Explosion protection (dust): Ex tb IIIC Db IP68 Explosion protection (mining): Ex d I Mb Protection level: IP 68 (IEC / EN 60529) Ambient temperature: -60°C &lt; Tamb &lt; +160°C Product group: A</td>
</tr>
<tr>
<td>T07-VA2.1.K1.BOR</td>
<td>Explosion proof camera housing in stainless steel according to Directive 2014/34/EU (ATEX) and IECEx (component certification) Dimensions (without pin): 113x113x210 mm, weight: 4200 g Void volume: 1,520 cm³ Explosion protection (gas): Ex d IIC Gb Explosion protection (dust): Ex tb IIIC Db IP68 Explosion protection (mining): Ex d I Mb Protection level: IP 68 (IEC / EN 60529) Ambient temperature: -60°C &lt; Tamb &lt; +160°C Product group: A</td>
</tr>
</tbody>
</table>
## Camera Housing (Ex)

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| T07-VA2.2.K1.BOR | **Explosion proof camera housing in stainless steel according to Directive 2014/34/EU (ATEX) and IECEx (component certification)**  
Dimensions (without pin): 113x113x261 mm, weight: 5100 g,  
Void volume: 1,960 cm³  
Explosion protection (gas): Ex d IIC Gb  
Explosion protection (dust): Ex tb IIIC Db IP68  
Explosion protection (mining): Ex d I Mb  
Protection level: IP 68 (IEC / EN 60529)  
Ambient temperature: -60°C < T<sub>amb</sub> < +160°C  
Product group: A |
| T07-VA2.3.K3.BOR2 | **Explosion proof camera housing in stainless steel according to Directive 2014/34/EU (ATEX) and IECEx (component certification)**  
Dimensions (without pin): 113x113x310 mm, weight: 5900 g,  
Void volume: 2350 cm³  
Explosion protection (gas): Ex db IIC Gb  
Explosion protection (dust): Ex tb IIIC Db  
Explosion protection (mining): Ex db I Mb  
Protection level: IP 68 (IEC / EN 60529)  
Ambient temperature: -60°C < T<sub>amb</sub> < +160°C  
Produktgruppe: A |
Usable Dimensions

VA0.1K1BOR/GER

$\phi = 49.00 \text{mm}$
$L = 127.20 \text{mm}$

$\phi = 32.00 \text{mm}$
$L = 97.50 \text{mm}$

VA1.2K1BOR

$\phi = 19.00 \text{mm}$
$L = 157.80 \text{mm}$

$\phi = 53.80 \text{mm}$
$L = 125.10 \text{mm}$

VA2.1K1BOR

$\phi = 113.00 \text{mm}$
$L = 210.20 \text{mm}$

$\phi = 83.00 \text{mm}$
$L = 175.50 \text{mm}$

VA2.2K1BOR

$\phi = 113.00 \text{mm}$
$L = 260.20 \text{mm}$

$\phi = 83.00 \text{mm}$
$L = 225.50 \text{mm}$

VA2.3K3BOR2

$\phi = 113.00 \text{mm}$
$L = 310.20 \text{mm}$

$\phi = 83.00 \text{mm}$
$L = 275.00 \text{mm}$
Ex Lighting Systems - Illuminators and Spotlights for Hazardous Areas

(Ex) Lighting Systems

Process and object lighting are obligatory in explosion risk zones and hazardous areas. The right combination of lighting equipment and the usage of fast camera lenses is essential to get crisp and sharp images. The following lighting systems are the perfect match for the ExCam series; using the same pressure-proof housings. Almost all lighting systems are available for non-explosion risk zones also.

Process Illumination and Illumination for Small Spaces

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| ChemLux Power d LED-S K | Lighting for explosion risk zones 230-240V AC, 7W, T<sub>ext</sub>: -20°C to +40°C  
Explosion protection (gas): Ex II 2G Ex d IIC T6 Gb  
Explosion protection (dust): Ex I 2D Ex tb IIC T80°C Db IP67  
Protection level: IP 67 (IEC / EN 60529)  
Includes 5 m cable 3G x 1.5 mm²  
Product group: C, tariff number: 9405 4010 |
| EdelEx 50 dH K1 (T3) | Lighting for explosion risk zones 24V AC/DC, 50W, T<sub>ext</sub>: -20°C to +40°C  
Explosion protection (gas): Ex II 2G Ex d IIC T3 Gb  
Explosion protection (dust): Ex I 2D Ex tb IIC T195°C Db IP67  
Protection level: IP 67 (IEC / EN 60529)  
Includes 5 m cable 3G x 1.5 mm²  
Product group: C, tariff number: 9405 4010 |
| EdelEx d PowerLED K1 | Lighting for explosion risk zones 24V AC/DC or 230-240V AC, 7W, T<sub>ext</sub>: -20°C to +40°C  
Explosion protection (gas): Ex II 2G Ex d IIC T6 Gb  
Explosion protection (dust): Ex I 2D Ex tb IIC T80°C  
Protection level: IP 65/67 (IEC / EN 60529)  
Includes 5 m cable 3G x 1.5 mm²  
Product group: C, tariff number: 9405 4010 |

Room Illumination (White Light)

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| SPX-FL12-W-8030 | LED White Light Illuminator 30W (80° x 30°)  
Angle: 80° x 30°, Operating voltage: 110-254V AC  
Power: 30 W Luminous flux 2000 lm, dimensions: 192x206x163 mm  
Explosion protection (gas): Ex em IIC T4 Gb  
Explosion protection (dust): Ex tb IIC T82°C Db  
T<sub>ext</sub>: -50°C to +55°C, Protection level: IP66 (IEC / EN 60529)  
12 ultra-durable LED, CoolExtrude ™ Temperature Management  
More angles, light-range and temperature classes on request.  
Product group: C, tariff number: 9405 4010 |
| SPX-FL24-W-8030 | LED White Light Illuminator 60W (80° x 30°)  
Angle: 80° x 30°, Operating voltage: 110-254V AC  
Power: 60 W Luminous flux 4000 lm, Dimensions: 291x247x150 mm  
Explosion protection (gas): Ex em IIC T4 Gb  
Explosion protection (dust): Ex tb IIC T82°C Db  
T<sub>ext</sub>: -50°C to +55°C, Protection level: IP66 (IEC / EN 60529)  
24 ultra-durable LED, CoolExtrude ™ Temperature Management  
More angles, light-range and temperature classes on request.  
Product group: C, tariff number: 9405 4010 |
| SPX-FL48-W-8030 | LED White Light Illuminator 120W (80° x 30°)  
Angle: 80° x 30°, Operating voltage: 110-254V AC  
Power: 120W, Luminous flux 8000 lm, Dimensions: 291x438x151 mm  
Explosion protection (gas): Ex em IIC T4 Gb  
Explosion protection (dust): Ex tb IIC T82°C Db  
T<sub>ext</sub>: -50°C to +55°C, Protection level: IP66 (IEC / EN 60529)  
48 ultra-durable LED, CoolExtrude ™ Temperature Management  
More angles, light-range and temperature classes on request.  
Product group: C, tariff number: 9405 4010 |
## Room Illumination (Infrared)

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPX-FL12-I-8030</td>
<td>LED Infrared Illuminator 30W (80° x 30°)</td>
</tr>
<tr>
<td>SPX-FL24-I-8030</td>
<td>LED Infrared Illuminator 60W (80° x 30°)</td>
</tr>
<tr>
<td>SPX-FL48-I-8030</td>
<td>LED Infrared Illuminator 120W (80° x 30°)</td>
</tr>
</tbody>
</table>

### Special Applications

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ExCam liteServer</td>
<td>Illumination accessory for our ExCam series T08...</td>
</tr>
<tr>
<td>ExCam liteServer</td>
<td>Option housing heating for arctic temperatures (surcharge):</td>
</tr>
</tbody>
</table>

### Room Illumination (Infrared) Data

<table>
<thead>
<tr>
<th>Distance in meter</th>
<th>Illumination / Lux (10°)</th>
<th>Illumination / Lux (25°)</th>
<th>Illumination / Lux (36°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6290</td>
<td>2540</td>
<td>1190</td>
</tr>
<tr>
<td>2</td>
<td>1573</td>
<td>628</td>
<td>298</td>
</tr>
<tr>
<td>3</td>
<td>692</td>
<td>276</td>
<td>131</td>
</tr>
<tr>
<td>4</td>
<td>377</td>
<td>151</td>
<td>71</td>
</tr>
<tr>
<td>5</td>
<td>252</td>
<td>100</td>
<td>48</td>
</tr>
<tr>
<td>10</td>
<td>41,2</td>
<td>2,4</td>
<td>1,04</td>
</tr>
<tr>
<td>20</td>
<td>9,65</td>
<td>1,54</td>
<td>0,76</td>
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<tr>
<td>30</td>
<td>7,11</td>
<td>1,04</td>
<td>0,76</td>
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<tr>
<td>40</td>
<td>2,4</td>
<td>1,04</td>
<td>0,76</td>
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<tr>
<td>50</td>
<td>1,54</td>
<td>1,04</td>
<td>0,76</td>
</tr>
<tr>
<td>60</td>
<td>1,04</td>
<td>1,04</td>
<td>0,76</td>
</tr>
<tr>
<td>70</td>
<td>0,76</td>
<td>1,04</td>
<td>0,76</td>
</tr>
</tbody>
</table>
### Mounting Accessories

All accessories have been thoroughly tested with regard to their use in industrial zones, reflecting the highest quality standards. Accessories for explosion risk zones are in accordance with the current norms; DIN EN 60079-0,-14, Directive 2014/34/EU, as well as the norms for the applicable explosion protection.

#### Mounting Systems for the ExCam Series T03 and T08-VA....

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall Mounting Bracket WMB-VA1.x</td>
<td>Wall bracket short (stainless steel)</td>
</tr>
<tr>
<td></td>
<td>Manual pan angle: 360°, manual tilt angle: 90°</td>
</tr>
<tr>
<td></td>
<td>Includes hinge and mounting accessories in accordance with housing identity code: VA, AL, VAx.x</td>
</tr>
<tr>
<td></td>
<td>Product group: A, tariff number: 8529 9092</td>
</tr>
<tr>
<td>Wall Mounting Bracket WMB-VA2.1/VA2.2</td>
<td>Wall bracket long (stainless steel)</td>
</tr>
<tr>
<td></td>
<td>Manual pan angle: 360°, manual tilt angle: 90°</td>
</tr>
<tr>
<td></td>
<td>Includes hinge and mounting accessories in accordance with housing identity code: VA, AL, VAx.x</td>
</tr>
<tr>
<td></td>
<td>Product group: A, tariff number: 8529 9092</td>
</tr>
<tr>
<td>Wall Mounting Bracket WMB-VA2.3</td>
<td>Wall bracket for cameras of the series T08-VA2.3 (stainless steel)</td>
</tr>
<tr>
<td></td>
<td>Manual pan angle: 360°, manual tilt angle: 90°</td>
</tr>
<tr>
<td></td>
<td>Load bearing: 50 kg</td>
</tr>
<tr>
<td></td>
<td>Includes hinge and mounting accessories</td>
</tr>
<tr>
<td></td>
<td>Product group: A, tariff number: 8529 9092</td>
</tr>
<tr>
<td>Twin-Adapter WMB-VAx.x-TA-...-...</td>
<td>Twin Adapter (stainless steel)</td>
</tr>
<tr>
<td></td>
<td>Manual pan angle: 360°, manual tilt angle: 90°</td>
</tr>
<tr>
<td></td>
<td>Includes hinge and mounting accessories for left and right side in accordance with housing identity code (without wall bracket):</td>
</tr>
<tr>
<td></td>
<td>Example: WMB-VA1.1-TA-VA-VA : Left and right for housing „VA“</td>
</tr>
<tr>
<td></td>
<td>Product group: A, tariff number: 8529 9092</td>
</tr>
<tr>
<td>SuperClamp - Mounting Adapter SCMA-...</td>
<td>Super Clamp mounting adapter</td>
</tr>
<tr>
<td></td>
<td>Screwless rapid installation of ExCams with the model keys</td>
</tr>
<tr>
<td></td>
<td>T08-VA1.x, T08-T03 and VA2.1 to round or square profiles and pipe bridges</td>
</tr>
<tr>
<td></td>
<td>Note: The camera has to be grounded (PA); For diameters of 13 mm to 55 mm</td>
</tr>
<tr>
<td></td>
<td>Point load: 15 kg; Includes hinge and mounting accessories</td>
</tr>
<tr>
<td></td>
<td>Product group: A, tariff number: 8529 9092</td>
</tr>
<tr>
<td>Pole Mounting Bracket PMB-VA1/2</td>
<td>Pole Mounting Bracket</td>
</tr>
<tr>
<td></td>
<td>Compatible with all „WMB“ wall brackets of the ExCam series with the model keys T08-VA1.x, T08-T03 and VA2.x.</td>
</tr>
<tr>
<td></td>
<td>For diameters of 50 mm to 105 mm</td>
</tr>
<tr>
<td></td>
<td>Point load: 50 kg</td>
</tr>
<tr>
<td></td>
<td>Product group: A, tariff number: 8529 9092</td>
</tr>
<tr>
<td>Hinge attachment SCH-VA1.2/VA2.1/VA2.2</td>
<td>Hinge attachment</td>
</tr>
<tr>
<td></td>
<td>Easy mounting on round sight glasses. In accordance with DIN 28120/28121 (or similar)</td>
</tr>
<tr>
<td></td>
<td>Includes mounting accessories for housing: VA1.2, VA2.1, VA2.2</td>
</tr>
<tr>
<td></td>
<td>Product group: A, tariff number: 8529 9092</td>
</tr>
<tr>
<td>Hinge attachment SCH-VA2.3</td>
<td>Hinge attachment</td>
</tr>
<tr>
<td></td>
<td>Easy mounting on round sight glasses. In accordance with DIN 28120/28121 (or similar)</td>
</tr>
<tr>
<td></td>
<td>Includes mounting accessories for housing: VA2.3</td>
</tr>
<tr>
<td></td>
<td>Product group: A, tariff number: 8529 9092</td>
</tr>
<tr>
<td>Thermo Isolator THERM-VA</td>
<td>Thermo isolator for flanging the T03-VA... and T08-VA1.x...series onto hot sight glasses or to avoid incidences of extraneous light.</td>
</tr>
<tr>
<td></td>
<td>Temperature range: -45° C to +100° C</td>
</tr>
<tr>
<td></td>
<td>Durability: Weatherproof, ozone proof, non-ageing, acid resistant, alkali resistant</td>
</tr>
<tr>
<td></td>
<td>Characteristics: extremely flame resistant, abrasion and impact resistant.</td>
</tr>
<tr>
<td></td>
<td>Electrically puncture-proof</td>
</tr>
<tr>
<td></td>
<td>Product group: A, tariff number: 8529 9092</td>
</tr>
</tbody>
</table>
### Weather Protection for the ExCam Series T03 and T08-VA....

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Weather Protection Roof**  
WPR-VA1.x | Hood (stainless steel)  
Includes hinge and mounting accessories for housing:  
WPR-VA1.1: for T08-VA1.1  
WPR-VA1.2: for T08-VA1.2  
Product group: A, tariff number: 8529 9092 |
| **Weather Protection Roof**  
WPR-VA2.1 | Hood (stainless steel)  
The weather protection hoods for the ExCam T08 series dispose of mounting holes with a spacing of 5 mm in order to allow adjusting the hood’s position to perfectly meet the selected angle of view.  
Includes hinge and mounting accessories for housing:  
WPR-VA2.1: for T08-VA2.1  
Product group: A, tariff number: 8529 9092 |
| **Weather Protection Roof**  
WPR-VA2.2 | Hood (stainless steel)  
The weather protection hoods for the ExCam T08 series dispose of mounting holes with a spacing of 5 mm in order to allow adjusting the hood’s position to perfectly meet the selected angle of view.  
Includes hinge and mounting accessories for housing:  
WPR-VA2.2: for T08-VA2.2  
Product group: A, tariff number: 8529 9092 |
| **Weather Protection Roof**  
WPR-VA2.3 | Hood (stainless steel)  
The weather protection hoods for the ExCam T08 series dispose of mounting holes with a spacing of 5 mm in order to allow adjusting the hood’s position to perfectly meet the selected angle of view.  
Includes hinge and mounting accessories for housing:  
WPR-VA2.3: for T08-VA2.3  
Product group: A, tariff number: 8529 9092 |

### Mounting Accessories for the ExCam Series T08-TNXCD

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Wall bracket**  
WMB-TNXCD... | Wall bracket for cameras of the T08-TNXCD Series (stainless steel)  
The wall mount bracket has a two-part design with the main part consisting of a massive stainless steel welding construction. A protective hood for the wall mount bracket is also included in the delivery scope in order to protect the cable glands according to 60079-14 and to prevent that they are exposed to direct splash water.  
Load rating: 50 kg  
Dimensions: 460 x 220 140 mm  
Product group: A, tariff number: 8529 9092 |
| **Pole Mounting Bracket**  
PMB-TNXCD | Pole mount adapter PMB-TNXCD  
Pole adapter for TNXCD wall brackets  
Material: Stainless steel 1.4404  
Suitable for pole diameters of 110 mm and 150 mm  
Load rating: 50 kg  
Product group: A, goods tariff number: 8529 9092 |
| **Corner Mount Adapter**  
CMA-TNXCD | CMA-Corner Mount Adapter  
for TNXCD or Am(N)Ex Systems  
Material: Stainless steel 1.4404  
Load capacity: 50 kg  
Product group: A, goods tariff number: 8529 9092 |
### Terminal Boxes in Ex-e

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| ExTB-2 T12-M20-BP-M20 | Terminal box for analog and digital ExCam systems  
Ex.-protection (gas): Ex II 2 G Ex eb IIC T5 Gb  
Ex.-protection (dust): Ex II 2 D Ex tb IIC T95°C Db  
Material: Polyester resin, dimensions: 145 x 145 x 71 mm  
Protection level: IP 66, Ambient temperature limit: -60°C to +55°C  
Max. power supply: 690V, max. diameter: 2.5 mm²  
10 pcs. terminal clamp UT 2.5, Marking: 1-10,  
3 pcs. terminal clamp UT 2.5 PE  
2 pcs. M20 cable gland for non-armoured cables  
Cable cross-section: 7 ... 13 mm²  
Product group: C |
| ExTB-3 T12-M20-M20-M20 | Terminal box for analog and digital ExCam systems  
Ex.-protection (gas): Ex II 2 G Ex eb IIC T5 Gb  
Ex.-protection (dust): Ex II 2 D Ex tb IIC T95°C Db  
Material: Polyester resin, dimensions: 145 x 145 x 71 mm  
Protection level: IP 66, Ambient temperature limit: -60°C to +55°C  
Max. power supply: 690V, max. diameter: 2.5 mm²  
10 pcs. terminal clamp UT 2.5 (1-10),  
3 pcs. terminal clamp UT 2.5 PE  
3 pcs. M20 cable gland for non-armoured cables  
Cable cross-section: 7 ... 13 mm²  
Product group: C |
| ExTB-4 T12-M20-M20-M20-M20 | Terminal box for analog as well as digital ExCam systems  
Ex.-protection (gas): Ex II 2 G Ex eb IIC T5 Gb  
Ex.-protection (dust): Ex II 2 D Ex tb IIC T95°C Db  
Material: polyester resin, Dimensions: 145 x 145 x 71 mm  
Protection level: IP 66, Ambient temperature limit: -60°C to +55°C  
Maximum power supply: 690V, Maximum diameter: 2.5 mm²  
10 pcs. terminal clamp UT 2.5, Marking: 1-10,  
3 pcs. terminal clamp UT 2.5 PE  
4 pcs. M20 cable gland for non-armoured cables  
Cable cross-section: 7 ... 13 mm²  
Product group: C |
| Ex-e Terminal Box (BTO) ExTB-(BTO) | We have a large selection of junction boxes in Ex-e or Ex-d execution. Different materials, sizes and cable entries can be freely combined. Please ask us! |

---

Installation Equipment

All accessories have been thoroughly tested with regard to their use in industrial zones, reflecting the highest quality standards. Accessories for explosion risk zones are in accordance with the current norms; DIN EN 60079-0,-14, regulation 2014/34/EU as well as the norms for the applicable explosion protection.

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We have a large selection of junction boxes in Ex-e or Ex-d execution. Different materials, sizes and cable entries can be freely combined. Please ask us!
## Cable & Wiring

### System Cables for Analog Cameras (CVBS)

#### Unarmoured Cables

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| SKA02           | System Cable Analog No. 02  
Special cable in accordance to EN 60079-14  
Outer diameter: 9.4 mm, bending radius: min. 150 mm  
Video: 1x75 OHM Coax AWG 24, Cu shielded  
Data (physic.): 2x2x0.25 mm² closed Cu shielded  
Data (protocol): RS232, RS422, RS485 full duplex  
Power supply heating: 2x0.75 mm²  
www.samcon.eu, product group: A | ![SKA02 Cable](image) |
| SKA03-T         | System Cable Analog No. 03 -T  
Special cable in accordance to EN 60079-14 for application in arctic temperatures (-60°C)  
Outside diameter: 11.8 mm, bending radius: min. 150 mm  
Video: 1x75OHM coax (cold resistant dielectric), Cu-shielded  
Data (physic.): 2x2x0.25 mm² closed Cu-shielded  
Data (protocol): RS232, RS422, RS485 full duplex  
Power supply power: 2 x 0.75 mm²  
Power supply heating: 3x1.5 mm² + 0.75 mm² GN/YE  
Dry contacts: Single cores 8 x 0.25 mm²  
www.samcon.eu, product Group: A | ![SKA03-T Cable](image) |

...more cables
## System Cables for TCP/IP Network Cameras

### Unarmoured Cables

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| SKD01-T (non Ex) | Special cable for use in arctic temperatures (-60°C)  
Outer diameter: ø 9.1 ± 0.2 mm  
Maximum bending radius: 10 x diameter during installation  
Material outer jacket: PUR - flame retardant according to IEC 60322-1-2 1KW flame  
Construction: 4 x 2 x AWG22/1 shielded  
Excellent for the wiring of PoE cameras or cameras with classic power supply.  
www.samcon.eu, product group A |
| SKD02-T | Special cable for hazardous areas in accordance with EN 60079-14  
Outer diameter: ø 8.9 ± 0.3 mm  
Material outer jacket: PUR - flame retardant according to IEC 60322-1-2 1KW flame  
Construction: 4 x 2 x AWG23/1 shielded  
Excellent for the wiring of PoE cameras or cameras with classic power supply.  
www.samcon.eu, product group A |
| SKDP03-T | Special cable for hazardous areas in accordance with DIN EN 60079-14 for use in arctic temperatures (-60°C)  
Outer diameter: ø 12.4 ± 0.3 mm  
Maximum bending radius: 8 x diameter during installation  
Material outer jacket: PUR – flame retardant according to IEC 60322-1-2 1KW flame  
Construction: 4 x 2 x AWG23/1 shielded GN J/W 3G1.5  
Excellent for the wiring of PoE-cameras or cameras with classic power supply.  
www.samcon.eu, Produktgruppe A |
| SKD04-T.flex | Special cable for hazardous areas in accordance with DIN EN 60079-14 for use in arctic temperatures (-60°C)  
Outer diameter: ø 8.7 ± 0.3 mm  
Material outer jacket: PUR – flame retardant according to IEC 60322-1-2 1KW flame  
Construction: 4 x 2 x AWG24/7 shielded GN J/W 3G1.5  
Highly flexible and suitable for drag chain applications.  
www.samcon.eu, Produktgruppe A |
| SKD05-HT | Special cable for hazardous areas in accordance with DIN EN 60079-14 for high-temperature applications (+150°C)  
Outer diameter: ø 6.6 ± 0.2 mm  
Material outer jacket: FEP – flame retardant according to IEC 60322-1-2 1KW flame  
Excellent for the wiring of PoE-cameras or cameras with classic power supply.  
Suitable for high-temperature applications.  
www.samcon.eu, Produktgruppe: A |
Armoured Cables

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| ASKD02-T       | Armoured System Cable Digital No.02 - T  
|                | Special cable for hazardous areas in accordance with EN 60079-14 for use in arctic temperatures (-60°C)  
|                | Outer diameter: ø 13.2 ± 0.3 mm  
|                | Maximum bending radius: 10 x diameter during installation  
|                | Material outer jacket: PUR - flame retardant according to IEC 60322-1-2 1KW flame  
|                | Construction: 4 x 2 x AWG22/1 shielded  
|                | Excellent for the wiring of PoE cameras or cameras with classic power supply.  
|                | www.samcon.eu, product group A |

| ASKDP03-T       | Armoured System Cable Digital Power No.03 - T  
|                | Special cable for hazardous areas in accordance with EN 60079-14 for use in arctic temperatures (-60°C)  
|                | Outer diameter: ø 15.5 ± 0.6 mm  
|                | Maximum bending radius: 10 x diameter during installation  
|                | Material outer jacket: PUR - flame retardant according to IEC 60322-1-2 1KW flame  
|                | Construction: 4 x 2 x AWG23/1 shielded GN J/W 3G1.5  
|                | Excellent for the wiring of PoE cameras or cameras with classic power supply.  
|                | www.samcon.eu, product group A  
|                | ...more cables upon request |

Hazardous Areas Characteristics:
- The cable meetsthe requirements for cables in hazardous areas in accordance to IEC/EN 60079-14 Chapter 9.3.
- The cable meetsthe requirements for cables in hazardous areas to avoid inter-zone gas-transfer in accordance to IEC/EN 60079-14 Appendix E.

Environmental Characteristics:
- The cable is tested at -60°C at fixed installation. Refer to the datasheet for temperatures regarding installation and flexible use.
- The cable is tested at +80°C at fixed installation. Refer to the datasheet for temperatures regarding installation and flexible use.
- The cable is sunlight resistant in accordance with UL 2556 Sec. 4.2.8.5 (720h).
- The cable is flame retardant in accordance with IEC 60332-1-2. 
- The cable is oil resistant in accordance with IEC 60811-2-1 (IRM 902, 4h at70°C). 
- The cable is mud resistant in accordance with NEK 606. 
- The cable is suitable for drag chain use: 1 million bending cycles, bending radius 20 x D, at a speed of 4 m/s, acceleration 4 m/s², max. travel distance 10 m at 20°C.

Electrical/Network Characteristics:
- The cable is tested according to the following standards: IEEE 802.3 : Ethernet 10Base-T; Fast Ethernet 100Base-T; Gigabit Ethernet 1000Base-T @ 95-Meter
- The cable is tested according to the following standards: IEEE 802.3at. PoE+, max. 30W per channel, max. 95m.
- The cable is constructed with an additional power element: Square: 3 x 1.5 mm², Color code: BK-BU-GN/YE.
Connection Rail - Series

The **Connection Rail Series** converts video, audio and binary signals in ethernet-network streams, making them available over long distances. Interface diversity makes our ConnectionRays solve every digitalization task. Network connection can be realized via optical fibers, copper-bound Ethernet or WLAN.

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| Connection Rail T05-4PoE+-100BaseTX | High performance PoE-Switch for the safe area  
Compact cabinet, for wall mounting  
Protection level: IP 66 (IEC / EN 60529)  
Ambient temperature: -10°C < T_{min} < +50°C  
Material: Stainless steel 1.4301  
Dimension: 300 x 300 x 210 mm  
Input power: 100 VAC - 240 VAC  
Network input: 4 x PoE+ (10/100BaseT(X), IEEE 802.3at, max. 30W per port)  
Network uplink: 1 x 100BaseTX  
Cable glands: 5 x cable gland M20x1.5 (camera & uplink)  
1 x cable gland M25x1.5 (power supply & FOC)  
Product group: B, tariff number: 8517 6200 |

| Connection Rail T05-8PoE+-1000BaseTX | High performance PoE-Switch for the safe area  
Compact cabinet, for wall mounting  
Protection level: IP 66 (IEC / EN 60529)  
Ambient temperature: -10°C < T_{min} < +50°C  
Material: Stainless steel 1.4301  
Dimension: 300 x 300 x 210 mm  
Input power: 100 VAC - 240VAC  
Network input: 8 x PoE+ (10/100BaseT(X), IEEE 802.3at, max. 30W per port)  
Network uplink: 1 x 10/100/1000BaseTX  
Cable glands: 8 x cable gland M20x1.5 (camera)  
2 x cable gland M25x1.5 (power supply & Ethernet Uplink)  
Product group: B, tariff number: 8517 6200 |

**Further Options**

Many further Options through combination with different accessories are possible; they can be found in chapter accessories for (Ex-) Connection Rails & Racks. If you have a specific problem please ask us.
High performance PoE switches for hazardous areas. The ExConnection Rail - PoE is designed to connect our digital PoE cameras. The ExConnection Rail - PoE's centerpieces are high performance GigE network switches. As an option, the FX ports can also be executed to reflect the ignition protection category [op is]. The ExConnection Rail - PoE allows the connection of up to 16 PoE cameras. The connection of the GBit/s FX ports is possible over very large distances.

### Product / Model

<table>
<thead>
<tr>
<th>ExConnection Rail 4P</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T04.4-D-4PoE+-100BaseTX</td>
<td>High performance PoE-switch for hazardous areas. Explosion proof (Ex-d) housing for wall mounting. Explosion protection certification according to 2014/34/EU (ATEX) &amp; IECEx Explosion protection (gas): Ex II 2G Ex d IIC T6 Gb Explosion protection (dust): Ex II 2D Ex tb IIC T80°C Db Protection level: IP 66 (IEC / EN 60529) Ambient temperature: -10°C &lt; T&lt;sub&gt;oper&lt;/sub&gt; &lt; +50°C Material: aluminum, copper-free &amp; seawater-resistant Dimensions: 236 x 236 x 227 mm Input power: 100 VAC - 240 VAC Network input: 4 x PoE+ (10/100BaseT(X), IEEE 802.3at, max. 30W per port) Network uplink: 1 x 100BaseTX Provided cable glands: 5 x Cable gland M20x1.5 (rubber sealed) (cameras &amp; uplink) 1 x Cable gland M25x1.5 (rubber sealed) (power supply) Please observe standard EN 60079-14! Product group: B, tariff number: 8517 6200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ExConnection Rail 8P</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T04.5-D-8PoE+-1000BaseTX</td>
<td>High-performance PoE switch for hazardous areas Flameproof enclosure for wall mounting Explosion protection approval according to Directive 2014/34 / EU (ATEX) &amp; IECEx Explosion protection (gas): Ex II 2G Ex d IIC T6 Gb Explosion protection (dust): Ex II 2D Ex tb IIC T80 ° C Db Protection class: IP 66 (IEC / EN 60529) Ambient temperature: -10°C &lt; T&lt;sub&gt;oper&lt;/sub&gt; &lt; +50°C Material: lacquered aluminum RAL 7032, copper-free &amp; seawater-resistant Dimension: 285 x 285 x 230 mm Input voltage: 100 VAC - 240 VAC Network input: 8 x PoE+ (10 / 100BaseT(X), IEEE 802.3at, max 30W per port) Network Uplink: 1 x 10/100/1000BaseTX (copper) Enclosed cable entries: 8 x Gland M20x1.5 (rubber seal) (cameras) 2 x Gland M25x1.5 (barriere gland) (power &amp; uplink) Please refer to EN 60079-14! Product group: B, tariff number: 8517 6200</td>
</tr>
</tbody>
</table>

### Options

<table>
<thead>
<tr>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Through combination of different accessories many further variants are available; see chapter Accessories for (Ex-) Connection Rails &amp; Racks.</td>
</tr>
</tbody>
</table>
Accessories for (Ex)Connection Rail Series

By combining different accessories the (Ex)Connection Rail & Rack Series offers much more possibilities and variants. Interface diversity makes our Connection Rails solve every digitalization task. Cameras from renowned manufacturers can be controlled via RS422 or RS485 interface network-based. Network integrations can be realized via optical fibres, copper bound Ethernet or WLAN. These transfer media can be varied as needed.

Connection Rail 
exemplary presentation

<table>
<thead>
<tr>
<th>Product / Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply 230V AC / 24V DC</td>
<td>Our (Ex-)Connection Rails as well as the connected camera-systems can require different power supplies. Existing systems are often provided with 24V AC, modern systems with 24V DC or 230V AC. This applies to both, Connection Rails and camera systems. We are able to realize all these voltage levels for you independent from the power requirements! Send us your request.</td>
</tr>
<tr>
<td>„WLAN“</td>
<td>Optional accessory WLAN (surcharge): For use in explosive area please note: Deviations in the ex-marking are possible!</td>
</tr>
<tr>
<td>„VO“</td>
<td>Optional accessory „VO“ (surcharge): With the „VO“ package, an easy but effective communication with external devices or systems can be set up. With the binary outputs, lights and safety gates, for example, can be switched on by motion detection. With the binary outputs, external commands, such as recordings, can be transferred to the video system.</td>
</tr>
<tr>
<td>Ethernet ST Patchfeld</td>
<td>Ethernet ST Patchfeld LWL [op is] in an ex-e terminal box</td>
</tr>
<tr>
<td>„Plug“</td>
<td>Optional accessory (surcharge): Ex-plug. All connections are pluggable. Different systems available</td>
</tr>
<tr>
<td>„mobile“</td>
<td>Optional accessory (surcharge): „mobile“ The system is mounted at a portable stainless steel frame.</td>
</tr>
<tr>
<td>Lid with Sight Glass</td>
<td>Optional accessory (surcharge): Sight glass Model with sight glass for simple visual check of the status LEDs</td>
</tr>
<tr>
<td>Coating</td>
<td>Protective Coating / Powder coating (surcharge): Maximum corrosion resistance, additional protection under increased mechanical loading, special RAL color desired</td>
</tr>
<tr>
<td>Housing Heating for arctic temperatures</td>
<td>Optional accessory heating (surcharge): Equipped with a self-regulating heater to meet extremely low temperature ranges (up to -60°C).</td>
</tr>
<tr>
<td>BTO</td>
<td>Build-to-Order-Variants …</td>
</tr>
</tbody>
</table>
Our Customers

more customers at WWW.SAMCON.EU

Our Team
more certificates at WWW.SAMCON.EU
more type examinations at WWW.SAMCON.EU
**ExCam Series - Product - Model- Overview**

**ExCam** is the series name for a wide range of cameras for hazardous areas. The current certification landscape is: TUEV-18-ATEX-8218X, IECEx-TUR-18.0023X, IA No: MASC MS/18-3256X.

**T08** means production-type-08. T08 is part of our serial-no.-management and a direct link to our quality management system.

**Product**

**Model-Key**

**ExCam**

- **T08-VA2.3.K3.BOR5-LL.H-005.A- T..**

**Enclosure-Key**

- **VA2.3.K3.BOR5**
  - VA2.3 = stainless steel body, diameter index 2, length index: 3.
  - K3 = cable-entry flange #3
  - BOR5 = borosilicate-window-wiper flange #5
  - BOR3 = borosilicate-window flange #3

**Temperature-Key**

- **LL.H**
  - LL = Heater for moderate sub-zero degrees (e.g. -30°C)
  - H = Heater for arctic sub-zero degrees (e.g. -60°C)
  - LN = No heater / no cooling system installed
  - LLN = No heater / no cooling system installed

**Cable-Key**

- **005.A**
  - 005 = length in meter
  - A = armored-cable
  - N = non- armored-cable

**Termination-Key**

- **T**
  - T = Terminal box termination
  - P = Plug (e.g. RJ45) termination

**More options can be added**