Camera and Video Systems

Camera and Video Systems

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Trust but Verify

Increased safety

Camera systems play an increasingly important role for the safety onboard ships, drill rigs or in production plants - they are used to monitor work areas and processes and to ensure general safety. Our "automated surveillance", combining camera systems with powerful software, guarantees that every part of the plant, even the hazardous areas, can be monitored. Areas not easily accessible can be monitored by the smallest explosion proof camera in the world; all-round surveillance is a job for the s tate-of-the-art Dome camera, and we offer a great variety of PTZ cameras for zoom and pan/tilt functions. The cameras from R. STAHL Camera Systems GmbH enable security staff to react quickly to any potential safety problems and thus prevent emergencies. If an emergency occurs after all, the cameras provide a comprehensive overview of the situation, thus enabling staff to make the necessary decisions preventing the situation from escalating.

Greater efficiency

In their every-day work system operators profit from the advantages of a camera surveillance system. An improved overview of their workplace and its surroundings gives them control of the situation and enables them to work more efficiently and accurately. It is also possible to issue pro-active warnings to anyone entering hazardous areas.

Damage limitation

Despite everyone's best efforts it is not always possible to prevent accidents. Operating large machinery in tight spaces with many blind spots carries risks for life and machinery. A camera system from R. STAHL Camera Systems provides an extra pair of eyes regardless of which machinery is used in which environment. Injuries or breakdowns can thus be prevented.

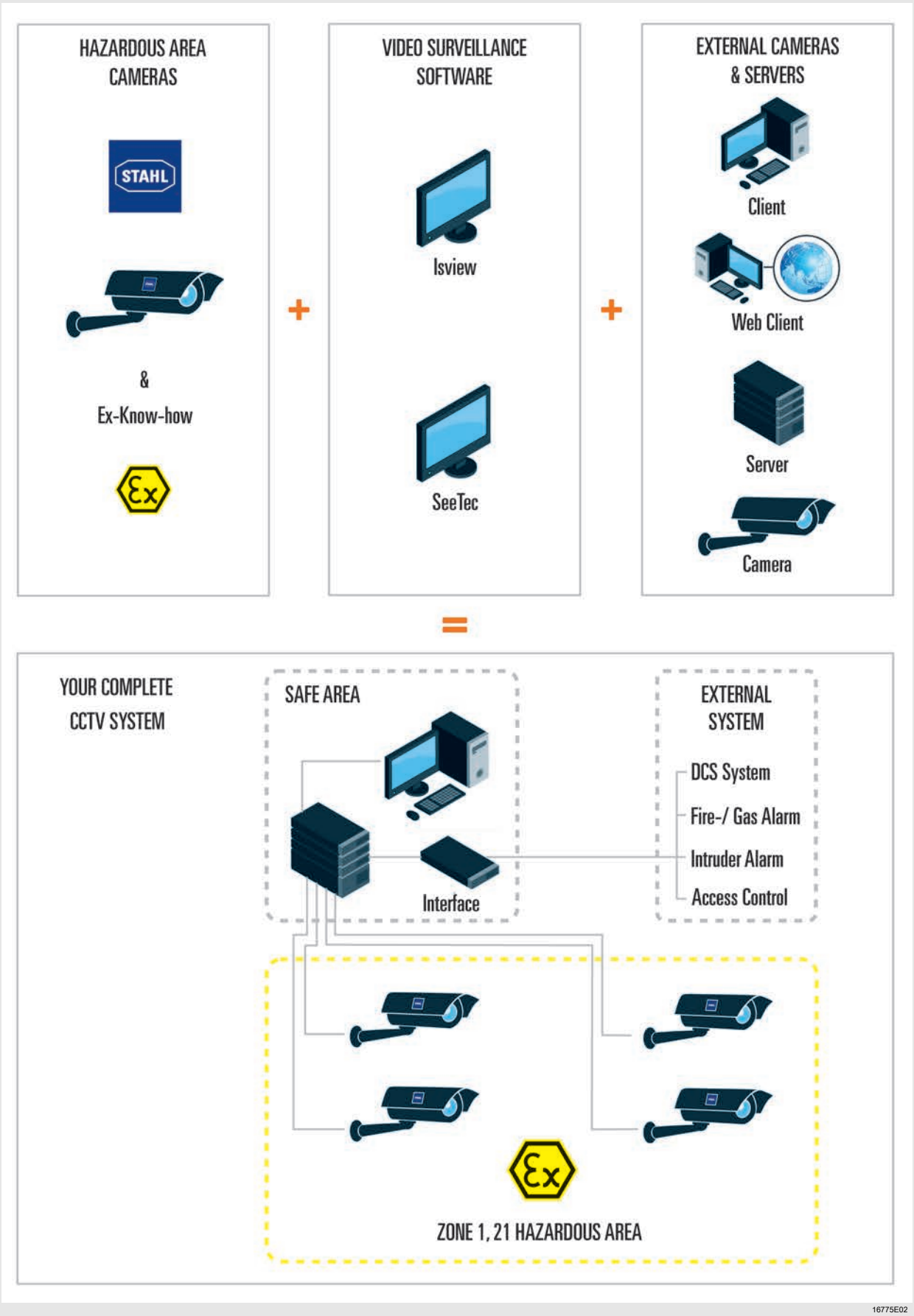
Improved ergonomics and user-friendliness

In most cases, cameras contribute towards improved ergonomics and user-friendliness. Fewer people need to be present in dangerous or hazardous areas. It is possible to distribute video images via a network, thus enabling several workers with different areas of responsibility to monitor the situation simultaneously and in real time. With the aid of visual feedback decisions can be made from remote positions.

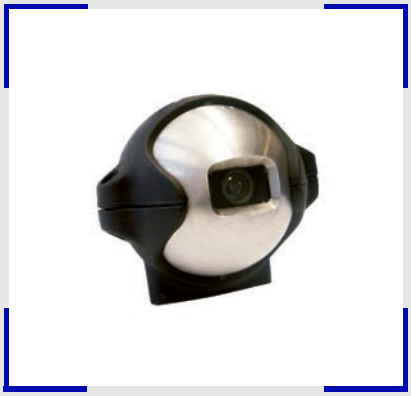
From the Compact camera to the Dome camera
From the component to the complete system

Various camera types and appropriate video systems ensure optimal monitoring of installation conditions in hazardous and non-hazardous areas and thus for the highest installation safety. The smallest explosion proof camera in the world monitors very narrow rooms; the dome camera is developed for the all-round surveillance while our PTZ and zoom camera has additional pan and zoom functions.
The explosion-proof thermal image cameras by R. STAHL Camera Systems ensure optimum monitoring day and night, for example on oil-rigs. All cameras are designed for hazardous areas and for installation in extreme ambient temperatures.
Basically, there are two functional principles for camera systems that have different advantages depending on the existing application and requirements.
State-of-the-art video encoder technology frequently enables a retrofit upgrade from analogue camera systems to modern camera systems with network technology.

WebCode CCTVA


HAZARDOUS AREA CAMERAS
STAHL
&
Ex-Know-how
VIDEO SURVEILLANCE SOFTWARE
Isview
SeeTec
EXTERNAL CAMERAS & SERVERS
Client
Web Client
Server
Camera
YOUR COMPLETE CCTV SYSTEM
SAFE AREA
Interface
EXTERNAL SYSTEM
DCS System
Fire-/ Gas Alarm
Intruder Alarm
Access Control
ZONE 1, 21 HAZARDOUS AREA
16775E02

Compact Colour Camera
Series EC-710


07003E00

Extremely compact, explosion-proof colour cameras with fixed viewing angles for a variety of monitoring tasks where space is at a premium

- Applications
  - Gauge glass monitoring
  - Process monitoring
- Highlights
  - IP69K
  - Temperature range from -40 ... +75 °C
  - Weight 695 g with 5 m cable
  - Chemical, shock and vibration resistant

WebCode EC710A

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		x	x		x	x

Selection Table

Version	Description	Order number	Art. no.	PS	Weight kg
Compact colour camera EC-710	with a fixed lens viewing angle of 81°	**EC-710-081P**	**202206◀**	A1	0.700
	with a fixed lens viewing angle of 70°	**EC-710-070P**	**202207◀**	A1	0.700
	with a fixed lens viewing angle of 52°	**EC-710-052P**	**212982◀**	A1	0.700
	with a fixed lens viewing angle of 44°	**EC-710-044P**	**212981◀**	A1	0.700
	with a fixed lens viewing angle of 33°	**EC-710-033P**	**202208◀**	A1	0.700
	with a fixed lens viewing angle of 23°	**EC-710-023P**	**212980◀**	A1	0.700
	with a fixed lens viewing angle of 12°	**EC-710-012P**	**212979◀**	A1	0.700

Technical Data

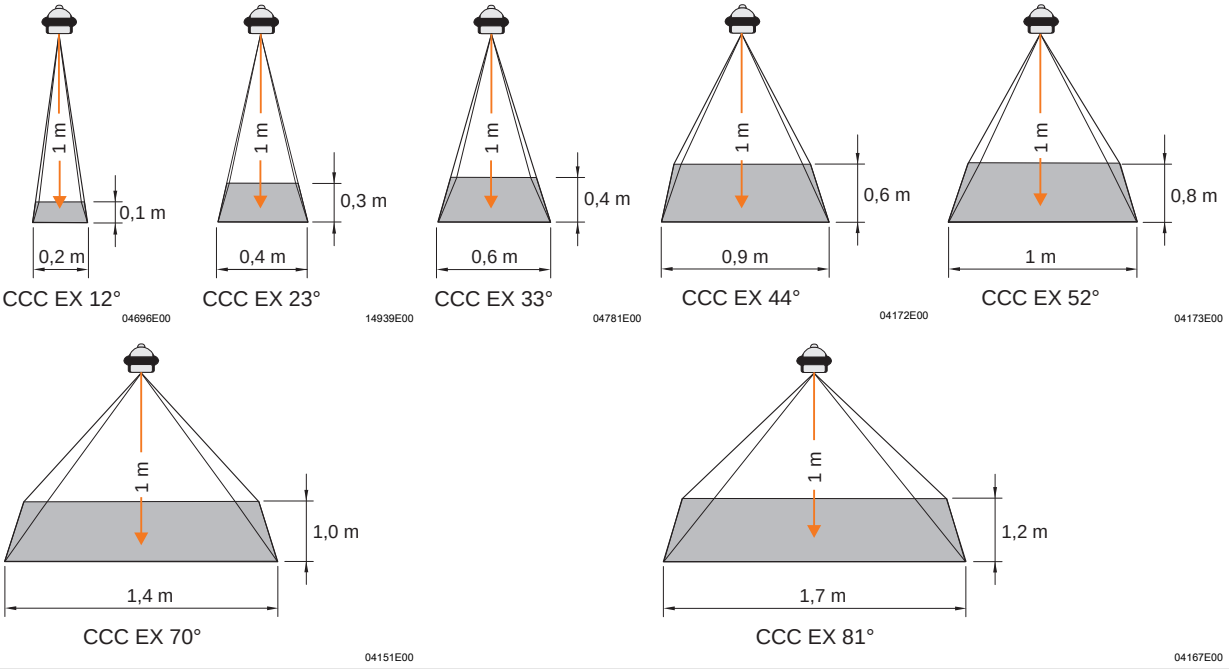
Explosion protection	
Global (IECEx)	
Gas and dust	IECEx KEM 09.0039X Ex mb IIC T6, T5,T4 Gb Ex mb IIIC T85/100/125°C Db
Europe (ATEX)	
Gas and dust	09ATEX0102 X Ⓔx II 2 G Ex mb IIC T6/T5/T4 Gb Ⓔx II 2 D Ex mb IIIC T85/100/125°C Db
Certifications and certificates	
Certificates	IECEx, ATEX, Brazil (INMETRO), Canada (CSA), Kazakhstan (TR), Russia (TR), USA (CSA), Belarus (TR)

◀ Preferred products – in stock or available at short notice

Technical Data

CCD	0.635 cm (1/4“) CCD Sensor PAL
CCD total pixels	PAL: 795 (H) x 596 (V), NTSC: 811 (H) x 508 (V)
Minimum illumination	1.5 Lux at F1.2 5600 K
Resolution	470 TVL
Signal-noise ratio	52 dB (MIN) / 60 dB (TYP) (AGC OFF)
Video output	1.0 V pp Composite Video at 75 Ohm
Gamma correction	0.45
Gain control	AGC (automatic gain control)
White balance mode	ATW / AWC (fix)
White balance range	3,200 ... 10,000 K
Mirror function	REV. / NOR. Switchable via wire connected to 12 V DC
Mechanical shock resistance	Shock and vibration resistant
Weight	0.44 kg without cable
Enclosure material	Stainless steel 316L, chemically hardened lens
Degree of protection	IP69K
Power consumption	12 V DC +/-10 %, consumption 250 mA heating ON, 85 mA heating OFF

Horizontal Fields of Vision



A8

Accessories and Spare Parts

Designation	Figure	Description	Order number	Art. no.	PS	Weight kg
Ex e junction box	07004E00	Terminal box Ex e • Ⓔx II 2 G EEx e II T6/T5 • Ⓔx II 2 D IP66 T80°C, T95°C • 14 UK3N terminals • 2 USLKG PE terminals • 4 cable boxes • degree of protection IP66 water-proof • polyester material, black	**JCT-8118-122-14p-02**	**230600◄**	A4	1.000
		Terminal box Ex e • ATEX certification Zones 1, 2, 21 & 22 • Ⓔx II 2 G Ex em II T6/T5/T4 • Ⓔx II 2 D Ex tD A21 IP66 T80°C, T95°C, T130°C • Degree of protection IP66 • Polyester material, black • 14 UT-2.5 terminals • 2 UT-2.5 PE-terminals • HxWxD: 115 x 115 x 64 mm	**JCT-8118-122-14p-02-ARM**	**230603◄**	A4	1.000
Multi cable	16808E00	Camera multi-cable • 1 coaxial cable • 2 power supplies • 1 data cable • -40 ... +85 °C • Price per metre	**VB-CAM-MULTI-11-UNI**	**230585◄**	A4	0.050
		Multi-cable armoured • 1 coaxial cable • 2 power supplies • 3 data cables • -40 ... +85 °C • mud and oil-resistant • Price per metre	**VB-CAM-MULTI-01-ARM**	**167535◄**	A4	0.120
Gauge glass holder	16812E00	Gauge glass holder (without camera) • for EC-710-0xx cameras • Stainless steel 316 • Mounting position can be ordered individually	**Inspection glas holder for EC-710-Series**	**230675**	A4	1.900
Wall mounting	16801E00	Wall mounting (without camera) • for EC-710-0xx cameras • Stainless steel V2A • approx. 236 mm long	**Wall-Bracket for EC-710**	**230669◄**	A4	0.200
Video encoder	08381E00	4-channel video encoder • H.264 and MJPEG video compression • H.264 and MJPEG streams • Alarm input and output • Power over Ethernet • SFP slot • Voltage 8 ... 28 V DC • Temp. -40 ... +75 °C	**VS-AXIS-Q7424-R-MKII**	**245722**	A7	0.800

◄ Preferred products – in stock or available at short notice

14657E00

WebCode EC740ZA

The explosion-proof EC-740 Zoom camera is ideally suitable for rough ambient conditions due to its IP69K and its wide operating temperature range of -40 ... +75 °C.

> Applications
- Oil and gas rigs (onshore and offshore)
- Crane installation for a perfect overview
- Pipeline monitoring
- Tankfarms

> Highlights
- Protection type IP69K
- Wide temperature range
- Compact and lightweight
- Available in aluminium and stainless steel
- 36 x optical zoom

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Ex interfaces		x	x		x	x
Installation in		x	x		x	x

Technical Data	
Explosion protection	
Global (IECEx)	
Gas and dust	IECEx NEM 13.0026X Ex ib mb px IIC T4 Gb Ex mb tb IIIC T102°C Db
Europe (ATEX)	
Gas and dust	13ATEX1536X II 2 G Ex ib mb px IIC T4 Gb II 2 D Ex mb tb IIIC T102°C Db
CCD	1/4“ (0.635 cm) Sensor IT CCD
Total pixels	752 (H) x 582 (V), 440,000
Minimum illumination	0.7 Lux (f1.4 1/50 sec. PAL) 0.1 Lux (f1.4 1/3 sec. PAL)
Resolution	550 TVL
TV system	PAL, FBAS, 625 lines interlaced, 50 Hz, 4.43 MHz colour subcarrier 1 Vtt (75 ohm)
Signal-noise ratio	50 dB or more
Lens	36 x optical zoom, 3.4 (wide) ... 122 (tele) mm
Viewing angle	horizontal, 57,8° (wide angle lens), 1,7° (telephoto lens)
Front screen	Chemically hardened, toughened, tempered float glass, 7 times stronger than ordinary glass, scratch-proof surface
Power supply	24 V DC +/-10 %
Power	5.6 W with heater ON, temperatures <0 °C 3.6 W with heater OFF, temperatures >0 °C fuses: the camera requires a 315 mA-T fuse with a breaking capacity of 1.5 kA
Communication	RS-232 or RS-485 depending on model, Pelco D, 9.6 Kbps
Operating temperature range	T5: Tamb -40 ... +75 °C
Enclosure	aluminium or stainless steel SS316, depending on version filled with nitrogen, 1.4 bar pressure monitored by absolute pressure sensors, long-term stability 0.1 % per annum
Type of protection	IP69K
Weight	including 5 m cable aluminium camera 3 kg stainless steel camera 5 kg
Cable	minimum bending radius 50 mm
Camera bracket	for hanging, standing or overhead position, including fastening material

Zoom Camera
Series EC-740-AFZ

Selection Table

Version	Description	Order number	Art. no.	PS	Weight kg
Zoom camera EC-740-AFZ 14642E00	Analogue aluminium PAL Zoom camera • RS-485 interface • **without** Ex-PCB Connection Board	**EC-740-AFZ-EX-ALU-485-P**	**230473**◄	A1	3.100
	Analogue stainless steel PAL Zoom camera • RS-485 interface • **without** Ex-PCB Connection Board	**EC-740-AFZ-EX-SST-485-P**	**230472**◄	A1	6.000
	Analogue aluminium PAL Zoom camera • RS-232 interface • **without** Ex-PCB Connection Board	**EC-740-AFZ-EX-ALU-232-P**	**243996**	A1	3,100
	Analogue stainless steel PAL Zoom camera • RS-232 interface • **without** Ex-PCB Connection Board	**EC-740-AFZ-EX-SST-232-P**	**243995**	A1	6,000
Ex-PCB Connection Board 16788E00	Necessary for cameras of Series EC-740 / EC-800-EX • ATEX: Ⓔx II (2) G [Ex ib mb px Gb] IIC • IECEx: [Ex ib mb px Gb] IIC • Monitoring of static gas pressure (SNF) • HxWxD: 11.7 x 160 x 100 mm • 24 V DC • incl. mounting plate	**Ex-PCB Connection Board**	**230462**◄	A1	0.300

Accessories and Spare Parts

Designation	Figure	Description	Order number	Art. no.	PS	Weight kg
Multi cable	16808E00	Camera multi-cable PTZ (uni) • 1 coaxial cable • 4 power supplies • 3 data cables • 4 Ex i cables • -40 ... +90 °C • for Series EC-740, EC-800 • Price per metre	**VB-CAM-MULTI-PTZ-UNI-485**	**230340**◄	A4	0.200
		Camera multi-cable PTZ (armoured) • 1 coaxial cable • 4 power supplies • 3 data cables • 4 Ex i cables • -40 ... +90 °C • for Series EC-740, EC-800 • Price per metre	**VB-CAM-MULTI-PTZ-ARM-485**	**230591**◄	A4	0.305
Video encoder	08381E00	4-channel video encoder • H.264 and MJPEG video compression • H.264 and MJPEG streams • Alarm input and output • Power over Ethernet • SFP slot • Voltage 8 ... 28 V DC • Temp. -40 ... +75 °C	**VS-AXIS-Q7424-R-MKII**	**245722**	A7	0.800
Oil damper	16802E00	• Oil damper for the EC-740 zoom camera for a permanent vertical position down towards to object on the hook. • Damping of any sudden movements • Aluminium enclosure • Weight without camera	**Oil Damped Bracket ALU**	**213007**	A4	3.400
		• Oil damper for the EC-740 zoom camera for a permanent vertical position down towards to object on the hook. • Damping of any sudden movements • Stainless steel enclosure • Weight without camera	**Oil Damped Bracket SST**	**230660**	A4	6.100

◄ Preferred products – in stock or available at short notice

14641E00

WebCode EC740PTZA

The robust, explosion-proof colour camera with pan/tilt function can be operated in a wide range of ambient temperatures and has an exceedingly high protection type, IP69K
Two enclosure versions in either aluminium or 316 stainless steel make the camera perfectly suitable for a variety of applications.

- Applications
  - Oil and gas rigs (onshore and offshore)
  - Perimeter guarding
  - Process monitoring
  - Tankfarms
  - Pipeline overview
- Highlights
  - Protection type IP69K
  - Wide temperature range
  - Compact and lightweight
  - Internal cabling
  - 36 x optical zoom

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Ex interfaces		x	x		x	x
Installation in		x	x		x	x

Technical Data

Explosion protection	
Global (IECEx)	
Gas and dust	IECEx DEK 13.0055X Ex II 2 G Ex ib mb px IIC T4 Gb Ex II 2 D Ex tb mb IIIC T95°C Db
Europe (ATEX)	
Gas and dust	13ATEX0154X Ⓔx II 2 G Ex ib mb px IIC T4 Gb Ⓔx II 2 D Ex tb mb IIIC T95°C Db
CCD	1/4“ (0.635 cm) Sensor IT CCD
Total pixels	752 (H) x 582 (V), 440,000
Minimum illumination	0.7 Lux (f1.4 1/50 sec. PAL) 0.1 Lux (f1.4 1/3 sec. PAL)
Resolution	550 TVL
TV system	PAL, FBAS, 625 lines interlaced, 50 Hz, 4.43 MHz colour subcarrier 1 Vtt (75 ohm)
Signal-noise ratio	50 dB or more
Lens	36 x optical zoom, 3.4 (wide) ... 122 (tele) mm
Viewing angle	horizontal, 57,8° (wide angle lens), 1,7° (telephoto lens)
Panning range	total 340°, 170° to the left, 170° to the right
Tilt range	total 180°, up 90°, down 90°
Backlash PTZ	PTZ 1°
Pan/tilt speed	12.5 °/sec
Camera positions	245 option for pre-setting camera positions, tolerance < 1°
Power supply	24 V DC +/-10 %
Power	5.6 W with heater ON, temperatures <0 °C 3.6 W with heater OFF, temperatures >0 °C 12 W when panning / tilting
Operating temperature range	T4: Tamb -40 ... +75 °C
Enclosure	aluminium or stainless steel SS316, depending on version filled with nitrogen, 1.4 bar pressure monitored by absolute pressure sensors, long-term stability 0.1 % per annum
Type of protection	IP69K
Weight	including 5 m cable (3.5 m available for installation) aluminium camera 8.8 kg stainless steel camera 18.8 kg

Zoom Camera
Series EC-740-PTZ

Selection Table

Version	Description	Order number	Art. no.	PS	Weight kg
Zoom camera with pan/tilt function EC-740-PTZ 16810E00	Analogue aluminium PAL Zoom camera with pan/tilt function • RS-485 interface • **without** Ex-PCB Connection Board	**EC-740-PTZ-EX-ALU-364-P**	**243943**	A1	8.800
	Analogue stainless steel PAL Zoom camera with pan/tilt function • RS-485 interface • **without** Ex-PCB Connection Board	**EC-740-PTZ-EX-SST-364-P**	**243942**	A1	18.800
	Analogue aluminium PAL Zoom camera with pan/tilt function • RS-232 interface • **without** Ex-PCB Connection Board	**EC-740-PTZ-EX-ALU-362-P**	**243949**	A1	8.800
	Analogue stainless steel PAL Zoom camera with pan/tilt function • RS-232 interface • **without** Ex-PCB Connection Board	**EC-740-PTZ-EX-SST-362-P**	**243948**	A1	18.800
Zoom camera with pan/tilt function with Wash&Wiper EC-740-PTZ 16811E00	Analogue stainless steel PAL Zoom camera with pan/tilt and Wash&Wiper function • RS-485 interface • **without** Ex-PCB Connection Board	**EC-740-PTZ-EX-SST-W&W-364-P**	**243944**	A1	21.400
	Analogue stainless steel PAL Zoom camera with pan/tilt and Wash&Wiper function • RS-232 interface • **without** Ex-PCB Connection Board	**EC-740-PTZ-EX-SST-W&W-362-P**	**243950**	A1	21.400
Ex-PCB Connection Board 16788E00	Necessary for cameras of Series EC-740 / EC-800-EX • ATEX: ⟨Ex⟩ II (2) G [Ex ib mb px Gb] IIC • IECEx: [Ex ib mb px Gb] IIC • Monitoring of static gas pressure (SNF) • HxWxD: 11.7 x 160 x 100 mm • 24 V DC • incl. mounting plate	**Ex-PCB Connection Board**	**230462◄**	A1	0.300

◄ Preferred products – in stock or available at short notice

Accessories and Spare Parts

Designation	Figure	Description	Order number	Art. no.	PS	Weight kg
Multi cable	16808E00	Camera multi-cable PTZ (uni) • 1 coaxial cable • 4 power supplies • 3 data cables • 4 Ex i cables • -40 ... +90 °C • for Series EC-740, EC-800 • Price per metre	**VB-CAM-MULTI-PTZ-UNI-485**	**230340◄**	A4	0.200
		Camera multi-cable PTZ (armoured) • 1 coaxial cable • 4 power supplies • 3 data cables • 4 Ex i cables • -40 ... +90 °C • for Series EC-740, EC-800 • Price per metre	**VB-CAM-MULTI-PTZ-ARM-485**	**230591◄**	A4	0.305
Video encoder	08381E00	4-channel video encoder • H.264 and MJPEG video compression • H.264 and MJPEG streams • Alarm input and output • Power over Ethernet • SFP slot • Voltage 8 ... 28 V DC • Temp. -40 ... +75 °C	**VS-AXIS-Q7424-R-MKII**	**245722**	A7	0.800
Water tank	16809E00	5 litres water tank for EC-740-PTZ-SST-W&W-(485) • Stainless steel 316 • Water tank incl. enclosure + 15 m hose • Manual pressure build-up • 5 l capacity	**Water Tank for W&W 5 l**	**230821**	A4	24.300
		10 litres water tank for EC-740-PTZ-SST-W&W-(485) • Stainless steel 316 • Water tank incl. enclosure + 15 m hose • Manual pressure build-up • 10 l capacity	**Water Tank for W&W 10 l**	**230822**	A4	29.300

DOME Camera
Series EC-750-PA

07026E00

Explosion-protected colour camera
with a PTZ head for complex surveillance tasks
under a variety of light conditions

Applications
- Oil and gas rigs (onshore and offshore)
- Surveillance of boilers and production

Highlights
- Top-of-the-range optical system
- IP68
- Compact and lightweight
- White sun-roof included

WebCode EC750A

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		x	x		x	x

Selection Table

Version	Description	Order number	Art. no.	PS	Weight kg
Dome camera Series EC-750-PA	Explosion-protected Dome camera with pigtail; analog CVBS-output	**EC-750-PA-VI-PE**	**168166◄**	A3	8.000
	Explosion-protected Dome camera with pigtail; integrated IP server	**EC-750-PA-IP-PE**	**168168◄**	A3	8.000

Technical Data

Explosion protection	
Global (IECEx)	
Gas and dust	IECEx LCIE 14.0011X Ex d IIC T6/T5 Gb Ex tb IIIC T85°C/T100°C Db
Europe (ATEX)	
Gas and dust	08ATEX6023X Ⓔx II 2 G Ex d IIC T6/T5 Gb Ⓔx II 2 D Ex tb IIIC T85°C/T100°C Db
CCD	1/4“ CCD Sensor PAL or NTSC
CCD total pixels	440,000 (PAL); 380,000 (NTSC)
Minimum illumination	0.7 lux in standard mode, 0.01 lux in slow shutter mode and ICR
Signal-noise ratio	> 50 dB
A.E.S. (automatic electronic shutter)	Yes
Gain control	AGC (automatic gain control)
White balance mode	Automatic
Lens	18x optical zoom (zoom lens 4.1 ... 73.8 mm) Viewing angle (horizontal) 48° (wide angle lens), 2.8° (telephoto lens) Minimum operating distance: 290 mm (wide angle lens), 800 mm (telephoto lens)
Focus	Automatic with remote control override
Lens settings	Tilt -90° to +90° with flip facility; Pan 360° without stop
Enclosure material	Stainless steel SS316
Operating temperature range	-20 ... +55 °C for PE version and T6 / T85°C -20 ... +60 °C for PE version and T5 / T100°C
Cable length	5.0 metre (+0.1)
Power consumption	18 to 30 V DC, max. consumption 12 W

◄ Preferred products – in stock or available at short notice

Accessories and Spare Parts

Designation	Figure	Description	Order number	Art. no.	PS	Weight kg
Ex e junction box	07004E00	Terminal box Ex e • ⟨Ex⟩ II 2 G EEx e II T6/T5 • ⟨Ex⟩ II 2 D IP66 T80°C, T95°C • 14 UK3N terminals • 2 USLKG PE terminals • 4 cable boxes • degree of protection IP66 water-proof • polyester material, black	**JCT-8118-122-14p-02**	**230600◄**	A4	1.000
Multi cable	16808E00	Camera multi-cable PTZ (uni) • 1 coaxial cable • 2 power supplies • 3 data cables • -40 ... +85 °C • for Series EC-750 analogue (EC-750-PA-VI-PE) only • Price per metre	**VB-CAM-MULTI-15-UNI**	**230586◄**	A4	0.060
Video encoder	08381E00	4-channel video encoder • H.264 and MJPEG video compression • H.264 and MJPEG streams • Alarm input and output • Power over Ethernet • SFP slot • Voltage 8 ... 28 V DC • Temp. -40 ... +75 °C	**VS-AXIS-Q7424-R-MKII**	**245722**	A7	0.800
Wall mounting	16801E00	Wall mounting (without camera) • for EC-750 cameras • Stainless steel V2A • HxWxD: 115 x 100 x 103 mm	**wall bracket for EC-750**	**230638**	A4	1.000
Pole mounting	16817E00	Pole mounting (without camera) • for EC-750 cameras • Stainless steel V2A • HxWxD: 204 x 120 x 432 mm • Diameter approx. 108 mm	**pole bracket for EC-750**	**230670**	A4	2.000

Thermal Imaging Camera
Series EC-800-TIC

14789E00

WebCode EC800A

The modern explosion-proof EC-800 thermal image camera is the ideal choice for surveillance tasks in complete darkness. By making thermal radiation visible, animate and inanimate objects can be safely detected across a wide distance.

- Applications
  - Oil and gas rigs (onshore and offshore)
  - Perimeter guarding - independent of light conditions
  - Leakage detection (oil spills, temp. gases)
  - Early fire detection
- Highlights
  - Protection type IP68
  - Wide temperature range
  - Compact and lightweight
  - Shock-proof and vibration-proof

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Ex interfaces		x	x		x	x
Installation in		x	x		x	x

Technical Data

Explosion protection	
Global (IECEx)	
Gas and dust	IECEx NEM 13.0027X Ex II 2 G Ex ib mb px IIC T4 Gb Ex II 2 D Ex mb tb IIIC T102°C Db
Europe (ATEX)	
Gas and dust	13ATEX1547X II 2 G Ex ib mb px IIC T4 Gb II 2 D Ex mb tb IIIC T102°C Db
Sensor	VOx Microbolometer
Pixels	FPA format 324 x 256 (pixel size 25 µm)
Frame rates	7.5 Hz (NTSC); 8.3 Hz (PAL)
Sensitivity	< 75 mk, < 50 mk f/1.0
Measuring range	-40 ... +160 °C
Video	NTSC / PAL
Lens	WFOV, 19 mm (24° detection of animate objects 450 m)
Digital zoom	2x and 4x
Colour display	4 colour palettes (LUTs)
Power supply	24 V DC +/-10 %
Power	5.6 W with heater ON, temperatures <0 °C 3.6 W with heater OFF, temperatures >0 °C
Operating temperature range	T5: Tamb -40 ... +75 °C T6: Tamb -40 ... +20 °C
Enclosure	aluminium or stainless steel SS316, depending on version filled with nitrogen, 1.4 bar pressure monitored by absolute pressure sensors, long-term stability 0.1 % per annum
Type of protection	IP68
Weight	including 5 m cable aluminium camera 3 kg stainless steel camera 6 kg
Cable	minimum bending radius 50 mm
Camera bracket	for hanging, standing or overhead position, including fastening material

Selection Table

Version	Description	Order number	Art. no.	PS	Weight kg
Thermal imaging camera EC-800-TIC 16816E00	Analogue aluminium thermal imaging camera • RS-485 interface • **without** Ex-PCB Connection Board	**EC-800-TIC-EX-ALU-485-L**	**244033**	A1	3.000
	Analogue stainless steel thermal imaging camera • RS-485 interface • **without** Ex-PCB Connection Board	**EC-800-TIC-EX-SST-485-L**	**244032**	A1	6.000
	Analogue aluminium thermal imaging camera • RS-232 interface • **without** Ex-PCB Connection Board	**EC-800-TIC-EX-ALU-232-L**	**244037**	A1	3.000
	Analogue stainless steel thermal imaging camera • RS-232 interface • **without** Ex-PCB Connection Board	**EC-800-TIC-EX-SST-232-L**	**244036**	A1	6.000
Ex-PCB Connection Board 16788E00	Necessary for cameras of Series EC-740 / EC-800-EX • ATEX: Ⓔx II (2) G [Ex ib mb px Gb] IIC • IECEx: [Ex ib mb px Gb] IIC • Monitoring of static gas pressure (SNF) • HxWxD: 11.7 x 160 x 100 mm • 24 V DC • incl. mounting plate	**Ex-PCB Connection Board**	**230462◄**	A1	0.300

Accessories and Spare Parts

Designation	Figure	Description	Order number	Art. no.	PS	Weight kg
Multi cable	16808E00	Camera multi-cable PTZ (uni) • 1 coaxial cable • 4 power supplies • 3 data cables • 4 Ex i cables • -40 ... +90 °C • for Series EC-740, EC-800 • Price per metre	**VB-CAM-MULTI-PTZ-UNI-485**	**230340◄**	A4	0.200
		Camera multi-cable PTZ (armoured) • 1 coaxial cable • 4 power supplies • 3 data cables • 4 Ex i cables • -40 ... +90 °C • for Series EC-740, EC-800 • Price per metre	**VB-CAM-MULTI-PTZ-ARM-485**	**230591◄**	A4	0.305
Video encoder	08381E00	4-channel video encoder • H.264 and MJPEG video compression • H.264 and MJPEG streams • Alarm input and output • Power over Ethernet • SFP slot • Voltage 8 ... 28 V DC • Temp. -40 ... +75 °C	**VS-AXIS-Q7424-R-MKII**	**245722**	A7	0.800

Thermal Imaging Camera
Series EC-800-PTT

14948E00

WebCode EC800PTA

The explosion-proof pan/tilt EC-800-PTT thermal camera combines the benefits of a pan/tilt camera with the optical properties of a thermal image camera. With this camera, large areas can be monitored even in absolute darkness or adverse weather conditions.

- Applications
  - Oil and gas rigs (onshore and offshore)
  - Perimeter guarding - independent of light conditions
  - Early fire detection
- Highlights
  - Protection type IP68
  - Wide temperature range
  - Aluminium or stainless-steel enclosure 316

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Ex interfaces		x	x		x	x
Installation in		x	x		x	x

Technical Data

Explosion protection	
Global (IECEx)	
Gas and dust	IECEx DEK 13.0055X Ex II 2 G Ex ib mb px IIC T4 Gb Ex II 2 D Ex tb mb IIIC T95°C Db
Europe (ATEX)	
Gas and dust	13ATEX0154X II 2 G Ex ib mb px IIC T4 Gb II 2 D Ex tb mb IIIC T95°C Db
Sensor	VOx Microbolometer
Pixels	FPA format 324 x 256 (pixel size 25 µm)
Frame rates	7.5 Hz (NTSC); 8.3 Hz (PAL)
Sensitivity	< 75 mk, < 50 mk f/1.0
Measuring range	-40 ... +160 °C
Video	NTSC / PAL
Lens	WFOV, 19 mm (24° detection human approx. 450 m)
Digital zoom	2x and 4x
Colour display	4 colour palettes (LUTs)
Panning range	total 340°, 170° to the left, 170° to the right
Tilt range	total 180°, up 90°, down 90°
Backlash PTZ	PT 1°
Pan/tilt speed	12.5 °/sec
Camera positions	245 option for pre-setting camera positions, tolerance < 1°
Power supply	24 V DC +/-10 %
Operating temperature range	T5: Tamb -40 ... +75 °C T6: Tamb -40 ... +20 °C
Enclosure	aluminium or stainless steel SS316, depending on version filled with nitrogen, 1.4 bar pressure monitored by absolute pressure sensors, long-term stability 0.1 % per annum
Type of protection	IP68
Weight	including 5 m cable (3.5 m available for installation) aluminium camera 8.8 kg stainless steel camera 18.8 kg

Selection Table

Version	Description	Order number	Art. no.	PS	Weight kg
Thermal imaging camera with pan/tilt function EC-800-PTT 16813E00	Analogue aluminium thermal imaging camera with pan/tilt function • RS-485 interface • **without** Ex-PCB Connection Board	**EC-800-PTT-EX-ALU-364-L**	**244015**	A1	8.800
	Analogue stainless steel thermal imaging camera with pan/tilt function • RS-485 interface • **without** Ex-PCB Connection Board	**EC-800-PTT-EX-SST-364-L**	**244014**	A1	18.800
	Analogue aluminium thermal imaging camera with pan/tilt function • RS-232 interface • **without** Ex-PCB Connection Board	**EC-800-PTT-EX-ALU-362-L**	**244019**	A1	8.800
	Analogue stainless steel thermal imaging camera with pan/tilt function • RS-232 interface • **without** Ex-PCB Connection Board	**EC-800-PTT-EX-SST-362-L**	**244018**	A1	18.800
Ex-PCB Connection Board 16788E00	Necessary for cameras of Series EC-740 / EC-800-EX • ATEX: Ⓔx II (2) G [Ex ib mb px Gb] IIC • IECEx: [Ex ib mb px Gb] IIC • Monitoring of static gas pressure (SNF) • HxWxD: 11.7 x 160 x 100 mm • 24 V DC • incl. mounting plate	**Ex-PCB Connection Board**	**230462◄**	A1	0.300

Accessories and Spare Parts

Designation	Figure	Description	Order number	Art. no.	PS	Weight kg
Multi cable	16808E00	Camera multi-cable PTZ (uni) • 1 coaxial cable • 4 power supplies • 3 data cables • 4 Ex i cables • -40 ... +90 °C • for Series EC-740, EC-800 • Price per metre	**VB-CAM-MULTI-PTZ-UNI-485**	**230340◄**	A4	0.200
		Camera multi-cable PTZ (armoured) • 1 coaxial cable • 4 power supplies • 3 data cables • 4 Ex i cables • -40 ... +90 °C • for Series EC-740, EC-800 • Price per metre	**VB-CAM-MULTI-PTZ-ARM-485**	**230591◄**	A4	0.305
Video encoder	08381E00	4-channel video encoder • H.264 and MJPEG video compression • H.264 and MJPEG streams • Alarm input and output • Power over Ethernet • SFP slot • Voltage 8 ... 28 V DC • Temp. -40 ... +75 °C	**VS-AXIS-Q7424-R-MKII**	**245722**	A7	0.800

Monitor 7″ Ex d Analogue

16780E00

The 7″ Ex d monitor allows to control and monitor up to 4 cameras in real-time in the hazardous area.

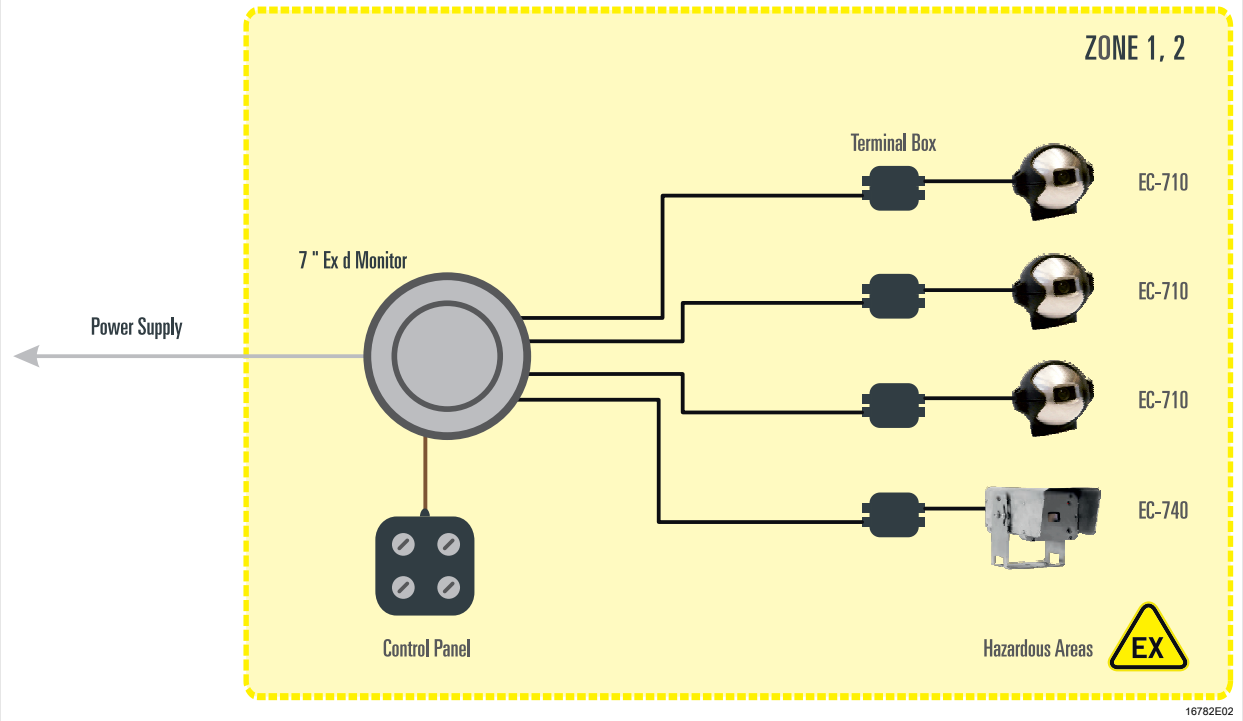
- For up to 4 cameras:
  3x EC-710-0xx,
  1x EC-740 AFZ (only RS232) or
  EC-800-TIC (only RS232)
- Aluminium enclosure, copper-free (seawater-resistant)
- In case of direct contact with seawater, a coating is recommended.
- For real-time applications, e.g. crane applications
- Optional: control via external control panel possible

WebCode MON7A

	ATEX / IECEx					
Zone	0	1	2	20	21	22
For use in		x	x		x	x

A8

Functional Principle



16782E02

Selection Table

Version	Description	Order number	Art. no.	PS	Weight kg
Analogue monitor 7" Ex d	suitable for 3 x EC-710 and 1 x EC-740-AFZ or EC-800-TIC, inclusive EX-PCB Connection Board	**7" Exd Monitor incl. Ex-PCB Board,Contr**	**230756**	A4	14.000
Note	Accessory needed: Zone 1 control panel for use and control of cameras Not included in the delivery: suitable cable glands for armoured or non-armoured cable				

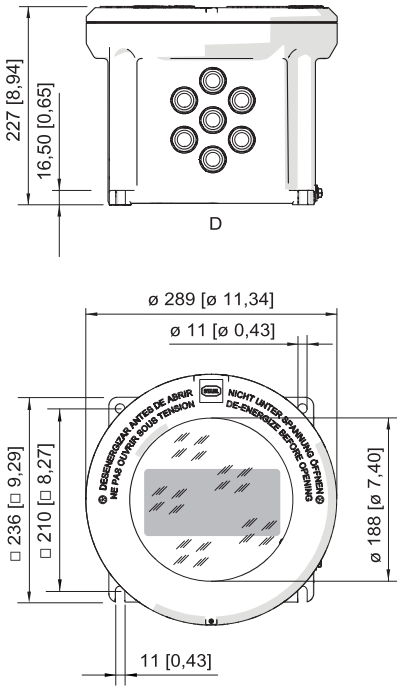
Technical Data

Explosion protection	
Global (IECEx)	
Gas and dust	Ex de [ia/ib] IIC T4 ... T6 Ex td A21 IP66 T* * T_O depends on the installed electrical equipment
Europe (ATEX)	
Gas and dust	⟨Ex⟩ II 2 G Ex d IIC T4 ... T6 ⟨Ex⟩ II 2 D Ex tD A21 IP66 T* * T_O depends on the installed electrical equipment
Certifications and certificates	
Certificates	IECEx, ATEX
Description	7″ Monitor Ex d for EC-710-0xx, EC-740-AFZ. For up to 4 cameras: 3x EC-710-0xx, 1x EC-740 AFZ (only RS232) or EC-800-TIC (only RS232)
Enclosure	
Enclosure material	Copper-free aluminium (seawater-resistant) In case of direct contact with seawater, a coating is recommended.
Dimensions	Ø 289 mm, height 227 mm
Window dimensions	Ø 188 mm
Display	
Type	Automotive 7″ TFT LCD display module, LED backlight
Resolution	WVGA 800xRGBx400 pixel
Brightness	600 cd/m^2
Contrast	650:1
Viewing angle	70° horizontal, 60° vertical (CR ≥ 10)
LED Life Time	30,000 h
Outputs	Analogue monitor output for a second analogue monitor (looped through)
Input voltage	115 V AC or 230 V AC change-over contact
Power input	max. 50 W

Accessories and Spare Parts

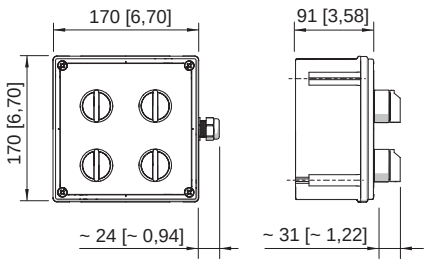
Designation	Figure	Description	Order number	Art. no.	PS	Weight kg
Control panel for monitor 7″ Ex d analogue	16787E00	Operator interface with 4 x control buttons for monitor 7″ Ex d • ATEX: PTB 01 ATEX 1024 • IECEx: PTB 06.0090 • Ex II 2 G Ex de IIC T4 • Temperature range: -25 ... +45 °C • IP66 • Material: polyester resin, glass fibre reinforced • M20 cable gland, Series 8161	**Control panel for 7" Exd Monitor**	**230753**	A4	2.500
Ex-PCB Connection Board	16788E00	Necessary for cameras of Series EC-740 / EC-800-EX • ATEX: Ex II (2) G [Ex ib mb px Gb] IIC • IECEx: [Ex ib mb px Gb] IIC • Monitoring of static gas pressure (SNF) • HxWxD: 11.7 x 160 x 100 mm • 24 V DC • incl. mounting plate	**Ex-PCB Connection Board**	**230462◄**	A1	0.300

Dimensional Drawings (All Dimensions in mm [inches]) - Subject to Alterations



16789E00

Monitor 7″ Ex d analogue



16790E00

Control panel (not included in the delivery)

12550E00

WebCode ISviewA

Video software for the display of video streams supplied by IP cameras and video servers with VAPIX protocol.

- Applications
  - Operating of cameras in Zone 1 by means of ISView / HMI installation
  - Oil and gas rigs (onshore and offshore)
  - Ideal for camera systems involving up to 12 cameras
- Highlights
  - Simple operation
  - Very short timeouts
  - Optimised for Open HMI touch screen operation
  - Large touch buttons for operation with work gloves
  - No extra training required

Selection Table

Version	Description	Order number	Art. no.	PS	Weight kg
Video software	Installation via USB stick without licence, one licence required for each camera	**ISview-1.xx-USB-Stick**	**213019**	A2	0.100
	Licence for one camera	**ISview-1.xx-L**	**213018**	A2	0.100

Technical Data

Video and PTZ protocols	VAPIX Axis
Using the software	Mouse, trackball, joystick and touch screen (touch buttons)
Direct PTZ control	Yes
Preset function	Yes
Display	Single or split screen (quad), full screen or window
Video sources	A maximum of 12 IP cameras or video server chanels Motion JPG or H.264
Refresh rate	About 15 ... 25 frames / sec (fps)
Requirements operating system	Windows XP, Windows embedded, Windows 7
Requirements PC system	At least Pentium M 600 MHz, 1 GB RAM, 2 GB Flash or HD memory, resolution at least 800x600
Recording	None

Video Software SeeTec

12551E00

- Applications
  - Safety + Security camera systems
  - Ideal for large camera systems
- Highlights
  - Video recording possible
  - Alarm forwarding
  - Multi-monitor operation
  - Different user levels
  - Open video management system
  - And many more functions

WebCode SeeTecA

Video software for complex safety and security solutions. From the smallest application with one camera to the largest possible solution with more than 1,000 cameras with simultaneous option of controlling different components. SeeTec can be flexibly adapted to the existing system requirements, is more powerful and cost-efficient than conventional video systems. Already existing analogue components can be integrated into the network technology. Third-party systems can be integrated and controlled via a variety of existing IP interfaces.

Selection Table

Version	Description	Order number	Art. no.	PS
Video software	SeeTec Cayuga S50X video management software	**SeeTec Cayuga S50 X Basic Package**	**239083**	A7
	SeeTec Cayuga S50X camera channel, necessary for each camera	**SeeTec Cayuga S50 X Camera Channel**	**239084**	A7

Technical Data

Video and PTZ protocols	Support of all major camera types
Using the software	Keyboard, mouse, trackball, joystick
Video sources	Depending on project, up to 50 cameras
Requirements noperating system	Windows, 7 Pro/Ultimate, 2003 Server, 2008 Server
Requirements PC system	Minimum Pentium 4.2 GHz, 4 GB RAM, 2 GB Flash or HD memory