EX-PROOF HD CAMERA SERIES WITH INTEGRATED EX E CHAMBER

EC-940-AFZ-Full HD IP - Standard

The IP Full HD explosion protected EC-940-AFZ-Series is perfect for effective video surveillance and process control in harsh settings where the presence of gases or flammable dust can create a potentially explosive environment, a reality often found in the oil and gas industries or marine and industrial sectors. Our innovative explosion-protected camera design – Ex d enclosures with extra Ex e connection chambers – offers many advantages in the plant.
The Ex d enclosure allows the integration of the latest camera technology at any time, thus ensuring that state-of-the art functions and features are always available in the hazardous area.
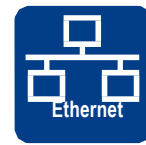
Our latest FULL HD IP camera provides the following functions: WDR, defog, 32x optical zoom, and ONVIF Profile S protocol

and is available either as 230 VAC or 24 VDC version (wide range). The unique Ex e connection chamber allows easy and cost-effective installation of the camera in the hazardous area. Any additional junction boxes are no longer required.
ATEX and IECEx certified, this camera model is designed to operate in ambient temperatures between -55 °C and +60 °C (-67 °F and +140 °F) (24 VDC version).

This series also includes a PoE++ version with extender exclusively powered over Ethernet cable, and a fiber optic (Ex op is) version designed for transmission distances of up to 5 km (3.1 mi).

Ex e chamber

MAIN FEATURES

► Integrated Ex e connection chamber for easy installation directly in the hazardous area

► State-of-the-art camera technology: Full HD IP, WDR, Defog, 32x optical zoom

► Easy maintenance modular design

► Available as 230 VAC or 24 VDC version

► Electropolished 1.4404 stainless steel enclosure ensures high level of corrosion resistance

CERTIFICATES

HARSH ENVIRONMENT

Corrosive gas	ISA-71.04: 1985-04
EMC	according to industrial standard

AMBIENT TEMPERATURE RANGE

230 VAC:	from -40 °C (-40 °F) up to +60 °C (+140 °F)
24 VDC:	from -55 °C (-67 °F) up to +65 °C (+149 °F)

IP PROTECTION

IP66

TECHNICAL DATA

GENERAL

Housing material:	1.4404 / 316L

Electropolished surfaces Exd e enclosure

Silicone O-ring seals

MECHANICAL

Sunshield:	included
Unit weight:	14.35 kg (31.6 lbs)
Cable gland:	1x CMP M25 x 1.5 (type 25sC2K)
Enlargement:	1x CMP M20 to M25 (type 737)
Stopping plug:	1x Hummel M16 x 1.5 (type V-Ms-VMQ-Ex)
	1x Hummel M20 x 1.5 (type V-Ms-VMQ-Ex)

HOUSING WINDOW

Material:	Thermally tempered glass

ELECTRICAL

Power supply:	
Camera EC-940-AFZ-HDI-O5H:	24 VDC (18-75 VDC)
Camera EC-940-AFZ-HDI-O4H:	230 VAC (115-230 VAC, 47-440 Hz)
Power consumption:	35 W
Heater:	T-on +5 °C (+41 °F),
	T-off +17 °C (+63 °F)

VIDEO

Compression:	H.264, MJPEG
Number of streams:	Up to 10 profiles
Image resolution:	1920x1080
Frame rate:	H.264, 60 fps all resolutions
	MJPEG, 320x180 up to 800x600 max. 30 fps
	MJPEG, 1024x768 up to 1920x1080 max 15fps

CAMERA

Image device:	1/2.8" CMOS
Effective pixels:	1944x1104 Px
Lens:	4.44 mm (wide) ... 142.6 mm (tele)
Zoom:	32x optical zoom, 16x digital zoom
Viewing angle:	H 62.8° (wide) to 2.23° (tele)
	V 36.8° (wide) to 1.26° (tele)
Minimum object distance:	1.5 m (4.92 ft)
Electronic shutter:	2 ~ 1/12,000 sec
White balance:	ATW / AWC / Manual / Indoor / Outdoor / Mercury
Gain:	Off / Low / Middle / High
Wide dynamic range:	On / Off / VE
Focus system:	Auto / Manual / Push
Intelligent video analytics:	Tampering / Virtual line / Enter / Exit / (Dis-)Appear / Face detection
Exposure Control:	Minimum / Maximum / Anti flicker / ATW/AWC / Indoor / Outdoor / Mercury
S/N ratio:	50 dB
Wide-D:	120 dB
Defog:	Off / Auto / Manual
Minimum illumination color:	0.3 Lux (1/30 sec, F1.6, 50IRE)
Minimum illumination B/W:	0.03 Lux (1/30 sec, F1.6, 50IRE)

NETWORK

Ethernet connection:	IEEE 802.3 100Base-Tx
PoE connection:	IEEE802.3af class 3 without heating
	Terminals in Ex e chamber

NETWORK PROTOCOLS

Protocol:	ONVIF Profile S
Device configuration:	TCP/IP, UDP/IP, RTP (UDP), RTP(TCP), HTTP, HTTPS, SSL, DHCP, PPPoE, FTP SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour)
Streaming:	RTSP, RTCP, NTP
Streaming method:	Unicast, Multicast
Max user access:	10 users in Unicast mode
Security:	HTTPS (SSL) login authentication, Digest login authentication, IP address filtering, User access log, 802.1x authentication
Edge storage:	SD/SDHC/SDXC - motion images recorded in the memory card can be downloaded

ENVIRONMENT

Operating temperature:	
Camera 230 VAC:	-40 °C (-40 °F) up to +60 °C (+140 °F)
Camera 24 VDC:	-55 °C (-67 °F) up to +65 °C (+149 °F)

CERTIFICATIONS

ATEX:	⟨Ex⟩ II 2 G Ex db eb IIC T4 Gb
	⟨Ex⟩ II 2 D Ex tb eb IIIC T135°C Db
	EN 60079-0 : 2012 + A11 : 2013
	EN 60079-1 : 2014
	EN 60079-7 : 2015
	EN 60079-31 : 2014
IECEx:	Ex db eb IIC T4 Gb
	Ex tb eb IIIC T135°C Db
	IEC 60079-0 : 2011 (Ed.: 6) + Cor.2 : 2013
	IEC 60079-1 : 2014 (Ed.: 7)
	IEC 60079-7 : 2015 (Ed.: 5)
	IEC 60079-31 : 2013 (Ed.: 2)
	ATEX, IECEx: T4, -55 °C to +80 °C

ACCESSORIES

Pole adapter module EC-94x-AFZ	Order No. 257047
Corner adapter module EC-94x-AFZ	Order No. 257048
Parapet mounting bracket EC-94x-AFZ	Order No. 257049
Wall bracket EC-94x-AFZ	Order No. 257043

EC-940-AFZ-HDI-O5H	SAP nr. 249079	Full HD IP Camera	24 VDC	-55 °C (-67 °F) up to +60 °C (+140 °F)
EC-940-AFZ-HDI-O4H	SAP nr. 249080	Full HD-IP Camera	230 VAC	-40 °C (-40 °F) up to +65 °C (+149 °F)

Both models can also be operated with PoE (class 3), but without heating (0 °C (+32 °F) up to +65 °C (+149 °F))

TECHNICAL DRAWINGS

Sizes in millimeters