F101-A XF P1377 Explosion-Protected Camera
Excellent image quality for hazardous areas

Certified (NEC, ATEX, IECEx) for use in potentially combustible environments, the lightweight camera offers high quality, high resolution images of objects and people. Featuring Axis Lightfinder and Axis Forensic WDR, it delivers true colors and great details in challenging light or near darkness. It includes electronic image stabilization for stable images despite vibration. And, intelligent i-CS lens technology facilitates fast and easy installation with remote zoom. Enhanced security features such as signed firmware and secure boot ensure the integrity and authenticity of the firmware. Furthermore, Axis Zipstream with support for H.264/H.265 significantly lowers bandwidth and storage requirements.

> **30 fps in 5 MP or up to 180 fps in HDTV 720p**
> **Lightfinder and Forensic WDR**
> **Zipstream supporting H.264 and H.265**
> **Signed firmware and secure boot**
> **NEC, ATEX and IECEx**

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Camera

Image sensor
1/2.7" progressive scan RGB CMOS

Lens
Varifocal 3.9–10 mm, F1.5
4:3 aspect ratio:
Horizontal field of view: 75°–31°
Vertical field of view: 55°–23°
16:9 aspect ratio:
Horizontal field of view: 75°–31°
Vertical field of view: 41°–17°
Remote zoom, remote focus

Day and night
Automatically removable infrared-cut filter

Minimum illumination
5 MP 25/30 fps with Forensic WDR and Lightfinder:
Color: 0.15 lux, at 50 IRE F1.5
B/W: 0.03 lux, at 50 IRE F1.5

Shutter speed
WDR: 1/33500 s to 1/5 s
No WDR: 1/5000 s to 1/5 s

System on chip (SoC)

Model
ARTPEC-7

Memory
1 GB RAM, 512 MB Flash

Video

Video compression
H.264 (MPEG-4 Part 10/AVC) Baseline, Main and High Profiles
H.265 (MPEG-H Part 2/HEVC)
Motion JPEG

Resolution
2592x1944 (5 MP) to 160x90
2688x1512 (4 MP) to 160x90
1280x720 (HDTV 720p) to 160x90

Frame rate
Capture mode 5 MP: 25/30 fps (50/60 Hz)
Capture mode 4 MP: 25/30 fps (50/60 Hz)
Capture mode HDTV 720p: 180 fps

Video streaming
Multiple, individually configurable streams in H.264, H.265 and Motion JPEG
Axis Zipstream technology in H.264 and H.265
Controllable frame rate and bandwidth
VBR/ABR/MBR H.264/H.265
Video streaming indicator

Multi-view streaming
Up to 8 individually cropped out view areas

Image settings
Saturation, contrast, brightness, sharpness, Forensic WDR: Up to 120 dB depending on scene, white balance, day/night threshold, exposure mode, exposure zones, local contrast, tone mapping, compression, rotation: auto, 0°, 90°, 180°, 270° including Corridor Format, mirroring of images, dynamic text and image overlay, privacy masks, defogging, electronic image stabilization, barrel distortion correction, scene profiles: forensic, vivid, traffic overview

Pan/Tilt/Zoom
Digital PTZ
Uploadable PTZ driver (Pelco D pre-installed)

Audio

Audio streaming
Two-way, full duplex

Audio encoding
AAC LC 8/16/32/48 kHz, G.711 PCM 8 kHz,
G.726 ADPCM 8 kHz, Opus 8/16/48 kHz, LPCM 48 kHz
Configurable bit rate

Audio input/output
External microphone input, line input, digital input with ring power, line output, built-in microphone (can be disabled)

Network

Network protocols
IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS[1], HTTP/2, TLS[1], QoS Layer 3 DiffServ, FTP, CIFS/SMB, SMTP, mDNS (Bonjour), UPnP™, SNMP v1/v2c/v3 (MIB-II), DNS/DNSv6, DDNS, NTP, NTS, RTSP, RTP, SRTP/RTSPS, SFTP, TCP, UDP, IGMP, RTCP, ICMP, DHCPv4/v6, ARP, SSH, LLDP, CDP, MQTT v3.1.1, Secure syslog (RFC 3164/5424, UDP/TCP/TLS), Link-Local address (ZeroConf)

System integration

Application Programming Interface
Open API for software integration, including VAPIX® and AXIS Camera Application Platform, specifications at *axis.com*
One-Click Cloud Connection
ONVIF® Profile G, ONVIF® Profile S, and
ONVIF® Profile T, specification at *onvif.org*

Video management systems
Compatible with AXIS Camera Station Edge, AXIS Camera Station Pro, AXIS Camera Station 5, and video management software from Axis' partners available at *axis.com/vms*.

Onscreen controls
Electronic image stabilization
Day/night shift
Defogging
Wide dynamic range

Event conditions
Analytics, shock detection, edge storage events, supervised external input, audio level, time scheduled, MQTT subscribe

Event actions
Record video: SD card and network share
Upload of images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email
Pre- and post-alarm video or image buffering for recording or upload
Notification: email, HTTP, HTTPS, TCP and SNMP trap
PTZ: PTZ preset, start/stop guard tour
Overlay text, external output activation, play audio clip, WDR mode, day/night mode
MQTT publish

Data streaming
Event data

Built-in installation aids
Focus assistant, pixel counter, remote back focus, autorotation

Analytics

Applications
Included
AXIS Motion Guard, AXIS Fence Guard, AXIS Loitering Guard
AXIS Video Motion Detection, active tampering alarm, gatekeeper
Supported
AXIS Live Privacy Shield, AXIS Perimeter Defender
Support for AXIS Camera Application Platform enabling installation of third-party applications, see *axis.com/acap*

Cybersecurity

Edge security
Software: Signed OS, brute force delay protection, digest authentication and OAuth 2.0 RFC6749 Client Credential Flow/OpenID Authorization Code Flow for centralized ADFS account management, password protection, AES-XTS-Plain64 256bit SD card encryption
Hardware: Secure boot

Network security
IEEE 802.1X (EAP-TLS, PEAP-MSCHAPv2)[1], IEEE 802.1AE (MACsec PSK/EAP-TLS), HTTPS/HSTS[1], TLS v1.2/v1.3[1], Network Time Security (NTS), X.509 Certificate PKI, host-based firewall

Documentation
AXIS OS Hardening Guide
Axis Vulnerability Management Policy
Axis Security Development Model
AXIS OS Software Bill of Material (SBOM)
AXIS OS Software Bill of Material (SBOM)
To download documents, go to *axis.com/support/cybersecurity/resources*
To read more about Axis cybersecurity support, go to *axis.com/cybersecurity*

General

Casing
IP66-rated, powdercoated aluminum chassis
Casing manufactured and certified by Spectrum Camera Solutions, LLC

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1. *This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (openssl.org), and cryptographic software written by Eric Young (eay@cryptsoft.com).*

Power
Camera: Power over Ethernet (PoE)
IEEE 802.3af/802.3at Type 1 Class 3, max 10.7 W,
typical 5.4 W
Heater: 12-24 V DC, max 25 W
12-24 V DC is required for operating at temperatures
below 0 °C (32 °F).

Connectors
2 x 3/4" NPT cable entries
RJ45 10BASE-T/100BASE-TX PoE
2-pin terminal block connector for heater
I/O: 4-pin 2.5 mm terminal block for two configurable
inputs/outputs (12 V DC output, max. load 50 mA)
3.5 mm mic/line in, 3.5 mm line out

Storage
Pre-installed AXIS Surveillance microSDXC Card 128 GB
Support for SD card encryption (AES-XTS-Plain64
256bit)
Recording to network-attached storage (NAS)
For SD card and NAS recommendations see *axis.com*

Operating conditions
-50 °C to 60°C (-58 °F to 140 °F)
US Class/Division system: -40 °C to 60°C (-40 °F to
140 °F)
Humidity 10-100% RH (condensing)

Storage conditions
-40 °C to 65 °C (-40 °F to 149 °F)
Humidity 5-95% RH (non-condensing)

Approvals
EMC
EN 55035, EN 61000-6-1, EN 61000-6-2,
EN 55032 Class A, FCC Part 15 Subpart B Class A,
ICES-3(A)/NMB-3(A), VCCI Class A,
RCM AS/NZS CISPR 32 Class A
Safety
EN 62368-1
Environment
ANSI/NEMA 250 4X, ANSI/IEC/EN 60529 IP66,
GOST 14254 IP66
Network
NIST SP500–267
Explosion
FM Class 3600:2018, FM Class 3615:2018,
FM Class 3616:2011,
ANSI/ISA/EN/ABNT NBR/IEC/CAN-CSAC22.2 60079-0,
ANSI/ISA/EN/ABNT NBR/IEC/CAN-CSAC22.2 60079-1,
ANSI/ISA/EN/ABNT NBR/IEC/CAN-CSAC22.2 60079-31,
TP TC 012, GOST 31610.0, GOST IEC 60079-1,
GOST IEC 60079-31

Certifications
USA:
Class I Division 1 Groups BCD T5 Ta= -40°C to 55°C,
Type 4X, IP66
Class II/III Division 1 Groups EFG Ta= -40°C to 55°C,
Type 4X, IP66
Certificate: FM18US0262X
Canada:
Class I Division 1 Groups BCD T5 Ta= -50°C to 55°C,
Type 4X, IP66
Class II/III Division 1 Groups EFG Ta= -50°C to 55°C,
Type 4X, IP66
Class I, Zone 1, AEx/Ex db IIB+H2 T5 Gb Ta = -50°C to
55°C, Type 4X, IP66
Zone 21, AEx/Ex tb IIIC T85°C Db Ta = -50°C to 55°C,
Type 4X, IP66
Certificate: FM18CA0126X
ATEX:
II 2 G Ex db IIB+H2 T5 Gb Ta = -50°C to 55°C, IP66
II 2 D Ex tb IIIC T85°C Db Ta = -50°C to 55°C, IP66
Certificate: FM18ATEX0073X
IECEx:
Ex db IIB+H2 T5 Gb Ta = -50°C to 55°C, IP66
Ex tb IIIC T85°C Db Ta = -50°C to 55°C, IP66
Certificate: IECEx FMG 18.0029X
INMETRO:
Ex db IIB+H2 T5 Gb
Ex tb IIIC T85°C Db IP66
Ta = -50°C to 55°C
Certificate: NCC 20.0084 X

Dimensions
13.85 x 7.20 x 5.97 in (352 x 183 x 152 mm)

Weight
14 lb (6.2 kg)

Included accessories
Installation Guide, Windows® decoder 1-user license,
AXIS Surveillance microSDXC Card 128 GB, 3/4" NPT to
M20x1.5 thread adapter

Optional accessories
EXTB-3 Junction Box ExCam,
Non-armored cables ExCam, 10, 25,
95 m (33, 82, 312 ft), Armored cables ExCam, 10, 25,
95 m (33, 82, 312 ft),
Ex Connection Rail 4-port PoE PS 24,
Ex Connection Rail 8-port PoE PS 24
For more accessories, see *axis.com*

Languages
English, German, French, Spanish, Italian, Russian,
Simplified Chinese, Japanese, Korean, Portuguese,
Traditional Chinese, Dutch, Czech, Swedish, Finnish,
Turkish, Thai, Vietnamese, Polish

Warranty

5-year warranty, see *axis.com/warranty*

Sustainability

Substance control

PVC free

Free of hazardous brominated and chlorinated flame retardants (BFR/CFR free)

RoHS in accordance with EU RoHS Directive 2011/65/EU/ and EN 63000:2018

REACH in accordance with (EC) No 1907/2006. For SCIP UUID, see *echa.europa.eu*

Environmental responsibility

axis.com/environmental-responsibility

Axis Communications is a signatory of the UN Global Compact, read more at *unglobalcompact.org*