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# VIP X1 XF Single-channel Video Encoder



- ▶ **Single-channel H.264 encoder with Dual Streaming**
- ▶ **Built-in analytics VCA**
- ▶ **SD card and iSCSI recording**
- ▶ **Ultra-compact size**
- ▶ **Multicast and Internet streaming**
- ▶ **Alarm inputs and relay outputs**
- ▶ **ONVIF conformance**

VIP X1 XF features DVD-like quality H.264 video, at up to 25/30 images per second, over IP networks. This unit supports PAL and NTSC sources. It is available in a standard version that supports Bosch VCA algorithms.

The encoder provides bidirectional audio communication in parallel to video.

VIP X1 XF provides Dual Streaming. It is able to generate two independently configurable video streams. VIP X1 XF is ultra-compact, so it is perfect for any application that depends on space-saving solutions.

## Functions

### Flexibility

VIP X1 XF encoders offer unparalleled recording flexibility. Record on network-attached RAID iSCSI storage devices or locally on SD cards. The built-in iSCSI support enables VIP X1 XF encoders to act as conventional DVRs while streaming high-performance live video across the network.

### Dual Streaming

VIP X1 XF encoders use Dual Streaming to generate two independent IP video streams per channel if sufficient computational power is available. This allows viewing and recording at two different quality levels to save disk space and bandwidth. On alarm, they can send an e-mail with JPEG images attached.

### Dual H.264 Recording

You can record the streams independently on different media. Thus video can be recorded centrally on iSCSI drives managed by VRM Video Recording Manager and redundantly on the local media. If necessary, for example in case of a network failure VRM can fill up the gap in the central recording (ANR, Automatic Network Replenishment).

### Recording Profiles

The encoders feature a highly flexible recording scheduler, providing up to ten programmable recording profiles and allowing individually assigned camera profiles. With these profiles, you can accelerate the frame rate as well as increase the resolution on alarm, saving recording space during non-alarm periods.

### Access Security

VIP X1 XF encoders offer various security levels for accessing the network, the unit, and the data channels. As well as password protection with three levels, they support 802.1x authentication using a RADIUS server for identification. You can secure Web browser access by HTTPS using a SSL certificate that is stored in the unit. For total data protection, each communication channel—video, audio, or serial I/O—can be independently AES encrypted with 128-bit keys, once the Encryption Site License has been applied.

**Intelligence**

With built-in video content analysis, VIP X1 XF encoders reinforce the Intelligence-at-the-Edge concept where edge devices become increasingly intelligent. This VIP-X1XF comes with built-in MOTION+ video motion detection. This motion detection algorithm is based on pixel change and includes object size filtering capabilities and sophisticated tamper detection capabilities.

Bosch offers more advanced video content analysis (VCA) applications with its Intelligent Video Analysis (IVA). A licensable option, it bases the IVA algorithm on digital imaging technology that uses multi-level image analysis of pixel, texture, and motion (trajectory) changes.

**Viewing**

View VIP X1 XF encoder video on a PC using a Web browser, in the Bosch Video Management System, or integrate it into another video management system. By routing the IP video to a high-performance VIP XD video decoder or a VIP X1600 XF decoder module, you can present the video with ultimate clarity.

**Easy Upgrade**

Remotely upgrade VIP X1 XF encoders whenever new firmware becomes available. This ensures up-to-date products, thus protecting investment with little effort.

**ONVIF conformance**

Firmware 4.10 introduces conformance to the ONVIF (Open Network Video Interface Forum) specification guaranteeing interoperability between network video products regardless of manufacturer. ONVIF conformant devices are able to exchange live video, audio, metadata and control information and ensure that they are automatically discovered and connected to network applications such as video management systems.

**Certifications and Approvals**

**Approvals**

Region	Certification	
Europe	CE	VIP X1 XF
USA	UL	UL online certifications directory (link)

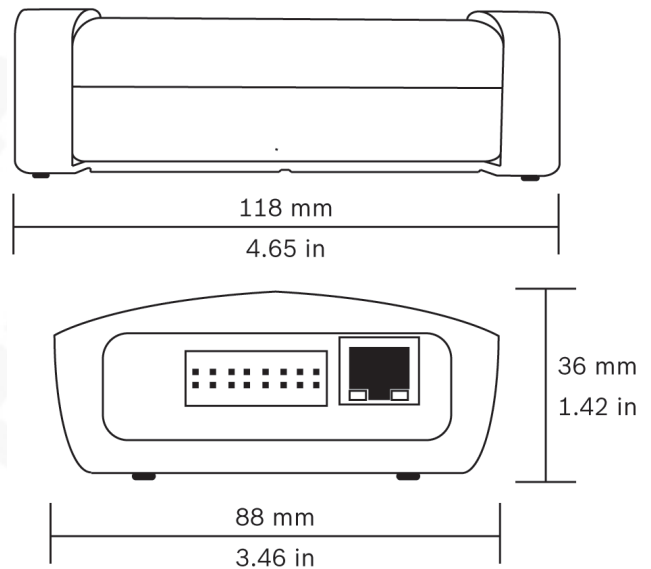
**Safety**

Region	Number
	IEC 60950-1

**Electromagnetic Compatibility**

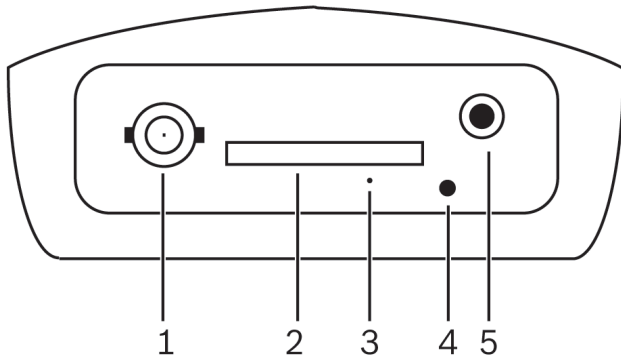
Region	Number
EU	EN 55103-1 Video and audio equipment
	EN 50130-4 Alarm systems
	EN 50121-4 Railway
	EN 55022
	EN 55024
USA	EN 61000-3-2
	EN 61000-3-3
	FCC 47 CFR Part15 SubpartB ClassB
Australia/New Zealand	AS/NZS 3548 ClassB

**Installation/Configuration Notes**



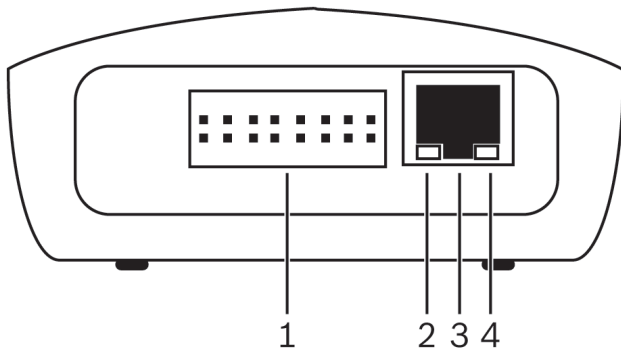
Dimensions in mm (inches)

### Front Connectors and Indicators



- |                        |                     |
|------------------------|---------------------|
| 1 VIDEO IN             | 4 POWER LED         |
| 2 SD CARD slot         | 5 LINE IN/OUT audio |
| 3 Factory reset button |                     |

### Rear Connectors and Indicators



- |  |                               |
|--|-------------------------------|
| 1 Alarm in, relay out, power, COM (RS-232/422/485) | 3 10/100 Base-T Fast Ethernet |
| 2 LED Link   | 4 LED Traffic                 |

### Parts Included

Quantity	Component
1	VIP-X1XF single-channel video/audio encoder
1	Quick Installation Guide
1	CD-ROM with software and documentation
1	Wall-mounting panel

### Technical Specifications

#### Electrical

Power supply	Via external unit
Input voltage	9 to 30 VDC
Power consumption	Approx. 5 VA

#### Input/output

Video	1 x input
• connector	BNC
• impedance	75 ohm, switchable
• signal	Analog composite, 0.7 to 1.2 Vpp, NTSC or PAL
Audio	1 x mono line in, 1 x mono line out
• connector	3.5 mm stereo jack
• signal line in	9 kohm typical, 5.5 Vpp max
• signal line out	3.0 Vpp at 10 kohm typical, 2.3 Vpp at 32 ohm typical, 1.7 Vpp at 16 ohm typical
Alarm	2 x input
• connector	Clamp (non-isolated closing contact)
• activation resistance	10 ohm max
Relay	2 x output
• connector	Clamp
• signal	30 Vpp (SELV), 0.2 A
COM port	Clamp, RS-232/422/485

#### Video

Standards	H.264 (ISO/IEC 14496-10), M-JPEG, JPEG
Data rates	9.6 kbps to 6 Mbps
Resolution	Horizontal x vertical PAL/NTSC
• 4CIF	704 x 576/480 (25/30 ips)
• CIF	352 x 288/240 (25/30 ips)
GOP structure	I, IP
Overall IP delay	240 ms max
Frame rate	1 to 50/60 (PAL/NTSC)

#### Audio

Standard G.711	300 Hz to 3.4 kHz at 8 kHz sampling rate
Signal-to-noise ratio	> 50 dB

#### Network

Ethernet	10/100 Base-T, auto-sensing, half/full duplex, RJ45
Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, HTTPS, FTP, DHCP, IGMP V2/V3, ICMP, ARP, SMTP, SNMP, 802.1x
Encryption	TLS 1.0, SSL, AES (optional)

#### Control

Software update	Flash ROM, remote programmable
Configuration	Configuration Manager or Web browser

#### Connections

SD card interface	1 x SD card
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**Mechanical**

Dimensions (H x W x D)	36 x 88 x 118 mm (1.42 x 3.46 x 4.65 in)
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Weight	Approx. 0.25 kg (0.55 lb)
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**Environmental**

Operating temperature	0 °C to +50 °C (+32 °F to +122 °F) ambient temperature
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Relative humidity	0 to 95% atmospheric humidity, non-condensing
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Thermal value	17 BTU/h max
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**Ordering Information****VIP-X1XF**

H.264 dual-stream 1-channel encoder, VCA ready

**VIP-X1XF****Accessories****VIP-X1XF-PSU**

VIP X1 XF power supply

**VIP-X1XF-PSU****Software Options****MVC-FIVA4-ENC1**

IVA 4.0 VCA software license for single channel encoder

**MVC-FIVA4-ENC1****MVC-FENC-AES BVIP AES 128 Bit****Encryption**

BVIP AES 128-bit encryption site license. This license is required only once per installation. It enables encrypted communication between BVIP encoders, decoders and management stations.

**MVC-FENC-AES**

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