# VIDEOJET decoder 8000

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**BOSCH**

**Invented for life**

- ▶ HD, 4K UHD and MP decoding
- ▶ Flexible monitor layouts
- ▶ Directly drives up to two 4K UHD monitors
- ▶ Displays VCA metadata
- ▶ Compact size and VESA mount

VIDEOJET decoder 8000 displays video from Standard Definition (SD), High Definition (HD), 4K Ultra High Definition (UHD), and Megapixel (MP) cameras and encoders using H.264 or MPEG-4 encoding at up to 60 frames per second over IP networks.

Its scaling decoding technology and performance management architecture makes it easy for operators to simply connect cameras, regardless of resolution, bitrate, or frame rate. It will automatically scale its resources and distribute it over the connected streams to produce the best possible performance.

VIDEOJET decoder 8000 can drive two HD or 4K UHD displays directly, each with an independently configurable screen layout, and so is ideally suited for applications with flat-screen monitor walls at a moderate cost-per-monitor.

Control the viewing mode remotely and establish the video connections using comprehensive Bosch video management systems.

Compact in size in relation to its decoding power, VIDEOJET decoder 8000 is perfect for any display application that requires space-saving solutions.

Its fanless design is durable without the need for service.

## System overview

VIDEOJET decoder 8000 is based on Intel's fifth generation Core i3 CPU. The system has a 64 GB SSD module as boot medium for operating system and application. It uses a Gigabit Ethernet port.

The system runs a tailored and Bosch-branded Microsoft Windows 10 IoT Enterprise operating system and Monitor Wall software based on UHD-capable VideoSDK 6. Making use of Intel's hardware decoding accelerators, the software is fine-tuned for 4K UHD and MP video decoding support.

VIDEOJET decoder 8000 provides two Mini DisplayPorts, both capable of driving up to 4K UHD monitors simultaneously.

The system is enclosed in a specially designed housing. It can be directly mounted to the back of a monitor, using the 100 mm (3.937 in) VESA mount option.

## Functions

### High performance

Transmit 4K UHD and MP IP video to a high-performance VIDEOJET decoder 8000 and present it with ultimate clarity on large, flat-screen HD monitors, for example, high-performance 19" to 55" Bosch HD LCD or LED monitors.

VIDEOJET decoder 8000 is capable of flawlessly decoding four 4Kp30 streams at 32 Mbps or seven 1080p30 streams at 10 Mbps - displayed in one of the pre-defined and on-the-fly switchable layouts. It can handle up to 15 SD streams at up to 2.5 Mbps with full resolution and frame rate, and display it in flexible layouts on both monitors.

At a lower resolution, bit rate, or frame rate, the decoder is capable of displaying up to 60 video streams, arranged in various selectable screen layouts. Layouts can be switched at any time during operation, initiated by the controlling video management system. Layout switching can be based on alarm scenarios. VIDEOJET decoder 8000 supports landscape and portrait video and monitors. Layouts will adapt automatically to optimally utilize the available screen space.

### Decoding performance

These are maximum values which shall give a guideline for performance design. There are dependencies that impact the overall performance, especially when combining various streams and resolutions, e. g. upscaling to monitor resolution and frame rate. In an overload situation, VIDEOJET decoder 8000 may drop frames to display video as smoothly as possible. Note that upscaling video, for example SD or HD video to be displayed on a 4K UHD monitor, draws performance that reduces the decoding capabilities. Also note that display frame rate at 4K UHD is limited to 30 Hz.

| Encoding | Streams | Resolution | Max. bit rate / stream |
|---|---|---|---|
| H.264 MP | 3 | 12MPp20 | 32 Mbps |
| H.264 4K UHD | 4 | 2160p30 | 32 Mbps |
| H.264 HD | 8 | 1080p30 | 10 Mbps |
| | 8 | 720p60 | 10 Mbps |
| | 12 | 720p60 | 5 Mbps |
| | 12 | 720p30 | 10 Mbps |
| | 15 | 720p30 | 5 Mbps |
| H.264 SD | 16 | 4CIF/432p | 2.5 Mbps |
| | 20 | 288p | 1 Mbps |

### Access security

The decoders offer various security levels for accessing the network, the unit, and the data channels. System access is password-protected for operator and administrator levels.

VIDEOJET decoder 8000 supports TLS secured and encrypted communication. Also the payload channels - video, audio, or serial I/O - are then AES encrypted.

### IP Matrix for PC-free stand-alone applications

From firmware version 9.50 onwards, the built-in IP Matrix functionality, together with a connected keyboard, allows VIDEOJET decoder 8000 to run as a stand-alone system. An operator can manage up to 32 cameras via the keyboard without any PC or management system required.

System setup is quickly done with Configuration Manager. After that, no PC is required to run the IP Matrix.

For larger IP Matrix systems cluster it with up to 3 other decoders combining their number of cameras, keyboards, and displays, all managed by up to 4 operators.

A management system can integrate and control an IP Matrix system to keep operators' full awareness of alarm scenarios.

### Malware resistance

VIDEOJET decoder 8000 has been designed to be resistant to viruses and other malware. To prevent security holes, the installed Bosch software limits transactions to operation and maintenance, and the embedded operating system is tailored to the needs. No other than Microsoft and Bosch software is running on the decoder. Its firewall performs at the highest security level and allows communication only for a minimum of needed services. All access is password-protected, USB and other storage devices are disabled, and update files are authenticated and encrypted, thus putting robustness against malicious software to the highest degree.

### Easy upgrade

Remotely upgrade the decoder whenever new firmware or software becomes available. This ensures up-to-date products, thus protecting investment with little effort.

## Certifications and approvals

### Safety

| Region | Number |
|---|---|
| | IEC 60950 |

## Electromagnetic compatibility

| Region | Number |
|--------|--------|
| EU | EN55022 ITE |
| | EN55024 ITE |
| US | FCC 47 CFR Chapter 1 Part 15 |

### Approvals

| Region | Regulatory compliance/quality marks | |
|--------|------|------|
| Europe | CE | VIDEOJET decoder 8000 |
| USA | UL | VIDEOJET decoder 8000 |

## Installation/configuration notes

### Dimensions
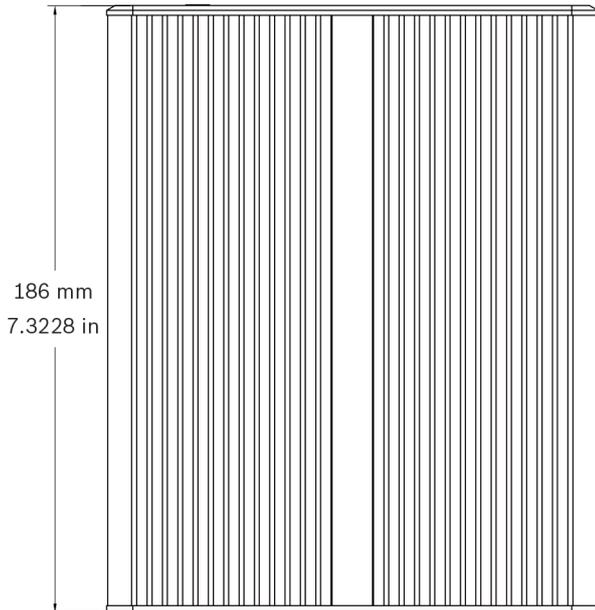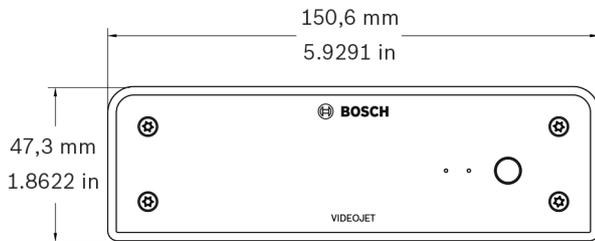


## Connectors and indicators
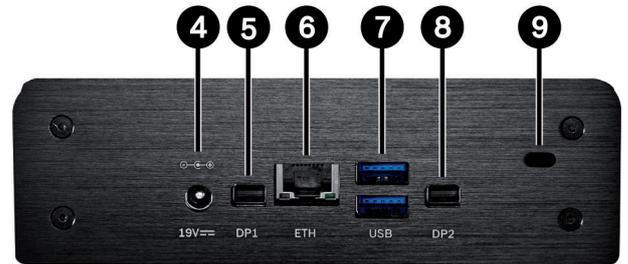


| | | | |
|---|---|---|---|
| 1 | SSD activity (orange) | 6 | Ethernet |
| 2 | Power indicator (blue) | 7 | Dual USB 3.0 |
| 3 | Power switch | 8 | Mini DisplayPort 2 |
| 4 | DC power connector | 9 | Kensington lock |
| 5 | Mini DisplayPort 1 | | |

## Technical specifications

**Electrical**

| | |
|---|---|
| Power supply | Wide-range, external, included in the box |
| Input voltage | 100 to 240 VAC, 50/60 Hz |
| Power consumption | Approx. 15 W, 65 W max |

**Video**

| | |
|---|---|
| Video outputs | 2 simultaneously |
| • connector | 2 x Mini DisplayPort 1.2, no VGA support |
| Standards | H.264 (ISO/IEC 14496-10) MPEG-4 |
| Data rates | |
| • MP | up to 32 Mbps |
| • 4K UHD | up to 32 Mbps |
| • HD | up to 20 Mbps |
| • SD | up to 6 Mbps per stream |
| GOP structure | I, IP, IBBP |

## Video

| Monitor resolutions | |
|---|---|
| • DP | 1920 x 1280 (HD) at 60 Hz<br>3840 x 2160 (UHD) at 30 Hz |

## Audio

| G.711 | |
|---|---|
| • Frequency range | 300 Hz to 3.4 kHz |
| • Data rate | 80 kbps at 8 kHz sampling rate |
| L16 (reception only) | |
| • Frequency range | 300 Hz to 6.4 kHz |
| • Data rate | 640 kbps at 16 kHz sampling rate |
| AAC-LC | |
| • Data rate | 48 kbps at 16 kHz sampling rate<br>80 kbps at 16 kHz sampling rate |
| Signal-to-noise ratio | > 50 dB |

## Network

| Ethernet | 10/100/1000 Base-T, auto-sensing, half/full duplex, RJ45 |
|---|---|
| Protocols | IPv4, UDP, TCP, HTTP, HTTPS, RTP/RTCP, RTSP, IGMP V2/V3, ICMP, ARP, DHCP, APIPA (Auto-IP, link local address), NTP (SNTP), digest authentication |
| Encryption | TLS (v1.0, v1.1, v1.2), AES (128 bit, 256 bit) |

## Control

| Software update | remotely programmable |
|---|---|
| Configuration | Configuration Manager |
| Operation | Bosch Video Management System, Video Client |

## Mechanical

| Dimensions w/o stands (H x W x D) | 47.3 x 150.6 x 186 mm (1.862 x 5.929 x 7.323 in) |
|---|---|
| Weight | Approx. 1.7 kg (3.7 lb) |
| VESA mount | 100 x 100 mm (3.937 x 3.937 in) |

## Environmental

| Operating temperature | 0 °C to +50 °C (+32 °F to +122 °F) ambient temperature |
|---|---|
| Relative humidity | 0 to 90% atmospheric humidity, non-condensing |
| Thermal value | Approx. 51 BTU/h, 221 BTU/h max |

## Ordering information

**VJD-8000 Decoder, H.264 up to 8MP, 60fps**
High-performance video decoder. H.264 up to 4K UHD and MP; MPEG-4; audio; up to 60 fps per stream; 2 Mini DisplayPort monitor outputs.
Order number **VJD-8000**

**VJD-8000-N Decoder, H.264 to 8MP, 60fps, no TPM**
High-performance video decoder. H.264 up to 4K UHD and MP; MPEG-4; audio; up to 60 fps per stream; 2 Mini DisplayPort monitor outputs.
No TPM
Order number **VJD-8000-N**

**Accessories**

**UML-274-90 27 inch FHD LED monitor**
High-performance full HD (1080p) 27-inch LED monitor.
Order number **UML-274-90**

**UML-324-90 32 inch FHD LED monitor**
High-performance full HD (1080p) 32-inch LED monitor.
Order number **UML-324-90**

**UML-434-90 43 inch FHD LED monitor**
High-performance full HD (1080p) 43-inch LED monitor.
Order number **UML-434-90**

**UML-554-90 55 inch 4K LED monitor**
High-performance UHD (4K) 55-inch LED monitor.
Order number **UML-554-90**

**KBD-UXF Keyboard, USB CCTV-oriented**
USB CCTV-oriented keyboard for use with Bosch Video Management System, BIS - Video Engine, or DIVAR IP systems.
Order number **KBD-UXF**