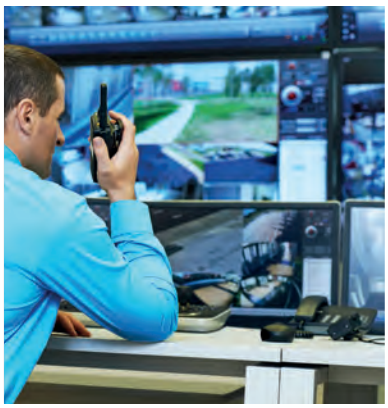
KVM-over-IP extenders

DL-DVI-Vision-IP

KVM extenders
Extender systems to bridge IT-distances

Catalogue V1.0






G&D IF IT'S KVM

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Guntermann & Drunck is regarded as a leading manufacturer of KVM equipment used in control rooms in air traffic control, broadcast studios, on ships and to monitor industrial processes.

With a powerful portfolio consisting of KVM extenders, switches and matrix switches, G&D's users get real added value. G&D provides the broadest KVM product portfolio at the market. Even with different features, all G&D products are compatible and can be combined. Our KVM solutions optimise the application of IT equipment and improve the working conditions for humans and computers.

No matter where KVM devices are installed, there's always one main requirement - robust, reliable, user-friendly and easy to operate KVM systems that can be adapted to future requirements and grow with your demands.

By short lines of communication G&D is able to solve challenging requirements and tailor systems to our customers' needs. We keep direct contact to our customers and are personally available. We are proactive and always keep an eye on the trends in the industry. Functionalities required by our customers are quickly implemented into our products. Our success can only be measured with our customers' satisfaction.

Trust in G&D for your optimal KVM solution.

DL-DVI Vision IP – outputs dual-link DVI signals via standard IP-based layer 3 networks

The KVM-over-IP extender system **DL-DVI-Vision-IP** output the following signals:

- Dual-link DVI video
- Keyboard/mouse (USB and PS/2)
- Audio + RS232
- USB HID Generic

The system processes dual-link DVI image data pixel-perfectly and with very good hand-eye coordination. The maximum possible image resolution corresponds to a pixel rate between 25MPixel/s and 330MPixel/s.

Signals are transmitted in compressed form using CAT cabling or optical fibers as well as over IP-based networks on layer 3 – even across network boundaries.

DL-DVI-Vision-IP is a console module (receiver), which is compatible with computer modules (transmitters) of the Vision-IP series. Combining DL-DVI-Vision-IP with a Vision-IP computer module allows users to operate their computers over large distances.

By means of manual bandwidth management, the transmission can be adapted to a wide range of bandwidth requirements. Video, keyboard, mouse and control data is encrypted with AES-128.

DL-DVI-Vision-IP - rear view

Operating principle

To receive signals, DL-DVI-Vision-IP uses G&D's KVM-over-IP technology. The transmission is based on IP networks over gigabit Ethernet (OSI model layer 3). The device provides a network interface for transmitting data, WebIF, configuration, monitoring, SNMP and updates. It is also equipped with a management network interface that provides all of the above functions in addition to data transmission.

For monitoring, DL-DVI-Vision-IP uses G&D's proven monitoring and SNMP technology. The system is configured via web interface or OSD.
Due to predefined IP addresses, plug & play is supported for the console module and a computer module of the Vision-IP series that are connected via existing network infrastructures or via CAT cables or optical fibers.

Within the KVM-over-IP product family, the different extender variants are compatible with each other, allowing any mix-matching of different video interfaces on console and computer modules. However, data transmission with KVM-over-IP technology is not compatible with classic KVM extenders from G&D. G&D's KVM-over-IP technology provides can be used extremely flexible.

The KVM-over-IP extenders can be operated in a matrix mode using an additional control unit, the ControlCenter-IP. This allows you to distribute and share signals within a LAN infrastructure. Users can also access their systems within the LAN network regardless of actual ranges.

Highlights

Video

- Support of dual-link DVI video
- Resolution with pixel rate between 25MPixel/s and 330MPixel/s
- Horizontal frequency: 25 kHz - 185 kHz
- Vertical frequency: 24 Hz - 120 Hz
- Resolutions up to 2560 × 1600 @ 60 Hz, 4096 × 2160 @ 30 Hz (4 K @ 30 Hz)
- Exemplary resolutions: 3840 × 2160 @ 30 Hz, 2048 × 2160 @ 60 Hz, 2048 × 2048 @ 60Hz. Further VESA and CEA standardized resolutions can be used within the scope of the pixel rate and the horizontal and vertical frequency.
- Pixel encoding of RGB 4:4:4 with 24bpp/8bpc
- Compressed transmission, pixel perfect, lossless video quality, near-zero latency, ideal hand-eye coordination
- EDID support
- Digital and analogue monitors can be connected on user side

Operation

- Integrated matrix support for use in combination with ControlCenter-IP
- On-screen display for configuration and operation
- Web interface for configuration, monitoring and updates
- Ident LED to quickly find devices in complex installations
- Screen-freeze function

Signals

- Encrypted video, keyboard, mouse and control data (AES-128)
- Support of PS/2 and USB keyboard/mouse (even in mixed mode)
- Permanent keyboard and mouse emulation
- Audio stereo bidirectional
- RS232 transparent
- Generic USB HID interface

Transmission

- IP-based signal transmission over standard gigabit Ethernet networks Layer 3, CAT or optical fibers
- HDIP level 1-3
- Secure and trouble-free operation through pairing and encryption with be AES-128 (cannot be manipulated)
- Unlimited transmission distance, with up to 100 meters between 2 active network components when using CAT cabling and up to 10,000 metres when using optical fibres

Device

- Internal power pack for main power supply
- Redundant, external power supply (optional)
- Ident LED to quickly find devices in complex installations
- Shipped as desktop variant (sets for rackmounting are separately available)

System update

- Update via Config Panel 21 (HTML, Java-free, optimised operation)

Features

Configuration and security

- Encrypted video, keyboard, mouse and control data (AES-128)
- Support of Quality of Service (QoS), can be configured by users
- Users can configure network ports of the respective communication channels
- Additional, independent management interface
- Manual bandwidth management to adjust the required bandwidth
- SNMP (trap and agent)
- Galvanic separation of transmitter and receiver (nur bei Fiber), less sensitive to interfering radiation
- High reliability

Screen freeze function

If the receiver loses the video signal due to a broken connection or a problem with the computer's graphics card, the Screen-freeze function „freezes" the image last displayed on the monitor. This status is highlighted by a red semi-transparent frame. The function is automatically cancelled when the display receives an active video signal.

Features

Monitoring

With the Monitoring function, you can auto-output device status messages to Syslog servers or via SNMP. The web interface lets you monitor the device manually.

The monitoring function of the DL-DVI-Vision-IP queries the following values:

- Status power supply unit (on/off)
- Status temperature threshold device (in/over limit)
- Status connection cables (ok/nok)
- Status computer (on/off)
- Status image signal graphics card computer (available/not available)
- Status network
- Status SFP modules (fiber variant)
- Status interfaces transmitter and receiver
- Freeze status
- Type of display (local and remote)
- Proactive monitoring of device status
- Event reporting function (syslog or SNMP traps)

Variants

Transmission medium

- **DL-DVI-Vision-IP-CAT:** Transmission over CAT x cables
- **DL-DVI-Vision-IP-Fiber:** Transmission over multi-mode or single-mode optical fibers

Connecting a KVM-over-IP extender to a matrix system

The KVM-over-IP extender systems DL-DVI-Vision-IP come with integrated matrix support to be able to adapt to growing installations. This way, you can combine the extension modules with a ControlCenter-IP matrix system even at a later time. Thus, operators benefit from more flexibility through distributed access - and any existing components can still be used as before.

Within the KVM-over-IP product family, the different extender variants are compatible with each other, allowing any mix-matching of different video interfaces on console and computer modules. However, data transmission with KVM-over-IP technology is not compatible with classic KVM extenders from G&D.

DL-DVI-Vision-IP extender system

ControlCenter-IP

DL-DVI-Vision-IP-CAT/-Fiber

DL-DVI-Vision-IP-CAT-CON - front view

DL-DVI-Vision-IP-CAT-CON - rear view

GENERAL FEATURES
DL-DVI-VISION-IP

Technical data	
Interfaces for network transmission	
KVM, audio and RS232	see specific features
Interfaces for remote workstation	
Monitor:	1 × DL-DVI-D socket
PS/2 keyboard/mouse:	2 × PS/2 socket
USB keyboard/mouse:	2 × USB A socket
Generic HID:	1 × USB A socket
Audio:	3.5 mm jack plug (speakers) 3.5 mm jack plug (micro in)
RS232:	1 x RS232 plug
Other interfaces	
Network management:	1 × RJ45 socket (100 MBit/s)
Service:	1 × mini USB socket (type B)
Graphics	
Format:	DVI-D (dual-link)
Pixel coding:	RGB 4:4:4 with 24 bpp/8 bpc
Pixel rate:	25 MP/s to 330 MP/s
Max. resolution:	2560 × 1600 @ 60Hz) 4096 × 2160 @ 30 Hz (UHD-4K)
Exemplary resolutions:	3840 × 2160 @ 30 Hz (Ultra HD) 2048 × 2048 @ 60Hz) 2048 × 2160 @ 60 Hz Other standard resolutions possible
Vertical frequency:	24 Hz to 120 Hz
Horizontal frequency:	25 kHz to 185 kHz
DDC:	EDDC 1.2, DDC/CI
Audio	
Transmission type:	Transparent, bidirectional
Resolution:	24 bit digital, stereo
Sampling rate	96 kHz
Bandwidth:	22 kHz

GENERAL FEATURES
DL-DVI-VISION-IP

Technical data	
RS232	
Transmission type:	Transparent
Transmission rate:	Max. 115,200 bit/s
Supported signals:	RxD, TxD, RTS, CTS, DTR, DSR, DCD
Main power supply	
Type:	Internal power pack
Connector:	IEC plug (IEC-320 C14)
Voltage:	AC100-240V/60-50Hz
Redundant power supply	
Type:	External power pack
Connector:	MiniDIN-4 Power socket
Voltage:	+12VDC

SPECIFIC FEATURES
DL-DVI-VISION-IP-CAT

	DL-DVI-Vision-IP-CAT-AR-CON
Interface for network transmission	
KVM, audio and RS232:	1 x RJ45 socket
Housing	
Material:	Anodised aluminium
Dimensions (W × H × D):	210 × 44 × 210 mm (desktop) 19″ × 1 HE × 210 mm (rackmount set separately available)
Weight:	Approx. 1.4 kg
Power consumption	
Main power supply:	100-240 VAC/60-50Hz/0.3-0.2
Redundant power supply:	12 VDC/1.2 A
Operating environment	
Temperature:	+5 to +45 °C
Air humidity:	< 80 %, non-condensing

SPECIFIC FEATURES
DL-DVI-VISION-IP-FIBER

	DL-DVI-VISION-IP-FIBER-AR-CON
Interface for network transmission	
KVM, audio and RS232:	1 x LC duplex socket
Housing	
Material:	Anodised aluminium
Dimensions (W × H × D):	210 × 44 × 210 mm (desktop) 19″ × 1 HE × 210 mm (rackmount set separately available)
Weight:	Approx. 1.4 kg
Power consumption	
Main power supply:	100-240 VAC/60-50Hz/0.3-0.2 A
Redundant power supply:	12 VDC/1.2 A
Operating environment	
Temperature:	+5 to +45 °C
Air humidity:	< 80 %, non-condensing

FEATURES OF TRANSMISSION MODULES – TRANSMISSION AND CABLE LENGTH

DL-DVI-VISION-IP-FIBER

MULTIMODE TRANSMISSION MODULE	
Data transmission	
Type:	Optical fibers (2 fiber cores)
Type of interface:	LC duplex
Cable length (max.)	
Multimode 50/125 µm, Class OM2:	550 meters (fibres with 500 MHz*km) 500 meters (fibres with 400 MHz*km)
Multimode 62,5/125 µm, Class OM1:	275 meters (fibres with 200 MHz*km) 220 meters (fibres with 160 MHz*km)

SINGLEMODE TRANSMISSION MODULE	
Data transmission	
Type:	Optical fibers (2 fiber cores)
Type of interface:	LC duplex
Cable length (max.)	
Singlemode 9/125 µm, Class OS1:	10 kilometers

Item numbers DL-DVI-Vision-IP

Item no.	Description	Design
A1120334	DL-DVI-Vision-IP-AR-CON	Desktop
A1120348	DL-DVI-Vision-IP-Fiber(M)-AR-CON	Desktop
A1120350	DL-DVI-Vision-IP-Fiber(S)-AR-CON	Desktop

Legend

ABBREVIATIONS

CPU = Computer module
PC = Computer module
CON = User module
REM = User module

MC2 = Multi-channel 2
MC3 = Multi-channel 3
MC4 = Multi-channel 4

M = Multimode
S = Singlemode
S+ = Singlemode+

RM = For assembly in a 19“ rack Desktop device
DT = Desktop device
DP = DisplayPort™

A = Audio
R = RS232
U = Integr. USB 2.0 up to 16 MBit/s
U2 = Transp. USB 2.0 Hi-Speed 480 Mbit/s
D = Delay

EQUIPMENT FEATURES

- Audio
- CAT cable
- Compact setup
- CrossDisplay-Switching
- Delay
- DisplayPort™
- DVI dual link video
- DVI single link video
- Expansion
- Fiber optics
- High Definition Multimedia Interface
- Keyboard/Mouse
- KVM-over-IP™
- Media control
- Mix & Match
- Modular setup
- Monitoring
- Multi user
- Multi-channel video
- Network connection
- Power switching
- Remote IP
- RS232
- Screen-Freeze
- Separate local/remote user
- Single user
- USB 2.0
- USB 3.0
- VGA video
- Web Interface

COLOUR CATEGORY

- KVM extenders
- KVM switches
- Analog KVM matrix systems
- Digital KVM matrix systems
- Digital signage
- KVM add-ons
- Monitoring & SNMP
- KVM MultiPower
- Accessories

G&D
IF IT'S KVM

From professionals to professionals:

Trust in our professional solutions - from planning through to aftersales support.

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