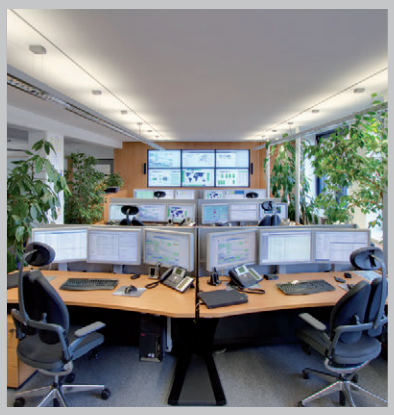
DP KVM extender

DP1.2-VisionXG 1.0

KVM extender

Extender systems to bridge IT-distances






G&D IF IT'S KVM

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Guntermann & Drunck is regarded as a leading manufacturer of digital and analogue 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.

DP1.2-VisionXG - KVM extender system for native 4K-UltraHD resolution

The DisplayPort™ KVM extender system DP1.2-VisionXG consists of a computer module (transmitter) and a user module (receiver) and facilitates the remote operation of one computer. At each module, a console can be connected.

For the perfect hand eye coordination, the latency free transmission takes place over fiber. Uncompressed, pixel perfect and lossless up to

- 400 m over a pair of multimode fibers (50/125 µm, 4.700 MHz*km, OM4)
- 10,000 m over a pair of singlemode fiber (9/125 µm, 2,000 MHz*km, OS1)

The devices are available as variants displaying one or two video channels. (Displaying four channels in preparation)

With its network port, the web interface and monitoring functions, syslog and SNMP, the DP1.2-VisionXG system offers important features for mission-critical applications.

DP1.2-VisionXG-Fiber-AR-CPU front view

Highlights

Video

Source synchronicity

The MC channels of the DP1.2-VisionXG are working source synchronously and can be combined on the console side. This enables the resolution of 4K@120Hz by splitting in 2 x 2K@120Hz (MC2) or, in the same way, 8K@30Hz.

With the MC4 variants (in preparation) resolutions up to 8K@60Hz (4 x 4K@60Hz) will be possible.

Other characteristics

- Latency free (zero delay) transmission, no frame drops, no tearing with a perfect hand eye coordination
- Uncompressed, lossless transmission in 1:1-Performance
- Supports DisplayPort™ 1.2a resolutions
- **Supports 4K and UltraHD resolutions at 60Hz**
- **Supports 8K resolutions at 30Hz using two video channels**
- **Supports 8K resolutions at 60Hz using four video channels** (in preparation)
- Resolution per channel up to 4096x2160/60Hz (4K@60Hz), 3840x2160/60Hz (Ultra-HD/60Hz)
- Further standardized resolutions possible as part of the maximum pixelrate
- Pixelrate up to 600 MPixel/s
- The MC2 variant enables the transmission of 7680x4320/30Hz (8K)
- Visually lossless image data compression can be activated for emergency operation (for example, if single transmission lines fail, the bandwidth may be reduced in a way that uncompressed transmission can no longer be ensured)
- Single- and multi-channel variants
- 24 bit colour mode
- Supports nVidia 3D-Vision 120Hz: 1680x1050/120Hz
- Pixel encoding fro, RGB 4:4:4 with 24bpp / 8bpc
- Supports E-EDID for each video channel
- Generic implementation of DDC/CI information possible

Operation

- Console with all video channels at both modules

Signals

- PS/2- and USB keyboard/mouse support
- Bidirectional transmission of audio and RS232 as default
- Embedded Audio in DisplayPort
- Transparent transmission of USB 2.0 (optional)

Transmission

- 10,000 m over two pairs of fibers (9/125 µm, 2,000 MHz*km, OS1)
- 400 m over two pairs of multimode fibers (50/125 µm, 4.700 MHz*km, OM4)
- 300 m over two pairs of multimode fibers (50/125 µm, 2,000 MHz*km, OM3)
- 82 m over two pairs of multimode fibers (50/125 µm, 500 MHz*km, OM2)
- 66 m over two pairs of multimode fibers (50/125µm, 400 MHz*km)

Highlights

- 33 m over two pairs of multimode fibers (62.5/125 µm, 200 MHz*km, OM1)
- 26 m over two pairs of multimode fibers (62,5/125 µm, 160 MHz*km, FDDI-grade)

Device

- Galvanic separation of transmitter and receiver
- Insensitive to interference radiation
- Two integrated network ports
- Configuration via web interface
- Redundant power supply
- PS/2 and USB keyboard/mouse supported - even mixed operation
- Permanent keyboard/mouse emulation
- Available as desktop and rack mount version
- Ventilation concept for the use in cold/hot aisle installations
- redundante Spannungsversorgung
- Lüftungskonzept für den Einsatz in Kalt-/Warmgang-Installationen

System update

- Over the config panel

Features

Native 4K UltraHD resolution for DisplayPort™

- Supports 4K and UltraHD resolutions at 60Hz
- Supports 8K resolutions at 30Hz using two video channels
- Supports 8K resolutions at 60Hz using four video channels (in preparation)
- Uncompressed video transmission, pixelperfect, absolutly lossless and latency free.

Supports DDC/CI protoco

The DP1.2-VisionXG extender systems now offer support for the DDC/CI protocol. Thus, the screens in the control room can be automatically configured and the brightness of the screens, for example, is simply adjusted to the external light conditions.

Easier access with SNMP tool Zabbix

For customers who are not yet using extensive SNMP tools, G&D offer a simple way to use the functions included in the devices. Templates for the open source tool Zabbix are provided here. The program lets users monitor SNMP-capable devices in a network and, among other things, issues warning notifications about critical device states, which have been received via SNMP trap.

Monitoring

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

The Monitoring function of the DP1.2-VisionXG queries the following values:

- Proactive monitoring of device states
- Event reporting function (Syslog or SNMP traps)
- Status power supply unit (on/off)
- Status temperature threshold device (in/over limit)
- Status connection cable (ok/nok)
- Status computer (on/off)
- Status image signal graphics card computer (available/not available)
- Status of access settings (what rights are assigned to the user?)
- Status: Peripherials, monitors, video signal, USB 2.0
- Monitoring: Availability of the network interface
- Monitoring: Fan status

Network / Communication / Safety

- Two network interfaces
- Link aggregation increases reliability of network ports
- Configuration over web interface
- Monitoring and reporting of operating status over web interface
- Report and request of system status via SNMP trap and agent
- Logbook: electronic notes about the device; can be exported as .csv file
- Ident-LED facilitate locating of devices in complex installations
- Redundant power supply

Screen-Freeze function

If the display 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 state is highlighted by a red semi-transparent frame. Meanwhile, the current time and the downtime of the video signal is displayed. The function is automatically cancelled when the display receives an active video signal.

Variants

Design

- Units are supplied as desktop variants
- 19“ rackmount kit included

Video channels

- Single-channel and multi-channel 2
- Multi-channel 4 in preparation

Expansion

KVM-NetworkCenter-Suppor

The DP1.2-VisionXG uses the network to communicate with the appliance KVM-NetworkCenter. When employing more than one DP1.2-VisionXG, you can query and configure the devices by using the KVM-NetworkCenter.

KVM-NetWork-Center

Installation

The computer is linked to the back of the DP1.2-VisionXG transmitter. Distinctive cables connect the computer‘s keyboard, video, mouse, audio, and USB interfaces to the DP1.2-VisionXG computer module.

Installing the user console is just as easy: Simply connect the operating hardware with the corresponding interfaces of the DP1.2-VisionXG receiver.

Use the existing cabling structure to link transmitter and receiver (multimode or singlemode optical fibres).

DP1.2-VisionXG-Fiber

DP1.2-VisionXG-Fiber-AR-CPU front view

DP1.2-VisionXG-Fiber-AR-CPU rear view

General features DP1.2-VisionXG-Fiber

Technical data	
Graphics	
Format	DisplayPort™ (DP 1.2a)
Colour depth	24 Bit
Pixel encoding	RGB 4:4:4 with24bpp/8bpc
Videobandwidth	max. 600 MP/s, DisplayPort 4 Lanes, LBR, HBR, HBR2, SingleStreamTransport (SST)
Max. resolution per video channel	2560 × 1600 @ 60Hz 096 × 2160 @ 60 Hz (4Kp60Hz)
Examplary resolutions	per video channel: 1920 × 1200 @ 60Hz 2048 × 2048 @ 60Hz (2K × 2K) 2560 × 1600 @ 60Hz 3840 × 2160 @ 60 Hz (Ultra HD/60Hz) 4096 × 2160 @ 60 Hz (4Kp60Hz)
	when using two video channels (MC variants only): 7680 × 4320 @ 30Hz (8K)
	nVidia 3D-Vision 120Hz: 1680 × 1050 @ 120Hz
	further standardised resolutions possible
Vertical frequency	24 Hz to 200 Hz
Horizontal frequency	25 kHz to 185 kHz
Audio (DisplayPort™ Digital)	
Transmission type	2 channel LPCM, stereo
Resolutions	16/20/24 bit
Sampling rates	up to 48 kHz
Audio	
Transmission type	analog, stereo
Resolution	24 bit
Sampling rate	96 kHz
Bandwidth	22 kHz
USB (ARU2 variant)	
Specification:	USB 2.0
Transmission type	transparent
Transmission rate	max. 480 Mbit/s
RS232	
Transmission type	transparent
Transmission rate	max. 230,400 bps
Transmitted signals	TxD, RxD, DTR, DSR, RTS, CTS, DCD

General features DP1.2-VisionXG-Fiber

Technical data	
Hauptstromversorgung	
Type	internal power pack
Connection	IEC plug (IEC-320 C14)
Voltage	AC100-240V/60-50Hz
Redundant power supply	
Type	internal power pack
Connection	IEC plug (IEC-320 C14)
Voltage	AC100-240V/60-50Hz

DP1.2-VisionXG-Fiber

DP1.2-VisionXG-Fiber-AR-CON front view

DP1.2-VisionXG-Fiber-AR-CON rear view

General module features DP1.2-VisionXG-Fiber

	DP1.2-VISIONXG-FIBER-CPU	DP1.2-VISIONXG-FIBER-CON
Inerfaces for console		
Monitor: per video channel	1 × DisplayPort socket	
Keyboard	1 × PS/2 socket 1 × USB-A socket	
Mouse	1 × USB-A socket	
Generic	-	1 × USB-A socket
Audio	-	1 × 3.53.5-mm jack socket(Mirco In) 1 × 3.5-mm jack socket(Speaker)
USB (Variante -ARU2)	-	4 × USB-A socket
RS232	-	1 × D-Sub9 socket
Interfaces to computer		
Video	1 × DisplayPort socket	-
PS/2 keyboard	1 × PS/2 socket	-
USB keyboard/mouse	1 × USB-B socket	-
Audio:	1 × 3.5-mm jack socket(Line In) 1 × 3.5-mm jack socket(Line Out)	-
USB (transparent): Variant -ARU2	1 × USB-B socket	-
RS232	1 × D-Sub9 socket	-
Interfaces for transmission		
Video and input devices	--> see specific features	
Other interfaces		
Connection to network	2 × RJ45 socket	

DP1.2-VisionXG-Fiber

DP1.2-VisionXG-Fiber-ARU2-CPU front view

DP1.2-VisionXG-Fiber-ARU2-CPU rear view

Specific variant features DP1.2-VisionXG-Fiber (AR)

	DP1.2-VISIONXG-FIBER-AR-CPU	DP1.2-VISIONXG-FIBER-AR-CON
Interfaces for transmission		
Video and input devices	2 × LWL LC-Duplex socket	
Current consumption		
maximum	100-240VAC/60-50Hz/0.7-0.3A	100-240VAC/60-50Hz/0.7-0.4A
Power consumption		
maximum	31,7 W	40,1 W
Casing		
Material	anodised aluminium	
Dimensions (W × H × D)	435 mm × 1 U× 284.5 mm	
Weight	approx. 2.6 kg	
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80%, non-condensing	

Specific variant features DP1.2-VisionXG-Fiber (ARU2)

	DP1.2-VISIONXG-FIBER-ARU2-CPU	DP1.2-VISIONXG-FIBER-MC2-ARU2-CON
Interfaces for transmission		
Video and input devices	2 × LWL LC-Duplex socket	
Current consumption		
maximum	100-240VAC/60-50Hz/0.7-0.4A	100-240VAC/60-50Hz/0.8-0.4A
Power consumption		
maximum	32,7 W	52,5 W
Casing		
Material	anodised aluminium	
Dimensions (W × H × D)	435 mm × 1 U× 284.5 mm	
Weight	approx. 2.6 kg	
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80%, non-condensing	

DP1.2-VisionXG-Fiber-MC2

DP1.2-VisionXG-Fiber-MC2-ARU2-CON front view

DP1.2-VisionXG-Fiber-MC2-ARU2-CON rear view

Specific variant features DP1.2-VisionXG-Fiber (MC2-AR)

	DP1.2-VISIONXG-FIBER-MC2-AR-CPU	DP1.2-VisionXG-FIBER-MC2-CON
Interfaces for transmission		
Video and input devices	4 × LWL LC-Duplex socket	
Current consumption		
maximum	100-240VAC/60-50Hz/0.7-0.4A	100-240VAC/60-50Hz/0.7-0.4A
Power consumption		
maximum	41,2 W	48,5 W
Casing		
Material	anodised aluminium	
Dimensions (W × H × D)	435 mm × 1 U× 284.5 mm	
Weight	approx. 2.7 kg	
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80%, non-condensing	

Specific variant features DP1.2-VisionXG-Fiber (MC2-ARU2)

	DP1.2-VISIONXG-FIBER-MC2-ARU2-CPU	DP1.2-VISIONXG-FIBER-MC2-ARU2-CON
Interfaces for transmission		
Video and input devices	4 × LWL LC-Duplex socket	
Current consumption		
maximum	100-240VAC/60-50Hz/0.7-0.4A	100-240VAC/60-50Hz/0.7-0.4A
Power consumption		
maximum	42,1 W	60,9 W
Casing		
Material	anodised aluminium	
Dimensions (W × H × D)	435 mm × 1 U× 284.5 mm	
Weight	approx. 2.7 kg	
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80%, non-condensing	

Features of the multimode transmission modules

GENERAL FEATURES	
Datenübertragung	
Type	Optical fibres (2 fibres)
Type of interface	LC-Duplex
Wavelength (λ)	850 nm
Cable length (max.)	
Multimode 50/125µm, 4700MHz*km, OM4	400 meters
Multimode 50/125 µm, 2000 MHz*km, OM3	300 meters
Multimode 50/125 µm, 500 MHz*km, OM2	82 meters
Multimode 50/125 µm, 400MHz*km	66 meters
Multimode 62,5/125 µm, 200 MHz*km, OM1	33 meters
Multimode 62,5/125 µm, 160 MHz*km, FDDI-grade	26 meters

Features of the singlemode transmission modules

GENERAL FEATURES	
Data transmission	
Type	Optical fibres (2 fibres)
Type of interface	LC-Duplex
Wavelength (λ)	1310 nm (1260 nm to 1355 nm)
Cable length (max.)	
Singlemode 9/125µm, class OS1	10 kilometers

List of item numbers single-channel

Item No.	Description	USB 2.0	DT
A1110193	DP1.2-VisionXG-Fiber(S)-AR-CPU		Desktop mit Rackmount-Kit
A1110194	DP1.2-VisionXG-Fiber(S)-ARU2-CPU	USB 2.0	Desktop mit Rackmount-Kit
A1110195	DP1.2-VisionXG-Fiber(M)-AR-CPU		Desktop mit Rackmount-Kit
A1110196	DP1.2-VisionXG-Fiber(M)-ARU2-CPU	USB 2.0	Desktop mit Rackmount-Kit
A1120285	DP1.2-VisionXG-Fiber(S)-AR-CON		Desktop mit Rackmount-Kit
A1120286	DP1.2-VisionXG-Fiber(S)-ARU2-CON	USB 2.0	Desktop mit Rackmount-Kit
A1120287	DP1.2-VisionXG-Fiber(M)-AR-CON		Desktop mit Rackmount-Kit
A1120288	DP1.2-VisionXG-Fiber(M)-ARU2-CON	USB 2.0	Desktop mit Rackmount-Kit

List of item numbers multi-channel

Item No.	Description	USB 2.0	DT
A1210200	DP1.2-VisionXG-Fiber(M)-MC2-AR-CPU		Desktop mit Rackmount-Kit
A1210201	DP1.2-VisionXG-Fiber(M)-MC2-ARU2-CPU	USB 2.0	Desktop mit Rackmount-Kit
A1210202	DP1.2-VisionXG-Fiber(S)-MC2-AR-CPU		Desktop mit Rackmount-Kit
A1210203	DP1.2-VisionXG-Fiber(S)-MC2-ARU2-CPU	USB 2.0	Desktop mit Rackmount-Kit
A1220236	DP1.2-VisionXG-Fiber(M)-MC2-AR-CON		Desktop mit Rackmount-Kit
A1220237	DP1.2-VisionXG-Fiber(M)-MC2-ARU2-CON	USB 2.0	Desktop mit Rackmount-Kit
A1220238	DP1.2-VisionXG-Fiber(S)-MC2-AR-CON		Desktop mit Rackmount-Kit
A1220239	DP1.2-VisionXG-Fiber(S)-MC2-ARU2-CON	USB 2.0	Desktop mit Rackmount-Kit

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	=	Multi mode
S	=	Single mode
S+	=	Single mode+
RM	=	For assembly in a 19“ rack
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
- CrossDisplay-Switching
- Delay
- DisplayPort™ 1.1
- DVI Dual link video
- DVI Single link video
- Expansion
- Fiber optics
- Keyboard/Mouse
- KVM over IP
- KVM-NetworkCenter-Support
- Media control
- Mix & Match
- Modular setup
- Monitoring
- Multi user
- Multi channel Video
- Network connection
- Power switching
- Remote IP
- RS 232
- Screen Freeze
- Separate local/remote user
- Single user
- USB 2.0
- VGA Video
- Web interface