DVI-VISION-FIBER(S)-MC4-ARU-CPU

KVM extenders, Article number A1410178



The matrix-compatible KVM extenders of the DVI-Vision series extend keyboard, video, and mouse signals, as well as other peripheral data (e.g., audio and USB), via a dedicated CAT or fiber connection (up to 10,000 m). An extender system consists of a computer module (CPU) and a compatible console module (CON). Computers can be controlled in near real-time – both in extender and matrix applications. The DVI-Vision series supports SingleLink DVI for digital video resolutions up to 1920 × 1200 (60 Hz). Video data is processed pixel-perfectly and offers excellent hand-eye coordination, thanks to bluedec™ – G&D's advanced, multi-stage, lossless compression technology.

SCOPE OF DELIVERY

Quantity	Description	Article number
1	PowerCable-2 Standard cable 2m	A6300057
4	DVI-D-DL-M/M-2 cable DVI-D 2m	A6300100
1	USB-AM/BM-2 cable USB 2m	A6300113
1	RS232-M/F-2 cable RS232 2m	A6300023
2	Audio-M/M-2-ferrite cable 2m	A6300083
1	19" RM-Set-436-1RU	A7000003
1	Safety instructions flyer - FCC class B	A9100371

DETAILS

VIDEO

- bluedec™ – advanced developed multi-stage compression for best video quality and practically latency-free transmission. This method enables pixel-perfect video transmission with efficient bandwidth use.
- The end devices can be flexibly combined with each other, even if they process different video signals (Mix & Match)
- EDID data utilization from the workplace monitor
- Flexible EDID profile options for optimized monitor settings
- Resolution up to
  1920 × 1200 @ 60 Hz,
  1280 × 1024 @ 85 Hz
- Resolution up to
  1920 × 1200 @ 60 Hz,
  1280 × 1024 @ 85 Hz

SIGNALS

- Transparent audio signals (stereo, analog)
- Transparent RS232 (max. 115,200 bps)
- Embedded USB 2.0 with Full Speed, transparent, all USB classes

TRANSMISSION

- The transmission distance is up to 5,000 meters over fiber singlemode optics, incl. transmission module(s)/SFP transceiver(s)

DEVICE

- Improved security through physical separation between workplaces and computers
- Access to standard interfaces of the computer, with no software installation required
- The devices are compatible with the ControlCenter-Digital and ControlCenter-Compact series (matrix operation) and other end devices for computer and workplace connections (extender operation)
- Internal power pack for main power supply
- CON-2 variant: console module with two transmission lines for redundancy
  - These modules can be connected to various counterparts, such as compatible computer modules or KVM matrix switches, whereby switching is carried out via pushbuttons, hotkeys or automatically, depending on the configuration
- UC variant: computer module with two transmission lines for redundancy

  - These modules can be connected to various counterparts, such as compatible console modules or KVM matrix switches
- MultiChannel variants (MC): Modules for multi-monitor workplaces with multi-channel video
  - MC mode uses the full bandwidth for each video channel, whereby a separate transmission line is required for each channel

WARRANTY

- A 3-year, free of charge product guarantee
- For an additional fee guarantee extension possible

FEATURES

SECURITY FEATURES

- Console modules do not store security-relevant information such as login credentials, which could be extracted in the event of device loss
- Monitoring of system states such as status, power supply, temperature and computer modules and console modules are monitored as well
- Each monitoring value can be enabled individually; critical states raise an alarm, which authorized users can acknowledge to downgrade it to warning level
- Syslog logging locally and to up to two servers, via TCP or UDP, with configurable port, eight severity levels per the syslog standard and ISO 8601 timestamps
- Logged events include user logins, failed login attempts, changes to user rights, connections to remote targets and failed backups
- SNMP agent supporting SNMPv2c and SNMPv3; for SNMPv3, authentication via SHA-1 through SHA-512, encryption with AES128, AES192 or AES256, and security levels up to authPriv
- Access to the SNMP agent can be restricted to defined source IP addresses or network segments (IPv4 and IPv6)
- SNMP notifications to multiple receivers, sent either as traps or as acknowledged informs, with a configurable severity threshold
- Comprehensive rights management and user administration, allowing precise control over which user can access which resources
- Option for activatable access protection (default operating mode in matrix systems), in which authentication is required before accessing computer sources
- Support for external directory services (Active Directory, Radius, LDAP) to meet company security policies
- To comply with individual password policies and improve security, password complexity can be configured system-wide
- Configurable login options, such as displaying terms of use or setting the maximum acceptable number of failed login attempts, can enhance system security
- Auto Backup Function: Automates backups at user-defined intervals and replaces manual intervention – ensuring reliable, timely data protection without the need for continuous monitoring
- Freeze function: If the video signal is lost, the last displayed image is frozen and highlighted with a colored frame and timer
- 2-Factor-Authentication (2FA) – is integrated by default in KVM extenders and enhances security by requiring a second, possession-based factor during user authentication:
  - The traditional password authentication is combined with a time-limited, single-use code (Time-Based-One-Time-Password - TOTP)
  - You can choose between using the internal authentication server provided in the device or an external directory service

- Authenticator apps or hardware token can be used
- This additional layer of protection prevents unauthorized access and ensures the highest level of security, particularly in sensitive IT environments

OPERATION FEATURES

- Ready for operation out of the box, no additional configuration required
- Permanent keyboard/mouse emulation ensures a stable system
- Compatibility with special USB-HID input devices
- Operation via multilingual on-screen display (OSD) and hotkeys
- Configuration and update via the multilingual HTML5 web interface “Config Panel 21” (Java-free)
- Support of DDC/CI (Display Data Channel / Command Interface) to enable centralized software-side control of monitor settings such as brightness
- Local console at the computer module allows on-site operation, including all video channels
- Exclusive or concurrent operation: The KVM extender allows computer control both remotely and locally. When an input is detected, the extender automatically locks the competing console. The lock is lifted after a preset timeout if no further input is detected. A key combination can activate exclusive operation, immediately disabling the competing console. Another key combination restores shared control.

EXTENSIONS

DEVICE

- External power supply via external 12V power pack or G&D-MultiPower, providing a central and redundant power supply
- Device mounting via RackMount sets, TableMount sets or other mounting tools

SYSTEM EXTENSION

- You can integrate the matrix-compatible extenders into a complete installation with a ControlCenter-Compact or ControlCenter-Digital, even at a later point in time. This provides you with even greater flexibility through the possibility of distributed access – and the existing components can continue to be used.

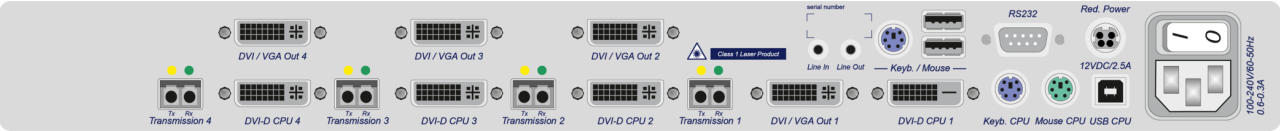
PANELS AND CONNECTORS

FRONT



Aperture designation	Design	Description
Network	RJ45 socket	Network connection
Service	Mini USB socket	Connection for service purpose

BACK



Aperture designation	Design	Description
Transmission 4	LC Duplex socket	Data transmission between modules
DVI-D CPU 4	DVI-D jack	Connection to the computer
DVI / VGA Out 4	DVI-I jack	Connecting a monitor
Transmission 3	LC Duplex socket	Data transmission between modules
DVI-D CPU 3	DVI-D jack	Connection to the computer
DVI / VGA Out 3	DVI-I jack	Connecting a monitor
Transmission 2	LC Duplex socket	Data transmission between modules
DVI-D CPU 2	DVI-D jack	Connection to the computer
DVI / VGA Out2	DVI-I jack	Connecting a monitor
Transmission 1	LC Duplex socket	Data transmission between modules
DVI / VGA Out 1	DVI-I jack	Connecting a monitor
DVI-D CPU 1	DVI-D jack	Connection to the computer
Line In	3,5-mm jack plug	Connection to the computer
Line Out	3,5-mm jack plug	Connection to the computer
Keyb./Mouse	PS/2 jack	Connection of a keyboard / mouse
Keyb./Mouse	USB A socket	Connection of a keyboard / mouse
Keyb. CPU	PS/2 jack	Connection to the computer
Mouse CPU	PS/2 jack	Connection to the computer
RS232	D-Sub 9 socket	Serial data transmission
USB CPU	USB B socket	Connection to the computer
Red. Power	Mini DIN 4 socket	Redundant power supply
Main Power	IEC plug (IEC-320 C14)	Stromversorgung

TECHNICAL DATA

General	Brand	G&D
	Product group	KVM extenders
	Product Family	Vision
	Country of origin	Germany
	KVM matrix system component	Computer module (digital)
	Power Supply	Redundancy without load balancing
Input options	USB mouse	yes
	USB keyboard	yes
	PS/2 mouse	yes
	PS/2 keyboard	yes
Transmission	Number of transmission channels	4
	Redundant transmission channels	no redundant KVM transmission
	Range	5,000 m (9/125µm, OS1)
	Laser class	Class 1
	Type of interface	LC-Duplex
	Wavelength	1,310 nm
	Medium	Fiber SM
	Data rate	2.5 Gbit/s
Video input	Quantity	4

	Format	Singlelink DVI
	Colour depth	24 bit
	Pixel rate ca.	25 MHz to 165 MHz
	Vertical frequency	24 Hz to 120 Hz
	Horizontal frequency	25 kHz to 130 kHz
	Exemplary resolutions	1920 × 1200 (60 Hz) 1920 × 1080 (60 Hz) 1600 × 1200 (60 Hz) 1280 × 1024 (85 Hz)
	General Notes	Further VESA and CTA standardised resolutions possible within pixel rate and horizontal/vertical frequency.
	Supported interlace resolutions	1920 × 1080i (60 Hz) 1920 × 1080i (50 Hz) 1440 × 576i (50 Hz) 1440 × 480i (60 Hz)
	Only the listed interlace formats are supported	yes
Video output	Quantity	4
	Format	Singlelink DVI
	Colour depth	24 bit
	Pixel rate ca.	25 MHz to 165 MHz
	Vertical frequency	24 Hz to 120 Hz
	Horizontal frequency	25 kHz to 130 kHz

	Exemplary resolutions	1920 × 1200 (60 Hz) 1920 × 1080 (60 Hz) 1600 × 1200 (60 Hz) 1280 × 1024 (85 Hz)
	General Notes	Further VESA and CTA standardised resolutions possible within pixel rate and horizontal/vertical frequency.
	Supported interlace resolutions	1440 × 480i (60 Hz) 1440 × 576i (50 Hz) 1920 × 1080i (50 Hz) 1920 × 1080i (60 Hz)
	Only the listed interlace formats are supported	yes
Audio	Transmission type	Stereo Transparent
	Resolutions	24 bit digital
	Sampling rate	up to 96 kHz
	Bandwidth	22 kHz
	Audio support	Analog
USB	Separate USB transmission port	no
	Specification	USB 2.0
	Medium	Embedded
	Transmission rate	max. 16 Mbit/s (app. Full Speed)
	Range	max. 5,000 m
	USB classes	All
Serial	Standard	RS232

	Transparent transmission	yes
	Data rate	max. 115,200 bps
	Signals	TxD RxD DTR DSR RTS CTS DCD
Network	Quantity	1
	Medium	CAT5 CAT6 CAT7
	Data rate	10 Mbit/s 100 Mbit/s
Maintenance	Update via	ConfigPanel (Network)
	Serviceport settings	115200bps (8/N/1)
Housing	Material	Anodised aluminium
	Active cooling (fan)	yes
	Width ca.	436 mm
	Height ca.	44 mm
	Depth ca.	210 mm
	IP protection class	IP20
	Weight ca.	2.5 kg
Operating conditions	Operating environment temperature	5 °C to 45 °C

	Operating air humidity, non-condensing	20 % to 80 %
	Area of application	Indoor use
	Maximum operating altitude above sea level	3,048 m
	Storage environment temperature	-20 °C to 60 °C
	Storage air humidity, non-condensing	15 % to 85 %
	MTBF	146,000 h at 25°C
	Conformities	CE compliant (see downloads) UKCA compliant (see downloads) FCC compliant (see manual) TAA compliant (see downloads) RoHS compliant (see downloads) WEEE (reg. no. DE30763240) REACH compliant (see downloads)
Power supply 1	Quantity	1
	Type	Internal
	Input voltage	100-240 VAC
	Input frequency	60-50 Hz
	Current consumption	0.6-0.3 A
	Power consumption max.	32.8 W
	Heat output max.	29.9 W / 102.02 BTU/h
Power supply 2	Quantity	1
	Type	External

Input voltage	12 VDC
Current consumption	2.5 A
Power consumption max.	28.2 W
Heat output max.	25.3 W / 86.33 BTU/h

ACCESSORY PRODUCTS

Image	Description	Article number
	USB-Service-2 cable 2m Cable for system updates and configuration	A6200103
	PowerCable-3 Standard cable 3m Cable to connect the power supply type Germany	A6300066
	PowerCable-5 Standard cable 5m Cable to connect the power supply type Germany	A6300065
	Audio-M/M-3-ferrite cable 3m Audio connection cable with ferrite core	A6300118
	Audio-M/M-5-ferrite cable 5m Audio connection cable with ferrite core	A6300085
	DP1.4-Cable-M/M-3 SK13358 3m Single cable to connect a DisplayPort video channel (DP1.4)	A6300174
	DP1.4-Cable-M/M-5 SK13359 5m Single cable to connect a DisplayPort video channel (DP1.4)	A6300175
	USB-AM/BM-3 cable USB 3m USB cable, Type-A Plug/Type-B Plug	A6300114
	USB-AM/BM-5 cable USB 5m USB cable, Type-A Plug/Type-B Plug	A6300111
	PowerPack 12 Type 2 12V/5A 60W power supply with 2m powercable	A4110008
	PowerPack 12 Type 2 12V/5A TAA 60W power supply with 2m powercable, TAA compliant	A4110061

MORE VARIANTS

Description	Article number
DVI-Vision-Fiber(S)-AR-CPU Computer module to extend single link DVI signals via fiber singlemode	A1110173
DVI-Vision-Fiber(S)-AR-CPU-UC Splitter computer module for transmission of single link DVI signals to 2 different counterpart stations (extenders or matrix switches) via fiber singlemode	A1110231
DVI-Vision-Fiber(S)-ARU-CPU Computer module to extend single link DVI signals via fiber singlemode	A1110174
DVI-Vision-Fiber(S)-ARU-CPU-UC Splitter computer module for transmission of single link DVI signals to 2 different counterpart stations (extenders or matrix switches) via fiber singlemode	A1110232
DVI-Vision-Fiber(S)-ARU2-CPU Computer module to extend single link DVI signals via fiber singlemode	A1110176
DVI-Vision-Fiber(S)-MC2-AR-CPU Computer module to extend single link DVI signals via fiber singlemode	A1210177
DVI-Vision-Fiber(S)-MC2-ARU-CPU Computer module to extend single link DVI signals via fiber singlemode	A1210179
DVI-Vision-Fiber(S)-MC2-ARU2-CPU Computer module to extend single link DVI signals via fiber singlemode	A1210178
DVI-Vision-Fiber(S)-MC4-AR-CPU Computer module to extend single link DVI signals via fiber singlemode	A1410176
DVI-Vision-Fiber(S)-MC4-ARU2-CPU Computer module to extend single link DVI signals via fiber singlemode	A1410177

CONTACT

WE ARE HERE FOR YOU!

If you have any further questions, we are looking forward to advising you on your individual project requirements.

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