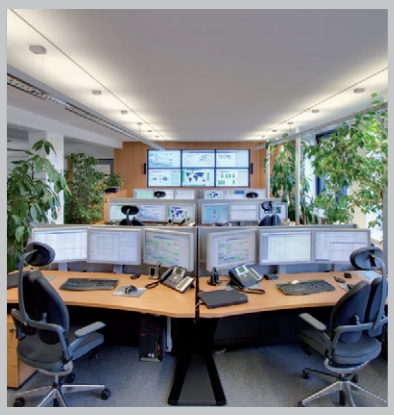
DVI KVM extender

DVI-Vision-CAT/-Fiber 1.1

KVM extenders

Extender systems to bridge IT-distances






G&D IF IT'S KVM

G&D IF IT'S KVM

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.

DVI-Vision - transmission of DVI signals via CAT or fibre optics

The KVM extender system **DVI-Vision** extends the signals

- bidirectional audio and RS232
- PS/2 and USB keyboard/mouse support
- Integrated USB 2.0 transmission (ARU variant)
- Transparent transmission of USB 2.0 (ARU2 variant)
- Generic USB-HID interface

The system consists of a computer module (transmitter) and a user module (receiver) and enables you to operate a computer on a local or remote console.

DVI-Vision uses CAT-x cables or fibre optics to transmit signals up to 10,000 m. The devices use DVI video and are available as variants displaying 1, 2, 3 or 4 video channels. It is also possible to transmit transparent USB 2.0, RS232 and audio signals.

With its network port, the web interface and monitoring functions, the DVI-Vision system offers important features for mission-critical applications.

Above: DVI-Vision-CAT-MC4-ARU-CON front viwe
Below: DVI-Vision-CAT-MC4-ARU-CON rear view

Highlights

- Highly developed compression algorhythm of the latest generation for best video quality and latency-free transmission - The High-Dynamic-Image-Processing level 3
- permanent keyboard/ mouse emulation
- Integrated control of switchable power strips
- Matrix compatibility will be possible in the future with a firmware update
- Network interface for configuration and monitoring

Details

Video

- Highly developed compression algorhythm of the latest generation for best video quality and latency-free transmission - The High-Dynamic-Image-Processing level 3
- Single-Link DVI signals
- Resolutions per channel up to 1920 × 1200 @ 60 Hz (more VESA and CEA standardized resolutions within the video bandwith and the horizontal / vertical frequency are possible, e.g. 1600 x 1200 @ 60 Hz)
- Video bandwidth: 25 to 165 MPixel/s
- Vertical frequency: 24 Hz to 120 Hz
- 24 bit colour mode
- Supports digital and analog monitors at the console
- Transparent forwarding of E-DDC information
- Single- and multi-channel variants

Operation

- At both modules console with all video channels
- via Web-Interface or OSD
- Competing or exclusive operation via local or remote workplace

Signals

- Transmission of bidirectional audio and RS232
- PS/2 and USB keyboard/mouse support
- Integrated USB 2.0 transmission with Full Speed (ARU variant)
- Transparent transmission of USB 2.0 with Hi-Speed 480 MBit/s (ARU2 variant)
- Generic USB-HID interface for connecting any HID device, e.g. touchscreens or tablets

Details

Transmission

- Distances up to 140 meters at maximum resolution over CAT-x cable (x = 5e, 6, 7; depending on cable)
- Distances up to 400 metres at maximum resolution with multimode fiber optics
- Distances up to 5,000 (S) or 10,000 m (S+) metres at maximum resolution with singlemode fiber optics

System update

- Over the config panel

Device

- Supports PS/2 and USB keyboard/mouse; allows mixed operation
- Permanent keyboard/mouse emulation
- Redundant, external power supply (optional)
- Ident LED helps finding the device in complex installations
- Shipped as desktop variant (Twin devices and sets for rack- or tablemounting are seperately available)

Variants

Design

- Shipped as desktop variant (Twin devices and sets for rack- or tablemounting are seperately available)
- Rackmount solutions are included in the scope of delivery of MC4 devices

Transmission medium

- **DVI-Vision-CAT variants:** transmission via CAT-x cables
- **DVI-Vision-Fiber variants:** transmission via multimode or singlemode fiber optics

USB transmission

- **„U" variants:** integrated USB 2.0 transmission without an additional transmission cable. This variant offers transfer speed up to 16 Mbit/s.
- **„U2" variants:** USB 2.0 transmission with an additional cable. This solution reaches the HiSpeed transfer rate of 480 Mbit/s.

Video channels

- Single-channel, Multi-channel 2, 3 and 4

Expansions

Communication with KVM-NetworkCenter

DVI-Vision uses the network to communicate with the appliance KVM-NetworkCenter. When deploying more than one DVI-Vision, you can query and configure the devices by using the KVM-NetworkCenter.

KVM-NetWork-Center

Embedding extenders in digital matrix systems

To be prepared for growing installations, the integrated matrix support turns the DVI-Vision into a future-proof investment.

This way, it is possible to include extenders at a later point into one of the digital G&D matrix systems within an existing installation. Thus, users benefit from more flexibility through distributed access - and any existing components can still be used as before.

DVI-Vision-Extender

Mix & Match

Digital matrix system

Features

Screen-Freeze Function

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

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 DVI-Vision 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 cables (ok/nok)
- Status computer (on/off)
- Status image signal graphics card computer (available/ not available)
- Status network
- Fan monitoring
- Status SFP modules (in -Fiber variants)
- Status interfaces (CPU and CON modules)
- Freeze status (all channels)
- Type of display (local and remote)

Installation

Link the computer to the back of the DVI-Vision transmitter. Distinctive cables connect the computer's keyboard, video, mouse, audio, RS232, and USB interfaces to the DVIVision computer module.

Installing the user console is just as easy: simply connect the operating hardware with the corresponding interfaces of the DVI-Vision receiver.

Use the existing cabling structure to link transmitter and receiver.

Note

Please note that not every transfer medium can transmit the maximum distance and resolution in the highest quality possible. Please do not hesitate to contact us in case of doubt.

DVI-Vision-CAT

DVI-Vision-CAT-AR-CON user module

DVI-Vision-CAT-MC2-ARU2-CPU computer module

GENERAL FEATURES

DVI-Vision-CAT

DVI-Vision-CAT series	
Interfaces for computers	
Video	see specific features
PS/2 keyboard/mouse	2 × PS/2 socket
USB keyboard/mouse	1 × USB-B socket
Audio	3.5-mm jack plug (Line In), 3.5-mm jack plug (Line Out)
USB 2.0	**Variant -ARU:** Shared transmission of signals of USB devices as well as keyboard and mouse via USB-B socket. **Variant -ARU2:** 1 × USB-B socket
RS232	1 × RS232 socket
Interfaces for remote console	
Monitor	see specific features
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 (Speaker), 3.5-mm jack plug (Micro In)
USB 2.0	**Variant -ARU:** 2 × USB-A socket **Variant -ARU2:** 2 × USB-A socket (front panel), 2 × USB-A socket (back panel)
RS232	1 × RS232 plug
Interfaces for local console	
Monitor	see specific features
PS/2 keyboard	1 × PS/2 socket
USB keyboard/mouse	2 × USB-A socket
Other interfaces	
Connection to network	1 × RJ 45 socket
Service	1 × Mini-USB socket (type B)
Audio	
Transmission type	transparent, bidirectional
Resolution	24 bit digital, Stereo
Sampling rate	96 kHz
Bandwidth	22 kHz

GENERAL FEATURES

DVI-Vision-CAT

DVI-Vision-CAT series		
RS232		
Transmission type	transparent	
Transmission rate	max. 115.200 bit/s	
Supported signals	RxD, TxD, RTS, CTS, DTR, DSR, DCD	
Graphics		
Colour depth	24 Bit	
Max. resolution @ 60 Hz	1920 × 1200 pixels	
Max. resolution@ 85 Hz	1280 × 1024 pixels	
Exemplary resolutions	1920 × 1200 @ 60Hz, 1920 × 1080 @ 60Hz 1600 × 1200 @ 60Hz, 1280 × 1024 @ 85Hz Further VESA and CEA standardised resolution possible for video bandwidth/ pixel rate and horizontal/vertical frequency.	
Supported Interlace resolutions	1920 × 1080i @ 60Hz (1080i_60Hz), 1920 × 1080i @ 50Hz (1080i_50Hz) 1440 × 576i @ 50Hz (576i_50Hz), 1440 × 480i @ 60Hz (480i_60Hz) Only the listed Interlace formats are supported.	
Pixel rate	25 MHz to 165 MHz	
Vertical frequency	24 Hz to 120 Hz	
Horizontal frequency	25 kHz bis 130 kHz	
Transmission		
Type of transmission cable	CAT-x cable	
Transmission range:	max. 140 m (depending on cable type) at max. resolution (-ARU2 max. 100 m)	
Number of CAT-x cables	up to 4 (1 per video channel)	
USB 2.0	**-ARU variant (full speed)**	**-ARU2 variant (high speed)**
Transmission type	transparent	
Supported devices	High-Power-Devices (bis 500 mA)	
Transmission rate	max 16 Mbit/s	max. 480 Mbit/s
Range	max. 140 m	max. 100 m
Transmission cable	USB embedded (no cables are required)	1 additional CAT-x cable
Main power supply		
Type	internal power pack	
Connector	IEC plug (IEC-320 C14)	
Voltage	AC100-240V/60-50Hz	
Redundant power suppply		
Type	external power pack	
Connector	miniDIN-4 Power socket	
Voltage	+12VDC	

DVI-Vision-CAT Single-Channel

DVI-Vision-CAT-AR-CON User module

DVI-Vision-CAT-AR-CPU computer module

SPECIFIC FEATURES

DVI-Vision-CAT CPU + CON

DVI-Vision-CAT	CPU	CON
Interfaces for local console		
Monitor	1 × DVI-I socket	-
Interfaces for computer		
Video	1 × DVI-D socket	-
Interfaces to computer module		
KVM, Audio and RS232	1 × RJ 45 socket (When using the **-ARU** variant the signals of USB 2.0 devices are transmitted via this cable.)	-
USB 2.0	1 × RJ45-Buchse (bei Variante **-ARU2)**	-
Interfaces for remote console		
Monitor	-	1 × DVI-I socket
Interface to computer module		
KVM, Audio and RS232	-	1 × RJ 45 socket (When using the **-ARU** variant the signals of USB 2.0 devices are additionally transmitted via this cable.)
USB 2.0	-	1 × RJ 45 socket (**-ARU2** variant)
Casing		
Material	anodised aluminium	
Dimensions (W × H × D)	**-AR and -ARU variants** 210 × 44 × 210 mm (Desktop) 19″ × 1 U× 210 mm (Rackmount) **-ARU2 variant** 270 × 44 × 210 mm (Desktop) 19″ × 1 U × 210 mm (Rackmount)	210 × 44 × 210 mm (Desktop) 19″ × 1 U × 210 mm (Rackmount)
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80 %, non-condensing	

DVI-Vision-CAT Multi-Channel 2

DVI-Vision-CAT-MC2-ARU-CON user module

DVI-Vision-CAT-MC2-ARU2-CPU computer module

SPECIFIC FEATURES

DVI-Vision-CAT Multi-Channel 2

DVI-Vision-CAT-MC2	CPU	CON
Interfaces for local console		
Monitor	2 × DVI-I socket	-
Interfaces for computer		
Video	1 × DVI-D socket 1 × DVI-I socket (DVI-D function)	-
Interfaces to user module		
KVM, Audio and RS232	2 × RJ 45 socket (When using the -ARU variant the signals of USB 2.0 devices are transmitted via this cable.)	-
USB 2.0	1 × RJ45-Buchse (bei Variante **-ARU2)**	-
Interfaces for remote console		
Monitor	-	2 × DVI-I socket
Interface to computer module		
KVM, Audio and RS232	-	2 × RJ 45 socket (When using the **-ARU** variant the signals of USB 2.0 devices are additionally transmitted via this cable.)
USB 2.0	-	1 × RJ 45 socket (**-ARU2** variant)
Casing		
Material	anodised aluminium	
Dimensions (W × H × D)	270 × 44 × 210 mm	
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80 %, non-condensing	

DVI-Vision-CAT Multi-Channel 3

DVI-Vision-CAT-MC3-ARU-CPU computer module

DVI-Vision-CAT-MC3-ARU-CPU computer module

SPECIFIC FEATURES

DVI-Vision-CAT Multi-Channel 3

DVI-Vision-CAT-MC3	CPU	CON
Interfaces for local console		
Monitor	3 × DVI-I socket	-
Interfaces for computer		
Video	1 × DVI-D socket 1 × DVI-I socket (DVI-D function)	-
Interfaces to user module		
KVM, Audio and RS232	2 × RJ 45 socket (When using the **-ARU** variant the signals of USB 2.0 devices are transmitted via this cable.)	-
USB 2.0	1 × RJ 45 socket (**-ARU2** variant)	-
Interfaces for remote console		
Monitor	-	3 × DVI-I socket
Interface to computer module		
KVM, Audio and RS232	-	3 × RJ 45 socket (When using the **-ARU** variant the signals of USB 2.0 devices are additionally transmitted via this cable.)
USB 2.0	-	1 × RJ 45 socket (**-ARU2** variant)
Casing		
Material	anodised aluminium	
Dimensions (W × H × D)	435 × 44 × 210 mm	
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80 %, non-condensing	

DVI-Vision-CAT Multi-Channel 4

DVI-Vision-CAT-MC4-ARU-CON user module

DVI-Vision-CAT-MC4-ARU-CPU computer module

SPECIFIC FEATURES

DVI-Vision-CAT Multi-Channel 4

DVI-Vision-CAT-MC4	CPU	CON
Interfaces for local console		
Monitor	4 × DVI-I socket	-
Interfaces to computer		
Video	1 × DVI-D socket 3 × DVI-I socket (DVI-D function)	-
Interfaces to user module		
KVM, Audio and RS232	4 × RJ 45 socket (When using the **-ARU** variant the signals of USB 2.0 devices are transmitted via this cable.)	-
USB 2.0	1 × RJ 45 socket (-ARU2 variant)	-
Interfaces for remote console		
Monitor	-	4 × DVI-I socket
Interface to computer module		
KVM, Audio and RS232	-	4 × RJ 45 socket (When using the **-ARU** variant the signals of USB 2.0 devices are additionally transmitted via this cable.)
USB 2.0	-	1 × RJ 45 socket (**-ARU2** variant)
Casing		
Material	anodised aluminium	
Dimensions (W × H × D)	435 × 44 × 210 mm	
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80 %, non-condensing	

DVI-VISION-CAT
CURRENT AND POWER CONSUMPTION

Main power supply

Device variant	Current consumption	Power consumption (max.)
AR-CPU	100-240V, 60-50Hz, 0.3-0.2A	11,6 W
AR-CON	100-240V, 60-50Hz, 0.3-0.2A	14,1 W
ARU-CPU	100-240V, 60-50Hz, 0.3-0.2A	12,1 W
ARU-CON	100-240V, 60-50Hz, 0.5-0.3A	26,9 W
ARU2-CPU	100-240V, 60-50Hz, 0.3-0.2A	13,6 W
ARU2-CON	100-240V, 60-50Hz, 0.5-0.3A	28,1 W
MC2-AR-CPU	100-240V, 60-50Hz, 0.3-0.2A	17,4 W
MC2-AR-CON	100-240V, 60-50Hz, 0.4-0.2A	19,6 W
MC2-ARU-CPU	100-240V, 60-50Hz, 0.4-0.2A	17,9 W
MC2-ARU-CON	100-240V, 60-50Hz, 0.6-0.3A	32,4 W
MC2-ARU2-CPU	100-240V, 60-50Hz, 0.4-0.2A	19,4 W
MC2-ARU2-CON	100-240V, 60-50Hz, 0.6-0.3A	33,6 W
MC4-AR-CPU	100-240V, 60-50Hz, 0.5-0.3A	30,1 W
MC4-AR-CON	100-240V, 60-50Hz, 0.6-0.3A	31,4 W
MC4-ARU-CPU	100-240V, 60-50Hz, 0.5-0.3A	30,6 W
MC4-ARU-CON	100-240V, 60-50Hz, 0.6-0.3A	44,2 W
MC4-ARU2-CPU	100-240V, 60-50Hz, 0.6-0.3A	32,1 W
MC4-ARU2-CON	100-240V, 60-50Hz, 0.6-0.4A	45,4 W

Redundant power supply

Device variant	Current consumption	Power consumption (max.)
AR-CPU	12VDC/0.9A	10,0 W
AR-CON	12VDC/1.1A	12,1 W
ARU-CPU	12VDC/1.0A	10,4 W
ARU-CON	12VDC/2.1A	23,1 W
ARU2-CPU	12VDC/1.1A	11,7 W
ARU2-CON	12VDC/2.2A	24,2 W
MC2-AR-CPU	12VDC/1.4A	15,0 W
MC2-AR-CON	12VDC/1.5A	16,9 W
MC2-ARU-CPU	12VDC/1.4A	15,8 W
MC2-ARU-CON	12VDC/2.5A	27,9 W
MC2-ARU2-CPU	12VDC/1.5A	16,7 W
MC2-ARU2-CON	12VDC/2.6A	28,9 W
MC4-AR-CPU	12VDC/2.3A	25,9 W
MC4-AR-CON	12VDC/2.4A	27,0 W
MC4-ARU-CPU	12VDC/2.4A	26,3 W
MC4-ARU-CON	12VDC/3.4A	38,0 W
MC4-ARU2-CPU	12VDC/2.5A	27,6 W
MC4-ARU2-CON	12VDC/3.5A	39,0 W

DVI-Vision-Fiber

DVI-Vision-Fiber-AR-CON user module

DVI-Vision-Fiber-MC2-ARU2-CPU computer module

GENERAL FEATURES

DVI-Vision-Fiber

DVI-Vision-Fiber-SERIES	
Interfaces for computers	
Video	see specific features
PS/2 keyboard/mouse	2 × PS/2 socket
USB keyboard/mouse	1 × USB-B socket
Audio	3.5-mm jack plug (Line In) + 3.5-mm jack plug (Line Out)
USB 2.0	**Variant -ARU:** Shared transmission of signals of USB devices as well as keyboard and mouse via USB-B socket. **Variant -ARU2:** 1 × USB-B socket
RS232	1 × RS232 socket
Interfaces for remote console	
Monitor	see specific features
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 (Line In) + 3.5-mm jack plug (Line Out)
USB 2.0	**Variant -ARU:** 2 × USB-A socket **Variant -ARU2:** 2 × USB-A socket (front panel), 2 × USB-A socket (back panel)
RS232	1 × RS232 plug
Interfaces for local console	
Monitor	see specific features
PS/2 keyboard	1 × PS/2 socket
USB keyboard/mouse	2 × USB-A socket
Other interfaces	
Connection to network	1 × RJ 45 socket
Service	1 × Mini-USB socket (type B)
Audio	
Transmission type	transparent, bidirectional
Resolution	24 bit digital, Stereo
Sampling rate	96 kHz
Bandwidth	22 kHz

GENERAL FEATURES

DVI-Vision-Fiber

DVI-Vision-Fiber-SERIES		
RS232		
Transmission type	transparent	
Transmission rate	max. 115.200 bit/s	
Supported signals	RxD, TxD, RTS, CTS, DTR, DSR, DCD	
Graphics		
Colour depth	24 Bit	
Max. resolution @ 60 Hz:	1920 × 1200 pixels	
Max. resolution@ 85 Hz:	1280 × 1024 pixels	
Exemplary resolutions	1920 × 1200 @ 60Hz, 1920 × 1080 @ 60Hz 1600 × 1200 @ 60Hz, 1280 × 1024 @ 85Hz Further VESA and CEA standardised resolution possible for video bandwidth/ pixel rate and horizontal/vertical frequency.	
Supported Interlace resolutions	1920 × 1080i @ 60Hz (1080i_60Hz), 1920 × 1080i @ 50Hz (1080i_50Hz) 1440 × 576i @ 50Hz (576i_50Hz), 1440 × 480i @ 60Hz (480i_60Hz) Only the listed Interlace formats are supported.	
Pixel rate	25 MHz to 165 MHz	
Vertical frequency	24 Hz to 120 Hz	
Horizontal frequency	25 kHz to 130 kHz	
Transmission		
Type of transmission cable	high power devices (up to 500 mA)	
Transmission range:	up to 10,000 m (depending on cable type) at max. resolution	
Number of fiber optics	up to 4 (1 per video channel)	
USB 2.0	**Variant -ARU (full speed)**	**Variant -ARU2 (high speed)**
Transmission type	transparent	
Supported devices	high power devices (up to 500 mA)	
Transmission rate	max. 16 Mbit/s	max. 480 Mbit/s
Transmission lenght	max. 10.000 m	
Transmission cable	USB embedded (no cables are required)	1 additional fiber optic cable
Main power supply		
Type	internal power pack	
Connector	IEC plug (IEC-320 C14)	
Voltage	AC100-240V/60-50Hz	
Redundant power suppply		
Type	external power pack	
Connector	miniDIN-4 Power socket	
Voltage	+12VDC	

DVI-Vision-Fiber Single-Channel

DVI-Vision-Fiber-AR-CON user module

DVI-Vision-Fiber-AR-CPU computer module

SPECIFIC FEATURES

DVI-Vision-Fiber CPU + CON

DVI-Vision-Fiber	CPU	CON
Interfaces for local console		
Monitor	1 × DVI-I socket	-
Interfaces for computer		
Video	1 × DVI-D socket	-
Interfaces to user module		
KVM, Audio and RS232	1 × LC duplex socket (When using the **-ARU** variant the siganls of USB 2.0 devices are transmitted via this cable.)	-
USB 2.0	1 × LC duplex socket (**-ARU2** variant)	-
Interfaces for remote console		
Monitor	-	1 × DVI-I socket
Interface to computer module		
KVM, Audio and RS232	-	1 × LC duplex socket (When using the -ARU variant the signals of USB 2.0 devices are additionally transmitted via this cable.)
USB 2.0	-	1 × LC duplex socket (**-ARU2** variant)
Casing		
Material	anodised aluminium	
Dimensions (W × H × D)	**-AR and -ARU variants** 210 × 44 × 210 mm (Desktop) 19" × 1 U × 210 mm (Rackmount) **-ARU2 variant** 270 × 44 × 210 mm (Desktop) 19" × 1 U × 210 mm (Rackmount)	210 × 44 × 210 mm (Desktop) 19" × 1 U × 210 mm (Rackmount)
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80 %, non-condensing	

DVI-Vision-Fiber Multi-Channel-2

DVI-Vision-Fiber-MC2-ARU2-CON user module

DVI-Vision-Fiber-MC2-ARU2-CPU computer module

SPECIFIC FEATURES

DVI-Vision-Fiber Multi-Channel 2

DVI-Vision-Fiber-MC2	CPU	CON
Interfaces for local console		
Monitor	2 × DVI-I socket	-
Interfaces for computer		
Video	1 × DVI-D socket 1 × DVI-I socket (DVI-D function)	-
Interfaces to user module		
KVM, Audio and RS232	2 × LC duplex socket (When using the **-ARU** variant the signals of USB 2.0 devices are transmitted via this cable.)	-
USB 2.0	1 × LC duplex socket (**-ARU2** variant)	-
Interfaces for remote console		
Monitor	-	2 × DVI-I socket
Interface to computer module		
KVM, Audio and RS232	-	2 × LC duplex socket (When using the **-ARU** variant the signals of USB 2.0 devices are additionally transmitted via this cable.)
USB 2.0	-	1 × LC duplex socket (**-ARU2** variant)
Casing		
Material	anodised aluminium	
Dimensions (W × H × D)	270 × 44 × 210 mm	
Einsatzumgebung		
Temperature	+5 to +45 °C	
Air humidity	< 80 %, non-condensing	

DVI-Vision-Fiber Multi-Channel 4

DVI-Vision-Fiber-MC4-ARU-CON user module

DVI-Vision-Fiber-MC4-ARU-CPU computer module

SPECIFIC FEATURES

DVI-Vision-Fiber-MC4

DVI-Vision-Fiber-MC4	CPU	CON
Interfaces for local console		
Monitor	4 × DVI-I socket	-
Interfaces to computer		
Video	1 × DVI-D socket 3 × DVI-I socket (DVI-D function)	-
Interfaces to user module		
KVM, Audio and RS232	4 × LC duplex socket (When using the **-ARU** variant the signals of USB 2.0 devices are transmitted via this cable.)	-
USB 2.0	1 × LC duplex socket (**-ARU2** variant)	-
Interfaces for remote console		
Monitor	-	4 × DVI-I socket
Interfaces to computer module		
KVM, Audio and RS232	-	4 × LC duplex socket (When using the **-ARU** variant the signals of USB 2.0 devices are additionally transmitted via this cable.)
USB 2.0	-	1 × LC duplex socket (**-ARU2** variant)
Casing		
Material	anodised aluminium	
Dimensions (W × H × D):	435 × 44 × 210 mm	
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80 %, non-condensing	

FEATURES OF TRANSMISSION MODULES

Transmission and cable length

MULTIMODE TRANSMISSION MODULE	
Data transmission	
Type	Optical fibres (2 fibres)
Type of interface	LC duplex
Cable length (max.)	
Multimode 62,5/125 µm	100 meters
Multimode 50,0/125 µm, Class OM2	200 meters
Multimode 50,0/125 µm, Class OM3	400 meters

SINGLEMODE (S) TRANSMISSION MODULE	
Data transmission	
Type	Optical fibres (2 fibres)
Type of interface	LC duplex
Cable length (max.)	
Singlemode 9/125µm, Class OS1	5 kilometres

SINGLEMODE (S+) TRANSMISSION MODULE	
Data transmission	
Type	Optical fibres (2 fibres)
Type of interface	LC duplex
Cable length (max.)	
Singlemode 9/125µm, Class OS1	10 kilometres

DVI-VISION-FIBER
CURRENT AND POWER CONSUMPTION

Main power supply

Device variant	Current consumption	Power consumption (max.)
AR-CPU	100-240V, 60-50Hz, 0.3-0.2A	12,0 W
AR-CON	100-240V, 60-50Hz, 0.3-0.2A	14,3 W
ARU-CPU	100-240V, 60-50Hz, 0.3-0.2A	12,5 W
ARU-CON	100-240V, 60-50Hz, 0.5-0.3A	27,1 W
ARU2-CPU	100-240V, 60-50Hz, 0.3-0.2A	14,2 W
ARU2-CON	100-240V, 60-50Hz, 0.5-0.3A	28,6 W
MC2-AR-CPU	100-240V, 60-50Hz, 0.3-0.2A	18,4 W
MC2-AR-CON	100-240V, 60-50Hz, 0.4-0.2A	20,5 W
MC2-ARU-CPU	100-240V, 60-50Hz, 0.4-0.2A	18,9 W
MC2-ARU-CON	100-240V, 60-50Hz, 0.6-0.3A	33,3 W
MC2-ARU2-CPU	100-240V, 60-50Hz, 0.4-0.2A	20,6 W
MC2-ARU2-CON	100-240V, 60-50Hz, 0.6-0.3A	34,8 W
MC4-AR-CPU	100-240V, 60-50Hz, 0.5-0.3A	32,3 W
MC4-AR-CON	100-240V, 60-50Hz, 0.6-0.3A	33,7 W
MC4-ARU-CPU	100-240V, 60-50Hz, 0.5-0.3A	32,8 W
MC4-ARU-CON	100-240V, 60-50Hz, 0.6-0.3A	46,5 W
MC4-ARU2-CPU	100-240V, 60-50Hz, 0.6-0.3A	34,5 W
MC4-ARU2-CON	100-240V, 60-50Hz, 0.6-0.4A	48,0 W

Redundant power supply

Device variant	Current consumption	Power consumption (max.)
AR-CPU	12VDC/0.9A	10,3 W
AR-CON	12VDC/1.1A	12,3 W
ARU-CPU	12VDC/1.0A	10,8 W
ARU-CON	12VDC/2.1A	23,3 W
ARU2-CPU	12VDC/1.1A	12,2 W
ARU2-CON	12VDC/2.2A	24,2 W
MC2-AR-CPU	12VDC/1.4A	15,8 W
MC2-AR-CON	12VDC/1.5A	17,6 W
MC2-ARU-CPU	12VDC/1.4A	15,8 W
MC2-ARU-CON	12VDC/2.5A	28,6 W
MC2-ARU2-CPU	12VDC/1.5A	17,7 W
MC2-ARU2-CON	12VDC/2.6A	28,9 W
MC4-AR-CPU	12VDC/2.3A	27,8 W
MC4-AR-CON	12VDC/2.4A	28,9 W
MC4-ARU-CPU	12VDC/2.4A	28,2 W
MC4-ARU-CON	12VDC/3.4A	39,9 W
MC4-ARU2-CPU	12VDC/2.5A	29,7 W
MC4-ARU2-CON	12VDC/3.5A	39,0 W

List of Item Numbers Single-Channel CAT

Item No.	Computer modules	Audio-RS232	integr. USB 2.0 up to 16 MBit/s	transp. USB 2.0 HiSpeed 480 Mbit/s	Desktop/ Rackmt.
A1110167	DVI-Vision-CAT-AR-CPU	AR			DT
A1110170	DVI-Vision-CAT-ARU-CPU	AR	U		DT
A1110169	DVI-Vision-CAT-ARU2-CPU	AR		U2	DT
Item No.	**User modules**				
A1120198	DVI-Vision-CAT-AR-CON	AR			DT
A1120201	DVI-Vision-CAT-ARU-CON	AR	U		DT
A1120202	DVI-Vision-CAT-ARU2-CON	AR		U2	DT

List of Item Numbers Multi-Channel CAT

Item No.	Computer modules	Audio-RS232	integr. USB 2.0 up to 16 MBit/s	transp. USB 2.0 HiSpeed 480 Mbit/s	Desktop/ Rackmt.
A1210172	DVI-Vision-CAT-MC2-AR-CPU	AR			DT
A1210175	DVI-Vision-CAT-MC2-ARU-CPU	AR	U		DT
A1210174	DVI-Vision-CAT-MC2-ARU2-CPU	AR		U2	DT
A1310029	DVI-Vision-CAT-MC3-AR-CPU	AR			DT/RM
A1310031	DVI-Vision-CAT-MC3-ARU-CPU	AR	U		DT/RM
A1310030	DVI-Vision-CAT-MC3-ARU2-CPU	AR		U2	DT/RM
A1410173	DVI-Vision-CAT-MC4-AR-CPU	AR			DT/RM
A1410169	DVI-Vision-CAT-MC4-ARU-CPU	AR	U		DT/RM
A1410174	DVI-Vision-CAT-MC4-ARU2-CPU	AR		U2	DT/RM
Item No.	**User modules**				
A1220203	DVI-Vision-CAT-MC2-AR-CON	AR			DT
A1220205	DVI-Vision-CAT-MC2-ARU-CON	AR	U		DT
A1220204	DVI-Vision-CAT-MC2-ARU2-CON	AR		U2	DT
A1320020	DVI-Vision-CAT-MC3-AR-CON	AR			DT/RM
A1320021	DVI-Vision-CAT-MC3-ARU-CON	AR	U		DT/RM
A1320022	DVI-Vision-CAT-MC3-ARU2-CON	AR		U2	DT/RM
A1420204	DVI-Vision-CAT-MC4-AR-CON	AR			DT/RM
A1420206	DVI-Vision-CAT-MC4-ARU-CON	AR	U		DT/RM
A1420205	DVI-Vision-CAT-MC4-ARU2-CON	AR		U2	DT/RM

List of Item Numbers Single-Channel Fiber

Item No.	Computer modules	Audio-RS232	integr. USB 2.0 up to 16 MBit/s	transp. USB 2.0 HiSpeed 480 Mbit/s	Desktop/ Rackmt.
A1110172	DVI-Vision-F(M)-AR-CPU	AR			DT
A1110171	DVI-Vision-F(M)-ARU-CPU	AR	U		DT
A1110168	DVI-Vision-F(M)-ARU2-CPU	AR		U2	DT
A1110173	DVI-Vision-F(S)-AR-CPU	AR			DT
A1110174	DVI-Vision-F(S)-ARU-CPU	AR	U		DT
A1110176	DVI-Vision-F(S)-ARU2-CPU	AR		U2	DT
A1110175	DVI-Vision-F(S+)-AR-CPU	AR			DT
A1110178	DVI-Vision-F(S+)-ARU-CPU	AR	U		DT
A1110177	DVI-Vision-F(S+)-ARU2-CPU	AR		U2	DT
Item No.	User modules				
A1120203	DVI-Vision-F(M)-AR-CON	AR			DT
A1120200	DVI-Vision-F(M)-ARU-CON	AR	U		DT
A1120204	DVI-Vision-F(M)-ARU2-CON	AR		U2	DT
A1120199	DVI-Vision-F(S)-AR-CON	AR			DT
A1120206	DVI-Vision-F(S)-ARU-CON	AR	U		DT
A1120205	DVI-Vision-F(S)-ARU2-CON	AR		U2	DT
A1120207	DVI-Vision-F(S+)-AR-CON	AR			DT
A1120209	DVI-Vision-F(S+)-ARU-CON	AR	U		DT
A1120208	DVI-Vision-F(S+)-ARU2-CON	AR		U2	DT

List of Item Numbers Multi-Channel Fiber

Item No.	Computer modules	Audio-RS232	integr. USB 2.0 up to 16 MBit/s	transp. USB 2.0 HiSpeed 480 Mbit/s	Desktop/ Rackmt.
A1210176	DVI-Vision-F(M)-MC2-AR-CPU	AR			DT
A1210184	DVI-Vision-F(M)-MC2-ARU-CPU	AR	U		DT
A1210183	DVI-Vision-F(M)-MC2-ARU2-CPU	AR		U2	DT
A1410175	DVI-Vision-F(M)-MC4-AR-CPU	AR			DT/RM
A1410183	DVI-Vision-F(M)-MC4-ARU-CPU	AR	U		DT/RM
A1410182	DVI-Vision-F(M)-MC4-ARU2-CPU	AR		U2	DT/RM
A1210177	DVI-Vision-F(S)-MC2-AR-CPU	AR			DT
A1210179	DVI-Vision-F(S)-MC2-ARU-CPU	AR	U		DT
A1210178	DVI-Vision-F(S)-MC2-ARU2-CPU	AR		U2	DT
A1410176	DVI-Vision-F(S)-MC4-AR-CPU	AR			DT/RM
A1410178	DVI-Vision-F(S)-MC4-ARU-CPU	AR	U		DT/RM
A1410177	DVI-Vision-F(S)-MC4-ARU2-CPU	AR		U2	DT/RM
A1210181	DVI-Vision-F(S+)-MC2-AR-CPU	AR			DT
A1210180	DVI-Vision-F(S+)-MC2-ARU-CPU	AR	U		DT
A1210182	DVI-Vision-F(S+)-MC2-ARU2-CPU	AR		U2	DT
A1410180	DVI-Vision-F(S+)-MC4-AR-CPU	AR			DT/RM
A1410179	DVI-Vision-F(S+)-MC4-ARU-CPU	AR	U		DT/RM
A1410181	DVI-Vision-F(S+)-MC4-ARU2-CPU	AR		U2	DT/RM

List of Item Numbers Multi-Channel Fiber

Item No.	User modules	Audio-RS232	integr. USB 2.0 up to 16 MBit/s	transp. USB 2.0 HiSpeed 480 Mbit/s	Desktop/ Rackmt.
A1220206	DVI-Vision-F(M)-MC2-AR-CON	AR			DT
A1220214	DVI-Vision-F(M)-MC2-ARU-CON	AR	U		DT
A1220213	DVI-Vision-F(M)-MC2-ARU2-CON	AR		U2	DT
A1420207	DVI-Vision-F(M)-MC4-AR-CON	AR			DT/RM
A1420215	DVI-Vision-F(M)-MC4-ARU-CON	AR	U		DT/RM
A1420214	DVI-Vision-F(M)-MC4-ARU2-CON	AR		U2	DT/RM
A1220207	DVI-Vision-F(S)-MC2-AR-CON	AR			DT
A1220209	DVI-Vision-F(S)-MC2-ARU-CON	AR	U		DT
A1220208	DVI-Vision-F(S)-MC2-ARU2-CON	AR		U2	DT
A1420208	DVI-Vision-F(S)-MC4-AR-CON	AR			DT/RM
A1420209	DVI-Vision-F(S)-MC4-ARU-CON	AR	U		DT/RM
A1420210	DVI-Vision-F(S)-MC4-ARU2-CON	AR		U2	DT/RM
A1220211	DVI-Vision-F(S+)-MC2-AR-CON	AR			DT
A1220210	DVI-Vision-F(S+)-MC2-ARU-CON	AR	U		DT
A1220212	DVI-Vision-F(S+)-MC2-ARU2-CON	AR		U2	DT
A1420212	DVI-Vision-F(S+)-MC4-AR-CON	AR			DT/RM
A1420211	DVI-Vision-F(S+)-MC4-ARU-CON	AR	U		DT/RM
A1420213	DVI-Vision-F(S+)-MC4-ARU2-CON	AR		U2	DT/RM

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