

# DVI KVM Switches

2011-03

## KVM Switches

Switches for the effective operation of multiple computers via one workstation



# Intelligent solutions

Guntermann & Drunck GmbH has been established in 1985 and is named after its founders. Over 25 years have since past, and we are now a leading manufacturer of digital and analog KVM switching systems.

As an owner-managed company we work with a broad range in both digital and analog KVM closely with the marketplace and make our decisions with and in the interests of our customers. It is our philosophy to meet our customers while making decisions, to accompany them in the process and ensure that they achieve their goals.

We can do this because as a medium sized company we have short communication paths and all core competencies are in house – from development through to production. This way we can even make the impossible possible at times. If it is thanks to the modularity of the products or by implementing a customised solution. We orient ourselves towards the needs of the customer – and not the other way round.

Organisations, service providers and companies of all sizes managing numerous computers, servers and other network devices trust the comprehensive advice and service provided by Guntermann & Drunck GmbH.

Thanks to these different fields of specialisation, the demands placed on the products are many and are manifold. Our products have to provide a long-life service, be secure, uncomplicated, user-friendly, understandable and adaptable.

The DVIMUX switches the following signals:

- ▶ keyboard/mouse
- ▶ digital dual- or single-link and VGA
- ▶ audio
- ▶ USB 2.0

The stand-alone units are available for switching:

- ▶ up to 8 computers
- ▶ via 1 user console
- ▶ with up to 2 or 4 video channels per computer.

A functioning system includes one DVIMUX and the relevant computer connection cable sets.

## Highlights

- Support for digital (single-link DVI and dual-link DVI) as well as VGA, mixed operation possible
- Max. VGA resolution 1920 x 1440 @ 75 Hz (VGA)
- Max. single-link DVI resolution 1920 x 1200 @ 60 Hz
- Max. resolution dual-link DVI 2560 x 1600 and 2048 x 2048 @ 60 Hz
- E-DDC support
- 24bit colour depth for DVI-D signals
- Variants for multiple video
- 8 channel variant with OSD
- Switching of audio and USB 2.0 signals
- Variants for USB and PS/2 keyboard/mouse
- Suitable for all operating systems
- Channel switching via hotkey, device button or RS232

Video	Variant	Number of user consoles	Number of computers	number of displays	OSD	PS/2	USB
single-link DVI + VGA	DVIMUX4	1	4	1	-	x	x
	DVIMUX4-MC2	1	4	2	-	x	x
	DVIMUX4-MC3	1	4	3	-	x	x
	DVIMUX4-MC4	1	4	4	-	x	x
	DVIMUX8	1	8	1	-	x	x
	DVIMUX8-MC2	1	8	2	x	x	x
	DVIMUX8-OSD	1	8	1	x	x	x
dual-link DVI (also single-link support) + VGA	DVIMUX2-DL	1	2	1	-	x	x
	DVIMUX4-DL	1	4	1	-	x	x
	DVIMUX4-DL-MC2	1	4	2	-	x	x



DVIMUX8-MC2-USB

Item No.  
A210 0088



Front view

Computers are connected directly to the switch via the KVM computer connection cable sets. The available lengths and connections vary depending on the type of switch (see KVM Connectivity). The user console is connected directly via the relevant interfaces on the switch.

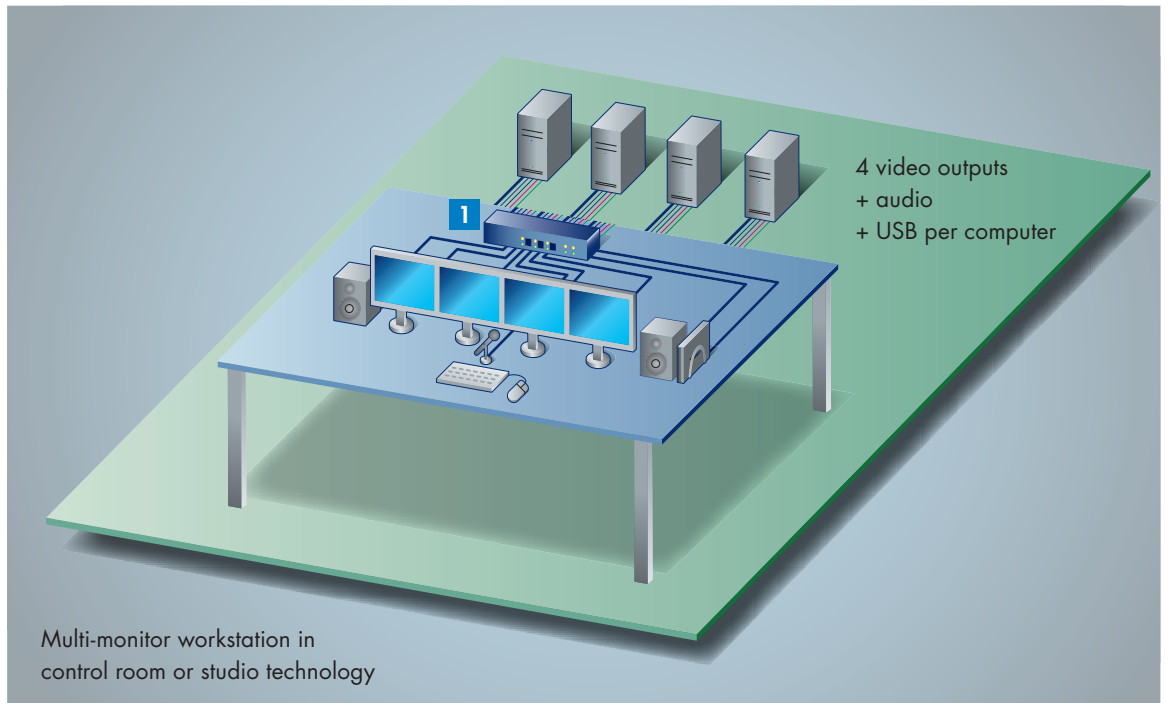
## Operation

The DVIMUX are operated via pushbuttons on the front or via the keyboard hotkeys. The systems are configured via keyboard in a setup mode. DVIMUX8 OSD variants have an OSD.

Operation

## System diagram

### 1 DVIMUX4-MC4-USB



### Example

The operation of 4 multimedia computers is combined on one workstation using the DVIMUX. 4 video signals, bidirectional audio for microphone and speakers, USB keyboard and mouse, as well as an external USB mass storage device are available to each computer via the DVIMUX. The workdesk is clear and is not packed with redundant peripherals for operating the 4 computers.

## Features of the switches

<b>Video</b>	VGA-Resolutions up to 1920 x 1440 @ 75 Hz can be selected
	Video bandwidth up to 400 MHz
	DVI-Resolution single-link up to 1920 x 1200 @ 60 Hz
	DVI-Resolution dual-link up to 2560 x 1600 @ 60 Hz and 2048 x 2048 @ 60Hz
	24 bit colour depth
	Mixed analog/digital operation possible
<b>Installation</b>	Computer hot-plug: Computers can be connected while the unit is in operation
	Computer hot-swap: Computers can be moved while the unit is in operation
	Stay-alive: The computers remain unaffected when the switch is turned off
	Full keyboard/mouse emulation on each channel for error-free booting of the computer
<b>Switching</b>	Via push button at device
	Via keyboard hotkeys
	Via step keys
	Over serial device, e.g. key panel, connected to the service interface of the switch
<b>Audio</b>	Bidirectional switching of audio signals in stereo quality
<b>USB</b>	Transparent switching of USB 2.0 (high speed)

## DVIMUX4-USB



Rear view

Item no.  
A210 0055

## DVIMUX4-PS/2



Rear view

Item no.  
A210 0053

## DVIMUX8-USB



Rear view

Item no.  
A210 0084

## DVIMUX8-PS/2



Rear view

Item no.  
A210 0082

		DVIMUX4-USB	DVIMUX4-PS/2	DVIMUX8-USB	DVIMUX8-PS/2	
<b>Technical data</b>						
<b>Workstation slots per unit</b>		1	1	1	1	
<b>Workstation connection</b>		directly on the switch	directly on the switch	directly on the switch	directly on the switch	
<b>Computer ports</b>		4	4	8	8	
<b>Computer connection</b>		KVM cable set	KVM cable set	KVM cable set	KVM cable set	
<b>Signal type/video</b>		single-link DVI + VGA	single-link DVI + VGA	single-link DVI + VGA	single-link DVI + VGA	
<b>Video resolution, analog</b>		up to 1920 x 1440 @ 75 Hz	up to 1920 x 1440 @ 75 Hz	up to 1920 x 1440 @ 75 Hz	up to 1920 x 1440 @ 75 Hz	
<b>Video resolution, digital</b>		from 640 x 480 @ 100 Hz to 1920 x 1200 @ 60 Hz	from 640 x 480 @ 100 Hz to 1920 x 1200 @ 60 Hz	from 640 x 480 @ 100 Hz to 1920 x 1200 @ 60 Hz	from 640 x 480 @ 100 Hz to 1920 x 1200 @ 60 Hz	
<b>Colour mode, digital</b>		24bit	24bit	24bit	24bit	
<b>Mixed analog/digital mode</b>		yes	yes	yes	yes	
<b>No. of switchable video sources per computer</b>		1	1	1	1	
<b>USB</b>	Type	transparent 2.0 high speed	–	transparent 2.0 high speed	–	
	Transmission rate	480Mbit/s	–	480Mbit/s	–	
	Range	5 m	–	5 m	–	
	Device classes	high-power up to 500mA	–	high-power up to 500mA	–	
<b>Audio</b>		analog	analog	analog	analog	
	Bandwidth	22 kHz	22 kHz	22 kHz	22 kHz	
<b>Update process</b>		local service socket	local service socket	local service socket	local service socket	
<b>Power supply</b>	Main	Type	internal power pack	internal power pack	internal power pack	
		Connection	connector for non-heating device (IEC-320 C14)	connector for non-heating device (IEC-320 C14)	connector for non-heating device (IEC-320 C14)	connector for non-heating device (IEC-320 C14)
		Voltage	AC100-240V/60-50Hz 290-150mA	AC100-240V/60-50Hz 210-115mA	AC100-240V/60-50Hz 270-130mA	AC100-240V/60-50Hz 180-100mA
<b>Casing</b>	Material	anodised aluminium	anodised aluminium	anodised aluminium	anodised aluminium	
	Dimensions	W x H x D				
		Desktop	270 x 44 x 210 mm	270 x 44 x 210 mm	435 x 44 x 210 mm	435 x 44 x 210 mm
	Rackmount	19" x 1HU x 210 mm	19" x 1HU x 210 mm	19" x 1HU x 210 mm	19" x 1HU x 210 mm	
<b>Weight</b>		approx. 1.5 kg	approx. 1.5 kg	approx. 2.2 kg	approx. 2.2 kg	
<b>Operating environment</b>	Temperature	+5 to +40 °C	+5 to +40 °C	+5 to +40 °C	+5 to +40 °C	
	Air humidity	< 80 %, non-condensing	< 80 %, non-condensing	< 80 %, non-condensing	< 80 %, non-condensing	
<b>Interfaces</b>						
for workstation	Video	DVI-I socket	DVI-I socket	DVI-I socket	DVI-I socket	
	Keyboard/mouse	–	2 x Mini-DIN 6 socket	–	2 x Mini-DIN 6 socket	
	USB keyboard/mouse	2 x USB-A socket	2 x USB-A socket	2 x USB-A socket	2 x USB-A socket	
	USB transparent	2 x USB-A socket	–	2 x USB-A socket	–	
	Audio	2 x 3.5 mm socket (Line in + speaker)	3.5 mm socket (Speaker)	2 x 3.5 mm socket (Line in + speaker)	2 x 3.5 mm socket (Speaker)	
to computer	Video	4 x DVI-I socket	4 x DVI-I socket	8 x DVI-I socket	8 x DVI-I socket	
	Keyboard/mouse	–	4 x (2 x Mini-DIN 6 socket)	–	8 x (2 x Mini-DIN 6 socket)	
	USB transparent (also keyboard/mouse)	4 x USB-B socket	–	8 x USB-B socket	–	
	Audio	4 x (2 x 3.5 mm socket) (line in + line out)	4 x 3.5 mm socket (line in)	8 x (2 x 3.5 mm socket) (line in + line out)	8 x 3.5 mm socket (line in)	
for update		2.5 mm socket	2.5 mm socket	2.5 mm socket	2.5 mm socket	
<b>Conformity</b>		CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	



Rear view

## DVIMUX8-OSD-USB

Item no.  
A210 0120



Rear view

## DVIMUX8-OSD-PS/2

Item no.  
A210 0121

## OSD functional features

The OSD is a central operating and configuration component of the DVIMUX-OSD. It can be modified to the needs of the user and the

security guidelines for the implementation.

Access is simple via keyboard/mouse and configurable hotkeys.

<b>Users</b>	<ul style="list-style-type: none"> <li>Up to 8 individual accounts can be configured (+ supervisor and OpenAccess account).</li> <li>Define user-based OSD monitors.</li> <li>Assign user-based configuration rights.</li> <li>Assign access rights for the individual computers.</li> <li>Set up viewing rights for one/multiple computers.</li> <li>User console logs itself off automatically following inactivity.</li> <li>One computer can be defined as the default for each user.</li> </ul>
<b>Server</b>	<ul style="list-style-type: none"> <li>Select computer directly across all machines via the Select menu.</li> <li>Assign computer with hotkeys and select via the keyboard.</li> <li>Create, edit or delete computer names.</li> <li>Activate permanent monitor of the computer name on the screen.</li> <li>Activate scan mode for automatic or manual through-switching of the connected computers.</li> </ul>
<b>User console</b>	<ul style="list-style-type: none"> <li>Set up open, direct access without password prompts.</li> <li>OSD position and size can be freely defined.</li> <li>Password protection can be activated.</li> </ul>
<b>Updates</b>	<ul style="list-style-type: none"> <li>Perform firmware updates via service socket.</li> </ul>

			DVIMUX8-OSD-USB	DVIMUX8-OSD-PS/2
<b>Technical data</b>				
<b>Workstation slots per unit</b>			1	1
<b>Workstation connection</b>			directly on the switch	directly on the switch
<b>Computer ports</b>			8	8
<b>Computer connection</b>			KVM cable set	KVM cable set
<b>Signal type/video</b>			single-link DVI + VGA	single-link DVI + VGA
<b>Video resolution, analog</b>			up to 1920 x 1440 @ 75 Hz	up to 1920 x 1440 @ 75 Hz
<b>Video resolution, digital</b>			from 640 x 480 @ 100 Hz to 1920 x 1200 @ 60 Hz	from 640 x 480 @ 100 Hz to 1920 x 1200 @ 60 Hz
<b>Colour mode, digital</b>			24bit	24bit
<b>Mixed analog/digital mode</b>			yes	yes
<b>No. of switchable video sources per computer</b>			1	1
<b>USB</b>				
	Type		transparent 2.0 high speed	–
	Transmission rate		480Mbit/s	–
	Range		5 m	–
	Device classes		high-power up to 500mA	–
<b>Audio</b>			analog	analog
	Bandwidth		22 kHz	22 kHz
<b>Update process</b>			local service socket	local service socket
<b>Power supply</b>				
	Main	Type	internal power pack	internal power pack
		Connection	connector for non-heating device (IEC-320 C14)	connector for non-heating device (IEC-320 C14)
		Voltage	AC100-240V/60-50Hz 270-130mA	AC100-240V/60-50Hz 180-100mA
<b>Casing</b>				
	Material		anodised aluminium	anodised aluminium
	Dimensions	W x H x D		
		Desktop	435 x 44 x 210 mm	435 x 44 x 210 mm
		Rackmount	19" x 1HU x 210 mm	19" x 1HU x 210 mm
<b>Weight</b>			approx. 2.2 kg	approx. 2.2 kg
<b>Operating environment</b>				
		Temperature	+5 to +40 °C	+5 to +40 °C
		Air humidity	< 80 %, non-condensing	< 80 %, non-condensing
<b>Interfaces</b>				
	for workstation	Video	DVI-I socket	DVI-I socket
		Keyboard/mouse	–	2 x Mini-DIN 6 socket
		USB keyboard/mouse	2 x USB-A socket	2 x USB-A socket
		USB transparent	2 x USB-A socket	–
		Audio	2 x 3.5 mm socket (Line in + speaker)	2 x 3.5 mm socket (Speaker)
	to computer	Video	8 x DVI-I socket	8 x DVI-I socket
		Keyboard/mouse	–	8 x (2 x Mini-DIN 6 socket)
		USB transparent (also keyboard/mouse)	8 x USB-B socket	–
		Audio	8 x (2 x 3.5 mm socket) (line in + line out)	8 x 3.5 mm socket (line in)
	for update		2.5 mm socket	2.5 mm socket
<b>Conformity</b>			CE, RoHS	CE, RoHS

# DVIMUX Single Video (dual-link DVI)

6.7



**DVIMUX2-DL-USB**

Item no.  
A210 0093



Rear view



**DVIMUX2-DL-PS/2**

Item no.  
A210 0091



Rear view



**DVIMUX4-DL-USB**

Item no.  
A210 0099



Rear view



**DVIMUX4-DL-PS/2**

Item no.  
A210 0098



Rear view

		DVIMUX2-DL-USB	DVIMUX2-DL-PS/2	DVIMUX4-DL-USB	DVIMUX4-DL-PS/2	
<b>Technical data</b>						
<b>User console connections per device</b>		1	1	1	1	
<b>User console connection</b>		directly on the switch	directly on the switch	directly on the switch	directly on the switch	
<b>Computer ports</b>		2	2	4	4	
<b>Computer connection</b>		KVM cable set	KVM cable set	KVM cable set	KVM cable set	
<b>Signal type/video</b>		single-link DVI + VGA	single-link DVI + VGA	single-link DVI + VGA	single-link DVI + VGA	
<b>Video resolution analog</b>		up to 1920 x 1440 @ 75 Hz	up to 1920 x 1440 @ 75 Hz	up to 1920 x 1440 @ 75 Hz	up to 1920 x 1440 @ 75 Hz	
<b>Video resolution digital</b>		from 640 x 480 @ 100 Hz to 2560 x 1600 @ 60 Hz 2048 x 2048 @ 60Hz	from 640 x 480 @ 100 Hz to 2560 x 1600 @ 60 Hz 2048 x 2048 @ 60Hz	from 640 x 480 @ 100 Hz to 2560 x 1600 @ 60 Hz 2048 x 2048 @ 60Hz	from 640 x 480 @ 100 Hz to 2560 x 1600 @ 60 Hz 2048 x 2048 @ 60Hz	
<b>Colour mode digital</b>		24 bit	24 bit	24 bit	24 bit	
<b>Mixed mode analog/digital</b>		yes	yes	yes	yes	
<b>No. of switchable video sources per computer</b>		1	1	1	1	
<b>USB</b>	Type	transparent 2.0 high speed	–	transparent 2.0 high speed	–	
	Transmission rate	480Mbit/s	–	480Mbit/s	–	
	Range	5 m	–	5 m	–	
	Device classes	high power up to 500mA	–	high power up to 500mA	–	
<b>Audio</b>		analog	analog	analog	analog	
	Bandwidth	22 kHz	22 kHz	22 kHz	22 kHz	
<b>Update process</b>		local service socket	local service socket	local service socket	local service socket	
<b>Power supply</b>	Main	Type	internal power pack	internal power pack	internal power pack	
		Connection	IEC plug (IEC-320 C14)	IEC plug (IEC-320 C14)	IEC plug (IEC-320 C14)	IEC plug (IEC-320 C14)
	Voltage	AC100-240V/60-50Hz 0,25-0,13A	AC100-240V/60-50Hz 0,2-0,1A	AC100-240V/60-50Hz 0,3-0,15A	AC100-240V/60-50Hz 0,2-0,1A	
<b>Casing</b>	Material	anodised aluminium	anodised aluminium	anodised aluminium	anodised aluminium	
	Dimensions	W x H x D				
		Desktop	210 x 44 x 210 mm	210 x 44 x 210 mm	270 x 44 x 210 mm	270 x 44 x 210 mm
Rackmount	19" x 1HU x 210 mm	19" x 1HU x 210 mm	19" x 1HU x 210 mm	19" x 1HU x 210 mm		
<b>Weight</b>		approx. 1,2 kg	approx. 1,2 kg	approx. 1,5 kg	approx. 1,5 kg	
<b>Operating environment</b>	Temperature	+5 to +40 °C	+5 to +40 °C	+5 to +40 °C	+5 to +40 °C	
	Air humidity	< 80%, non-condensing	< 80%, non-condensing	< 80%, non-condensing	< 80%, non-condensing	
<b>Interfaces for workstation</b>	Video	DVI-I socket	DVI-I socket	DVI-I socket	DVI-I socket	
	Keyboard/mouse	–	2 x Mini-DIN 6 socket	–	2 x Mini-DIN 6 socket	
	USB keyboard/mouse	2 x USB-A socket	2 x USB-A-socket	2 x USB-A socket	2 x USB-A-socket	
	USB transparent	2 x USB-A socket	–	2 x USB-A socket	–	
	Audio	2 x 3,5 mm jack plug (Line In + Speaker)	3,5 mm jack plug (Speaker)	2 x 3,5 mm jack plug (Line In + Speaker)	3,5 mm jack plug (Speaker)	
	to computer	Video	2 x DVI-I socket	2 x DVI-I socket	4 x DVI-I socket	4 x DVI-I socket
		Keyboard/mouse	–	2 x (2 x Mini-DIN 6 socket)	–	4 x (2 x Mini-DIN 6 socket)
		USB transparent (also keyboard/mouse)	2 x USB-B socket	–	2 x USB-B socket	–
		Audio	2 x (2 x 3,5 mm jack plug) (Line In + Line OUT)	2 x 3,5 mm jack plug (Line In)	2 x (2 x 3,5 mm jack plug) (Line In + Line OUT)	2 x 3,5 mm jack plug (Line In)
	for update		2,5 mm jack plug	2,5 mm jack plug	2,5 mm jack plug	
<b>Conformity</b>		CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	

## Expansion of DVIMUX

### for connecting multiple video and additional displays

DVIMUX MC variants can switch up to 4 analog/digital video signals per computer. Consequently the workdesk can be equipped with up to 4 displays.

All monitor contents of the computers are switched together simultaneously when the active computer is changed over by switching command.

The following multi-channel variants of the DVIMUX4 are available:

- **DVIMUX4-MC2-USB** or **DVIMUX4-MC2-PS/2**  
4 computers with dual graphics/2 displays on the workstation
- **DVIMUX4-MC3-USB** or **DVIMUX4-MC3-PS/2**  
4 computers with triple graphics/3 displays on the workstation
- **DVIMUX4-MC4-USB** or **DVIMUX4-MC4-PS/2**  
4 computers with quad graphics/4 displays on the workstation

The following multi-channel variant of the DVIMUX8 is available:

- **DVIMUX8-MC2-USB** or **DVIMUX8-MC2-PS/2**  
8 computers with dual graphics/2 displays on the workstation



DVIMUX4-MC3-USB



Rear view

Item no.  
A210 0067



DVIMUX8-MC2-PS/2



Rear view

Item no.  
A210 0086

## DVIMUX4-MC-USB

		DVIMUX4-MC2-USB	DVIMUX4-MC3-USB	DVIMUX4-MC4-USB	
<b>Technical data</b>					
<b>No. of switchable video sources per computer</b>		2	3	4	
<b>Power supply</b>	Voltage	AC100-240V/60-50Hz	AC100-240V/60-50Hz	AC100-240V/60-50Hz	
	Power consumption	400-200mA	500-220mA	580-260mA	
<b>Casing</b>	dimensions W x H x D				
		Desktop	270 x 66 x 210 mm	270 x 88 x 210 mm	270 x 132 x 210 mm
		Rackmount	19" x 1.5HU x 210 mm	19" x 2HU x 210 mm	19" x 3HU x 210 mm
<b>Weight</b>		approx. 1.7 kg	approx. 2.1 kg	approx. 2.5 kg	
<b>Interfaces</b>					
	for workstation Video	2 x DVI-I socket	3 x DVI-I socket	4 x DVI-I socket	
	to computer Video	4 x (2 x DVI-I socket)	4 x (3 x DVI-I socket)	4 x (4 x DVI-I socket)	

## DVIMUX4-MC-PS/2

		DVIMUX4-MC2-PS/2	DVIMUX4-MC3-PS/2	DVIMUX4-MC4-PS/2	
<b>Technical data</b>					
<b>No. of switchable video sources per computer</b>		2	3	4	
<b>Power supply</b>	Voltage	AC100-240V/60-50Hz	AC100-240V/60-50Hz	AC100-240V/60-50Hz	
	Power consumption	310-155mA	410-190mA	530-230mA	
<b>Casing</b>	dimensions W x H x D				
		Desktop	270 x 66 x 210 mm	270 x 88 x 210 mm	270 x 132 x 210 mm
		Rackmount	19" x 1.5HU x 210 mm	19" x 2HU x 210 mm	19" x 3HU x 210 mm
<b>Weight</b>		approx. 1.7 kg	approx. 2.1 kg	approx. 2.5 kg	
<b>Interfaces</b>					
	for workstation Video	2 x DVI-I socket	3 x DVI-I socket	4 x DVI-I socket	
	to computer Video	4 x (2 x DVI-I socket)	4 x (3 x DVI-I socket)	4 x (4 x DVI-I socket)	

## DVIMUX8-MC-USB + PS/2

		DVIMUX8-MC2-USB	DVIMUX8-MC2-PS/2	
<b>Technical data</b>				
<b>No. of switchable video sources per computer</b>		2	2	
<b>Power supply</b>	Voltage	AC100-240V/60-50Hz	AC100-240V/60-50Hz	
	Power consumption	410-170mA	300-140mA	
<b>Casing</b>	dimensions W x H x D			
		Desktop	435 x 66 x 210 mm	435 x 66 x 210 mm
		Rackmount	19" x 1,5HU x 210 mm	19" x 1,5HU x 210 mm
<b>Weight</b>		approx. 2.7 kg	approx. 2.7 kg	
<b>Interfaces</b>				
	for workstation Video	2 x DVI-I socket	2 x DVI-I socket	
	to computer Video	8 x (2 x DVI-I socket)	8 x (2 x DVI-I socket)	

The following multi-channel variants of the DVIMUX4-DL are available:

- **DVIMUX4-DL-MC2-USB** or **DVIMUX4-DL-MC2-PS/2**  
4 computers with dual graphics/2 displays on the workstation



Rear view

**DVIMUX4-DL-MC2-PS/2**

Item no.  
A210 0102



## DVIMUX4-DL-MC2 USB + PS/2

		DVIMUX4-DL-MC2-USB	DVIMUX4-DL-MC2-PS/2
<b>Technical data</b>			
<b>No. of switchable video sources per computer</b>		2	2
<b>Power supply</b>	Voltage	AC100-240V/60-50Hz	AC100-240V/60-50Hz
	Power consumption	400-200mA	310-155mA
<b>Casing</b>	Dimensions W x H x D		
	Desktop	270 x 66 x 210 mm	270 x 66 x 210 mm
	Rackmount	19" x 1.5HU x 210 mm	19" x 1.5HU x 210 mm
<b>Weight</b>		approx. 1.7 kg	approx. 1.7 kg
<b>Interfaces</b>			
for workstation	Video	2 x DVI-I socket	2 x DVI-I socket
	to computer	4 x (2 x DVI-I socket)	4 x (2 x DVI-I socket)

## Minimum system

For a functional system, the following minimum requirements are needed (example):

A210 0053 DVIMUX4-PS/2 Switching device  
see KVM Connectivity CPU-DVID-DL-PL-x KVM computer connection cable set, DVI-D, PS/2, audio

## Components

### Single-channel variants

Item no.	Description	
<b>Dual link video</b>		
A210 0091	DVIMUX2-DL-PS/2	for one workstation and 2 computers, PS/2, dual-link DVI
A210 0092	DVIMUX2-DL-PS/2-RM	for one workstation and 2 computers, PS/2, dual-link DVI, rackmount
A210 0093	DVIMUX2-DL-USB	for one workstation and 2 computers, USB 2.0, dual-link DVI
A210 0094	DVIMUX2-DL-USB-RM	for one workstation and 2 computers, USB 2.0, dual-link DVI, rackmount
<b>Single link video</b>		
A210 0098	DVIMUX4-DL-PS/2	for one workstation and 4 computers, PS/2, dual-link DVI
A210 0100	DVIMUX4-DL-PS/2-RM	for one workstation and 4 computers, PS/2, dual-link DVI, rackmount
A210 0099	DVIMUX4-DL-USB	for one workstation and 4 computers, USB 2.0, dual-link DVI
A210 0101	DVIMUX4-DL-USB-RM	for one workstation and 4 computers, USB 2.0, dual-link DVI, rackmount
<b>Single link video</b>		
A210 0053	DVIMUX4-PS/2	for one workstation and 4 computers, PS/2, single-link DVI
A210 0054	DVIMUX4-PS/2-RM	for one workstation and 4 computers, PS/2, single-link DVI, rackmount
A210 0055	DVIMUX4-USB	for one workstation and 4 computers, USB 2.0, single-link DVI
A210 0056	DVIMUX4-USB-RM	for one workstation and 4 computers, USB 2.0, single-link DVI, rackmount
A210 0082	DVIMUX8-PS/2	for one workstation and 8 computers, PS/2, single-link DVI, desktop incl. rackmount kit
A210 0084	DVIMUX8-USB	for one workstation and 8 computers, USB 2.0, single-link DVI, desktop incl. rackmount kit
A210 0121	DVIMUX8-OSD-PS/2	for one workstation and 8 computers, PS/2, single-link DVI, with OSD, desktop incl. rackmount kit
A210 0084	DVIMUX8-OSD-USB	for one workstation and 8 computers, USB 2.0, single-link DVI, with OSD, desktop incl. rackmount kit

### Multi-channel variants

Item no.	Description	
<b>Dual link video</b>		
A210 0102	DVIMUX4-DL-MC2-PS/2	for one workstation and 4 computers with dual graphics, PS/2, dual-link DVI
A210 0103	DVIMUX4-DL-MC2-PS/2-RM	for one workstation and 4 computers with dual graphics, PS/2, dual-link DVI, rackmount
A210 0104	DVIMUX4-DL-MC2-USB	for one workstation and 4 computers with dual graphics, USB 2.0, dual-link DVI
A210 0105	DVIMUX4-DL-MC2-USB-RM	for one workstation and 4 computers with dual graphics, USB 2.0, dual-link DVI, rackmount

## Multi-channel variants

Item no.	Description	
<b>Single link video</b>		
A210 0061	DVIMUX4-MC2-PS/2	for one workstation and 4 computers with dual graphics, PS/2, single-link DVI
A210 0062	DVIMUX4-MC2-PS/2-RM	for one workstation and 4 computers with dual graphics, PS/2, single-link DVI, rackmount
A210 0063	DVIMUX4-MC2-USB	for one workstation and 4 computers with dual graphics, USB 2.0, single-link DVI
A210 0064	DVIMUX4-MC2-USB-RM	for one workstation and 4 computers with dual graphics, USB 2.0, single-link DVI, rackmount
A210 0065	DVIMUX4-MC3-PS/2	for one workstation and 4 computers with triple graphics, PS/2, single-link DVI
A210 0066	DVIMUX4-MC3-PS/2-RM	for one workstation and 4 computers with triple graphics, PS/2, single-link DVI, rackmount
A210 0067	DVIMUX4-MC3-USB	for one workstation and 4 computers with triple graphics, USB 2.0, single-link DVI
A210 0068	DVIMUX4-MC3-USB-RM	for one workstation and 4 computers with triple graphics, USB 2.0, single-link DVI, rackmount
A210 0069	DVIMUX4-MC4-PS/2	for one workstation and 4 computers with quad graphics, PS/2, single-link DVI
A210 0070	DVIMUX4-MC4-PS/2-RM	for one workstation and 4 computers with quad graphics, PS/2, single-link DVI, rackmount
A210 0071	DVIMUX4-MC4-USB	for one workstation and 4 computers with quad graphics, USB 2.0, single-link DVI
A210 0072	DVIMUX4-MC4-USB-RM	for one workstation and 4 computers with quad graphics, USB 2.0, single-link DVI, rackmount
A210 0086	DVIMUX8-MC2-PS/2	for one workstation and 8 computers with dual graphics, PS/2, single-link DVI, desktop incl. rackmount kit
A210 0088	DVIMUX8-MC2-USB	for one workstation and 8 computers with dual graphics, USB 2.0, single-link DVI desktop incl. rackmount kit

## Connectivity

Please order the relevant computer connection cable set depending on the expansion level. One breakout cable "DVI-divider" for each video output that converts DVI-I to DVI-D and VGA is included as standard. Power supply cables are included as standard as well.

Item no.	Description	Category in KVM Connectivity	Function
see KVM Connectivity	CPU-DVID-DL-PL-x	CPU connection cable set	connection of DVI-D, PS/2 and audio
	CPU-DVIA-PL-x	CPU connection cable set	connection of VGA, PS/2 and audio
	CPU-DVID-DL-U-x	CPU connection cable set	connection of DVI-D; USB and audio
	CPU-DVIA-U-x	CPU connection cable set	connection of VGA, USB and audio
	CPU-MC2-DVID-DL-PL-x	CPU connection cable set	connection of 2 x DVI-D; PS/2 and audio
	CPU-MC2-DVIA-P-x	CPU connection cable set	connection of 2 x VGA, PS/2 and audio
	CPU-MC2-DVID-DL-U-x	CPU connection cable set	connection of 2 x DVI-D; USB and audio
	CPU-MC2-DVIA-U-x	CPU connection cable set	connection of 2 x VGA, USB and audio
	CPU-MC3-DVIA-P-x	CPU connection cable set	connection of 3 x VGA, PS/2 and audio
	CPU-MC3-DVIA-U-x	CPU connection cable set	connection of 3 x VGA, USB and audio
	CPU-MC4-DVIA-P-x	CPU connection cable set	connection of 4 x VGA, PS/2 and audio
	CPU-MC4-DVIA-U-x	CPU connection cable set	connection of 4 x VGA, USB and audio

x = length in metres, see KVM Connectivity for lengths available. When ordering please quote the article number and the description.

The DL-MUX4 switches the following signals:

- ▶ keyboard/mouse
- ▶ digital dual-link, single-link and VGA
- ▶ audio
- ▶ USB 2.0

The stand-alone unit is available for switching:

- ▶ up to 4 computers
- ▶ via 1 user console
- ▶ with up to 4 video channels per computer.

By using the optional DLM-Monitoring function, DL-MUX4 offers an expansion to increase system availability and safety for mission-critical applications.

A functioning system includes one DL-MUX and the relevant computer connection cable sets.

### Highlights

- support for dual-link DVI and VGA, also mixed operation
- max. analog resolution 1920 x 1440 @ 75 Hz,
- max. digital 2560 x 1600 @ 60 Hz and 2048 x 2048 @ 60Hz
- E-DDC support
- 24bit colour depth for DVI-D signals
- swichting of audio signals
- variants for USB and PS/2 keyboard/mouse
- suitable for all operating systems
- with internal, redundant power supply
- twofold network connectivity
- optional monitoring and reporting function
- integrated USB 2.0
- channel switching via hotkey, device button or SNMP request to the SNMP-Agent
- identification LED for locating device within a rack

The DL-MUX4 is available in the following variants:

- **DL-MUX4** 1 user console with 1 display, 4 computers with a single graphics card
- **DL-MUX4-MC2** 1 user console with 2 display, 4 computers with a dual-head graphics card
- **DL-MUX4-MC3** 1 user console with 3 display, 4 computers with a triple-head graphics card
- **DL-MUX4-MC4** 1 user console with 4 display, 4 computers with a quad-head graphics card

Computers are connected directly to the switch via the KVM computer connection cable sets (see KVM Connectivity). The user console is connected directly via the relevant interfaces on the switch.



Front view

**DL-MUX4**

Item no.  
A210 0097



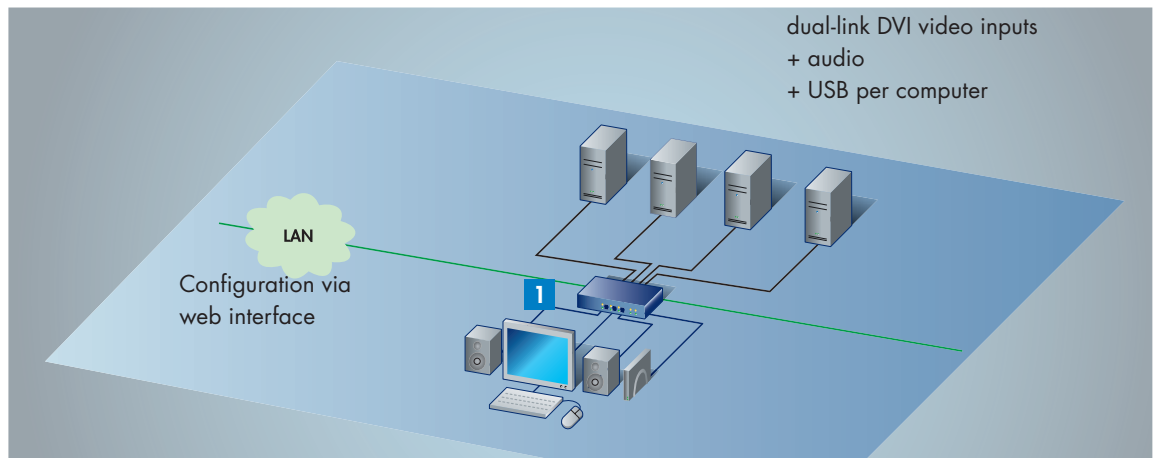
Front view

**DL-MUX4-MC4**

Item no.  
A210 0017

## System diagram

### DL-MUX4



### Example

The operation of 4 computers with dual-link DVI inputs is combined with one workstation using the DL-MUX. A digital video signal, bidirectional audio, PS/2 alternatively USB keyboard and mouse, as well as an external USB mass storage device are available to each computer via the DL-MUX. The web interface is the graphical user interface for the configuration of the DL-MUX4 via network. The workdesk is clear and is not packed with redundant peripherals for operating the 4 computers.

## Features of the switches

<b>Video</b>	VGA resolutions up to 1920 x 1440 @ 75 Hz can be selected
	Video bandwidth up to 400 MHz
	DVI resolution dual-link up to 2560 x 1600 @ 60 Hz and 2048 x 2048 @ 60Hz
	E-DDC support
	24 bit colour depth
	Mixed analog/digital operation possible
<b>Installation</b>	Computer hot-plug: Computers can be connected while the unit is in operation
	Computer hot-swap: Computers can be moved while the unit is in operation
	Stay-alive: The computers remain unaffected when the switch is turned off
	Full keyboard/mouse emulation on every channel for error-free booting of the computer
<b>Switching</b>	Via push button at device
	Via keyboard hotkeys
	Via web interface (the release of the DLM-Monitoring function required)
	SNMP (the release of the DLM-Monitoring-Function required)
	Over serial device, e.g. key panel, connected to the RS232 interface of the switch
<b>Audio</b>	Bidirectional switching of audio signals in stereo quality
<b>USB</b>	Transparent switching of USB 2.0 (high speed)
<b>Network access</b>	2 network ports per modul e.g. for KVM service network and productive network
<b>Redundancy</b>	2 integrated power supplies per module with netfilter to reduce electronic interference
<b>LEDs</b>	Identification LED (switching on and off of device LED via web application, for locating device within a rack), control of power supply, operating status

## Operation

The DL-MUX are operated via switching. The switching is executed by keyboard, push buttons on the front panel or network.

### Operation

## Web interface

Configuration as well as monitoring and reporting of the system are carried out via web application and can be referred at chapter „Configuration • Monitoring • DevCon-Support“.

Configuration  
Monitoring

## Functional features

<b>Configuration</b>	Configuration of network parameters via graphical user interface
	Define netfilter rules, which regulate access of certain IP addresses
	Enter date and time, select NTP server
<b>Maintenance</b>	Backup of configuration data
	Restore the configuration data
	Set system defaults via push button or web application
<b>Update</b>	Input firmware updates via network or service interface
<b>Switching</b>	Via push-button on the front panel
	Via defineable keyboard-hotkeys
	Via SNMP after purchasing and activating the "DevCon function" as well as the "IP-Control-API function"
<b>Monitoring (optional)</b>	Carry out syslog settings
	Query system information, e.g. current network settings, logs, system configuration
	Forward local syslog protocol and event reporting to syslog server
	Forward SNMP traps
	Supervision of critical device status
<b>Directory</b>	Perform authentication against LDAP, Active Directory, TACACS+ and Radius
<b>Logbook</b>	Intelligent electronic notepad notes
	Note function for scheduled tasks plus status assignment
	Filing of comments on the device
	Exportable in .csv format

## Expansion DLM-Monitoring



Web interface integration for monitoring of system conditions.

<b>Description</b>	By DLM-Monitoring function system conditions of G&D products can be monitored, critical device conditions can be displayed and reported to enable an in-time intervention of the administrator. These information can be viewed in the web interface or forwarded as syslog message or by SNMP.
<b>Operation via</b>	Web interface
<b>Required for use</b>	Activation via web interface

Details about DLM-Monitoring can be referred in chapter "Configuration + Monitoring".

## Single channel (1 x video)



DL-MUX4

Item no.  
A210 0097



Rear view

### Technical Data DL-MUX4

<b>User console connections per device</b>	1
<b>User console connection</b>	directly on the switch
<b>Computer ports</b>	4
<b>Computer connection</b>	KVM cable set
<b>Signal type/video</b>	dual/single-link DVI + VGA
<b>Video resolution analog</b>	up to 1920 x 1440 @ 75 Hz
<b>Video resolution digital</b>	from 640 x 480 @ 100 Hz to 2560 x 1600 @ 60 Hz (2048 x 2048 @ 60Hz)
<b>Colour mode digital</b>	24 Bit
<b>Mixed mode analog/digital</b>	yes
<b>No. of switchable video sources per computer</b>	1
<b>USB</b>	
type	transparent 2.0 high speed
transmission rate	480Mbit/s
range	5 m
device classes	high power up to 500mA
<b>Audio</b>	
type	analog
bandwidth	22 kHz
<b>Update process</b>	local service socket
<b>Power supply</b>	
main type	internal power pack
connection	connector for non heating device (IEC-320 C14)
voltage	AC100-240V/60-50Hz 0.37-0.17A
redundant (optional) connection	internal power pack IEC plug (IEC-320 C14)
voltage	AC100-240V/60-50Hz 0.37-0.17A

<b>Casing</b>	
material	anodised aluminium
dimension Desktop (WxHxT)	435 x 44 x 210 mm
dimension Rackmount (WxHxT)	19" x 1 HE x 210 mm
<b>Weight</b>	approx. 2.3 kg
<b>Operating environment</b>	
temperature	+5 to +45 °C
air humidity	< 80%, non-condensing
<b>Interfaces for workplaces</b>	
video	1 x DVI-I socket
PS/2 keyboard/mouse	2 x Mini-DIN 6 socket
USB keyboard/mouse	2 x USB-A socket
USB transparent	2 x USB-A socket
audio	1 x 3.5 mm jack plug (Speaker)
<b>Interfaces to computer</b>	
video	DVI-I socket
keyboard/mouse	1 x Mini-DIN 6 socket
USB transparent	2 x USB-B socket (also Keyboard/Mouse)
audio	1 x 3.5 mm jack plug (Line In)
<b>Interfaces for network</b>	2 x RJ45-socket
<b>Conformity</b>	CE, RoHS

## Multi channel 2 (2 x video)



DL-MUX4-MC2

Item no.  
A210 0096



Rear view

Technical Data		DL-MUX4-MC2	
<b>User console connections per device</b>	1	<b>Casing</b>	
<b>User console connection</b>	directly on the switch	material	anodised aluminium
<b>Computer ports</b>	4	dimension desktop (WxHxT)	435 x 66 x 210 mm
<b>Computer connection</b>	KVM cable set	dimension rackmount (WxHxT)	19" x 1,5 HE x 210 mm
<b>Signal type/video</b>	dual/single-link DVI + VGA	<b>Weight</b>	approx. 2.7 kg
<b>Video resolution analog</b>	up to 1920 x 1440 @ 75 Hz	<b>Operating environment</b>	
<b>Video resolution digital</b>	from 640 x 480 @ 100 Hz to 2560 x 1600 @ 60 Hz (2048 x 2048 @ 60Hz)	temperature	+5 to +45 °C
<b>Colour mode digital</b>	24 Bit	air humidity	< 80%, non-condensing
<b>Mixed mode analog/digital</b>	yes	<b>Interfaces for workplaces</b>	
<b>No. of switchable video sources per computer</b>	2	video	2 x DVI-I socket
<b>USB</b>		PS/2 keyboard/mouse	2 x Mini-DIN 6 socket
type	transparent 2.0 high speed	USB keyboard/mouse	2 x USB-A socket
transmission rate	480Mbit/s	USB transparent	2 x USB-A socket
range	5 m	audio	1 x 3.5 mm jack plug (speaker)
device classes	high power up to 500mA	<b>Interfaces to computer</b>	
<b>Audio</b>		video	2 x DVI-I socket
type	analog	keyboard/mouse	1 x Mini-DIN 6 socket
bandwidth	22 kHz	USB transparent	2 x USB-B socket (also keyboard/mouse)
<b>Update process</b>	local service socket	audio	1 x 3.5 mm jack plug (Line In)
<b>Power supply</b>		<b>Interfaces for network</b>	2 x RJ45-socket
main type	internal power pack	<b>Conformity</b>	CE, RoHS
connection	connector for non heating device (IEC-320 C14)		
voltage	AC100-240V/60-50Hz 0.45-0.2A		
redundant (optional)	internal power pack		
connection	IEC plug (IEC-320 C14)		
voltage	AC100-240V/60-50Hz 0.45-0.2A		

## Multi channel 3 (3 x video)



DL-MUX4-MC3

Item no.  
A210 0116



Rear view

### Technical Data DL-MUX4-MC3

<b>User console connections per device</b>	1
<b>User console connection</b>	directly on the switch
<b>Computer ports</b>	4
<b>Computer connection</b>	KVM cable set
<b>Signal type/video</b>	dual/single-link DVI + VGA
<b>Video resolution analog</b>	up to 1920 x 1440 @ 75 Hz
<b>Video resolution digital</b>	from 640 x 480 @ 100 Hz to 2560 x 1600 @ 60 Hz (2048 x 2048 @ 60Hz)
<b>Colour mode digital</b>	24 Bit
<b>Mixed mode analog/digital</b>	yes
<b>No. of switchable video sources per computer</b>	3
<b>USB</b>	
type	transparent 2.0 high speed
transmission rate	480Mbit/s
range	5 m
device classes	high power up to 500mA
<b>Audio</b>	
type	analog
bandwidth	22 kHz
<b>Update process</b>	local service socket
<b>Power supply</b>	
main type	internal power pack
connection	connector for non heating device (IEC-320 C14)
voltage	AC100-240V/60-50Hz 0.53-0.22A
redundant (optional)	internal power pack
connection	IEC plug (IEC-320 C14)
voltage	AC100-240V/60-50Hz 0.53-0.22A

<b>Casing</b>	
material	anodised aluminium
dimension desktop (WxHxT)	435 x 88 x 210 mm
dimension rackmount (WxHxT)	19" x 2 HE x 210 mm
<b>Weight</b>	approx. 3.1 kg
<b>Operating environment</b>	
temperature	+5 to +45 °C
air humidity	< 80%, non-condensing
<b>Interfaces for workplaces</b>	
video	3 x DVI-I socket
PS/2 keyboard/mouse	2 x Mini-DIN 6 socket
USB keyboard/mouse	2 x USB-A socket
USB transparent	2 x USB-A socket
audio	1 x 3.5 mm jack plug (speaker)
<b>Interfaces to computer</b>	
video	3 x DVI-I socket
keyboard/mouse	1 x Mini-DIN 6 socket
USB transparent	2 x USB-B socket (also keyboard/mouse)
audio	1 x 3.5 mm jack plug (Line In)
<b>Interfaces for network</b>	2 x RJ45-socket
<b>Conformity</b>	CE, RoHS

## Multi channel 4 (4 x video)



DL-MUX4-MC4

Item no.  
A210 0117



Rear view

### Technical Data DL-MUX4-MC4

<b>User console connections per device</b>	1
<b>User console connection</b>	directly on the switch
<b>Computer ports</b>	4
<b>Computer connection</b>	KVM cable set
<b>Signal type/video</b>	dual/single-link DVI + VGA
<b>Video resolution analog</b>	up to 1920 x 1440 @ 75 Hz
<b>Video resolution digital</b>	from 640 x 480 @ 100 Hz to 2560 x 1600 @ 60 Hz (2048 x 2048 @ 60Hz)
<b>Colour mode digital</b>	24 Bit
<b>Mixed mode analog/digital</b>	yes
<b>No. of switchable video sources per computer</b>	4
<b>USB</b>	
type	transparent 2.0 high speed
transmission rate	480Mbit/s
range	5 m
device classes	high power up to 500mA
<b>Audio</b>	
type	analog
bandwidth	22 kHz
<b>Update process</b>	local service socket
<b>Power supply</b>	
main type	internal power pack
connection	connector for non heating device (IEC-320 C14)
voltage	AC100-240V/60-50Hz 0.63-0.25A
redundant (optional)	internal power pack
connection	IEC plug (IEC-320 C14)
voltage	AC100-240V/60-50Hz 0.63-0.25A

<b>Casing</b>	
material	anodised aluminium
dimension desktop (WxHxT)	435 x 132 x 210 mm
dimension rackmount (WxHxT)	19" x 3 HE x 210 mm
<b>Weight</b>	approx. 3.5 kg
<b>Operating environment</b>	
temperature	+5 to +45 °C
air humidity	< 80%, non-condensing
<b>Interfaces for workplaces</b>	
video	4 x DVI-I socket
PS/2 keyboard/mouse	2 x Mini-DIN 6 socket
USB keyboard/mouse	2 x USB-A socket
USB transparent	2 x USB-A socket
audio	1 x 3.5 mm jack plug (speaker)
<b>Interfaces to computer</b>	
video	4 x DVI-I socket
keyboard/mouse	1 x Mini-DIN 6 socket
USB transparent	2 x USB-B socket (also keyboard/mouse)
audio	1 x 3.5 mm jack plug (Line In)
<b>Interfaces for network</b>	2 x RJ45-socket
<b>Conformity</b>	CE, RoHS

## Minimum system

For a functional system, the following minimum requirements are needed (example):

A210 0097	DL-MUX4	Changeover switch
see KVM Connectivity	CPU-DVID-DL-PLY-x	KVM computer connection cable set, DVI-D, PS/2, audio

## Components

### Single-channel variants

Item no.	Description	
A210 0097	DL-MUX4	for one user console and 4 computers, PS/2, USB 2.0, dual-link DVI, network, desktop incl. rackmount kit

### Multi-channel variants

A210 0096	DL-MUX4-MC2	for one user console and 4 computers with dual-head graphics, PS/2, USB 2.0, dual-link DVI, network, desktop incl. rackmount kit
A210 0116	DL-MUX4-MC3	for one user console and 4 computers with triple-head graphics, PS/2, USB 2.0, dual-link DVI, network, desktop incl. rackmount kit
A210 0117	DL-MUX4-MC4	for one user console and 4 computers with quad-head graphics, PS/2, USB 2.0, dual-link DVI, network, desktop incl. rackmount kit

## Connectivity

Please order the relevant computer connection cable set depending on the expansion level. One breakout cable "DVI-divider" for each video output that converts DVI-I to DVI-D and VGA is included as standard. Power supply cables are included as standard as well.

Item no.	Description	Category in KVM Connectivity	Function
see KVM Connectivity	CPU-DVID-DL-PLY-x	CPU connection cable set	connection of DVI-D, PS/2 and audio
	CPU-DVIA-PLY-x	CPU connection cable set	connection of VGA, PS/2 and audio
	CPU-DVID-DL-2U-x	CPU connection cable set	connection of DVI-D, USB and audio
	CPU-DVIA-2U-x	CPU connection cable set	connection of VGA, USB and audio
	CPU-DVID-DL-MC2-PLY-x	CPU connection cable set	connection of 2 x DVI-D, PS/2 and audio
	CPU-DVIA-MC2-PLY-x	CPU connection cable set	connection of 2 x VGA, PS/2 and audio
	CPU-DVID-DL-MC2-2U-x	CPU connection cable set	connection of 2 x DVI-D, USB and audio
	CPU-DVIA-MC2-2U-x	CPU connection cable set	connection of 2 x VGA, USB and audio
	CPU-DVID-DL-MC3-PLY-x	CPU connection cable set	connection of 3 x DVI-D, PS/2 and audio
	CPU-DVIA-MC3-PLY-x	CPU connection cable set	connection of 3 x VGA, PS/2 and audio
	CPU-DVID-DL-MC3-2U-x	CPU connection cable set	connection of 3 x DVI-D, USB and audio
	CPU-DVIA-MC3-2U-x	CPU connection cable set	connection of 3 x VGA, USB and audio
	CPU-DVID-DL-MC4-PLY-x	CPU connection cable set	connection of 4 x DVI-D, PS/2 and audio
	CPU-DVIA-MC4-PLY-x	CPU connection cable set	connection of 4 x VGA, PS/2 and audio
	CPU-DVID-DL-MC4-2U-x	CPU connection cable set	connection of 4 x DVI-D, USB and audio
	CPU-DVIA-MC4-2U-x	CPU connection cable set	connection of 4 x VGA, USB and audio

x = length in metres, see KVM Connectivity for lengths available. When ordering please quote the article number and the description.

## Expansion DLM-Monitoring

Item no.	Description	
A820 0010	DLM-Monitoring	Supervision and display of the device status

High operational safety and reliability are essential to G&D products. Enhancing these well-established attributes, our latest products come fully equipped with network ports.

Network-capable G&D products therefore offer the following possibilities:

1. **Configuration**     adjust device settings
2. **Monitoring**        display and report the device status
3. **DevCon Support**    support the communication by applying the DevCon-Center for central configuration and monitoring

Any critical operational status can be recognised in advance and the system administrator can act accordingly. System availability and safety are increased for mission-critical applications such as Air or Ground Traffic Control, live broadcast etc.

### Supported products

Monitoring, configuration via network or DevCon support is currently supported by the following products:

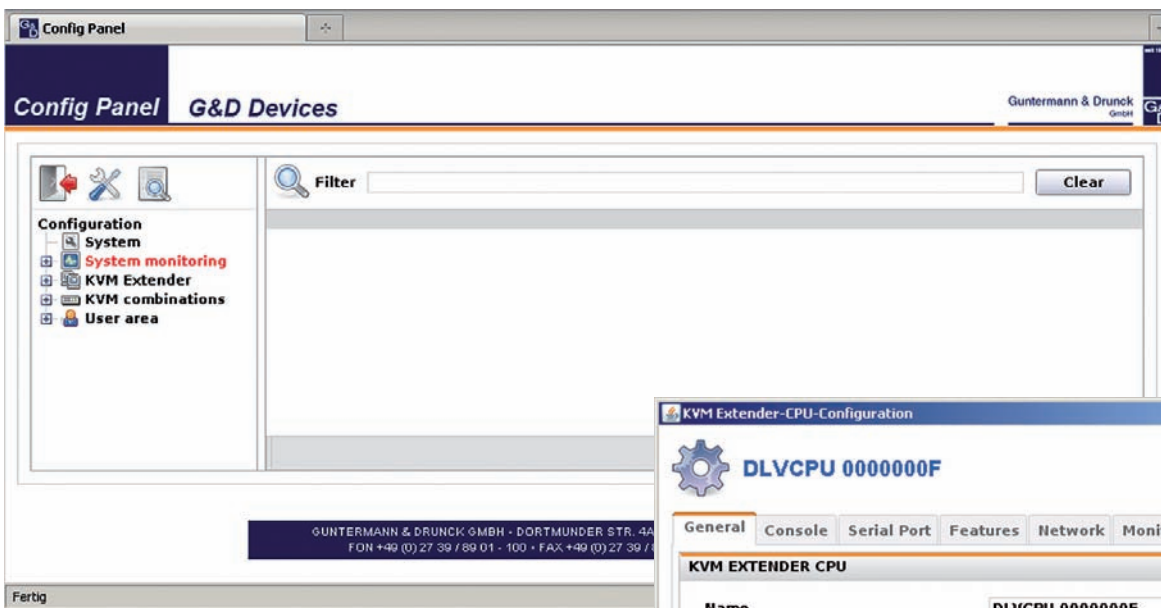
- DL-Vision            KVM Extender
- DL-MUX4            KVM Switch
- DevCon-Center    KVM ADD-On

Further network-compatible products are projected.

## 1. Configuration via web interface (integrated)

The respective settings are supplied by the „Config-Panel“ web interface of the devices and cover specific settings for the device as well as network settings.

The access is password-protected. The web interface is provided both in German and English.

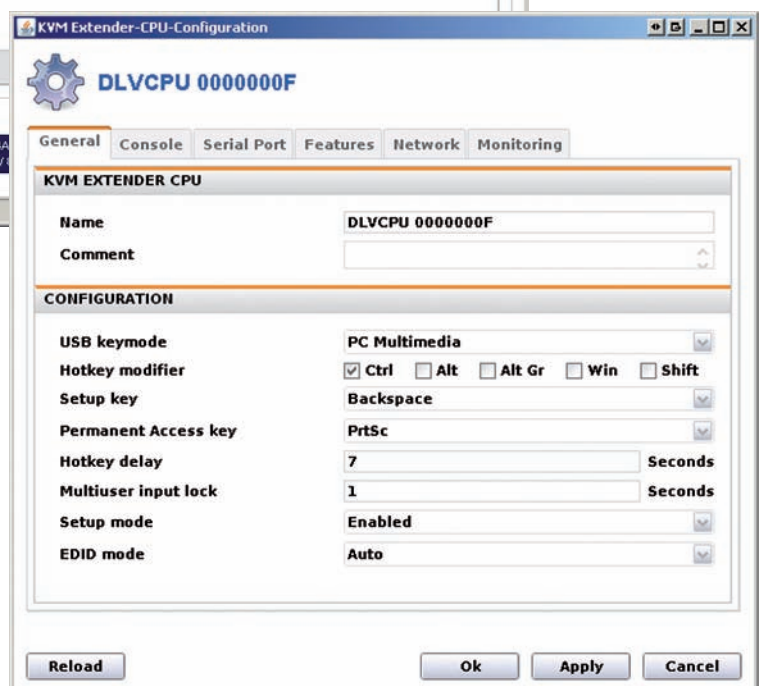


◀ Figure: „Config Panel“ of a DL-Vision

Within the **configuration menu** all relevant settings of the product can be executed online.

Configuring the network the user can define netfilter rules and activate the support of a central NTP and Syslog server.

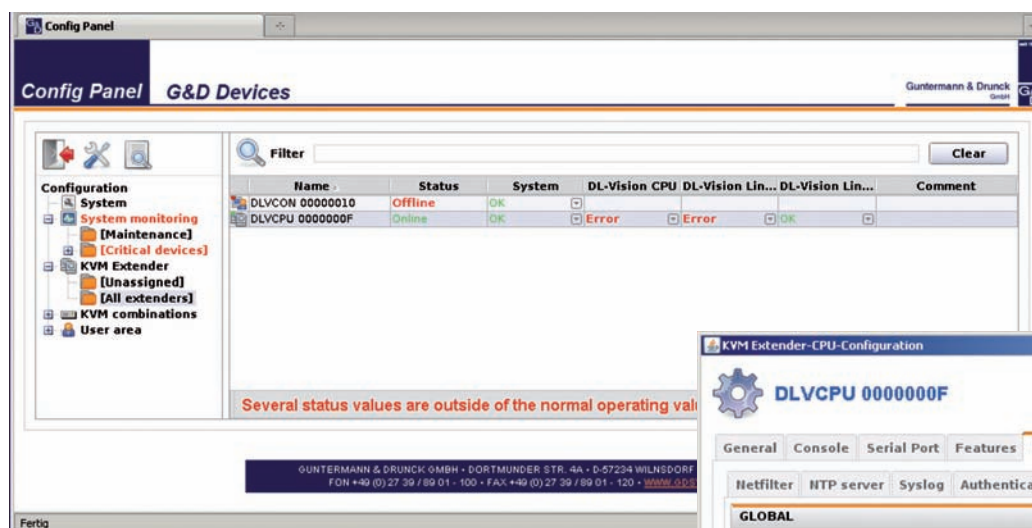
Figure: „CPU Configuration“ of a DL-Vision ▶



## 2. Monitoring the device status via web interface (optional)

The „Monitoring“ feature enables the detection of device status information. The information is displayed in the web interface of the devices.

The Monitoring function can be activated by loading an activation key via the web interface. Additionally, that activation enables the use of SNMP trap and agent.

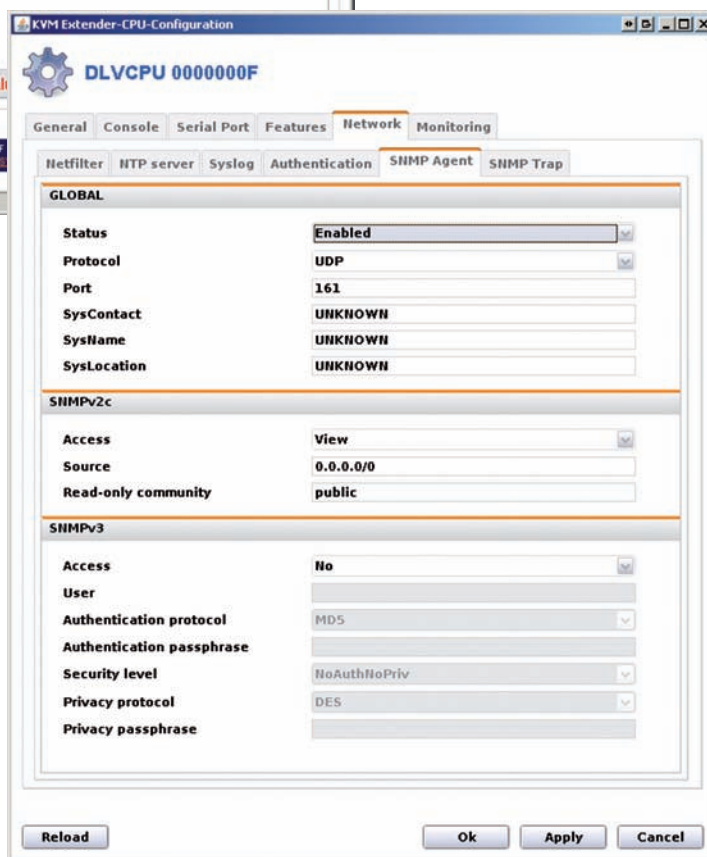


◀ Figure: Web interface of DL-Vision showing monitoring values

Next to displaying the detected values in the web interface, they can either be sent (SNMP Trap) or requested (SNMP GET).

The web interface offers the settings for external querying of the SNMP agent. Versions SNMPv2c and V3 are supported. Additionally, the forwarding of SNMP traps is integrated.

Figure: SNMP agent settings of a DL-Vision ▶



### DL-MUX Feature

Sending an SNMP SET request, the DL-MUX can be switched to another channel remotely.

**DL-MUX  
Feature**

The **information menu** displays the values set in the configuration menu and the detected status values of the device.

Among others, the following status values are provided:

- main power supply - device
- redundant power supply - device
- temperature - device
- power supply - computer
- DVI video input channel 1
- DVI video input channel 2
- uninterrupted transmission on all transmission cables

Values changing their statuses (e.g. power on/off) and values exceeding predefined limits (e.g. temperatures) are highlighted in red in the web interface.

Furthermore, the device informs the administrator according to preset parameters.

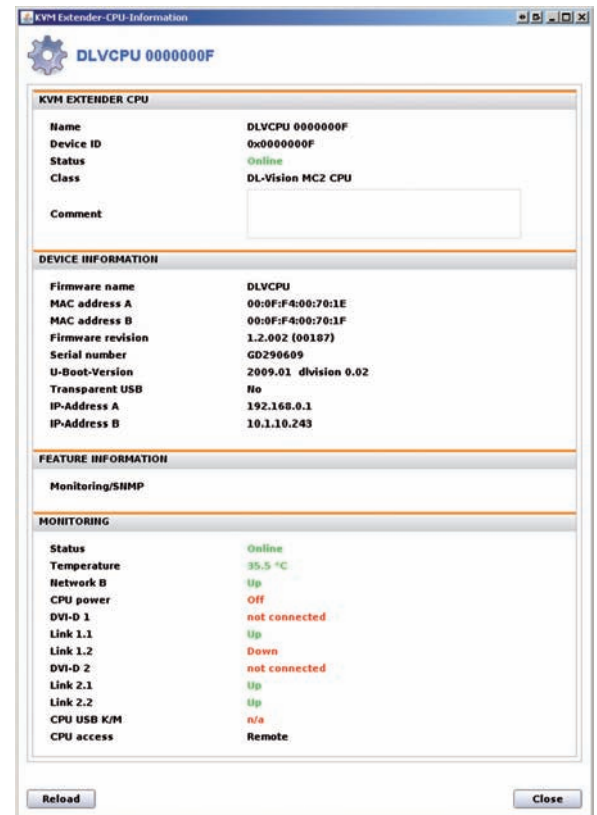


Figure: Information menu of a monitored DL-Vision ►

## 3. Central configuration and central monitoring via the appliance DevCon-Center and devices with DevCon support

If several network-capable products are deployed, the use of the **DevCon-Center** is recommended. The DevCon-Center appliance is in permanent contact with all devices over network.

Using the DevCon-Center appliance, all connected **G&D devices with the required support** can be centrally configured, updated and monitored within one user interface. Monitoring, configuration and updates can be carried out via one IP address.

The DevCon-Center shows the monitoring values of all G&D products connected via network within an interface and therefore enables the user to:

- view an overview of the entire system und all device statuses
- view a list of all individual devices showing information such as IP addresses and other configuration values
- create device folders within the DevCon-Center (e.g. folders for all extender transmitters and all extender receivers)
- create combined device folders within the DevCon-Center (e.g. a folder for all extenders and switches of a particular location)

As the device comes with a second network interface, monitoring and productive LAN can be separated.

For using SNMP-SET or GET, each device has to be connected to the network irrespective of the use of the DevCon-Center.

## ABBREVIATIONS

CPU = Computer module  
PC = Computer module

CON = User module  
REM = User module


MC2 = Multichannel 2  
MC3 = Multichannel 3  
MC4 = Multichannel 4


M = Multimode  
S = Singlemode  
RM = For assembly in a 19" rack

A = Audio  
AR = Audio + RS232  
R = RS232  
U = transparent USB 1.1  
U2 = transparent USB 2.0  
D = Delay

## EQUIPMENT FEATURES


 = keyboard/mouse


 = DVI dual-link video


 = DVI single-link video


 = DVI single-link + analog video


 = analog video

 = Audio

 = RS232


 = USB 1.1


 = USB 2.0

 = Delay

 = Screen Freeze

 = Power Switching

 = Fire Wire

 = VT100


 = KVM IP access


 = Network connection


 = Web interface


 = DevCon support


 = Monitoring

 = CAT cable

 = Fiber optics










 = Single user

 = Multi user

 = Competing local/remote user

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