

# KVM Switches

## 6.1

### KVM Switches

Switches for the effective operation of multiple computers via one workstation



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## Intelligent solutions

Guntermann & Drunck GmbH was founded in 1985 by the people that gave the company its name.

Over 20 years have since past, and we are now a leading manufacturer of analogue and digital KVM switching systems.

As an owner-managed company we work closely with the marketplace and take our decisions with and in the interests of our customers. It is our philosophy to meet our customers en route to 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 also have all core competencies available in-house – from development through to production. This way we can even make the impossible possible at times. Whether this 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 in the management of 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 varied. They need to offer a long service life, and to be secure, uncomplicated, user-friendly, understandable and adaptable.

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## Taric Code

Devices: 8 5 1 7 6 2 0 0

Cables: 8 5 4 4 2 0 0 0

Waste Electrical and  
Electronic Equipment

WEEE register no. DE 3 0 7 6 3 2 4 0

The KVM switches are used to operate 2 - 256 computers via one or two concurrent workstations. The switches are always stand-alone devices. Only the ControlCenter 1 range offers an extra workstation module in addition to the switch.

The KVM switches switch the following signals:

- digital video / analogue video
- keyboard/mouse PS/2 and USB
- transparent USB 2.0
- and audio

Depending on the product and application, various signals are combined – from one switch exclusively for keyboard/mouse and audio through to a multi-channel video switch which switches 4 x digital/analogue video, keyboard/mouse, USB 2.0 and audio per computer.

A further differentiating feature is the number of computers which can be connected. G&D provides products for 2, 4, 8 or 16 computers in this product group.

### Analogue video

- **miniMUX2** Signals: analogue video, keyboard/mouse, PS/2 and USB  
Computers: 2
- **miniMUX4** Signals: analogue video, keyboard/mouse, PS/2 and USB  
Computers: 4
- **ControlCenter 1** Signals: analogue video, keyboard/mouse PS/2  
Computers: 8/16/cascaded up to 256

### Analogue multi-channel video

- **miniMUX2-MC** as for miniMUX2, but with up to 2 analogue video channels per computer
- **miniMUX4-MC** as for miniMUX4, but with up to 4 analogue video channels per computer

### Analogue multi-channel video + scenario switching

- **Triple MUX** Signals: 3 x analogue video per computer, keyboard/mouse, PS/2 and USB on the workstation side and option to create information portfolios across all computers  
Computers: 4
- **QuadMUX** as for TripleMUX, but with 4 analogue video channels per computer

### Digital video

- **DVIMUX4** Signals: analogue video, keyboard/mouse PS/2 and USB, USB 2.0 transparent, audio  
Computers: 4
- **DVIMUX8** Signals: analogue video, keyboard/mouse PS/2 and USB, USB 2.0 transparent, audio  
Computers: 8

### Digital multi-channel video

- **DVIMUX4-MC** as for DVIMUX4, but with up to 4 digital / analogue video channels per system
- **DVIMUX8-MC** as for DVIMUX8, but with up to 2 digital / analogue video channels per system

### Keyboard/mouse + audio

- **TradeSwitch 2** Signals: keyboard/mouse PS/2 and audio  
Computers: 2
- **TradeSwitch 4** Signals: keyboard/mouse PS/2 and USB, USB 2.0 transparent and audio  
Computers: 4

Our customers use these products in the fields of hotline services, internet service providing, radio and television technology, as well as in control room technology, at office workstations and more. Due to the variety of signals in the field of IT and the connection variants involved, the products cannot support all types. To be able to offer a wide range despite these issues, we offer the relevant converters and dongles which can be used to integrate even "exotic devices" into your KVM solution. Speak to us. Virtually all products in our range can be combined with one another. If you are setting up a complex system or if the performance of a particular product does not match the needs of your specific application, our sales team will be pleased to advise you on the relevant combined solutions to produce the overall functionality.

## KVM Switches

The miniMUX units form part of the group of KVM switches and switch the following signals: analogue video, keyboard and mouse. The miniMUX units are standalone devices. The devices permit access to 2 or 4 computers via one workstation. When cascaded, up to 16 computers can be operated.

The miniMUX single-channel variants are supplied incl. 2-metre computer connection cables and can therefore be used straight away as standalone products. Additional computer connection cables are required for the multi-channel variants.

### Highlights

- Resolution up to 1920 x 1440 @ 75 Hz
- User management with password protection
- Computer-side support for USB, SUN-USB and PS/2 keyboard/mouse
- Variants for multiple video
- Hot swap and hot plug support

The changeover switches are available in the following variants:

- **miniMUX2** (1 workstation, 2 computers) and
- **miniMUX4** (1 workstation, 4 computers).

The computers are connected to the switch via computer connection cables CPU-1 to -6 (1 – 6 m long).

The workstation is connected directly via the relevant interfaces on the switch.

The miniMUX units are available in the following variants with additional functionality:

**Expansion with additional switchable video channels and connectable displays:**

- **miniMUX2-MC2** (2 computers with dual graphics card/workstation with 2 displays)
- **miniMUX4-MC2** (4 computers with dual graphics card/workstation with 2 displays)
- **miniMUX4-MC3** (4 computers with triple graphics card/workstation with 3 displays)
- **miniMUX4-MC4** (4 computers with quad graphics card/workstation with 4 displays)

**Expansion with additional switchable video channels, connectable displays and scenario switching:**

- **TripleMUX** (as for miniMUX4-MC3, but with scenario switching)
- **QuadMUX** (as for miniMUX4-MC4, but with scenario switching)

### miniMUX2

Article no.  
A210 0034



Front view

### miniMUX4

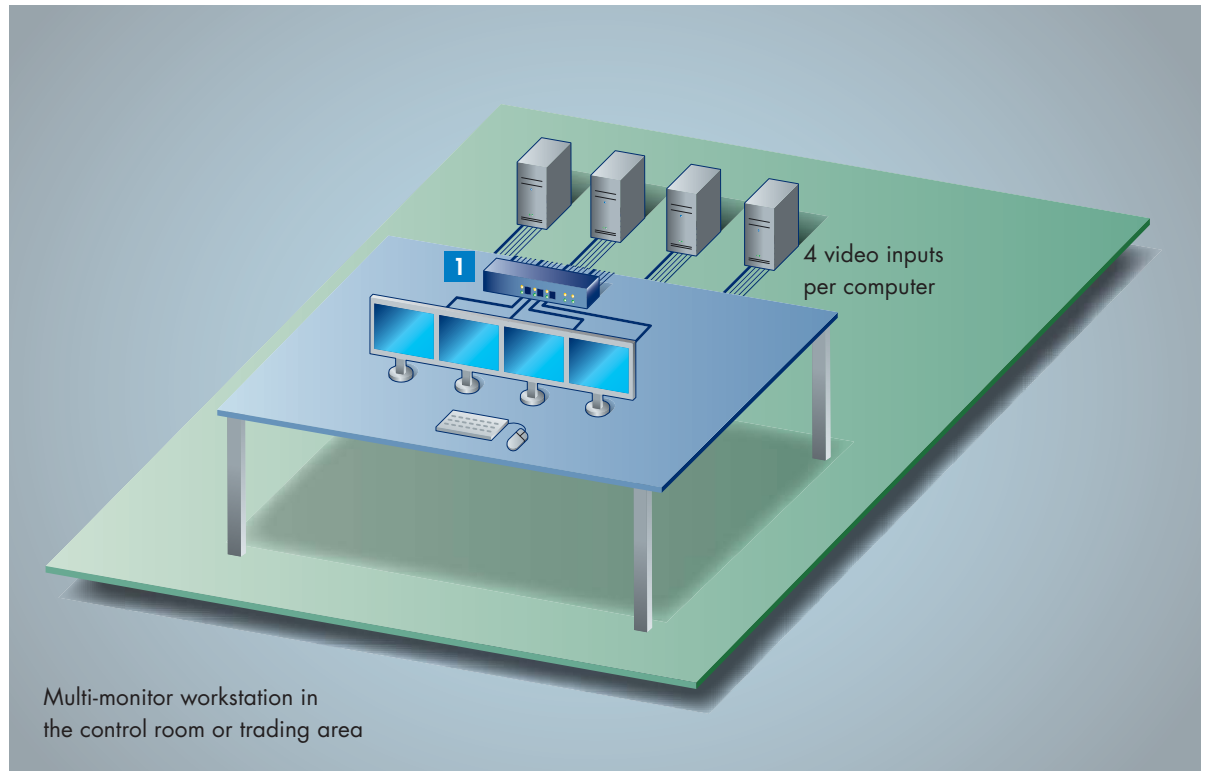
Article no.  
A210 0028



Front view

## System diagram

### 1 miniMUX4-MC4



### Example

The operation of 4 multi-graphics computers is combined via the miniMUX on a multi-monitor workstation. The 4 video signals of each computer are switched in parallel. The information, which would otherwise require 16 screens for display, can therefore be visualised on 4 displays to save space. The workstation is clear and is not crowded with redundant peripherals for operating the 4 computers.

## Features of the changeover switches

Video	VGA-Resolutions up to 1920 x 1440 @ 75 Hz can be selected
	Video bandwidth up to 400 MHz
Installation	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 computers

## Operating the main components

The miniMUX' are operated via the OSD AdonIS and via keyboard hotkeys. The systems are also configured via the OSD AdonIS.

As the miniMUX2 with its variants does not have an OSD, it is operated via pushbuttons on the front as an alternative.

OSD  
(AdonIS)

## KVM Switches

### miniMUX2

Article no.  
A210 0034



Rear view

### miniMUX4

Article no.  
A210 0028



Rear view

### miniMUX4-MC4

Article no.  
A210 0042



Rear view



			miniMUX2	miniMUX4
Technical data				
Workstation slots per unit			1	1
Workstation connection			directly on the switch	directly on the switch
Computer ports			2	4
Computer ports, cascade level 1			–	16
Computer connection			KVM combi-cable	KVM combi-cable
Signal type/video			analogue video	analogue video
Video resolution			up to 1920 x 1440 @ 75 Hz	up to 1920 x 1440 @ 75 Hz
No. of switchable video sources per computer			1	1
Update process			local service socket	local service socket
Power supply	Main	Type	external power pack	internal power pack
		Connection	Mini-DIN power socket	Inlet connector for non-heating devices (IEC-320 C14)
		Voltage	12VDC 400mA	AC100-240V/60-50Hz 150-70mA
Casing	Material		anodised aluminium	anodised aluminium
	Dimensions	W x H x D		
		Desktop	160 x 44 x 210 mm	270 x 44 x 210 mm
		Rackmount	19" x 1HU x 210 mm	19" x 1HU x 210 mm
Weight			approx. 0.8 kg	approx. 1.3 kg
Operation environment				
	Temperature		+5 to +40 °C	+5 to +40 °C
	Air humidity		< 80 %, non-condensing	< 80 %, non-condensing
Interfaces				
	for workstation	Video	D-Sub HD 15 socket	D-Sub HD 15 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
	to computer		2 x MDR20 socket	4 x MDR20 socket
	for update		2.5 mm jack	2.5 mm jack
Conformity			CE, RoHS	CE, RoHS

Technical data miniMUX4-MC4 see next page

## LEGEND

Equipment features:



= analogue video

## KVM Switches

### miniMUX expansion

#### for the connection of multiple video and additional displays

As MC variants, the miniMUX can switch up to 4 analogue video signals per computer. This means that the workstation can be equipped with up to 4 displays. The following variants are available:

- **miniMUX2-MC2** 2 computers with dual graphics/2 displays on the workstation
- **miniMUX4-MC2** 4 computers with dual graphics/2 displays on the workstation

- **miniMUX4-MC3** 4 computers with triple graphics/3 displays on the workstation
- **miniMUX4-MC4** 4 computers with quad graphics/4 displays on the workstation

When a switch command is initiated, all display contents on the computers are also switched simultaneously.

		miniMUX2-MC2	miniMUX4-MC2	miniMUX4-MC3	miniMUX4-MC4
<b>Technical data</b>					
<b>Workstation connections 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>		2	4	4	4
<b>Computer ports, cascade level 1</b>		-	16	16	16
<b>Computer connection</b>		KVM cable set	KVM cable set	KVM cable set	KVM cable set
<b>Signal type/video</b>		analogue video	analogue video	analogue video	analogue video
<b>Video resolution</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>No. of switchable video sources per computer</b>		2	2	3	4
<b>Update process</b>		local service socket	local service socket	local service socket	local service socket
<b>Power supply</b>	Main	external power pack	internal power pack	internal power pack	internal power pack
	Type				
	Connection	Mini-DIN 4 power socket	Connector for non-heating devices (IEC-320 C14)	Connector for non-heating devices (IEC-320 C14)	Connector for non-heating devices (IEC-320 C14)
	Voltage	12VDC/440mA	AC100-240V/60-50Hz 170-75mA	AC100-240V/60-50Hz 195-85mA	AC100-240V/60-50Hz 220-95mA
<b>Casing</b>	Material	anodised aluminium	anodised aluminium	anodised aluminium	anodised aluminium
	Dimensions	W x H x D			
	Desktop	160 x 44 x 210 mm	270 x 44 x 210 mm	270 x 66 x 210 mm	270 x 88 x 210 mm
	Rackmount	19" x 1HU x 210 mm	19" x 1HU x 210 mm	19" x 1.5HU x 210 mm	19" x 2HU x 210 mm
<b>Weight</b>	Desktop	approx. 0.8 kg	approx. 1.4 kg	approx. 1.8 kg	approx. 1.9 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	2 x D-Sub HD 15 socket	2 x D-Sub HD 15 socket	3 x D-Sub HD 15 socket	4 x D-Sub HD 15 socket
	Keyboard/mouse	2 x Mini-DIN 6 socket	2 x Mini-DIN 6 socket	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
to computer	KVM	2 x MDR20 socket	4 x MDR20 socket	4 x MDR20 socket	4 x MDR20 socket
to computer	Additional video	2 x	4 x	4 x	4 x
		(1 x D-Sub HD 15 socket)	(1 x D-Sub HD 15 socket)	(2 x D-Sub HD 15 socket)	(3 x D-Sub HD 15 socket)
	for update	2.5 mm jack	2.5 mm jack	2.5 mm jack	2.5 mm jack
<b>Conformity</b>		CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS

## miniMUX expansion

### for connecting multiple video and additional displays + scenario switching

In terms of the computer-side and workstation-side connection availability, TripleMUX and QuadMUX correspond to miniMUX4/MC3 + 4. The most important difference between the units lies in the switching options. Whereas with the miniMUX variants, all video sources on a computer are always switched at the same time, with the TripleMUX and QuadMUX, different computer combinations can be produced from the video sources. These combinations (scenarios) can

be retrieved using hotkeys. The correct information mix will be available immediately on 3 or 4 monitors. The scenarios are defined in the OSD AdonIS of the TripleMUX and QuadMUX. The computer to which the keyboard is switched by default in that scenario is also defined here. This assignment can be cancelled. Hotkeys can be used to switch keyboard or mouse on each of the other computers within the scenario.

			TripleMUX	QuadMUX
Technical data				
Workstation connections per unit			1	1
Workstation connection			directly on the switch	directly on the switch
Computer ports			4	4
Computer connection			KVM cable set	KVM cable set
Signal type/video			analogue video	analogue video
Video resolution			up to 1920 x 1440 @ 75 Hz	up to 1920 x 1440 @ 75 Hz
No. of switchable video sources per computer			3	4
Update process			local service socket	local service socket
Power supply	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 205-95mA	AC100-240V/60-50Hz 235-105mA
Casing	Material		anodised aluminium	anodised aluminium
	Dimensions	W x H x D		
		Desktop	270 x 66 x 210 mm	270 x 88 x 210 mm
		Rackmount	19" x 1.5HU x 210 mm	19" x 2HU x 210 mm
Weight		Desktop	approx. 1.9 kg	approx. 1.9 kg
Operation environment	Temperature		+5 to +40 °C	+5 to +40 °C
	Air humidity		< 80 %, non-condensing	< 80 %, non-condensing
Interfaces				
	for workstation	Video	3 x D-Sub HD 15 socket	4 x D-Sub HD 15 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
	to computer	KVM	4 x MDR20 socket	4 x MDR20 socket
	to computer	additional video	4 x (2 x D-Sub HD 15 socket)	4 x (3 x D-Sub HD 15 socket)
	for update		2.5 mm jack	2.5 mm jack
Conformity			CE, RoHS	CE, RoHS

## KVM Switches

## OSD functional features

The OSD is a central operating and configuration component of the miniMUX4 and its variants, as well as the TripleMUX and QuadMUX. 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.

## Field:

<b>Users</b>	Up to 8 individual accounts can be configured (+ supervisor and OpenAccess account). Define user-based OSD displays. Assign user-based configuration rights. Assign access rights for the individual computers. Set up viewing rights for one/multiple computers. Workstation logs itself off automatically following inactivity. One computer can be defined as the default for each user.
<b>Server</b>	Select computer directly across all machines via the Select menu. Assign computer with hotkeys and select via the keyboard. Create, edit or delete computer names. Activate permanent display of the computer name on the screen. Activate scan mode for automatic or manual through-switching of the connected computers.
<b>Workstation</b>	Set up open, direct access without password prompts. OSD position and size can be freely defined. Password protection can be activated.
<b>Updates</b>	Perform firmware updates via service socket.

## Illustration:

Scenario setup for TripleMUX (example)

Video Scene				
Hot	Scene-name	A	B	C
1	Techn. Netz	1	1	1
2	Büro-Netz	2	2	2
3	Progn. West	3	3	3
4	Progn. Ost	4	4	4
5	Auswertung 1	1	1	3
6	Auswertung 2	1	2	4
7	Auswertung 3	2	2	4
8	frei			
<b>ESC</b>	<b>F1 = SAVE</b>			

## Minimum system

As the switches are standalone devices, each switch is a functional unit in itself.  
Please note that connection cables need to be ordered with the multi-channel variants.

## Components

### Single-channel variants

Art. no.	Designation	
A210 0034	miniMUX2	for one workstation and 2 computers
A210 0035	miniMUX2-RM	for one workstation and 2 computers, rackmount
A210 0028	miniMUX4	for one workstation and 4 computers
A210 0029	miniMUX4-RM	for one workstation and 4 computers, rackmount

## Connectivity

Computer connection cables, 2 m (metres) in length, are included as standard with the single-channel variants. Please choose from the USB or PS/2 versions. Alternative lengths are available and are priced to order. Power supply cables are included as standard.

## Multi-channel variants

Art. no.	Designation	
A210 0036	miniMUX2-MC2	for one workstation and 2 computers with dual graphics,
A210 0037	miniMUX2-MC2-RM	for one workstation and 2 computers with dual graphics, rackmount
A210 0038	miniMUX4-MC2	for one workstation and 4 computers with dual graphics,
A210 0039	miniMUX4-MC2-RM	for one workstation and 4 computers with dual graphics, rackmount
A210 0040	miniMUX4-MC3	for one workstation and 4 computers with triple graphics,
A210 0041	miniMUX4-MC3-RM	for one workstation and 4 computers with triple graphics, rackmount
A210 0042	miniMUX4-MC4	for one workstation and 4 computers with quad graphics,
A210 0043	miniMUX4-MC4-RM	for one workstation and 4 computers with quad graphics, rackmount

## Multi-channel variants with scenario switching

Art. no.	Designation	
A210 0044	TripleMUX	for one workstation and 4 computers with triple graphics, with scenario switching
A210 0045	TripleMUX-RM	for one workstation and 4 computers with triple graphics, rackmount with scenario switching
A210 0046	QuadMUX	for one workstation and 4 computers with quad graphics with scenario switching
A210 0047	QuadMUX-RM	for one workstation and 4 computers with quad graphics, rackmount with scenario switching

## Connectivity

No computer connection cables are included as standard with the multi-channel variants. Please order the relevant computer connection cable set for your expansion level. Power supply cables are included as standard.

Art. no.	Designation	Category in KVM Connectivity	Function
see KVM Connectivity	CPU-x	CPU connection cable	connection of VGA and PS/2
	CPU-USB-x	CPU connection cable	connection of VGA and USB
	CPU-MC2-P-x	CPU connection cable set	connection of 2 x VGA and PS/2
	CPU-MC2-U-x	CPU connection cable set	connection of 2 x VGA and USB
	CPU-MC3-P-x	CPU connection cable set	connection of 3 x VGA and PS/2
	CPU-MC3-U-x	CPU connection cable set	connection of 3 x VGA and USB
	CPU-MC4-P-x	CPU connection cable set	connection of 4 x VGA and PS/2
	CPU-MC4-U-x	CPU connection cable set	connection of 4 x VGA and USB

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

## KVM Switches

The TradeSwitches form part of the group of KVM switches, and switch keyboard/mouse, audio and USB signals. Video signals do not run via the switch. The workstation monitors are connected directly to the graphics card and display the image from the computer in question on all the workstations. The TradeSwitches are standalone devices. The units permit access to up to 4 computers via one workstation.

A functioning system includes one TradeSwitch and the relevant computer connection cables.

### Highlights

- *Special switches for keyboard/mouse (USB or PS/2) and audio*
- *Compatible with all G&D devices*
- *Identification of the active channel using external LEDs*
- *Channel changeover via adjustable hotkeys*
- *Variant with USB 2.0 switching*

The changeover switches are available as variants for 2 computers/1 workstation and 4 computers/1 workstation in a PS/2 version. The USB 2.0 version is for 4 computers/1 workstation available. The computers are connected directly to the switch via the corresponding cables.

The connection of keyboard and mouse, speakers and USB 2.0 devices is carried out directly via the relevant interfaces on the switch. The supplied LED sets are fitted onto the monitors. A lit LED during operation indicates the monitor (computer) onto which the keyboard/mouse focus has been switched.

### TradeSwitch2-PS/2

Article no.  
A210 0073



Front view

### TradeSwitch4-USB

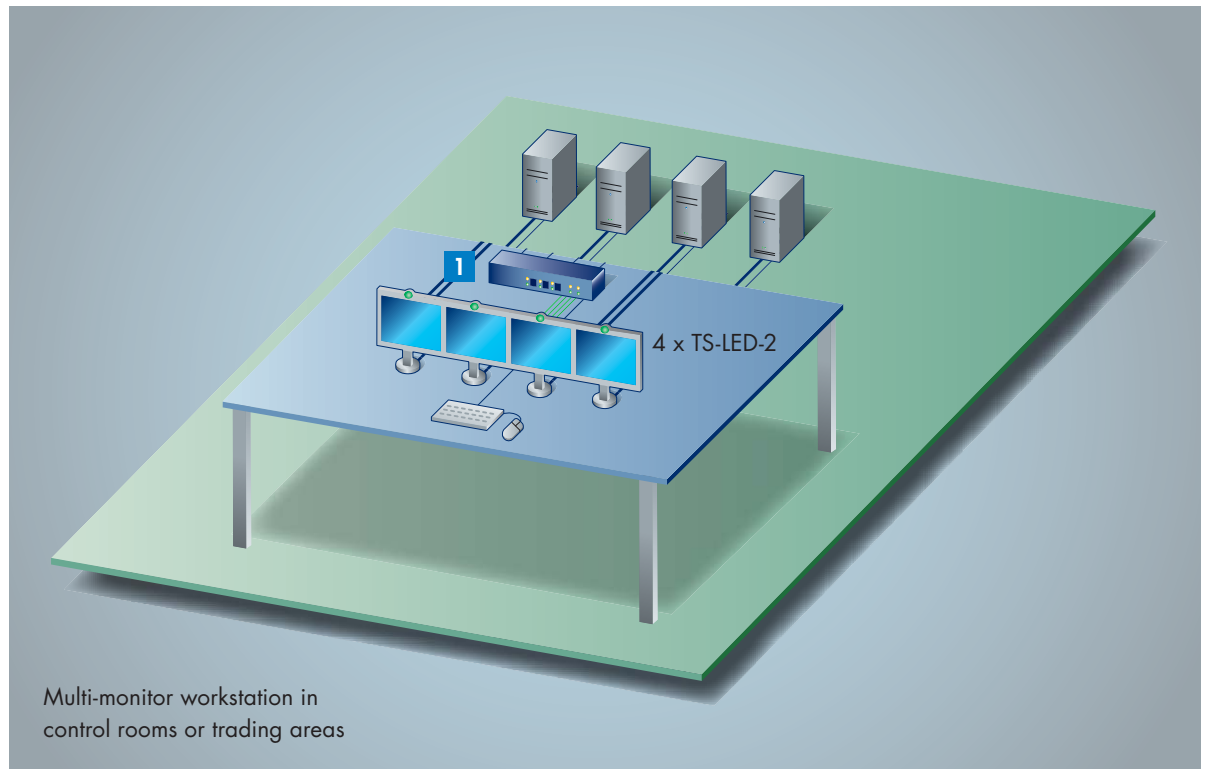
Article no.  
A210 0080



Front view

## System diagram

### 1 TradeSwitch4



### Example

The operation of 4 computers is combined onto one workstation using TradeSwitch4. The operator needs to see all 4 screens at all times. For this reason, the displays are connected directly to the graphics cards. For space reasons, the computers are operated using just one keyboard and mouse, which are switched between the various computers via the TradeSwitch. The current keyboard/mouse focus is clearly indicated by the LEDs fitted on the monitor being lit as appropriate.

## Features of the changeover switches

<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.

## Operating the main components

The TradeSwitches are operated via pushbuttons on the front of the unit or via keyboard hotkeys.  
The systems are configured via keyboard in a setup mode.

### Operation

KVM Switches

TradeSwitch2-PS/2

Article no.  
A210 0073



Rear view

TradeSwitch4-PS/2

Article no.  
A210 0075



Rear view

TradeSwitch4-USB

Article no.  
A210 0080



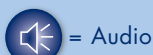
Rear view



			TradeSwitch2-PS/2	TradeSwitch4-PS/2	TradeSwitch4-USB
<b>Technical data</b>					
<b>Workstation slots per unit</b>			1	1	1
<b>Workstation connection</b>			directly on the switch	directly on the switch	directly on the switch
<b>Computer ports</b>			2	4	4
<b>Switchable signals</b>			PS/2-keyboard/mouse; audio	PS/2-keyboard/mouse; audio	USB-keyboard/mouse; audio, USB 2.0
<b>Computer connection</b>			KVM cable set	KVM cable set	KVM cable set
<b>Audio</b>			analogue	analogue	analogue
	Bandwidth		22 kHz	22 kHz	22 kHz
<b>USB</b>	Type		-	-	transparent 2.0
			-	-	High speed
	Transmission rate		-	-	480Mbit/s
	Range		-	-	5 m
	Device classes				High-power up to 500mA
<b>Update process</b>			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)
	Voltage		AC100-240V/60-50Hz 100-70mA	AC100-240V/60-50Hz 120-80mA	AC100-240V/60-50Hz 180-100mA
<b>Casing</b>	Material		anodised aluminium	anodised aluminium	anodised aluminium
	Dimensions	W x H x D			
		Desktop	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
<b>Weight</b>			approx. 1.0 kg	approx. 1.5 kg	approx. 1.5 kg
<b>Operation environment</b>					
	Temperature		+5 to +40 °C	+5 to +40 °C	+5 to +40 °C
	Air humidity		< 80 %, non-condensing	< 80 %, non-condensing	< 80 %, non-condensing
<b>Interfaces</b>					
for workstation	Monitor LED-Sets		2 x D-Sub 9 socket	4 x D-Sub 9 socket	4 x D-Sub 9 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
	USB transparent		-	-	2 x USB-A socket
	Audio		3.5 mm jack (Speaker)	3.5 mm jack (Speaker)	2 x 3.5 mm jack (Line In + Speaker)
to computer	Keyboard/mouse		2 x (2 x Mini-DIN 6 socket)	4 x (2 x Mini-DIN 6 socket)	-
	USB transparent (also keyboard/mouse)		-	-	4 x USB-B socket
	Audio		2 x 3.5 mm jack (Line in)	4 x 3.5 mm jack (Line in)	4 x (2 x 3.5 mm jack) (Line in + Line out)
for update			2.5 mm jack	2.5 mm jack	2.5 mm jack
<b>Conformity</b>			CE, RoHS	CE, RoHS	CE, RoHS

## LEGEND

## Equipment features:



## KVM Switches

## Minimum system

As the switches are standalone devices, each switch is a functional unit in itself.

## Components

### Switches

Art. no.	Designation	
A210 0073	TradeSwitch2-PS/2	for one workstation and 2 computers, PS/2
A210 0074	TradeSwitch2-PS/2-RM	for one workstation and 2 computers, PS/2, rackmount
A210 0075	TradeSwitch4-PS/2	for one workstation and 4 computers, PS/2
A210 0076	TradeSwitch4-PS/2-RM	for one workstation and 4 computers, PS/2, rackmount
A210 0080	TradeSwitch4-USB	for one workstation and 4 computers, USB
A210 0081	TradeSwitch4-USB-RM	for one workstation and 4 computers, USB, rackmount

## Connectivity

Included as standard with the switches are computer connection cables as well as LED display cables, 2 m (metres) in length. Power supply cables are included as standard.

Art. no.	Designation	Category in KVM Connectivity	Function
see KVM Connectivity	TS-LED-2	Particular cable	LED display cable
	Audio-M/M-x mit Ferrit	Audio cables	computer connection
	PS/2-M/M-x green	Keyboard-/Mouse cables	computer connection
	PS/2-M/M-x purple	Keyboard-/Mouse cables	computer connection
	USB-AM/BM-x	USB cables	computer connection

Please quote the article number and designation when ordering.



Service

User

PC

4

3

2

1

Active  
Status

## KVM Switches

The DVIMUX form part of the group of KVM switches and switch the following signals: digital + analogue video, keyboard/mouse, audio and USB.

The DVIMUX are standalone units.

The units permit access to up to 8 computers via one workstation.

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

### Highlights

- **Support for digital and analogue video (mixed operation possible)**
- **Max. analogue resolution 1920 x 1440 @ 75 Hz**
- **Max. digital resolution 1920 x 1200 @ 60 Hz**
- **Changeover of audio signals**
- **Variants for USB and PS/2 keyboard/mouse**
- **Variants for multiple video**
- **24bit colour depth for DVI-D signals**
- **Suitable for all operating systems**
- **E-DDC support**
- **Variant with USB 2.0 changeover**
- **Channel switching via hotkey or device button**

The switch is available as a variant for 4 computers/1 workstation as well as 8 computers/1 workstation in PS/2 and USB versions.

The 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 switches (see KVM Connectivity).

The workstation is connected directly via the relevant interfaces on the switch.

The DVIMUX4 is available in the following variants with expanded video functionality, both in the USB and PS/2 models:

**Expansion with additional switchable video channels and connectable displays:**

- **DVIMUX4-MC2** (4 computers with dual graphics card/1 workstation with 2 displays)
- **DVIMUX4-MC3** (4 computers with triple graphics card/1 workstation with 3 displays)
- **DVIMUX4-MC4** (4 computers with quad graphics card/1 workstation with 4 displays)

### DVIMUX4-USB

Article no.  
A210 0055



Front view

### DVIMUX4-MC3-USB

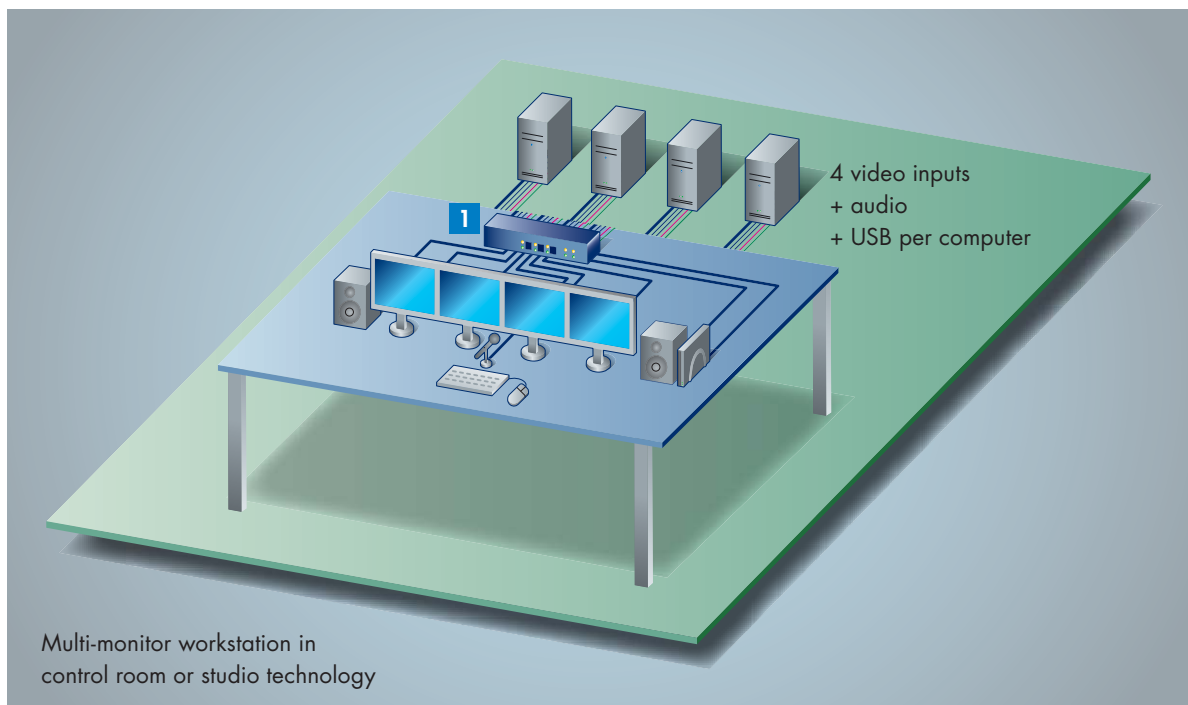
Article no.  
A210 0067



Front view

## 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 workstation is clear and is not crowded with redundant peripherals for operating the 4 computers.

## Features of the changeover switches

<b>Video</b>	VGA-Resolutions up to 1920 x 1440 @ 75 Hz can be selected
	Video bandwidth up to 400 MHz
	DVI-Resolution up to 1920 x 1200 @ 60 Hz
	24 bit colour depth
	Mixed analogue/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>Audio</b>	Bidirectional switching of audio signals in stereo quality
<b>USB</b>	Transparent switching of USB 2.0 (high speed)

## Operating the main components

The DVIMUX are operated via pushbuttons on the front or via the keyboard hotkeys. The systems are configured via keyboard in a setup mode.

### Operation

## KVM Switches

### DVIMUX4-USB

Article no.  
A210 0055



Rear view

### DVIMUX4-PS/2

Article no.  
A210 0053



Rear view

### DVIMUX8-USB

Article no.  
A210 0084



Rear view

### DVIMUX8-PS/2

Article no.  
A210 0082



Rear view



		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>		analogue + digital video	analogue + digital video	analogue + digital video	analogue + digital video
<b>Video resolution, analogue up to 1920 x 1440</b>		up to 1920 x 1440 @ 75 Hz	up to 1920 x 1440 @ 75 Hz	up to 1920 x 1440 @ 75 Hz	@ 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 analogue/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>		analogue	analogue	analogue	analogue
	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)
		Voltage	AC100-240V/60-50Hz 290-150mA	AC100-240V/60-50Hz 210-115mA	AC100-240V/60-50Hz 270-130mA 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
		Rackmount	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 jack (Line in + speaker)	3.5 mm jack (Speaker)	2 x 3.5 mm jack (Line in + speaker)	2 x 3.5 mm jack (Speaker)
to computer	Video	4 x DVI-I socket	4 x DVI-I socket	4 x DVI-I socket	4 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 jack) (line in + line out)	4 x 3.5 mm jack (line in)	8 x (2 x 3.5 mm jack) (line in + line out)	8 x 3.5 mm jack (line in)
for update		2.5 mm jack	2.5 mm jack	2.5 mm jack	2.5 mm jack
<b>Conformity</b>		CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS

## KVM Switches

### Expansion of DVIMUX

#### for connecting multiple video and additional displays

As MC variants, the DVIMUX can switch up to 4 analogue/digital video signals per computer. This means that the workstation can be equipped with up to 4 displays.

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 variants of the DVIMUX8 are available:

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

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

#### DVIMUX4-MC3-USB

Article no.  
A210 0067



Rear view

#### DVIMUX8-MC2-PS/2

Article no.  
A210 0086



Rear view



			DVIMUX4-MC2-USB	DVIMUX4-MC3-USB	DVIMUX4-MC4-USB
Technical data					
No. of switchable video sources per computer			2	3	4
Power supply	Voltage		AC100-240V/60-50Hz	AC100-240V/60-50Hz	AC100-240V/60-50Hz
	Power consumption		400-200mA	500-220mA	580-260mA
Casing	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
Weight			approx. 1.7 kg	approx. 2.1 kg	approx. 2.5 kg
Interfaces					
	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-MC2-PS/2	DVIMUX4-MC3-PS/2	DVIMUX4-MC4-PS/2
Technical data					
No. of switchable video sources per computer			2	3	4
Power supply	Voltage		AC100-240V/60-50Hz	AC100-240V/60-50Hz	AC100-240V/60-50Hz
	Power consumption		310-155mA	410-190mA	530-230mA
Casing	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
Weight			approx. 1.7 kg	approx. 2.1 kg	approx. 2.5 kg
Interfaces					
	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)

## LEGEND

### Equipment features:



= Audio



= analogue video



= USB



= digital video

			DVIMUX8-MC2-USB	DVIMUX8-MC2-PS/2
Technical data				
No. of switchable video sources per computer			2	2
Power supply	Voltage		AC100-240V/60-50Hz	AC100-240V/60-50Hz
	Power consumption		410-170mA	300-140mA
Casing	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
Weight			approx. 2.7 kg	approx. 2.7 kg
Interfaces				
	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)

## KVM Switches

### Minimum system

For a functional system, the following are required as a minimum (example):

A210 0053 DVIMUX4-PS/2 Changeover switch  
see KVM Connectivity DVI-DVID-P-x KVM computer connection cable set, DVI-D, PS/2, audio

### Components

#### Single-channel variants

Art. no.	Designation	
A210 0053	DVIMUX4-PS/2	for one workstation and 4 computers, PS/2
A210 0054	DVIMUX4-PS/2-RM	for one workstation and 4 computers, PS/2, rackmount
A210 0055	DVIMUX4-USB	for one workstation and 4 computers, USB 2.0
A210 0056	DVIMUX4-USB-RM	for one workstation and 4 computers, USB 2.0, rackmount
A210 0082	DVIMUX8-PS/2	for one workstation and 8 computers, PS/2, desktop incl. rackmount kit
A210 0084	DVIMUX8-USB	for one workstation and 8 computers, USB 2.0, desktop incl. rackmount kit

#### Multi-channel variants

Art. no.	Designation	
A210 0061	DVIMUX4-MC2-PS/2	for one workstation and 4 computers with dual graphics, PS/2
A210 0062	DVIMUX4-MC2-PS/2-RM	for one workstation and 4 computers with dual graphics, PS/2, rackmount
A210 0063	DVIMUX4-MC2-USB	for one workstation and 4 computers with dual graphics, USB 2.0
A210 0064	DVIMUX4-MC2-USB-RM	for one workstation and 4 computers with dual graphics, USB 2.0, rackmount
A210 0065	DVIMUX4-MC3-PS/2	for one workstation and 4 computers with triple graphics, PS/2
A210 0066	DVIMUX4-MC3-PS/2-RM	for one workstation and 4 computers with triple graphics, PS/2, rackmount
A210 0067	DVIMUX4-MC3-USB	for one workstation and 4 computers with triple graphics, USB 2.0
A210 0068	DVIMUX4-MC3-USB-RM	for one workstation and 4 computers with triple graphics, USB 2.0, rackmount
A210 0069	DVIMUX4-MC4-PS/2	for one workstation and 4 computers with quad graphics, PS/2
A210 0070	DVIMUX4-MC4-PS/2-RM	for one workstation and 4 computers with quad graphics, PS/2, rackmount
A210 0071	DVIMUX4-MC4-USB	for one workstation and 4 computers with quad graphics, USB 2.0
A210 0072	DVIMUX4-MC4-USB-RM	for one workstation and 4 computers with quad graphics, USB 2.0, rackmount
A210 0086	DVIMUX8-MC2-PS/2	for one workstation and 8 computers with dual graphics, PS/2, desktop incl. rackmount kit
A210 0088	DVIMUX8-MC2-USB	for one workstation and 8 computers with dual graphics, USB 2.0 desktop incl. rackmount kit

## Connectivity

Please order the relevant computer connection cable set depending on the expansion level. Power supply cables are included as standard.

Art.-Nr.	Bezeichnung	Category in KVM Connectivity	Function
see KVM Connectivity	CPU-DVID-P-x	CPU connection cable set	connection of DVI-D, PS/2, and audio
	CPU-DVIA-P-x	CPU connection cable set	connection of VGA, PS/2, and audio
	CPU-DVID-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-P-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-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-DVID-P-x	CPU connection cable set	connection of 3 x DVI-D; PS/2, and audio
	CPU-MC3-DVIA-P-x	CPU connection cable set	connection of 3 x VGA, PS/2, and audio
	CPU-MC3-DVID-U-x	CPU connection cable set	connection of 3 x DVI-D; USB, and audio
	CPU-MC3-DVIA-U-x	CPU connection cable set	connection of 3 x VGA, USB, and audio
	CPU-MC4-DVID-P-x	CPU connection cable set	connection of 4 x DVI-D; PS/2, and audio
	CPU-MC4-DVIA-P-x	CPU connection cable set	connection of 4 x VGA, PS/2, and audio
	CPU-MC4-DVID-U-x	CPU connection cable set	connection of 4 x DVI-D; USB, 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 designation.

## KVM Switches

The ControlCenter 1plus form part of the group of KVM switches and switch analogue video, keyboard and mouse signals. The systems consist of the central modules and the optional workstation modul. The workstation modul can be connected to the central module via CAT-x cable.

The system handles the operation of 8 to 256 servers via 1 workstation. Up to 2 workstations can be accessed concurrently when using a remote workstation module.

A functioning system includes one ControlCenter 1plus and the necessary computer connection cables.

Each ControlCenter 1plus can also be operated as a standalone unit (without a workstation module).

### Highlights

- Access via local or remote workstation (concurrent)
- Can be cascaded for up to 256 computers
- User management and password protection
- Switching via OSD or assigned hotkeys
- Assignment of computer names
- Variants with 8 or 16 computer connections
- Integrated power pack

The switches are available in the following variants:

- **ControlCenter 1plus-8** (1 workstation, 8 computers)
- **ControlCenter 1plus-16** (1 workstation, 16 computers)

The computers are connected to the switch via the KVM computer connection cables CPU-1 to -6 (1 to 6 m long).

The workstation can be connected either directly via the relevant interfaces on the switch (local) or on the remote workstation module CAT-Rem (e.g. in the admin office).

The ControlCenter 1plus units can be cascaded on the server side. This increases the number of connections to 64 (8-way type) or 256 (16-way type) computers which can be operated within a system.

On the workstation side, KVM IP access to all computers can be set up via an optional expansion using Acxos.

### ControlCenter 1plus-16

Article no.  
A210 0007



Front view

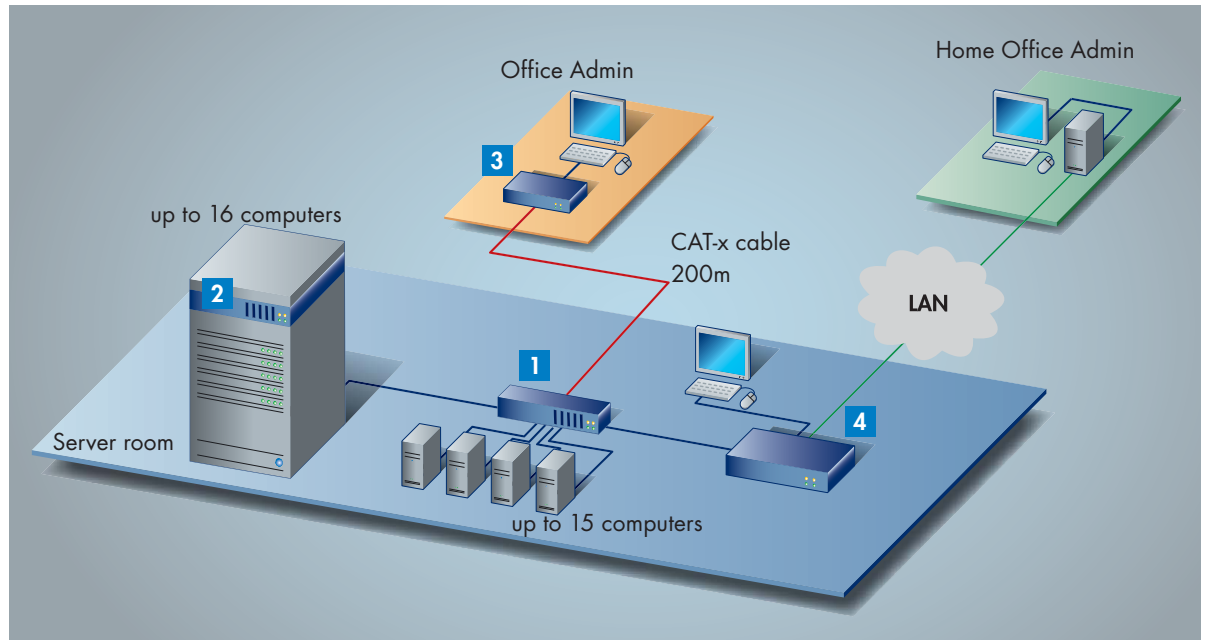
## Operating the main components

### OSD (AdonIS)

The ControlCenter 1 is operated via the OSD AdonIS and via keyboard hotkeys. The systems are also configured via the OSD AdonIS.

## System diagram

- 1** ControlCenter 1plus-16 (master)
- 2** ControlCenter 1plus-16 (slave)
- 3** CAT-Rem
- 4** Acxos



## Example

The ControlCenter 1plus is used here to operate a server room. The access can be created either locally in the server room or from the admin office 200 metres away. By using Acxos the computers can also be accessed via IP, concurrent to the two other access points, and operated down to the BIOS level. The ControlCenter 1plus-16 is used because it offers expansion options on the computer-side to up to 256 computers.

## System features

<b>Video</b>	VGA-Resolutions up to 1600 x 1200 @ 85 Hz can be selected Video bandwidth up to 250 MHz
<b>Operating environment</b>	
Temperature	+5 to +40 °C
Air humidity	< 80 %, non-condensing
<b>Installation</b>	Computer hot-plug: Computers can be connected whilst 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 computers
<b>Workstation modules</b>	The optional workstation module CAT-Rem permits the setup of remote access using a dedicated CAT-x link across a distance of up to 200 metres. Virtually limitless access via IP is possible by using the optional Acxos expansion. Acxos also provides an operating client which is used both to establish the IP session as well as to provide system operation via a graphical interface. This client is available as a native application for Windows and GNU-Linux or as an operating system-independent JAVA version

KVM Switches

ControlCenter 1plus-8

Article no.  
A210 0005



Rear view

ControlCenter 1plus-16

Article no.  
A210 0007



Rear view

Central module expansion

Cascading for connecting additional computers

The ControlCenter 1plus system can be expanded in the number of computer connections available by cascading. To do this, the units are interconnected via the standard interfaces. Different types (e.g. ControlCenter 1plus-8 and ControlCenter 1plus-16) can be cascaded with one another. The master of the cascade (frontend device) undertakes all the control tasks in this case. All computers in the cascade are thus available within one OSD.

	ControlCenter 1plus-8	
	No. of available computer ports	No. of ControlCenter 1 in total
Computer ports, native	8	1
Cascade level 1	64	9
	ControlCenter 1plus-16	
	No. of available computer ports	No. of ControlCenter 1 in total
Computer ports, native	16	1
Cascade level 1	256	17

			ControlCenter 1plus-8	ControlCenter 1plus-16
Technical data				
Workstation connections per unit			1 (2, concurrent)	1 (2, concurrent)
Workstation connection, local			directly on the switch	directly on the switch
Transmission type to workstation module			dedicated CAT-x link	dedicated CAT-x link
Computer ports			8	16
Computer ports, max. cascade level 1			64	256
Computer connection			KVM combi-cable	KVM combi-cable
Signal type/video			analogue video	analogue video
Video resolution			up to 1600 x 1200 @ 85 Hz	up to 1600 x 1200 @ 85 Hz
No. of switchable video sources per computer			1	1
Power supply	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 120-65mA	AC100-240V/60-50Hz 120-70mA
Casing	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
Weight			approx. 2.2 kg	approx. 2.5 kg
Interfaces	for workstation	Video	D-Sub HD 15 socket	D-Sub HD 15 socket
		Keyboard/mouse	2 x Mini-DIN 6 socket	2 x Mini-DIN 6 socket
	to central module		RJ45 socket	RJ45 socket
		for Acxos	D-Sub 9 plug + workstation interfaces	D-Sub 9 plug + workstation interfaces
	to computer		8 x MDR20 socket	16 x MDR20 socket
Conformity			CE, RoHS	CE, RoHS

## KVM Switches

The optional workstation module CAT-Rem can be up to 200 metres away from the ControlCenter 1.

The connection is made via the dedicated "transmission" interface on ControlCenter 1.

The access to the computer is either possible for the local workstation (on the switch) or the remote workstation (on the CAT-Rem). Priority access rights can be set via the OSD.

### CAT-Rem

Article no.  
A112 0039



Rear view

			CAT-Rem
Technical data			
Signal type/video			analogue video
Video resolution (dependent on cable length)			1600 x 1200 @ 85 Hz
Transmission length			max.
Workstation module => switch			200 m
Transmission type to user			dedicated CAT-x link
Workstations			1
Power supply	Main	Type	internal power pack
		Connection	Connector for non-heating device (IEC-320 C14)
		Voltage	AC100-240V/60-50Hz
	Redundant	Power consumption max.	150-80mA
		Type	external power pack
		Connection	2 pole hollow socket
Casing	Material	Voltage	+5VDC/1.4A
			anodised aluminium
	Dimensions	W x H x D	
		Desktop	210 x 44 x 210 mm
Weight	Rackmount	19" x 1HU x 210 mm	
	Desktop	approx. 1.1 kg	
	Rackmount	approx. 1.3 kg	
Operating environment	Temperature	+5 to +40 °C	
	Air humidity	< 80 %, non-condensing	
Interfaces			
	for workstation	Video	D-Sub HD 15 socket
		Keyboard/mouse	2 x Mini-DIN 6 socket
		USB keyboard/mouse	2 x USB-A socket
to central module			RJ45 socket
Conformity			CE, RoHS

x = 5, 6, 7



## Expansion of workstation with KVM IP access

<b>Function</b>	Acxos - IP access to all OS.
<b>Description</b>	<p>Acxos digitises the video information of the computers connected to the ControlCenter 1. The video and keyboard/mouse data can then be visualised on any IP workstations.</p> <p>The access to the ControlCenter 1 is therefore no longer fixed to a permanent workstation, but can instead be made via the network.</p> <p>Acxos permits IP access which is concurrent to the other access options.</p>
<b>Operation via</b>	IP client, Acxos control board, OSD
<b>Requirements for use</b>	Purchasing the optional Acxos hardware.

## OSD functional features

The OSD is a central operating and configuration component of the ControlCenter 1. It can be modified to the needs of the user and the security guidelines of the implementation. The access is simple via keyboard/mouse and configurable hotkeys.

<b>Users</b>	Up to 32 individual accounts can be configured (+ supervisor account)
	Define user-based OSD displays
	Assign user-based configuration rights
	Assign access rights for the individual computers
	Reduce the OSD presence to a single menu (Select menu)
	Set up visual rights only to one or more targets
	Workstation logs itself off automatically following inactivity
	One computer can be defined as the default computer for each user
<b>Select server</b>	Computer directly across all computers via the Select menu
	Assign computer with hotkeys and select via keyboard
	Create, edit or delete computer names
	Activate the permanent display of the workstation name on the screen
	Search for targets in the Select menu by entering the name
	Hide non-activated targets from the user
	Activate scan mode for automatic or manual through-switching of the connected computers
<b>Workstation</b>	OSD position and size can be freely defined
	Password protection on both concurrent workstations
	Whilst working on one workstation, the other is automatically blanked (optional setting)
	Activate continuous access to a workstation on the computer
	If the system detects an IP access, this is assigned access priority (for a combination with Acxos)

## KVM Switches

## Minimum system

For a functional system, the following are required as a minimum (example):

A210 0005	ControlCenter 1plus-8	Central module
see KVM Connectivity	CPU-x	Computer connection cable

## Components

### Central module

Art. no.	Designation	
A210 0005	ControlCenter 1plus-8	for 1 workstation and 8 computers, desktop incl. rackmount kit
A210 0007	ControlCenter 1plus-16	for 1 workstation and 16 computers, desktop incl. rackmount kit

### Workstation module

Art. no.	Designation	
A112 0039	CAT-Rem	Remote workstation module, desktop
A112 0040	CAT-Rem-RM	Remote workstation module; rackmount

## Connectivity

No computer connection cables are included as standard with the switches. Please order these separately. Power supply cables are included as standard.

Art.-No.	Designation	Category in KVM Connectivity	Function
see KVM Connectivity	CPU-x	CPU connection cable	connection of VGA and PS/2









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





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