G&D
IF IT'S KVM

Digital KVM matrix systems V1.0

KVM matrix systems

Matrix systems for the simultaneous operation of multiple computers via several consoles.

G&D IF IT'S KVM

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Guntermann & Drunck is regarded as a leading manufacturer of digital and analogue KVM equipment used in control rooms in air traffic control, broadcast studios, on ships and to monitor industrial processes.

With a powerful portfolio consisting of KVM extenders, switches and matrix switches, G&D's users get real added value. G&D provides the broadest KVM product portfolio at the market. Even with different features, all G&D products are compatible and can be combined. Our KVM solutions optimise the application of IT equipment and improve the working conditions for humans and computers.

No matter where KVM devices are installed, there's always one main requirement - robust, reliable, user-friendly and easy to operate KVM systems that can be adapted to future requirements and grow with your demands.

By short lines of communication G&D is able to solve challenging requirements and tailor systems to our customers' needs. We keep direct contact to our customers and are personally available. We are proactive and always keep an eye on the trends in the industry. Functionalities required by our customers are quickly implemented into our products. Our success can only be measured with our customers' satisfaction.

Trust in G&D for your optimal KVM solution.

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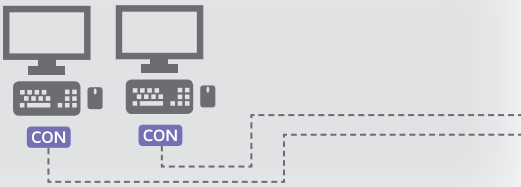
KVM matrix systems let you operate multiple computers from multiple workstations. The basic system consists of three components: the computer module, the central module and the user module.



System architecture

Digital KVM matrix systems

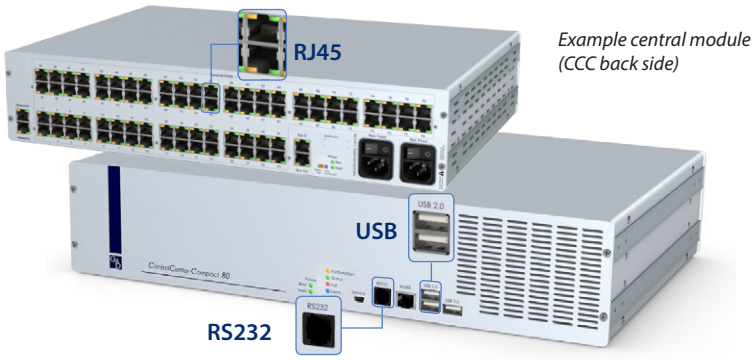
Digital KVM matrix switches let you operate multiple computers over multiple consoles (consisting of display, keyboard & mouse).

The systems consist of three components:

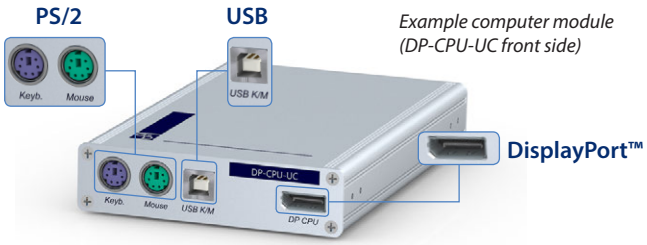
- A central module, which connects user consoles and computers
- Computer modules, which forward signals from computers to the matrix
- Console modules to connect the consoles on which users work

Depending on the requirements, users can choose between compact and modular central modules. Both, computer modules and console modules are available for all common video signals and provide various features to adjust your system to your individual requirements.

CCC front side



Example central module (CCC back side)



Example computer module (DP-CPU-UC front side)

Central modules

Central modules form the core of digital KVM matrix systems. Here, any connected computer modules and console modules are administered and assigned.
Now users are able to access each computer connected to the matrix if their user consoles are also connected to the matrix.

Computer modules

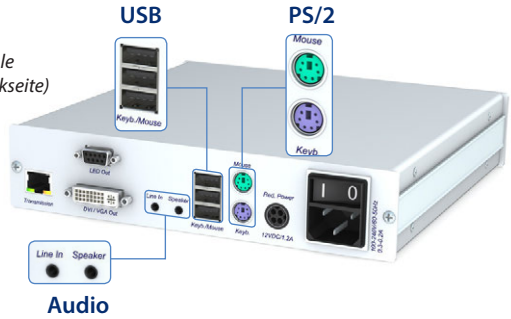
Computer modules connect the external computer interfaces keyboard, video, mouse and audio with the central module. The signals are combined, processed and transmitted via CAT x cables or optical fibers.

Console modules

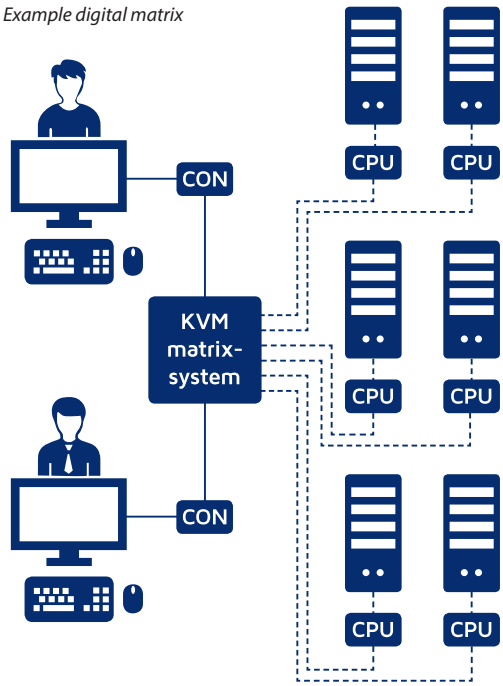
CAT cables or optical fibers connect the console modules to the central module and provide the required interfaces for peripherals (monitor, keyboard, mouse, speakers/microphone).

The modules are compatible with each other and are distinguished by different features such as video signals, transmission type and USB transmission. The list of order numbers at the end of this brochure provides an overview of all variants.

Example console module (DVI-CON Rückseite)



Example digital matrix



System architecture

Example:

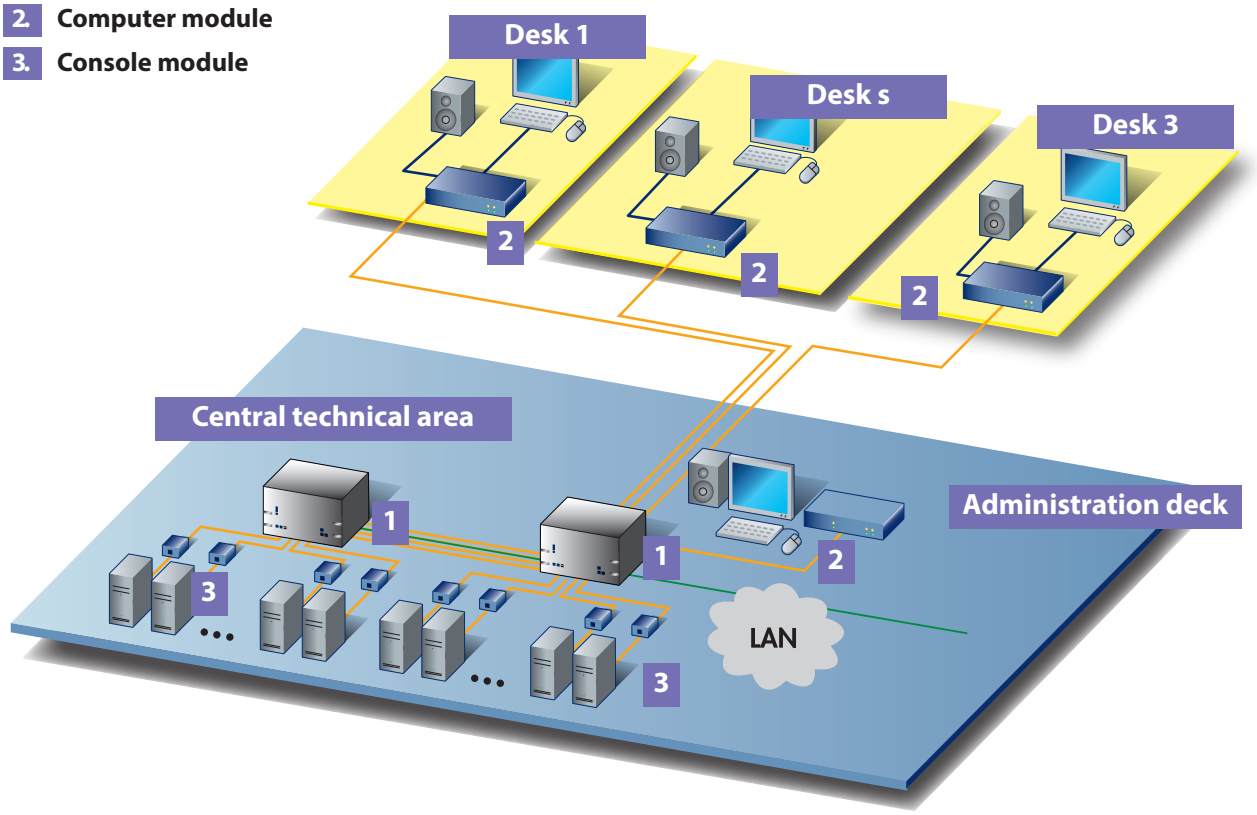
The computers are housed in a central equipment room, separate from any users. An administration console that is located in the equipment room provides the possibility to operate and maintain the computers. Computers with DVI, DisplayPort™ and VGA video sources can be connected to be able to use all common video signals in a matrix. The workstations can be equipped with both digital and analogue displays.

Two digital matrix systems (1 × master, 1 × slave) connect the workstations with the computers. The matrix auto-detects whether you connect a console module or a computer module. The productive workstations are integrated into the operating concept (console module) via a dedicated CAT-x connection, which enables users to work on their computers as if they were directly connected.

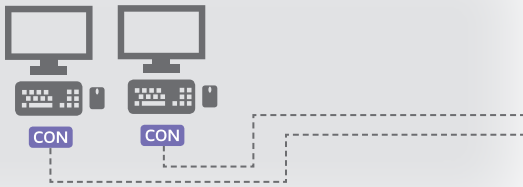
The digital matrix can be integrated into the network to configure it via web interface, forward messages to a syslog server or be able to use directory services. Depending on the assigned rights, each console can now access each computer in order to establish flexible operational concepts. This way, both users and computers benefit from ideal working conditions.

Exemplary application drawing

1. **Digital matrix**
2. **Computer module**
3. **Console module**



KVM matrix systems let you operate multiple computers from multiple workstations. The basic system consists of three components: the computer module, the central module and the user module.



Central module ControlCenter-Digital

Modular KVM matrix system ControlCenter-Digital

The ControlCenter-Digital lets you operate multiple computers over multiple consoles consisting of display, keyboard & mouse.

The modular setup consists of:

- Replaceable **input and output cards** (I/O cards: I/O-Card-CAT, I/O-Card-Fiber, I/O-Card-Multi),
- **Switch card** including the central switching logic
- **Controller card** for the central administration, monitoring and control of the system
- Three redundant power packs and
- Two fan boards.

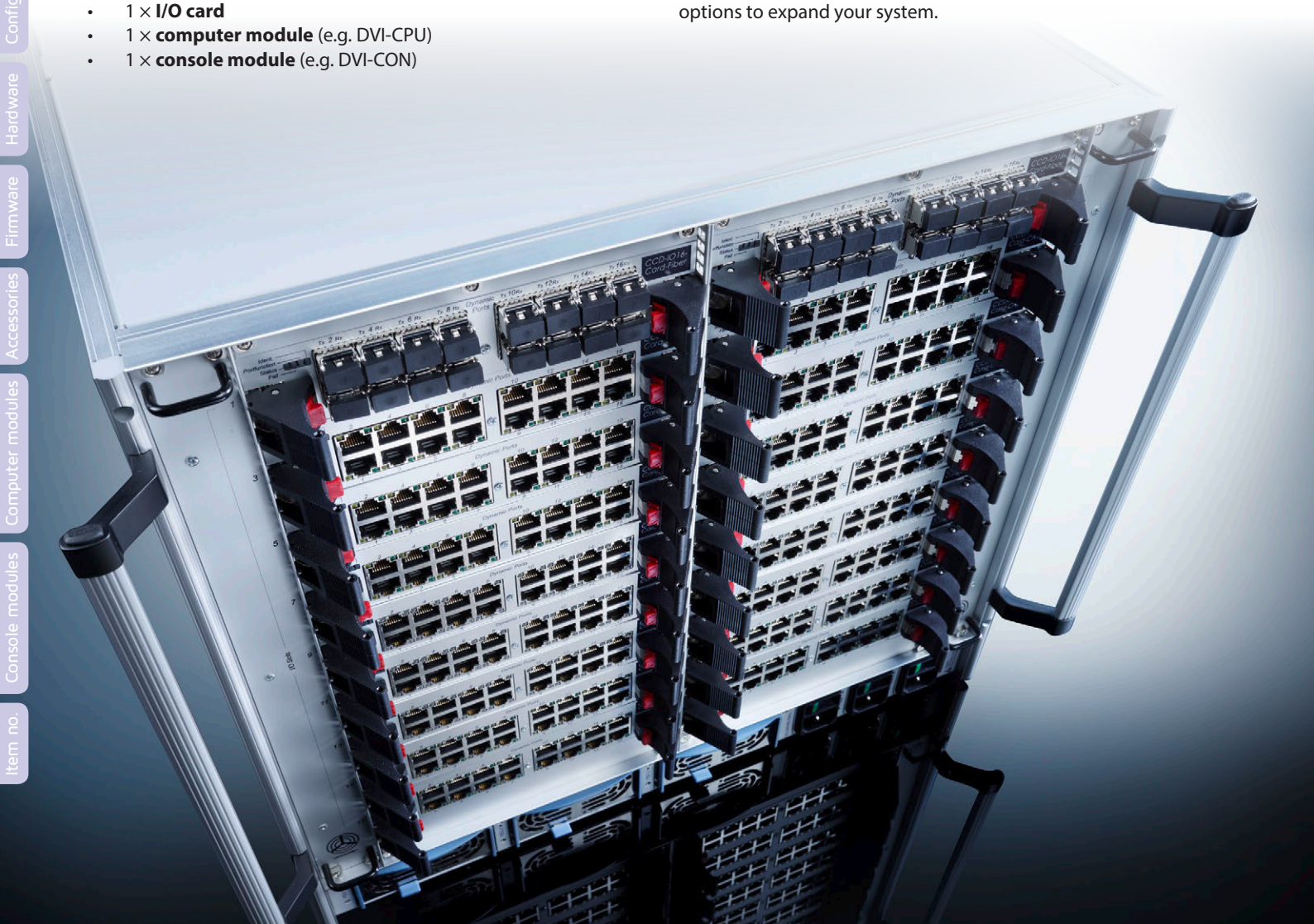
I/O cards, power packs and fan modules can be hot-plugged or hot-swapped.

A working system requires at least:

- 1 × **central module** ControlCenter-Digital including controller card and switch card, one power pack
- 1 × **I/O card**
- 1 × **computer module** (e.g. DVI-CPU)
- 1 × **console module** (e.g. DVI-CON)

System sizes

You can choose between variants with up to 288, 160 or 80 dynamic ports, which can be connected either as computer or as user port. The system supports CAT cables and optical fibers even in mixed mode. Thanks to its dynamic ports, the system can be easily adapted to your individual requirements. We provide many options to expand your system.



Central module ControlCenter-Digital

Application

Thanks to its dynamic port allocation, ControlCenter-Compact is suitable for use in all applications where a large number of computers need to be operated by several simultaneous workplaces.

Whenever large, distributed installations with local administration and operation of computers are required, the ControlCenter-Digital is the perfect solution. Existing ControlCenter-Digital installations can be seamlessly integrated as a slave device or can be extended by a KVM Matrix-Grid™.

Thanks its modular design, the ControlCenter-Digital allows the continuous integration of more functions and devices thus adapting to ever-growing demands. The system can be applied in control rooms, OB vans or studios.

Variants

The ControlCenter-Digital is available in variants up to 288, 160 and 80 dynamic ports.

Adaptable thanks to modular setup

The ControlCenter-Digital provides maximum flexibility. Thanks to its modular setup, all system components are precisely tailored to your requirements. Therefore, your individual ControlCenter-Digital is equipped with exactly the components you need – not more and not fewer.

By default, the I/O cards of the ControlCenter-Digital support the wide spectrum of signals provided by G&D's portfolio. But the IT landscape uses many more standards. Therefore, remote computers that are connected via matrix switch system often require even more variety and thus more flexibility.

The modular setup of the ControlCenter-Digital consists of:

I/O cards

The input/output cards establish a connection between the ControlCenter-Digital and its computer modules and console modules. Each card provides 16 ports, which automatically detect the type of module connected to the matrix switch. The cards run independently from each other – even in mixed mode.

I/O-Card-CAT

The I/O-Card-CAT offers you 16 RJ45 sockets to connect CAT-x cables. The distance between console modules and computer modules can be up to 140 m.

I/O-Card-Fiber

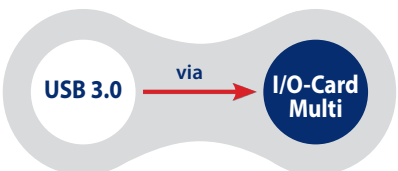
Optical fibers are the ideal solution to bridge large distances. The transmission distance can be up to 10 km.

I/O-Card-Multi

The I/O-Card-Multi lets you connect third-party devices to the matrix from where they can also be switched. Some of the signals supported are SDI, HD-SDI, 3G-SDI, USB 3.0 Spectra (coming soon for CCD-160 & CCD-80) or 1Gb Ethernet.

I/O-Card-Trunk

Efficient cabling for use in KVM Matrix-Grid™.



I/O-Card-Multi

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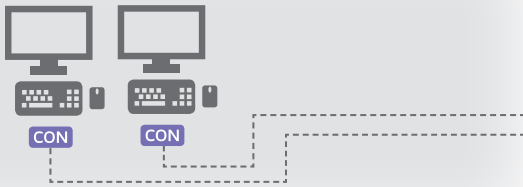

Central module ControlCenter-Digital

ControlCenter-Digital-288

ControlCenter-Digital-288 – rear view

ControlCenter-Digital-288 – front view

ControlCenter-Digital-160

ControlCenter-Digital-160 – rear view

ControlCenter-Digital-160 – front view

ControlCenter-Digital-80

ControlCenter-Digital-80 – rear view

ControlCenter-Digital-80 – front view

Central module ControlCenter-Digital

Technical data

	ControlCenter-Digital-288	ControlCenter-Digital-160	ControlCenter-Digital-80
Interfaces			
IO slots:	18 × slots to plug in an IO card	10 × slot to plug in an IO card	5 × slot to plug in an IO card
Network connection:	2 × RJ45 socket --> reserved for future functions		
Direct connection to another matrix switch:	2 × RJ45 socket		
RS 232:	1 × RJ11/12 socket --> reserved for future functions		
USB:	2 × USB-A socket --> reserved for future functions		
DisplayPort™:	1 × DisplayPort™ socket --> reserved for future functions		
Power supply			
Amount:	Max. 3		
Type:	Internal power supply module		
Connection:	1 × IEC plug (IEC-320 C14)		
Connection:	100-240VAC/60-50Hz, 8-4A	100-240VAC/60-50Hz,3-2A	100-240VAC/60-50Hz,3-2A
Housing			
Material:	Anodised aluminium		
Dimensions (W × H × D):	19″ × 9U × 500 mm	19″ × 6U × 500 mm	19″ × 4U × 500 mm
Weight:	Approx. 31 to 40 kg depending on number and types of IO cards	Approx. 20 to 28 kg depending on number and types of IO cards	Approx. 20 kg
Operational environment			
Temperature:	+5 to +40 °C		
Air humidity:	< 80%, non-condensing		
Conformity:	CE, RoHS		

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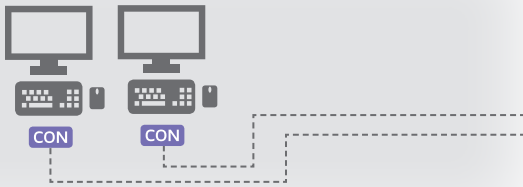

Central module ControlCenter-Compact

High performance in compact form – the ControlCenter-Compact

With ControlCenter-Compact KVM matrix switches, you can operate up to 79 computers over up to 79 simultaneous console modules depending on the variant. The up to 80 available ports can be combined as desired.

By using the appropriate computer and console modules, the ControlCenter-Compact can switch various signals e.g. DVI, DisplayPort™, VGA, USB2.0 and many more.

A working system requires at least:

- 1 × central module ControlCenter-Compact
- 1 × computer module (e.g. DVI-CPU)
- 1 × console module (e.g. DVI-CON)
- 2 × CAT transmission cables (type 5e, 6, 7)

The following CCC variants are available: 80C, 64C, 48C, 32C, 16C, 16F, 16F16C and 8C. Each port of the ControlCenter-Compact can be used to either connect a computer module or a console module. Thanks to its dynamic ports, the system can be easily adapted to changing needs and existing installations.

Central module ControlCenter-Compact

Application

Thanks to its dynamic port allocation, ControlCenter-Compact is suitable for use in all applications where a large number of computers need to be operated by several simultaneous workplaces.

Thanks its modular design, the ControlCenter Compact allows the continuous integration of more functions and devices thus adapting to ever-growing demands. Areas of application include control centers, OB vans or studios.

Variants

The ControlCenter-Compact is available in the variants 80C, 64C, 48C, 32C, 16C, 16F, 16F16C and 8C.

Design

The ControlCenter-Compact is supplied as desktop variant. A 19" rack mount set is included in the scope of delivery.

ControlCenter-Compact-80C

ControlCenter-Compact-32C

ControlCenter-Compact-16F-16C

ControlCenter-Compact-64C

ControlCenter-Compact-16C

ControlCenter-Compact-48C

ControlCenter-Compact-8C

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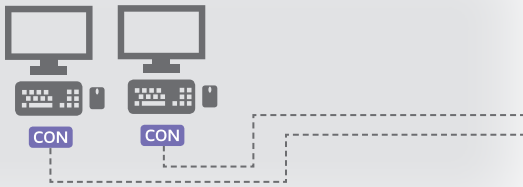


Central module ControlCenter-Compact

General features

CONTROLCENTER-COMPACT-SERIE	
Interfaces	
Dynamic Ports:	--> see specific features *The ports can be used to connect either a user module or a target module.*
Network connection:	2 × RJ45 socket
Power switch (RS 232): --> not supported by 8C variant	1 × RJ11 socket
RS 485: --> not supported by 8C variant	1 × RJ45 socket --> reserved for future functions
USB 2.0: --> not supported by 8C variant	2 × USB-A socket --> reserved for future functions
USB 3.0: --> wird von 8C- Variante nicht unterstützt	1 × USB-A socket --> reserved for future functions
Main power supply + Redundant power supply	
Type:	internal power pack
Connector:	1 × IEC plug(IEC-320 C14)
Current consumption:	--> see specific features
Casing	
Material	anodised aluminium
Dimensions (W × H × D):	--> ssee specific features
Weight:	--> see specific features
Operational environment	
Temperature:	+5 to+40 °C
Air humidity:	< 80%, non-condensing
Conformity	CE, RoHS

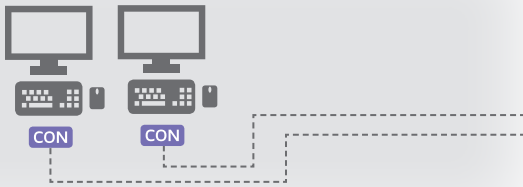
Central module ControlCenter-Compact

Specific features CCC-CAT

	CONTROLCENTER-COMPACT-8C	CONTROLCENTER-COMPACT-16C
Interfaces		
Dynamic Ports:	8 × RJ45 socket (CAT)	16 × RJ45 socket (CAT)
Power supply		
Current consumption:	100-240V/60-50Hz, 0.6-0.3A	100-240V/60-50Hz, 0.7-0.4A
Housing		
Dimensions (W × H × D):	435 × 44 × 211 mm	435 × 44 × 211 mm
Weight:	approx. 3,1 kg	approx. 3,2 kg
	CONTROLCENTER-COMPACT-32C	**CONTROLCENTER-COMPACT-48C**
Interfaces		
Dynamic Ports:	32 × RJ45 socket (CAT)	48 × RJ45 socket (CAT)
Power supply		
Current consumption:	100-240V/60-50Hz, 0.7-0.4A	100-240V/60-50Hz, 0.8-0.4A
Housing		
Dimensions (W × H × D):	435 × 44 × 211 mm	435 × 88 × 211 mm
Weight:	approx. 3,3 kg	approx. 4,3 kg
	CONTROLCENTER-COMPACT-64C	**CONTROLCENTER-COMPACT-80C**
Interfaces		
Dynamic Ports:	64 × RJ45 socket (CAT)	80 × RJ45 socket (CAT)
Power supply		
Power supply:	100-240V/60-50Hz, 0.8-0.4A	100-240V/60-50Hz, 0.9-0.4A
Housing		
Dimensions (W × H × D):	435 × 88 × 211 mm	435 × 88 × 211 mm
Weight:	approx. 4,4 kg	approx. 4,4 kg

Specific features CCC-Fiber/-Fiber+CAT

	CONTROLCENTER-COMPACT-16F	CONTROLCENTER-COMPACT-16F16C
Interfaces		
Dynamic Ports:	16 × LC duplex socket (Fiber)	16 × LC duplex socket (Fiber) 16× RJ45 socket (CAT)
Power supply		
Current consumption:	100-240V/60-50Hz, 0.7-0.4A	100-240V/60-50Hz, 0.7-0.4A
Housing		
Dimensionen (B × H × T):	435 × 44 × 211 mm	435 × 44 × 211 mm
Gewicht:	approx. 3,5 kg	approx. 3,5 kg



Central module ControlCenter-Compact

Features of fiber transmission modules

	MULTIMODE TRANSMISSION MODULE	SINGLEMODE (S) TRANSMISSION MODULE	SINGLEMODE (S+) TRANSMISSION MODULE
Data transmission			
Type:	Optical fibres (2 fibres)		
Type of interface:	LC duplex		
Cable length (max.)			
Multimode 62,5/125 µm:	100 meters	-	-
Multimode 50,0/125 µm, Class OM2:	200 meters	-	-
Multimode 50,0/125 µm, Class OM3:	400 meters	-	-
Singlemode 9/125µm, Class OS1:	-	5 Kilometer	10 Kilometer
Performance data			
Wavelength (λ):	850 nm (830 nm to 860 nm)	1310 nm (1260 nm to 1350 nm)	1310 nm (1260 nm to 1360 nm)
Optical power output (P_{OUT}) in 50 oder 62,5 µm MMF:	-9,0 dBm to -2,5 dBm	-	-
Optical power output(P_{OUT}) in 9 µm SMF:	-	-9,5 dBm to -3,0 dBm	-8,4 dBm to -1,0 dBm
Receiving sensitivity (P_{MIN}):	-15 dBm (OMA)	-18 dBm (OMA)	-18 dBm (OMA)
Sensitivity – Stressed (P_S):	138µW (50 µm MMF)	-	-

Features CCD + CCC

Features

Device

- Accesses only the computers' standard interfaces
- Hot-pluggable and hot-swappable system parts
- Replaceable components
- Requires no software installation
- Shipped in an aluminum housing for best noise immunity
- Two or three redundant power circuits, power packs can be replaced during operation
- Stay-alive function for computers

Video

- DisplayPort™ up to 4096 x 2160@60 Hz (DP: 4K@60 Hz) or HDMI up to 4096 x 2160@30 Hz (HDMI: 2K@60Hz)
- DVI single-link up to 1920 x 1200 @ 60 Hz
- Integration of VGA video sources possible
- Color mode DP 48 Bit, DVI 24 Bit
- Multi-channel video possible
- E-DDC support
- 560 m total transmission length of the system via CAT cables at maximum resolution between all modules

Audio

- Bidirectional transmission of audio signals
- Resolution 24 Bit digital
- Bandwidth 22 kHz / refresh rate 96 kHz

Network / communication

- Two network interfaces
- Configuration via web interface
- Auto-recognition and display of the system structure
- Central update of all digital matrix system components over network
- Access protection and user administration can be switched of
- Support of external AMX / Crestron controls as well as VSM and KSC Commander

Safety

- Monitoring/SNMP to monitor the system status
- Failover connection (if the central module fails, you can establish a direct connection between console module and computer module and still operate the system)
- Support of external authentication via LDAP, Active Directory, TACACS+, Radius
- Redundant power supply, two or three power supply circuits
- Power pack can be replaced during operation

Easier access with SNMP tool Zabbix

For customers who are not yet using extensive SNMP tools, G&D now offer a simple way to use the functions included in the devices. To do this, we provide you with templates to integrate "Zabbix" open source tools into your installation. The program offers the possibility to monitor SNMP-capable devices in a network and, among other things, to issue warning notifications about critical device states, which have been received via SNMP trap.

Versatile functions

Channel grouping

In addition to combining multiple computers to a console, the ControlCenter-Compact also supports multi-monitor workstations for computers with several video outputs. Here, multiple channels can easily be combined as port groups.
As always, you can administrate all functions in the ControlCenter-Compact web interface. In addition to multiple screens, you can include other signals in these groups. The system also transmits and switches transparent USB2.0 signals as well as RS232.

USB pinning

If several ControlCenter-Digital ports are grouped as a multi-channel configuration, USB pinning enables you to hold the transparent USB transmission on the current computer even when switching to another channel. In this case the USB transmission is not interrupted but transmitted to the end. Therefore, make sure to either enable or disable the function on the configuration menu.

Dynamic ports

The dynamic ports of the ControlCenter-Compact are usable for computer or console modules. The ControlCenter-Compact identifies automatically if a computer module or console module is connected.

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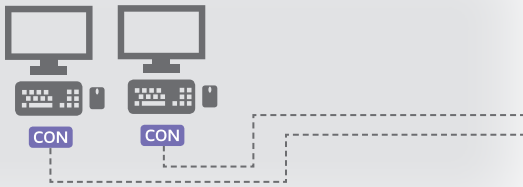


Features CCD + CCC

Versatile functions

CrossDisplay-Switching (more on page 28)

As a part of the expansion module "TS function", CrossDisplay-Switching enables users to switch between channels simply by moving the mouse.

Screen-Freeze function (more on page 18)

If the console loses the video signal due to a broken connection or a problem with the computer's graphics card, the Sreen-Freeze function "freezes" the image last displayed on the monitor.

Push-Get function (more on page 24)

With the Push-Get function, users can move the screen contents of a target to (push) – or get it from – the display of another console.

Scenario switching (more on page 26)

Scenario switching lets you store the switching condition of one or multiple workplaces or even of the entire system. The selected switching states are saved in a script in the matrix system and can be accessed and executed via the OSD of workplaces assigned with the required rights.

KVM Matrix-Grid™ (more on page 27)

A KVM Matrix-Grid™ can be used in applications that desire bidirectional access between individual matrix switches. Now systems such as ControlCenter-Digital and ControlCenter-Compact can be interconnected even more directly to facilitate larger installations. The system automatically takes over the routing of KVM signals by selecting the ideal path through the grid.

Highlights

Video

- Integration of HDMI, DisplayPort™, DVI and VGA
- Combination of switch and extender in one system
- HDIP3 (High Dynamic Image Processing 3) for best video and mouse performance in all applications
- Maximum resolution between all modules even at maximum transmission distance
- Resolution up to 4096 x 2160@60 Hz (4K@60 Hz)

Signals

- DisplayPort™1.2, DisplayPort™ High Resolution and DisplayPort™ video
- HDMI video sources
- Single-link DVI
- VGA video sources
- Switching of bidirectional stereo audio signals
- Support of PS/2 and USB keyboard/mouse
- Transparent transmission and switching of USB 2.0 + USB 3.0 signals
- RS232
- Access to U2-R-CPU & U2-R-CONvia IP-Control-API possible

Transmission

- Up to 140 m via CAT cable
- Up to 10,000 m via optical fibers
- Latency-free transmission at maximum resolutions over the entire distance

Expansion

- **Cascadable** to up to three levels
- Bidirectional cascading between central modules
- possible **(KVM Matrix-Grid™)**, dynamic routing of signals
- **Scenario switching**: OSD can be used to change complex switching status in the matrix by a single command **(IP-Control-API)**
- Extension of the switchable signals by **channel grouping**
- Expandable with **power switching component**
- Increases the system range of CAT modules to up to 10,000 m via optical fibers
- Functional expansion to create multi-monitor workplaces to be able to simultaneously operate multiple sources via one keyboard and one mouse **(TS function)**
- Innovative **CrossDisplay-Switching** allows intuitive switching by mouse
- Firmware expansion to move/get your own or other users' screen contents **(Push/get function)**
- Firmware expansion to prepare switching via network **(IP-Control-API)**
- Increase the number of consoles or to establish a redundant system with **UC modules** instead of the usual computer modules
- **Bridge function** to analog systems (CATCenter NEO)

Features CCD + CCC

System security

Monitoring/SNMP

By default, the devices of the ControlCenter series are equipped with a monitoring feature. This feature monitors various system parameters of the installed components and documents their status in the web interface. Any peripheral modules and end devices can also be monitored.
You are free to configure how you want to see these values in the web interface. Status changes or critical status values (e.g. temperature) can be actively forwarded via SNMP trap. In addition, the integrated SNMP agent allows you to query status information (SNMP-Get).

The following status values can be queried via SNMP-GET:

- Status of the matrix (Online/Offline)
- Status of the I/O cards (Online/Offline)
- Function of the switch card (Ok/Error)
- Main power supply (On/Off)
- Redundant power supply (On/Off)
- Temperature (°C)
- Network interfaces (Active/Inactive)
- Stack bus interfaces (Active/Inactive)
- Fan speed (RPM)
- Current (A)
- Voltage (V)
- Status of the power packs (On/Off)

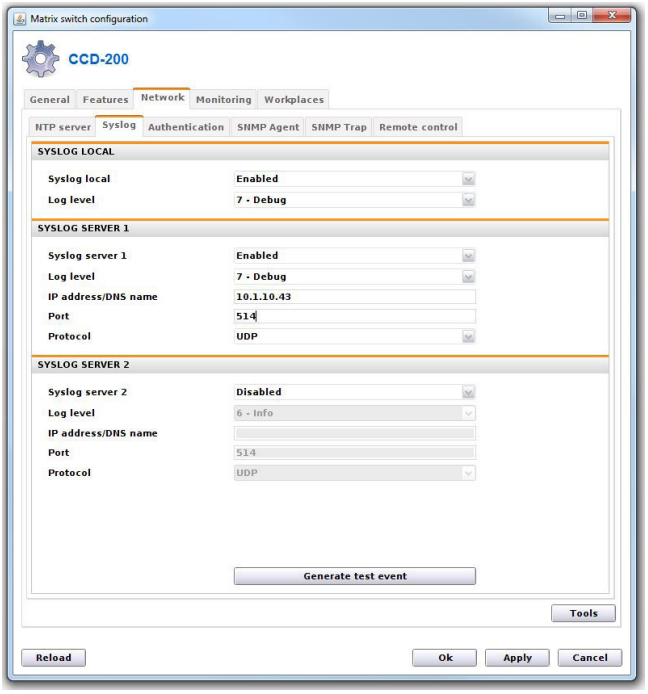
The following status values of the peripheral modules can be queried via SNMP-GET:

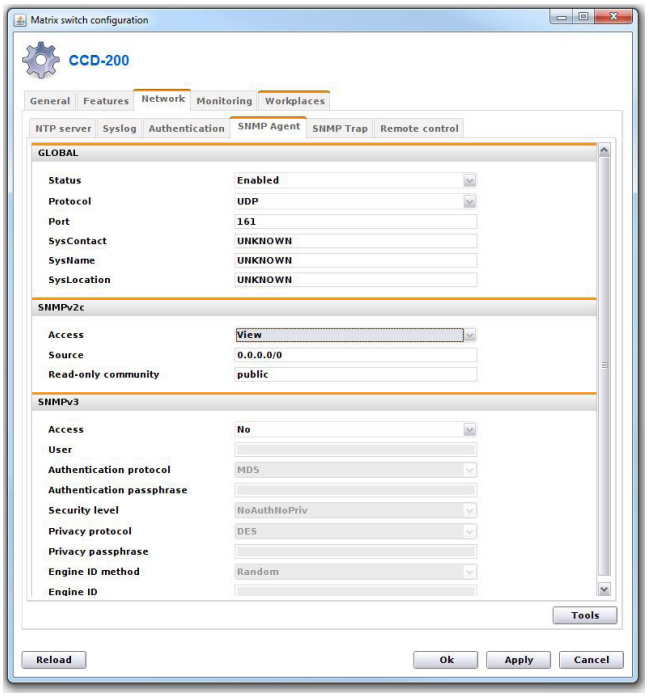
- Status and temperature of console and computer modules
- Main and redundant power supply (On/Off)
- Temperature (°C)
- Screen type
- Connection of peripheral devices (Connected/Not connected)
- Video signal (Connected/Not connected)

The following messages about user activities can be sent via syslog and/or SNMP trap:

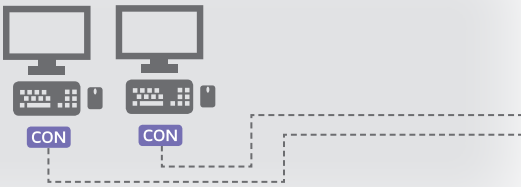
- Login/logoff of users at consoles
- Failed user logins
- Established/interrupted target connections
- Failed switching to targets

This information is also available for controlling the system via a media controller (e.g. AMX, Crestron).
To determine the switching state, the media controller can query the values mentioned above text-based via TCP/IP. To use this functionality, you need to enable the “IP-Control-API" option for the digital matrix.





KVM matrix systems let you operate multiple computers from multiple workstations. The basic system consists of three components: the computer module, the central module and the user module.



Features CCD + CCC

System security

Screen-Freeze function

If the console loses the video signal due to a broken connection or a problem with the computer's graphics card, the Sreen-Freeze function "freezes" the image last displayed on the monitor. This status is highlighted by a red semi-transparent frame. In the meantime, the monitor displays the time and how long the video signal has been down so far. This way, users are still provided with a static image instead of having to wait in front of a blank screen. Especially in control room applications current status can be extrapolated by the timer. This allows users to temporarily continue their work. The function is automatically cancelled when the display receives an active video signal.

Trusted Platform Module (TPM)

As the most comprehensive device in Guntermann & Drunck's KVM portfolio, the ControlCenter-Digital provides a large range of benefits and functions. Boot loader, operating system and firmware of the ControlCenter series form a trusted computing platform to protect the system against third-party manipulations. An integrated 2048-bit RSA encrypted Trusted Platform Module (TPM) protects any access and configuration data against exposure. Sensitive information such as login data and passwords are stored with permanent encryption. Potential firmware modifications can be detected at an early stage and lead to a cancellation of the booting process. This prevents manipulations like, for example, the installation of keyboard sniffers.

Targeted redundancies – security through RAID

To protect the rights administration and the configuration data, the ControlCenter-Digital mirrors their content on two independent, internal, redundant SSD storage media connected via RAID1 system. If necessary, they can be easily replaced by IT administrators. Of course, all information of the rights and configuration management are also encoded by unique cryptographic keys.

Configuration

The central module is operated/configured via:

- OSD + Hotkey
- Web interface, Config Panel
- External control (requires IP-Control-API)

Both, OSD and hotkeys are available for all console modules (e.g. DVI-CON); the web interface can be used over network. Configuration takes place either via OSD or web interface. Any configurations are available to the entire system to guarantee fast operation across the entire system.

OSD

The OSD enables you to operate and configure matrix systems independently from any network. It is available on all console modules.
The OSD only covers a part of the current screen content and is not a full screen display. The on-screen display can be adjusted to the user's needs and the application's safety regulations. The OSD can be accessed via keyboard/mouse and configurable hotkeys. Hotkey combinations open the menus.

The following menus are available:

- Select (select a computer)
- Operation (frequent operations)
- Personal Profile (adjust user-related details)
- Configuration (change system settings)
- Information (query system status)

Exemplary operating options:

User settings

- Create up to 256 individual user accounts
- Integrated multi-level user/rights administration
- Create password protection for all consoles
- Create groups for effective rights management
- Assign individual configuration rights
- Assign access rights for each computer
- Define a computer that is automatically accessed after the login
- Multiuser mode: multiple users have simultaneous access to one computer
- User activities at the console can be restricted by rights administration or deactivated OSD

Computer settings

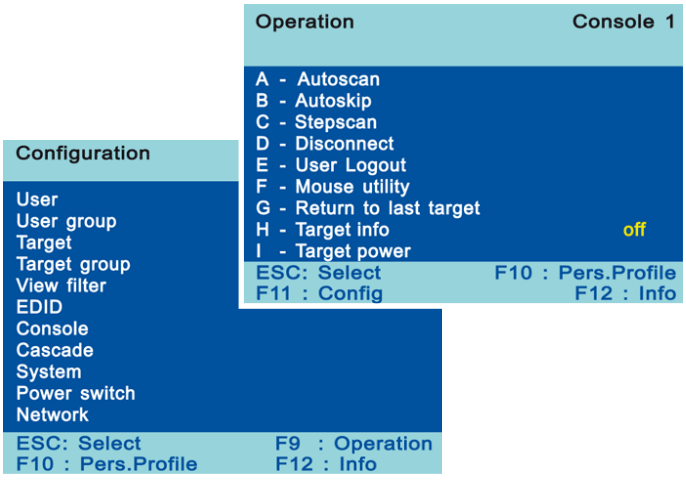
- Create, edit, or delete computer names
- Select or search computers by names using the select menu
- Free Seating: access a user-related computer by logging in at any console
- Set permanent display to show the computer names at the console
- Create groups for effective access management
- Select between three scan modes to auto-scan or manually scan the connected computers
- Show computer routing – even over cascades
- Power switching
- Switch power supply of computers (requires additional hardware)

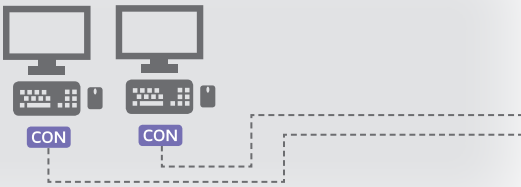
System info

- Recognize components with automatic assignment of the known configuration information
- Schematic figure of the system structure from computer to console
- Show all computers in one list – even over cascades; no switching though multiple OSDs
- Show busy states console <-> computer

Console settings

- Connect PS/2 keyboards with special functions
- Create open access without querying password
- Enable access protection per auto-log off when leaving the console
- Block OSD to prevent access to certain consoles
- Install a video console (e.g. projector) that can be remotely controlled by other consoles (requires Push-Get and Trade-Switch module)





Configuration

Web interface

The "Config Panel" web application offers a graphical user interface to configure the ControlCenter-Digital or the ControlCenter-Compact. The clearly-arranged user interface shows the comprehensive OSD settings and therefore makes the web interface the primary configuration tool.

The Config Panel is divided into the following sections. The list below highlights the most important settings:

Basic configuration

- Network parameters
- Tools (backup/restore, firmware update, resetting the defaults)
- Query of syslog messages

Dynamic port configuration

- Define ports as console or computer connection in any order

Rights configuration

- User rights
- User group rights
- Computer rights
- Computer group rights

Matrix switch configuration

- Name, hotkeys etc.
- Activation of communication modules
- Network settings

Console module configuration

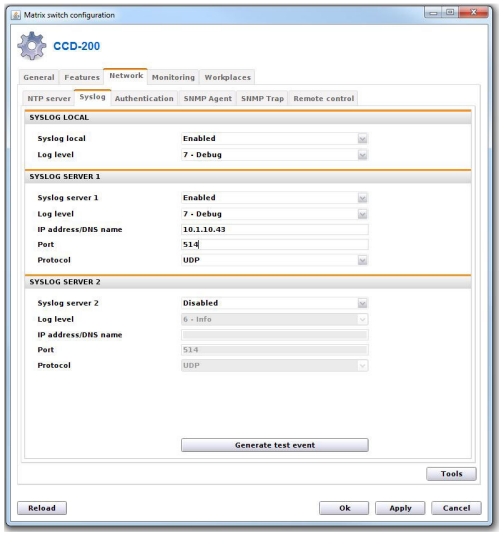
- Name
- Cascade information
- Console type
- Special keyboard

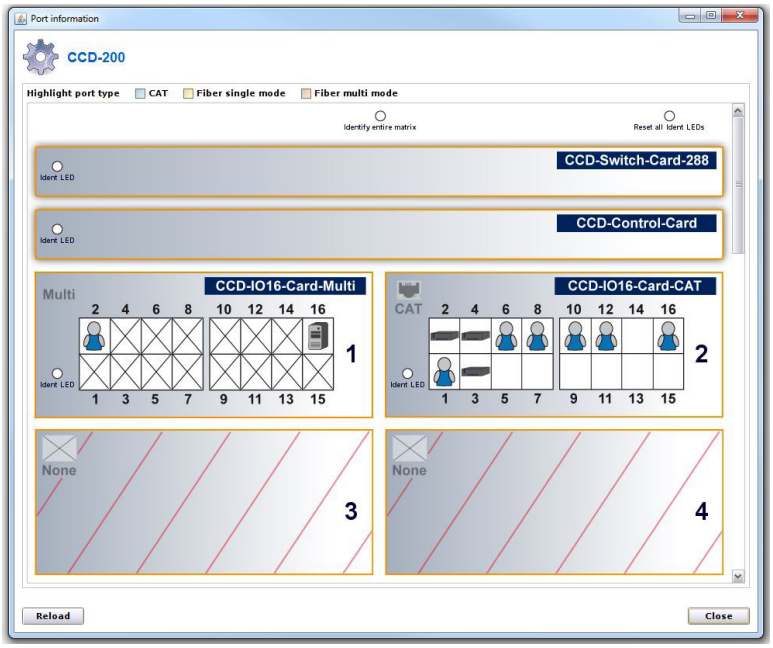
Computer configuration

- Configuration of the computer module
- Name
- Cascade information

Monitoring configuration

- Query of syslog messages
- SNMP SET + GET/TRAP





Exemplary configuration of a ControlCenter-Digital matrix system

Hardware expansions

The hardware components are connected to the ControlCenter-Digital and fully integrated into operation. Power-switching, for example, can be carried out in the OSD.

We provide the following hardware expansions:

More computers

- Increase the number of computers by cascading with other digital kvm matrix systems

More users

- Double the number of consoles with the DVI-CPU-UC computer modules (also applicable for backup systems/mirrored systems)

More range

- Increase the system's range up to 10,000 m by integrating an optical fibres line (DVI-FiberLink)
- Increase the system's range up to 140 m by integrating an CAT line (CAT-Repeater)

Power Switching

- Remote power-switching with HardBoot CCX (except ControlCenter-Compact 8C)

Cascading

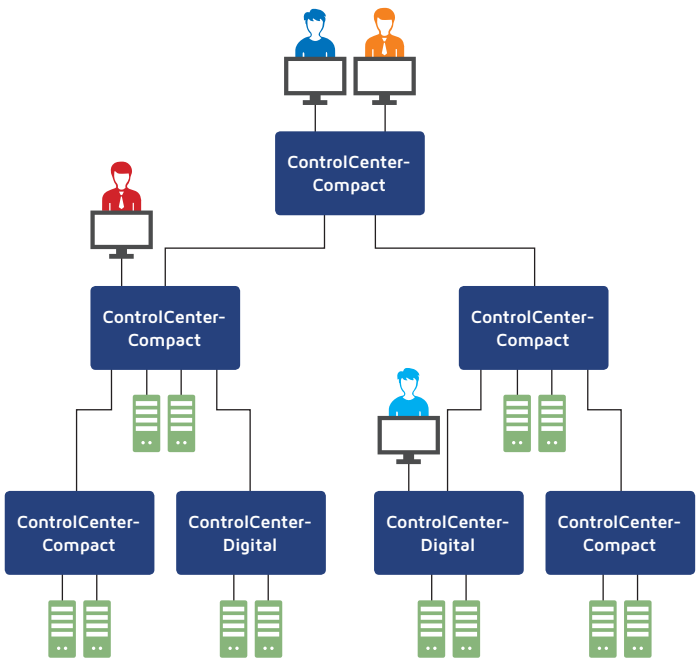
When cascaded into three levels, digital matrix systems increase the number of connectable computers. The master device takes over all controlling tasks. The listed possibilities guarantee the full access of all consoles to all computers over all cascade levels.

Access across cascades is carried out according to the top down principle. Thus, any consoles connected to lower cascade levels only have access to computers connected to lower cascade levels. Cascading allows for an additional transmission distance of 140 m per cascade level. When fully cascaded, the distance from computer through to the cascaded central modules up to the console module can be up to 560 m.

When using an additional CAT repeater, the distance can even be extended to 1,260 m.

Example for cascading:

When configuring a ControlCenter-Compact-32C with two console ports and 30 computer ports (stand-alone) you can operate 450 computers via two simultaneous consoles in the first cascade. This requires 16 ControlCenter-Compact. The first ControlCenter-Compact provides no ports for connecting computers. Its 30 computer ports transmit 15 × 2 = 30 console accesses to the 15 ControlCenter-Compact of the first cascade level.



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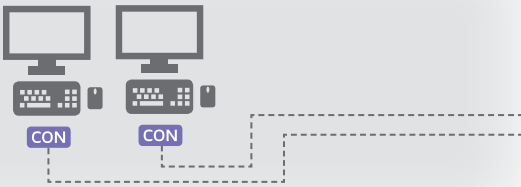


Hardware expansions

Connecting more consoles with UC modules

If the number of consoles should be expanded over the capabi of the central module, the DVI-CPU-UC computer modules are available.

UC computer modules

Use UC modules instead of the usual computer modules to increase the number of consoles or to establish a redundant system. Using a second RJ-45 socket, the UC module doubles the keyboard, video, mouse, and audio interfaces to the centra module. Thus, a computer can be connected to two clusters. Combining the clusters with the corresponding central and console modules increases the number of consoles.

This requires:

- 1 × UC computer module per computer
- + number of console modules according to the number of additional consoles
- + central module according to the number in cluster 1

Details about the UC modules are given under **computer modules.**

DVI-CPU-UC– front view

DVI-CPU-UC – rear view

More range – DVI-FiberLink

The DVI-FiberLink increases the system range within a matrix system cluster to up to 10,000 m. he system consists of two identical modules (transceivers) and is available in two variants:

- DVI-FiberLink(M)
- Transmission via 2 multi-mode fiber optics (50/125µm), range up to 550 m

- DVI-FiberLink(S)
- Transmission via 2 single-mode fiber optics (9/125µm), range up to 10.000 m

The pair of DVI-FiberLink devices can be placed between any modules of the matrix system. One pair of DVI-FiberLink devices extends one connection.

DVI-FiberLink(S) – rear view

Application example:

The DVI-FiberLink allows you to change the transmission medium from CAT to fiber, for example, within existing building infrastructures. Thus, on floor can use horizontal CAT cabling while optical fibers are used to establish a vertical connection between the floors.

Hardware expansions

More range – CAT-Repeater

Employing the expansion module CAT-Repeater lets you extend the transmission range of matrix systems. For installations where individual lines are to be extended beyond the standard distance of 140 m, a CAT repeater extends these lines by another 140 m.

This comes in handy, for example, when individual computers or consoles are located further away, or grid lines need to be used to bridge larger distances but the use of optical fibers is not an option.

You can use up to five expansion modules between target and console. Thus, transmission distances of over 1.2 km are possible even with CAT cables.

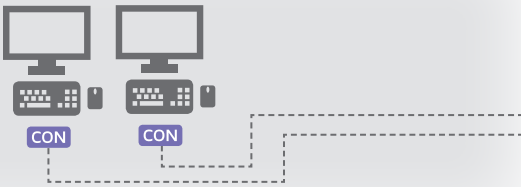
CAT-Repeater – rear view

Installation:

We provide 19" rack mount solutions for easily installing DVI-FiberLink(S) and CAT-Repeater devices into a server rack. The solutions are listed under **installation.**

Technical data DVI-FiberLink + CAT-Repeater

	DVI-FiberLink(S)	DVI-FiberLink(M)	CAT-Repeater
Signals			
Supported signals:	depending on the signals of the connected component of the digital matrix switch		
Connection of components			
Port:	1 × RJ45 port		
Supported components of the digital KVM matrix systems:	matrix switches, user modules and computer module		
Data transmission			
Type:	Fibre optics (2 fibres)		CAT
Port Type:	1 × LC duplex socket		1 × RJ45 socket
Transmission length:	Singlemode 9/125µm, class OS1: 10 kilometres	Multimode 50/125 µm, class OM2: 550 metres (fibres with 500 MHz*km), 500 metres (fibres with 400 MHz*km) Multimode 62,5/125 µm, class OM1: 220 metres (fibres with 160 MHz*km), 275 metres (fibres with 200 MHz*km)	140 metres
Power data			
Wave length (λ)	1310 nm (1270 nm to 1360 nm)	850 nm (770 nm to 860 nm)	-
Optical power output (P_{AVG})	in 9 µm SMF: -9,5 dBm to -3 dBm	in 50 or 62,5 µm MMF: -9,5 dBm to -3 dBm	-
Receiver sensitivity (P_{MIN}):	-19 dBm	-17 dBm	-
Sensitivity – Stressed (P_S):	-14,4	-13,5 dBm (50 µm MMF)	-
Current consumption			
Type:	external power pack or power loop		
Connection:	Mini-DIN 4 socket		
Current consumption:	max. 300 mA @ 12 VDC		
Power consumption:	max. 2,4W @ 12VDC		
No. of devices per power pack:	max. 5 devices via power loop cable		
Casing			
Dimensions (W × H × D):	105 × 26 × 84 mm		
Weight:	approx. 250 g		



Firmware expansions

Use the devices' web interface to install and activate any firmware expansions.

We provide the following software expansions for our digital matrix systems:

Push-Get function

- (move the screen contents of a target to – or get it from – the display of another DVI-CON)

TS function incl. CrossDisplay-Switching

- Combine multiple DVI-CONs to one multi-monitor console and operate this console with one keyboard and one mouse. As a part of the expansion module "TS function", CrossDisplay-Switching enables users to switch between channels simply by moving the mouse.

IP-Control-API incl. scripting function

- Interface for the external control (switching/operation) of a digital KVM matrix over network.
  The scripting function extends the interface for the control of digital KVM matrix systems and lets users access numerous computers from distributed workplaces.

KVM Matrix-Grid™

- A KVM Matrix-Grid™ can be used in applications that desire bidirectional access between individual matrix switches. Now systems can be interconnected even more directly to facilitate larger installations. The system automatically takes over the routing of KVM signals by selecting the ideal path through the grid.

Bridge function

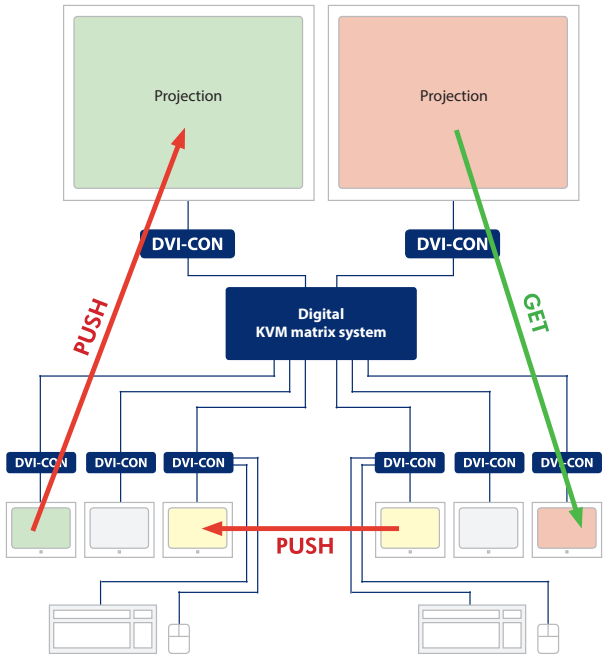
- The durability of G&D installations combined with the requirement to expand said installations with future-oriented digital systems lead to the development of the Bridge function. With the function, users can integrate CATCenter NEO clusters into digital matrix switch systems and operate the entire system over one single user interface.

Push-Get

Function: CON interaction
Operation: OSD
Operating requirement: activation within master
Efficiency: 1 cluster

With the Push-Get function, users can move the screen contents of a target to (push) - or get it from - the display of another console. This display can be a large screen projection, for example.

All consoles can exchange computer and screen contents or work together on tasks.



Exemplary figure of ControlCenter-Digital

Firmware expansions

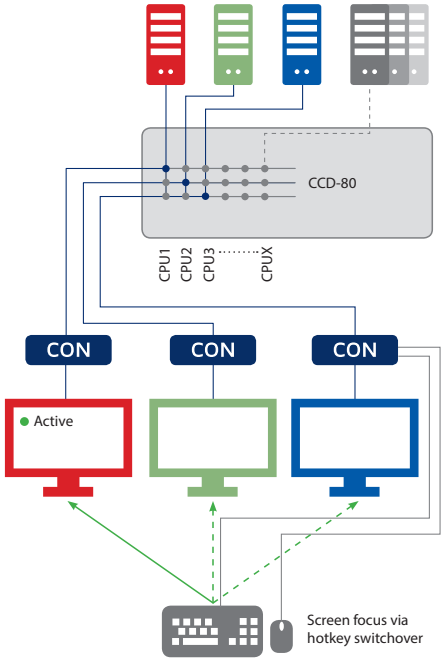
TS funktion

Function: CON pooling to create multi-monitor consoles
Operation: via hotkeys
Operating requirement: activation within master
Efficiency: 1 cluster

The TradeSwitch function combines multiple console modules e.g. DVI-CON) to one logical console. The logical console can be operated with one keyboard and one mouse while providing multiple displays (multi-monitor console). Large screen projections can also be integrated.

A hotkey assigns keyboard and mouse to the DVI-CON devices of the logical console. The size and amount of user groups is optional. For a comfortable operation of particularly large (wide) combined workstations additional keyboard and mouse devices can be added.

CrossDisplay-Switching even allows users to switch between channels by mouse.



CrossDisplay-Switching

Function: Switching by mouse
Operation: via mouse
Operating requirement: TS function
Efficiency: 1 cluster

With the innovative CrossDisplay-Switching as part of the TS function (ControlCenter-Digital and ControlCenter- Compact), users can use the mouse to easily switch between channels.

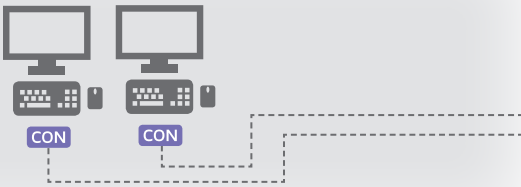
The mouse acts as if on a "virtual desktop" and can be moved seamlessly across the connected displays. Moving the cursor from the active to another display, the keyboard-mouse focus automatically switches to the connected computer. Now users can create a multimonitor console and need only one keyboard and one mouse to operate all computers. The mouse becomes the ultimate intuitive switching tool.

Right from the start, the CrossDisplay switching was not limited in the number of integrated screens, and so now also computers with multi-head graphics are supported.

Thus, an unlimited mix of scenarios can be switched from all sources and the user always operates in the visible area and never "flies blind". The configuration is easily adapted to the screen arrangement, and thus does not need to be strictly ordered in row or one above the other. Also in combination with a multiviewer, the flexible CrossDisplay switching can significantly simplify the application.

We will be happy to advise you in detail about the possibilities of the supported monitor configurations and operating systems.

KVM matrix systems let you operate multiple computers from multiple workstations. The basic system consists of three components: the computer module, the central module and the user module.



Firmware expansions

IP-Control-API

Function:
ControlCenter-Digital or -Compact remote control over IP

Operation:
customer-programmed user interface

Operating requirement:
activation within master + programming of user interface

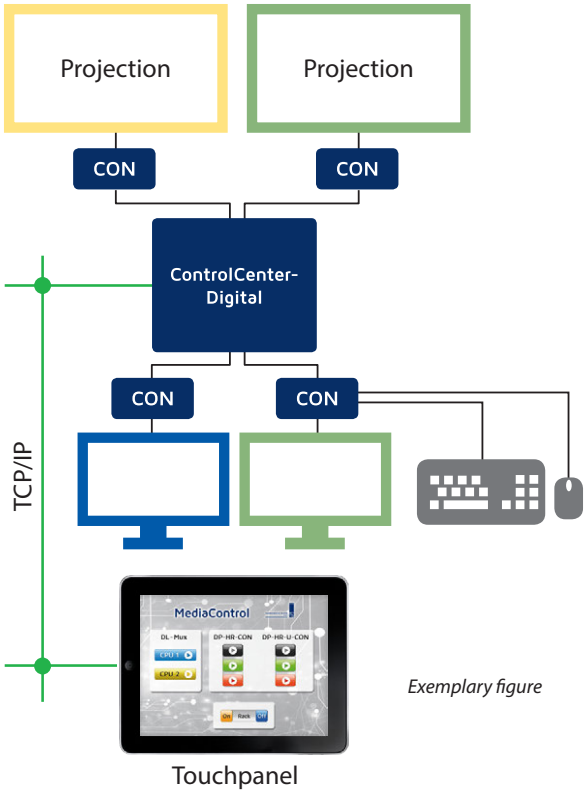
Efficiency:
system (several clusters)

With the IP-Control-API function, you can send switching commands to digital KVM matrix systems. The commands are sent via network. The system is operated independently from any console modules (e.g. DVI-CON). Independent from any location, each computer can access the desired projection media and/or operator screens.

We provide you with the programming interface (Windows DLL or Linux), you program the user interface. If you need support with programming the interface, contact one of G&D's integration partners. Contact us for further details.

With IP switching, you can also:

Receive information about current switching conditions
Cancel all switching conditions (Disconnect)
Receive information about the computer status
Execute the Push-Get function via network
(but no OSD integration)



Exemplary figure

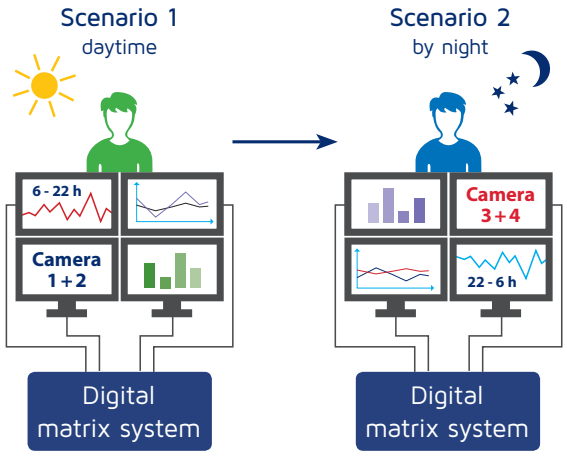
The text-based control supports AMX/Crestron to be able to control external media. IP-Control-API also includes the scripting function.

Scripting function (scenario switching)

Digital KVM matrix systems from Guntermann & Drunck let users access numerous computers from distributed workplaces. Since such installations tend to be rather complex and, due to the many features included, lead to an extremely powerful but complex infrastructure, intuitive operating concepts are key. This is where scenario switching comes into play.

Whether as emergency scenario at workplaces in control rooms or as a simple, less critical change of applications: Local scenarios are used when computers at individual workplaces are rearranged. Scenario switching is useful to apply whenever switching conditions need to be changed at one point. Especially when it comes to multi-monitor consoles accessing multiple computers at the same time, the manual and therefore sequential selection of computers for every single monitor does not only prove to be complicated, but takes extremely long, too.

Here again, scenario switching allows users to store switching states for local consoles which are then available for future applications.



Of course, any login or access rights of KVM matrix systems remain the same when using scenarios. In addition to store scenarios, you can also use scripts to store sophisticated system sequences.

Firmware expansions

Bidirectional communication through the KVM Matrix-Grid™

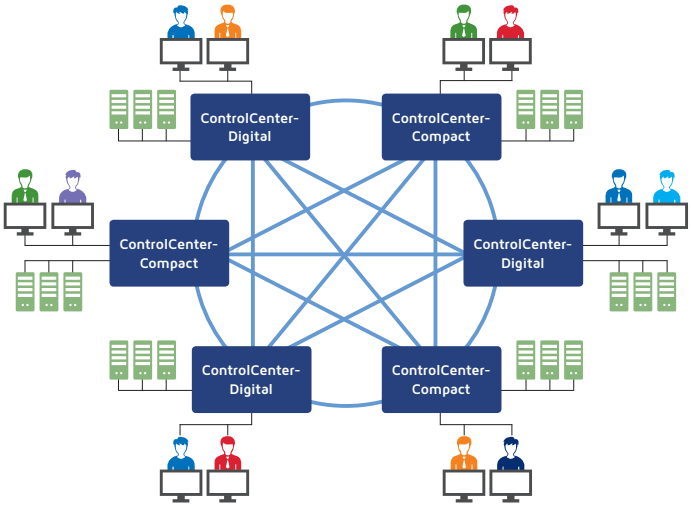
By default, G&D digital matrix systems can be expanded by means of a top-down cascade. Moreover, the matrix grid establishes bidirectional communication between individual matrix switches. Now systems can be interconnected even more directly to facilitate larger installations. Thus, users are able to operate the system bidirectionally at multiple locations.

For transmission between two matrix systems, the devices are directly connected via I/O ports. Each simultaneous KVM connection beyond a matrix requires a connection to the grid. To establish a communication between the matrices they are connected to a network that provides access to a shared database.

At all expansion stages, digital matrix systems from G&D can be integrated into the matrix grid. This includes the entire DVICenter and ControlCenter-Digital series.
Up to 24 matrices can be part of one grid.

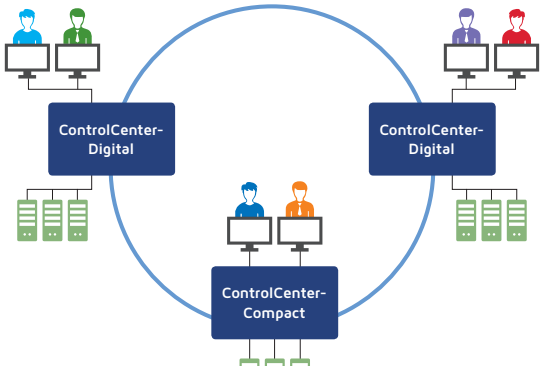
Within this framework, any topologies are possible (e.g. strand, tree, ring, star, meshed network).
The systems included in a grid are virtually combined to form one large matrix for the users. Thus, all connected user consoles are able to access all connected computers within a grid. The system automatically takes over the routing of KVM signals by selecting the ideal path through the grid.

Example of topology: fully connected network



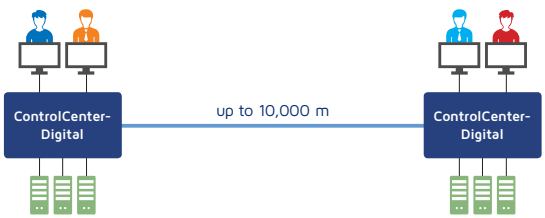
Thanks to the bidirectional connection, the G&D matrix grid allows access across locations. When connected via optical fibers, the location can even be several kilometers apart from each other – and in addition to the classic cascade users of all interconnected locations are able to access all systems connected.

Example of topology: networked ring



Ring topologies, for example, support redundancy concepts even better: even if a connecting line or a node fails, the system finds an alternate path for switching KVM signals. Therefore, users benefit from always available installations.

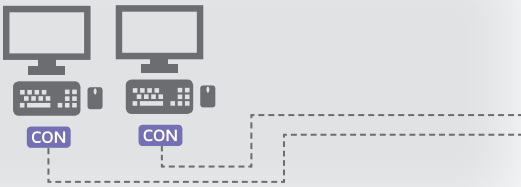
Example of topology: simple line



Thanks to the bidirectional connection, the G&D matrix grid allows access across locations. When connected via optical fibers, the location can even be several kilometers apart from each other – and in addition to the classic cascade users of all interconnected locations are able to access all systems connected.

Reducing the number of grid lines with the I/O-Card-Trunk

An ever-growing installation also requires more cables to connect all components. Therefore, G&D has developed the I/O-Trunk-Card to combine the grid lines required within a matrix grid. The card is placed in one of the I/O slots of the ControlCenter-Digital where it combines 4 of the 16 channels on one line. For transmission between two matrices, the four ports of an I/O-Card-Trunk can be configured independently for a 1: 1 direct connection or a connection via a 10Gbit/s Ethernet network (layer 2).
Transmission between two I/O-Card-Trunk is carried out by even more powerful components compared to the standard. These components let you use the fourfold of the bandwidth at the same time – thus saving you one fourth of cabling efforts.



Firmware expansions

Bridge function to integrate existing VGA systems

The durability of G&D installations combined with the requirement to expand said installations with future-oriented digital systems lead to the development of the Bridge function. With the function, users can integrate CATCenter NEO clusters into digital matrix switch systems (ControlCenter-Digital or ControlCenter-Compact) and operate the entire system over one single user interface. The systems are connected via analogue-to-digital converter.

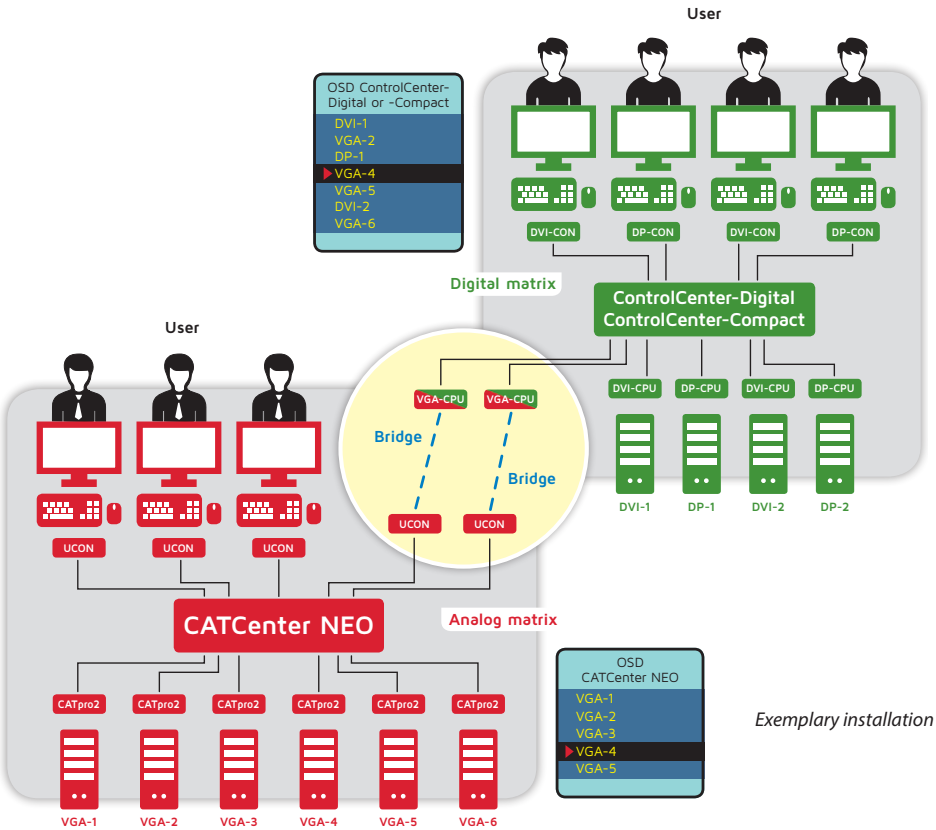
For this, signals are tapped by a UCON (the user console of the CATCenter NEO). A VGA-CPU then provides the signals to the digital matrix.

However, the bridge function offers even more than just the physical connection: Only a logical connection of both systems guarantees simple operation and saves users from having to switch between different OSDs. Thus, both systems communicate with each other and let users operate the system via one single OSD.

Nothing changes for users of analogue matrix switches. With the Bridge function, however, the OSD of users of digital matrix switches shows a list of analogue targets, too. The system automatically takes over the administration in the background while users can focus on their actual tasks instead of having to worry about the system's infrastructure: Now every source is only one click away.
Of course, user rights can still be managed as easily as before. Access rights to individual targets can be assigned to individual users or to groups, independently from the matrix into which a target is integrated.

Your advantages:

- any systems in use can still be used
- even higher ROI thanks to longer operating cycle
- expansions of digital systems provide security for the future
- user-friendly implementation including OSD or an interface displaying computers
- existing systems can still be used as subsystems
- thus existing systems remain almost untouched when expanding (minimum effort compared to new installations)



Exemplary installation including Bridge function

Accessories

Power Switch

The HardBoot CCX is especially designed to be operated with G&D matrix switches. It enables you to switch up to 128 users with one matrix switch. The HardBoot CCX provides eight AC outputs per device. Two separate power circuits each contain four outputs. A power cluster contains up to 16 HardBoot devices (= 128 outputs). The 128 outputs can be randomly grouped. This way, even redundant power packs are supported. The HardBoot CCX is connected to the desired matrix device (ControlCenter series, DVICenter, CATCenter). Operation takes place via OSD, configuration is carried out via Config Panel.

For more information on the HardBoot, please go to **Power Switches** on our website.

HardBoot CCX

NEOL ePowerSwitches

The ePowerSwitch allows the remote power switching of connected devices from any web browser, by RS232 or a supported G&D device.

With the integrated web server and the network port, the power status of connected devices are monitored and controlled form any distance. Operation takes place via OSD, configuration is carried out via Config Panel.

In addition to digital matrix devices, the ePowerSwitches harmonize perfectly with digital KVM extenders (DVI-Vision, DP-Vision, DP1.2-Vision and DP1.2-VisionXG) and therefore allow an efficient installation.

ePowerSwitch 8M+

MultiPower – central power source of G&D devices

The MultiPower provides up to twelve output interfaces to which you can connect small G&D devices (e.g. DVI-CPU or DVI-CPU-MC2) that require a maximum voltage of 12V/600mA (MultiPower-12) or 12V/1.2A (MultiPower-6).

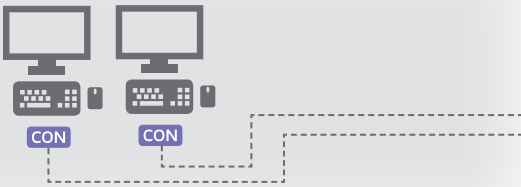
MultiPower devices are a functional and space-saving solution for applications in server rooms and racks. The device provides a redundant power supply, which is ensured by two internal power packs. The MultiPower products have been further optimized and we now offer our power devices with a network interface for central monitoring, which allows the external monitoring of the device status and increases the reliability of any connected devices.

MultiPower-6-NT

MultiPower-12-NT

Customer benefits:

- Central power supply, for example in racks
- Enables external monitoring of the device status by using the power status interface
- Internal monitoring via Config Panel integration (only NT variants)
- **MultiPower-12-NT:** up to twelve output interfaces (depends on the device) supply G&D devices with 12V and max. 800mA
- Choose between 240V or 24V input
- Config Panel integration
- **MultiPower-12:** up to twelve output interfaces (depends on the device) supply G&D devices with 12V and max. 600mA
- Choose between 240V or 24V input
- **MultiPower-6-NT:** up to six output interfaces (depends on the device) supply G&D devices with 12V and max. 1.6A
- Choose between 240V or 24V input
- Config Panel integration
- **MultiPower-6:** up to six output interfaces (depends on the device) supply G&D devices with 12V and max. 1.2A
- Choose between 240V or 24V input
- **MultiPower-2:** two output interfaces (depends on the device) supply G&D devices with 12V and max. 4A
- Only with 24V input



Accessories

APC Rack Side Air Distribution

Many server racks are designed for airflow guidance from the front to the rear. With its compact 2U size the Rack Side Air Distribution Unit ensures ideal temperatures in racks equipped with systems with side air flow.
The device moves air from the front of the rack enclosure to the side intake of the device, e.g. the ControlCenter-Digital.

Highlights

- Support of existing cooling systems for the supply of cool air or the heat dissipation from the rack enclosure
- Protection against overheating
- Ensure uniform temperatures at the air inlet of IT systems
- Dual fans with status indicators

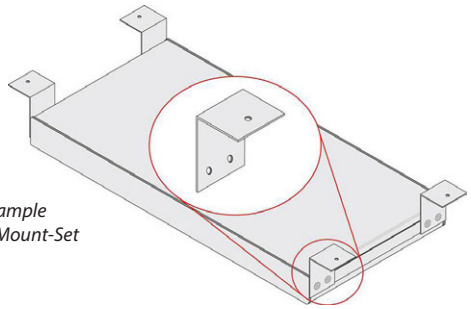
APC Rack Side Air Distribution

Space-saving mounting solutions

We offer space-saving fasteners for horizontal or vertical racks or under-desk mounting.

Table mount sets

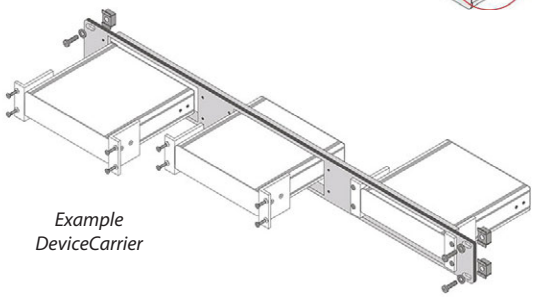
With our various table mount sets, you can mount KVM devices directly under desks to save even more space on your desk.



Example Table-Mount-Set

DeviceCarriers

Depending on the DeviceCarrier, you can save space by placing up to three devices on 1 U or up to 12 devices on 3U. Suitable for all devices in small aluminium housings (105 × 26 mm).



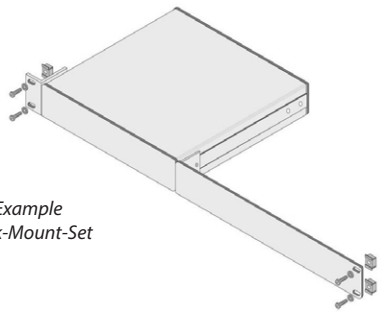
Example DeviceCarrier

Rack mount sets

With our various Rack mount sets, you can mount KVM devices in clearly arranged server racks. Depending on the width of your devices, you can choose between the following sets. Mounting and screws sets for rack mounting. The mounting sets are available for devices of different heights and mounting directions.

DIN-Rail-Mount-Set

Mounting set for using our devices on mounting rails.



Example Rack-Mount-Set

Details about the installation are given on our website under **mounting solutions.**

Computer modules

We provide a wide range of different modules for the connection of computers. This allows you to select the components of your system exactly according to your individual requirements. CAT cables or optical fibers connect the console modules a matrix. By default, all devices let you connect USB and PS/2 keyboards and mouse devices as well as USB HID devices and audio. Apart from that the modules are distinguished by different features such as video signals, transmission type and USB transmission.

The list of order numbers at the end of this brochure provides you with an overview of all variants. Order the MultiPower-12 or -6 if you want to supply the computer modules with power from a central source. The MultiPower series serves as the central power source of G&D devices that require an external power pack.

Installation:

We provide 19" rack mount solutions for easily installing the CPU modules into a server rack. The solutions are listed under KVM accessories.

Mix & match

The computer and console modules can also be directly connected without a central module. This way, they can be used as a point-to-point extender. All components are compatible with each other and can be connected to each other according to the mix & match principle (depending on the transmission medium and the input video bandwidth). Some of the original G&D extender systems also support the mix & match concept of matrix systems (e.g. DVI-Vision).

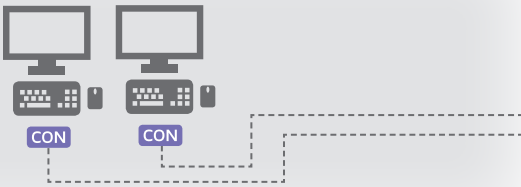
For a detailed overview of these modules, please go to **computer modules**

Basic information about all computer modules

	CPU
Data transmission	
Transmission length:	max. 140 meters (CAT) or up to 10.000 meters (optical fibres)
Video*	
Colour depth:	24 Bit
Interfaces to computer	
Keyboard and mouse signals:	PS/2 socket, USB-B
Audio*	
Type:	Bi-directional extension
Resolution:	24 Bit
Sampling rate:	96 kHz
Bandwidth:	22 kHz
Casing	
Material:	Anodised aluminium
Operating environment	
Temperature:	+5 to +45 °C
Air humidity:	< 80%, non-condensing
Conformity	
	CE, RoHS

*does not apply to U2-R-CPU

KVM matrix systems let you operate multiple computers from multiple workstations. The basic system consists of three components: the computer module, the central module and the user module.



Video signals

The computer modules can be distinguished by the video signals they support.
Exemplary explanations can be found here.

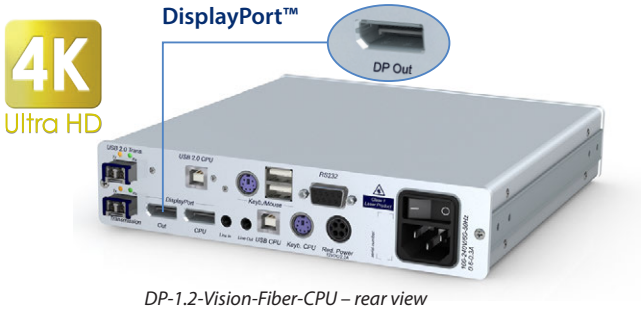
The list of order numbers provides you with an overview of all variants (video signal in connection with transmission system and USB option).

Connect extender systems to a matrix system

DP1.2-Vision

To be prepared for growing installations, the integrated matrix support turns the DP1.2-Vision into a future-proof investment. This way, it is possible to include extenders into digital G&D matrix systems. Thus, users benefit from more flexibility through distributed access.

DP1.2-Vision uses CAT-x cables or optical fibers to transmit signals. The devices use DisplayPort™ 1.2 video and are available as single and multi channel variant (in preparation). It is also possible to transmit transparent USB 2.0, RS232 and audio signals.



DP-1.2-Vision-Fiber-CPU – rear view

Details

- Support of 4K and ultra HD resolutions at 60 Hz (resolutions up to 4096 x 2160 @ 60Hz)
- Can be operated in extender or matrix mode
- RS232 transparent

DisplayPort™ High Resolution

DP-HR-CPU

DP-HR components let you integrate graphics cards and monitors with DisplayPort™ connectors at high resolutions into digital matrix systems. A bandwidth up to 300 Mpixels/s is supported. The transmission takes place via CAT cables or optical fibers (only for ControlCenter range) thus allowing transmission distances of up to 10,000 m.

DP-HR-CPU – front view

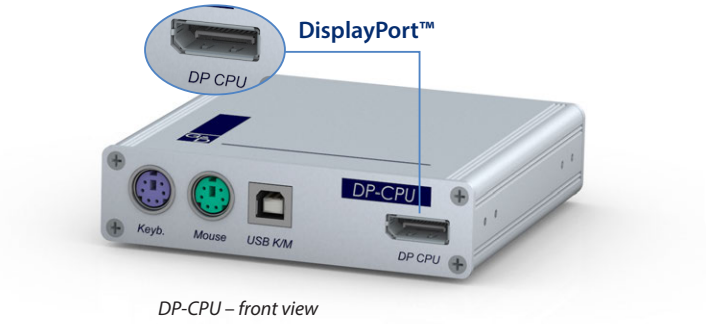
Interfaces to computer	Video
Video: 1 × Display-Port™	Format: DisplayPort™ (DP 1.1a)
Keyboard and mouse signals: 2 × PS/2 socket, 1 × USB-B	Video bandwidth: 25 to 300 MP/s, DisplayPort™ 4 Lanes, HBR 2,7 Gbps
Audio: 2 × 3,5 mm-jack socket	max. resolution: 2560 × 1600 @ 60 Hz or 4096 × 2160 @ 30 Hz*

Video signals

DisplayPort™

DP-CPU

DP-CPU is a standard module for the integration of DisplayPort™ into the matrix. Here, the DisplayPort™ signals is converted into single-link DVI and CAT cables are used to link them to the KVM matrix switch.



DP-CPU – front view

Interfaces to computer	Video
Video: 1 × Display-Port	Format: DisplayPort™ (DP 1.1a)
Keyboard and mouse signals: 2 × PS/2 socket, 1 × USB-B	Video bandwidth: 25 MHz to 165 MHz
Audio: 2 × 3,5 mm-jack socket	max. resolution: 1920 × 1200 @ 60 Hz*

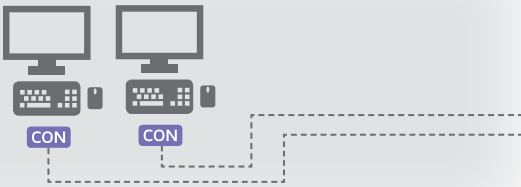
High Definition Multimedia Interface

HDM-CPU

HDM-CPU is a standard module for the integration of HDMI computers into the matrix. A bandwidth up to 300 Mpixels/s is supported. The transmission takes place via CAT cables or optical fibers (only for ControlCenter range) thus allowing transmission distances of up to 10,000 m.

HDM-CPU – front view

Interfaces to computer	Video
Video: 1 × HDMI 1.4	Format: HDMI 1.4
Keyboard and mouse signals: 1 × PS/2 socket, 1 × USB-B	Video bandwidth: 25 to 300 MP/s, DisplayPort™ 4 Lanes, HBR 2,7 Gbps
Audio: 2 × 3,5 mm-jack socket	max. resolution: 2560 × 1600 @ 60 Hz or 4096 × 2160 @ 30 Hz*

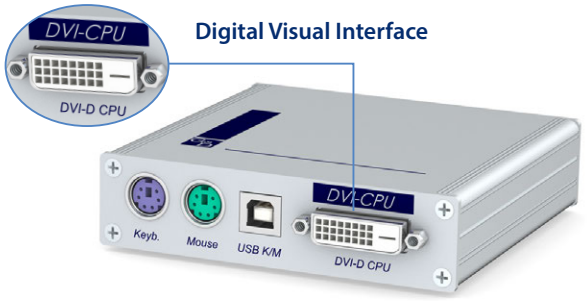


Video signals

Digital Visual Interface

DVI-CPU

The computer modules DVI-CPU connect computers with the DVI single-link to the central module.



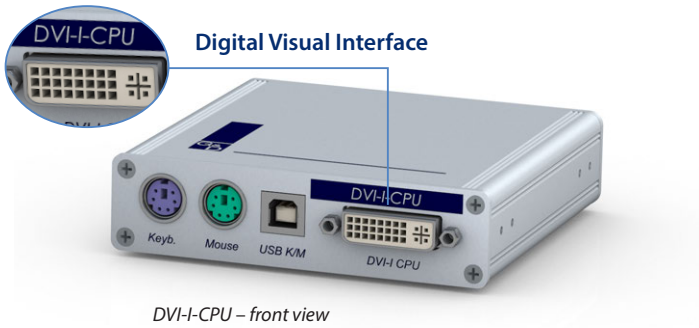
DVI-CPU – front view

Interfaces to computer	Video
Video: 1 × DVI-D (single-link)	Format: DVI-D (single-link)
Keyboard and mouse signals: 2 × PS/2 socket, 1 × USB-B	Video bandwidth: 25 MHz to 165 MHz
Audio: 2 × 3,5 mm-jack socket	Max. resolution: 1920x1200@60Hz*

Digital Visual Interface

DVI-I-CPU

With the "I" variant we provide a CPU device to transmit digital and analogue signals to a matrix system using a DVI-I interface. This interface complies with the common DVI-I standard and allows the transmission of single- and dual-link DVI and VGA signals.



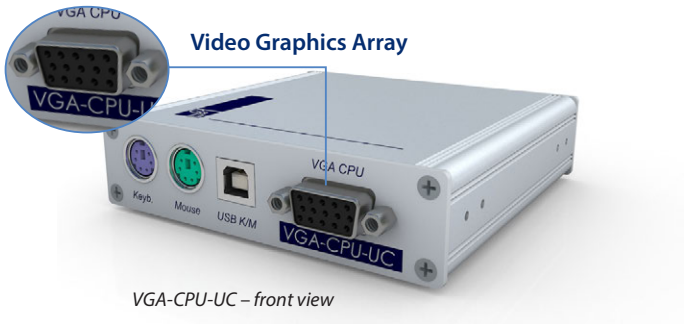
DVI-I-CPU – front view

Interfaces to computer	Video
Video: 1 × DVI-I	Format: DVI-I
Keyboard and mouse signals: 2 × PS/2 socket, 1 × USB-B	Video bandwidth: 25 MHz to 165 MHz
Audio: 2 × 3,5 mm-jack socket	Max. resolution: 1920x1200@60Hz*

Video Graphics Array

VGA-CPU

The target module VGA-CPU-UC lets you connect a VGA computer to digital matrix systems.
The device converts analogue signals into digital ones.



VGA-CPU-UC – front view

Interfaces to computer	Video
Video: 1 × VGA	Format: VGA
Keyboard and mouse signals: 2 × PS/2 socket, 1 × USB-B	Video bandwidth: 25 MHz to 165 MHz
Audio: 2 × 3,5 mm-jack socket	max. resolution: 1920 × 1200 @ 60 Hz*

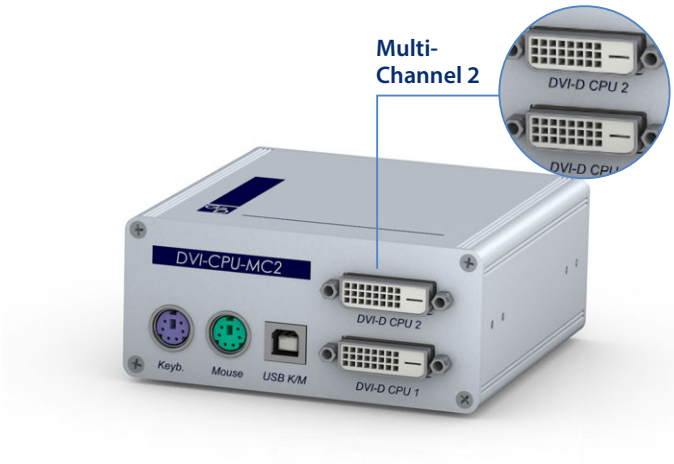
Video signals

Multi-Channel 2

Connect computers with multiple video outputs

MC2 computer modules let you integrate computers supporting two-channel video into your system.
A multi-monitor workstation can be implemented by using a corresponding console module.

Each of the two video channels is provided with full bandwidth. Each video channel requires a separate transmission path. Thus, the video channels can also be switched independently.



DVI-CPU-MC2 – front view

Interfaces to computer
Video: 2 × DVI-D (Single Link) or 2 × DisplayPort™
Keyboard and mouse signals: 2 × PS/2 socket, 1 × USB-B
Audio: 2 × 3,5 mm-jack socket

No PowerPack

Power supply according to your needs

You can order the computer modules without the included power supply. Order the version "without-power-pack" if the computer modules have to be supplied with power from a central source. (For G&D MultiPower, see chapter "Add ons")

All G&D CPU modules are available as "No power pack" variant.

DH (DualHead)

Transmit two video signals via one cable

DH (DualHead) variants allow transmitting two video signals via one transmission cable.
Here, the main channel provides high resolutions (see DP-HR). Additionally the second channel provides bandwidth for the transmission of resolutions up to full HD or 1920 x 1200 @ 60 Hz (300 MPixel/s total width).

A multi-monitor workstation can be implemented by using a corresponding computer module. The new cabling comes with significant advantages: transmitting two video signals on one line saves 50 % of the ports at the central switch – and therefore does not only result in less complex cabling but also in a significant commercial advantage, which can be in the form of a smaller matrix switch.

Resolution:

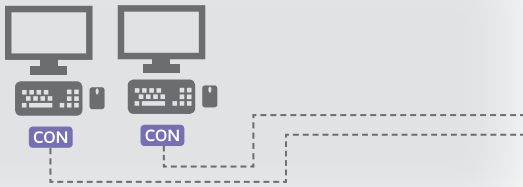
1 × up to 2560 x 1600 @ 60Hz (2K)
or 4096 x 2160 @ 30Hz (4K) and

1 × up to 1920 x 1200 @ 60Hz

DP-HR-CPU-DH – front view

Interfaces to computer	Video
Video: 2 × DisplayPort™	Format: DisplayPort™ (DP 1.1a)
Keyboard and mouse signals: 1 × PS/2 socket, 1 × USB-B	Video bandwidth: 25 to 300 MP/s (channel 1) 25 to 165 MP/s (channel 2), max. 330 MP/s (total)
Audio: 2 × 3,5 mm-jack socket	max. resolution channel 1: 4096 × 2160 @ 30 Hz (4K)* max. resolution channel 2: 1920 × 1200 @ 60 Hz*
Tradeswitch-LED: 1 × D-SUB 9 socket	

* Further VESA and CEA standardized resolutions within the scope of the video bandwidth and horizontal/vertical frequency are possible.



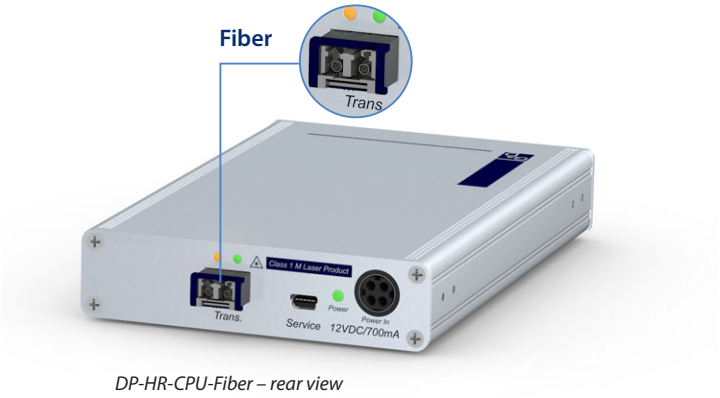
Transmission

Fiber

Wide range, high bandwidth and galvanic separation by optical fibers

We use optical fibers to expand the transmission length to the central module. With this module you can use the benefits of this medium.
In addition to the computer module, an I/O card fiber must be installed in the central module of the ControlCenter-Digital or you must have a fiber variant of the ControlCenter-Compact.

Data transmission to matrix switch
Interface: 1 × LC-Duplex socket
Transmission length: Fiber(M): max. 400 Meter (50µ/125µ OM3) Fiber(S): max. 5.000 Meter (9µ/125µ OS1) Fiber(S+): max. 10.000 Meter (9µ/125µ OS1)



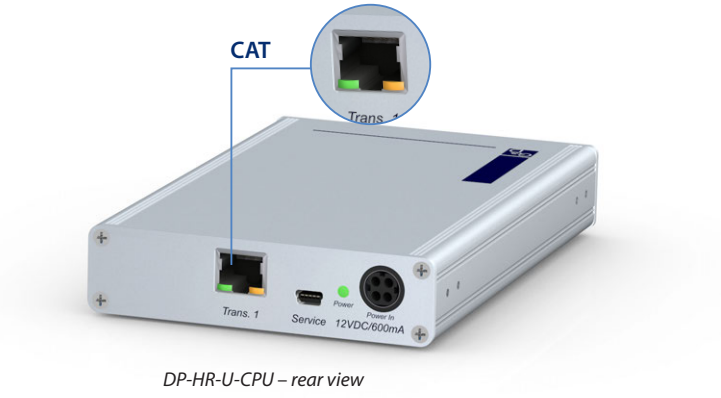
DP-HR-CPU-Fiber – rear view

Note: The fiber modules cannot be used with DVICenter central modules (predecessor of the ControlCenter-Compact). To convert the CAT-based transmission paths of the DVICenter to optical fibers, we provide the expansion module DVI-FiberLink.

CAT

By default, the matrix systems use CAT cabling (CAT5e or higher). Maximum transmission distance per line: 140 m. In order to extend the transmission length of the CAT lines, we provide the expansion module CAT-Repeater.

Data transmission to matrix switch
Interface: 1 × RJ45 socket
Übertragungslänge: max. 140 meters



DP-HR-U-CPU – rear view

UC

Connect computers to two different clusters

With the "UC" module you can connect one computer to two different matrix switches (clusters). The UC module provides two RJ45 sockets. Each of these sockets is connected to another matrix switch. This allows you to access the same computer from both clusters, thus building redundant systems or providing even more console ports.

Data transmission to matrix switch
Interfaces: 2 × RJ45 socket or 2 × LC duplex socket
Transmission length: Fiber(M): max. 400 meters (50µ/125µ OM3) Fiber(S): max. 5.000 meters (9µ/125µ OS1) Fiber(S+): max. 10.000 meters (9µ/125µ OS1)

DP-CPU-UC – rear view

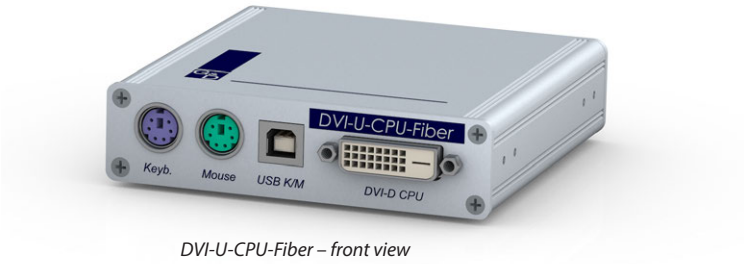
USB transmission

Integrated USB 2.0 (U)

Integrated USB transmission without extra wiring

With the "U" variant it is possible to transmit transparent USB. There is no need for additional cables or devices.

This variant allows you to transmit USB 2.0 signals at a transmission rate of approx. 16 Mbit/s (full speed). For higher rates you need the modules U2-R-CPU and -CON.



DVI-U-CPU-Fiber – front view

USB 2.0 (U) Hi-Speed und RS232

Separate transmission of USB and RS232 on an additional cable

With the "U2-R" variant it is possible to transmit transparent USB and RS232 signals. This requires an additional transmission cable and thus an additional port of the central matrix system.

This variant allows you to transmit signals at a transmission rate of approx. 480 Mbit/s (hi-speed).

U2-R-CPU – rear view

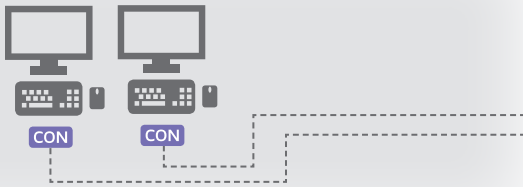
Interface to Target computer:	Data transmission to matrix switch	USB 2.0	RS232
USB 2.0: 1 × USB-B	Interface: 1 × RJ45 socket	Transmission type: transparent	Transmission type: transparent
RS232: 1 × D-SUB 9 plug	Transmission length: max. 140 m	Transmission rate: max. 480 Mbit/s	Transmission rate: max. 115.200 bit/s
			Signals: RxD, TxD, RTS, CTS, DTR, DSR, DCD

Generic HID USB

HID, short for Human Interface Device, describes a device class of the USB standard. The support of this device class has been integrated into digital matrix systems as "Generic HID".

With this functional expansion, you can connect any USB HID (e.g. touch screens or graphics tablets) directly to a console device and operate it via matrix without emulation. When accessing a target via console, the HID is detected by the connected computer as if it were connected directly to the computer's local USB interface.

KVM matrix systems let you operate multiple computers from multiple workstations. The basic system consists of three components: the computer module, the central module and the user module.



Console modules

We provide a wide range of different modules for the connection of user consoles. This allows you to select the components of your system exactly according to your individual requirements. CAT cables or optical fibers connect the console modules a matrix.

By default, all devices let you connect USB and PS/2 keyboards and mouse devices as well as USB HID devices and audio. Peripheral devices at the remote workstation, which require a transparent transmission of RS232 or USB 2.0 signals in high speed, can be connected to the digital matrix system via the U2-R-CON module. Apart from that the modules are distinguished by different features such as video signals, transmission type and USB transmission. The list of order numbers at the end of this brochure provides you with an overview of all variants.

Mix & match

The computer and console modules can also be directly connected without a central module. This way, they can be used as a point-to-point extender. All components are compatible with each other and can be connected to each other according to the mix & match principle (depending on the transmission medium and the input video bandwidth). Some of the original G&D extender systems also support the mix & match concept of matrix systems (e.g. DVI-Vision).

For a detailed overview of these modules, go to **console modules**

Basic information about all console modules

	CON
Data transmission	
Transmission length:	max. 140 meters (CAT) or up to 10.000 meters (optical fibres)
Video*	
Colour depth:	24 Bit
Interfaces to console:	
Keyboard and mouse signals:	PS/2 socket, USB-A
Audio*	
Type:	Bi-directional extension
Resolution:	24 Bit
Sampling rate:	96 kHz
Bandwidth:	22 kHz
Casing	
Material	Anodised aluminium
Operating environment	
Temperature:	+5 to +45 °C
Air humidity:	< 80%, non-condensing
Conformity	
	CE, RoHS

*does not apply to U2-R-CPU.

The different configuration levels of the console modules allow you to configure your system according to your requirements. They are structured according to the transmitted video signal and are available in further expansion stages. You can find these expansion stages and additional functions on the following pages.

Video signals

Console modules can be distinguished by the video signals they support.

Exemplary explanations can be found here. The list of order numbers provides you with an overview of all variants (video signal in connection with transmission system and USB option).

Connect extender systems to a matrix system

DP1.2-Vision

To be prepared for growing installations, the integrated matrix support turns the DP1.2-Vision into a future-proof investment. This way, it is possible to include extenders into digital G&D matrix systems. Thus, users benefit from more flexibility through distributed access.

DP1.2-Vision uses CAT-x cables or optical fibers to transmit signals. The devices use DisplayPort™ 1.2 video and are available as single- and multi-channel variant (in preparation). It is also possible to transmit transparent USB 2.0, RS232 and audio signals.

DP-1.2-Vision-Fiber-CON – rear view

Details

- Support of 4K and ultra HD resolutions at 60 Hz (resolutions up to 4096 x 2160 @ 60Hz)
- Can be operated in extender or matrix mode
- RS232 transparent

DisplayPort™ High-Resolution

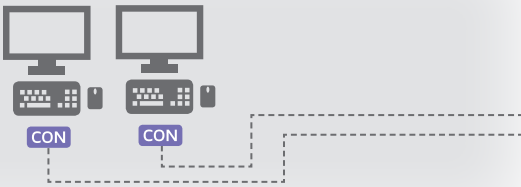
DP-HR-CON

DP-HR components let you integrate graphics cards and monitors with DisplayPort™ connectors at high resolutions into digital matrix systems. A bandwidth up to 300 Mpixels/s is supported. The transmission takes place via CAT cables or optical fibers (only for ControlCenter-Digital) thus allowing transmission distances of up to 10,000 m.

DP-HR-CON – rear view

Interfaces to console:	Video
Video: 1 × Display-Port	Format: DisplayPort™ (DP 1.1a)
Keyboard and mouse signals: 2 × PS/2 socket, 3 × USB-A	Video bandwidth: 25 bis 300 MP/s, DisplayPort™ 4 Lanes, HBR 2,7 Gbps
Audio: 2 × 3,5 mm-jack socket	max. resolution: 2560 × 1600 @ 60 Hz oder 4096 × 2160 @ 30 Hz*
Optional USB: 4 × USB-A socket	
Tradeswitch-LED: 1 × D-SUB 9 socket	

KVM matrix systems let you operate multiple computers from multiple workstations. The basic system consists of three components: the computer module, the central module and the user module.



Video signals

Digital Visual Interface

DVI-CON

The console modules DVI-CON connect computers with single-link DVI to the central module. Thanks to a DVI-I interface, you can even connect analogue displays.

DVI-CON – rear view

Interfaces to console	Video
Video: 1 × DVI-I (DVI single-link or VGA)	Format: DVI-I signal (single-link)
Keyboard and mouse signals: 2 × PS/2 socket, 2 × USB-A	Video bandwidth: 25 MHz to 165 MHz
Audio: 2 × 3,5 mm-jack socket	max. resolution: 1920 × 1200 @ 60 Hz or 1280 × 1024 @ 85 Hz*
Optional USB: 4 × USB-A socket	
Tradeswitch-LED: 1 × D-SUB 9 socket	

Video

Integrate another display / a video console

The console modules "Video" let you integrate another display or a projector into a compatible KVM matrix system, thus enabling a multi-monitor workstation. In addition to the video signal, audio signals are also transmitted.

DVI-CON-Video – rear view

Interfaces to console
Video: 1 x DVI-I (DVI single-link or VGA) or 1 x DisplayPort™
Audio: 2 × 3,5 mm-jack socket
Tradeswitch-LED: 1 × D-SUB 9 socket

Application

- remote console or a wide screen projection
- transmission of a second video signal at the workplace

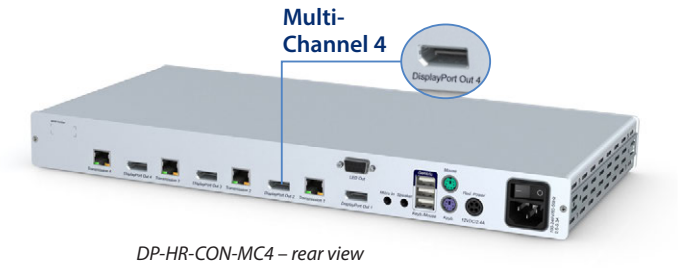
Video signals

Multi-Channel 2 + 4

Implement multi-monitor consoles

MC2 and MC4 console modules help you create multi-monitor consoles. The MC2 variant two video interfaces while the MC4 variant offers four video interfaces. Each video signal requires a separate transmission path. Thus, the video channels can also be switched independently.

With a corresponding computer module or by grouping several ports, you can integrate computers with several video outputs into a matrix system. MC modules provide full bandwidth for each video channel.



DP-HR-CON-MC4 – rear view

Interfaces to console
Video: 2 × (MC2) or 4 x (MC4) DisplayPort™ or DVI-I
Keyboard and mouse signals: 2 × PS/2 socket, 2 × USB-A
Audio: 2 × 3,5 mm-jack socket
Optional USB: 4 × USB-A socket
Tradeswitch-LED: 1 × D-SUB 9 socket

DH (DualHead)

Transmit two video signals via one cable

The new DH (DualHead) variants allow transmitting two video signals via one transmission cable.
Here, the main channel provides high resolutions (see DP-HR-DH). Additionally the second channel provides bandwidth for the transmission of resolutions up to full HD or 1920 x 1200 @ 60 Hz (300 MPixel/s total width).

Resolution:

1 × up to 2560 x 1600 @ 60Hz (2K)
or 4096 x 2160 @ 30Hz (4K) and

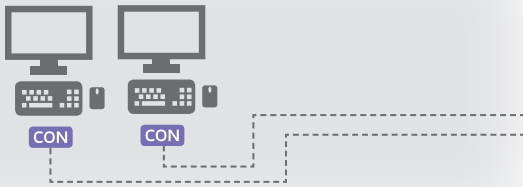
1 × up to 1920 x 1200 @ 60Hz

A multi-monitor workstation can be implemented by using a corresponding console module. The new cabling comes with significant advantages: transmitting two video signals on one line saves 50 % of the ports at the central switch – and therefore does not only result in less complex cabling but also in a significant commercial advantage, which can be in the form of a smaller matrix switch.

DP-HR-U-CON-DH – rear view

Interfaces to console	Video
Video: 2 × DisplayPort™	Format: DisplayPort ™(DP 1.1a)
Keyboard and mouse signals: 2 × PS/2 socket, 3 × USB-B	Video bandwidth: 25 to 300 MP/s (channel 1) 25 to 165 MP/s (channel 2), max. 330 MP/s (total)
Audio: 2 × 3,5 mm-jack socket	max. resolution channel 1: 4096 × 2160 @ 30 Hz (4K)* max. resolution channel 2: 1920 × 1200 @ 60 Hz*
Optional USB: 4 × USB-A socket	
Tradeswitch-LED: 1 × D-SUB 9 socket	

* Further VESA and CEA standardized resolutions within the scope of the video bandwidth and horizontal/vertical frequency are possible.



Transmission

Fiber

Wide range, high bandwidth and galvanic separation by optical fibers

We use optical fibers to expand the transmission length to the central module. With the "Fiber" module you can use the benefits of this medium. In addition to the console module, an I/O card fiber must be installed in the central module of the ControlCenter-Digital or you must have a fiber variant of the ControlCenter-Compact.

Data transmission to matrix switch
Schnittstelle: 1 × LC-Duplex socket
Übertragungslänge: Fiber(M): max. 400 Meter (50µ/125µ OM3) Fiber(S): max. 5.000 Meter (9µ/125µ OS1) Fiber(S+): max. 10.000 Meter (9µ/125µ OS1)

DP-HR-CON-Fiber – rear view

Note: The fiber modules cannot be used with DVICenter central modules (predecessor of the ControlCenter-Compact). To convert the CAT-based transmission paths of the DVICenter to optical fibers, we provide the expansion module DVI-FiberLink.

CAT

By default, the matrix systems use CAT cabling (CAT5e or higher). Maximum transmission distance per line: 140 m. In order to extend the transmission length of the CAT lines, we provide the expansion module CAT-Repeater.

Data transmission to matrix switch
Interface: 1 × RJ45 socket
Transmission length: max. 140 meters

DVI-CON – rear view

CON-2

Access two clusters from one console

The CON-2 variant lets you access two matrix clusters from your console, e.g. to create redundant systems. CON-2 modules provides two RJ45 sockets. Each of these sockets is connected to another matrix switch. Switching between two clusters is carried out via buttons on the device, hotkeys or centralized via the matrix system. If the transmission channels fails, switching can take place automatically. Note: Switching status for redundant clusters are not automatically synchronized. Contact us to learn more about how to establish highly available redundant systems.

Data transmission to matrix switch
Interface: 2 × RJ45 socket, 2 x LC-Duplex
Transmission length: max. 140 meters
Transmission length: Fiber(M): max. 400 meters (50µ/125µ OM3) Fiber(S): max. 5.000 meters (9µ/125µ OS1) Fiber(S+): max. 10.000 meters

DP-HR-CON-2 – rear view

USB transmission

Integrated USB 2.0 (U)

Integrated USB transmission without extra wiring

With the "U" variant it is possible to transmit transparent USB. There is no need for additional cables or devices. This variant allows you to transmit USB 2.0 signals at a transmission rate of approx. 16 Mbit/s (full speed). For higher rates you need the modules U2-R-CPU and -CON.

Interfaces to console
Video: DisplayPort™ oder DVI-I
Keyboard and mouse signals: 2 × PS/2 socket, 3 × USB-A
Audio: 2 × 3,5 mm-jack socket
USB 2.0: 4 × USB-A socket
Tradeswitch-LED: 1 × D-SUB 9 socket

DP-HR-U-CON – front view

USB 2.0 (U) Hi-Speed and RS232

Separate transmission of USB and RS232 on an additional cable

With the "U2-R" variant it is possible to transmit transparent USB and RS232 signals. This requires an additional transmission cable and thus an additional port of the central matrix system. This variant allows you to transmit signals at a transmission rate of approx. 480 Mbit/s (hi-speed).

U2-R-CON – rear view

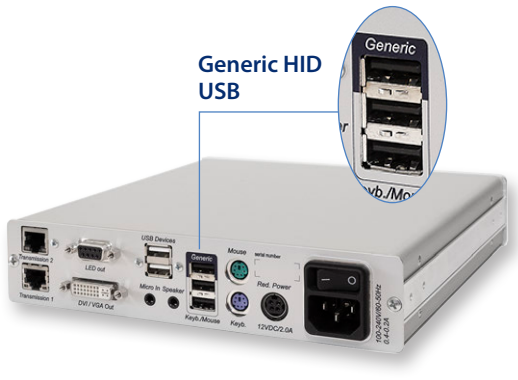
Interfaces to console	USB 2.0	RS232
USB 2.0: 4 × USB-A	Transmission type: transparent	Transmission type: transparent
RS232: 1 × D-SUB 9 socket	Transmission rate: max. 480 Mbit/s	Transmission rate: max. 115.200 bit/s
		Signals: RxD, TxD, RTS, CTS, DTR, DSR, DCD

Generic HID USB

Connect any USB HID

HID, short for Human Interface Device, describes a device class of the USB standard. The support of this device class has been integrated into digital matrix systems as "Generic HID".

With this functional expansion, you can connect any USB HID (e.g. touch screens or graphics tablets) directly to a console device and operate it via matrix without emulation. When accessing a target via console, the HID is detected by the connected computer as if it were connected directly to the computer's local USB interface. A firmware update makes this function also available to older devices which do not yet have the 3-way USB connector marked "Generic".



DVI-U-CON – rear view

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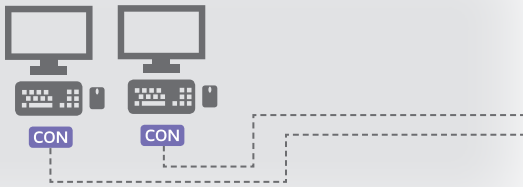


Central modules

ControlCenter-Digital-288

Item numbers

Item no.	Description	User	Computer
A2300054	ControlCenter-Digital-288	1 to 287	287 to 1
A2300058	CCD-Switch-Card-288		
A2300066	CCD-Fan-IN-Card-288		
A2300069	CCD-Fan-OUT-Card-288		
A2300070	CCD-Power-Module-288		
A2300073	CCD-Air-Filter-288		

ControlCenter-Digital-160

Item numbers

Item no.	Description	User	Computer
A2300055	ControlCenter-Digital-160	1 to 159	159 to 1
A2300059	CCD-Switch-Card-160		
A2300065	CCD-Fan-IN-Card-160		
A2300068	CCD-Fan-OUT-Card-160		
A2300071	CCD-Power-Module-160		
A2300074	CCD-Air-Filter-160		

ControlCenter-Digital-80

Item numbers

Item no.	Description	User	Computer
A2300056	ControlCenter-Digital-80	1 to 79	79 to 1
A2300060	CCD-Switch-Card-80		
A2300075	CCD-Air-Filter-80		
A2300081	CCD-Fan-IN-Card-80-IO		
A2300082	CCD-Fan-OUT-Card-80-C		
A2300083	CCD-Fan-OUT-Card-80-IO		
A2300084	CCD-Fan-IN-Card-80-C		

Central modules

ControlCenter-Compact CAT
Item numbers

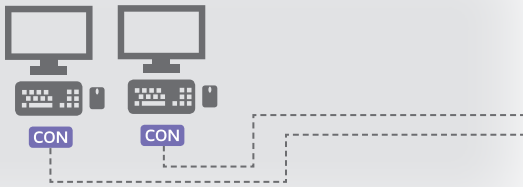
Item no.	Description	User	Computer
A2300106	ControlCenter-Compact-8C	1 to 7	7 to 1
A2300091	ControlCenter-Compact-16C	1 to 15	15 to 1
A2300093	ControlCenter-Compact-32C	1 to 31	31 to 1
A2300094	ControlCenter-Compact-48C	1 to 47	46 to 1
A2300089	ControlCenter-Compact-64C	1 to 63	63 to 1
A2300090	ControlCenter-Compact-80C	1 to 79	79 to 1

ControlCenter-Compact Fiber
Item numbers

Item no.	Description	User	Computer
A2300103	ControlCenter-Compact-16F(M)	1 to 15	15 to 1
A2300104	ControlCenter-Compact-16F(S)	1 to 15	15 to 1
A2300105	ControlCenter-Compact-16F(S+)	1 to 15	15 to 1

ControlCenter-Compact mixed operation
Item numbers

Item no.	Description	User	Computer
A2300092	ControlCenter-Compact-16C-16F(M)	1 to 15	15 to 1
A2300099	ControlCenter-Compact-16C-16F(S)	1 to 15	15 to 1
A2300100	ControlCenter-Compact-16C-16F(S+)	1 to 15	15 to 1
A2300095	ControlCenter-Compact-48C-32F(M)	1 to 47	47 to 1
A2300101	ControlCenter-Compact-48C-32F(S)	1 to 47	47 to 1
A2300102	ControlCenter-Compact-48C-32F(S+)	1 to 47	47 to 1



Accessories

ControlCenter-Digital-288
Item numbers

Item no.	Description
A2300057	CCD-Control-Card
A2300061	CCD-IO16-Card-CAT
A2300062	CCD-IO16-Card-Fiber(M)
A2300063	CCD-IO16-Card-Fiber(S)
A2300078	CCD-IO16-Card-Fiber(S+)
A2300085	CCD-IO16-Card-Multi
A2300086	CCD-IO16-Card-Fiber blank
A7000040	19" RM-Set CCD-L
A7000041	19" RM-Set CCD-S

Expansion

Technical data
Item numbers

Item no.	Description	
PowerSwitching		
A4110030	MultiPower-12	Power Supply, Rackmount
A4110030-24V	MultiPower-12-24V	Power Supply, Rackmount
A4110043	MultiPower-2-24V	Power Supply, Rackmount
A4110032	MultiPower-6	Power Supply, Rackmount
A4110032-24V	MultiPower-6-24V	Power Supply, Rackmount
with Fiber plus 10 km		
A2300044	DVI-FiberLink(S)	Singlemode transceiver up to 10.000 m, please order 2 x for 1 line
A2300080	DVI-FiberLink(S) no PowerPack	Singlemode transceiver up to 10.000 m, please order 2 x for 1 line
A2300052	DVI-FiberLink(M)	Multimode transceiver up to 550 m, please order 2 x for 1 line
A2300079	DVI-FiberLink(M) no PowerPack	Multimode transceiver up to 550 m, please order 2 x for 1 line
Firmware expansion		
A8200014	TS-Funktion Digitale Matrix	TradeSwitch module
A8200013	Push-Get-Funktion digital matrix	Push-Get module
A8200019-8200028	IP-Control-API	IP-Switching module
A8200018	KVM Matrix-Grid™ function digital matrix	Cascade module

Computer consoles

Item numbers

Item no.	Description	USB 2.0	Video signal	Video channels	Dimensions (W × H × D):	Power supply
A2320078	DP-CPU 2.0 incl. PowerPack	-	Displayport	1	105 × 26 × 104 mm	max. 500 mA
A2320081	DP-CPU 2.0 Basic	-	Displayport	1	105 × 26 × 104 mm	max. 500 mA
A2320079	DP-CPU-UC 2.0 incl. PowerPack	-	Displayport	1	105 × 26 × 104 mm	max. 600 mA
A2320080	DP-CPU-UC 2.0 Basic	-	Displayport	1	105 × 26 × 104 mm	max. 600 mA
A2320100	DP-HR-CPU incl. PowerPack	-	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320099	DP-HR-CPU Basic	-	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320197	DP-HR-CPU-DH incl. PowerPack	-	Displayport	2	105 × 26 × 164 mm	max. 600 mA
A2320198	DP-HR-CPU-DH Basic	-	Displayport	2	105 × 26 × 164 mm	max. 600 mA
A2320179	DP-HR-CPU-DH-UC inkl. PowerPack	-	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320180	DP-HR-CPU-DH-UC Basic	-	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320130	DP-HR-CPU-Fiber(M) incl. PowerPack	-	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320266	DP-HR-CPU-Fiber(M) Basic	-	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320199	DP-HR-CPU-Fiber(M)-DH incl. PowerPack	-	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320200	DP-HR-CPU-Fiber(M)-DH Basic	-	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320201	DP-HR-CPU-Fiber(M)-DH-UC incl. Power-Pack	-	Displayport	2	105 × 26 × 164 mm	max. 800 mA
A2320209	DP-HR-CPU-Fiber(M)-DH-UC Basic	-	Displayport	2	105 × 26 × 164 mm	max. 800 mA
A2320163	"DP-HR-CPU-Fiber(M)-MC2 incl. PowerPack	-	Displayport	2	105 × 46 × 164 mm	max. 1,0 A
A2320164	DP-HR-CPU-Fiber(M)-MC2 Basic	-	Displayport	2	105 × 46 × 164 mm	max. 1,0 A
A2320173	DP-HR-CPU-Fiber(M)-MC2-UC Basic	-	Displayport	2	105 × 46 × 164 mm	max. 1.2 A
A2320175	DP-HR-CPU-Fiber(M)-MC2-UC incl. Power-Pack	-	Displayport	2	105 × 46 × 164 mm	max. 1.2 A
A2320138	DP-HR-CPU-Fiber(M)-UC incl. PowerPack	-	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320267	DP-HR-CPU-Fiber(M)-UC Basic	-	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320131	DP-HR-CPU-Fiber(S) incl. PowerPack	-	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320268	DP-HR-CPU-Fiber(S) Basic	-	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320203	DP-HR-CPU-Fiber(S)-DH incl. PowerPack	-	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320202	DP-HR-CPU-Fiber(S)-DH Basic	-	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320177	DP-HR-CPU-Fiber(S)-DH-UC incl. Power-Pack	-	Displayport	2	105 × 26 × 164 mm	max. 800 mA
A2320178	DP-HR-CPU-Fiber(S)-DH-UC Basic	-	Displayport	2	105 × 26 × 164 mm	max. 800 mA
A2320174	DP-HR-CPU-Fiber(S)-MC2 incl. PowerPack	-	Displayport	2	105 × 46 × 164 mm	max. 1,0 A
A2320176	DP-HR-CPU-Fiber(S)-MC2 Basic	-	Displayport	2	105 × 46 × 164 mm	max. 1,0 A
A2320169	DP-HR-CPU-Fiber(S)-MC2-UC incl. Power-Pack	-	Displayport	2	105 × 46 × 164 mm	max. 1.2 A
A2320170	DP-HR-CPU-Fiber(S)-MC2-UC Basic	-	Displayport	2	105 × 46 × 164 mm	max. 1.2 A
A2320140	DP-HR-CPU-Fiber(S)-UC incl. PowerPack	-	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320269	DP-HR-CPU-Fiber(S)-UC Basic	-	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320132	DP-HR-CPU-Fiber(S+) incl. PowerPack	-	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320270	DP-HR-CPU-Fiber(S+) Basic	-	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320204	DP-HR-CPU-Fiber(S+)-DH incl. PowerPack	-	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320205	DP-HR-CPU-Fiber(S+)-DH Basic	-	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320206	DP-HR-CPU-Fiber(S+)-DH-UC incl. Power-Pack	-	Displayport	2	105 × 26 × 164 mm	max. 700 mA

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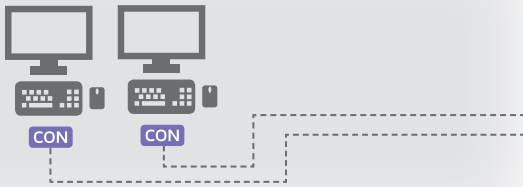


Computer modules

Item numbers

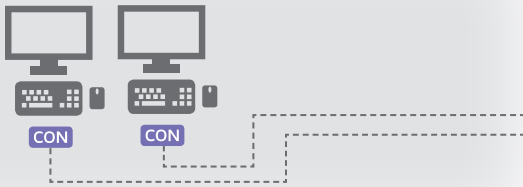
Item no.	Description	USB 2.0	Video signal	Video channels	Dimensions (W × H × D):	Power supply
A2320207	DP-HR-CPU-Fiber(S+)-DH-UC Basic	-	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320165	DP-HR-CPU-Fiber(S+)-MC2 incl. PowerPack	-	Displayport	2	105 × 46 × 164 mm	max. 1,1 A
A2320166	DP-HR-CPU-Fiber(S+)-MC2 Basic	-	Displayport	2	105 × 46 × 164 mm	max. 1,1 A
A2320167	DP-HR-CPU-Fiber(S+)-MC2-UC incl. Power-Pack	-	Displayport	2	105 × 46 × 164 mm	max. 1.2 A
A2320168	DP-HR-CPU-Fiber(S+)-MC2-UC Basic	-	Displayport	2	105 × 46 × 164 mm	max. 1.2 A
A2320139	DP-HR-CPU-Fiber(S+)-UC incl. PowerPack	-	Displayport	1	105 × 46 × 164 mm	max. 600 mA
A2320271	DP-HR-CPU-Fiber(S+)-UC Basic	-	Displayport	1	105 × 46 × 164 mm	max. 600 mA
A2320145	DP-HR-CPU-MC2 incl. PowerPack	-	Displayport	2	105 × 46 × 164 mm	max. 1,0 A
A2320146	DP-HR-CPU-MC2 Basic	-	Displayport	2	105 × 46 × 164 mm	max. 1,0 A
A2320147	DP-HR-CPU-MC2-UC incl. PowerPack	-	Displayport	2	105 × 46 × 164 mm	max. 1.2 A
A2320148	DP-HR-CPU-MC2-UC Basic	-	Displayport	2	105 × 46 × 164 mm	max. 1.2 A
A2320141	DP-HR-CPU-UC incl. PowerPack	-	Displayport	1	105 × 46 × 164 mm	max. 600 mA
A2320142	DP-HR-CPU-UC Basic	-	Displayport	1	105 × 46 × 164 mm	max. 600 mA
A2320119	DP-HR-U-CPU incl. PowerPack	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320120	DP-HR-U-CPU Basic	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320181	DP-HR-U-CPU-DH incl. PowerPack	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 600 mA
A2320194	DP-HR-U-CPU-DH Basic	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 600 mA
A2320195	DP-HR-U-CPU-DH-UC incl. PowerPack	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320196	DP-HR-U-CPU-DH-UC Basic	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320127	DP-HR-U-CPU-Fiber(M) incl. PowerPack	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320272	DP-HR-U-CPU-Fiber(M) Basic	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320182	DP-HR-U-CPU-Fiber(M)-DH incl. PowerPack	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320183	DP-HR-U-CPU-Fiber(M)-DH Basic	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320184	DP-HR-U-CPU-Fiber(M)-DH-UC incl. PowerPack	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 800 mA
A2320185	DP-HR-U-CPU-Fiber(M)-DH-UC Basic	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 800 mA
A2320171	DP-HR-U-CPU-Fiber(M)-MC2 incl. Power-Pack	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1,1 A
A2320172	DP-HR-U-CPU-Fiber(M)-MC2 Basic	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1,1 A
A2320153	DP-HR-U-CPU-Fiber(M)-MC2-UC incl. PowerPack	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1,2 A
A2320154	DP-HR-U-CPU-Fiber(M)-MC2-UC Basic	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1,2 A
A2320133	DP-HR-U-CPU-Fiber(M)-UC incl. PowerPack	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320273	DP-HR-U-CPU-Fiber(M)-UC Basic	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320128	DP-HR-U-CPU-Fiber(S) incl. PowerPack	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320274	DP-HR-U-CPU-Fiber(S) Basic	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320186	DP-HR-U-CPU-Fiber(S)-DH incl. PowerPack	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320187	DP-HR-U-CPU-Fiber(S)-DH Basic	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320192	DP-HR-U-CPU-Fiber(S)-DH-UC incl. Power-Pack	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 800 mA
A2320193	DP-HR-U-CPU-Fiber(S)-DH-UC Basic	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 800 mA

Computer modules

Item numbers

Item no.	Description	USB 2.0	Video signal	Video channels	Dimensions (W × H × D):	Power supply
A2320155	DP-HR-U-CPU-Fiber(S)-MC2 incl. Power-Pack	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1,1 A
A2320156	DP-HR-U-CPU-Fiber(S)-MC2 Basic	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1,1 A
A2320161	DP-HR-U-CPU-Fiber(S)-MC2-UC incl. PowerPack	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1,2 A
A2320162	DP-HR-U-CPU-Fiber(S)-MC2-UC Basic	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1,2 A
A2320135	DP-HR-U-CPU-Fiber(S)-UC incl. PowerPack	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320275	DP-HR-U-CPU-Fiber(S)-UC Basic	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320129	DP-HR-U-CPU-Fiber(S+) incl. PowerPack	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320276	DP-HR-U-CPU-Fiber(S+) Basic	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320188	DP-HR-U-CPU-Fiber(S+)-DH incl. Power-Pack	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320189	DP-HR-U-CPU-Fiber(S+)-DH Basic	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 700 mA
A2320190	DP-HR-U-CPU-Fiber(S+)-DH-UC incl. PowerPack	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 800 mA
A2320208	DP-HR-U-CPU-Fiber(S+)-DH-UC Basic	USB 2.0	Displayport	2	105 × 26 × 164 mm	max. 800 mA
A2320157	DP-HR-U-CPU-Fiber(S+)-MC2 incl. Power-Pack	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1,1 A
A2320158	DP-HR-U-CPU-Fiber(S+)-MC2 Basic	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1,1 A
A2320159	DP-HR-U-CPU-Fiber(S+)-MC2-UC incl. PowerPack	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1,2 A
A2320160	DP-HR-U-CPU-Fiber(S+)-MC2-UC Basic	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1,2 A
A2320134	DP-HR-U-CPU-Fiber(S+)-UC incl. PowerPack	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320277	DP-HR-U-CPU-Fiber(S+)-UC Basic	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320149	DP-HR-U-CPU-MC2 incl. PowerPack	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1,0 A
A2320150	DP-HR-U-CPU-MC2 Basic	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1,0 A
A2320151	DP-HR-U-CPU-MC2-UC incl. PowerPack	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1.2 A
A2320152	DP-HR-U-CPU-MC2-UC Basic	USB 2.0	Displayport	2	105 × 46 × 164 mm	max. 1.2 A
A2320136	DP-HR-U-CPU-UC incl. PowerPack	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320137	DP-HR-U-CPU-UC Basic	USB 2.0	Displayport	1	105 × 26 × 164 mm	max. 600 mA
A2320121	DP-U-CPU incl. PowerPack	USB 2.0	Displayport	1	105 × 26 × 104 mm	max. 500 mA
A2320122	DP-U-CPU Basic	USB 2.0	Displayport	1	105 × 26 × 104 mm	max. 500 mA
A2320123	DP-U-CPU-UC incl. PowerPack	USB 2.0	Displayport	1	105 × 26 × 104 mm	max. 600 mA
A2320124	DP-U-CPU-UC Basic	USB 2.0	Displayport	1	105 × 26 × 104 mm	max. 600 mA
A2320071	DVI-CPU 2.0 incl. PowerPack	-	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320070	DVI-CPU 2.0 Basic	-	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320090	DVI-CPU-Fiber(M) incl. PowerPack	-	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320214	DVI-CPU-Fiber(M) Basic	-	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320093	DVI-CPU-Fiber(M)-UC incl. PowerPack	-	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320215	DVI-CPU-Fiber(M)-UC Basic	-	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320091	DVI-CPU-Fiber(S) incl. PowerPack	-	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320210	DVI-CPU-Fiber(S) Basic	-	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320094	DVI-CPU-Fiber(S)-UC incl. PowerPack	-	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA

KVM matrix systems let you operate multiple computers from multiple workstations. The basic system consists of three components: the computer module, the central module and the user module.



Computer modules

Item numbers

Item no.	Description	USB 2.0	Video signal	Video channels	Dimensions (W × H × D):	Power supply
A2320211	DVI-CPU-Fiber(S)-UC Basic	-	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320092	DVI-CPU-Fiber(S+) incl. PowerPack	-	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320212	DVI-CPU-Fiber(S+) Basic	-	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320095	DVI-CPU-Fiber(S+)-UC incl. PowerPack	-	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320213	DVI-CPU-Fiber(S+)-UC Basic	-	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320083	DVI-CPU-FSC 2.0 incl. PowerPack	-	single-link DVI	1	105 × 46 × 104 mm	max. 600 mA
A2320087	DVI-CPU-FSC 2.0 Basic	-	single-link DVI	1	105 × 46 × 104 mm	max. 600 mA
A2320072	DVI-CPU-MC2 2.0 incl. PowerPack	-	single-link DVI	2	105 × 46 × 104 mm	max. 800 mA
A2320097	DVI-CPU-MC2 2.0 Basic	-	single-link DVI	2	105 × 46 × 104 mm	max. 800 mA
A2320073	DVI-CPU-MC2-UC 2.0 incl. PowerPack	-	single-link DVI	2	105 × 46 × 104 mm	max. 1000 mA
A2320098	DVI-CPU-MC2-UC 2.0 Basic	-	single-link DVI	2	105 × 46 × 104 mm	max. 1000 mA
A2320075	DVI-CPU-UC 2.0 incl. PowerPack	-	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320074	DVI-CPU-UC 2.0 Basic	-	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320085	DVI-CPU-UC-FSC 2.0 incl. PowerPack	-	single-link DVI	1	105 × 46 × 104 mm	max. 600 mA
A2320088	DVI-CPU-UC-FSC 2.0 Basic	-	single-link DVI	1	105 × 46 × 104 mm	max. 600 mA
A2320261	DVI-I-CPU incl. PowerPack	-	single-link DVI and VGA	1	105 × 26 × 104 mm	max. 500 mA
A2320260	DVI-I-CPU Basic	-	single-link DVI and VGA	1	105 × 26 × 104 mm	max. 500 mA
A2320256	DVI-I-CPU-UC incl. PowerPack	-	single-link DVI and VGA	1	105 × 26 × 104 mm	max. 600 mA
A2320257	DVI-I-CPU-UC Basic	-	single-link DVI and VGA	1	105 × 26 × 104 mm	max. 600 mA
A2320258	DVI-I-U-CPU incl. PowerPack	USB 2.0	single-link DVI and VGA	1	105 × 26 × 104 mm	max. 500 mA
A2320259	DVI-I-U-CPU Basic	USB 2.0	single-link DVI and VGA	1	105 × 26 × 104 mm	max. 500 mA
A2320254	DVI-I-U-CPU-UC incl. PowerPack	USB 2.0	single-link DVI and VGA	1	105 × 26 × 104 mm	max. 600 mA
A2320255	DVI-I-U-CPU-UC Basic	USB 2.0	single-link DVI and VGA	1	105 × 26 × 104 mm	max. 600 mA
A2320125	DVI-U-CPU incl. PowerPack	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320126	DVI-U-CPU Basic	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320101	DVI-U-CPU-Fiber(M) incl. PowerPack	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320216	DVI-U-CPU-Fiber(M) Basic	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320102	DVI-U-CPU-Fiber(M)-UC incl. PowerPack	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320221	DVI-U-CPU-Fiber(M)-UC Basic	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320103	DVI-U-CPU-Fiber(S) incl. PowerPack	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320220	DVI-U-CPU-Fiber(S) Basic	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320106	DVI-U-CPU-Fiber(S)-UC incl. PowerPack	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320219	DVI-U-CPU-Fiber(S)-UC Basic	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320104	DVI-U-CPU-Fiber(S+) incl. PowerPack	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320217	DVI-U-CPU-Fiber(S+) Basic	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320105	DVI-U-CPU-Fiber(S+)-UC incl. PowerPack	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA

Computer modules

Item numbers

Item no.	Description	USB 2.0	Video signal	Video channels	Dimensions (W × H × D):	Power supply
A2320218	DVI-U-CPU-Fiber(S+)-UC Basic	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320107	DVI-U-CPU-FSC incl. PowerPack	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320108	DVI-U-CPU-FSC Basic	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 500 mA
A2320109	DVI-U-CPU-MC2 incl. PowerPack	USB 2.0	single-link DVI	2	105 × 46 × 104 mm	max. 800 mA
A2320110	DVI-U-CPU-MC2 Basic	USB 2.0	single-link DVI	2	105 × 46 × 104 mm	max. 800 mA
A2320111	DVI-U-CPU-MC2-UC incl. PowerPack	USB 2.0	single-link DVI	2	105 × 46 × 104 mm	max. 1000 mA
A2320112	DVI-U-CPU-MC2-UC Basic	USB 2.0	single-link DVI	2	105 × 46 × 104 mm	max. 1000 mA
A2320113	DVI-U-CPU-UC incl. PowerPack	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320114	DVI-U-CPU-UC Basic	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320115	DVI-U-CPU-UC-FSC incl. PowerPack	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320116	DVI-U-CPU-UC-FSC Basic	USB 2.0	single-link DVI	1	105 × 26 × 104 mm	max. 600 mA
A2320246	HDM-CPU incl. PowerPack	-	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320247	HDM-CPU Basic	-	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320248	HDM-CPU-DH-UC incl. PowerPack	-	HDMI	2	105 × 26 × 164 mm	max. 700 mA
A2320249	HDM-CPU-DH-UC Basic	-	HDMI	2	105 × 26 × 164 mm	max. 700 mA
A2320250	HDM-CPU-Fiber(M) incl. PowerPack	-	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320251	HDM-CPU-Fiber(M) Basic	-	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320252	HDM-CPU-Fiber(M)-DH-UC incl. PowerPack	-	HDMI	2	105 × 26 × 164 mm	max. 800 mA
A2320253	HDM-CPU-Fiber(M)-DH-UC Basic	-	HDMI	2	105 × 26 × 164 mm	max. 800 mA
A2320222	HDM-CPU-Fiber(S) incl. PowerPack	-	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320223	HDM-CPU-Fiber(S) Basic	-	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320224	HDM-CPU-Fiber(S)-DH-UC incl. PowerPack	-	HDMI	2	105 × 26 × 164 mm	max. 700 mA
A2320225	HDM-CPU-Fiber(S)-DH-UC Basic	-	HDMI	2	105 × 26 × 164 mm	max. 700 mA
A2320226	HDM-CPU-Fiber(S+) incl. PowerPack	-	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320227	HDM-CPU-Fiber(S+) Basic	-	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320228	HDM-CPU-Fiber(S+)-DH-UC incl. Power-Pack	-	HDMI	2	105 × 26 × 164 mm	max. 800 mA
A2320229	HDM-CPU-Fiber(S+)-DH-UC Basic	-	HDMI	2	105 × 26 × 164 mm	max. 800 mA
A2320230	HDM-U-CPU incl. PowerPack	USB 2.0	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320231	HDM-U-CPU Basic	USB 2.0	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320232	HDM-U-CPU-DH-UC incl. PowerPack	USB 2.0	HDMI	2	105 × 26 × 164 mm	max. 700 mA
A2320233	HDM-U-CPU-DH-UC Basic	USB 2.0	HDMI	2	105 × 26 × 164 mm	max. 700 mA
A2320234	HDM-U-CPU-Fiber(M) incl. PowerPack	USB 2.0	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320235	HDM-U-CPU-Fiber(M) Basic	USB 2.0	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320236	HDM-U-CPU-Fiber(M)-DH-UC incl. Power-Pack	USB 2.0	HDMI	2	105 × 26 × 164 mm	max. 800 mA
A2320237	HDM-U-CPU-Fiber(M)-DH-UC Basic	USB 2.0	HDMI	2	105 × 26 × 164 mm	max. 800 mA
A2320238	HDM-U-CPU-Fiber(S) incl. PowerPack	USB 2.0	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320239	HDM-U-CPU-Fiber(S) Basic	USB 2.0	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320240	HDM-U-CPU-Fiber(S)-DH-UC incl. Power-Pack	USB 2.0	HDMI	2	105 × 26 × 164 mm	max. 800 mA
A2320241	HDM-U-CPU-Fiber(S)-DH-UC Basic	USB 2.0	HDMI	2	105 × 26 × 164 mm	max. 800 mA
A2320242	HDM-U-CPU-Fiber(S+) incl. PowerPack	USB 2.0	HDMI	1	105 × 26 × 164 mm	max. 600 mA

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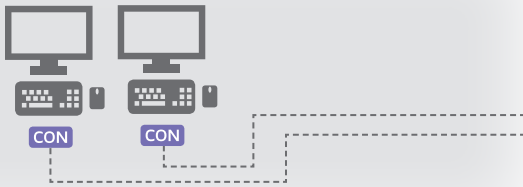


Computer modules

Item numbers

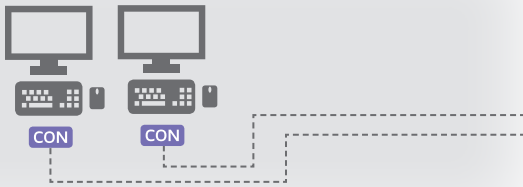
Item no.	Description	USB 2.0	Video signal	Video channels	Dimensions (W × H × D):	Power supply
A2320243	HDM-U-CPU-Fiber(S+) Basic	USB 2.0	HDMI	1	105 × 26 × 164 mm	max. 600 mA
A2320244	HDM-U-CPU-Fiber(S+)-DH-UC incl. Power-Pack	USB 2.0	HDMI	2	105 × 26 × 164 mm	max. 800 mA
A2320245	HDM-U-CPU-Fiber(S+)-DH-UC Basic	USB 2.0	HDMI	2	105 × 26 × 164 mm	max. 800 mA
A2320064	U2-AR-CPU	USB 2.0	-	0	105 × 26 × 104 mm	max. 300 mA
A2320063	U2-R-CPU incl. PowerPack	USB 2.0	-	0	105 × 26 × 104 mm	max. 300 mA
A2320089	U2-R-CPU Basic	USB 2.0	-	0	105 × 26 × 104 mm	max. 300 mA
A2320086	VGA-CPU-UC 2.0 incl. PowerPack	-	VGA	1	105 × 26 × 104 mm	max. 600 mA
A2320096	VGA-CPU-UC 2.0 Basic	-	VGA	1	105 × 26 × 104 mm	max. 600 mA
A2320263	VGA-CPU-UC-FSC 2.0 incl. PowerPack	-	VGA	1	105 × 26 × 104 mm	max. 600 mA
A2320264	VGA-CPU-UC-FSC 2.0 Basic	-	VGA	1	105 × 26 × 104 mm	max. 600 mA
A2320117	VGA-U-CPU-UC incl. PowerPack	USB 2.0	VGA	1	105 × 26 × 104 mm	max. 600 mA
A2320118	VGA-U-CPU-UC Basic	USB 2.0	VGA	1	105 × 26 × 104 mm	max. 600 mA
A2320262	VGA-U-CPU-UC-FSC incl. PowerPack	USB 2.0	VGA	1	105 × 26 × 104 mm	max. 600 mA
A2320265	VGA-U-CPU-UC-FSC 2.0 Basic	USB 2.0	VGA	1	105 × 26 × 104 mm	max. 600 mA

Console modules

Item numbers

Item no.	Description	USB 2.0	Video signal	Design	Video channels	Dimensions W × H × D):
A1120170	DP-HR-CON	-	Displayport	Desktop	1	210 × 44 × 210 mm
A1120220	DP-HR-CON-2	-	Displayport	Desktop	1	210 × 44 × 210 mm
A1120279	DP-HR-CON-2-DH	-	Displayport	Desktop	2	210 × 44 × 210 mm
A1120221	DP-HR-CON-2-Fiber(M)	-	Displayport	Desktop	1	210 × 44 × 210 mm
A1120272	DP-HR-CON-2-Fiber(M)-DH	-	Displayport	Desktop	2	210 × 44 × 210 mm
A1120222	DP-HR-CON-2-Fiber(S)	-	Displayport	Desktop	1	210 × 44 × 210 mm
A1120273	DP-HR-CON-2-Fiber(S)-DH	-	Displayport	Desktop	2	210 × 44 × 210 mm
A1120223	DP-HR-CON-2-Fiber(S+)	-	Displayport	Desktop	1	210 × 44 × 210 mm
A1120274	DP-HR-CON-2-Fiber(S+)-DH	-	Displayport	Desktop	2	210 × 44 × 210 mm
A1120250	DP-HR-CON-DH	-	Displayport	Desktop	2	210 × 44 × 210 mm
A1120183	DP-HR-CON-Fiber(M)	-	Displayport	Desktop	1	210 × 44 × 210 mm
A1120251	DP-HR-CON-Fiber(M)-DH	-	Displayport	Desktop	2	210 × 44 × 210 mm
A1120224	DP-HR-CON-Fiber(M)-MC2	-	Displayport	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm
A1120241	DP-HR-CON-Fiber(M)-MC4	-	Displayport	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1120184	DP-HR-CON-Fiber(S)	-	Displayport	Desktop	1	210 × 44 × 210 mm
A1120252	DP-HR-CON-Fiber(S)-DH	-	Displayport	Desktop	2	210 × 44 × 210 mm
A1120225	DP-HR-CON-Fiber(S)-MC2	-	Displayport	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm
A1120240	DP-HR-CON-Fiber(S)-MC4	-	Displayport	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1120185	DP-HR-CON-Fiber(S+)	-	Displayport	Desktop	1	210 × 44 × 210 mm
A1120253	DP-HR-CON-Fiber(S+)-DH	-	Displayport	Desktop	2	210 × 44 × 210 mm
A1120226	DP-HR-CON-Fiber(S+)-MC2	-	Displayport	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm
A1120227	DP-HR-CON-Fiber(S+)-MC4	-	Displayport	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1120214	DP-HR-CON-MC2	-	Displayport	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm
A1120215	DP-HR-CON-MC4	-	Displayport	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1120171	DP-HR-U-CON	USB 2.0	Displayport	Desktop	1	210 × 44 × 210 mm
A1120217	DP-HR-U-CON-2	USB 2.0	Displayport	Desktop	1	210 × 44 × 210 mm
A1120275	DP-HR-U-CON-2-DH	USB 2.0	Displayport	Desktop	2	210 × 44 × 210 mm
A1120231	DP-HR-U-CON-2-Fiber(M)	USB 2.0	Displayport	Desktop	1	210 × 44 × 210 mm
A1120276	DP-HR-U-CON-2-Fiber(M)-DH	USB 2.0	Displayport	Desktop	2	210 × 44 × 210 mm
A1120232	DP-HR-U-CON-2-Fiber(S)	USB 2.0	Displayport	Desktop	1	210 × 44 × 210 mm
A1120277	DP-HR-U-CON-2-Fiber(S)-DH	USB 2.0	Displayport	Desktop	2	210 × 44 × 210 mm
A1120233	DP-HR-U-CON-2-Fiber(S+)	USB 2.0	Displayport	Desktop	1	210 × 44 × 210 mm
A1120278	DP-HR-U-CON-2-Fiber(S+)-DH	USB 2.0	Displayport	Desktop	2	210 × 44 × 210 mm
A1120246	DP-HR-U-CON-DH	USB 2.0	Displayport	Desktop	2	210 × 44 × 210 mm
A1120186	DP-HR-U-CON-Fiber(M)	USB 2.0	Displayport	Desktop	1	210 × 44 × 210 mm
A1120247	DP-HR-U-CON-Fiber(M)-DH	USB 2.0	Displayport	Desktop	2	210 × 44 × 210 mm

KVM matrix systems let you operate multiple computers from multiple workstations. The basic system consists of three components: the computer module, the central module and the user module.



Console modules

Item numbers

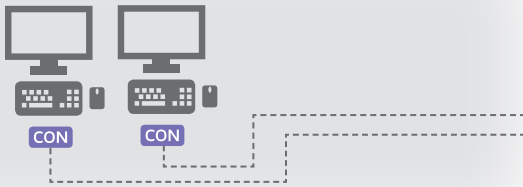
Item no.	Description	USB 2.0	Video signal	Design	Video channels	Dimensions W × H × D):
A1120234	DP-HR-U-CON-Fiber(M)-MC2	USB 2.0	Displayport	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm
A1120237	DP-HR-U-CON-Fiber(M)-MC4	USB 2.0	Displayport	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1120181	DP-HR-U-CON-Fiber(S)	USB 2.0	Displayport	Desktop	1	210 × 44 × 210 mm
A1120248	DP-HR-U-CON-Fiber(S)-DH	USB 2.0	Displayport	Desktop	2	210 × 44 × 210 mm
A1120235	DP-HR-U-CON-Fiber(S)-MC2	USB 2.0	Displayport	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm
A1120238	DP-HR-U-CON-Fiber(S)-MC4	USB 2.0	Displayport	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1120182	DP-HR-U-CON-Fiber(S+)	USB 2.0	Displayport	Desktop	1	210 × 44 × 210 mm
A1120249	DP-HR-U-CON-Fiber(S+)-DH	USB 2.0	Displayport	Desktop	2	210 × 44 × 210 mm
A1120236	DP-HR-U-CON-Fiber(S+)-MC2	USB 2.0	Displayport	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm
A1120239	DP-HR-U-CON-Fiber(S+)-MC4	USB 2.0	Displayport	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1120218	DP-HR-U-CON-MC2	USB 2.0	Displayport	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm
A1120219	DP-HR-U-CON-MC4	USB 2.0	Displayport	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1120172	DP-U-CON	USB 2.0	Displayport	Desktop w. Rackmount-Kit	1	210 × 44 × 210 mm
A1120196	DP-U-CON-2 2.0	-	single-link DVI and VGA	Desktop w. Rackmount-Kit	1	210 × 44 × 210 mm
A1120261	DVI-CON 3.0	-	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1120262	DVI-CON-2 3.0	-	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1120271	DVI-CON-2-Fiber(M) 3.0	-	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1120266	DVI-CON-2-Fiber(S) 3.0	-	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1120267	DVI-CON-2-Fiber(S+) 3.0	-	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1120263	DVI-CON-Fiber(M) 3.0	-	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1220223	DVI-CON-Fiber(M)-MC2 3.0	-	single-link DVI and VGA	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm
A1420228	DVI-CON-Fiber(M)-MC4 3.0	-	single-link DVI and VGA	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1120264	DVI-CON-Fiber(S) 3.0	-	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1220224	DVI-CON-Fiber(S)-MC2 3.0	-	single-link DVI and VGA	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm
A1420229	DVI-CON-Fiber(S)-MC4 3.0	-	single-link DVI and VGA	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1120265	DVI-CON-Fiber(S+) 3.0	-	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1220217	DVI-CON-Fiber(S+)-MC2 3.0	-	single-link DVI and VGA	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm

Console modules

Item numbers

Item no.	Description	USB 2.0	Video signal	Design	Video channels	Dimensions W × H × D):
A1420222	DVI-CON-Fiber(S+)-MC4 3.0	-	single-link DVI and VGA	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1220218	DVI-CON-MC2 3.0	-	single-link DVI and VGA	Desktop w. Rackmount-Kit	2	435 × 44 × 210 mm
A1420223	DVI-CON-MC4 3.0	-	single-link DVI and VGA	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1120255	DVI-CON-Video 3.0	-	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1120256	DVI-U-CON 3.0	USB 2.0	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1120257	DVI-U-CON-2 3.0	USB 2.0	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1120268	DVI-U-CON-2-Fiber(M) 3.0	USB 2.0	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1120269	DVI-U-CON-2-Fiber(S) 3.0	USB 2.0	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1120270	DVI-U-CON-2-Fiber(S+) 3.0	USB 2.0	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1120258	DVI-U-CON-Fiber(M) 3.0	USB 2.0	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1220219	DVI-U-CON-Fiber(M)-MC2 3.0	USB 2.0	single-link DVI and VGA	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm
A1420224	DVI-U-CON-Fiber(M)-MC4 3.0	USB 2.0	single-link DVI and VGA	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1120259	DVI-U-CON-Fiber(S) 3.0	USB 2.0	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1220220	DVI-U-CON-Fiber(S)-MC2 3.0	USB 2.0	single-link DVI and VGA	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm
A1420225	DVI-U-CON-Fiber(S)-MC4 3.0	USB 2.0	single-link DVI and VGA	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1120260	DVI-U-CON-Fiber(S+) 3.0	USB 2.0	single-link DVI and VGA	Desktop	1	210 × 44 × 210 mm
A1220221	DVI-U-CON-Fiber(S+)-MC2 3.0	USB 2.0	single-link DVI and VGA	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm
A1420226	DVI-U-CON-Fiber(S+)-MC4 3.0	USB 2.0	single-link DVI and VGA	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1220222	DVI-U-CON-MC2 3.0	USB 2.0	single-link DVI and VGA	Desktop w. Rackmount-Kit	2	270 × 44 × 210 mm
A1420227	DVI-U-CON-MC4 3.0	USB 2.0	single-link DVI and VGA	Desktop w. Rackmount-Kit	4	435 × 44 × 210 mm
A1120152	U2-AR-CON	USB 2.0	-	Konverter	0	105 × 26 × 104 mm
A1120151	U2-R-CON	USB 2.0	-	Konverter	0	105 × 26 × 104 mm

KVM matrix systems let you operate multiple computers from multiple workstations. The basic system consists of three components: the computer module, the central module and the user module.



Console modules

Power supply

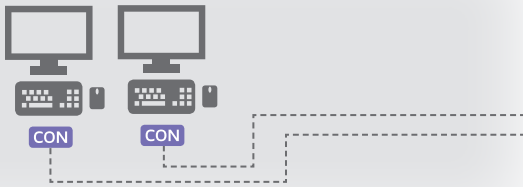
Item no.	Description	Main power supply Current consumption	Redundant power supply (optional) Current consumption:
A1120169	DP-CON 2.0	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.2 A
A1120197	DP-CON-2 2.0	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.2 A
A1120170	DP-HR-CON	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.1 A
A1120220	DP-HR-CON-2	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.2 A
A1120279	DP-HR-CON-2-DH	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.3 A
A1120221	DP-HR-CON-2-Fiber(M)	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.2 A
A1120272	DP-HR-CON-2-Fiber(M)-DH	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.3 A
A1120222	DP-HR-CON-2-Fiber(S)	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.2 A
A1120273	DP-HR-CON-2-Fiber(S)-DH	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.3 A
A1120223	DP-HR-CON-2-Fiber(S+)	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.2 A
A1120274	DP-HR-CON-2-Fiber(S+)-DH	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.3 A
A1120250	DP-HR-CON-DH	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.2A
A1120183	DP-HR-CON-Fiber(M)	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.2 A
A1120251	DP-HR-CON-Fiber(M)-DH	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.3A
A1120224	DP-HR-CON-Fiber(M)-MC2	100 - 240 VAC; 0.4 A - 0.2 A	12 VDC; 1.7A
A1120241	DP-HR-CON-Fiber(M)-MC4	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.7A
A1120184	DP-HR-CON-Fiber(S)	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.2 A
A1120252	DP-HR-CON-Fiber(S)-DH	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.3A
A1120225	DP-HR-CON-Fiber(S)-MC2	100 - 240 VAC; 0.4 A - 0.2 A	12 VDC; 1.7A
A1120240	DP-HR-CON-Fiber(S)-MC4	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.7A
A1120185	DP-HR-CON-Fiber(S+)	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.2 A
A1120253	DP-HR-CON-Fiber(S+)-DH	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.3A
A1120226	DP-HR-CON-Fiber(S+)-MC2	100 - 240 VAC; 0.4 A - 0.2 A	12 VDC; 1.7A
A1120227	DP-HR-CON-Fiber(S+)-MC4	100 - 240 VAC; 0.6 A - 0.3 A	412 VDC; 2.7A
A1120214	DP-HR-CON-MC2	100 - 240 VAC; 0.4 A - 0.2 A	12 VDC; 1.5A
A1120215	DP-HR-CON-MC4	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.4A
A1120171	DP-HR-U-CON	100 - 240 VAC; 0.5 A - 0.3 A	12 VDC; 2.2A
A1120217	DP-HR-U-CON-2	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.3 A
A1120275	DP-HR-U-CON-2-DH	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.4 A
A1120231	DP-HR-U-CON-2-Fiber(M)	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.4 A
A1120276	DP-HR-U-CON-2-Fiber(M)-DH	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.5 A
A1120232	DP-HR-U-CON-2-Fiber(S)	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.4 A
A1120277	DP-HR-U-CON-2-Fiber(S)-DH	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.5 A
A1120233	DP-HR-U-CON-2-Fiber(S+)	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.4 A
A1120278	DP-HR-U-CON-2-Fiber(S+)-DH	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.5 A
A1120246	DP-HR-U-CON-DH	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.4A
A1120186	DP-HR-U-CON-Fiber(M)	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.3 A
A1120247	DP-HR-U-CON-Fiber(M)-DH	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.4A
A1120234	DP-HR-U-CON-Fiber(M)-MC2	100 - 240 VAC; 0.7 A - 0.3 A	12 VDC; 2.8A
A1120237	DP-HR-U-CON-Fiber(M)-MC4	100 - 240 VAC; 0.6 A - 0.4 A	12 VDC; 3.8A
A1120181	DP-HR-U-CON-Fiber(S)	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.3 A

Console modules

Power supply

Item no.	Description	Main power supply Current consumption	Redundant power supply (optional) Current consumption:
A1120248	DP-HR-U-CON-Fiber(S)-DH	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.4A
A1120235	DP-HR-U-CON-Fiber(S)-MC2	100 - 240 VAC; 0.7 A - 0.3 A	12 VDC; 2.8A
A1120238	DP-HR-U-CON-Fiber(S)-MC4	100 - 240 VAC; 0.6 A - 0.4 A	12 VDC; 3.8A
A1120182	DP-HR-U-CON-Fiber(S+)	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.3 A
A1120249	DP-HR-U-CON-Fiber(S+)-DH	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.4A
A1120236	DP-HR-U-CON-Fiber(S+)-MC2	100 - 240 VAC; 0.7 A - 0.3 A	12 VDC; 3.8A
A1120239	DP-HR-U-CON-Fiber(S+)-MC4	100 - 240 VAC; 0.6 A - 0.4 A	12 VDC; 3.8A
A1120218	DP-HR-U-CON-MC2	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.6A
A1120219	DP-HR-U-CON-MC4	100 - 240 VAC; 0.6 A - 0.4 A	12 VDC; 3.5A
A1120172	DP-U-CON	100 - 240 VAC; 0.5 A - 0.3 A	12 VDC; 2.2 A
A1120196	DP-U-CON-2 2.0	100 - 240 VAC; 0.5 A - 0.3 A	12 VDC; 2.2 A
A1120261	DVI-CON 3.0	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.2 A
A1120262	DVI-CON-2 3.0	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.1 A
A1120271	DVI-CON-2-Fiber(M) 3.0	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.1 A
A1120266	DVI-CON-2-Fiber(S) 3.0	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.1 A
A1120267	DVI-CON-2-Fiber(S+) 3.0	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.1 A
A1120263	DVI-CON-Fiber(M) 3.0	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.1 A
A1220223	DVI-CON-Fiber(M)-MC2 3.0	100 - 240 VAC; 0.4 A - 0.2 A	12 VDC; 1.6A
A1420228	DVI-CON-Fiber(M)-MC4 3.0	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.6A
A1120264	DVI-CON-Fiber(S) 3.0	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.1 A
A1220224	DVI-CON-Fiber(S)-MC2 3.0	100 - 240 VAC; 0.4 A - 0.2 A	12 VDC; 1.6A
A1420229	DVI-CON-Fiber(S)-MC4 3.0	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.6A
A1120265	DVI-CON-Fiber(S+) 3.0	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.1 A
A1220217	DVI-CON-Fiber(S+)-MC2 3.0	100 - 240 VAC; 0.4 A - 0.2 A	12 VDC; 1.6A
A1420222	DVI-CON-Fiber(S+)-MC4 3.0	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.6A
A1220218	DVI-CON-MC2 3.0	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 1.3A
A1420223	DVI-CON-MC4 3.0	100 - 240 VAC; 0.5 A - 0.3 A	12 VDC; 2.0A
A1120255	DVI-CON-Video 3.0	100 - 240 VAC; 0.3 A - 0.2 A	12 VDC; 0.9 A
A1120256	DVI-U-CON 3.0	100 - 240 VAC; 0.4 A - 0.2 A	12 VDC; 2.0 A
A1120257	DVI-U-CON-2 3.0	100 - 240 VAC; 0.5 A - 0.3 A	12 VDC; 2.2 A
A1120268	DVI-U-CON-2-Fiber(M) 3.0	100 - 240 VAC; 0.3 A - 0.2A	12 VDC; 1.1 A
A1120269	DVI-U-CON-2-Fiber(S) 3.0	100 - 240 VAC; 0.3 A - 0.2A	12 VDC; 1.1 A
A1120270	DVI-U-CON-2-Fiber(S+) 3.0	100 - 240 VAC; 0.3 A - 0.2A	12 VDC; 1.1 A
A1120258	DVI-U-CON-Fiber(M) 3.0	100 - 240 VAC; 0.5 A - 0.3 A	12 VDC; 2.2 A
A1220219	DVI-U-CON-Fiber(M)-MC2 3.0	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.6A
A1420224	DVI-U-CON-Fiber(M)-MC4 3.0	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 3.5A
A1120259	DVI-U-CON-Fiber(S) 3.0	100 - 240 VAC; 0.5 A - 0.3 A	12 VDC; 2.2 A
A1220220	DVI-U-CON-Fiber(S)-MC2 3.0	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.6A
A1420225	DVI-U-CON-Fiber(S)-MC4 3.0	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 3.5A
A1120260	DVI-U-CON-Fiber(S+) 3.0	100 - 240 VAC; 0.5 A - 0.3 A	12 VDC; 2.2 A
A1220221	DVI-U-CON-Fiber(S+)-MC2 3.0	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.6A

KVM matrix systems let you operate multiple computers from multiple workstations. The basic system consists of three components: the computer module, the central module and the user module.



Console modules

Power supply

Item no.	Description	Main power supply Current consumption	Redundant power supply (optional) Current consumption:
A1420226	DVI-U-CON-Fiber(S+)-MC4 3.0	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 3.5A
A1220222	DVI-U-CON-MC2 3.0	100 - 240 VAC; 0.5 A - 0.3 A	12 VDC; 2.2A
A1420227	DVI-U-CON-MC4 3.0	100 - 240 VAC; 0.6 A - 0.3 A	12 VDC; 2.9A
A1120152	U2-AR-CON	12 VDC/1,5 A	-
A1120151	U2-R-CON	12 VDC/1,5 A	-

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