

DVI KVM Matrix Switches

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Matrix Switches for the simultaneous operation of multiple computers via several consoles

DVICenter 7.1



Leading the way in digital KVM



Leading the Way in digital KVM

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

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

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

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

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

The System

Thanks to its **16, 32 or 64 dynamic ports**, the KVM matrix switch DVICenter connects multiple number of computers and consoles.

Example: A system consisting of 6 consoles & 58 computers can be expanded to up to **4,738 computers**.

A working system consists of at least:

- 1 x central module DVICenter DP16/32/64
- 1 x computer module DVI-CPU
- 1 x user module DVI-CON
- 2 x CAT transmission cable (type 5e, 6, 7)

The DVICenter switches the following signals:

- keyboard/mouse [PS/2 and USB]
- video [DVI single-Link]
- audio bidirectional
- RS232 & USB 2.0 transparent

The DVICenter is available as DP16, DP32 and DP64 variant.



Highlights / System

Video

- switch and extender combined in one system
- HDIP (High Dynamic Image Processing) for highest video quality
- transmission up to 140 m over CAT cable at maximum resolution between all modules

Signals

- switches bidirectional audio signals
- supports PS/2 and USB keyboard/mouse
- RS232 & USB 2.0 transparent

Expansion

- expandable to up to 6,750 computers or 62 consoles
- expandable with power-switching component
- increases the system range to up to 10,000 m over fibre optics
- firmware expansion for multi-monitor consoles (TS function)
- firmware expansion for moving/getting own or external screen contents (Push-Get function)
- firmware expansion for preparing the switching over network (IP-Control-API)
- expansion of the user range: access to computer over multiple DVICenter-Cluster due to Dynamic-UserCenter32

DynamicPorts

- The DVICenter dynamic ports can be configured as computer or user port
- freely configurable number of computer and user ports

Network / Communication

- access protection and user administration can be switched off
- auto-recognition and visualization of the system structure
- two network ports
- configuration over web interface
- central update of all DVICenter components over network
- text-based media control over TCP/IP e.g. AXM and Crestron
- also available as 12V or 24V variant

Safety

- failover connection (in the unlikely event that the central modules should fail, you can directly connect DVI-CPU and DVI-CON to operate the system; max. distance up to 140m).
- support of external authentication via LDAP, Active Directory, TACACS+, Radius
- redundant power supply

Highlights Monitoring / SNMP

Function: receive DVICenter status info
Operation via: web interface/SNMP
Sphere of effectiveness: 1 cluster

The DC-Monitoring feature enables you to detect the system status of G&D devices.

The web interface provides information that can be sent (SNMP trap) or queried (via SNMP GET) as well.

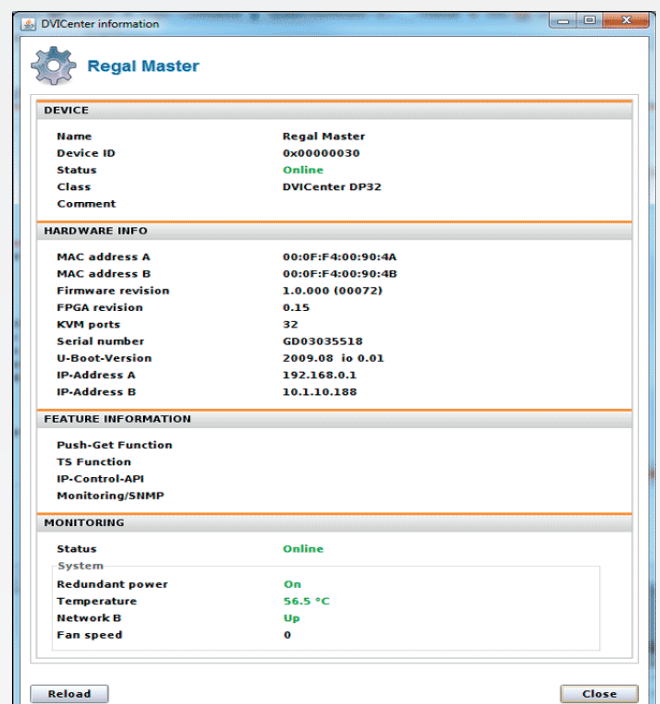
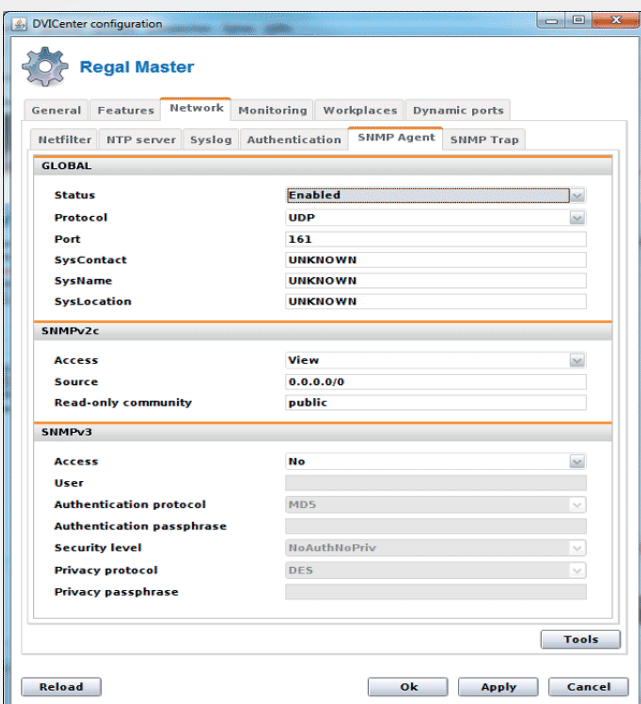
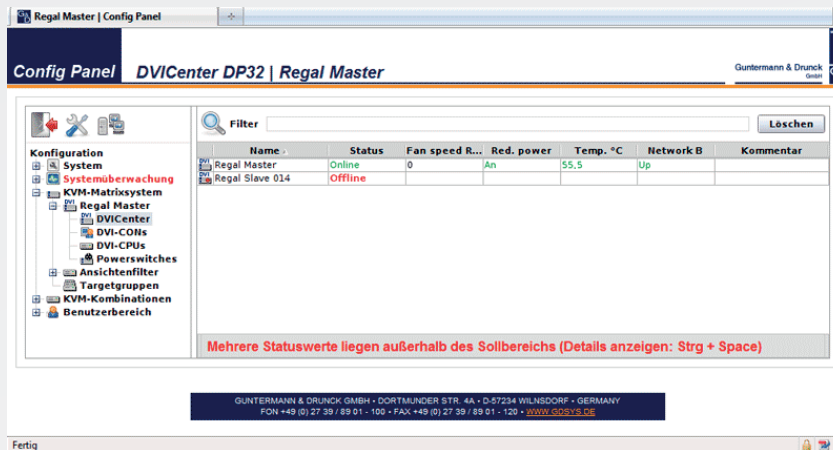
Both monitoring function and SNMP trap and agent are included in the scope of supply.

The information section shows the device configuration settings and the detected status values.

Among others, the following status values can be monitored:

- device main power supply
- device redundant power supply
- device temperature

Status changes (e.g. power on/off) and exceeding defined threshold values (e.g. temperatures) highlight these values in red in the web interface. The administrator will also be notified based on predefined network parameters.



Features

Video

- DVI video resolution up to 1920 × 1200 @ 60 Hz (at user modules also VGA 1280 × 1024 @ 85 Hz)
- 24 bit colour depth
- E-DDC support
- automatic video adjustment
- maximum transmission distance up to 560m:
 - computer module to central module 140 m
 - central module to user module 140 m
 - central module to other central modules (up to 2 ×) 140 m

Audio

- bidirectional transmission of audio signals
- resolution 24 bits digital
- bandwidth 22 kHz / refresh rate 96 kHz

Device

- accessing computer standard interfaces
- no software installation required
- available as desktop and 19" variant
- aluminium casing for best possible protection against interferences
- redundant power supply
- hot pluggable system components
- stay-alive function for computers
- optional integration of power switches (Hardboot CCX)

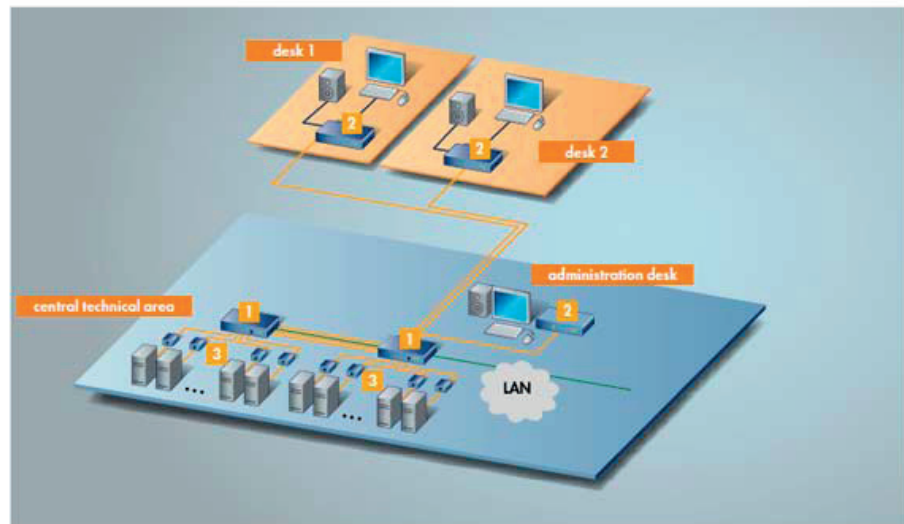
Use

Thanks to its dynamic ports the DVICenter can be applied in applications where multiple computers are operated over multiple simultaneous consoles.

Quantitative and functional adjustments are easily carried out within the modular system design meeting expansion requirements. The system is for example used in control centres, OB vans and studios.

Application scheme

- 1 DVICenter DP32
- 2 DVI-CON
- 3 DVI-CPU



Example: The computers are housed in a central control room, separated from the users. In the technical area, an administration console allows the administrator to operate the computers. The desks can be provided with both digital and analog monitors. Two DVICenter DP32 (1 x master, 1 x slave) connect the user modules and the computer. A dedicated CAT-x link integrates the productive workplaces into the operational concept (DVI-CON) where they

work on the computers like a 1:1 connection. The DVICenter DP32 can be integrated into the network for configuring the device via web interface, sending messages to a Syslog server or using directory services. Each user module can access every computer. Flexible operation concepts can be implemented, which creates perfect conditions for both users and computers.

Variants

Design

The DVICenter is shipped as desktop device.

The package contains a 19" rack mount set.

DVICenter DP16



right: DVICenter DP16 - front view
DVICenter DP16 - rear view

	DVICenter DP16
Console	
Type of console ports	Dynamic
Console ports per device	Min. 1 - max. 15
Transmission type user module	Dedicated CAT-x link
Transmission length to user module	140 m
Interfaces for user modules	RJ45 sockets
Network port	2 x RJ45 socket
Computer	
Type of computer ports	Dynamic
Computer ports	Min. 1 - max. 15
Computer ports cascade level 1	Min. 11 - max. 225
Computer ports cascade level 2	Min. 13 - max. 686
Transmission length between cascades	140 m
Transmission type to computer module	Dedicated CAT-x link
Transmission length to computer module	140 m
Interfaces to computer module	RJ45 sockets
Main power supply	
Type	Internal power pack
Connection	1 x IEC plug
Voltage	AC100-240V/60-50Hz
	0,4A - 0,2A
Redundant power supply	
Type	Internal power pack
Connection	1 x IEC plug
Voltage	AC100-240V/60-50Hz
	0,4A - 0,2A
Housing	
Casing	Anodised aluminium
Desktop (W x H x D)	435 x 44 x 286 mm
Rackmount (W x H x D)	19" x 1U x 286 mm
Weight	Approx. 3.0 kg
Update	
Process	Via web interface
Connection	Via network port
Power Switching	
Interface	RJ11 socket
Operating conditions	
Temperature	+5 to +45 °C
Humidity	< 85% non-condensing
Conformity	CE, RoHs

DVICenter DP32



left: DVICenter DP32 - front view
right: DVICenter DP32 - rear view

DVICenter DP32	
Console	
Type of console ports	Dynamic
Console ports per device	Min. 1 - max. 31
Transmission type user module	Dedicated CAT-x link
Transmission length to user module	140 m
Interfaces for user modules	RJ45 sockets
Network port	2 x RJ45 socket
Computer	
Type of computer ports	Dynamic
Computer ports	Min. 1 - max. 31
Computer ports cascade level 1	Min. 19 - max. 961
Computer ports cascade level 2	Min. 21 - max. 6,750
Transmission length between cascades	140 m
Transmission type to computer module	Dedicated CAT-x link
Transmission length to computer module	140 m
Interfaces to computer module	RJ45 sockets
Main power supply	
Type	Internal power pack
Connection	1 x IEC plug
Voltage	AC100-240V/60-50Hz
	0,8A - 0,3A
Redundant power supply	
Type	Internal power pack
Connection	1 x IEC plug
Voltage	AC100-240V/60-50Hz
	0,8A - 0,3A
Housing	
Casing	Anodised aluminium
Desktop (W x H x D)	435 x 44 x 286 mm
Rackmount (W x H x D)	19" x 1U x 286 mm
Weight	Approx. 3.0 kg
Update	
Mode	Via web interface
Connection	Via network port
Power Switching	
Interface	RJ11 socket
Operating conditions	
Temperature	+5 to +45 °C
Humidity	< 85% non-condensing
Conformity	CE, RoHs

DVICenter DP64



left: DVICenter DP64 - front view
right: DVICenter DP64 - rear view



	DVICenter DP64
Console	
Type of console ports	Dynamic
Console ports per device	Min. 1 - max. 63
Transmission type user module	Dedicated CAT-x link
Transmission length to user module	140 m
Interfaces for user modules	RJ45 sockets
Network port	2 x RJ45 socket
Computer	
Type of computer ports	Dynamic
Computer ports	Min. 1 - max. 63
Computer ports cascade level 1	Min. 35 - max. 3,696
Computer ports cascade level 2	Min. 37 - max. 4,738
Transmission length between cascades	140 m
Transmission type to computer module	Dedicated CAT-x link
Transmission length to computer module	140 m
Interfaces to computer module	RJ45 sockets
Main power supply	
Type	Internal power pack
Connection	1 x IEC plug
Voltage	AC100-240V/60-50Hz
	1.5A - 0.6A
Redundant power supply	
Type	Internal power pack
Connection	1 x IEC plug
Voltage	AC100-240V/60-50Hz
	1.5A - 0.6A
Housing	
Casing	Anodised aluminium
Desktop (W x H x D)	435 x 88 x 284.5 mm
Rackmount (W x H x D)	19" x 2U x 284.5 mm
Weight	Approx. 4.0 kg
Update	
Mode	Via web interface or Config Panel
Connection	Via network port
Power Switching	
Interface	RJ11 socket
Operating conditions	
Temperature	+5 to +35 °C
Humidity	< 80% non-condensing
Conformity	CE, RoHs

Computer modules

The **DVI-CPU computer modules** link external keyboard, video, mouse, and audio interfaces to the DVICenter system.

The DVI-CPU's combine signals, process them and use CAT cables to transmit the signals to the KVM matrix switch.

Any DVI-CPU has a unique ID that helps identify the device within a DVICenter system.

We provide the following DVI-CPU variants:



DVI-CPU - front view

DVI-CPU

Standard variant transmitting the following signals:

- single-link DVI-D
- PS/2 + USB keyboard/mouse
- Audio (Line In / Line Out)
-

The DVI-CPU-**Wintu3** and **-Wintu4** versions supports the communication with Wacom Intuos3 or 4[®] tablets.

The DVI-CPU is also available without a supplied AC adapter.

Order the MultiPower-12 if the computer modules have to be supplied with power from a central source. The MultiPower-12 functions as a central and external power supply for up to 12 computer modules (DVI-CPU).

Installation:

We provide **19" rack mount solutions** facilitating the installation of DVI-CPU computer modules into a server rack. The rack solutions are listed under KVM Accessories.

DVI-CPU-UC

Dual module for connecting a computer to two DVICenter clusters transmitting the following signals:

- single-link DVI-D
- PS/2 + USB keyboard/mouse
- Audio (Line In / Line Out)

DVI-CPU-Wintu3 variants support the communication with Wacom Intuos3[®] tablets.

Installation:

We provide three different 19" Device Carrier rack mount solutions. The DeviceCarriers and other rack mount solutions are listed under KVM Accessories.

DVI-CPU



left: DVI-CPU - front view
right: DVI-CPU-UC - front view

	DVI-CPU	DVI-CPU-UC
Video		
Signal type/Video	single-link DVI-D	
Resolution	1920 x 1200 @ 60 Hz	
Colour depth	24 bits	
Audio		
Resolution	24 bits digital	
Refresh rate	96 kHz	
Bandwidth	22 kHz	
Transmission		
No. of interfaces to central module	1	2
Transmission type	dedicated 1:1 connection via CAT-x cable	
Transmission length	140 m to central module	
Power supply		
Main Type	via external power pack	
Connection	Mini-DIN 4 socket	
Voltage	+12VDC / 500mA	+12VDC / 600mA
Interfaces to computer		
Video	DVI-D socket	
Keyb./Mouse	2 x Mini-DIN 6 socket/1 x USB-B socket	
Audio	2 x 3.5mm jack socket	
Other interfaces		
Connection for central module	1 x RJ45 socket	2 x RJ45socket
Service	Mini-USB-B socket	
Update		
Mode	via DVICenter Config panel	
Connection DVICenter	via network	
Connection DVI-CPU	via DVICenter system cabling	
Casing		
Total length incl. cable	approx. 2 m	
Material	anodised aluminium	
Design	tube mini housing	
Dimensions (WxHxD)	105 x 26 x 104 mm	
Weight	approx. 240 g	
Operating conditions		
Temperature	+5 to +45 °C	
Humidity	< 85% non-condensing	
Conformity	CE, RoHs	

User module

The DVI-CON connects the user consoles to the system.

CAT cabling connects the DVI-CON with the DVICenter. The DVI-CON provide the required interfaces for the following peripherals: monitor, keyboard, mouse, speakers and microphone.

The video output of the DVI-CON (DVI-I interface) also provides a VGA video signal. The output can be used to connect a VGA monitor.



DVI-CON - front view

DVI-CON

Application

- remote console
- operates the DVICenter from distances up to 140 metres

Signals

- single-link DVI-I video
- PS/2 + USB keyboard/mouse
- audio (speakers / Line In)

Operation

- select computers via OSD or hotkeys
- configuration via OSD or web interface of the DVICenter
- supports TradeSwitch function and Push-Get function

Design

- desktop or rack mount variant
- twin variant (two devices housed in one 19" casing, shipped as desktop version incl. rack mount kit)

DVI-CON



DVI-CON - rear view

	DVI-CON
Console	
Consoles	1
Assigned console ports at central module	1
Video	
Signal type/Video	DVI single-link
Resolution DVI / VGA	1920 x 1200 @ 60Hz
	1280 x 1024 @ 85Hz
Audio	
Design	internal
Refresh rate	96 kHz
Resolution	24 bit digital
Bandwidth	22 kHz
Transmission	
Cabling	dedicated CAT-x connection
Transmission cable	CAT-x cable
Transmission length	140 m
Connection	RJ45 socket
Interfaces for console	
Video	DVI-I socket
Keyboard/Mouse	2 x Mini-DIN 6 socket
	2 x USB-A socket
Audio	2 x 3.5 mm jack socket
TradeSwitch-LED	D-Sub 9 socket
Main power supply	
Type	internal power pack
Connection	1 x IEC plug
Voltage	AC100-240V/60-50Hz, 0.4-0.2A
Redundant power supply	
Type	external power pack
Connection	Mini-DIN 4 socket
Voltage	+12VDC/1.2A
Housing	
Material	anodised aluminium
Desktop (W x H x D)	210 x 44 x 210 mm
Rackmount (W x H x D)	19" x 1U x 210 mm
Weight	approx. 1.3 kg
Update	
Mode	via DVIcenter Config panel
Connection DVIcenter	via network
Connection DVI-CON	via DVIcenter system cabling
Operating conditions	
Temperature	+5 to +45 °C
Humidity	below 85%, non-condensing
Conformity	CE, RoHs

U2-R-CPU

In combination with the relevant DVICenter components the **U2-R-CPU** computer modules link external **USB 2.0 and RS232** interfaces to the DVICenter system.

A U2-R-CPU module combines and processes USB2.0 and RS232 signals. Via CAT cabling they are then transmitted to the KVM matrix switch.

The transmission of the signals takes place transparently. The maximum distance between the U2-R CPU module and the KVM matrix switch can be up to 140 meters.

The U2-R-CPU are distributed including external power pack.

Standard variant transmitting the following signals:

- USB 2.0
- RS232

Application

CPU module for connecting external USB2.0 and RS232 interfaces to DVICenter.



U2-R-CPU - front view

Mounting

19" rack mount solutions are available for optimized mounting of the U2-R-CON modules. You can find them in KVM Accessories.

Operating / Updates:

System upgrades can be managed over wizard at service socket (Mini USB TypB).

U2-R-CON

Peripherals on the remote user console can be connected with the DVICenter via the U2-R-CON module. The module is connected via CAT cable to the KVM matrix switch.

Application

- remote user console
- operates peripherals with USB2.0 and RS232
- interfaces over distances up to 140 metres to the DVICenter

Signals

- USB 2.0
- RS232

Mounting

- For the optimized mounting of the U2-R-CON are 19"-Rackmount solutions available. You can find them in KVM Accessories.



U2-R-CON - rear view

U2-R-CPU



left: U2-R-CPU - rear view
right: U2-R-CPU - front view

	U2-R-CPU
USB 2.0	
Transfer type	transparent
Transfer rate	up to 480 MBit/s
RS232	
Signal type	transparent
Type	RS232-C
Resolution	max. 115.200 bit/s
Signals	RxD, TxD, RTS, CTS, DTR, DSR, DCD
Transmission	
Cabling	dedicated CAT-x connection
Transmission cable	CAT-x cable
Transmission length	140 m
Connection	RJ45 socket
Interfaces to computer	
USB 2.0	USB-B socket
RS232	9 pol. Sub-D socket
more interfaces	
Connector for central module	RJ45 socket
RS232	9 pol. Sub-D socket
Power supply	
Type	external power pack
Connection	Mini-DIN 4 socket
Voltage	AC100-240V/60-50Hz, 300mA
Casing	
Material	anodised aluminium
Design	Tubus casing
Desktop (W x H x D)	105 x 26 x 104 mm
Weight	approx. 240 g
Update	
Mode	via Wizard
Connection	via service socket
Operating conditions	
Temperature	+5 to +45 °C
Humidity	below 80%, non-condensing
Conformity	CE, RoHs

U2-R-CON



left: U2-R-CON - front view
right: U2-R-CON - rear view

	U2-R-CON
Console	
Consoles	1
Assigned console ports at central module	1
USB 2.0	
Transfer type	transparent
Transfer rate	up to 480 MBit/s
Support	high power devices (500mA)
RS232	
Signal type	transparent
Type	RS232-C
Transmission rate	max. 115.200 bit/s
Signals	RxD, TxD, RTS, CTS, DTR, DSR, DCD
Transmission	
Cabling	dedicated CAT-x connection
Transmission cable	CAT-x cable
Transmission length	140 m
Connection	RJ45 socket
Interfaces for console	
USB 2.0	4 x USB-A socket
RS232	1 x 9 pol. Sub-D plug
Power supply	
Type	external power pack
Connection	Mini-DIN 4 socket
Voltage	+12V DC, 1.3A
Casing	
Material	anodised aluminium
Design	Tubus casing
Desktop (W x H x D)	105 x 26 x 104 mm
Weight	approx. 240 g
Update	
Mode	via wizard
Connection	via service socket
Operating conditions	
Temperature	+5 to +40 °C
Humidity	below 80%, non-condensing
Conformity	CE, RoHs

Operation & Configuration

The DVICenter system is operated/configured via:

- OSD & hotkeys
- web interface (ConfigPanel)

Both OSD and hotkeys are available at all DVI-CON user modules; the web interface can be accessed from any console that is connected to the network. The configuration can be performed via web interface or OSD. All configurations are systemwide available. This ensures quick and easy operation.

OSD

The OSD enables you to operate and configure the DVICenter independently from any network. The DVI-CON modules provide the OSD at all user consoles. The OSD only covers the currently visible screen content partially - not fully.

The OSD complies with the individual user requirements and/or your internal 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)

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 having simultaneous access to one and the same computer

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 information display (computer & user console name) for easy navigation
- create groups for effective access management
- select 3 scan modes to auto-scan the connected computers
- show computer routing – even over cascades

Power-Switching

- switch the computer's power supply (requires additional hardware)

System info

- recognise 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 TradeSwitch module)
- firmware/OSD updates via corresponding interfaces

Configuration	Console 1
User	
User group	
Target	
Target group	
View filter	
EDID	
Console	
Cascade	
System	
Power switch	
Network	
ESC: Select	F9 : Operation
F10 : Pers.Profile	F12 : Info

Operation	Console 1
A - Autoscan	
B - Autoskip	
C - Stepscan	
D - Disconnect	
E - User Logout	
F - Mouse utility	
G - Return to last target	
H - Target info	off
I - Target power	
ESC: Select	F10 : Pers.Profile
F11 : Config	F12 : Info

Web-Interface

The „Config Panel“ web application offers a graphical user interface to configure the DVICenter.

The clearly organized 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 parameter
- 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

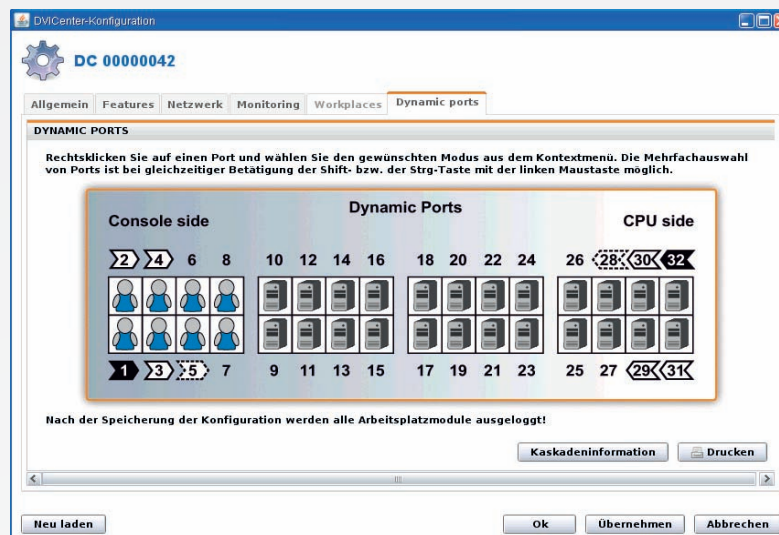
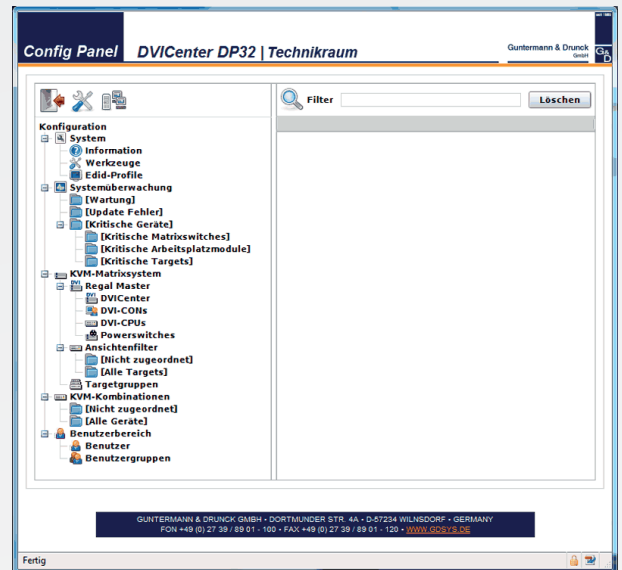
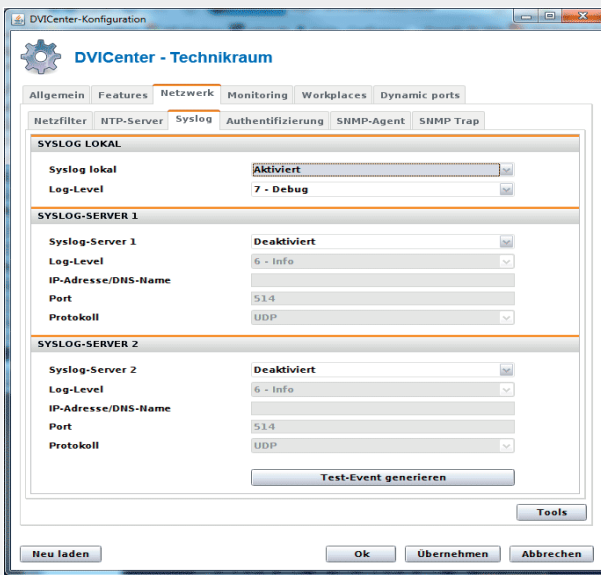
- name, hotkeys etc.
- activation of communication modules
- network settings

User module configuration

- name
- cascade information
- console type
- special keyboard

Computer configuration

- configuration of the computer module



Hardware / Expansion

The hardware components are connected to the DVICenter and fully integrated into operation. This way e.g. the power-switching can be carried out in the OSD.

The user range can be increased by using the computer modules DVI-CPU-UC.

Through installation of the Dynamic UserCenter32 several computers can be accessed from multiple DVICenter clusters.

We provide the following hardware expansions:

- remote power-switching with HardBoot CCX
- increase the number of computers by cascading with other DVICenters
- double the number of consoles with the DVI-CPU-UC computer modules (also applicable for backup systems/ mirrored systems)
- increase the system's range up to 10,000 m by integrating a fibre optics line (DVI-FiberLink)
- access to computers from multiple DVICenter-Clusters by using Dynamic-UserCenter32

Power Switch

The HardBoot CCX is especially designed to be operated with G&D matrix switches. It enables the user 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 DVICenter and operated via the DVICenter's OSD.

For more information on the HardBoot, please visit Power Switches



HardBoot plus

more Consoles

The DVI-CPU-UC devices allow you to connect more consoles **than ports provided at the device**.

Use **DVI-CPU-UC modules** instead of the usual DVI-CPU computer modules to increase the number of consoles or to establish a redundant system.

Using a **second RJ-45 socket**, the DVI-CPU-UC module **doubles** the keyboard, video, mouse, and audio **interfaces** to the DVICenter. Thus, a computer can be connected to two DVICenter clusters. Combining the DVI clusters with the corresponding central and user modules increases the number of consoles.

This requires:

- 1 x computer module DVI-CPU-UC per computer
- + number of DVI-CON modules according to the number of additional consoles
- + DVICenter DP32 according to the number in cluster 1

Details regarding the DVI-CPU-UC are given in the section Computer modules.



DVI-CPU-UC - rear view

Hardware / Expansion: Dynamic-UserCenter32

Dynamic-UserCenter32

The Dynamic UserCenter allows you to access multiple computers via several DVICenter clusters. This way the Dynamic-UserCenter expands the user range of the DVICenter.

For example:

When configuring the Dynamic-UserCenter with

- 1 CPU you can operate this computer via up to 31 simultaneous DVICenter-Clusters
- 4 CPUs you can access those computers over 7 simultaneous DVICenter-Cluster

Thus, the number of users can be increased significant.

Coming soon!



Dynamic-UserCenter32 - rear view

Highlights/System

The Dynamic UserCenter is a supporting module for the DVICenter Series and can be used to realize large installations. The product offers 32 dynamic ports, which can be freely configured as computer or user port by web interface.

System Features

- Centralised configuration of the dynamic ports (cluster / CPUs) via web interface
- Hot plug und hot swap capability
- Finder-LED on the front and back side

Design

The Dynamic-UserCenter is shipped as desktop device. The package contents contain a 19" rack mount set.

Network / Communication / Security

- Redundant power supply
- Monitoring function integrated
- SNMP-Trap & -Agent support
- Syslog message output
- Backup and Restore of device configuration via web-interface

Capacity

CPU	Cluster-Ports	Capacity of Cluster
1	31	31
2	30	15
3	29	9
4	28	7
5	27	5
6	26	4
7	25	3
8	24	3
9	23	2
10	22	2

Dynamic-UserCenter32



left: Dynamic-UserCenter32 - front view
right: Dynamic-UserCenter32 - rear view

	Dynamic-UserCenter32
Cluster	
Type of cluster ports	Dynamic
Cluster ports per device	min. 2 - max. 31
Transmission type computer module	Dedicated CAT-x link
Transmission length to user module	140 m
Interfaces for clusters	RJ45 sockets
Computer	
Type of computer ports	Dynamic
Computer ports	min. 1 - max. 10
Transmission type to computer module	Dedicated CAT-x link
Transmission length to computer module	140 m
Interfaces to computer module	RJ45 sockets
Main power supply	
Type	Internal power pack
Connection	1 x IEC plug
Voltage	AC100-240V/60-50Hz
	0,8A - 0,3A
Redundant power supply	
Type	Internal power pack
Connection	1 x IEC plug
Voltage	AC100-240V/60-50Hz
	0,8A - 0,3A
Casing	
Material	Anodised aluminium
Desktop (W x H x D)	435 x 44 x 211 mm
Rackmount (W x H x D)	19" x 1HE x 211 mm
Weight	Approx. 4.0 kg
Update	
Mode	Via network
Power Switching	
Interface	RJ11 socket
Operating conditions	
Temperature	+5 to +40 °C
Humidity	< 80% non-condensing
Conformity	CE, RoHS

more Computers

When **cascaded into three levels**, the DVICenter DP32 system increases 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.

Cascading allows for an **additional transmission distance of 140 m** per DVICenter DP32. When fully cascaded, the distance from computer through to the cascaded central modules up to the user module can be up to 560 m.

How to read the following table (e.g. the row „2 Console ports“)

When configuring the DVICenter with

- **2 console ports and 30 computer ports** (stand-alone)
- you can operate **450** computers via 2 simultaneous consoles in the first cascade. This requires **16** DVICenters.

The first DVICenter provides no ports for connecting computers. Its 30 computer ports transmit $15 \times 2 = 30$ console accesses to the 15 DVICenters of the first cascade level.

DP32

Stand-Alone		1 Cascade		2 Cascade	
Console Ports	Computer Ports	No. of Computers	No. of DVICenter	No. of Computers	No. of DVICenter
1	31	961	32	--	--
2	30	450	16	6.750	241
3	29	263	10	2.396	91
4	28	196	8	1.372	57
5	27	137	6	687	31
6	26	106	5	426	21
7	25	79	4	241	13
8	24	72	4	216	13
9	23	51	3	107	7
10	22	46	3	94	7
11	21	31	2	41	3
12	20	28	2	36	3
13	19	25	2	31	3
14	18	22	2	26	3
15	17	19	2	21	3
16	16	--	--	--	--

DP16

Stand-Alone		1 Cascade		2 Cascade	
Console Ports	Computer Ports	No. of Computers	No. of DVICenter	No. of Computers	No. of DVICenter
1	15	225	16	--	--
2	14	98	8	686	57
3	13	53	5	213	21
4	12	36	4	108	13
5	11	23	3	47	7
6	10	14	2	18	3
7	9	11	2	13	3
8	8	--	--	--	--

DP64

Stand-Alone		1 Cascade		2 Cascade	
Console Ports	Computer Ports	No. of Computers	No. of DVICenter	No. of Computers	No. of DVICenter
1	63	3696	64	--	--
2	62	1922	32	--	--
3	61	1221	21	--	--
4	60	900	16	--	--
5	59	653	12	--	--
6	58	526	10	4738	91
7	57	457	9	3657	73
8	56	392	8	2744	43
9	55	331	7	1987	43
10	54	274	6	1374	31
11	53	221	5	893	21
12	52	212	5	852	21
13	51	165	4	507	13
14	50	158	4	482	13
15	49	151	4	457	13
16	48	144	4	432	13
17	47	107	3	227	7
18	46	102	3	214	7
19	45	97	3	201	7
20	44	92	3	188	7
21	43	87	3	175	7
22	42	62	2	82	3
23	41	59	2	77	3
24	40	56	2	72	3
25	39	53	2	67	3
26	38	50	2	62	3
27	37	47	2	57	3
28	36	44	2	52	3
29	35	41	2	47	3
30	34	38	2	42	3
31	33	35	2	37	3
32	32	--	--	--	--

more Range

The DVI-FiberLink increases the system range within a DVICenter cluster to up to 10,000 m. The 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 DVICenter module. One pair of DVI-FiberLink devices extends one access (console).

Installation:

We provide **19" rack mount solutions** for easily installing a DVI-FiberLink(S) into a server rack. The solutions are listed under KVM Accessories.



DVI-FiberLink(S) - rear view

DVI-FiberLink



left: DVI-FiberLink(S) - front view
 right: DVI-FiberLink(S) - rear view

	DVI-FiberLink(S)	DVI-FiberLink(M)
Main power supply	external power pack	
Type	Mini-DIN 4 power socket	
Connection	+12VDC/0.3A	
Voltage	yes	
Power loop support	dedicated 1:1 CAT link	
Transmission CAT side	1 x RJ45 socket	
Transmission mode	1 CAT-x cable	
Interface	up to 140 m	
Transmission fiber side	cross-over 1:1 fiber connection	
Transmission mode	1 x LC duplex socket	
Interface	2 single-mode fiber optic strands	2 multi-mode fibre optic strands
Transmission cable	10,000 m (9/125 µm, 2,000 MHz*km, OS1)	550 m (50/125 µm, 500 MHz*km, OM2)
Transmission length		275 m (62.5/125 µm, 200 MHz*km, OM1)
		220 m (62.5/125 µm, 160 MHz*km, FDDI grade)
Casing	anodised aluminium	
Material	105 x 26 x 86 mm	
Desktop (W x H x D)	see KVM Accessories/19" Device Carrier	
Rackmount	approx. 240 g	
Weight	via wizard	
Update	1 x Mini-USB-B socket	
Mode	Operating conditions	
Connection	Temperature	
Operating conditions	Humidity	
Temperature	Conformity	
Humidity	CE, RoHs	
Conformity		

Firmware / Expansion

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

We provide the following firmware expansions:

- TradeSwitch function
(turn multiple DVI-CONs into a multi-monitor console, and operate this console through only one keyboard/mouse)

- Push-Get function
(push the image and/or operation of your console to another DVI-CON or get the image from there)
- IP-Control-API
(use a third-party program to build an interface for switching/operating the DVICenter over network)

TS-Function

Function: DVI-CON pooling

Operation: via hotkeys

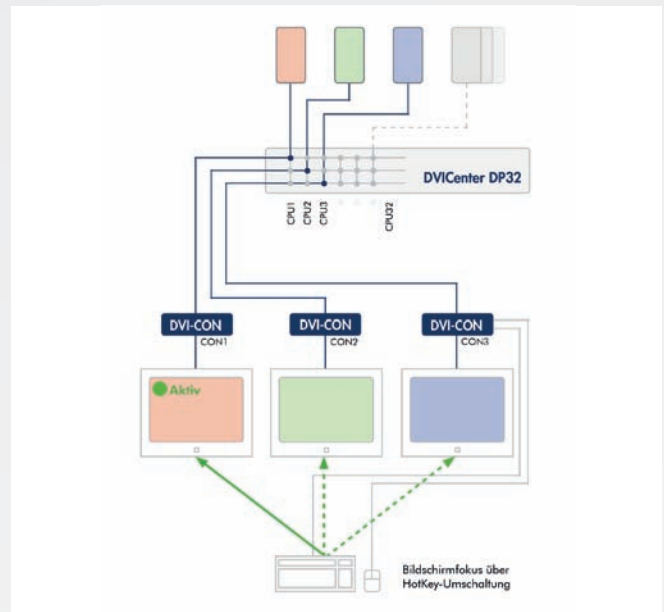
Operating requirement: activation within master

Efficiency: 1 cluster

The TradeSwitch function combines multiple user modules (DVI-CON) into 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.



Push-Get

Function: DVI-CON interaction

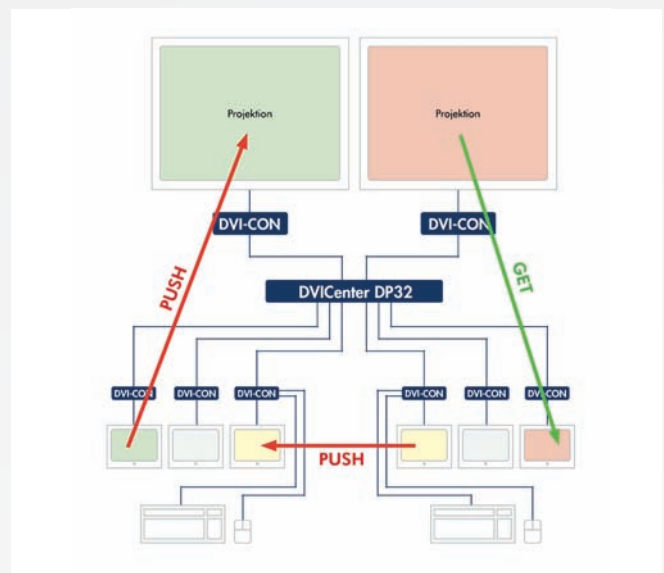
Operation via: OSD

Operating requirement: activation within master

Efficiency: 1 cluster

The Push-Get function allows you to push the image of a target to - 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 to work together on a common task.



IP-Control

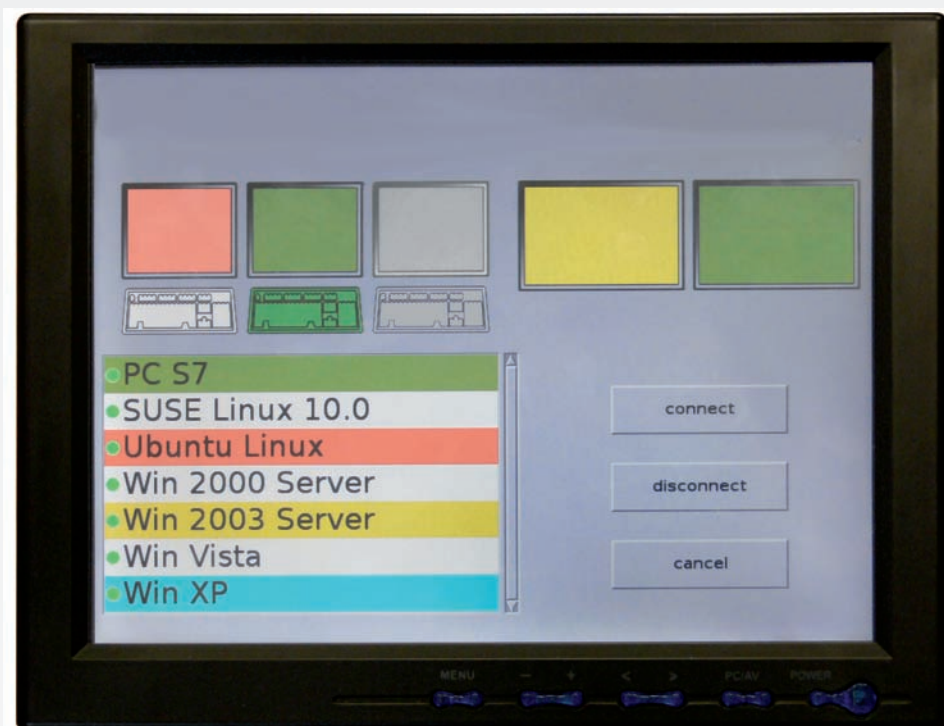
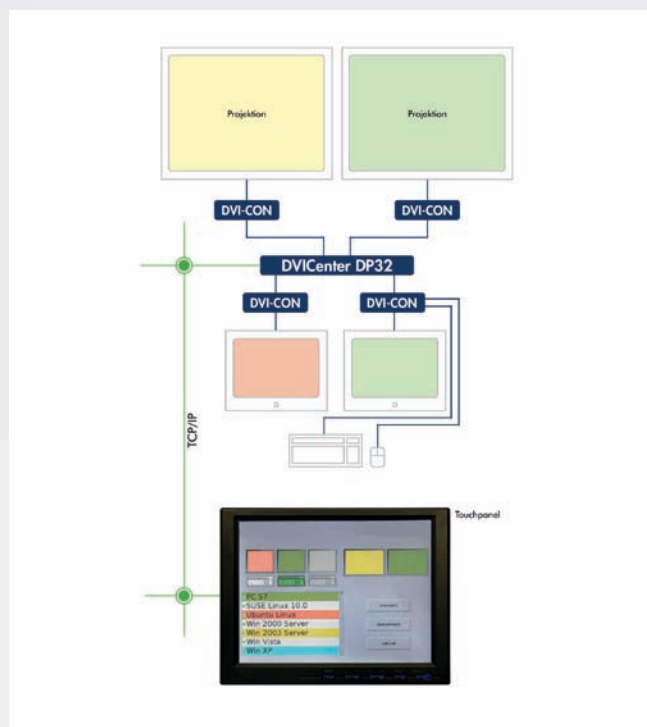
Function: DVICenter remote control over IP
Operation via: customer-programmed user interface
Operating requirement: activation within master + programming of user interface
Effectiveness: system (several clusters)

The IP-Control-API function allows you to send switching commands to the DVICenter. The commands are sent via network.
 The system is operated independently from a DVI-CON user module. Regardless of the location, each computer can access the desired projection media and/or operator screens.

To program the user interface you are provided with the necessary Windows DLL or Linux SO interface.

IP-Switching also allows you to:

- 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)



Illustration

List of Item Numbers Central Module

Item No.	Description	User	Computer
A2300036	DVICenter DP16 (16 dynamic ports)	1 to 15	15 to 1
A2300035	DVICenter DP32 (32 dynamic ports)	1 to 31	31 to 1
A2300035-12V	DVICenter DP32 - 12V	1 to 31	31 to 1
A2300053	DVICenter DP64 (64 dynamic ports)	1 to 63	63 to 1

List of Item Numbers Computer Modules

Item No.	Description	USB 2.0	RS232	PS/2	USB-K/M	DVI	Audio	No. of clusters
DVI-CPU								
A2320051	DVI-CPU	-	-	PS/2	USB	DVI-SL	Audio	1
A2320053	DVI-CPU without-power-pack	-	-	PS/2	USB	DVI-SL	Audio	1
A2320052	DVI-CPU-UC	-	-	PS/2	USB	DVI-SL	Audio	2
A2320063	U2-R-CPU	USB 2.0	RS232	-	-	-	-	
DVI-CPU-Wintu3								
A2320057	DVI-CPU-Wintu3			PS/2	USB	DVI-SL	Audio	1
A2320058	DVI-CPU-Wintu3-no-PowPack			PS/2	USB	DVI-SL	Audio	1
A2320059	DVI-CPU-UC-Wintu3			PS/2	USB	DVI-SL	Audio	2
DVI-CPU-Wintu4								
A2320060	DVI-CPU-Wintu4			PS/2	USB	DVI-SL	Audio	1
A2320061	DVI-CPU-Wintu4-no-PowPack			PS/2	USB	DVI-SL	Audio	1
A2320062	DVI-CPU-UC-Wintu4			PS/2	USB	DVI-SL	Audio	2

List of Item Numbers User Modules

Item No.	Description	USB 2.0	RS232	PS/2	USB-HID	DVI	Audio	Desktop/ Rackmount
A1120140	DVI-CON	-	-	PS/2	USB	DVI-SL	Audio	DT
A1120140-12V	DVI-CON-12V	-	-	PS/2	USB	DVI-SL	Audio	DT
A1120141	DVI-CON-RM	-	-	PS/2	USB	DVI-SL	Audio	RM
A1120142	Twin-DVI-CON	-	-	PS/2	USB	DVI-SL	Audio	DT/RM
A1120151	U2-R-CON	USB 2.0	RS232	-	-	-	-	DT/RM

List of Item Numbers Expansions DVICenter

























Item No.	Description	
PowerSwitching		
A4100001	HardBootCCX	Power Switch, Rackmount
A4110030	MultiPower-12	Power Switch, Rackmount
more Range		
A2300044	DVI-FiberLink(S)	Single-mode transceiver up to 10,000 m, please order 2 x for 1 line
A2300052	DVI-FiberLink(M)	Multi-mode transceiver up to 550 m, please order 2 x for 1 line
Firmware expansions		
A8200014	TS-Function DVICenter	TradeSwitch module
A8200013	Push-Get-Function DVICenter	Push-Get module
A8200015	IP-Control-API DVICenter	IP-Switching module
Hardware expansions		
A2200016	Dynamic-UserCenter32	Module for expanding the number of workplaces

Legend

ABBREVIATIONS

CPU	=	Computer module	M	=	Multimode
PC	=	Computer module	S	=	Singlemode
CON	=	User module	RM	=	For assembly in a 19" rack
REM	=	User module	A	=	Audio
MC2	=	Multichannel 2	AR	=	Audio + RS232
MC3	=	Multichannel 3	R	=	RS232
MC4	=	Multichannel 4	U	=	transparent USB 1.1
			U2	=	transparent USB 2.0
			D	=	Delay

EQUIPMENT FEATURES

	=	keyboard/mouse		=	VT100
	=	dual-link DVI video		=	KVM IP access
	=	single-link DVI video		=	Network connection
	=	single-link DVI + VGA		=	Web interface
	=	VGA video		=	DevCon support
	=	Audio		=	Monitoring
	=	RS232		=	CAT cable
	=	USB 1.1		=	Fiber optics
	=	USB 2.0		=	Single user
	=	Delay		=	Multi user
	=	Screen Freeze		=	Separat local/remote user
	=	Power Switching			
	=	Fire Wire			