CONTROLCENTER-DIGITAL-160 EXCLUSIVE I/O-CARDS

KVM matrix systems, Article number A2300055



Front



Back

With the central module ControlCenter-Digital, you can operate a larger number of computers from a greater number of workplaces. KVM matrix systems assist you in managing complex IT infrastructures in a simple and intuitive way. Especially in mission-critical environments such as control rooms, military command centers, data centers, or facilities for managing critical infrastructures, users benefit from the secure, reliable, and flexible solution for decentralized operation and administration. The ControlCenter-Digital is available in three size variants with 80, 160, or 288 ports. Due to its fully modular design, input/output cards with the required transmission media (CAT and/or fiber ports) can be used. Thanks to Dynamic Port Technology, the ports can be flexibly used as input or output for connecting computer modules, RemoteAccess-CPUs, console modules, or DynamicWorkplace-CONs.

SCOPE OF DELIVERY

Quantity	Description	Article number
1	CCD-IO16-Card-Cover card cover f. CCD	A2300076
1	CCD-Power-Module-Cover card cover f. CCD Powermod	A2300077
3	PowerCable-2 Standard cable 2m	A6300057
1	19" RM-Set-CCD-L long rail set: 550-750mm	A7000040
1	CPE -Schaum-Polster705x560x133	Z0004127
1	Safety instructions flyer - FCC class A	A9100377
1	Safety instructions - CCD flyer	A9100372

DETAILS

TRANSMISSION

- The transmission distance between the central module and the end devices depends on the selected input/output card (I/O card) and reaches up to 140 meters over CAT or up to 10,000 meters over fiber optic (Fiber)

DEVICE

- Improved security through physical separation between workplaces and computers
- Access to standard interfaces of the computer, with no software installation required
- Users can switch between different sources almost in real-time, without noticing interruptions or delays
- Fully modular design for flexible adaptation and expansion options
- The device always includes the chassis, which contains:
  - Backplane, where the individual components are mounted in card form
  - Controller card, which manages, controls, and monitors all functions
  - Switch card, which contains the central switching logic
  - Power supply modules
  - Fan cards
- Input/output cards are not included in the scope of delivery and must be ordered separately and feature 16 Dynamic Ports, which are available in variants with CAT, fiber optic, or mixed options
- Dynamic ports are flexible and automatically detect whether a computer module, RemoteAccess-CPU, console module, or DynamicWorkplace-CON is connected
- System components can be connected, removed, or replaced during operation (hot-plug/hot-swap capable).
- The ControlCenter-Digital series is compatible with the ControlCenter-Compact series and the end devices for computer and workplace connections

WARRANTY

- A 3-year, free of charge product guarantee
- For an additional fee guarantee extension possible

FEATURES

SECURITY FEATURES

- Bootloader, operating system, and firmware form a "Trusted Computing Platform" with automatic integrity checks during system startup
- Integrated Trusted Platform Module (TPM) protects all access and configuration data from being spied on or tampered with by third parties
- Comprehensive rights management and user administration, allowing precise control over which user can access which resources
- Option for disablable access protection (OpenAccess mode), in which all connected workstation modules can access all released computer sources immediately and without prior authentication
- Support for external directory services (Active Directory, Radius, LDAP) to meet company security policies
- To comply with individual password policies and improve security, password complexity can be configured system-wide
- Configurable login options, such as displaying terms of use or setting the maximum acceptable number of failed login attempts, can enhance system security
- Emergency direct connection (extender mode) between console and computer module ensures continuous operation even during unexpected events at the central module
- redundant internal power supply modules
- Redundant network interface
- Monitoring of system states such as status, power supply, temperature and computer modules and console modules are monitored as well
- Each monitoring value can be enabled individually; critical states raise an alarm, which authorized users can acknowledge to downgrade it to warning level
- Syslog logging locally and to up to two servers, via TCP or UDP, with configurable port, eight severity levels per the syslog standard and ISO 8601 timestamps
- Logged events include user logins, failed login attempts, changes to user rights, connections to remote targets and failed backups
- SNMP agent supporting SNMPv2c and SNMPv3; for SNMPv3, authentication via SHA-1 through SHA-512, encryption with AES128, AES192 or AES256, and security levels up to authPriv
- Access to the SNMP agent can be restricted to defined source IP addresses or network segments (IPv4 and IPv6)
- SNMP notifications to multiple receivers, sent either as traps or as acknowledged informs, with a configurable severity threshold
- Auto Backup Function: Automates backups at user-defined intervals and replaces manual intervention – ensuring reliable, timely data protection without the need for continuous monitoring
- Configurable exclusive access control for USB, audio, and RS232 ensures that access is granted only to console modules, DynamicWorkplace-CONs, and authorized users

- End devices (computer modules, RemoteAccess-CPUs, console modules, and DynamicWorkplace-CONs) do not store security-relevant information such as login credentials, which could be extracted in the event of device loss
- Freeze function: If the video signal is lost, the last displayed image is frozen and highlighted with a colored frame and timer

OPERATION FEATURES

- Operation via multilingual on-screen display (OSD) or a graphical interface and hotkeys
- auto-recognition and display of the system structure
- Configuration and central update of all components via the multilingual HTML5 web interface “Config Panel 21” (Java-free)
- Support for Wake-on-LAN Function: A standardized method for powering on a shut-down or sleeping computer via a network command, provided the target system supports this functionality
- With configurable select keys, computers can be made available to each user individually via quick access
- Configurable view filters enable efficient sorting of large lists of computer modules
- The configurable multi-user access allows multiple users to access a real or virtual computer simultaneously
- With channel grouping, multiple computer modules or multiple console modules can be grouped together into a channel group
- USB pinning: In grouped channels, transparent USB transmission remains linked to the currently connected computer – even when switching to another system – and continues seamlessly until the transfer is complete

EXTENSIONS

DEVICE

- Select the input/output cards (I/O cards) according to your requirements. The cards operate independently of one another, allowing mixed operation.
  - I/O-Card-CAT provides 16 CAT-based dynamic ports
  - I/O-Card-Fiber provides 16 fiber-optic-based dynamic ports
  - I/O-Card-Trunk4 aggregates 4 out of 16 dynamic ports into a 10G link
  - I/O-Card-Multi enables the integration and switching of 16 standalone devices within the matrix system
- Thanks to the modularity, you can use additional modular system components for replacement or exchange:
  - Controller cards
  - Switch cards (hardware 1.0)
  - Fan cards (hardware 1.0)
  - Power supply modules

SECURITY FEATURES

- MatrixGuard Function – premium software feature for ensuring continuous operation against unforeseen disruptions.
  - requires the premium software feature Matrix-Grid Function
  - Redundancy concept with failover functionality: In the event of unforeseen disruptions, console modules and computer modules within the Matrix-Grid network automatically connect to an alternative matrix switch - except for endpoint devices connected to the unavailable matrix switch
  - restoration of switching states enables rapid resumption of operations
- 2-Factor-Authentication (2FA) – premium software feature to enhance security by using a second possession-based factor during user authentication:
  - The traditional password authentication is combined with a time-limited, single-use code (Time-Based-One-Time-Password - TOTP)
  - You can choose between using the internal authentication server provided in the device or an external directory service
  - Authenticator apps or hardware token can be used
  - This additional layer of protection prevents unauthorized access and ensures the highest level of security, particularly in sensitive IT environments

OPERATION FEATURES

- TradeSwitch Function (TS Function) – premium software feature providing convenient operation and seamless restoration of individual working environments at consoles with multiple console modules, including the most recently connected sources:
  - optimizes usability for consoles tasked with simultaneous monitoring or control of multiple computers via several console modules
  - provides a central keyboard and mouse for operating the entire workplace
  - both input devices can switch to any console module using a hotkey
  - CrossDisplay switching additionally offers an especially user-friendly switching method: simply moving the mouse pointer from one monitor to another automatically transfers keyboard and mouse focus to another module and thus another computer
  - The FreeSeating function automatically restores a user's personalized working environment, including previously used sources, at any workplace within the group. A single login is sufficient to register all console modules and activate the respective sources, while a single logout will log out the entire group
- Push-Get Function – premium software feature for moving/retrieving connections from own or other devices:
  - optimizes collaboration within control rooms by improving team communication, flexibility, and responsiveness
  - allows users to "push" the connection status of their console module to another console module or "get" it from there

CONTROL OPTIONS

- IP-Control-API – premium software feature enabling remote control, scenario switching, and retrieval of switching states via an API interface:
  - allows text-based XML control of a KVM matrix system over the network
  - optional encryption of communication:
    - Encryption of login passwords (partial encryption)
    - Complete encryption of the data stream
    - Additional certificate check when establishing a connection
  - provides the capability to create custom control applications, send switching commands, and retrieve selective information on switching states as well as computer statuses
  - flexible and scalable solution for seamless integration into IT infrastructures from various vendors
  - Includes a scripting function for creating, managing, and executing scripts, automating scenarios such as changing the switching state of individual consoles, multiple consoles, or the entire system
  - Enables control of external devices via HTTP requests

SYSTEM EXTENSION

- Support for all common video signals, thanks to a wide selection of matrix-compatible KVM extenders, which can be integrated as end devices in matrix operation in a “mixed” configuration (Mix & Match). Video transmission is performed using bluedec™ – G&D’s advanced, multi-stage, lossless compression – delivering pixel-perfect, lossless video quality with near-zero latency.
- The RemoteAccess-CPU lets you seamlessly integrate virtual machines into your matrix installation. This way, hybrid systems with real and virtual computer infrastructure can be optimally implemented.
- Matrix-Grid Function – premium software feature for expanding the matrix system or increasing the number of ports by adding additional central modules:
  - multiple digital matrix switches from the ControlCenter-Compact and ControlCenter-Digital series can be combined into a large matrix network
  - enables bidirectional communication between console and computer modules connected to different matrix switches
  - can be combined with the MatrixGuard Function
- Increase the system's range up to 10,000 m by using CAT variants/connections by integrating an optical fibres line (DVI-FiberLink)
- Increase the system's range up to 140 m by using CAT variants/connections by integrating a CAT line (CAT-Repeater)
- Increase the system's range by integrating the ethernet-capable I/O-Card-Trunk

TECHNICAL DATA

General	Brand	G&D
	Product group	KVM matrix switches
	Product Family	ControlCenter-Digital
	Country of origin	Germany
	KVM matrix system component	Central module (digital)
Network	Quantity	2
	Medium	CAT5 CAT6 CAT7
	Data rate	10 Mbit/s 100 Mbit/s 1 Gbit/s
Maintenance	Update via	ConfigPanel (Network)
	Serviceport settings	460800bps (8/N/1)
Housing	Material	Anodised aluminium
	Active cooling (fan)	yes
	Width ca.	448 mm / 17.64 in
	Height ca.	264 mm / 10.39 in
	Depth ca.	500 mm / 19.69 in
	IP protection class	IP20
	Weight ca.	19.36 kg / 42.68 lb

Operating conditions	Operating environment temperature	5 °C to 45 °C / 41 °F to 113 °F
	Operating air humidity, non-condensing	20 % to 80 %
	Area of application	Indoor use
	Maximum operating altitude above sea level	3,048 m
	Storage environment temperature	-20 °C to 55 °C / -4 °F to 131 °F
	Storage air humidity, non-condensing	15 % to 85 %
	MTBF	60,000 h at 25°C (77 °F)
	Note	Power supplies 90.000h, fan modules 60.000h, Remaining unit > 100.000h
	Conformities	CE compliant (see downloads) UKCA compliant (see downloads) FCC compliant (see manual) TAA compliant (see downloads) RoHS compliant (see downloads) WEEE (reg. no. DE30763240) REACH compliant (see downloads)
Power supply	Quantity	2
	Type	Internal
	Input voltage	100-240 VAC
	Input frequency	60-50 Hz
	Current consumption	3-2 A
	Power consumption idle	52.8-59.1 W

ACCESSORY PRODUCTS

Image	Description	Article number
	**CCD-Control-Card card f. CCD** Controller module for the ControlCenter-Digital system	A2300057
	CCD-IO16-Card-Cover card cover f. CCD Cover for input/output interface of the ControlCenter-Digital system	A2300076
	CCD-Power-Module 100-240VAC/12VDC - 1600W Power supply of the ControlCenter-Digital system	A2300070
	CCD-Power-Module-Cover card cover f. CCD Powermod Cover for the power module of the ControlCenter-Digital system	A2300077
	CCD-Switch-Card-160 card f. CCD-160 Module for the central processing unit of the ControlCenter-Digital-160	A2300059
	CCD-Fan-IN-Card-160 card f. CCD-160 Fan tray for ControlCenter-Digital 160 (Input side)	A2300065
	CCD-Fan-OUT-Card-160 card f. CCD-160 Fan tray for ControlCenter-Digital 160 (Output side)	A2300068
	CCD-Air-Filter-160 Air filter for the fan trays of ControlCenter-Digital 160	A2300074
	USB-Service-2 cable 2m Cable for system updates and configuration	A6200103
	PowerCable-3 Standard cable 3m Cable to connect the power supply type Germany	A6300066
	PowerCable-5 Standard cable 5m Cable to connect the power supply type Germany	A6300065

RELATED PRODUCTS

Description	Article number
CCD-IO16-Card-CAT card f. CCD 16xCAT Input/output module of the ControlCenter-Digital system	A2300061
CCD-IO16-Card-Fiber blank without SFP-Transc. Input/output module of the ControlCenter-Digital system	A2300086
CCD-IO16-Card-Fiber(M) card f. CCD 16xFiber(M) Input/output module of the ControlCenter-Digital system	A2300062
CCD-IO16-Card-Fiber(S) card f. CCD 16xFiber(S) Input/output module of the ControlCenter-Digital system	A2300063
CCD-IO16-Card-Multi card f. CCD 16xMulti Input/output module of the ControlCenter-Digital system	A2300085
CCD-IO16-Card-Trunk4 blank without SFP-Transc. Input/output module of the ControlCenter-Digital system including 4x 10G interfaces - without SFP-Transceiver	A2300098
CCD-IO16-Card-Trunk4(M) Input/output module of the ControlCenter-Digital system including 4x 10G interfaces	A2300096
CCD-IO16-Card-Trunk4(S) Input/output module of the ControlCenter-Digital system including 4x 10G interfaces	A2300097

MORE VARIANTS

Description	Article number
ControlCenter-Digital-160 2.0 exclusive I/O-cards Modular KVM Matrixswitch (6 RU) with 160 dynamic ports - optionally for CAT cable, fiber or mixed operation (V 2.0)	A2300132
ControlCenter-Digital-288 exclusive I/O-cards Modular KVM Matrixswitch (9 RU) with 288 dynamic ports - optionally for CAT cable, fiber or mixed operation	A2300054
ControlCenter-Digital-80 exclusive I/O-cards Modular KVM Matrixswitch (4 RU) with 80 dynamic ports - optionally for CAT cable, fiber or mixed operation	A2300056

CONTACT

WE ARE HERE FOR YOU!

If you have any further questions, we are looking forward to advising you on your individual project requirements.

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