seit 1985

Guntermann & Drunck
GmbH

KVM Matrix Switches

6.1

KVM Matrix Switches
Matrix Switches for the operation
and administration of multiple computers
across distributed workstations

Guntermann & Drunck
GmbH

seit 1985

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Intelligent solutions

Guntermann & Drunck GmbH was founded in 1985 by the people that gave the company its name.
Over 20 years have since past, and we are now a leading manufacturer of analogue and digital KVM switching systems.
As an owner-managed company we work closely with the marketplace and take our decisions with and in the interests of our customers. It is our philosophy to meet our customers en route to making decisions, to accompany them in the process and ensure that they achieve their goals.

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

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

Thanks to these different fields of specialisation, the demands placed on the products are many and varied. They need to offer a long service life, and to be secure, uncomplicated, user-friendly, understandable and adaptable.

Contents

CATCenter	**System**		6
	Central module	CATCenter X2	11
		CATCenter X4	11
		CATCenter X8	11
	Target module	CATpro2	13
	Workstation module	UCON-a	15
		UCON	15
		UCON-s	15
		UCON-IP-eco	17
	Expansions	Power switching	18
		Number of targets	19
		Number of workstations	20
		Communication modules	22
	GUI/software		23
	Order list		26
ControlCenter 4-n/8-n	**System**		28
	Central module	ControlCenter 4-n	35
		ControlCenter 4-E	35
		ControlCenter 8-n	35
		ControlCenter 8-E	35
	Target module	CATpro	37
		CC4-CATPC	38
		CC8-CATPC	38
	Workstation module	CC-CON	39
		CC-2CON	39
		CC-Trans-C5	39
		CAT-Rem	41
	Expansions	Number of targets	42
		Communication modules	43
		Acxos / KVM IP access	43
	Order list		44
ControlCenter 4-n-MC	**System**		46

Taric Code

Devices:	85176200
Cables:	85442000

Waste Electrical and Electronic Equipment

WEEE register no. DE30763240

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Illustrations are examples only.
Descriptions normally reflect the max. expansion depth.

Overview of KVM Matrix Switches

Using the KVM matrix switches you can control multiple targets/servers simultaneously across several different workstations.

The systems essentially consist of three main components: the target modules (computer/server link), the central modules (the matrix switch itself) and the workstation modules (link to the operating peripherals).

The access to the targets are carried out simultaneously across up to 64 workstations, which can be connected locally, remotely via CAT-x cable or via IP using the matrix switches.
The reference product of G&D – the CATCenterX8 – allows you to realise access to 8 workstations on 32 targets in one 19" housing with only 1 HU of space.

CATCenter system
– Compact system for 2/4/8 workstations and 16/32 servers
– 1 HU of space required (8 workstations on 32 servers)
– Workstation and target connection entirely using CAT-x cable
– Up to 16 workstations; extendable for up to 64 workstations
– Workstations either via IP, remotely via CAT cable or local
– In cascade, up to 2048 servers
– Numerous network functionalities such as LDAP support, IP configuration, Syslog, etc.
Character:
The CAT-based, compact all-rounder with network functionality

ControlCenter 4-n/8-n
– Modular system based on plug-in card technology, for 4/8 workstations and 12 servers
– 3 HU/6 HU space requirements (4/8 workstations on 12 servers)
– Extendable for up to 16 workstations
– Workstations either remotely via CAT cables or locally
– In combination, up to 96 servers
Character:
The chameleon that grows with your requirements with full modularity.

ControlCenter 4-n MC
– Modular system thanks to plug-in card technology for 4 multi-monitor workstations and 12 multi-video computers
– 6 HU space required (4 workstations of 2 monitors each on 12 computers with dual graphics card)
– Expandable to up to 4 monitors per workstation and 96 computers each with quad graphics cards
Character:
The multi-video variant of ControlCenter 4-n

Areas of application
Our customers use these products in the areas of control rooms, server rooms, computing centres and outside broadcast vehicles, to give a few examples.

Flexibility
Due to the variety of signals in the field of IT and the connection variants involved, the products cannot support all types. To be able to offer a wide range despite these issues, we offer the relevant converters and dongles which can be used to integrate even "exotic devices" into your KVM solution. Speak to us.

Combinability
Virtually all products in our range can be combined with one another. If you are setting up a complex system or if the performance of a particular product does not match the needs of your specific application, our sales team will be pleased to advise you on the relevant combined solutions to produce the overall functionality.

KVM Matrix Switches

The CATCenter forms part of the group of KVM matrix switches and switches over the following signals: analogue video, keyboard and mouse.

The system consists of three main components, the central modules, the target modules (server, computer connection) and the workstation modules.
The modules are interconnected via CAT-x cable.
The system facilitates the operation of 16 to 2048 targets across 2 to 8 simultaneous workstations.

By combining these components with other G&D products, the number of simultaneous access workstations can be increased to 64.

A functional system contains a minimum of one CATCenter X, an UCON, a CATpro2 and the necessary connection cables.

Highlights

- ***Resolution up to 1920 x 1440 @ 75 Hz***
- ***Automatic video setting with customisation options***
- ***Redundant power supply (optional)***
- ***Automatic detection and display of the CATCenter system architecture***
- ***Support for external authentication via directory services LDAP, Active Directory, TACACS+, Radius (with CATCenter X8) with failover technology***
- ***Syslog message output can be configured in different facility levels (for CATCenter X8)***
- ***Up to 300 metre distance between the target and workstation***
- ***Optional power switchover integration (switch on/off target via OSD)***
- ***Optional trade switch function (release function)***
- ***Optional push/get function (release function)***
- ***Hot-plug and hot-swap of the system components***
- ***Stay-alive function***

Central module CATCenter X8

The CATCenter central module is available in the following configuration levels:
2 workstations/16 targets **(CATCenter X2)**
4 workstations/32 targets **(CATCenter X4)**
8 workstations/32 targets **(CATCenter X8)**.

Front view

Article no.
A230 0021

Target module CATpro2-USB

The target module CATpro2 is available in the following basic variants:
PS/2 keyboard/mouse and VGA graphics **(CATpro2-PS/2)**
DEC-PS/2 keyboard/mouse and VGA graphics **(CATpro2-DEC)**
USB keyboard/mouse and VGA graphics **(CATpro2-USB)**
SUN-USB keyboard/mouse and VGA graphics **(CATpro2-SUN-USB)**
VT-100 terminal emulation **(CATpro2-VT100)**

Article no.
A232 0010

The UCON (UserConsole) workstation module has the following variants:
UCON-a (local workstation directly to the CATCenter)
UCON (remote workstation, e.g. in the admin office)
UCON-s (remote workstation with additional link-up of two workstation computers)
UCON-IP-eco (IP workstation with system access via Ethernet)

Workstation module UCON

Front view

Article no.
A112 0031

Operating the main components

The CATCenter system is operated via keyboard hotkeys or the OSD AdonIS.
These two components are available on all UCON workstation modules and ensure fast and easy operation across the entire system (see OSD features). The IP workstation module UCON-IP-eco also offers an operating client which is used both to set up the IP session and also to offer system operation via a graphical interface. This client is available as a native application for Windows and GNU-Linux or as an operating system-independent JAVA version.

OSD (AdonIS)

Configuration

Three access points are available for configuring the system. You can change settings from all workstations via the AdonIS as a central interface. The additional IP configuration client CATCenter Xview allows you to do this independently from a workstation module via a network (with CATCenter X8 only). The configuration of the IP workstation module UCON-IP-eco is carried out via its web interface.

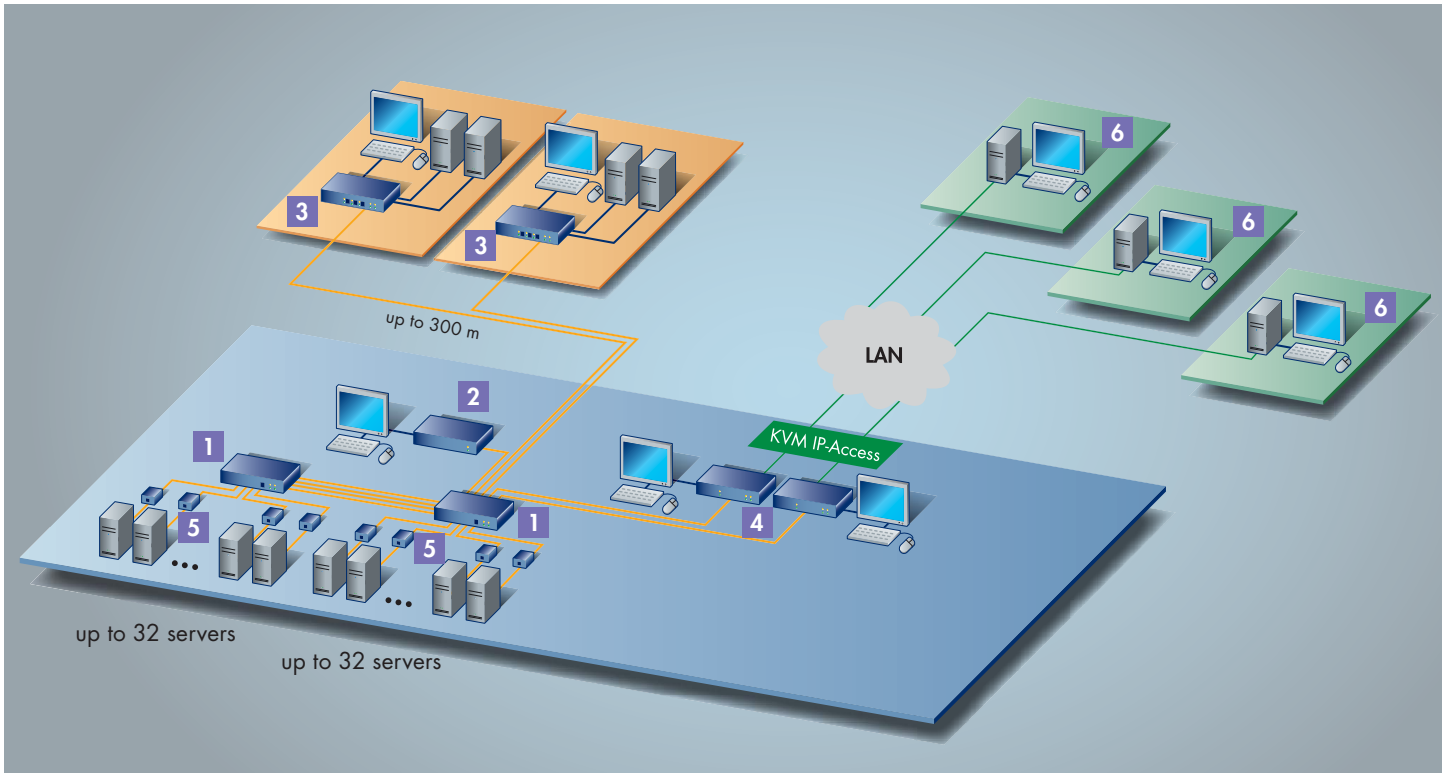
System expansions

The functions of the CATCenter system can be expanded with the following options:

Central:
- Remote power switching with add-on component "HardBoot CCX"
- > 32 servers via cascading with other CATCenters

Target-side:
- Telescopic rail support with target module "CATpro2-extended"
- 8 – 16 simultaneous workstations with target module "CATpro2-UC" + no. of UCON
- 16 – 64 workstations with add-on component "UserCenter CAT8" + no. of UCON

Workstation-side:
- CATCenter remote control with "IP switching"
- UCON interaction with "Push-Get"
- UCON pooling with "TS function"



System diagram

1 CATCenter X8
2 UCON-a
3 UCON-s
4 UCON-IP-eco (+ local workstation)
5 CATpro2
6 IP client

Example

The computer centre at an industrial company is equipped with 64 servers. These servers are managed by the administration team via various workstations.
Both in the computer centre itself (UCON-a) and via the network (UCON-IP-eco), the servers are accessible by the admins up to the BIOS level.
In addition, via a dedicated CAT-x link, the administrators' offices are also integrated into the operating concept (UCON-s). Here the UCON-s offers the additional benefit of being able to connect the two workstation computers as well. The admin can either switch directly to the computer centre or to his own workstation computer.
Two CATCenter X8 (1 x master, 1 x slave) are used to connect the workstations and the server. The CATCenter X8 can be integrated into the network (configuration, syslog, directory services etc.).

Features system

The design of the system hardware offers a range of benefits in use; just a few of these benefits are outlined below as an example.

Field:

Video	VGA resolutions up to 1920 x 1440 @ 75 Hz can be selected. Automatic video optimisation for any target/workstation combination.
Operating environment	
Temperature	+5 to +45 °C
Air humidity	< 80 %, non-condensing
Connection	No set activation sequence.
	Targets do not need to be switched off (exception: initial installation of SUN servers).
	Stay-alive function; when switching on and off or when "moving" a switching component, the targets remain unaffected.
	Hot plug capability; targets and system components can be connected during operation (Exception: initial installation of SUN servers).
	Auto acknowledge; added components are automatically initialised and configured.
	Hot swap capability; system components can be plugged in, unplugged or moved while the targets are in operation, and will still be detected automatically.
Expansion	System can be expanded flexibly on all module levels.
	Expansion is carried out using the standard system ports.
	Expansions can be carried out while the targets are in operation and do not require a system restart.
	Extension of the system architecture is detected automatically and updated dynamically.
Network access	The network ports on individual modules facilitate operation, configuration and KVM-IP access via Ethernet.

KVM Matrix Switches

CATCenter X2

Article no.
A230 0023

Rear view

CATCenter X4

Article no.
A230 0025

Rear view

CATCenter X8

Article no.
A230 0021

Rear view

Individiual features of the modules

Technical data			CATCenter X2	CATCenter X4	CATCenter X8
Workstation ports per device			2	4	8
Workstation ports max. per cluster			16	32	64
Transmission type to workstation module			dedicated CAT-x link	dedicated CAT-x link	dedicated CAT-x link
Target ports			16	32	32
Target ports Cascade level 1			128	256	128
Target ports Cascade level 2			1024	2048	512
Transmission type to target module			dedicated CAT-x link	dedicated CAT-x link	dedicated CAT-x link
Update process			local service socket	local service socket	via network
Network connection			no	no	yes
Power supply	Main	Type	internal power pack	internal power pack	internal power pack
		Connection	Connector for non-heating device (IEC-320 C14)	Connector for non-heating device (IEC-320 C14)	Connector for non-heating device (IEC-320 C14)
		Voltage	AC100-240V/60-50Hz 130-80 mA	AC100-240V/60-50Hz 180-110 mA	AC100-240V/60-50Hz 280-150 mA
	Redundant (optional)	Type	external power pack	external power pack	external power pack
		Connection	Mini-DIN 4 power socket	Mini-DIN 4 power socket	Mini-DIN 4 power socket
		Voltage	+12VDC/1A	+12VDC/2.3A	+12VDC/2.9A
Casing	Material		anodised aluminium	anodised aluminium	anodised aluminium
	Dimensions	(W x H x D)			
		Desktop	435 x 44 x 286 mm	435 x 44 x 286 mm	435 x 44 x 286 mm
		Rackmount	19" x 1HU x 286 mm	19" x 1HU x 286 mm	19" x 1HU x 286 mm
Weight			approx. 2.5 kg	approx. 3.0 kg	approx. 3.0 kg
Interfaces					
to workstation module			RJ45 socket	RJ45 socket	RJ45 socket
to target module			RJ45 socket	RJ45 socket	RJ45 socket
for network			–	–	RJ45 socket
for update			2.5 mm jack	2.5 mm jack	via network port
for power switch			RJ11 socket	RJ11 socket	RJ11 socket
Conformity			CE, RoHS	CE, RoHS	CE, RoHS

x = 5, 6, 7

CATpro2-PS/2

Article no.
A232 0009

CATpro2-VT100

Article no.
A232 0021

Rear view

Individiual features of the modules

			Target modules CATpro2	
Technical data			**Standard**	**VT100**
Signal type/video			analogue video	serial, VT100
No. of interfaces to central module			1	1
Total length incl. cable			0.3 m	2.0 m
Transmission rate	RS232		–	max. 115200 bps
Power supply	Main	Type	via keyboard-Interface of target	external power supply
		Connection	Mini-DIN 6 / USB	Mini-DIN 4 power socket
		Voltage	+5VDC	+12VDC
Casing	Material		Plastic	anodised aluminium
	Dimensions	(W x H x D)	45 x 20.7 x 65 mm	105 x 26 x 84 mm
	Design		Converter	Converter
Weight			approx. 120 g	approx. 200 g
Interfaces	to target	CATpro2-PS/2	2 x Mini-DIN 6 plug, 1 x D-Sub HD 15 plug	–
		CATpro2-PS/2-DEC	2 x Mini-DIN 6 plug, 1 x D-Sub HD 15 plug	–
		CATpro2-USB	1 x USB-A, 1 x D-Sub HD 15 plug	–
		CATpro2-SUN-USB (de)	1 x USB-A, 1 x D-Sub HD 15 plug	–
		CATpro2-SUN-USB (us)	1 x USB-A, 1 x D-Sub HD 15 plug	–
		CATpro2-VT100	–	1 x D-Sub 9 socket
	for updates		–	1 x 2.5 mm jack
	to central module		RJ45 jack	RJ45 jack
Conformity			CE, RoHS	CE, RoHS

UCON-a

Article no.
A112 0035

Rear view

TwinUCON-a

Article no.
A112 0066

Rear view

UCON

Article no.
A112 0031

Rear view

UCON-s

Article no.
A112 0033

Rear view

Individiual features of the modules

Technical data			**UCON-a**	**TwinUCON-a**	**UCON**	**UCON-s**
Signal type/video			analogue video	analogue video	analogue video	analogue video
Video resolution (dependent on cable length)	local connection		1920 x 1440 @ 75Hz	1920 x 1440 @ 75Hz	1920 x 1440 @ 75Hz	1920 x 1440 @ 75Hz
Transmission length Workstation module to target module			100 m	100 m	300 m	300 m
Transmission type to workstation module			dedicated CAT-x link	dedicated CAT-x link	dedicated CAT-x link	dedicated CAT-x link
Workstations			1	2	1	1
Delay compensation			no	no	yes	yes
Update process			local service socket	local service socket	local service socket	local service socket
Assigned workstation connections on central module			1	2	1	1
Additional connectable workstation computer			–	–	–	2
Power supply	Main	Type	internal power pack	internal power pack	internal power pack	internal power pack
		Connection	Connector for non-heating device (IEC-320 C14)	Connector for non-heating device (IEC-320 C14)	Connector for non-heating device (IEC-320 C14)	Connector for non-heating device (IEC-320 C14)
		Voltage	AC100-240V/60-50Hz 130-70 mA	2xAC100-240V/60-50Hz 130-70 mA	AC100-240V/60-50Hz 0.2-0.1A	AC100-240V/60-50Hz 0.2-0.1A
	Redundant (optional)	Type	external power pack	external power packs	external power pack	external power pack
		Connection	2 pole hollow socket	2 pole hollow socket	Mini-DIN 4 power socket	Mini-DIN 4 power socket
		Voltage	+5VDC/1.3A	2 x (+5VDC/1.3A)	+12VDC/0.7A	+12VDC/0.8A
Casing	Material		anodised aluminium	anodised aluminium	anodised aluminium	anodised aluminium
	Dimensions (W x H x D)					
		Desktop	210 x 44 x 211 mm	435 x 44 x 211 mm	270 x 44 x 211 mm	270 x 44 x 211 mm
		Rackmount	19" x 1HU x 211 mm	19" x 1HU x 211 mm	19" x 1HU x 211 mm	19" x 1HU x 211 mm
Weight			approx. 1.1 kg	approx. 2.2 kg	approx. 1.3 kg	approx. 1.3 kg
Interfaces						
for workstation	Video		D-Sub HD 15 socket	D-Sub HD 15 socket	D-Sub HD 15 socket	D-Sub HD 15 socket
	Keyboard/mouse		2 x Mini-DIN 6 socket	2 x (2 x Mini-DIN 6 socket)	2 x Mini-DIN 6 socket	2 x Mini-DIN 6 socket
	USB keyboard/mouse		–	–	2 x USB-A socket	2 x USB-A socket
	TradeSwitch-LED		–	–	D-Sub 9 socket	–
to central module			RJ45 socket	RJ45 socket	RJ45 socket	RJ45 socket
for local workstation computer	(with CATpro2 variant)		–	–	–	2 x RJ45 socket
for update			2.5 mm jack	2.5 mm jack	2.5 mm jack	2.5 mm jack
Conformity			CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS

x = *5, 6, 7*

UCON-IP-eco

Article no.
A100 0005

Rear view

TwinUCON-IP-eco

Article no.
A100 0007

Rear view

Individiual features of the modules

Technical data			UCON-IP-eco	TwinUCON-IP-eco
Signal type/video			analogue video	analogue video
Video resolution (depen-				
dent on cable length)		local connection	1920 x 1440 @ 75Hz	1920 x 1440 @ 75Hz
		via IP native	1280 x 1024 @ 75Hz	1280 x 1024 @ 75Hz
Transmission length			300 m	300 m
Workstation module to target module				
Transmission type to workstation module			dedicated CAT-x link	dedicated CAT-x link
Transmission type to KVM-IP client			TCP/IP protocol	TCP/IP protocol
Communication			Ethernet 10/100 Mbit/s	Ethernet 10/100 Mbit/s
Workstations			2 (1 x IP; 1 x local; concurrent)	2 x 2 (1 x IP; 1 x local; concurrent)
Delay compensation			yes	yes
Update process			via network	via network
Assigned workstation			1	2
connections to central module				
Power supply	Main	Type	internal power pack	internal power pack
		Connection	Connector for non-heating device (IEC-320 C14)	Connector for non-heating device (IEC-320 C14)
		Voltage	AC100-240V/60-50Hz 0.3-0.2A	AC100-240V/60-50Hz 0.5-0.3A
	Redundant (optional)	Type	external power pack	external power packs
		Connection	Mini-DIN 4 power socket	Mini-DIN 4 power socket
		Voltage	+12VDC/1.1A	2 x (+12VDC/1.1A)
Casing	Material		anodised aluminium	anodised aluminium
	Dimensions	(W x H x D)		
		Desktop	435 x 44 x 356 mm	435 x 44 x 356 mm
		Rackmount	19" x 1HU x 356 mm	19" x 1HU x 356 mm
Weight			approx. 3.0 kg	approx. 3.4 kg
Interfaces				
	for workstation	Video	D-Sub HD 15 socket	2 x D-Sub HD 15 socket
		Keyboard/mouse	2 x Mini-DIN 6 socket	2 x (2 x Mini-DIN 6 socket)
	to central module		RJ45 socket	2 x RJ45 socket
	for network		RJ45 socket	2 x RJ45 socket
	for update		via network port	via network port
Conformity			CE, RoHS	CE, RoHS

x = 5, 6, 7

Central module expansion

via power switching

"Power switching" functionality can be added to the system using the HardBoot CCX module. The HardBoot CCX are serial-connected to the CATCenters and switched via the CATCenter OSD. Each target can have three power sources with different phases assigned to it, and these are switched using one command (grouping). By cascading the HardBoot CCX, up to 128 power sources are available per CATCenter.

Technical data			HardBoot CCX
Power outlets per unit			8 (2 x 4)
Max. no. of cascaded devices			16
Max. available power ports per CATCenter			128
No. of parallel switchable power ports (across all devices)			3
Cascading			RS485 bus
Cascade interface			RJ12 socket
Switching current			2 x 10A
Permanent current per consumer			10A
Peak current per device			120A
Power supply	Main	Type	2 x internal power pack
		Connection	2 x connectors for non-heating device (IEC-320 C14)
		Voltage	AC230V/50Hz
Current delivery		Connection	2 x 4 x socket for non-heating devices (IEC-320 C14)
		Voltage	AC230V/50Hz 2 x 10A
Casing	Material		Metal
	Dimensions	(W x H x D)	
		Desktop	437 x 42 x 107 mm
		Rackmount	19" x 1HU x 107 mm
Weight			approx. 2.0 kg
Temperature			+0 to +40 °C
Operating environment		Air humidity	10 % – 80 %, non-condensing
Interfaces		to central module	D-Sub 9 socket
Conformity			CE, RoHS

Central module expansion

Cascading for connecting additional targets

The CATCenter system can be expanded to offer connectability for targets via cascading. To do this, any CATCenter central modules are interconnected. When cascading different CATCenter types, the most powerful device should be the master in the cascade.

The master undertakes all the control tasks. If a CATCenter X8 is used as a master, the entire cascade can then be configured via the network (network-compatibility of the CCX8 is effectively 'transferred over').

	CATCenter X2	
	No. of available target ports	No. of CATCenter in total
Target ports native	16	1
Cascade level 1	128	9
Cascade level 2	1024	73
	CATCenter X4	
	No. of available target ports	No. of CATCenter in total
Target ports native	32	1
Cascade level 1	256	9
Cascade level 2	2048	73
	CATCenter X8	
	No. of available target ports	No. of CATCenter in total
Target ports native	32	1
Cascade level 1	128	5
Cascade level 2	512	21

Expansion on target-side

to increase the number of workstations > 8 – 16 / Support for moveable, integrated targets

Using the target modules CATpro2-UC, a target can be accessed from two CATCenter clusters. This doubles the number of access from 8 (CATCenter X8) to 16 (2 x CATCenter X8), for example.

The extended variant is used to link-up moveable, integrated targets (telescopic rails) thanks to its longer connection cable.

			Target module CATpro2 variants	
Technical data			UC	extended
Signal type/video			analogue video	analogue video
No. of interfaces				
	to central module		2	1
Total length incl. cable			0.3 m	1.2 m
Power supply	Main	Type	via keyboard interface on the target	via keyboard interface on the target
		Connection	PS/2 / USB	PS/2 / USB
		Voltage	+5VDC	+5VDC
Casing	Material		Plastic	Plastic
	Dimensions	(W x H x D)	65 x 20.7 x 65 mm	45 x 20.7 x 70 mm
	Design		Converter	Converter
Weight			approx. 130g	approx. 120g
Interfaces	to target	CATpro2-UC-PS/2 CATpro2-extended PS/2	2 x Mini-DIN 6 plug, 1 x D-Sub HD 15 plug	2 x Mini-DIN 6 plug, 1 x D-Sub HD 15 plug
		CATpro2-UC-PS/2-DEC CATpro2-extended PS/2-DEC	2 x Mini-DIN 6 plug, 1 x D-Sub HD 15 plug	2 x Mini-DIN 6 plug, 1 x D-Sub HD 15 plug
		CATpro2-UC-USB CATpro2-extended-USB	1 x USB-A, 1 x D-Sub HD 15 plug	1 x USB-A, 1 x D-Sub HD 15 plug
		CATpro2-UC-SUN-USB (de) CATpro2-extended-SUN-USB (de)	1 x USB-A, 1 x D-Sub HD 15 plug	1 x USB-A, 1 x D-Sub HD 15 plug
		CATpro2-UC-SUN-USB (us) CATpro2-extended-SUN-USB (us)	1 x USB-A, 1 x D-Sub HD 15 plug	1 x USB-A, 1 x D-Sub HD 15 plug
	to central module		RJ45 jack	RJ45 jack
Conformity			CE, RoHS	CE, RoHS

Expansion on target-side

to increase the number of workstations > 16 – 64

The UserCenter CAT8 is positioned between the target module and the central modules. The UserCenter CAT8 is connected to the target module (all CATpro2 variants except "UC") and simplifies the number of connections in the direction of the central module for this target. This means that the target can be accessed from 8 CATCenter clusters. As each CATCenter (when using type X8) can connect 8 workstations, the target can be accessed from 8 clusters via 8 workstations (= 64 workstations).
A UserCenter CAT8 achieves this for 4 targets. For example, if 20 targets are to be accessible via more than 16 workstations, 5 UserCenter CAT8 are required, plus the relevant number of CATCenters and UCON.

Technical data			**UserCenter CAT8**
Ports to central module			32 (4 blocks of 8)
Transmission type to central module			dedicated CAT-x link
Target ports			4 (per block 1)
Transmission type to target module			dedicated CAT-x link
Update process			local service socket
Power supply	Main	Type	internal power pack
		Connection	Connector for non-heating device (IEC-320 C14)
		Voltage	AC100-240V/60-50Hz 0.4-0.2A
	Redundant (optional)	Type	external power pack
		Connection	Mini-DIN 4 power socket
		Voltage	+12VDC/3A
Casing	Material		anodised aluminium
	Dimensions	(W x H x D)	
		Desktop	435 x 44 x 210 mm
		Rackmount	19" x 1HU x 210 mm
Weight			approx. 2.3 kg
Interfaces			
to target module			RJ45 socket
to central module			RJ45 socket
for update			2.5 mm jack
Conformity			CE, RoHS

x = 5, 6, 7

Expansion on workstation-side

using communication modules

Function	CCX-TradeSwitch	CCX-Push-Get	CCX-IP switching
	UCON-Pooling with the "TS function"	UCON interaction with the "push-get function"	CATCenter remote control with "IP switching"
Description	The TradeSwitch function groups multiple workstation modules (UCON) into one logical workstation. This logical workstation can be operated with merely one keyboard and one mouse – but has multiple displays (multi-monitor workstation). Keyboard/mouse is assigned to the individual UCON of the logical workstation as preferred, using a hotkey.	The push-get function permits the image on a target to be moved to the display of another workstation – or to be taken from there. This workstation can be a large screen projection, for example.	The IP-switching function can be used to send switching commands via network to the CATCenter X8. The system operation is therefore independent of a UCON workstation module. The UCON can then only be used to connect the displays. We provide you with the programme interfaces (Windows DLL or Linux SO) – you create the user interface.
Operation via	Hotkeys	OSD AdonIS	Operating interface to be created by the customer
Required for use	Activation in the CATCenter master	Activation in the CATCenter master	Activation in the CATCenter master CATCenter X8 as master In-house programming of an operating interface

OSD functional features

The OSD is the central operating and configuration component in the system and can be modified to fit the needs of the user and the security guidelines in place for its use. The access is simple via keyboard/mouse and configurable hotkeys.

Users	Create up to 128 individual accounts.
	Define user-specific OSD displays.
	Set up password protection for all workstations.
	Form groups for effective rights management.
	Assign individual configuration rights.
	Assign access rights for the individual targets.
	Activate multiuser mode for simultaneous connection of an individual target.
Targets	Select targets directly via the Select menu.
	Create, edit or delete target designations.
	Set the permanent display of the target designation on the screen.
	Form groups for effective access management.
	Search targets via name input.
	Select 3 scan modes for automatic or manual through-connection of connected targets.
	Display target routing, including across cascades.
Power	Switch target power supply (additional component required).
System info	Re-detection of components with automatic assignment of the known configuration information.
	Schematic illustration of the system layout from the target to the workstation.
	Display of all targets as a list – including across cascades; no through-switching across multiple OSDs.
	Display of the assigned status conditions for workstation <-> target.
Workstation	Integrate keyboards with special functions (optional).
	Set up open, direct access without password prompt.
	Define a preferred computer which is offered immediately after logging on.
	Activate access protection via auto log-off when leaving the workstation.
	Block OSD to prevent system access to specific consoles.
	Set up a video console (e.g. beamer) with remote control via other workstations (push-get and TradeSwitch module required).
	Optimum image thanks to the automatic calibration of each transmission path between the target module and workstation.
Updating	Firmware/OSD updates possible via the relevant interfaces.

Web interface functional features

The web interface is the configuration interface for the IP workstation module UCON-IP-eco and provides you with the following selected options in the various areas:

Configuration	Easy setting of the network parameters via the graphical interface
	Activate session timeouts for IP client web interface
	Enter date and time, select NTP server
Maintenance	Backup of the configuration data
	Restore the configuration data.
	Restore the original factory status
Logging	Carry out syslog settings
	Query system information, e.g. current network settings, logs, system configurations, active IP sessions or local syslog protocol
	Forward syslog messages to up to two servers
Updates	Import firmware updates via the network
Call IP client	Calling of the Java client for IP access to the targets connected on the CATCenter, regardless of operating system
	To do this it is not necessary to install any software on the target or the workstation computer

IP client functional features

The native clients are used as a remote access tool for KVM IP access to the targets connected to the system and have the following features, for example:

Operation	Target selection via graphical interface or OSD
	Operate target with original mouse pointer and keyboard down to the BIOS level
	Run comprehensive keyboard macros on the targets (e.g. Crtl+Alt+Del)
	Transfer temporary storage of the IP client computer to the target
Video	Automatic detection of video profiles for best performance and image reproduction
	Manual modification of the video profiles
	Activate full-screen mode
	Automatic adjustment of the client window to the resolution of the target
	Take a screenshot of the current session
Communication	Communicate with another client via the chat mode
System settings	Measurement of the bandwidth for data transmission
	Configure the mouse brake
	Activation of mouse gestures to operate the IP client

Xview functional features

The Xview client is the configuration software for the CATCenter X8 and provides you with the following options, and more:

Configuration	Simple setting of the network parameters using a graphical interface.
	Assign network filter rules which permit or reject access to the system for specific IP addresses.
	Enter date and time, select NTP server.
	Specify session timeouts.
Maintenance	Backup the configuration data.
	Restore the configuration data.
	Restore the original factory status.
Updates	Import firmware updates via the network.
Logging	Carry out syslog settings.
	Query system information, e.g. current network settings, logs, system configurations, local syslog protocol.
	Forward syslog messages to up to two servers.
Directory service	Perform authentication against LDAP, Active Directory, TACACS+ and Radius.
OSD AdonIS	Carry out all important OSD settings via a graphical interface.
	Visualisation of the CATCenter system design.

Minimum system

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

Art. no.	Designation	
A230 0023	CATCenter X2	Central module
A232 0009	CATpro2-PS/2	Target module
A112 0031	UCON	Workstation module
see KVM Connectivity	PRO-x	CPU connection cable
	K-C7-x	Ready-made cables, transmission up to 100 m

Components

Central module

Art. no.	Designation	
A230 0023	CATCenter X2	for 2 workstations / 16 targets, desktop incl. rackmount kit
A230 0025	CATCenter X4	for 4 workstations / 32 targets, desktop incl. rackmount kit
A230 0021	CATCenter X8	for 8 workstations / 32 targets, desktop incl. rackmount kit

Target module

Art. no.	Designation	
A232 0009	CATpro2-PS/2	for targets with PS/2 keyboard/mouse, VGA
A232 0029	CATpro2-PS/2-DEC	for targets with DEC PS/2 keyboard/mouse, VGA
A232 0010	CATpro2-USB	for targets with USB keyboard/mouse, VGA
A232 0011	CATpro2-SUN USB-DE	for targets with SUN-USB keyboard/mouse (German layout), VGA
A232 0012	CATpro2-SUN USB-US	for targets with SUN-USB keyboard/mouse (American layout), VGA
A232 0021	CATpro2-VT100	for targets with VT100 emulation

Workstation module

Art. no.	Designation	
A112 0035	UCON-a	Local workstation module, desktop
A112 0036	UCON-a-RM	Local workstation module, rackmount
A112 0066	Twin-UCON-a	Twin local workstation module, desktop incl. rackmount kit
A112 0031	UCON	Remote workstation module, desktop
A112 0032	UCON-RM	Remote workstation module; rackmount
A112 0033	UCON-s	Remote workstation module with connection for 2 workstation computers, desktop
A112 0034	UCON-s-RM	Remote workstation module with connection for 2 workstation computer; rackmount
A100 0005	UCON-IP-eco	IP workstation module with 1 x Ethernet connection, desktop incl. rackmount kit
A100 0007	Twin-UCON-IP-eco	Twin IP workstation module with 2 x Ethernet connection, desktop incl. rackmount kit

Native clients (for UCON-IP-eco, one client is supplied free of charge)

Art. no.	Designation	
A800 0016	IP-Console Client-WIN	IP operator client Windows for UCON-IP-eco (optional)
A800 0017	IP-Console Client-Linux	IP operator client Linux for UCON-IP-eco (optional)

Cable

Art.-Nr.	Designation	Category in KVM Connectivity	Function
see KVM Connectivity	PRO-x	CPU connection cable	computer connection
	K-C7-x	Ready-made cables	transmission up to 100 m
	K-C5-OIL-x	Ready-made cables	outside transmission up to 100 m
	K-C7-LD-x	Ready-made cables	transmission over 100 m

Expansions

Power switching

Art. no.	Designation	
A410 0001	HardBoot CCX	CCX-PowerSwitch for 8 power sources, cascadable up to 128 power sources, rackmount

Cabel

Art.-Nr.	Designation	Category in KVM Connectivity	Function
see KVM Connectivity	HB-CCX-2	**Device cable**	Connection of HardBoot CCX and CATCenter
	CCX-BUS	**Ready-made cable**	Connection of multiple HardBoot CCX among each other
	PowerCord-x	**Power supply cable**	power supply connection

Communication modules

Art. no.	Designation	
A820 0003	CCX-TradeSwitch	TS module for 1 CATCenter cluster
A820 0004	CCX-Push-Get	Push-get module for 1 CATCenter cluster
A820 0005	CCX-IP-switching	IP switching module for 1 CATCenter system

Target module for > 8 – 16 simultaneous workstations

Art. no.	Designation	
A232 0013	CATpro2-UC-PS/2	PS/2 keyboard/mouse, VGA, twofold access to a target
A232 0030	CATpro2-UC-PS/2-DEC	DEC-PS/2 keyboard/mouse, VGA, twofold access to a target
A232 0014	CATpro2-UC-USB	USB keyboard/mouse, VGA, twofold access to a target
A232 0015	CATpro2-UC-SUN USB-DE	SUN-USB keyboard/mouse (German layout), VGA, twofold access to a target
A232 0016	CATpro2-UC-SUN USB-US	SUN-USB keyboard/mouse (American layout), VGA, twofold access to a target

Target module for fitting on telescopic rails

Art. no.	Designation	
A232 0017	CATpro2-extended-PS/2	PS/2 keyboard/mouse, VGA
A232 0031	CATpro2-extended PS/2-DEC	DEC-PS/2 keyboard/mouse, VGA
A232 0018	CATpro2-extended-USB	USB keyboard/mouse, VGA
A232 0019	CATpro2-extended-SUN-USB-DE	SUN-USB keyboard/mouse (German layout), VGA
A232 0020	CATpro2-extended-SUN-USB-US	SUN-USB keyboard/mouse (American layout), VGA

Additional component for > 16 – 64 simultaneous workstations

Art. no.	Designation	
A220 0013	UserCenter CAT8	Additional component for octupling the access to 4 targets

Accessories

Art. no.	Designation	
A411 0008	Power-Set 12-type 2	External power pack; redundant power supply; 12V/5A

Please quote the article number and designation when ordering.

KVM Matrix Switches

The ControlCenter 4-n and 8-n form part of the group of KVM matrix switches and switches video, keyboard and mouse signals. The system consists of four main components; the central modules with their target-side expansion units, the plug-in cards (on the workstation and target sides), the target modules and the remote workstation modules. The modules are interconnected via CAT-x cable. The systems operate between 12 and 96 targets across 4 – 8 simultaneous workstations.
By connecting two ControlCenter 8-n systems and by using the relevant target modules, the number of simultaneous access workstations can be increased to 16.

Highlights

- ***Modular design with plug-in card technology (can be upgraded and re-equipped during operation)***
- ***Hot-plug and hot-swap of the plug-in cards***
- ***Redundant power supply***
- ***Stay-alive function for all connected targets***
- ***Can be cascaded in a star format for up to max. 96 targets/cluster***
- ***Integrated user management (max. 64 users can be configured with different rights)***
- ***Distributed intelligence within the overall system for increased fault tolerance***
- ***Backup/restore of the configuration data possible via the master card***
- ***Can be controlled remotely via the serial interface (e.g. for connection to AMX control units)***
- ***Transmission of the KVM signals via CAT cable***
- ***Variant for simultaneously switching up to four video channels per target available (ControlCenter 4-n-MC)***

ControlCenter 4-n

The ControlCenter central module is available in the variants **ControlCenter 4-n** (up to 4 workstations and 12 targets) and **ControlCenter 8-n** (up to 8 workstations, 12 targets).
The actual quantity connected is produced by the number of plug-in cards purchased for workstations and targets. On the target side, the quantity connected can be expanded using the ControlCenter 4-E or 8-E expansion modules. For each "E" unit, the possible number of devices that can be connected increases by 14 targets for both systems.

A functional system consists of a minimum of one ControlCenter, one workstation card and one target card, a target module and the relevant connection cables.

Front view

Article no.
A230 0001

There are two main variants on the workstation side:
local workstations via the workstation cards **CC-CON** and **CC-2CON** (e.g. in the server room) and remote workstations via the combination **of CC-Trans-C5** and **CAT-Rem** (e.g. in the admin office)

Front view

Workstation card

CC-Trans-C5
Article no.
A231 0011

Workstation module

CAT-Rem
Article no.
A112 0039

Operating the main components

The ControlCenter systems are operated via the OSD AdonIS and via keyboard hotkeys. These two components are available on all workstations and therefore ensure fast and simple operation system-wide (see OSD functional features). The systems are also configured via the OSD AdonIS.

OSD (AdonIS)

Functional expansions

The ControlCenter 4-n and 8-n systems can be functionally expanded with the following options:

Central modules:

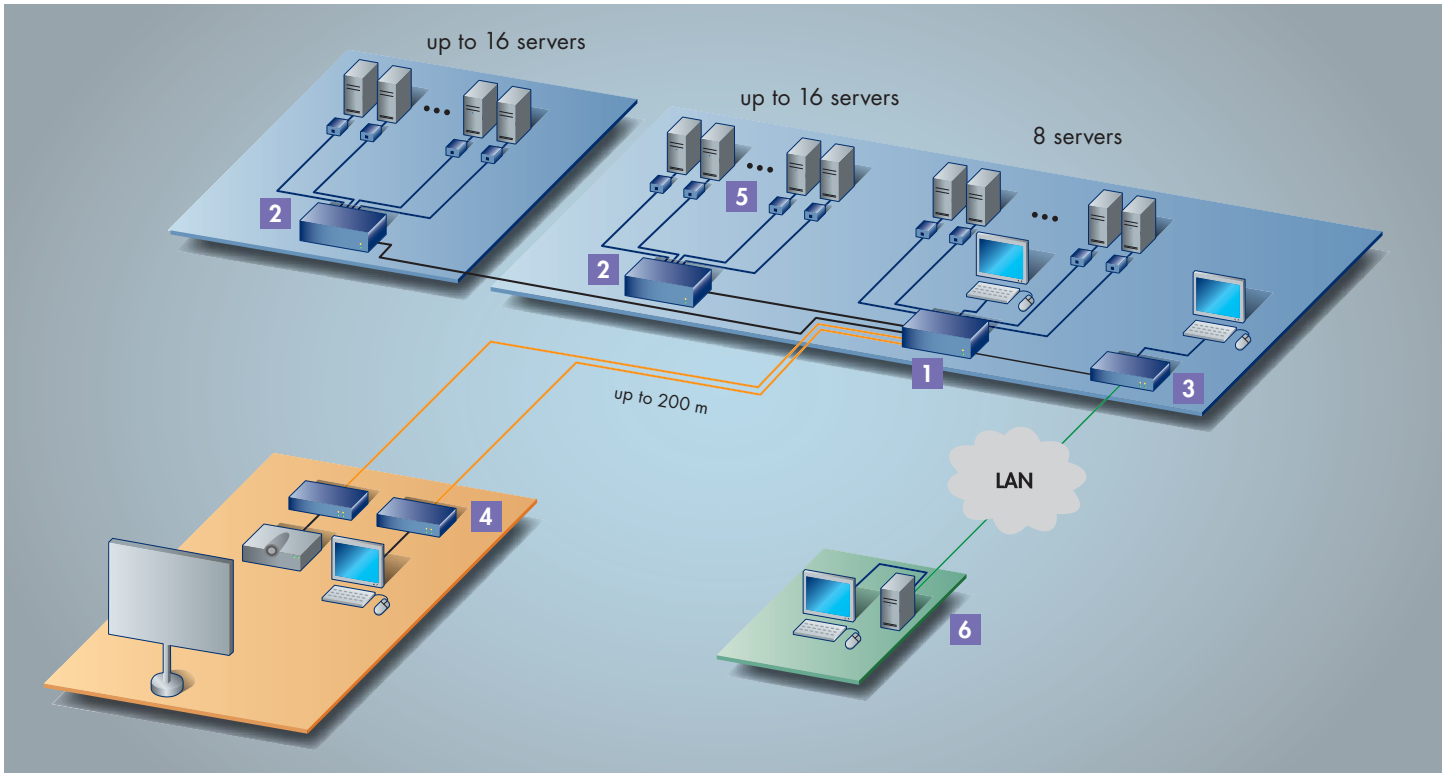
- > 12 – 96 targets via expansion with ControlCenter 4-E or 8-E

Target module:

- > 8 – 16 workstations by using the CATpro-UC target modules and the coupling of 2 ControlCenter 8-n systems

Workstation module:

- Setup of a KVM-IP access to all targets via an expansion with Acxos
- Move screen content across all workstations using the PUSH-GET function



System diagram

1 ControlCenter 4-n
2 ControlCenter 4-E
3 Acxos
(+ local workstation)
4 CAT-Rem
5 CATpro
6 IP client

Example

In the 2 server rooms at a medium-sized company, administration is required for up to 12 servers via an IP workstation (Acxos) and a permanent workstation in the server room (ControlCenter 4-n) in phase 1 of the project planning process.
In phase 2 of the project, 20 servers will be added which are to be integrated into the system (ControlCenter 4-E). The access points are to be expanded with a permanent workstation in the admin office (CAT-Rem) and the option for display on a large-screen projector (CAT-Rem). The equipment used is the ControlCenter 4, as this can be expanded in increments of 1 both on the workstation and the target side thanks to its fully modular design, and can be optimally adapted to the company's growing needs.

System functional features

The design of the system hardware offers a range of benefits in use; just a few of these benefits are outlined below as an example.

Video	VGA resolutions up to 1600 x 1200 @ 85Hz can be selected
	The path between the workstation module and the central module can be manually optimised in terms of the video. The cable length and type can be set
Operating environment	
Temperature	+5 to +40 °C
Air humidity	< 80 %, non-condensing
Installation	The system components can be activated in any order
	System components added are initialised automatically
	Target hot-plug: Targets can be connected while the system is in operation
	Target hot-swap: Targets can be moved while the system is in operation
	Stay-alive: The targets remain unaffected when activating, deactivating and "moving" a switching component
Expansion	System can be expanded flexibly on all module levels
	Central module is able to grow in line with requirements thanks to the card technology
	Individual modules can be added to the system during live operation
	The central module can be expanded using cards while the system is in operation
IP workstation modules	Virtually limitless access is possible via Ethernet by using the optional Acxos expansion with the workstation card CC-2CON
	Acxos also provides an operating client which is used both to establish the IP session as well as to provide system operation via a graphical interface. This client is available as a native application for Windows and GNU-Linux or as an operating system-independent JAVA version

OSD functional features

The OSD is the central operating and configuration component in the system and can be modified to fit the needs of the user and the security guidelines in place for its use. The access is simple via keyboard/mouse and configurable hotkeys.

User	Up to 64 individual accounts can be configured.
	Define user-dependent OSD displays.
	Password protection can be activated for all workstations.
	Assign user-related configuration rights.
	Assign access rights for the individual targets
	Activate multiuser mode for the simultaneous connection of multiple workstations to one target.
	Reduce the OSD presence to a single menu (Select menu)
	Set up view-only-mode for one or more targets.
	Workstation logs itself off automatically following inactivity.
	One computer can be defined as the default computer for each user.
Target	Select targets directly via the Select menu across all devices.
	Assign up to 10 targets with hotkeys and select via a keyboard.
	Create, edit or delete target names.
	Activate permanent display of the target information on the screen.
	Search for targets in the Select menu by entering the name.
	Hide non-activated targets from the user.
	Activate 3 scan modes for automatic or manual through-switching of connected targets.
Workstation	Integrate keyboards with special functions (optional).
	OSD position and size can be freely defined.
	Block specific workstations for individual users.

ControlCenter 4-n

Article no.
A230 0001

Rear view

ControlCenter 8-n

Article no.
A230 0003

Rear view

ControlCenter 4-E

Article no.
A230 0009

Rear view

ControlCenter 8-E

Article no.
A230 0011

Rear view

Individiual features of the modules

Technical data			Central module		Central module target-side expansion	
			ControlCenter 4-n	**ControlCenter 8-n**	**ControlCenter 4-E**	**ControlCenter 8-E**
Workstation slots per unit			4	8	–	–
Workstation slots max. per cluster			8	16	–	–
Transmission type to workstation module			dedicated CAT-x link	dedicated CAT-x link	–	–
Target slots, native			12	12	16	16
Target slots, combined			96	96	–	–
Transmission type to target module			dedicated CAT-x link	dedicated CAT-x link	dedicated CAT-x link	dedicated CAT-x link
Power supply	Main	Type	Power pack card	Power pack card	Power pack card	Power pack card
		Connection	Connector for non-heating device (IEC-320 C14)	2 x Connector for non-heating device (IEC-320 C14)	Connector for non-heating device (IEC-320 C14)	2 x Connector for non-heating device (IEC-320 C14)
		Voltage	AC100-240V/60-50Hz	AC100-240V/60-50Hz	AC100-240V/60-50Hz	AC100-240V/60-50Hz
	Power intake	(full expansion)	approx. 630-270 mA	approx. 1240-520 mA	approx. 540-230 mA	approx. 1000-435 mA
	Redundant (optional)	Type	Power pack card	Power pack card	Power pack card	Power pack card
		Connection	Connector for non-heating device (IEC-320 C14)	Connector for non-heating device (IEC-320 C14)	Connector for non-heating device (IEC-320 C14)	Connector for non-heating device (IEC-320 C14)
		Voltage	AC100-240V/60-50Hz	AC100-240V/60-50Hz	AC100-240V/60-50Hz	AC100-240V/60-50Hz
Casing	Material		anodised aluminium	anodised aluminium	anodised aluminium	anodised aluminium
	Dimensions	W x H x D				
		Desktop	448 x 132 x 220 mm	448 x 264 x 220 mm	448 x 132 x 220 mm	448 x 264 x 220 mm
		Rackmount	19" x 3HU x 220 mm	19" x 6HU x 220 mm	19" x 3HU x 220 mm	19" x 6HU x 220 mm
Weight			approx. 4.1 kg	approx. 6.2 kg	approx. 4.1 kg	approx. 6.2 kg
Interfaces						
to workstation card			internal bus slot	internal bus slot	internal bus slot	internal bus slot
to target card			internal bus slot	internal bus slot	internal bus slot	internal bus slot
Conformity			CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS

x = 5, 6, 7

CATpro-PS/2

Article no.
A232 0001

Target module variants to increase the number of workstations

By using the CATpro-UC target modules, one target can be accessed from two ControlCenter clusters. The number of access therefore doubles from 8 (1 x ControlCenter 8-n) to 16 (2 x ControlCenter 8-n), for example.

CATpro-UC-PS/2

Article no.
A232 0005

Individiual features of the modules

			CATpro target modules	CATpro target modules Variants
Technical data			**Standard**	**UC variants**
Signal type/video			analogue video	analogue video
Number of interfaces to target card			1	2
Total length incl. cable			0.3 m	0.3 m
Transmission length from target module to target card			15.0 m	15.0 m
Power supply	Main	Type	via keyboard interface on the target	via keyboard interface on the target
		Connection	Mini-DIN 6 / USB	Mini-DIN 6 / USB
		Voltage	+5VDC	+5VDC
Casing	Material		Plastic	Plastic
	Dimensions	W x H x D	45 x 20.7 x 65 mm	65 x 20.7 x 65 mm
	Design		Converter	Converter
Weight			approx. 120g	approx. 130g
Interfaces				
	to target	CATpro-PS/2 CATpro-UC-PS/2	2 x Mini-DIN 6 plug, 1 x D-Sub HD 15 plug	2 x Mini-DIN 6 plug, 1 x D-Sub HD 15 plug
		CATpro-USB CATpro-UC-USB	1 x USB-A, 1 x D-Sub HD 15 plug	1 x USB-A, 1 x D-Sub HD 15 plug
		CATpro-SUN-USB (de) CATpro-UC-SUN-USB (de)	1 x USB-A, 1 x D-Sub HD 15 plug	1 x USB-A, 1 x D-Sub HD 15 plug
		CATpro-SUN-USB (us) CATpro-UC-SUN-USB (us)	1 x USB-A, 1 x D-Sub HD 15 plug	1 x USB-A, 1 x D-Sub HD 15 plug
	to target card		RJ45 socket	2 x RJ45 socket
Conformity			CE, RoHS	CE, RoHS

CC4-CATPC Article no. A231 0002

CC8-CATPC Article no. A231 0004

Individiual features of the modules

Technical data			CC4-CATPC	CC8-CATPC
Signal type/video			analogue video	analogue video
Number of interfaces to target module			1	1
Transmission length Target card => target module			15.0 m	15.0 m
Power supply	Main	Type	via bus ControlCenter	via bus ControlCenter
Casing	Material		anodised aluminium	anodised aluminium
	Dimensions	W x H	4DU x 3HU	4DU x 6HU
	Design		Plug-in card	Plug-in card
Weight			approx. 100g	approx. 250g
Interfaces				
to target module			RJ45 socket	RJ45 socket
Conformity			CE, RoHS	CE, RoHS

CC-CON Article no. A231 0007

CC-2CON Article no. A231 0009

CC-Trans-C5 Article no. A231 0011

Individiual features of the modules

			CC-CON	CC-2CON	CC-Trans-C5
Technical data					
Signal type/video			analogue video	analogue video	analogue video
Video resolution (dependent on cable length)		local console	1600 x 1200 @ 85Hz	1600 x 1200 @ 85Hz	–
Associated workstation module				optional IP access with Acxos	CAT-Rem + variants
Transmission length workstation card => workstation module			Direct connection / local	Direct connection / local	200 m
Transmission type to workstation module			–	KVM-combi-cable	dedicated CAT-x link
Workstations			1	1 (2 concurrent; optional via Acxos)	1
Occupied slots in central module			1	1	1
Power supply	Main	Type	via ControlCenter bus	via ControlCenter bus	via ControlCenter bus
Casing	Material		anodised aluminium	anodised aluminium	anodised aluminium
	Dimensions	W x H	4DU x 3HU	4DU x 3HU	4DU x 3HU
	Design		Plug-in cards	Plug-in card	Plug-in card
Weight			approx. 140g	approx. 130g	approx. 140g
Interfaces					
for workstation		Video	D-Sub HD 15 socket	D-Sub HD 15 socket	–
		Keyboard/mouse	2 x Mini-DIN 6 socket	2 x Mini-DIN 6 socket	–
to workstation module			–	RJ11 socket (communi-cation with Acxos)	RJ45 socket
Conformity			CE, RoHS	CE, RoHS	CE, RoHS

x = 5, 6, 7

CAT-Rem

Rear view

Article no.
A112 0039

TwinCAT-Rem

Rear view

Article no.
A112 0062

Individiual features of the modules

Technical data			CAT-Rem	TwinCAT-Rem
Signal/video			analogue video	analogue video
Video resolution (dependent on cable length)	local console		1600 x 1200 @ 85Hz	1600 x 1200 @ 85Hz
Associated workstation card			CC/Trans-C5	2 x CC/Trans-C5
Transmission length Workstation module to workstation card			200 m	200 m
Transmission type to user			dedicated CAT-x link	2 x dedicated CAT-x link
Workstations			1	2
Occupied workstation cards on central module			1	2
Power supply	Main	Type	internal power pack	internal power pack
		Connection	Connector for non-heating device (IEC-320 C14)	2 x Connector for non-heating device (IEC-320 C14)
		Voltage	AC100-240V/60-50Hz	2xAC100-240V/60-50Hz
		Power intake max.	150-80 mA	150-80 mA
	Redundant	Type	external power pack	external power packs
		Connection	2 pole hollow socket	2 x 2 pole hollow socket
		Voltage	+5VDC/1.4A	2 x +5VDC/1.4A
Casing	Material		anodised aluminium	anodised aluminium
	Dimensions	W x H x D		
		Desktop	210 x 44 x 210 mm	435 x 44 x 210 mm
		Rackmount	19" x 1HU x 210 mm	19" x 1HU x 210 mm
Weight		Desktop	approx. 1.1 kg	approx. 2.3 kg
		Rackmount	approx. 1.3 kg	approx. 2.4 kg
Interfaces				
	for workstation	Video	D-Sub HD 15 socket	2 x D-Sub HD 15 socket
		Keyboard/mouse	2 x Mini-DIN 6 socket	2 x (2 x Mini-DIN 6 socket)
		USB keyboard/mouse	2 x USB-A socket	2 x (2 x USB-A socket)
	to workstation card		RJ45 socket	2 x RJ45 socket
Certifications			CE, RoHS	CE, RoHS

Central module expansion – Combinations for connecting up to 96 targets

The ControlCenters 4-n + 8-n are expanded on the target side via combination with the units ControlCenter 4-E and 8-E. "n" + "E" units are interconnected using ADD cards. The connection card (ADD-R) in the n-unit occupies two target slots which are therefore not available for plugging in target cards. The E-units each provide 16 slots for target cards. This means that the quantity connected is increased by 14 targets per "E" unit.

	ControlCenter 4 or 8 system	
	No. of available target slots	No. of ControlCenter in total
Target ports, native	12	1
Combination with 1 x "E" unit	26	2
Combination with 2 x "E" unit	40	3
Combination with 6 x "E" unit	96	7

Expansion of workstation modules/cards using communication modules

Function	CC4 push-get CC8 push-get
Description	The push-get function permits the image on a target to be moved to the display of another workstation – or to collect the image from there. This workstation can be a large screen projection, for example.
Operation via	OSD AdonIS
Requirement for use	Factory-set activation in ControlCenter 4-n or 8-n.

Expansion of workstation cards with KVM-IP access

Function	Acxos – IP access to all OS
Description	Acxos digitises the video information of the targets connected to the ControlCenter. The video, keyboard and mouse data can then be visualised on any IP workstations. This means that access to the ControlCenter is no longer linked to a permanent workstation, but can be made via Ethernet. One Acxos facilitates one time IP access.
Operation via	IP-Console client, Acxos control board, OSD
Requirement for use	Purchase of the optional Acxos hardware. Availability of the workstation card CC-2CON.

Minimum system

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

Art. no.	Designation	
A230 0001	ControlCenter 4-n	Central module
A232 0001	CATpro-PS/2	Target module
A231 0002	CC4-CATPC	Target card
A231 0007	CC-Con	Workstation card
siehe KVM Connectivity	PRO-x	CPU connection cable

Components

Central module

Art. no.	Designation	
A230 0001	ControlCenter 4-n	To house 4 workstation / 12 target cards (rackmount incl. desktop kit)
A230 0003	ControlCenter 8-n	To house 8 workstation / 12 target cards (rackmount incl. desktop kit)

For each target you require one target module and one target card

Target module

Art. no.	Designation	
A232 0001	CATpro-PS/2	For targets with PS/2 keyboard/mouse, VGA
A232 0002	CATpro-USB	For targets with USB keyboard/mouse, VGA
A232 0003	CATpro-SUN USB-DE	For targets with SUN-USB keyboard/mouse (German layout), VGA
A232 0004	CATpro-SUN USB-US	For targets with SUN-USB keyboard/mouse (American layout), VGA

Target cards for plugging into the central module

Art. no.	Designation	
A231 0002	CC4-CATPC	Connecting a target, for CC4-n + CC4-E
A231 0004	CC8-CATPC	Connecting a target, for CC8-n + CC8-E

For the remote workstations you require one workstation module and one workstation card

Workstation module

Art. no.	Designation	
A112 0039	CAT-Rem	Remote workstation module, desktop
A112 0040	CAT-Rem-RM	Remote workstation module; rackmount
A112 0062	Twin-CAT-Rem	Twin remote workstation module, desktop incl. rackmount kit

Workstation cards for plugging into the central module

Art. no.	Designation	
A231 0007	CC-Con	Local workstation to central module
A231 0009	CC-2Con	Local workstation to central module + connectivity for Acxos
A231 0011	CC-Trans-C5	Remote workstation via CAT cable (with CAT-Rem + variants)

Cable

Art.-Nr.	Designation	Category in KVM Connectivity	Function
see KVM Connectivity	PRO-x	CPU connection cable	computer connection
	User set-x	KVM extension cable set	workstation connection
	K-C7-x	Ready-made cables	transmission up to 100 m
	K-C5-OIL-x	Ready-made cables	outside transmission up to 100 m
	K-C7-LD-x	Ready-made cables	transmission over 100 m

Expansions

Central module – Expansion on the target side

Art. no.	Designation	
A230 0009	ControlCenter 4-E	To house 14 additional target cards (with CC4-n) (rackmount incl. desktop kit)
A230 0011	ControlCenter 8-E	To house 14 additional target cards (with CC8-n) (rackmount incl. desktop kit)

IP access (for Acxos, one client is supplied free of charge)

Art.-Nr.	Bezeichnung	
A100 0001	Acxos	IP workstation module with 1 x Ethernet connection, desktop incl. rackmount kit
A800 0016	IP-Console Client-WIN	IP operator client Windows for Acxos (optional)
A800 0017	IP-Console Client-Linux	IP operator client Linux for Acxos (optional)

Communication modules

Art. no.	Designation	
A820 0001	CC4-PUSH	Functional module for 1 ControlCenter 4-n cluster
A820 0002	CC8-PUSH	Functional module for 1 ControlCenter 8-n cluster

Target module for > 8 – 16 simultaneous workstations

Art. no.	Designation	
A232 0005	CATpro-UC-PS/2	PS/2 keyboard/mouse, VGA
A232 0006	CATpro-UC-USB	USB keyboard/mouse, VGA
A232 0007	CATpro-UC-SUN USB-DE	SUN-USB keyboard/mouse (German layout), VGA
A232 0008	CATpro-UC-SUN USB-US	SUN-USB keyboard/mouse (American layout), VGA

Accessories

Art. no.	Designation	
A411 0009	CC-POW40	Redundant power supply; power pack card for CC4-n
A411 0012	CC-POW40-Set	Redundant power supply; power pack card set for CC8-n;
A411 0001	Power-Set 5-Type 1	Redundant power supply, external power pack; 5V/5A

Please quote the article number and designation when ordering.

KVM Matrix Switches

The ControlCenter 4-n-MC forms part of the group of KVM multi-channel matrix switches and switches the following signals: analogue multi-video, keyboard and mouse. The system consists of four main components, the central modules with their computer-side expansion units, the plug-in cards (workstation-side and computer-side) as well as the optional, remote workstation modules. The systems facilitate the operation of 12 to 96 multi-video computers via 4 simultaneous multimonitor workstations.

A functional system consists of a minimum of one ControlCenter 4-n-MCM, one workstation and one computer card, as well as the relevant connection cables.

The ControlCenter 4-n-MCM is the master in the system and is available in one variant for up to 4 workstations and 12 computers. Each of the workstations can be equipped with 2 monitors. The ControlCenter 4-n-MCS expands the performance of the master with 2 video sources per computer and 2 monitors per workstation.

On the computer side, the quantity of units connected can be expanded via the ControlCenter 4-E-MCM and 4-E-MCS expansion units.

The CC 4-E-MCM normally provides expansion with 16 computers (2 x video), and the CC4-E-MCS by another 2 video signals per computer.

The actual number of units connected is produced by the number of plug-in cards purchased for workstations and computers.

A powerful product, but one which needs a little explanation. Speak to our sales team to create your configuration.

Overview		**Central module**		**Central module expansion on the computer-side**	
		ControlCenter 4-n-MCM	**ControlCenter 4-n-MCS**	**ControlCenter 4-E-MCM**	**ControlCenter 4-E-MCS**
Character		Master of the system overall	Video slave of the master	Computer-side expansion of the master	Video slave of the computer-side expansion
Workstation slots per unit		4	–	–	–
Target slots, native		12	–	16	–
Casing	Dimensions W x H x D				
	Desktop	448 x 264 x 220 mm	448 x 264 x 220 mm	448 x 264 x 220 mm	448 x 264 x 220 mm
	Rackmount	19" x 6HU x 220 mm	19" x 6HU x 220 mm	19" x 6HU x 220 mm	19" x 6HU x 220 mm
Max. peripherals capacity (via fitting with plug-in cards)		2 monitors 1 x keyboard/mouse	2 monitors	–	–
Signal capacity Computer-side max. (via fitting with plug-in cards)		2 x analogue video, keyboard/mouse	2 x analogue video	2 x analogue video, keyboard/mouse	2 x analogue video
Update process		local service socket	–	–	–

	ControlCenter 4-n-MCM	**ControlCenter 4-n-MCS**	**ControlCenter 4-E-MCM**	**ControlCenter 4-E-MCS**
Equipment requirements:				
12 computers, 2 x video	1 x	–	–	–
12 computers, 4 x video	1 x	1x	–	–
up to 26 computers 2 x video	1x	–	1x	–
up to 26 computers 4 x video	1x	1x	1x	1x

Please note that the ControlCenter units only provide the slots required.
Plug-in cards and connection cables need to be ordered depending on your requirements.

For your notes:

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G&D/e-doc/KVM Matrixswitches_6.1/12.2007