

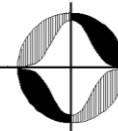


VM1000

Operating manual

(Issue 07.2015)

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1 Safety

- Before starting-up operation, maintaining, transporting, or storing this device, read the safety advices for this device, as well as the entire instruction
- Pay attention to the warning notices in the succeeding chapters
- Keep this document for later use or for handing it over together with the product
- In addition, regard the local safety standards or laws for planning, installation, operation, and proper disposal of the product

1.1 Symbol Meaning

	Dangerous situation
	Useful information

1.2 Meaning of Precautionary Statements

The seriousness of a hazard is expressed by the chosen signal word. Following signal words will be used in case of an appropriate hazard:

Signal word	Meaning
Danger	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
Warning	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
Caution	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

1.3 Authorized Persons



Warning

Danger of life for persons without necessary qualification

- Only skilled personnel are allowed to work on the device!
- Disregarding this can cause death, serious injury, or considerable property damage.

This document does exclusively address the following target audience:

- installer
- maintainer

Qualification	Function
Has expert knowledge in the field of electrical installations and knows electrical hazards of any kind.	Set-up the product Maintain the product Dismantle the product

Comply with the appropriate safety regulations for low voltage systems, especially general safety and installation regulations.

1.4 Device-specific Advices

- Proper and safe functioning of the device depends on appropriate transport, storage, installation, and on accurate operation and maintenance.
- Connect the device only to appropriate power sources
- Comply with the environmental conditions specified by the manufacturer
- Modifications of the device are only allowed as far as they are mentioned in this document or explicitly allowed by the manufacturer
- Use only spare parts and accessories approved by the manufacturer



Warning

Danger of life by electric shock

- Pull the plug before working on the device
- Improper handling of the device can cause death, serious injury, or considerable property damage

- During operation of the device, certain parts inside the device are inevitably energised
- Even with a blown device fuse, there can be dangerous voltage inside the device



Warning

Danger of life by electric shock

- Operate the device only when it is dry and undamaged!

-
- High temperature variations can cause accumulation of moisture inside the device (e.g. after transport). Power-on the device only after the temperature of the device is adapted to room ambient temperature



Warning

Danger of explosion

- Only use batteries of the same type
- Improper battery replacement can cause the battery to explode

Electrostatic Discharge

Electrostatic discharge can damage or destroy components

- Do not touch parts at risk (e.g. contacts of plugs)
- Before touching a device, discharge your body electrostatically (e.g. by touching a grounded metallic object)



We recommend, you contact your local Siemens branch for installation, set-up services, and support.

1.5 Electromagnetic Compatibility (EMC)

This product has been designed for general CCTV applications in homes, offices or industrial environments. Please check with your supplier before installing this product in medical and or intrinsically safe environments or in an industrial EMC environment.

The product must be installed in accordance with current EMC installation regulations in order to ensure correct function and prevent EMC-related failures.

1.6 Manufacturer's Declaration of Conformity

EU Directives

The following applies for the device described in this manual:

The product satisfies the requirements of EU Directive 2014/30/EU "Electromagnetic Compatibility" and Low Voltage Directive (LVD) 2014/38/EU in accordance with EN 60950-1, UL 1950.

Field of application	Requirements for	
	Emission	Immunity
Industry and living area	EN 55022:2011-12 EN 61000-3-2:2010-03 EN 61000-3-3:2014-03	EN 50130-4:2012-02

The EU Declarations of Conformity can be made available to the appropriate authorities by:

PELWECKYJ Videotechnik GmbH

Güterstraße 2

D-64807 Dieburg

2 Ordering information

Order reference	Short designation	Product	
VM1000	VM1000 video rack	VM1000, video rack in 19" base module, 6 HU	
VM1000 CPU	VM1000 CPU	CPU in 19" base module, 3 HU	
Input and Output Cards			
9-816	VME1000/16	Video input module, 16 extra video inputs with 16 loop-through inputs	
9-817	VME1000/32	Video input module, 32 extra video inputs without loop-through inputs	
9-818	VMA1000 master	Video output module	
9-819	VMA1000 slave	Video output module upgrade for the base module with 16 extra video outputs	
9-248.6	OSD text module	One text module is required per output	
Accessories			
2GF2211-8EA	SIMNEO-A128	Alarm box, 128 alarm inputs, 19" module, 1 HU	
LAN I/O-BOX	LAN I/O-BOX	Modular I/O system in a 1U module rack	
SUT 50	SUT 50	Keyboard (customer-specified lettering) and joystick	
SUT 2	SUT 2	Operating Joystick (no keys)	
SUT 32	SUT 32	Keyboard (customer-specified lettering), no joystick	
9-911	power supply unit	Plug-in power supply unit for the external power supply of the keyboards 230 V, 50 Hz/DC 12 V, 400 mA,	
2GF2207-8AE 2GF2207-8AF 2GF2207-8AG	VMT-AK 03 VMT-AK 07 VMT-AK 10	- 3 m connection cable for keyboard - 7 m connection cable for keyboard - 10 m connection cable for keyboard	
2GF2208-8AG	VM-PC	Connection cable for external computers with 9-pin AT connector, 2 m long, for programming the video matrix and loading the alarm program.	9 pin to 25 pin
9-411.HS	RS485-MX16	Cap rail type; TTY/RS232/RS485->RS485 16-fold distributor	
9-411.MG	RS485-MX16	Installation housing type; TTY/RS232/RS485->RS485 16 fach Verteiler	
9-170	TTY8	TTY distributor, 8 port, with V24 or TTY input alternatively	

3 Complete system with all options included

The VM1000 video matrix allows CCTV systems to be constructed in a compact, modular format.

The VM1000 not only allows video signal transfer with keyboards, or automatic contact-controlled alarm processing, but also allows for interconnection to higher level control systems like SDC, IVM, GMA, TOPSIS etc.

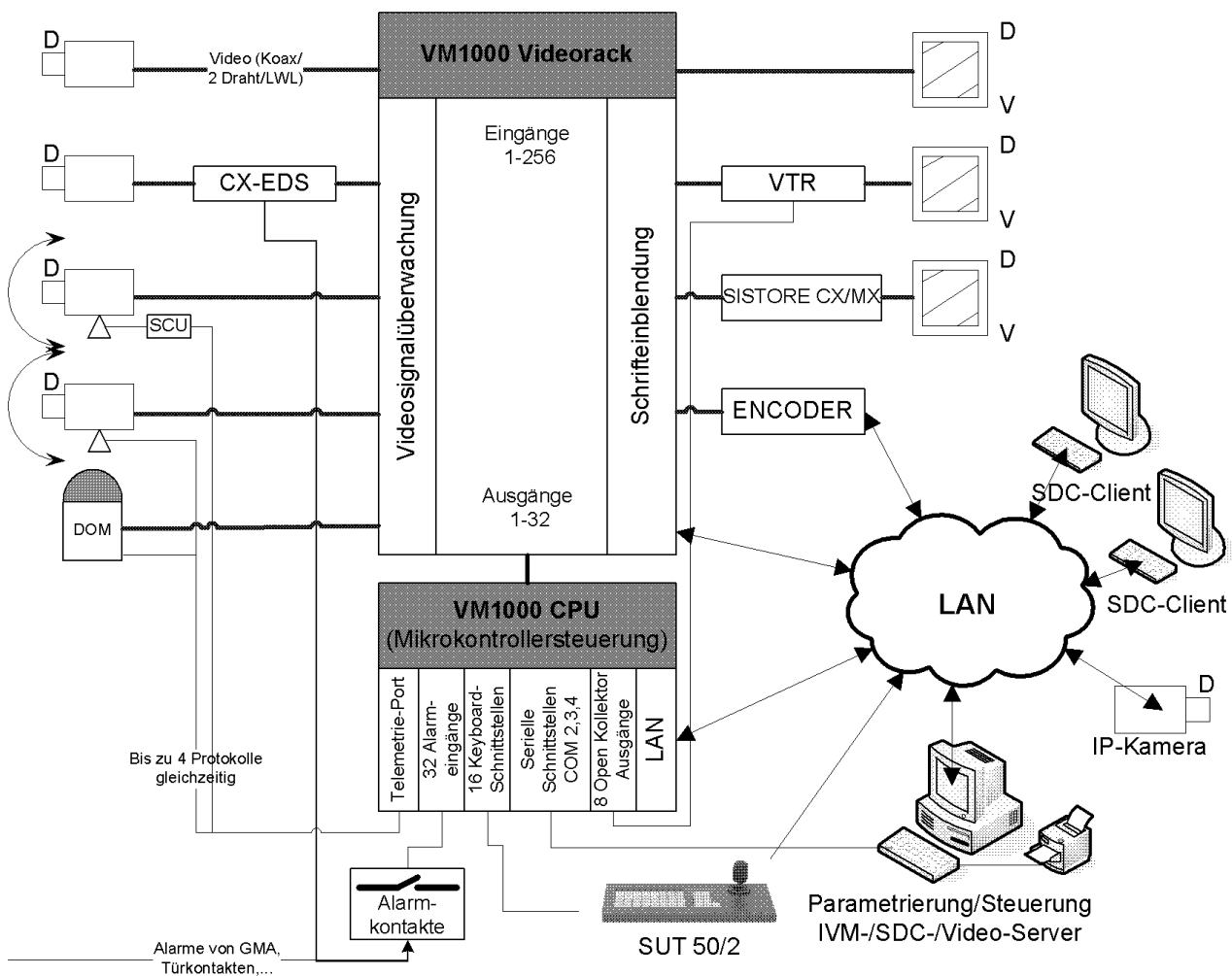


Fig. 1 System overview

3.1 Performance characteristics

The VM1000 video matrix consists of a six standard height unit module (6HU), which contains both the switching matrix and the system controls with 3HU. A maximum of 512 video input signals can be switched at will to a maximum of 128 video outputs.

Video

- VM1000, modular 19 inch system
- Minimal version: 16 inputs to 16 outputs
Maximum equipage: 512 inputs to 32 outputs (within one frame)
- Maximum equipage: 512 inputs to 128 outputs (with fourfold bridger amplifier)
- Maximum equipage: 256 inputs to 128 outputs (with threefold loop-through)
- Inputs expandable by increments of 16 (loop-through capable)
- Inputs expandable by increments of 32 (not loop-through capable)
- Outputs expandable by increments of 16

A VM1000 video rack 6 HU can be expanded to hold either a maximum of 256 inputs to 32 outputs with loop-through inputs, or a maximum of 512 inputs to 32 outputs without loop-through inputs.

- Video signal input via SMB sockets
75 Ohm terminating resistor (switched-off by jumper)
- Video signal failure monitor
Like the SIMATRIX SYS, the VM1000 features its own built-in video monitoring axis. This means that all the outputs remain available, even when signal monitoring is active.

Control

- 8P8C modular plug (RJ45) for access to a 10/100 Base-T network for connecting LAN-based keyboards, status request and programming via integrated web server, interconnection of video servers, and SDC and IVM control
- Three serial interfaces (RS232) for the connection of external systems, such as SDC, IVM-NT, TELEMAT MD/MTD, SISTORE NT, LMS, programming via a PC and secondary control system dialling
- Connection of up to 16 keyboards with freely programmable keys
- 16 serial CL / TTY interfaces for the connection of telemetry devices for cameras with pan/tilt and lens controls
- Connection options for telemetry devices via RS422/RS485 interface with protocols for CCDA, SCU, Sivis Minidome, Pelco D, JVC, and Molynx (full-duplex).
- 32 alarm inputs
- The software supports a maximum of 13 keyboards with freely programmable keys

- CD-ROM with basic program and 6 alarm programs complete with settings, for Windows 98/ME/2000/XP/Vista/Windows 7
- Preset positions for camera head controls and dome cameras, which can be called up individually or in sequence
- 8 universal open-collector control outputs for controlling external devices
- Relay with 2 voltage-free change-over contacts
- Connection option for a log printer

Options

- LAN I/O-BOX
- Alarm box with 128 alarm inputs
- Switchbox with 128 OC outputs
- Relais box with both 32 normally open and normally closed contacts.

Operation

- Simple graphical control and visualisation using SDC, Integrated Video Management (IVM-NT), or GMA TOPSIS
- Control via keyboards with programmable key functions and macros

Programming

Programmable functions of the VM1000:

- Time and weekday controlled alarm programs
- Alarm group switching (max. 4 cameras)
- Alarm and home positions of cameras with pan/tilt drive and lens control
- Alarm image sequence on one monitor for gap-free recording of alarm images
- Log functionality via IVM-NT/printer
- Password-protected activation or deactivation of detection groups
- On-screen text and time insertion for the keyboards
- Real-time clock (date + time), display on up to 8 monitors
- Camera labels (IBM character set, 12 lines of 24 characters each) per camera
- Group switching (max. 4 cameras)
- Operating stations with switching allocation
- Automatic camera image sequence per video output, can be programmed to start up when the system is switched on
- 32 freely programmable predefined sequences with 32 video inputs per sequence, which can be freely allocated to the video outputs
- Keyboards with freely programmable keys
- Screen menus in German, English, French, and Spanish

- Parameter set can be stored as a data file (library function)
- Macro capability: macros can be released via keyboard, time threshold, or alarm sensor contact

3.2 Functional description

The VM1000 video matrix allows CCTV systems with video inputs and outputs to be constructed in a compact, modular format.

The VM1000 switches video signals arriving at the video inputs in any user-defined combination to video monitors, image memories, video printers, etc., which are connected to the video outputs.

The VM1000 can be controlled manually from multiple operating stations (a maximum of 16 keyboards and/or max. 3 serial control interfaces, if controlled by VM1000 CPU), or by alarm signals from external contacts, or by a serially connected TELEMAT, or by another sensor system.

3.2.1 LAN and SDC System Integration

The VM1000 video matrix can also be operated within a LAN by remote control using a UDP/IP-ASCII protocol. The VM1000 is integrated into the SDC system, and thus becomes element of an analog/digital switching matrix. This also allows for migration from existing installations.

3.2.2 Special Operation Mode: VM1000 With Serial Line Connection to Video Server

Instead of the 3 HU 19" VM1000 CPU base module, a PC with serial high-speed interface and SDC VideoServer software can directly control the 6 HU base module (corresponding to SIMATRIX-SYS).

The ability to freely program parameters, i.e. user-defined combinations of basic operating software functions, means that the VM1000 video matrix can be tailored to suit different system configurations.

In addition to the basic functionality of image switching, the device is also able to remotely operate cameras with pan/tilt and lens drives and select camera position settings.

Date and time overlay, camera identification label overlay and the ability to program automatic image sequences are also possible.

Other essential features are the unit's ability to process incoming alarm signals (detection groups, TELEMAT, sensor systems) by transferring the image from the alarm camera to a previously selected monitor and to switch video recorders and save images to image memories.

The way detection groups are allocated to cameras, the way alarm images are allocated to individual monitors and the choice between group or individual signal transfer are all freely programmable.

3.2.3 Supplied Programs

The basic program and 6 alarm programs on the CD-ROM supplied with the device provide a level of set-up that allows the system to be put to immediate use.

The programs supplied cover the most common applications. They also make it easier to adjust programming to suit individual needs.



The VM1000 is set to use alarm program 2 at the factory. The other alarm programs are described in the control software manual.

3.2.3.1 Basic program

The VM1000 can be operated with or without alarm processing. The same basic program is used in both cases.

Number of devices that can be connected:

- Cameras: 1 to 48
- Camera control units: 1 to 48
- Monitors: 1 to 16
- Keyboards: 1 to 4
- IVM-NT/SDC: 1 to 3

The basic program offers the following functionality:

- Keyboard 1 controls monitors 1 to 4
Keyboards 2 to 4 control monitors 2 to 4
- Monitor cycles can be set for all monitors and can be PIN code protected
- Camera designations, date, time, and camera failure messages can all be displayed on the monitor
- The keyboard can be used to remotely control the most recently switched dome or PTZ camera via the VM1000
- Presets per dome or PTZ-drive (CDC) can be parameterized (Camera with special PTZ, lens with integrated potis and special CDC required)

3.2.3.2 Alarm program 2 (factory setting)



All the alarm programs are described in detail in the programming software manual. An overview of the alarm programs is included in the appendix.

When processing alarms using alarm program 2, the following functions are available in addition to basic unit functionality:

- A detection group can be connected for each camera.
- The 32 alarm inputs are programmed for signal connection in reaction to external contact switching.
- Alarm program 2 displays alarm images on monitors 1, 2 and 4. Monitor 3 is reserved for basic functions.
- In the event of an alarm, alarm image 1 is displayed on monitor 1. A subsequent alarm image is displayed on monitor 2 (see below, schematic representation of the stepped switching display mode)

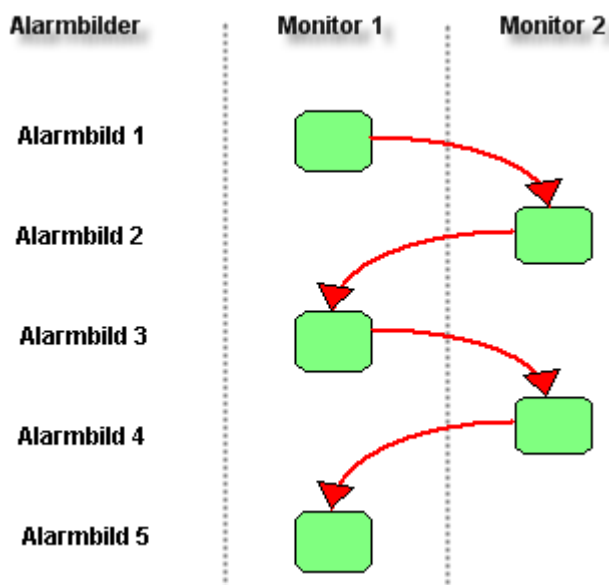


Fig. 2 Schematic representation of the serial display mode (stepped switching)

- The most recent alarm images always appear on monitors 1 and 2. The most recent alarm image successively replaces the oldest alarm image. The most recent alarm image is therefore displayed on monitors 1 and 2 alternately.
- Each alarm requires manual acknowledgement. The most recent alarms are acknowledged first.
- All the other alarms that have yet to be acknowledged are displayed as an alarm image sequence on monitor 4 to allow gap-free video recording.

3.3 Interfaces

3.3.1 Interfaces of the VM1000 CPU

The central processor of the VM1000 CPU controls and administers the entire VM1000 system with all its video inputs and outputs, detector groups, switch outputs and interfaces to operating devices, PTZ/domes or external control systems.

The control scheme depends on the way system parameters have been set (see the VM1000 programming manual).

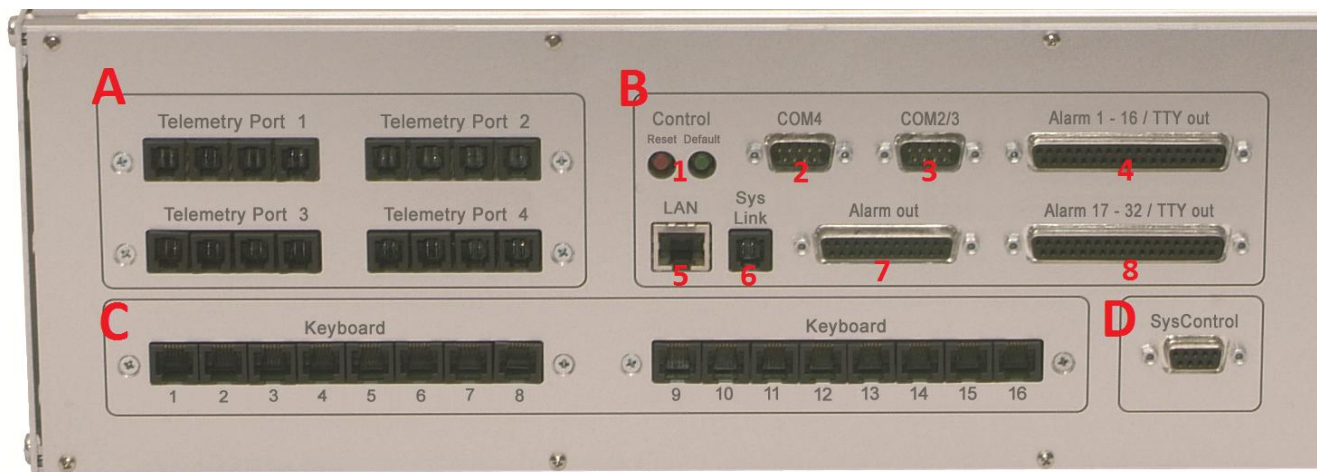


Fig. 3 Interfaces on the back of the VM1000 CPU

- A Telemetry Port 1 – 4:** RS422/RS485 connections for Dome cameras
- B 1 Control:** Reset/Default buttons
- 2 COM4:** RS232 communication interfaces for data exchange with external computers or systems
- 3 COM2/3:** RS232 communication interfaces for data exchange with external computers or systems
- 4 Alarm 1 – 16/TTY out**
For connecting PTZ/DOMEs and detection groups
- 5 LAN:** 10/100 Base-T Ethernet interface for data exchange with external computers or systems
- 6 SysLink:** RS422 system bus for system extension and for connecting the alarm box(es)
- 7 Alarm out**
8 x Open Collector output and master relay
- 8 Alarm 17 – 32/TTY out**
For connecting PTZ/DOMEs and detection groups
- C Keyboard:** for connecting up to 16 keyboards
- D SysControl:** 306 Kbit RS 485 interface to video rack

3.3.2 Interfaces for external communication purposes

Interface designation/type	Qty.	Use	programmable Baud rate
COM 2, COM 3, COM 4 RS232	3	for programming the VM1000 and connecting an external control system. Protocols IVM-NT, TELEMAT MD/MDT, SISTORE NT, log printer, secondary control systems	see programming manual standard setting 19.2 kBaud
Keyboard 4-wire, CL-20mA/TTY interface	8	for connecting up to 8 keyboards	see programming manual standard setting 9600 Baud
Alarm 1 - 16/ TTY out Alarm 17 - 32/ TTY out CL-20mA-/TTY- interfaces I/O 0-15	2 x 8	For connecting telemetry devices	see programming manual standard setting 2400 Baud
Alarm out Master relay	1	2 voltage-free changeover contacts Group signals for alarms and/or video signal interruption If programmed as normally closed, the relay can also be used to indicate a power failure	
Alarm out Open collector outputs	8	For controlling external devices	

3.3.3 Interfaces of the Video Rack



Fig. 4 Interfaces on the back of the VM1000 video racks

- 1 Video inputs 1-256 (here 16x VME1000/16)
- 2 Video outputs 17-32 (VMA1000 Slave)
- 3 Video outputs 1-16 (VMA1000 Master)
- 4 SysCtrl: RS 485 connections to CPU

3.4 Peripheral device address allocation

An address must be allocated to all devices, e.g.

- Keyboards
- Camera control units
- Dome cameras

Camera head drives, dome cameras and interfaces for camera programming must always be assigned an input. The standard address is identical to the number of the video input to which the remote-drive camera is connected. The VM1000 programming software allows, however, allocation of other addresses.

3.5 Front display

3.5.1 Key allocation

The "Menu" key starts the Main Menu. The arrow keys let you choose between the following sub-menus:

- "Main Menu / Hardware-Status"
- "Network Config"
- "IP-Address"

The Enter key (right-hand) allows changing values – depending on current menu item.

3.5.2 Status displays

The front display indicates device conditions, including readings. These values must be seen as purely indicative and for diagnostic purposes only.

In main menu, reached by pressing the "Menu" key, the following items can be chosen:

Network Config

The menu item "Network Config" states, whether the configuration of the VM1000 CPU can be changed over the network ("writeable" or "write-protected"). The current setting may be changed using the Enter key.

IP Address

The menu item "IP Address" indicates the current IP address of the VM1000 CPU. This setting can not be modified using the keyboard.

Main Menu

The menu item "Main Menu" allows the indication of diagnostic information of the VM1000 CPU and the VM1000 video rack. Depressing the Enter key brings up the "Hardware Status". Using the arrow keys, the following diagnostic information can be displayed:

Status display	Meaning
Hardwarestatus	System time and state of activity
Date/Time	Date and time of the VM1000 CPU
Last POR before	Elapsed time since last Power-Off-Reset
Software SPU	Software version of the VM1000 CPU main board
Software CPU	Software version of the VM1000 CPU main processor
Temp Powersupply	Temperature inside VM1000 video rack; near the power supply
Temp Mainboard	Temperature inside the VM1000 CPU (main board)
U1	VM1000 video rack, +5V supply branch
U2	VM1000 video rack, -5V supply branch
U3	VM1000 CPU, +12V supply branch

Notice: If voltages move outside the permissible range and are approaching Zero, there might be a short-circuit, or the system is supercharged. If values are significantly higher, there might be an error voltage entering from outside. In this case consult an authorized technician.

Further Displays

While firmware or factory settings are being updated, this is indicated by the display:

Status display
Firmware update in progress
Firmware update successful
Factory defaults updated

3.5.3 Indicator Lamp

The indicator lamp (LED) on the front panel lights up in the following colours to indicate the system condition:

- yellow: immediately after switching on, as the system boots up
- green: indicates a successful system start

4 Setting-up for Operation

4.1 Power Supply

- The device is only provided for operation in TN networks (according to VDE 0100, part 300 or EN 60950-1). For safe operation the device must be protected by an external overcurrent protection rated no more than 16 A.
- It is not allowed to use the device in IT networks, i.e. networks without an earth lead (insulated), or impedance-earthed leads.
- The device may be connected to electrical supplies with voltages between 110 – 230V (+10% / -15%), 50 – 60Hz. It is not necessary to switch mains voltage.
- Only use power cords complying with local permissions or regulations
- Only connect the device to grounding receptacles
- For connecting the device to the electric power supply, an external insulator must be used for interconnection. The insulator must be installed in an easily accessible place close to the device.

Notice for Norway and Sweden:

"Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand.

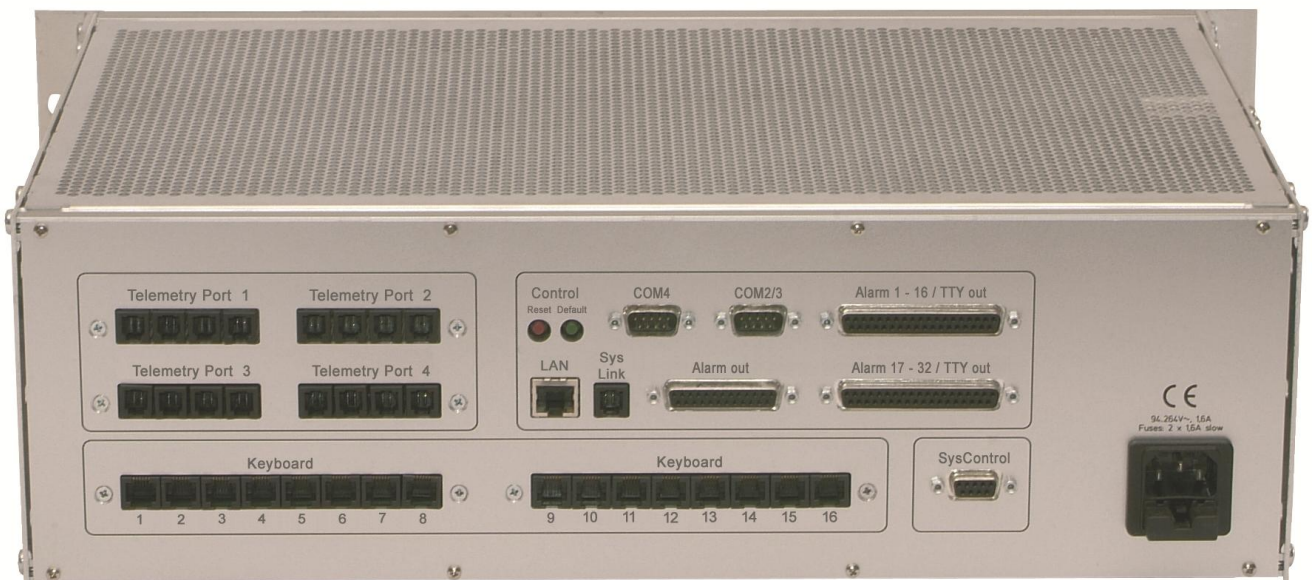
För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet."

4.2 Environmental Conditions

- The VM1000 system is built in modular 19 inch format. The 19 inch component trays have been designed to suit 19 inch frames and cabinets. The side walls of the component trays are perforated to allow good ventilation in the housing (via convection).
- If the component trays in the VM1000 generate excessive heat, suitable cooling must be provided (e.g. forced ventilation).
- the maximum supply air temperature of 45°C is not exceeded in any of the component tray modules
- Comply with the environmental conditions specified by the manufacturer
 - operating temperature: + 5°C to 45°C
 - relative humidity: 30 to 85 %, non-condensing
- Protect the device from moisture and fluids
- Position the device in a way that grants sufficient air supply
- Pay attention to keep the air duct unblocked

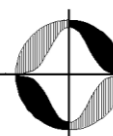
- Do not expose the device to direct thermal radiation (e.g. heating devices)
- Do not operate the device in very dusty environments
- Do not operate the device in the neighbourhood of a strong source of electromagnetic waves
- Do not expose the device to mechanical shock

4.3 VM1000 CPU connections



4.3.1 Interfaces and connections

Interface	Connection
Telemetry Port 1	Connections for dome cameras, 4 x RJ9 , RS422/RS485 full duplex, Protocol: CCDA , Transfer setting: 19k2, 8E1
Telemetry Port 2	Connections for telemetry devices, 4 x RJ9 , RS422/RS485 full duplex, Protocol: CCDA , Transfer setting: 2k4, 8E1
Telemetry Port 3	Connections for dome cameras, 4 x RJ9 , RS422/RS485 full duplex, Protocol: Sivis Minidome , Transfer setting: 19k2, 8E1
Telemetry Port 4	Connections for dome cameras, 4 x RJ9 , RS422/RS485 full duplex, Protokoll: Pelco D , Transfer setting: 9k6, 8N1
Keyboard	8 RJ12 sockets for connecting keyboards
Expansion	or future extension options
COM2/3, COM4	9-pin Sub-D connectors , RS232 communication interfaces for connecting an external computer



Interface	Connection
Telemetry Port 1	Connections for dome cameras, 4 x RJ9 , RS422/RS485 full duplex, Protocol: CCDA , Transfer setting: 19k2, 8E1
ALARM 1-16 / TTY out ALARM 17-32 / TTY out	37-pin Sub-D socket with 2 x 8 CL-20mA/TTY interfaces for connecting telemetry devices and 2 x 16 alarm inputs for connecting detection groups
LAN	8P8C modular plug (RJ45 plug) with 10/100 Base-T ethernet interface for programming over the network, connection of LAN keyboards, status requests over integrated web server, as well as connecting secondary control systems and IVM control.
SysLink	RJ9 socket for connecting (the) alarm box(es)
Alarm-out	25-pin Sub-D connector , universal open-collector outputs and relay with two change-over contacts
Sys Control	9-pin Sub-D connector , Control of the video block per RS485/306 Kbit interface (compatible with SIMATRIX SYS)
Electric supply	110 – 230V (+10% / -15%), 50 – 60Hz, max. 0.24A (for 230VAC) respectively max. 0.48A (for 115VAC), power input max. 55W

4.3.2 Pin allocation for the 4-pin RJ11 telemetry port sockets

The "Telemetry Port" sockets allow control of telemetry devices via an RS422 (RS485) full duplex interface. Each group of telemetry ports (ports 1 to 4 in each case) is made up of 4 parallel-switched RJ11 modular sockets. Each group is set to support its own protocol, which can be changed via programming.

For short distances (about 100 m at 19.2 kBit/s) up to 4 telemetry devices (e.g. PTZ controllable cameras or domes) may be connected per group, where the terminating resistor may be activated for only one device.

If either more than 4 telemetry devices shall be connected or the distance to these devices exceeds 100 m, a RS485/RS422 multiplexer must be installed in between the telemetry output and the telemetry devices.

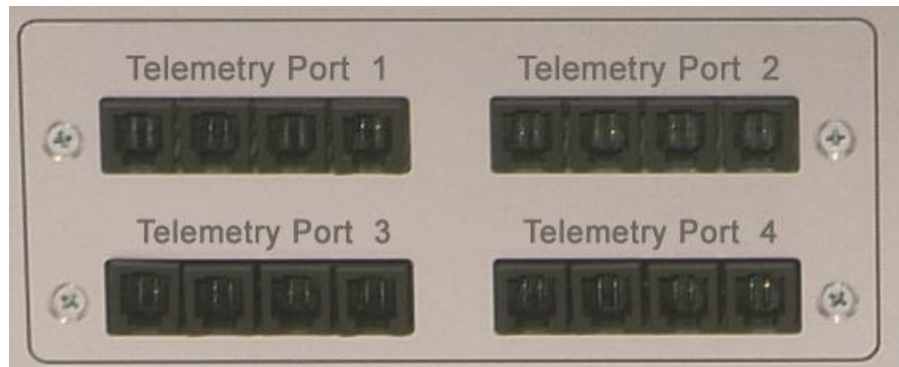


Fig. 5 4-pin RJ11 sockets "Telemetry Port"



Pin	Function
1	+TX
2	-TX
3	+RX
4	-RX

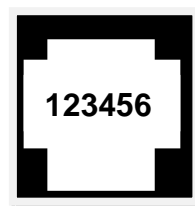
Pin allocation for telemetry ports

4.3.3 Pin allocation for the 6-pin RJ12 keyboard sockets

The VM1000 allows the connection of 8 keyboards via CL/TTY interfaces. The factory transfer setting of 9k6, 8E1 can be changed using the programming software.



Fig. 6 6-pin RJ12 sockets "Keyboard"



Pin	Function
1	GND
2	- RX
3	+ RX
4	- TX
5	+ TX
6	+12V

A maximum of 16 keyboards can be connected to the keyboard interfaces. Each keyboard may draw a maximum of 200mA continuous current from the VM1000 (momentarily up to 300 mA). The total current draw must not exceed 800 mA. The current supply is protected by an internal self-resetting fuse. Each interface can provide a maximum of 300 mA.

The VM1000 CPU is capable of providing the supply up to a maximum distance of 50 m. Connection to a keyboard requires the use of a 6-core cable.

If an external power supply is used, the maximum permissible distance is 1.2 km using cables with 0.8 mm core \varnothing . In this case, both pin 2 and 3, and pin 4 and 5, must be wired as twin wires. Pins 1 and 6 must not be connected.

4.3.4 Pin allocation for the COM2/3 and COM4 9-pin connectors

The "COM2/3" and "COM4" connectors are RS232 interfaces. The Y cable supplied with the device can be used to connect to the COM2 and COM3 interfaces.



Pin	Connector COM2/3 COM2 function	Connector COM2/3 COM3 function	Connector COM4
1			
2	RX COM2		RX COM4
3	TX COM2		TX COM4
4			
5	GND	GND	GND
6			
7			
8		RX COM3	
9		TX COM3	

4.3.4.1 Connecting an external computer to the VM1000 COM interfaces

The following illustrations show how to connect a computer to the RS232 interface on the VM1000 (COM 2, COM 3, COM 4) using a 9-pin or 25-pin Sub-D connector:

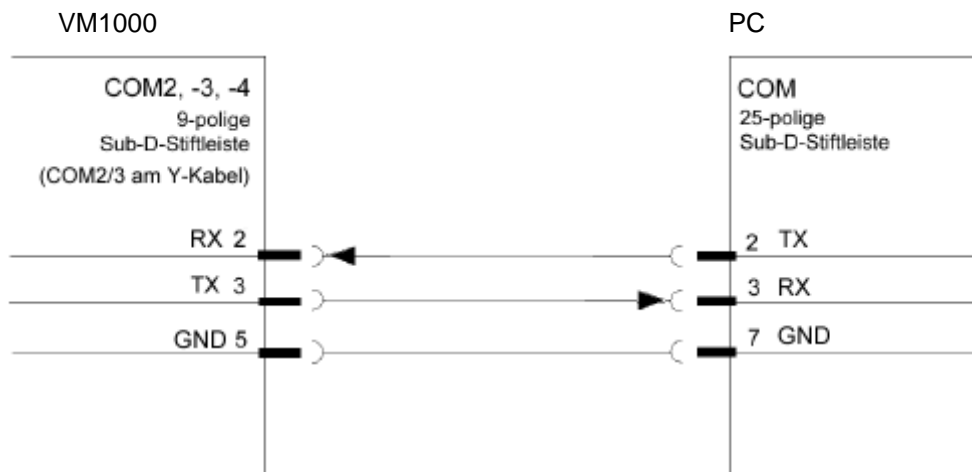


Fig. 7 Connecting an external computer to COM2, COM3, COM4 of the VM1000 using a **25-pin** connector

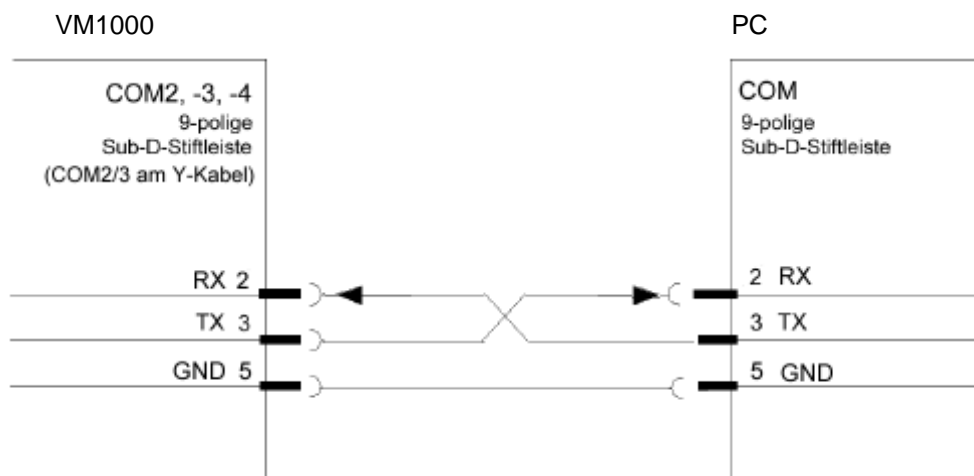


Fig. 8 Connecting an external computer to COM 2, COM 3, COM4 of the VM1000 using a **9-pin** connector



Connect only cables shown in the illustrations!

4.3.5 Pin allocation for the 37-pin Sub-D sockets – alarm 1 - 16 and alarm 17 – 32

The **Alarm 1 - 16 / TTY out** and **Alarm 17 - 32 / TTY out** sockets each have 16 alarm inputs, rated to +5V using internal pull-up resistors. The TTY outputs are set to a data rate of 2400 Baud and use the (Siemens) SCU protocol.

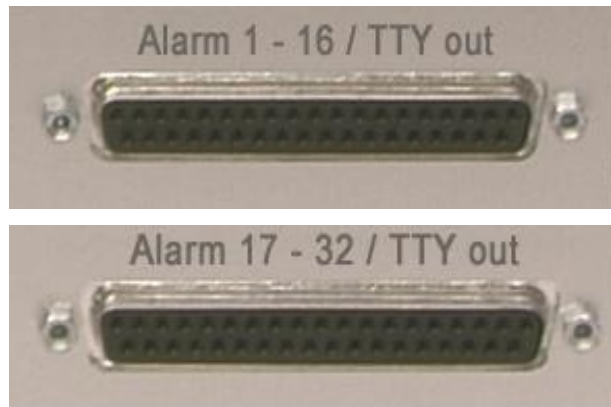


Fig. 9 Sockets Alarm 1 - 16 und Alarm 17 - 32

Pin	Alarm input function	Pin	TTY function
1	Alarm input 17	20	-TX TTY 9
2	Alarm input 18	21	+TX TTY 9
3	Alarm input 19	22	-TX TTY 10
4	Alarm input 20	23	+TX TTY 10
5	Alarm input 21	24	-TX TTY 11
6	Alarm input 22	25	+TX TTY 11
7	Alarm input 23	26	-TX TTY 12
8	Alarm input 24	27	+TX TTY 12
9	Alarm input 25	28	-TX TTY 13
10	Alarm input 26	29	+TX TTY 13
11	Alarm input 27	30	-TX TTY 14
12	Alarm input 28	31	+TX TTY 14
13	Alarm input 29	32	-TX TTY 15
14	Alarm input 30	33	+TX TTY 15
15	Alarm input 31	34	-TX TTY 16
16	Alarm input 32	35	+TX TTY 16
17	GND	36	GND
18	GND	37	GND
19	GND		

4.3.5.1 Connecting camera head drives (PTZ/Dome)

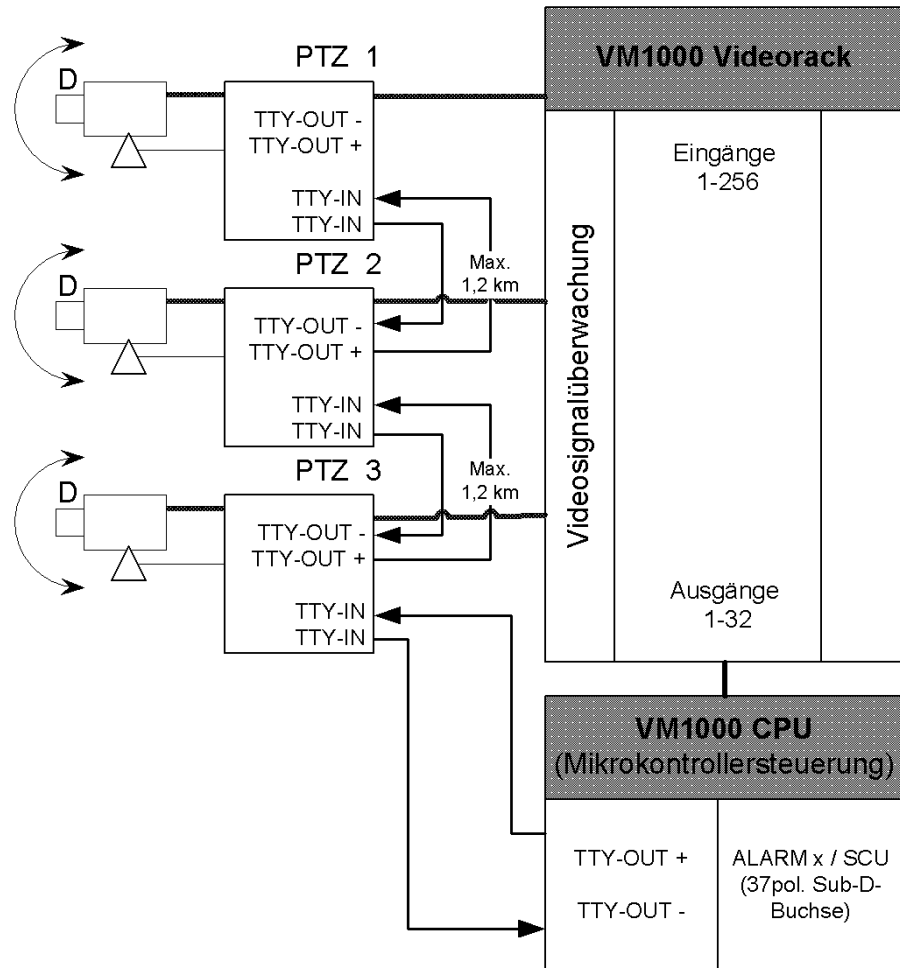


Fig. 10 TTY/CL Connection camera head drives

4.3.5.2 Connecting alarm sensors

The VM1000 is able to process alarm sensors signals, which can be configured as normally closed or normally open contacts.

The schematic below shows how to connect alarm sensor contacts:



Fig. 11 Connecting a detection group to **Alarm 1 - 16/ TTY out**

The distance between detection group and the VM1000 must not exceed 10 m.

4.3.6 SysLink socket allocation

The "SysLink" socket allows connection of an

- alarm box
- LAN I/O-BOX
- switch box
- relay box

via the serial system bus.

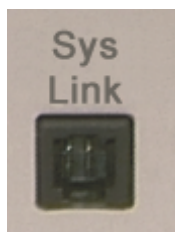


Fig. 12 RJ9 socket SysLink

Pin	Function
1	+TX
2	-TX
3	+RX
4	-RX

4.3.7 SysControl socket allocation

The "SysControl" socket allows for the serial control of the 6 HU video rack VM1000 via RS485 high-speed link.

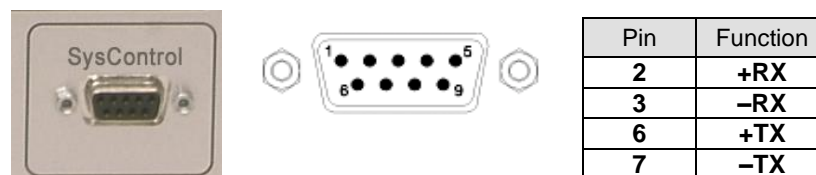


Fig. 13 SysControl

4.3.8 Pin allocation for the 25-pin Sub-D "Alarm out" socket

The **Alarm out** socket contains 8 open-collector alarm outputs and two voltage-free change-over contacts.



Fig. 14 Sub-D socket Alarm out

Pin	Function	Pin	Function
1	N.C.	14	Open Collector D0
2	N.C.	15	Open Collector D1
3	N.C.	16	Open Collector D2
4	Relay N.O. contact 1	17	Open Collector D3
5	Relay change-over contact 1	18	Open Collector D4
6	Relay N.C. contact 1	19	Open Collector D5
7	GND	20	Open Collector D6
8	Relay N.O. contact 2	21	Open Collector D7
9	Relay change-over contact 2	22	Common connection for overload diodes (D0-D7) ⁽¹⁾
10	Relay N.C. contact 2	23	GND (for D0 - D7)
11	N.C.	24	N.C.
12	N.C.	25	N.C.
13	N.C.		

- Sub-D **Alarm out** socket allocation

⁽¹⁾ Common connection of the overload diodes to the 8 open-collector outputs. It is only necessary to wire in this way if switching of inductive loads such as relays is envisaged. Connection must then be made to the plus pole of the voltage supply to the relay.

The cable connected to this socket must not exceed 3 m in length.

4.3.8.1 Relay switching example

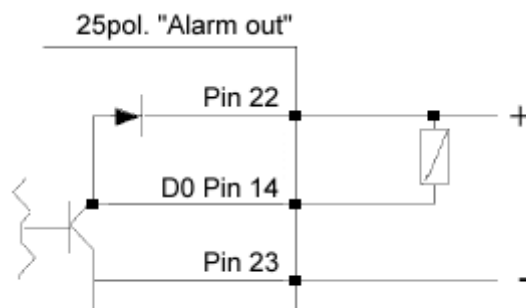


Fig. 15 Relay switching

4.4 Connection of the VM1000 video rack

The VM1000 base version offers power supply, bus board, and plug connectors. By default, the VM1000 is equipped with the exact amount of input and output cards as required by the first order. Further input and output cards can be retrofitted on site at any time.

4.4.1 Video signal requirements

The incoming video signal must satisfy the standards defined in the norms (1.0 V_{SS}) for problem-free synchronisation with good image quality and to allow text overlay from the VM1000.



The incoming video signal must at least satisfy the following requirements:
The amplitude of the synchronisation pulse at each video input must be 0.3 V.
The peak amplitude of the video signal at each video input must not exceed 1.0 V_{SS}.



If the video pulse level is too low, a cable equaliser must be wired in at the video source. This device must then be set to boost the signal to the levels specified above.

4.4.2 Video inputs

There are two types of cards available for extending the amount of video inputs either in steps of 16 or 32.

- VME1000/16 with 16 video inputs, each equipped with two 75 Ohm SMB sockets for looping-through the signal, and a switchable terminating resistor.
- VME1000/32 with 32 video inputs, each equipped with one 75 Ohm SMB socket and a switchable terminating resistor.

Unlike with the predecessor version, SIMATRIX SYS, neither of both card types requires expansions for 32 outputs. The cards are generally equipped with 32 output drivers.

For more detailed information regarding installation and operation, please refer to the card specific documentation.

4.4.3 Video outputs

For the dual video outputs with text generator, there are two different kinds of output cards:

- VMA1000 Master for the basic system with 75 Ohm SMB twin outputs 1..16
- VMA1000 Slave for the expansion with twin outputs 17..32

Furthermore you need a video output module with OSD text overlay for each twin video output in use, to be plugged onto the respective output card.

For more detailed information regarding installation and operation, please refer to the card specific documentation.



For signal lines too long, a cable equaliser must be wired in.

4.4.4 SysLink

Following expansion options can be connected via SysLink:

- Alarm box: the alarm box supplies 128 alarm sensor inputs
- Relay box: the relay box supplies 32 voltage-free normally open and 32 voltage-free normally closed contacts.
- The LAN I/O BOX is a modular I/O system in a 1U module rack, for extending SDC systems and the video matrix system VM1000.
In the basic configuration LAN I/O-BOX provides one module (input module or relay module). Up to 3 extension modules can be added to the first module. Each input module supplies 32 alarm inputs. Each relay module supplies 8 relays. One relay module provides one normally open and one normally closed contact (potential-free).
- Switch box: the switch box supplies 128 Open Collector outputs for controlling signal lights or relays.

Up to 6 of the above mentioned devices can be operated via SysLink at the same time.

4.5 Initial operation

4.5.1 Mains connection



Warning

Danger of life by electric shock

- Operate the device only when it is dry and undamaged!

-
- High temperature variations can cause accumulation of moisture inside the device (e.g. after transport). Power-on the device only after the temperature of the device is adapted to room ambient temperature

Connection to the public power supply:

There is no need for adjusting the voltage, because the power supplies auto-adjust all supplied voltages within the range of 110 – 230V (+10/-15%), 50 – 60Hz.

The IEC connector (C14) designated as "Power" is for plugging-in the power cable. Use the included pluggable power cable.

Use the included pluggable power cable. The device may only be connected to grounded power outlets.

First, connect power cable to video matrix. IEC connector must be near VM1000 Video Rack and accessible easily.

Fuses:

The fuses are integrated into the IEC connector. Therefore the VM1000 Video Rack must be mounted in a way that the IEC connector is easily accessible. Prior to replacing fuses, the power cord must be unplugged from the video rack.

Defective fuses may only be replaced by appropriate ones; regarding type and rated current (refer to Technical Data or type plate).

4.5.2 Hardware

- Connect the VM1000 to the electrical supply to test it.
Once the system has been connected to the electrical supply, and assuming the device is in good operating order, the following messages will appear in the front display; waiting for CPU (start-up message) followed by active. After that the system time will be displayed.
- To continue installation, you must now unplug the unit from the mains.
- Connect the cameras
- Connect the monitors
- Connect the keyboards
- If applicable, connect system extensions and any other devices.
- Connect the control PC
Connect the control PC to COM2 or COM4 using the null-modem cable.

Alternatively the VM1000 can be programmed via LAN connection; the default IP address is 192.168.0.32.

- Connect the VM1000 to the electrical supply

After switching-on; the VM1000 will automatically run through a self-test sequence.

On all monitors that have been connected status messages will appear.

4.5.3 Installing the control software and setting device parameters

- Install the control software
Use the CD supplied with the unit to install the control program. Then start-up the control program.
- Set the system time of the VM1000
Control software: System real-time clock and OSD clocks button
Take-over the PC system time.
- Set basic parameters
Basic parameters button
Camera and monitor settings
- Set basic alarm parameters
Basic alarm parameters button
Alarm sensor settings
- Set camera labels
Camera texts button
- Test cameras, monitors and keyboards
Remote control and message receive button
- Allocate alarm sensors to cameras
Alarm lines and camera groups button
- Further programming
If required, continue tailoring the function of the VM1000 to suit requirements for individual modes of operation and the overall system.
- Make a back-up of the parameter settings and store the back-up close to the system in a safe place.

4.5.4 Programming the VM1000

The VM1000 is programmed at the factory to load alarm program 2 as standard. This program allows alarms to be received and processed immediately. The 4 keyboards and the IVM-NT PCs will switch-in and switch-out cameras and control cameras with pan/tilt and lens drives.

To load a program or to change a setting in a loaded program, please refer to the instructions in the programming manual.

5 Operation

All the set-up profiles supplied are suitable for the following system configurations:

- IVM-NT (compatible) systems on COM2, COM3, COM4
- 4 keyboards
- 48 cameras with pan/tilt and lens drives
(video inputs 1 – 48)
- 48 PTZ/DOMEs with position control
- 32 Detection groups



Fig. 16 Keyboard 1 (key layout SUT 50; monitors 1 to 4)



Fig. 17 Keyboard 1 (key layout CKAxX; monitors 1 to 4)

For keyboards 2 to 4, labels should be removed from any keys that are not required.



Fig. 18 Keyboard 2 (key layout SUT 50; identical to keyboards 3 and 4; each device controls a single monitor)



Fig. 19 Keyboard 2 (key layout CKAx; identical to keyboards 3 and 4; each device controls a single monitor)

5.1 Basic program

No alarm processing takes place in the basic program.

The description of the basic program below also applies to alarm program 2.

The keyboard has a 10-digit keypad and a function pad with 22 grey keys.

Number sequences of up to 3 digits can be entered using the digit keypad.

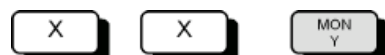
Functions are entered using one of the grey function keys.

5.1.1 Manually switching the camera image to a monitor

5.1.1.1 Using keyboard 1 (master device)

A set key sequence entered via keyboard 1 allows the image from each camera to be switched to each monitor.

Key sequence:

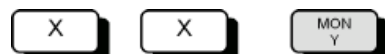


- Enter the camera number using the digit keys(X).
The word **Entry** and the entered camera number will appear on monitor 1.
- Select the monitor of your choice by keying **MON Y**
(e.g. **MON 2** for monitor 2).
The selected monitor will display the image of the selected camera.
The display on monitor 1 will go blank. If no monitor key is pressed, the display on monitor 1 will go blank after about 5 seconds.

5.1.1.2 With operating devices 2, 3, and 4

When operating devices 2, 3, and 4, it is only possible to display the image from the chosen camera on the monitor that has been allocated to the keyboard in question.

Key sequence:



- Enter the camera number using the digit keys(X).
The word **Entry** and the entered camera number will appear on monitor 1.
- Key in **MON Y**.

5.1.2 Starting and stopping a camera image sequence

5.1.2.1 Using keyboard 1 (master device)

Key sequence:



- Start the desired picture cycle by pressing a SEQ key, e.g. **SEQ 2**.
- Stop the sequence by manually switching a camera to this monitor or by pressing the associated monitor key, e.g. **MON 2**. The monitor screen will go blank.

5.1.2.2 Using keyboards 2, 3 and 4

When using keyboards 2, 3 and 4, it is only possible to start a camera sequence that has been allocated to the keyboard in question.

Key sequence:

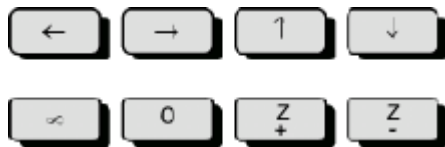


- Start the picture cycle using the SEQ key. In the case of keyboard 2 this would be **SEQ 2**.
- Stop the sequence by manually switching a camera to this monitor or by pressing the monitor key, e.g. **MON 2**. The monitor screen will go blank.

5.1.3 Controlling cameras with pan/tilt and lens drives

It is possible to remotely control cameras with pan/tilt and lens drives manually. This always applies to the camera that was last selected using the keyboard.

Key sequence:



- Use the ← → ↑ ↓ keys or the joystick to tilt the camera horizontally or vertically.
- Adjust the focal length using the **Z+** and **Z-** keys
- Use the ∞ key or **0** key to adjust focus.

5.1.4 Position control

If the camera-head drive incorporates a position-control facility (e.g. CDC0402 or SCU-302) the camera can be moved to preset positions. In the case of keyboard 1, this applies to the camera that is currently switched to monitor 1. In the case of the other keyboards, this always applies to the camera that was last switched to the monitor in question.

Key sequence:



- Enter the number of the desired position using the digit keys(X).

- Press **P**.

5.1.5 Camera image sequences

A password is required to set or change camera sequences (factory setting is 1234, refer to the programming manual to change this setting). The password must be entered to enable storing or changing of camera image sequences. When finished, you must re-establish password protection.

5.1.5.1 Revoking password protection for camera image sequences

Key sequence:



- Enter digit 1 and 2 of the password.
 - Press the **Alarm ON** key
 - Enter digit 3 and 4 of the password.
 - Press the **Alarm ON** key
- The monitor will display the following instruction: **Password**

You can now enter new sequences or make changes.

5.1.5.2 Re-establishing password protection

When you have finished entering a new sequence or making changes, you must re-establish password protection to prevent unauthorised intervention.

Key sequence:



- Enter **254**
 - Press the **Alarm ON** key.
- The on-screen instruction, **Password**, disappears.

5.1.5.3 Camera image sequence using keyboard 1 (master device)

Camera image sequences for monitors 1 to 4 can be stored using keyboard 1.

Key sequence:



- Enter the camera number using the digit keys (**X**).
- Select the monitor of your choice by keying **MON Y** (e.g. **MON 2** for monitor 2).
The selected monitor will display the image of the selected camera.
- Enter the number of the monitor (**Y**) where you want to display the camera image sequence.
- Add the camera to the chosen camera image sequence by keying **SEQ + C**.

Deleting a camera from a camera image sequence

Key sequence:



- Enter the camera number using the digit keys (X).
- Select the monitor where you want to display the camera image sequence by keying **MON Y** (e.g. **MON 2** for monitor 2).
- Delete the camera from the chosen sequence by keying **SEQ - C**.

5.1.5.4 Camera image sequence using keyboards 2, 3 and 4

When using keyboards 2, 3, 4, it is only possible to enter or change a camera image sequence for the current monitor.

Key sequence:



- Enter the camera number using the digit keys (X).
- Key in **MON Y**
(e.g. **MON 2** for monitor 2).
The camera image from the chosen camera appears on the monitor.
- Enter the number of the monitor (Y), to which the keyboard has been allocated (e.g. **2** for monitor 2).
- Add the camera to the chosen camera image sequence using the **SEQ +** key.

Deleting a camera from a camera image sequence

Key sequence:



- Enter the camera number using the digit keys(X).
- Key in **MON Y** (e.g. **MON 2** for monitor 2).
- Delete the camera from the chosen sequence using the **SEQ -** key.

5.1.6 Entering or changing positions

Position control of the camera panning drives and lens drives is only possible if each panning drive and lens drive has been initialised during initial system set-up (see programming manual).

The keyboards can be used as follows to set, change and store positions for cameras with pan/tilt drives and with lens drives:

- Keyboard 1: for the camera switched to monitor 1
- Keyboards 2, 3 and 4: for the camera that was last switched to the monitor

Key sequence:



- Move the panning drive and lens drive of the selected camera to the desired position by pressing the ← → ↑ ↓ **Z-** **Z+** **0** ∞ keys.
- Enter the position number using the digit keys (Z).
- Press **S** to store the position.

This saves the position for the corresponding camera head drive to memory, allowing it to be retrieved whenever required (see chapter 5.1.4).

5.1.7 Macros

The VM1000 can store up to eight macros, either recorded using a keyboard or configured with the programming software. The stored macros can be executed by any keyboard, via time threshold, or alarm contact. The use of macros allows automation of complex special functions.

Please refer to the Programming Manual for details regarding the programming of macros.



Commands for camera head drives cannot be used in macros.

5.1.7.1 Recording a macro

Preset numbers, 101, 102, 103 and 104, must be used to record macros. When reprogramming takes place under the same macro number, the previous macro is overwritten. The same key sequence is used for both starting up and ending a macro recording.

- Starting up the macro recorder. Key sequence for macro 3:



- Now execute the macro, which consists of up to 60 keyboard actions. The 61st action will break off programming and shut off the macro recorder)

- End recording of macro 3:



5.1.7.2 Executing a macro



When executing macros, we recommend switching off the keyboard's OSD text overlay. This speeds up macro processing and prevents the appearance of irritating text overlay.

- Depending on the way your have configured macro operation, either press the predefined macro hotkey or enter the macro number and press **Macro**

5.2 Alarm program 2 (factory setting)



The same operating options offered by the basic program are also available in the alarm programs.

Alarm program 2 also offers the operating options that have been described for the basic program. Alarm processing is offered as an addition feature. A detection group feature is included for each camera input.

This program allows sequencing of 48 cameras, which are each identified as the next camera in sequence, relative to the previous camera

Example:

Camera that triggers the alarm: camera 15

next camera in sequence: camera 14.

The configuration details must be changed as indicated in the programming manual if less than 48 cameras are installed or other sequences are required.

Detection groups can be activated and deactivated using a password.

The detection group table can be retrieved at any time by pressing the **Alarm ON** key.

The table disappears when the **Alarm ON** key is pressed again.

If the VM1000 has been installed in combination with the Siemens TELEMAT video alarm system, the zone from which the alarm originates will be highlighted in the alarm image when an alarm is triggered. Acknowledging an alarm will then also reset the TELEMAT system.

5.2.1 Alarm processing in alarm program 2

Alarms can be processed as follows:

- When an alarm is triggered, the alarm image (camera image of the zone from which the alarm originates) appears on monitors 1 and 4 along with the text ALARM!
- The alarm can be acknowledged (turned off) by keying **MON 1**. The original images will now appear on the monitors.
- If a second alarm is triggered before the first alarm can be acknowledged, the second alarm image will appear on monitor 2.
- Each additional alarm image will overwrite one of the alarm images on display, so that monitors 1 and 2 always display the most recent two alarm images.
- If two or more alarm images are active simultaneously, they will all appear as an alarm image sequence on monitor 4.

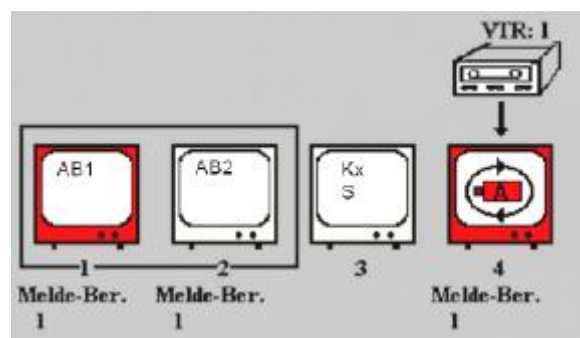


Fig. 20 Display of two alarm images

AB	Alarm image
AB1-AB2	Alarm image display on monitors 1 and 2
Kx S	Selected camera image sequence on monitor 3
A	Alarm image sequence on monitor 4
VTR: 1	Video recorder for gap-free alarm image recording from output 4

- The alarm displays on monitors 1 and 2 can be individually acknowledged on each monitor. After acknowledging (i.e. deleting) an alarm display, the oldest, not yet acknowledged image in sequence will appear on the the respective monitor, and so on, until all alarm images habe been displayed and acknowledged.
- Monitor 3 is still available to switch cameras manually or to play the automatic image sequence.
- A video recorder connected to output 4 starts up automatically at the first alarm signal.
- The recorder stops when the last alarm is acknowledged or switches to the preset long-term recording setting.

5.2.1.1 Revoking password protection for detection group activation

Key sequence:



- Enter digit 1 and 2 of the password.
 - Press the **Alarm ON** key.
 - Enter digit 3 and 4 of the password.
 - Press the **Alarm ON** key
- The monitor will display the following instruction: **Password**

You can now make changes.

5.2.1.2 Re-establishing password protection

When you have finished making changes, you must re-establish password protection to prevent unauthorised intervention.

Key sequence:



- Enter **254**
 - Press the **Alarm ON** key.
- The on-screen instruction, **Password**, disappears.

5.2.1.3 Activating detection groups

Key sequence:



- Press the **Alarm ON** key

The following alarm input table appears on the monitor (example):



Fig. 21 Detection groups table

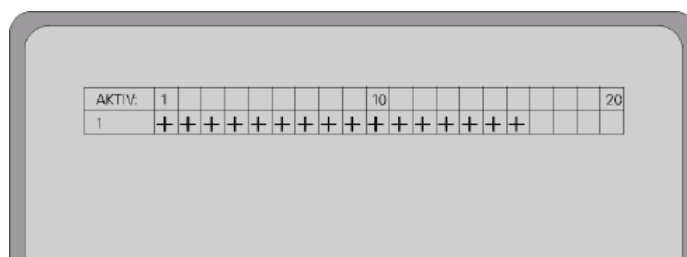
Key sequence:



- Enter the number of the detection group that you want to activate.
The word **Entry** and the entered number will appear on the monitor.
- Press the **Alarm ON** key
The monitor displays the table with a plus sign at the side of the active alarm input.

Activating all alarm inputs simultaneously

- Enter **255** to simultaneously activate all the alarm inputs
- Press the **Alarm ON** key
The following table appears on the monitor:



AKTIV:	1															10														20
1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Fig. 22 Detection groups table: all groups activated

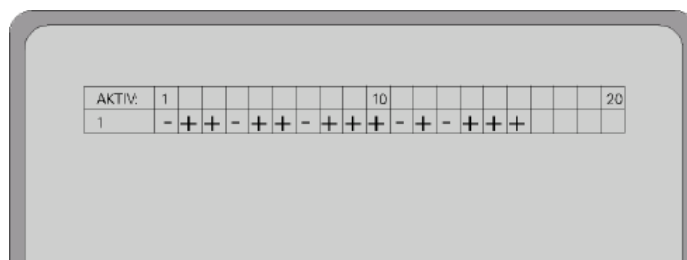
5.2.1.4 Deactivating detection groups

Key sequence:



- Press the **Alarm ON** key

The following alarm input table appears on the monitor (example):



AKTIV:	1															10														20
1	-	+	+	-	+	+	-	+	+	+	-	+	+	+	+	-	+	-	+	+	+	+	+	+	+	+	+	+	+	

Fig. 23 Detection groups table

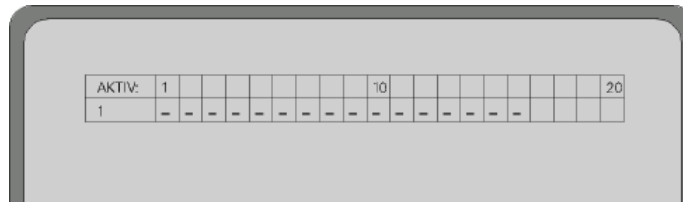
Key sequence:



- Enter the number of the detection group that you want to deactivate.
The word **Entry** and the entered number will appear on the monitor.
- Press the **Alarm OFF** key.
The monitor displays the table with a minus sign at the side of the activated alarm input.

Deactivating all alarm inputs simultaneously

- Enter **255** and press the **Alarm OFF** key.
The following table appears on the monitor:



AKTIV:	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	20
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20

Fig. 24 Detection groups table: all groups deactivated (see programming manual)

5.3 Switching system time to summer/normal time settings

The system time in the VM1000 can be switched to summer time, or switched back to normal time. Repeating the key sequence switches between summer and normal time.

Key sequence:



You can check that the setting has been changed successfully in the camera text display.

Alternatively, you can use the configuration program to set the system time in the PC connected to the VM1000 as the system time in the video matrix unit.

5.4 Resetting and initial system boot

Should the system become inoperable due to programming errors, it can either be reset, or rebooted to the delivery configuration, in which alarm program 2 is active.

5.4.1 System reset

Proceed as follows to reset the system:

- Press the red **Reset** button on the rear of the VM1000 for a few seconds, until the message **waiting for CPU** appears on the front display.

Resetting has the same effect as pulling out the mains plug and then turning the device back on.



5.4.2 Rebooting the system (to alarm program 2 factory settings)



All user-defined settings will be lost when a system reset is performed. We recommend that you back-up all configuration data before resetting.

- Press in and hold down the green **Default** button on the back of the VM1000.
- Next, briefly press the red **Reset** button while keeping the green **Default** button depressed. The text **waiting for CPU**, followed after a few seconds by **defaults loaded** will appear on the front display.
- Release the green **Default** button.
You have successfully rebooted the system.
- Next, reset the system again using the red **Reset** button, or switch off by pulling out the mains plug and turn the device back on.

5.5 Firmware update and network configuration

5.5.1 Network configuration and Firmware Update with „VMnetCfg.exe“

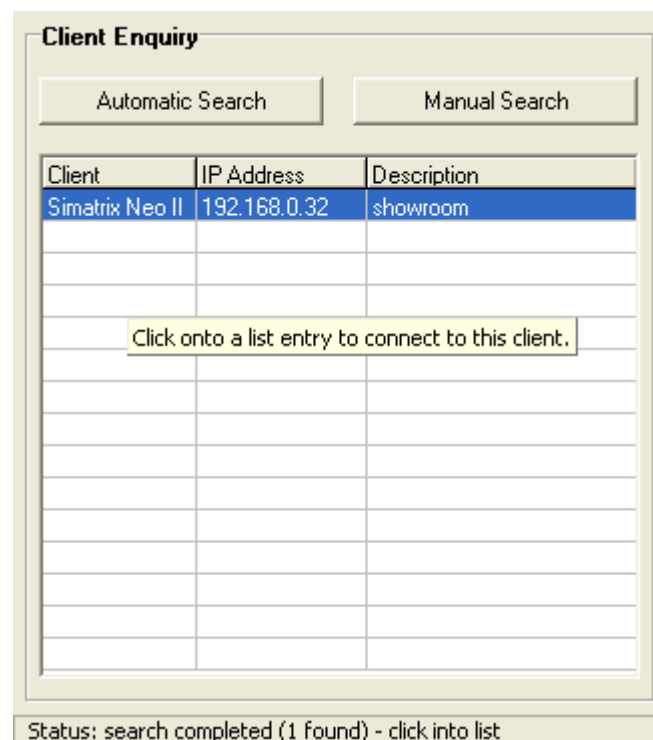
VMnetCfg is a tool for setting network parameters for the VM1000 CPU and even for LAN keyboards.

All supported clients within the accessible network are displayed (The searching scope depends on the net-mask setting of the configuration PC in use).

Furthermore, the tool can be used for firmware updates, e.g. for the VM1000 CPU (provided that the device is not write-protected. Cf. Chapter 5.5.2).

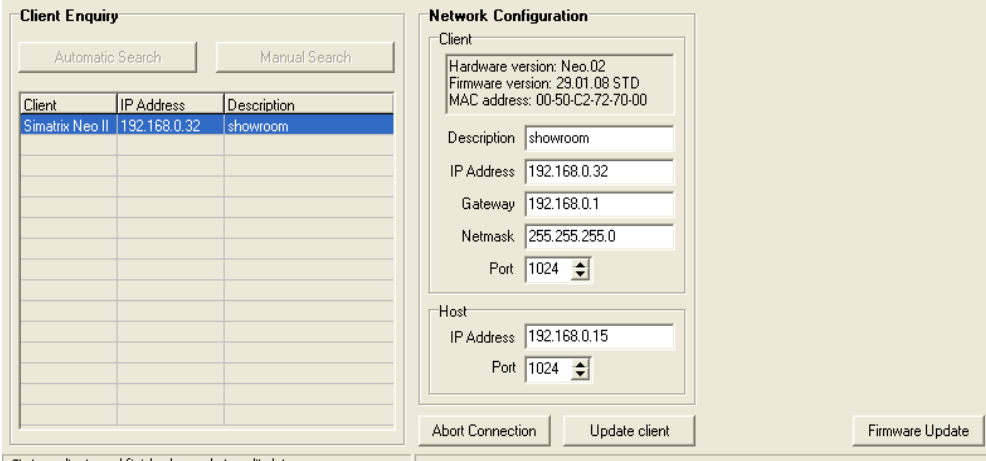
Operation

After starting VMnetCfg.exe, a the following window with a listbox and the buttons **Automatic Search** and **Manual Search** appears.



The button **Manual Search** is only required, if the client to be configured or updated is not located in the local network but must be accessed via router or gateway.

After pressing the button **Automatic Search**, the listbox displays all supported devices that can be reached in the local network. Clicking on the desired listbox entry opens an extended view of the network configuration of the respective client:



Client	IP Address	Description
Simatrix Neo II	192.168.0.32	showroom

Network Configuration

Client

Hardware version: Neo.02
 Firmware version: 29.01.08 STD
 MAC address: 00-50-C2-72-70-00

Description: showroom
 IP Address: 192.168.0.32
 Gateway: 192.168.0.1
 Netmask: 255.255.255.0
 Port: 1024

Host

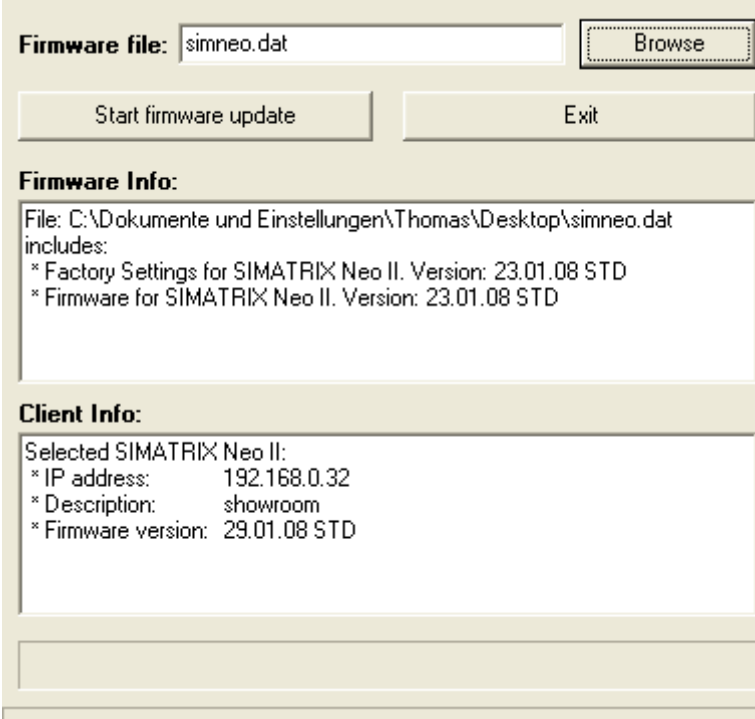
IP Address: 192.168.0.15
 Port: 1024

Abort Connection Update client Firmware Update

Status: client read finished - ready to edit data

Now you can edit the network settings. Clicking the button **Update Client** transfers the changed settings to the client. All changes are discarded by clicking the button **Abort Connection**.

If the client supports firmware update, the button **Firmware Update** is displayed. Clicking on this button opens the update window shown below:



Firmware file:

Firmware Info:

File: C:\Dokumente und Einstellungen\Thomas\Desktop\simneo.dat
 includes:
 * Factory Settings for SIMATRIX Neo II. Version: 23.01.08 STD
 * Firmware for SIMATRIX Neo II. Version: 23.01.08 STD

Client Info:

Selected SIMATRIX Neo II:
 * IP address: 192.168.0.32
 * Description: showroom
 * Firmware version: 29.01.08 STD

A firmware update requires an update file, which can be loaded with the **Browse** button. As soon as the file has been loaded, the window **Firmware Info** displays content and version of the update file.


Clicking the button **Start firmware update** starts the update procedure. For the VM1000 CPU the procedure takes about 30 seconds and is indicated by a progress bar. After the update has been successfully completed, a message is displayed until one of the menu buttons is depressed.



Network configuration and firmware update can not be performed, if the VM1000 CPU is in write-protection mode. Please refer to the section 5.5.2 below, for how to deactivate the write-protection.

5.5.2 Write-protection for network configuration and firmware update

Network configuration and firmware of the VM1000 CPU can be write-protected against unauthorized access.

Write-protection is activated with the **Menu** and  keys by choosing the menu item "Network Config" and activating **write-protected** by pressing the **Enter** key (see also section 3.5 Front display).

Delivery condition is write-protection switched-off, i.e. network configuration and firmware update over the network are possible at any time.

6 Maintenance

6.1 General



Warning

Danger of life by electric shock

- Even after fuse interruption there can be dangerous voltage inside the device (double-pole fuse/fuse in neutral)
- Before maintenance, disconnect device from mains

-
- Modifications of the device are only allowed as far as they are mentioned in this document or explicitly allowed by the manufacturer
 - Use only spare parts and accessories approved by the manufacturer
 - Only replace a defective fuse by a fuse of the same type, size, and rating
 - The mains supply voltages and secondary voltages are fused as follows:

Electrical supply	110 – 230V (+10%/-15%), 50 – 60Hz, 55 VA max.
Fuses	2 x T 1.6 A 250 V
 - In the event of breakdown, we recommend, you contact your local Siemens branch for service and support.

6.2 Cleaning



Warning

-
- For cleaning, use only a clean and dry cloth

Danger of electric shock while cleaning

- Do not use liquid cleaning agents or sprays
-

7 Transport and Storage

- Keep the original device packaging for later transports
- Do not expose the device to mechanical shocks

8 Appendix

8.1 Technical details

General

Operating temperature	+ 5 °C bis 45 °C
Relative humidity	30 to 85 %, non-condensing

Video

Video inputs	SMB sockets U _{ss} =1V Video, 75 Ω, termination switchable with jumpers
Video outputs	SMB sockets, twin outputs U _{ss} =1V video, 75 Ω
Video signal failure recognition	Vertical synchronisation pulse monitoring
Text overlay	Complete IBM character set, internal synchronisation, character display: white background, black frame Field size: 12 text lines of 24 characters each Character height: 18 screen lines
Cross-talk attenuation	≥ 56 dB at 5 MHz
Differential amplification	≤ 1 %
Differential phase	≤ 0,6 °
Frequency response characteristic	- 0,5 dB at 6 MHz
Switching point change-over time after command signal reception at the video matrix	80 ms (typical), 200 ms (max.)

Control

Control computer	1 ARM7 TDMI prozessor, 1 RISC controller
Interfaces for	
- Programming PC, IVM, TELEMAT, SIPASS, LMS	3 x V.24 interfaces Baud rate: 1200 – 19,200 bit/s Connection: 3 x 9-pin Sub-D connectors
- Keyboards	8 x TTY (20mA) interfaces with built-in electrical supply for 8 keyboards, Cable length: up to 2 km, wire diameter 0.8 mm Baud rate: 1200 – 9600 bit/s Connection: 8 x RJ12 sockets
- PTZ control	16 x Camera control units or domes Cable length: up to 2 km, wire diameter 0.8 mm Baud rate: 1200 – 9600 bit/s Connection: 2 x 37-pin Sub-D connector
- Control of telemetry devices	4 x RS422/RS485 ports; Protocols: CCDA, SCU, SIVIS, PELCO-D (full duplex) Connection: 4 x RJ11 socket / port
- Sensor groups, alarm sensors, alarm contacts	32 x alarm inputs for detection groups Cable length: up to 10 m Connection: 2 x 37-pin Sub-D socket
- Video recorder, Picture storage	8 control outputs (open-collector); max. 30 V, max. 50 mA Relay with 2 voltage-free change-over contacts; max. 48 V, 250 mA; Connection: 1 x 25-pin Sub-D socket

VM1000

Power supply	100 – 240V Switching power supply, 50 – 60Hz The mains socket is fitted with two microfuses (3.15 A slow-blow)
Construction	19 inch chassis 427 mm x 266 mm x 217 mm (B x H x T), 6 HU

VM1000 CPU

Power supply	100 – 240V Switching power supply, 50 – 60Hz The mains socket is fitted with two microfuses (1.6 A slow-blow)
Construction	19 inch chassis 427 mm x 133 mm x 217 mm (B x H x T), 3 HU



It is impossible to describe all the conceivable system architectures, operational situations or repair and maintenance tasks within the confines of this manual.

If you require any further information, or should particular problems arise that are not adequately described in the operating manual, please contact your local Siemens branch for assistance.

8.2 Glossar

Alarm image switching	An alarm image appears on the monitor until it is acknowledged
Alarm image sequence	All alarm images not yet acknowledged are shown repeatedly in sequence on a monitor
Alarm sequence	See alarm image sequence
Autoreset	The alarm image disappears from the monitor, as soon as the alarm signal resets. See also <i>manual reset</i> and <i>stack reset</i>
Image sequence	Images from several cameras can be switched to a monitor in sequence. The image sequence can be started or stopped by a key on the keyboard. Alternatively, the system can be configured to display preset camera images upon start-up.
Dome cameras	Ceiling-mounted, rapid-response, remote control camera with a lens-drive system. Housed in a glass dome.
CCDA	Siemens dome cameras
CCTV	Closed Circuit Television, independent television system in a delimited area
Group switching	A key on the keyboard is used to switch the images from a camera group to a group of monitors.
IVM-NT	Integrated Video Management System
LMS	Location planning system
Manual reset	As opposed to autoreset. The alarm image remains on display when the alarm signal resets. Alarm events that have already been displayed are overwritten without being stored in memory. See also <i>autoreset</i> and <i>stack reset</i>
Pelco D	3rd party supply dome camera
Serial switching, stepped switching	When several alarm images are switched simultaneously, the most recent alarm image is displayed on all monitors in turn. This only applies to monitors that have been configured for alarm image switching.
Transfer switching	The most recent alarm image is always displayed on the primary monitor (master monitor) in the monitor group. When several alarm images are displayed simultaneously, the less recent images are transferred to the other monitors.
SCU protocol	Protocol for controlling telemetry devices
SDC	Security Display Client, Siemens system for integrating different protocols and video products into a CCTV system.
SISTORE NT	Image storage system
Sivis Minidome	Siemens dome cameras
Stack alarm	New alarm images overwrite old alarm images (manual and autoreset)

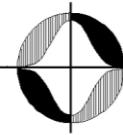


Alarm image switching	An alarm image appears on the monitor until it is acknowledged
Alarm image sequence	All alarm images not yet acknowledged are shown repeatedly in sequence on a monitor
Alarm sequence	See alarm image sequence
Autoreset	The alarm image disappears from the monitor, as soon as the alarm signal resets. See also <i>manual reset</i> and <i>stack reset</i>
Stack reset	As manual reset, but the alarm events are saved to memory before being overwritten by new alarm events. See also <i>autoreset</i> and <i>manual reset</i>
SysLink	Serial system bus. Allows connection of the extension bay and alarm box
TELEMAT MD/MTD	Video sensor that recognises motion in the camera image
Time lapse operation	Long-term recording of individual images

8.3 Summary of basic and alarm program features

Features	Alarm program 1	Alarm program 2 Factory setting	Alarm program 4	Alarm program 5	Alarm program 3	Alarm program 6
Devices						
Cameras	1 to 48	1 to 48	1 to 48	1 to 48	1 to 48	1 to 48
Camera head controls	1 to 48	1 to 48	1 to 48	1 to 48	1 to 48	1 to 48
Monitors	1 to 4	1 to 4	1 to 4	1 to 4	1 to 4	1 to 4
Keyboards	1 to 4	1 to 4	1 to 4	1 to 4	1 to 4	1 to 4
IVM-NT operating stations	1 to 3	1 to 3	1 to 3	1 to 3	not recommended for IVM-NT	not recommended for IVM-NT
TELEMAT					not recommended for TELEMAT	not recommended for TELEMAT
Basic functions (available without alarm processing)						
Central dial-up	using keyboard 1	using keyboard 1	using keyboard 1	using keyboard 1	using keyboard 1	using keyboard 1
Decentral dial-up	using keyboards 2, 3 and 4	using keyboards 2, 3 and 4	using keyboards 2, 3 and 4	using keyboards 2, 3 and 4	using keyboards 2, 3 and 4	using keyboards 2, 3 and 4
Monitor sequencing	on monitors 1 to 4	on monitors 1 to 4	on monitors 1 to 4	on monitors 1 to 4	on monitors 1 to 4	on monitors 1 to 4
Camera label	on all monitors	on all monitors	on all monitors	on all monitors	on all monitors	on all monitors
Date, time	on a maximum of 8 monitors	on a maximum of 8 monitors	on a maximum of 8 monitors	on a maximum of 8 monitors	on a maximum of 8 monitors	on a maximum of 8 monitors
Camera breakdown signal	on all monitors	on all monitors	on all monitors	on all monitors	on all monitors	on all monitors
Camera control	48 cameras with control function	48 cameras with control function	48 cameras with control function	48 cameras with control function	48 cameras with control function	48 cameras with control function
Alarm processing functions						
Detector groups	per camera	per camera	per camera	per camera	per camera	per camera
Detector groups input configuration	configured for external detector groups(48)	configured for external detector groups(48)	configured for external detector groups(48)	configured for external detector groups(48)	configured for external detector groups(48)	configured for external detector groups(48)
Max. no. of alarm images (simultaneous display)	2	2	2	1	4	2
Max. no. of alarm events (simultaneous display)	2	2	1	1	4	4
Neighbouring camera display	no	no	yes monitor 2	yes monitor 2	no	yes monitor 2 monitor 4
Alarm image display	alarm image 1 on monitor 1 alarm image 2 on monitor 2	alarm image 1 on monitor 1 alarm image 2 on monitor 2 alarm image 3 on monitor 1 etc.	alarm image 1 on monitor 1 and, until acknowledged, on monitor 4.	alarm image 1 on monitor 1	most recent alarm image (highest number) on monitor 1 next most recent on monitors 2 to 4	most recent alarm image 1 on monitor 1 alarm image 2 on monitor 3
Most recent alarm image display (transfer/serial switching)	in turn on monitors 1 and 2	in turn on monitors 1 and 2	both images simultaneously on monitor 1 and monitor 2	both images simultaneously on monitor 1 and monitor 2	last in first out (LIFO) on monitor 1 previous image on monitor 3	last in first out (LIFO) most recent on monitor 1 previous image on monitor 3
Switching method (transfer/serial switching)	serial switching	serial switching	serial switching	serial switching	transfer switching	transfer switching
New alarm images overwrite older images	no	yes	no	yes	yes	yes
Mandatory alarm image acknowledgement	yes on monitors 1 and 2 next image on first free monitor	yes on monitors 1 and 2 next image on first free monitor	yes on monitor 1 monitor 2 (neighbouring camera) is also released	yes on monitor 1 monitor 2 (neighbouring camera) is also released	no	no
Alarm image sequence	all alarm images not yet acknowl- edged on monitor 4	all alarm images not yet acknowl- edged on monitor 4	all alarm images not yet acknowl- edged on monitor 4	all alarm images not yet acknowl- edged on monitor 4	no	no

Factory settings Deviation from the factory setting



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