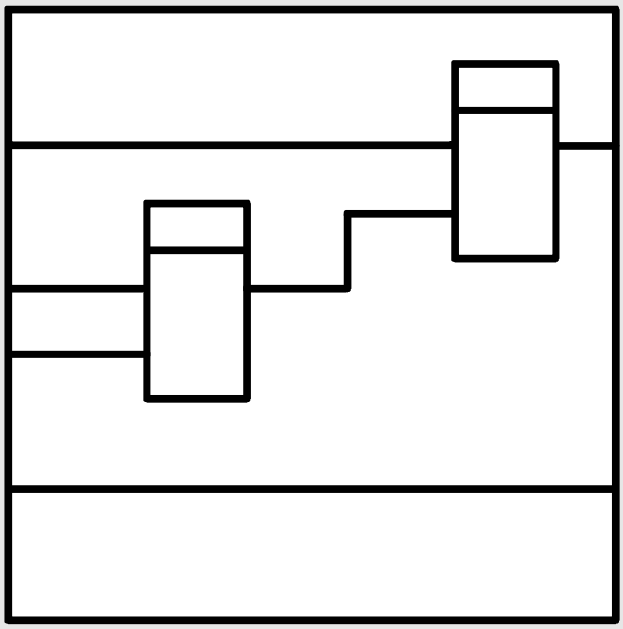
SIMADYN D
Digital Control System

User Manual

Memory module MM21



Edition 05.95

DK-Nr. 251241

User Manual, Memory module MM21

Edition		Edition status
1	Memory module MM21	03.91
2	Memory module MM21	05.95

We have checked the contents of this Manual to ensure that they coincide with the described hardware and software. However, deviations cannot be completely ruled-out, so we cannot guarantee complete conformance. However, the information in this document is regularly checked and the necessary corrections included in subsequent editions. We are thankful for any recommendations or suggestions.

Contents

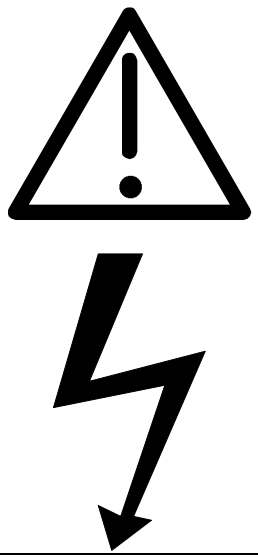
N O T E !

The information in this Manual does not purport to cover all details or variations in equipment, nor to provide for every possible contingency to be met in connection with installation, operation or maintenance.

Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, please contact your local Siemens office.

Further, the contents of this Manual shall not become a part of or modify any prior or existing agreement, committment or relationship. The sales contract contains the entire obligation of Siemens. The warranty contained in the contract between the parties is the sole warranty of Siemens. Any statements contained herein do not create new warranties nor modify the existing warranty.

Warning information



W A R N I N G !

Electrical equipment has components which are at dangerous voltage levels.

If these instructions are not strictly adhered to, severe bodily injury and material damage can result.

Only appropriately qualified personnel may work on this equipment or in its vicinity.

This personnel must be completely knowledgeable about all the warnings and service measures according to this User Manual.

The successful and safe operation of this equipment is dependent on proper handling, installation, operation and maintenance.

Definitions

* **QUALIFIED PERSONNEL**

For the purpose of this User Manual and product labels, a „Qualified person“ is someone who is familiar with the installation, mounting, start-up and operation of the equipment and the hazards involved. He or she must have the following qualifications:

1. Trained and authorized to energize, de-energize, clear, ground and tag circuits and equipment in accordance with established safety procedures.
2. Trained in the proper care and use of protective equipment in accordance with established safety procedures.
3. Trained in rendering first aid.

* **DANGER**

For the purpose of this User Manual and product labels, „Danger“ indicates death, severe personal injury and/or substantial property damage will result if proper precautions are not taken.

* **WARNING**

For the purpose of this User Manual and product labels, „Warning“ indicates death, severe personal injury or property damage can result if proper precautions are not taken.

* **CAUTION**

For the purpose of this User Manual and product labels, „Caution“ indicates that minor personal injury or material damage can result if proper precautions are not taken.

* **NOTE**

For the purpose of this User Manual, „Note“ indicates information about the product or the respective part of the User Manual which is essential to highlight.

C A U T I O N !

This board contains components which can be destroyed by electrostatic discharge. Prior to touching any electronics board, your body must be electrically discharged. This can be simply done by touching a conductive, grounded object immediately beforehand (e.g. bare metal cabinet components, socket protective conductor contact).

W A R N I N G !

Hazardous voltages are present in this electrical equipment during operation.

Non-observance of the safety instructions can result in severe personal injury or property damage.

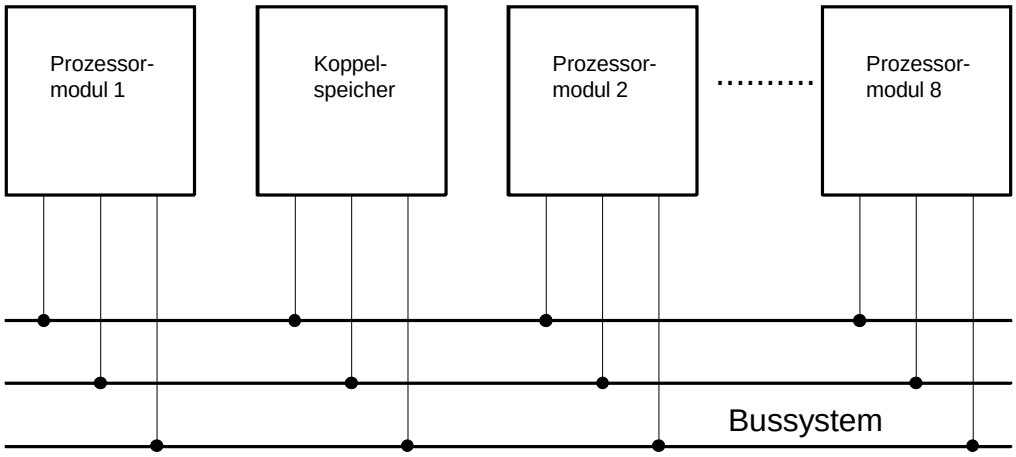
It is especially important that the warning information in all of the relevant Operating Instructions are strictly observed.

1. Description

The MM21 communications RAM, which only performs some of the functions of the MM11, is the local bus RAM of the SIMADYN D system. The MM21 module enables communications among the individual processor modules.

Data transfer from one processor module to another is carried out as follows:

One processor module bids for the bus and, after acquiring the bus, writes data into the communications RAM. The node which is to receive the data must also request the bus and read the data from the communications RAM. Address management of the communications RAM is automatically assumed by the operating system.



Access is possible byte-by-byte or word-by-word. The memory capacity is 64K bytes, the initial address is 20000 H.

To obtain defined voltages on the bus lines, a terminating resistor has been incorporated in the module.

2. Module construction

- Connections for local bus (X2)
- 64K-byte RAM, assigned to local bus
- RAM access time 150 ns
- Data width 8 or 16 bits
- Battery (3.4 V) in the subrack for saving data at power failure
- Module identification by means of PAD equivalent circuit
- Module code: OBH
- Bus terminator for local bus section integrated

3. Notes for the user

The MM21 module incorporates a bus terminator. Each bus section cannot take more than two bus terminators, i.e. only one external bus terminator SR14 can be connected in addition to the MM21.

The module must be mounted in the subrack using screws (even during commissioning) to ensure trouble-free operation.

4. Technical specification

INSULATION GROUP	A to VDE 0110 paragraph 13, group 2 at 5V DC
AMBIENT TEMPERATURE	0 to 55 deg. C
STORAGE TEMPERATURE	-40 to +70 deg. C
HUMIDITY CLASS	F to DIN 40040
ALTITUDE RATING	S to DIN 40040
MECHANICAL STRESS	Installation in stationary equipment, sensitive to vibrations
PACKAGING SYSTEM	ES 902 C
DIMENSIONS	233.4 x 220 mm
MODULE WIDTH	1 1/3 SPS = 1 plug-in station = 20.14 mm
WEIGHT	0.5 kg
CURRENT CONSUMPTION P5	
- IN OPERATION	200 mA (typ.)
- POWER FAILURE	10 uA max. VBatt= 3.4 V

5. STRUC L menu in the master program

:MM21	"mail box memory module, L-bus"

6. Appendices

6.1. Block diagram

Block diagram	3GE 465 611 9004.00 SU

6.2. Dimension drawing and table of connectors

Dimension drawing, front plate and table of connectors used	3GE 465 611 9004.00 MB

6.3. Location diagram

Location diagram operated without SR17 bus termination.	3GE 465 611 9004.00 A0

7. ECB instructions

Components which can be destroyed by electrostatic discharge (ECB)

Generally, electronic boards should only be touched when absolutely necessary.

The human body must be electrically discharged before touching an electronic board. This can be simply done by touching a conductive, grounded object directly beforehand (e.g. bare metal cubicle components, socket outlet protective conductor contact.

Boards must not come into contact with highly-insulating materials - e.g. plastic foils, insulated desktops, articles of clothing manufactured from man-made fibers.

Boards must only be placed on conductive surfaces.

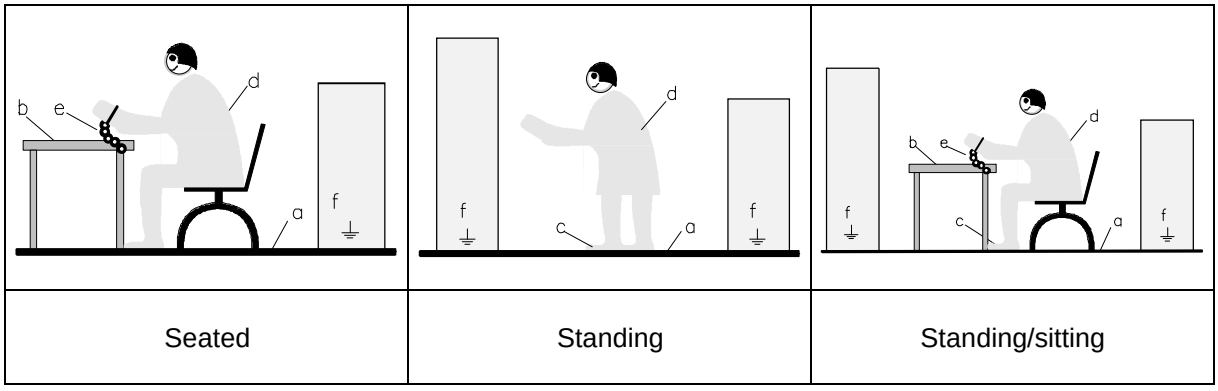
When soldering, the soldering iron tip must be grounded.

Boards and components should only be stored and transported in conductive packaging (e.g. metalized plastic boxes, metal containers).

If the packing material is not conductive, the boards must be wrapped with a conductive packing material, e.g. conductive foam rubber or household aluminum foil.

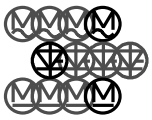
The necessary ECB protective measures are clearly shown in the following diagram.

a = Conductive floor surface
b = ECB table
c = ECB shoes
d = ECB overall
e = ECB chain
f = Cubicle ground connection



Seated	Standing	Standing/sitting

Drives and Standard Products
Motors and Drives Systems Group
Postfach 3269, D-91050 Erlangen



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