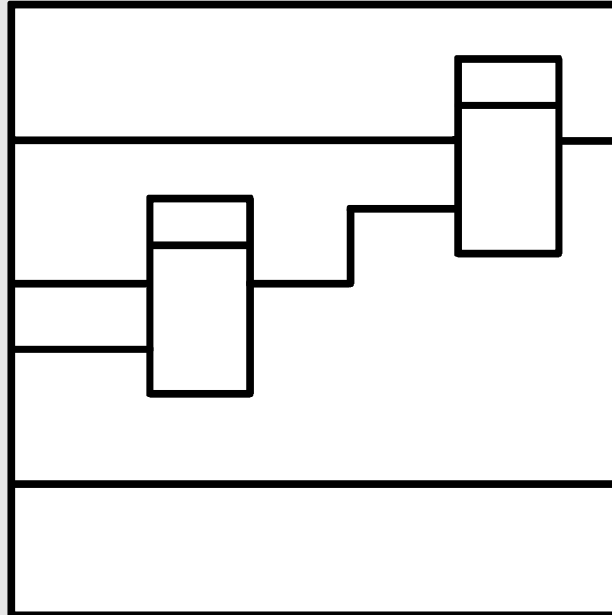


SIMADYN D

Digital Control System

User Manual

Interface module SE24.1



Edition		Edition status
1	Interface module SE24.1	04.91
2	Interface module SE24.1	05.95

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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.

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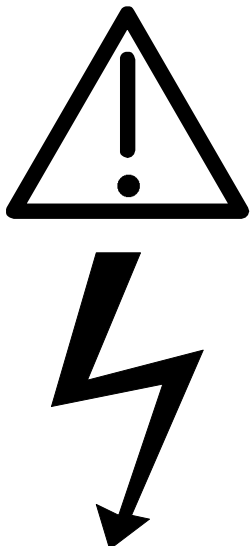
NOTE !

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, commitment 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

	<div>WARNING !</div> <p>Electrical equipment has components which are at dangerous voltage levels.</p> <p>If these instructions are not strictly adhered to, severe bodily injury and material damage can result.</p> <p>Only appropriately qualified personnel may work on this equipment or in its vicinity.</p> <p>This personnel must be completely knowledgeable about all the warnings and service measures according to this User Manual.</p> <p>The successful and safe operation of this equipment is dependent on proper handling, installation, operation and maintenance.</p>
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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.

	<table><tr><th data-bbox="488 1046 1386 1146">CAUTION!</th></tr><tr><td data-bbox="488 1146 1386 1308"><p>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).</p></td></tr></table>	CAUTION!	<p>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).</p>
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	<div data-bbox="825 1451 1054 1478">WARNING!</div> <div data-bbox="491 1556 1327 1581"><p>Hazardous voltages are present in this electrical equipment during operation.</p></div> <div data-bbox="491 1612 1385 1664"><p>Non-observance of the safety instructions can result in severe personal injury or property damage.</p></div> <div data-bbox="491 1695 1385 1747"><p>It is especially important that the warning information in all of the relevant Operating Instructions are strictly observed.</p></div>
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1. Description

The SE24.1 burden sub-module is plugged into the SE20.2, SE21.2 and SE48 interface boards. It accommodates the load resistors used to match the actual value sensor signals to the electronic system. It incorporates four locations with soldering tags to accommodate the load resistors. In addition, the module can accommodate a smoothing capacitor of axial form on the soldering tags, or radial form to be mounted in a 5 mm grid.

An additional potentiometer in the form of a series resistor may be activated for the fine adjustment.

The burden sub-module is fixed to the corresponding interface module using two M3x15 screws to secure against vibrations. The connections to the board are established via plug connectors so that calibrated burden sub-module may still be used after replacing the interface module and need not be re-calibrated.

2. Technical Specification

INSULATION GROUP	rated insulation DC voltage 60 V isolated to VDE 0160 for low voltage applications with insulation to VDE 0109 or VDE 0106 (Degree of contamination 2, over voltage category II).
Protection class	IP00 to DIN 40050
Humidity class	F to DIN 40040
Burden current	max. : 1 A
Burden voltage	max. : 60 V DC
Power loss	max. : 2 W per resistor
Resistor locations	R1, R2, R3, R4
Number	4
Design	Soldering tags at distances of 36 mm
Capacitor locations	C5
Number	1
Design	Soldering tags at distances of 36 mm or drill holes in a 5 mm grid (for radial capacitors)
Dimensions	58.42 x 45.72 mm
Potentiometer	R7
Number	1
Design	Shaft trimming potentiometer 1kOhm \pm 10 % Tk = \pm 100 ppm/Grad C, max. 20 mA Activation by series resistor R6

3. Application Notes

The circuit diagram shows the interconnection of the available locations. The burden sub-module can therefore be utilized either as a voltage divider (for actual value sensors with constant voltage output) or as a simple load resistor (sensor with constant current output).

The burden sub-module can be detached from the interface module by releasing the M3 screws. Ensure that all 8 pins are correctly inserted in the associated sockets when re-mounting the sub-module. Fix the sub-module with screws to secure against vibrations.

The SE20.2, SE21.2 and SE48 interface modules are fully equipped with SE24.1 burden sub-modules upon delivery.

4. Appendices

4.1. Circuit diagram

Circuit diagram 3GE 465 681 9024.10 SP

4.2. Scale drawing

Scale Drawing 3GE 465 681 9024.10 MB

5. 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.

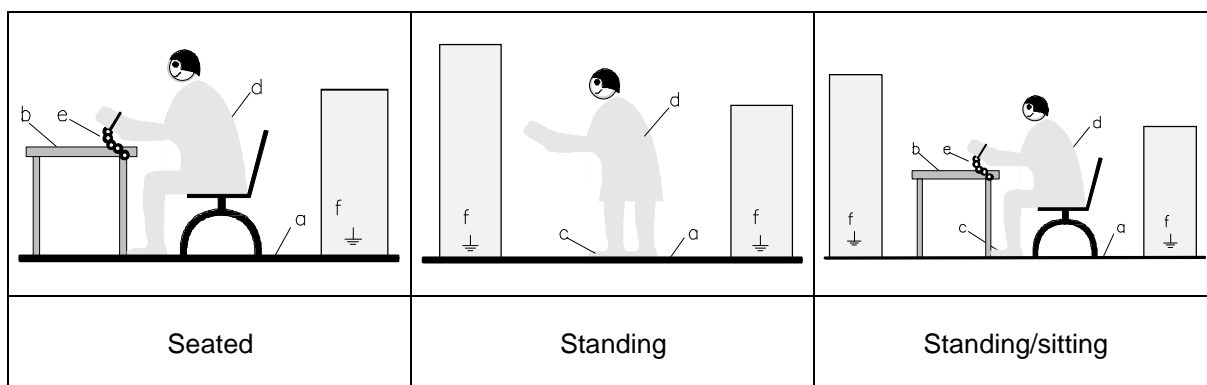
Boards and components should only be stored and transported in conductive packaging (e.g. metalized plastic boxes, metal containers).

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.

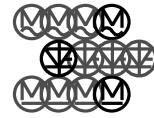
The necessary ECB protective measures are clearly shown in the following diagram.

a = Conductive floor surface
b = ECB table
c = ECB shoes

d = ECB overall
e = ECB chain
f = Cubicle ground connection



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



System-Based
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