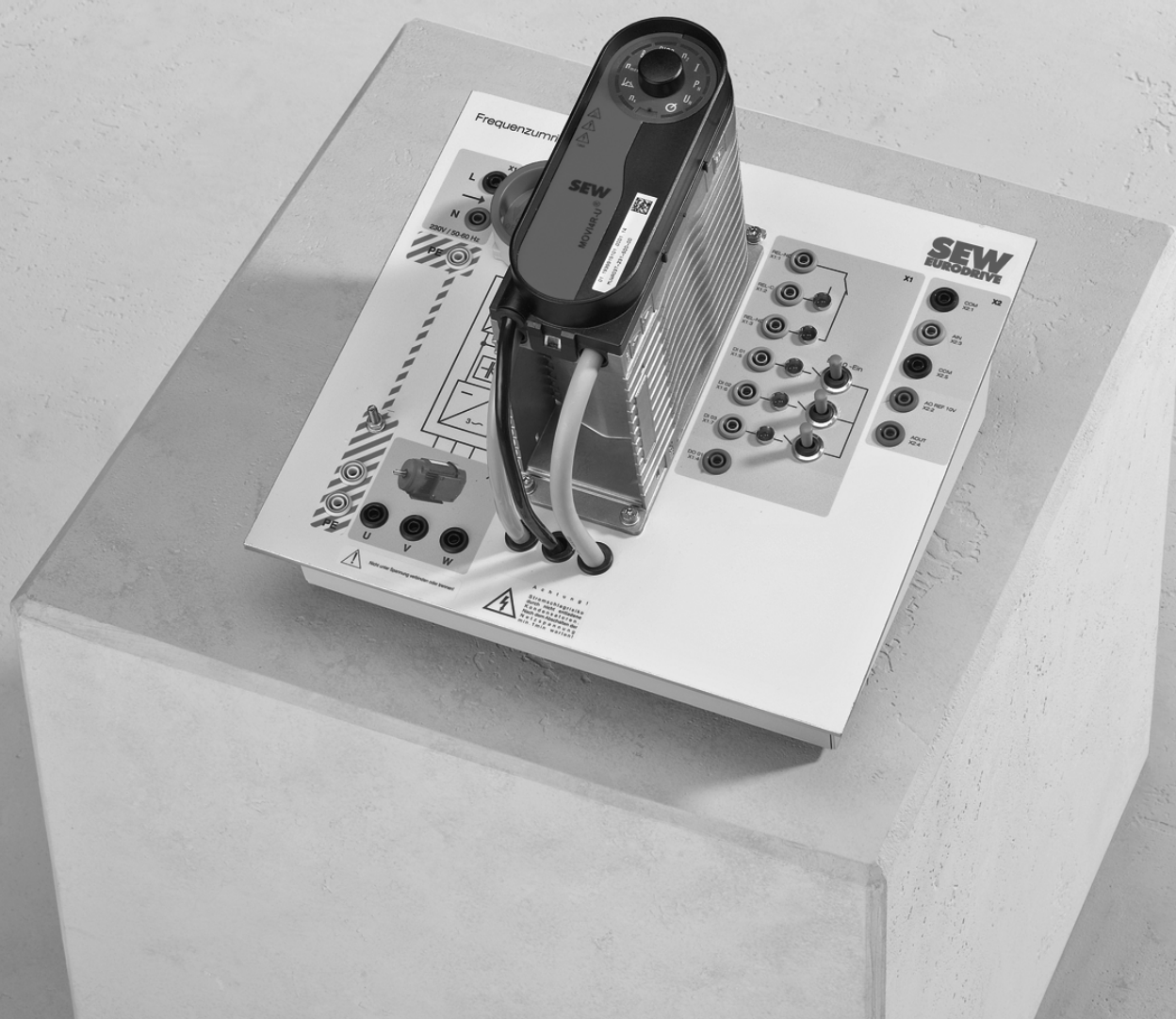




SEW
EURODRIVE

Operating Instructions



Didactics – Electromechanics
MOV14R-U® Frequency Inverter Module



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1 General information

1.1 About this documentation

The current version of the documentation is the original.

This documentation is an integral part of the product. The documentation is intended for all employees who perform work on the product.

Make sure this documentation is accessible and legible. Ensure that persons responsible for the systems and their operation as well as persons who work on the product independently have read through the documentation carefully and understood it. If you are unclear about any of the information in this documentation, or if you require further information, contact SEW-EURODRIVE.

1.2 Structure of the safety notes

1.2.1 Meaning of signal words

The following table shows the grading and meaning of the signal words for safety notes.

Signal word	Meaning	Consequences if disregarded
▲ DANGER	Imminent hazard	Severe or fatal injuries
▲ WARNING	Possible dangerous situation	Severe or fatal injuries
▲ CAUTION	Possible dangerous situation	Minor injuries
NOTICE	Possible damage to property	Damage to the product or its environment
INFORMATION	Useful information or tip: Simplifies handling of the product.	

1.2.2 Structure of section-related safety notes

Section-related safety notes do not apply to a specific action but to several actions pertaining to one subject. The hazard symbols used either indicate a general hazard or a specific hazard.

This is the formal structure of a safety note for a specific section:



SIGNAL WORD

Type and source of hazard.



Possible consequence(s) if disregarded.

- Measure(s) to prevent the hazard.

Meaning of the hazard symbols

The hazard symbols in the safety notes have the following meaning:

Hazard symbol	Meaning
	General hazard

Hazard symbol	Meaning
	Warning of dangerous electrical voltage
	Warning of hot surfaces

1.2.3 Structure of embedded safety notes

Embedded safety notes are directly integrated into the instructions just before the description of the dangerous action.

This is the formal structure of an embedded safety note:

⚠ SIGNAL WORD Type and source of hazard. Possible consequence(s) if disregarded. Measure(s) to prevent the hazard.

1.3 Decimal separator in numerical values

In this document, a period is used to indicate the decimal separator.

Example: 30.5 kg

1.4 Rights to claim under limited warranty

Read the information in this documentation. This is essential for fault-free operation and fulfillment of any rights to claim under limited warranty. Read the documentation before you start working with the product.

1.5 Applicable documentation

Observe the following applicable documents:

- "MOVI4R-U®" operating instructions
- "MOVI4R-U®" compact operating instructions
- Operating instructions of the motor in use

Always use the latest edition of documentation and software.

The SEW-EURODRIVE website (www.sew-eurodrive.com) provides a wide selection of documents for download in various languages. If required, you can also order printed and bound copies of the documentation from SEW-EURODRIVE.

1.6 Product names and trademarks

The brands and product names in this documentation are trademarks or registered trademarks of their respective titleholders.

1.7 Copyright notice

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2 Safety notes

2.1 Preliminary information

The following general safety notes serve the purpose of preventing injury to persons and damage to property. They primarily apply to the use of products described in this documentation. If you use additional components, also observe the relevant warning and safety notes.

2.2 Target group

The product is intended for persons in training facilities that are equipped with the appropriate furnishings in classrooms and laboratories. Furnishings are, for example, experimental stands, laboratory benches, energy cells, control panels and control consoles as well as control cabinets with pick-up positions for electrical energy.

The focus is on the transfer of knowledge to non-specialists. Before using the products, non-specialists must be instructed about the safety-relevant aspects described in this document.

Specialist for mechanical work

Any mechanical work on the products must be carried out by a qualified specialist. Specialists in the context of this documentation are persons familiar with the design, mechanical installation, troubleshooting, and maintenance of the product who possess the following qualifications:

- Qualification in the field of mechanical engineering in accordance with the national regulations.
- They are familiar with this documentation.

Specialist for electrotechnical work

Any electrical work on the products must be carried out by adequately qualified electricians. Qualified electricians in the context of this documentation are persons familiar with electrical installation, startup, troubleshooting, and maintenance of the product who possess the following qualifications:

- Qualification in the field of electrical engineering in accordance with the national regulations.
- They are familiar with this documentation.

Additional qualification

In addition to that, these persons must be familiar with the valid safety regulations and laws, as well as with the requirements of the standards, directives, and laws specified in this documentation. The persons must have the express authorization of the company to operate, program, parameterize, label, and ground units, systems, and circuits in accordance with the standards of safety technology.

Instructed persons

All work in the areas of transportation, storage, operation and waste disposal must be carried out by persons who are trained appropriately. The purpose of the instruction is that the persons are capable of performing the required tasks and work steps in a safe and correct manner.

2.3 Designated use

The product is designed for training purposes only. Operating the product in private, craft, trade or for industrial purposes is not permitted. The product is not intended for installation in electrical plants or machines. The product is not intended for use in applications (such as lifting applications).

The product can be used for operating AC asynchronous motors with squirrel-cage rotors. The product is not suited for operating AC synchronous motors.

Startup (i.e. start of regular operation) is permitted with adherence to EMC guideline only.

Technical data and information on the connection conditions are provided on the nameplate and in the documentation. Comply with the data and conditions.

2.4 Transport

Inspect the shipment for damage as soon as you receive the delivery. Inform the shipping company immediately about any damage. If the product is damaged, it must not be assembled, installed or started up.

Observe the following notes when transporting the device:

- Before transportation, cover the connections with the supplied protection caps.
- Place the product only on the base plate during transport.
- Ensure that the product is not subject to mechanical impact.

If necessary, use suitable, sufficiently dimensioned handling equipment.

2.5 Setup and installation

Ensure that the product is installed and cooled according to the regulations in the documentation.

The product is suited for operation on laboratory benches and on tables. Use standard laboratory or training equipment where the products can be placed properly and safely without posing any risk to the learners.

Protect the product from strong mechanical strain. The product and its mounting parts must never protrude into the path of persons or vehicles. Ensure that components are not deformed and insulation spaces are not changed, particularly during transportation and handling. Electric components must not be mechanically damaged or destroyed.

The following applications are prohibited unless the device is explicitly designed for such use:

- Use in potentially explosive atmospheres
- Use in areas exposed to harmful oils, acids, gases, vapors, dust, and radiation
- Operation in applications with impermissibly high mechanical vibration and shock loads in excess of the regulations stipulated in EN 61800-5-1
- Use at an elevation of more than 4000 m above sea level

2.6 Electrical connection

Familiarize yourself with the applicable national accident prevention regulations before working on the product.

Perform electrical installation according to the pertinent regulations (e.g. cable cross-sections, fusing, protective conductor connection).

Ensure that all of the required covers are correctly attached after the electrical installation.

The preventive measures and protection devices must comply with the applicable regulations (e.g. EN 60204-1 or EN 61800-5-1).

Ground connections are required as preventive measures.

2.7 Startup and operation

Before startup, make sure that the 4 mm sockets, buttons, and switches are intact.

It might be necessary to equip locations where such devices are used with additional monitoring and protection devices in accordance with the respective applicable safety regulations, e.g. the law governing technical equipment, accident prevention regulations, etc.

Depending on the degree of protection, products may have live, uninsulated, and sometimes moving or rotating parts, as well as hot surfaces during operation.

Cover unused connections with the supplied protection caps during operation.

Make sure the connection boxes are closed and screwed before connecting the supply voltage.

When the device is switched on, dangerous voltages are present at all power connections as well as at any connected cables and terminals. This also applies even when the product is inhibited and the motor is at standstill.

Electric shock due to moving the device while voltage is applied. Do not move the product while voltage is applied.

Do not separate the connection to the product during operation. This may result in dangerous electric arcs damaging the product.

If you disconnect the product from the voltage supply, do not touch any live components or power connections because capacitors might still be charged. Observe the following minimum switch-off time:

10 minutes.

Observe the corresponding information signs on the product.

The fact that the operation LED and other display elements are no longer illuminated does not indicate that the product has been disconnected from the supply system and no longer carries any voltage.

Mechanical blocking or internal protective functions of the product can cause a motor standstill. Eliminating the cause of the problem or performing a reset may result in the drive restarting automatically. If, for safety reasons, this is not permitted for the drive-controlled machine, first disconnect the product from the supply system and then start troubleshooting.

2.8 Inspection and maintenance

Only perform maintenance and repair work once the product has been secured and disconnected from the power supply. Ensure a de-energized state of the product before you start working on it. Ensure a de-energized state for the entire time you work on the product.

Repair work may only be carried out by SEW-EURODRIVE.

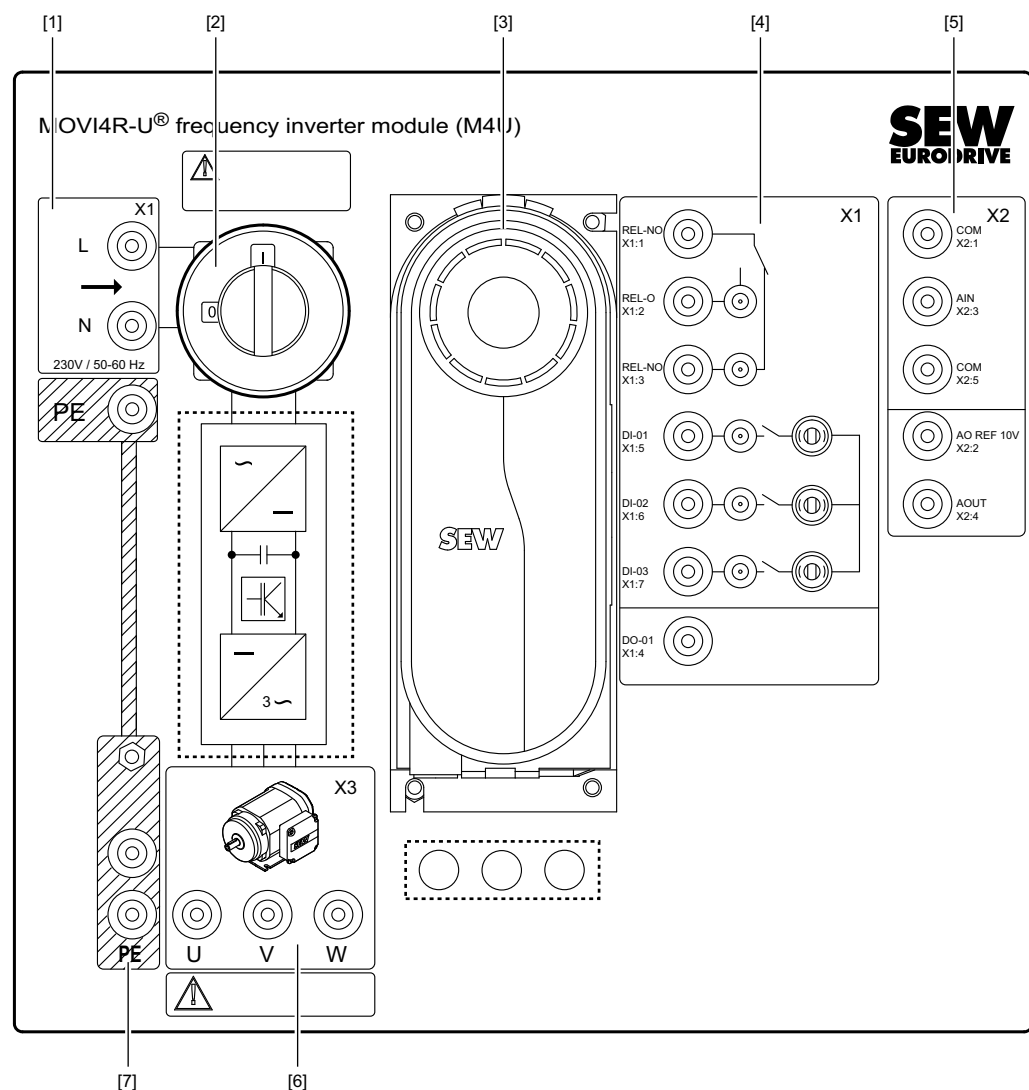
3 Device structure

3.1 Scope of delivery

The following components are included in the delivery:

- Front plate
- Housing
- MOVI4R-U® frequency inverter (230 V, 0.37 kW)
- Line filter integrated in the housing of the module

3.2 Basic unit



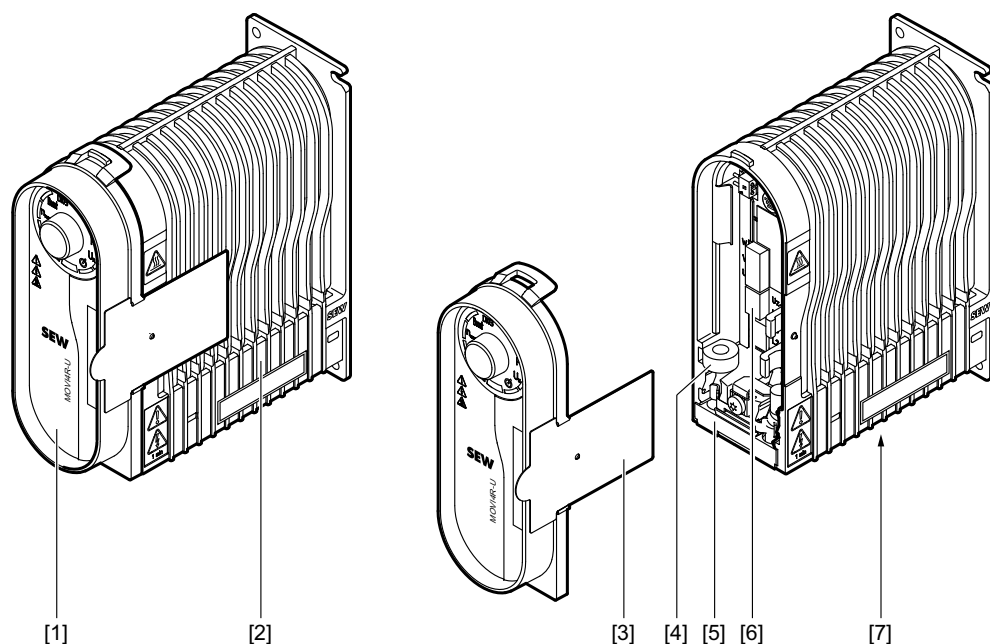
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- | | | | |
|-----|------------------------------|-----|---------------------------|
| [1] | X1: Power connection | [5] | X2: Analog inputs/outputs |
| [2] | Main switch (can be locked) | [6] | X3: Motor connection |
| [3] | MOVI4R-U® frequency inverter | [7] | PE: PE connection |
| [4] | X1: Digital inputs/outputs | | |

3.3 Device components

3.3.1 MOVI4R-U® inverter

MOVI4R-U® is an inverter for controlling asynchronous motors.



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- | | | | |
|-----|---------------------------|-----|----------------|
| [1] | Operating panel | [5] | Cable seal |
| [2] | Housing with cooling fins | [6] | Power section |
| [3] | Instruction sign | [7] | Fan (optional) |
| [4] | EMC toroidal core | | |

Device properties

- Robust housing with IP54 protection
- Frequency inverter with V/f control
- Power 0.37 kW
- Control by means of digital inputs/switch on the module or operation at the device
- Setpoint selection using the analog input, or settings can be made on the device
- 2 speed setpoints
- Simple startup and operation at the control plate
- Quick replacement of the power section and the control plate
- The housing can be reused

3.3.2 Motor types

SEW-EURODRIVE recommends the following motor type for training on an asynchronous motor with simple encoder technology:

- DR.. series AC motor

Recommendation: Didactics motor assembly DRS71S4

4 Installation

4.1 Important information

INFORMATION



- Observe the documentation of components connected or mounted to the module (e.g. motor, inverter).
- Comply with all instructions referring to the technical data and the permissible conditions where the device is operated.



⚠ WARNING

Electric shock when disconnecting or connecting voltage-carrying plug connectors.
Severe or fatal injuries.

- Disconnect all supply voltages.
- Make sure that the device is de-energized.
- Never plug or unplug the plug connectors while they are energized.



⚠ CAUTION

Short circuit due to incorrectly set jumpers.
Damage to property and injury.

- Insert the jumpers only in the contact points provided for this purpose.

INFORMATION



Only connect AC asynchronous motors to the device output.

4.1.1 Device output

Only connect ohmic/inductive load (motor).

4.1.2 Digital inputs/outputs

Observe the notes on electrical installation of the various digital inputs and digital outputs.

NOTICE

Damage due to incorrectly connected digital inputs and digital outputs.
Possible damage to property.

- Observe the notes regarding connection in the chapter "Electrical installation".

4.1.3 Cable

Use the following cables:

- Standardized safety cables for use in classrooms or laboratories.

- 4 mm laboratory safety plug connectors with rigid insulating sleeve, suited for nominal voltages of up to 1000 V.
- Didactics connection cable from SEW-EURODRIVE.

The cable must not be longer than 3 m.

4.1.4 PE line connection according to EN 61800-5-1

Earth-leakage currents of ≥ 3.5 mA can occur during normal operation. Observe the following for reliable PE connection:

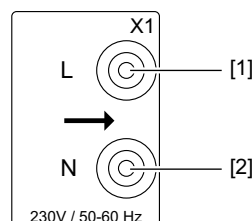
- Supply system cable $< 10 \text{ mm}^2$:
 - Second PE conductor with the same cross section as the supply system cable routed parallel to the protective earth via separate terminals, or
 - Copper PE conductor with a cross section of 10 mm^2
- Supply system cable 10 to 16 mm^2 :
 - Copper protective earth conductor with the same cross section as the supply system cable.
- Supply system cable 16 to 35 mm^2 :
 - Copper PE conductor with a cross section of 16 mm^2
- Supply system cable $> 35 \text{ mm}^2$:
 - Copper PE conductor with half the cross section of the supply system cable.

4.1.5 Interference emission

Recommendation: Use shielded motor cables for EMC compliant installation.

4.2 Electrical connections

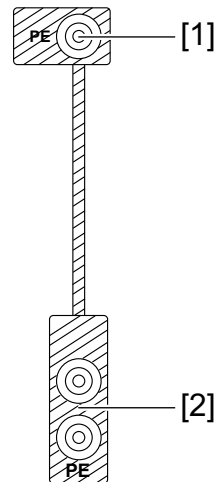
4.2.1 Power section connection



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- [1] L: Line connection phase
 [2] N: Line connection of neutral conductor

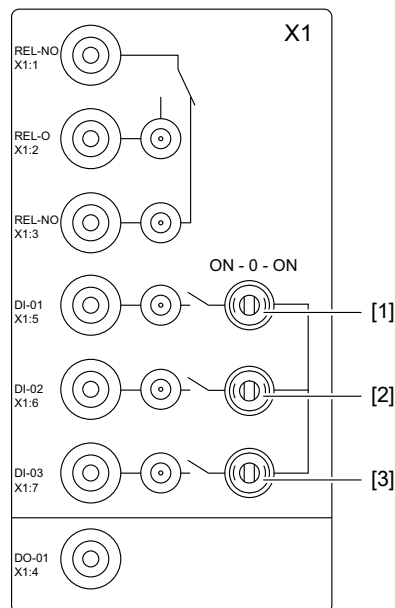
4.2.2 PE connection



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- [1] PE connection for power section
[2] PE connection for motor

4.2.3 X1: Digital inputs/outputs

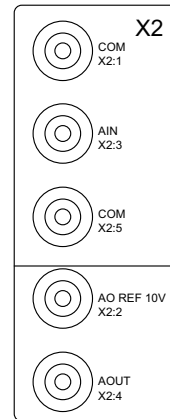


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- | | |
|--------|--|
| REL-NO | X1.1: Normally open relay contact |
| REL-O | X1.2: Common relay |
| REL-NC | X1.3: Normally closed relay contact |
| DI-01 | X1.5: Digital input DI 01 (enable) |
| DI-02 | X1.6: Digital input DI 02 (direction of rotation) |
| DI-03 | X1.7: Digital input DI 03 (setpoint source, fault reset) |
| DO-01 | X1.4: DC 24 V output |
| [1] | DI-01 switch, latching/spring-return |
| [2] | DI-02 switch, latching/spring-return |
| [3] | DI-03 switch, latching/spring-return |

You can set the digital input signals DI 01 through DI 03 using switches [1] to [3] (latching to the left/spring-return to the right). Instead, you can connect the digital input signals via the 4 mm terminals. In this case, observe the technical specification of the frequency inverter.

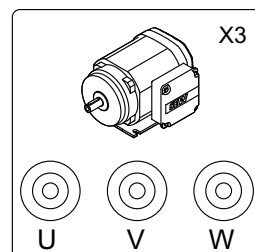
4.2.4 X2: Analog inputs/outputs



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COM	X2.1: Reference potential/mass
AIN	X2.3: Analog input, 0 to 10 V
COM	X2.5: Reference potential/mass
AO REF 10V	X2.2: +10 V output
AOUT	X2.4: Analog output 0 to 10 V

4.2.5 X3: Motor connection



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Connect the motor at the 4 mm terminals of the motor phases U, V and W.

5 Startup

5.1 General information

INFORMATION



You must comply with the general safety notes in chapter "Safety Notes" during start-up.



⚠ WARNING

Risk of crushing due to missing or defective protective covers.

Severe or fatal injuries.

- Install the protective covers of the plant according to the instructions, also see the operating instructions of the motor and the gear unit.
- Never start up the drive if the protective covers are not installed.



⚠ WARNING

Risk of burns due to hot surfaces of the inverter, in particular the cooling fins.

Serious injuries.

- Do not touch the inverter until it has cooled down sufficiently.



⚠ WARNING

Inverter malfunction due to incorrect settings.

Severe or fatal injuries.

- Observe the startup instructions.
- Always have the installation carried out by a trained specialist.
- Only use settings that are correct for the function.

INFORMATION



- Observe the minimum switch-off time for the line contactor:
 - 20 s for MOVI4R-U® with 1-phase voltage supply.
 - 2 s for MOVI4R-U® with 3-phase voltage supply.

5.2 Requirements

The following conditions apply to startup:

- The MOVI4R-U® inverter and the drive must be installed correctly both mechanically and electrically.
- The insulating sheet is connected to the control plate; see the "Control plate unit replacement" > "Installing the control plate" chapters.
- Appropriate safety measures prevent the drive from starting up unintentionally.
- Appropriate safety measures must be taken to prevent risk of injury or damage to the machine.

5.3 Preliminary work

Do the following before startup:

1. Write down all the technical data of the motor nameplate. You will need this information for startup.
2. Connect the line voltage (1-phase/230 V/50 Hz) to the didactics module.
3. Define the connection type of the motor (λ or Δ), and wire the motor accordingly. Refer to the documentation for the motor for this purpose.
4. Connect the motor cable to the didactics module.
5. Start up the motor on the frequency inverter. Next, connect terminals DI 01 through DI 03 with the didactics module. Do not connect the terminals during on-going operation.
6. In the case of external control (for example when using a higher-level PLC), set all toggle switches of the didactics module to "0" (zero) position for input simulation.

INFORMATION

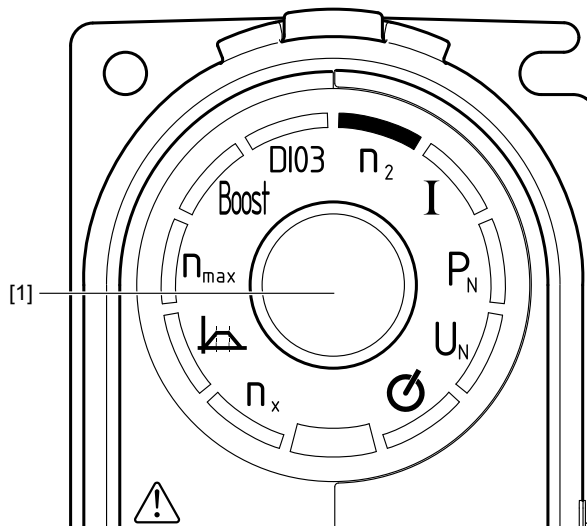


If you use a third-party motor, make sure the motor is suited for frequency inverter operation.

7. Apply line voltage.

5.4 Control knob

The following figure shows the control knob of the MOVI4R-U® inverter (size 1):



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[1] Control knob with pushbutton

5.5 Startup procedure

Proceed as follows to start up the MOVI4R-U® inverter:

5.5.1 Setting parameters


NOTICE

Overload of the motor due to incorrect setting of the nominal motor power or the nominal motor voltage.

Damage to the motor.

- Observe the values specified on the motor nameplate when setting the nominal motor power and the nominal motor voltage.

1. Check the connection of the MOVI4R-U® inverter.
⇒ See chapter "Electrical installation".
2. **NOTICE!** Loss of guaranteed degree of protection if the inverter is not sealed correctly. Inverter damage.
Make sure the MOVI4R-U® inverter is sealed correctly.
3. Set digital input DI01 to 0 V.
4. Switch on the line voltage.
⇒ If no fault is present, the status LED should light up yellow.
⇒ If there is a fault present, the status LED lights up red, see chapter "Fault list MOVI4R-U®".
5. Set the following values in the functions:

	Acceleration/deceleration	(10 – 12000 min ⁻¹ s ⁻¹)
n_{max}	Maximum speed	(50 – 3000 min ⁻¹)
Boost	Voltage offset V/f characteristic curve	(0 – 50 V)
P_N	Nominal motor power	(according to motor nameplate)
V_N	Nominal motor voltage	(according to motor nameplate)

The remaining procedure for startup depends on the required operating mode.

5.5.2 Startup in different operating modes

After presetting parameters, perform the following steps:

Manual mode**▲ WARNING**

Risk of crushing if the drive starts up unintentionally. When manual mode is deactivated, the binary signals at the digital inputs are active. When manual mode is deactivated, the drive can start up unintentionally if it has been enabled by the binary signals.

Severe or fatal injuries.

- Before deactivating manual mode, set the binary signals in such way that the drive is not enabled.
- To deactivate manual mode and to switch to level 1, briefly press the control knob.

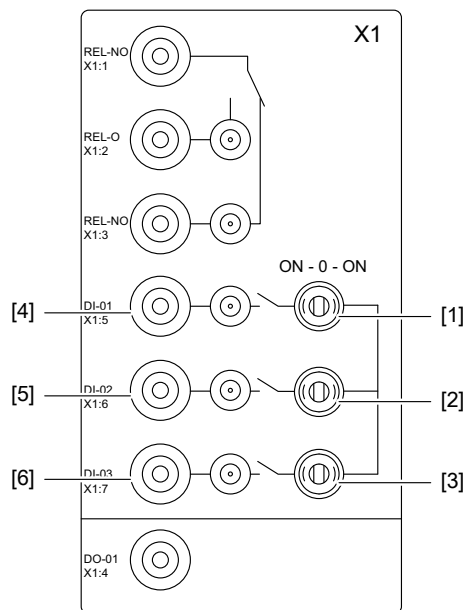
1. Activate manual mode in function 10.
2. Enable the motor by setting the motor's direction of rotation and the speed setpoint using the control knob.

You can now control the drive in function 10, see the "Function 10 manual mode" chapter.

Binary controller

1. In function 5, select the setpoint sources (n_x , n_2 , AI) that digital input DI03 should switch between, see the "Control / setpoint source" chapter.
2. Select the desired speed setpoint.
 - ⇒ When selecting setpoint source n_x , set speed setpoint n_x using function 1.
 - ⇒ When selecting setpoint source n_2 , set fixed speed setpoint n_2 using function 6.
 - ⇒ When selecting setpoint source AI, set the speed setpoint by setting the voltage on analog input AI.
3. Select the setpoint source (n_x , n_2 , AI) by setting digital input DI03 = 0 V or 24 V (see the following chapter).
4. Select the direction of rotation by setting digital input DI02 = 0 V (clockwise rotation) or 24 V (counterclockwise rotation).
5. Enable the drive by setting the digital input DI01 = 24 V.

Option 1



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Binary control can be performed with the didactics module using switches [1] to [3] or terminals [4] to [6].

Option 2

1. In function menu 5, select the setpoint sources (n_x , n_2 , AI) between which the digital input DI 03 has to switch.
2. Select the desired speed setpoint.
 - When selecting setpoint source n_x , set speed setpoint n_x in function menu 1.

- When selecting setpoint source n_2 , set fixed speed setpoint n_2 in function menu 6.
 - When selecting setpoint source AI, set the speed setpoint by setting the voltage on analog input AI.
3. Select the setpoint source (n_x , n_2 , AI) by setting digital input DI 03 to 0 V or 24 V.
 4. Select the direction of rotation by setting digital input DI 02 to 0 V (clockwise rotation) or 24 V (counterclockwise rotation).
 5. Enable the drive by setting the digital input DI 01 to 24 V.

5.6 Control/setpoint source

5.6.1 Control signal source

The following table shows the control signal source and enabled direction of rotation of the MOVI4R-U® inverter depending on the settings on the control plate and the terminal signal levels:

Control signal source	Enable	Terminal signal level		
		DI01 Enable	DI02 Direction of rotation	Supply system L1 – L3
Manual mode	CCW rotation	X	X	On
	CW rotation			
Binary signals	No enable	0 V	X	On
	CCW rotation	+24 V	+24 V	
	CW rotation	+24 V	0 V	

5.6.2 Setpoint source

The speed setpoint of the MOVI4R-U® inverter depends on the following factors:

- Maximum speed n_{max}
- Manual mode activated/inactivated by control knob
- Setting in function 5 “Terminal assignment DI03/setpoint source”
- Speed setpoint n_x , fixed speed setpoint n_2 or analog input AI

The following table shows the setting of the speed setpoint:

Setting		Terminal signal level DI03	Speed setpoint		
Manual mode	Function 5 (DI03)		Scaling by		Setpoint % n_{max}
Active	X	X	Control knob (clockwise rota- tion)	$\varnothing = 1 - 10$	0 – 100%
			Control knob (counterclockwise rotation)	$\varnothing = 10 - 1$	0 – 100%
Inactive	1, 3, 7 – 10	X	Setpoint ¹⁾	$n_x = 0 - 10$	0 – 100%
	2	0 V	Setpoint ¹⁾	$n_x = 0 - 10$	0 – 100%
		+24 V	Analog input	AI = 0 – 10 V	0 – 100%
	4	X	Analog input	AI = 0 – 10 V	0 – 100%
	5	0 V	Setpoint ¹⁾	$n_x = 0 - 10$	0 – 100%
		+24 V	Fixed setpoint ¹⁾	$n_2 = 1 - 10$	10 – 100%
	6	0 V	Analog input	AI = 0 – 10 V	0 – 100%
		+24 V	Fixed setpoint ¹⁾	$n_2 = 1 - 10$	10 – 100%

1) Setting on the control knob

X = any

6 Operation

6.1 Important information

INFORMATION



- Check that all protective covers are installed correctly.
- Observe the documentation of components connected or mounted to the module (e.g. motor, inverter).



⚠ WARNING

Electric shock when disconnecting or connecting voltage-carrying plug connectors.
Severe or fatal injuries.

- Disconnect all supply voltages.
- Make sure that the device is de-energized.
- Never plug or unplug the plug connectors while they are energized.



⚠ CAUTION

Risk of burns due to hot surfaces of the device or connected options, e.g. braking resistors.

Injury.

- Provide for covers to secure hot surfaces.
- Install the protection devices according to the regulations.
- Check the protection devices on a regular basis.
- Let the device and the connected options cool down before you start working on them.



⚠ WARNING

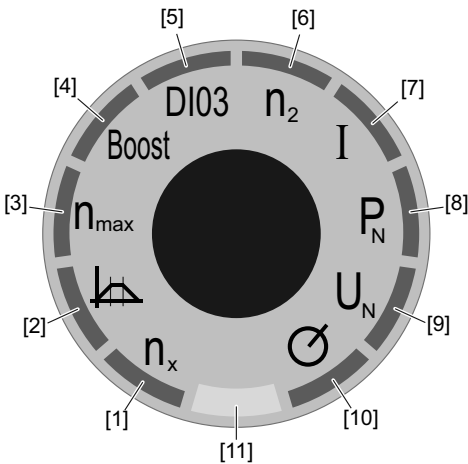
Danger of electric shock. Dangerous voltage levels may still be present inside the inverter and at the terminals up to 10 minutes after disconnection from the supply system.

Severe or fatal injuries.

- Wait at least 10 minutes after you switched off the inverter before you start working on it.

6.2 **Operating display (LEDs)**

The following figure shows the LEDs of the MOVI4R-U® inverter:



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[1] – [10] **LED 1 – 10**
[11] **Status LED**

6.2.1 **LED 1 – 10**

LEDs 1 – 10 are used to visualize the functions, setpoints, actual values and parameters. It is for this reason that the LED display depends on the current status of the MOVI4R-U® inverter.

LED 1 – 10	Operating status MOVI4R-U® inverter	Response display
Lights up (1 LED)	Level 1	No. of function
Lights up (bargraph display)	Setting a setpoint, display of an actual value	Setpoint/actual value
Flashing (400 ms on) (100 ms off)	Setting a parameter	Parameter value
Flashing (100 ms on) (400 ms off)	A fault occurred. See chapter "Fault list MOVI4R-U®".	No. of fault code

Refer to the “Functions” chapter for more information on the meaning of the LEDs.

6.2.2 **Status LED**

The status LED shows the current status of the MOVI4R-U® inverter:

Status LED	Meaning
Off	No voltage supply.
Yellow	MOVI4R-U® inverter is ready for operation.
Green	MOVI4R-U® inverter is enabled.

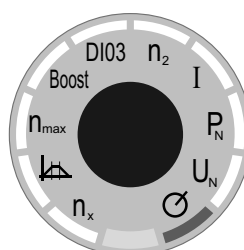
28520688/EN – 12/2018

Status LED	Meaning
Red	A fault has occurred. The inverter is not ready for operation. See chapter "Fault list".

6.3 Manual mode

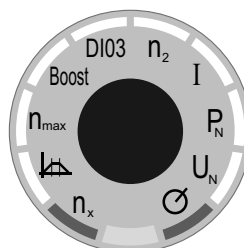
In manual mode, you control inverter enable and specify the direction of rotation as well as speed solely using the control knob.

1. Connect the voltage supply.
2. Select function menu 10 "Manual mode" from the selection menu, and briefly press the control knob.



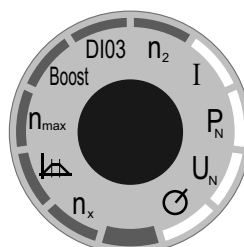
8900038283

- ⇒ Manual mode is now active.
- ⇒ LEDs 1 and 10 are lit up.
- ⇒ The drive is not enabled.



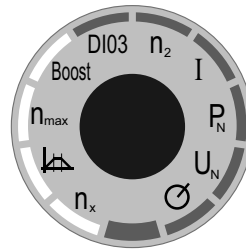
8900064011

3. When you turn the control knob to the right, you enable clockwise rotation and increase the speed setpoint up to n_{max} . When you then turn the control knob to the left again, you decrease the speed setpoint up to 0.

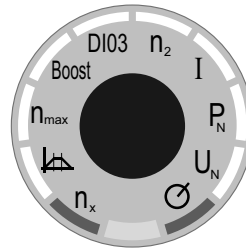


8896140683

4. When you turn the control knob to the left, you enable counterclockwise rotation and increase the speed setpoint up to n_{\max} . When you then turn the control knob to the right again, you decrease the speed setpoint up to 0.



8896144011



8900064011



INFORMATION

The illuminated LEDs show the direction of rotation and the speed setpoint of the motor as a bargraph display from 0 to 100% of n_{\max} ; see the chapter "Function menu 10 – Manual mode".

You disable the drive when you set the speed setpoint to 0.

LEDs 1 and 10 are lit up.

▲WARNING Risk of crushing if the drive starts up unintentionally.

When manual mode is deactivated, the binary signals at the digital inputs are active. When manual mode is deactivated, the drive can start up unintentionally if it has been enabled by the binary signals.

Severe or fatal injuries.

- Before deactivating manual mode, set the binary signals in such way that the drive is not enabled.
- Change the binary signals again only after deactivating manual mode.

To deactivate manual mode and to switch to the selection menu, briefly press the control knob.

7 Service

7.1 Electronics Service by SEW-EURODRIVE

If you are unable to rectify a fault, contact SEW-EURODRIVE Service. For the addresses, refer to www.sew-eurodrive.com.

When contacting the SEW-EURODRIVE service, always specify the following information so that our service personnel can assist you more effectively:

- Information on the device type on the nameplate (e.g. type designation, serial number, part number, product key, purchase order number)
- Brief description of the application
- Fault message on the status display
- Nature of the fault
- Accompanying circumstances
- Any unusual events preceding the problem

7.2 Waste disposal

Dispose of the product and all parts separately in accordance with their material structure and the national regulations. Put the product through a recycling process or contact a specialist waste disposal company. If possible, divide the product into the following categories:

- Iron, steel or cast iron
- Stainless steel
- Magnets
- Aluminum
- Copper
- Electronic parts
- Plastics

The following materials are hazardous to health and the environment. These materials must be collected and disposed of separately.

- Oil and grease

Collect used oil and grease separately according to type. Ensure that the used oil is not mixed with solvent. Dispose of used oil and grease correctly.

- Screens
- Capacitors

8 Technical data

MOVI4R-U® frequency inverter module	
Part number	18982093
Degree of protection	IP20
Power supply connection	1-phase
Operating voltage	230 V
Control voltage digital inputs	24 V
Control voltage analog inputs (setpoint)	0 V – 10 V
Line frequency	50 Hz
Weight	5 kg
Dimensions W × H × D	315 mm × 295 mm × 290 mm

For the technical data of the inverter, refer to the system manual.

9 Standards and certifications

The SEW-EURODRIVE components were developed and tested based on the latest, national standards and certifications.

If special approvals are necessary for additional requirements, request them separately from SEW-EURODRIVE.

9.1 EC declaration of conformity

The EC declarations of conformity for the SEW components are listed on the website of SEW-EURODRIVE with the respective products.

9.2 Certifications

The certificates for the SEW components are listed on the website of SEW-EURODRIVE with the respective products.

10 Address list

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