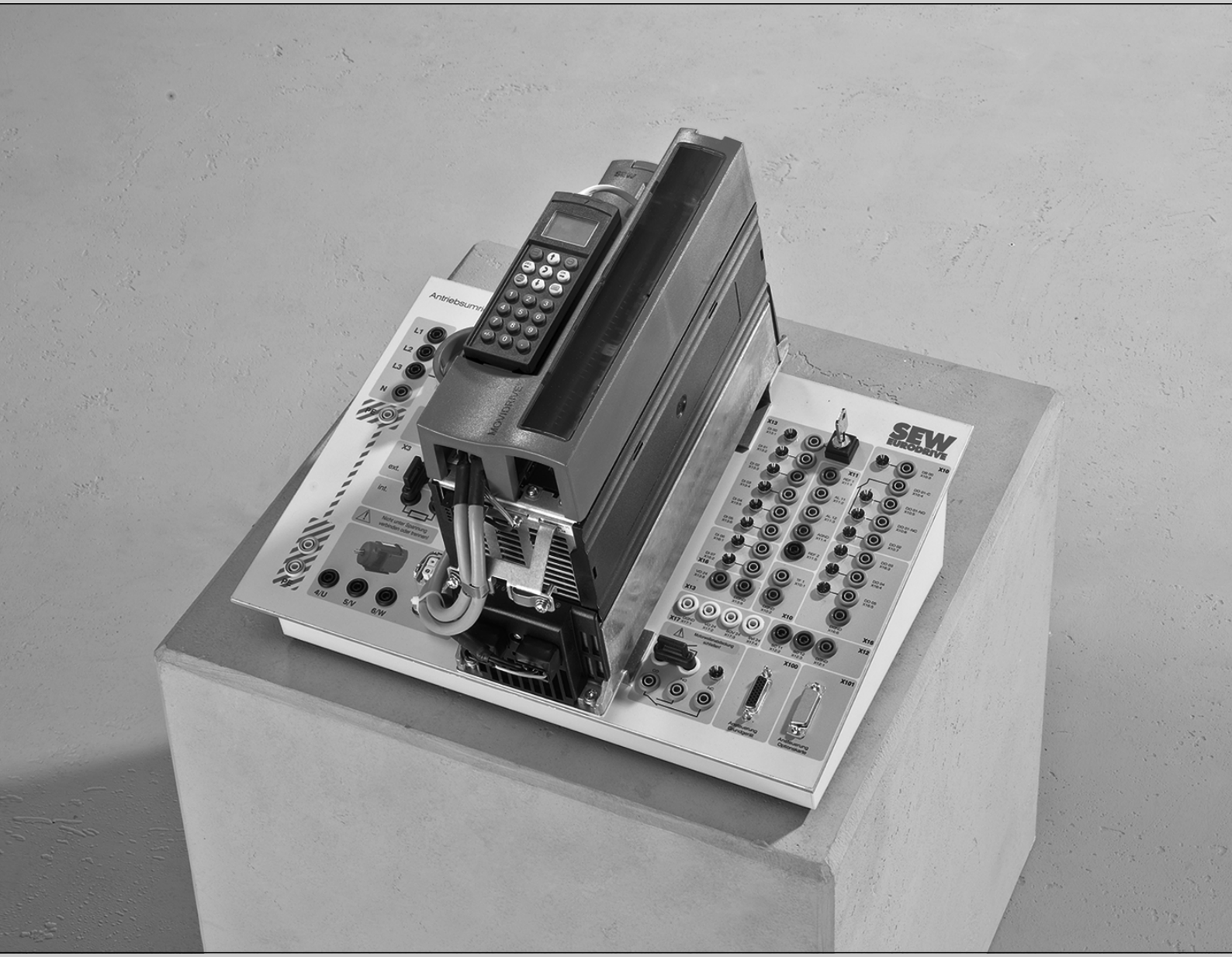
SEW EURODRIVE

Operating Instructions



Didactics – Electromechanics

MOVIDRIVE® B Drive Inverter Module (MDX)

Edition 04/2019

28519477/EN

Table of contents

28519477/EN – 04/2019

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

28519477/EN – 04/2019

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

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 other applicable documentation:

- "MOVIDRIVE® MDX60B/61B" system manual
- "MOVIDRIVE® MDX60B/61B" operating instructions
- "Synchronous Servomotors" operating instructions
- "MOVITOOLS® MotionStudio" manual
- 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.

28519477/EN – 04/2019

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

28519477/EN – 04/2019

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 designed for persons in training establishments that possess furnishings in classrooms and laboratories equipped for this purpose. 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).

28519477/EN – 04/2019

The product can be used to operate AC asynchronous motors and synchronous servomotors with squirrel-cage rotor.

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.

28519477/EN – 04/2019

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.

If residual current devices cause problems on site, contact the respective manufacturer.

2.7 Startup and operation

Before startup, make sure that the product and in particular the 4 mm sockets, buttons, and switches are not damaged. Do not take damaged products into operation.

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.

Short circuit due to incorrectly set jumpers. Insert jumpers only in the contact points provided for this purpose.

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.

Risk of burns due to arcing: Do not disconnect power connections during operation. Do not connect power connections during operation.

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.

28519477/EN – 04/2019

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

28519477/EN – 04/2019

3 Device structure

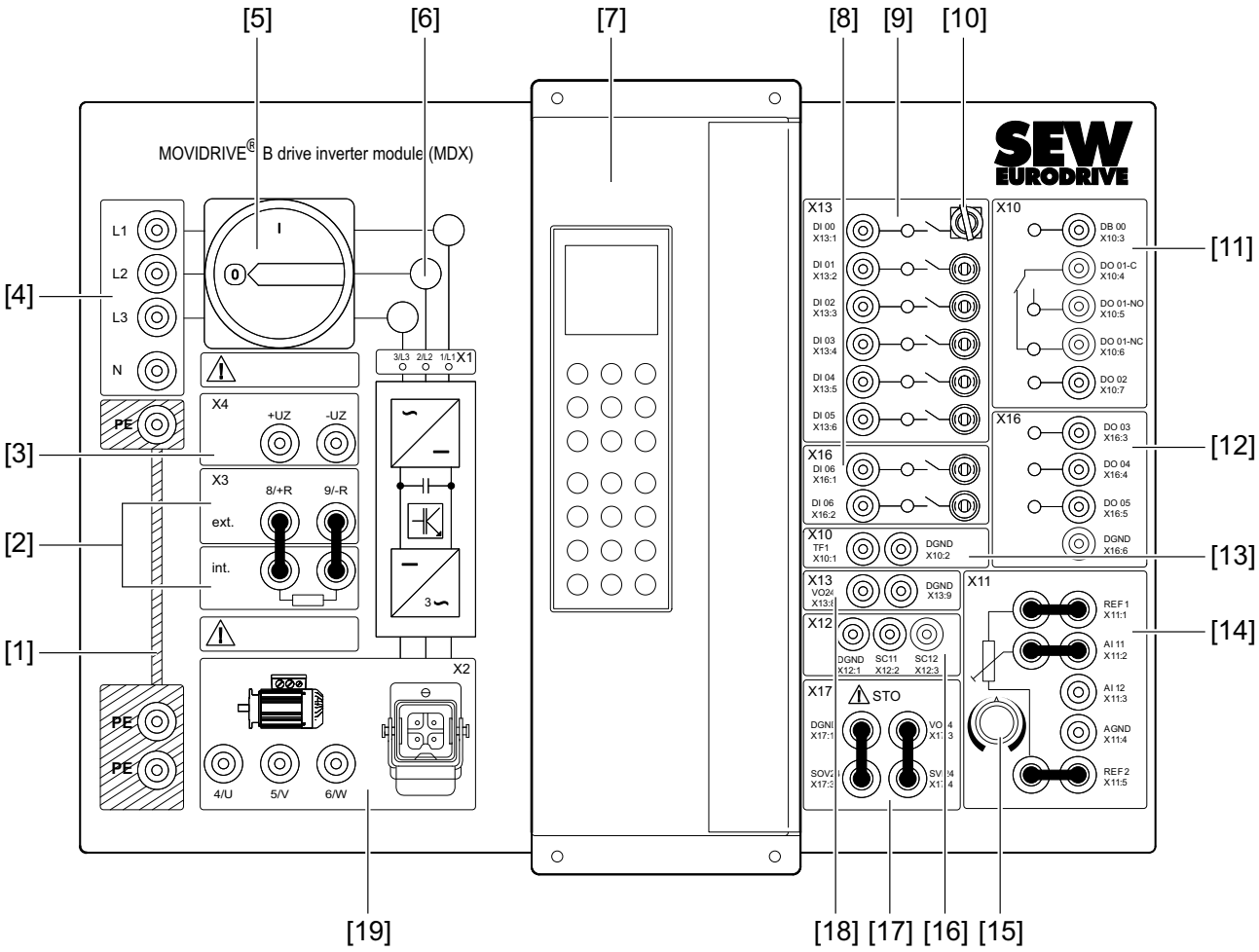
3.1 Scope of delivery

The following components are included in the delivery:

- Front panel with anodic printing
- Housing
- Braking resistor (installed in the housing of the didactics module)
- MOVIDRIVE® MDX60B/61B drive inverter
- USB11A interface adapter
- MOVITOOLS® MotionStudio engineering software
- Optional: Fieldbus interface
- Optional: Encoder option (encoder card)
- Jumpers (3 pcs)
- 4 mm laboratory safety plug connectors (25 cm) (3 pcs)

28519477/EN – 04/2019

3.2 Basic unit



9007214023218955

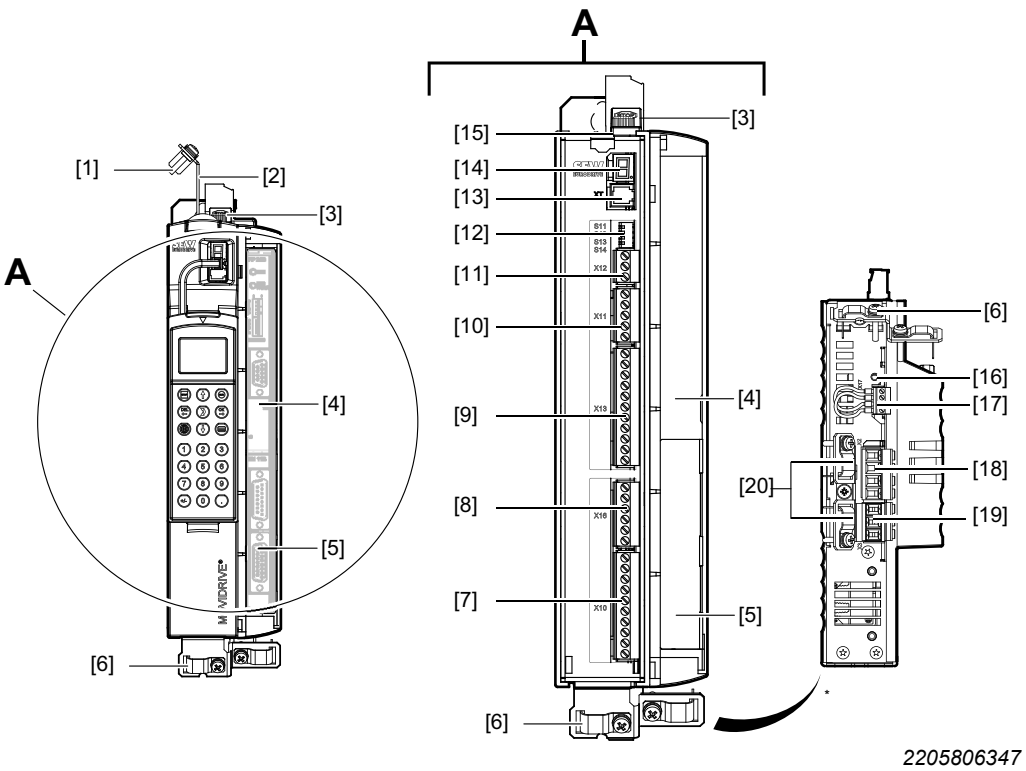
[1] PE: PE connection
[2] X3: Braking resistor
[3] X4: DC link
[4] Power connection
[5] Main switch (can be locked)
[6] Power indicators
[7] MOVIDRIVE® MDX60B/61B drive inverter
[8] X16.1 – 2: Digital inputs
[9] X13.1 – 6: Digital inputs
[10] Key switch
[11] X10: Digital outputs
[12] X16.3 – 5: Digital outputs
[13] X10: Temperature sensor connection
[14] X11.1 – 5: Setpoint input/analog input
[15] Potentiometer for setpoint input
[16] X12: System bus
[17] X17: STO
[18] X13.8: Auxiliary voltage output DC 24 V
[19] X2: Motor connection

28519477/EN – 04/2019

3.3 Device components

3.3.1 Size 0

MDX60/61B-5A3 (AC 400/500 V devices): 0005/0008/0011/0014

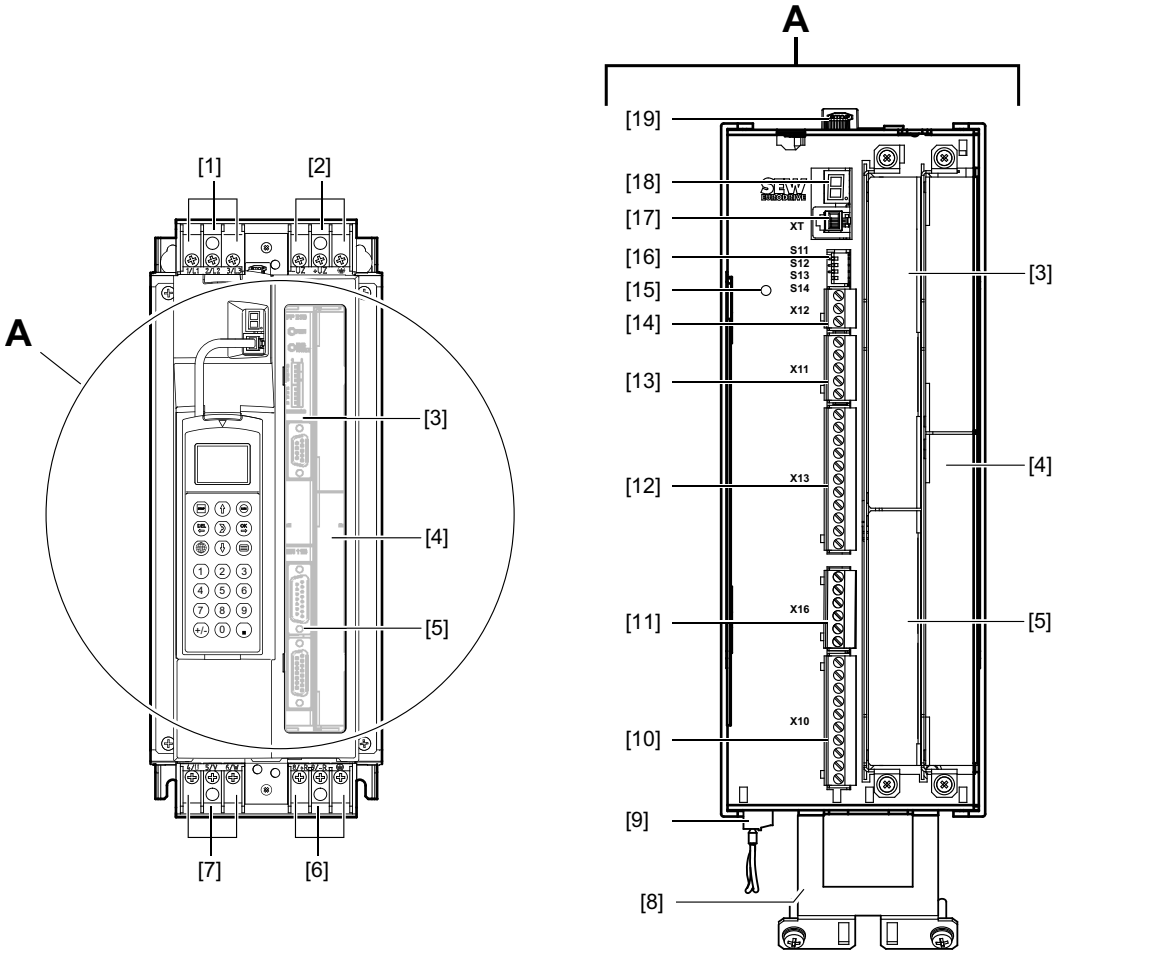


*View of the bottom of the device
[1] Power shield clamp for supply system connection and DC link connection
[2] X4: Connection for DC link coupling $-U_Z$ $+U_Z$ and PE connection, separable
[3] X1: Power supply connection L1, L2, L3 and PE connection, separable
[4] Only with MDX61B: Fieldbus slot
[5] Only with MDX61B: Encoder slot
[6] Shield clamp for signal cables MDX61B size 0
[7] X10: Signal terminal strip for digital outputs and TF/TH input
[8] X16: Signal terminal strip digital inputs and outputs
[9] X13: Signal terminal strip terminal strip for digital inputs and RS485 interface
[10] X11: Signal terminal strip for setpoint input AI1 and 10 V reference voltage
[11] X12: Signal terminal strip system bus (SBus)
[12] DIP switches S11 – S14
[13] XT: Slot for DBG60B keypad or USB11A/UWS21B serial interface
[14] 7-segment display
[15] Memory card
[16] Grounding screw M4 × 14
[17] X17: Signal terminal block for safety contacts of drive safety function STO
[18] X2: Motor connection U, V, W and PE connection, separable
[19] X3: Braking resistor connection +R / –R and PE connection, separable
[20] Power shield clamp for motor connection and braking resistor connection

3.3.2 Size 1

MDX61B-5A3 (AC 400/500 V devices): 0015/0022/0030/0040

MDX61B-2A3 (AC 230 V devices): 0015/0022/0037



[1] X1: Power supply connection 1/L1, 2/L2, 3/L3, separable

[2] X4: Connection for DC link coupling $-U_Z$ $+U_Z$, separable

[3] Fieldbus slot

[4] Expansion slot

[5] Encoder slot

[6] X3: Braking resistor connection 8/+R, 9/–R and PE connection, separable

[7] X2: Motor connection 4/U, 5/V, 6/W and PE connection, separable

[8] Shield clamp for signal cables and PE connection

[9] X17: Signal terminal block for safety contacts of drive safety function STO

[10] X10: Signal terminal strip for digital outputs and TF/TH input

[11] X16: Signal terminal strip digital inputs and outputs

[12] X13: Signal terminal strip terminal strip for digital inputs and RS485 interface

[13] X11: Signal terminal strip for setpoint input AI1 and 10 V reference voltage

[14] X12: Signal terminal strip system bus (SBus)

[15] Grounding screw M4 × 14

[16] DIP switches S11 – S14

28519477/EN – 04/2019

[17] XT: Slot for DBG60B keypad or USB11A/UWS21B serial interface

[18] 7-segment display

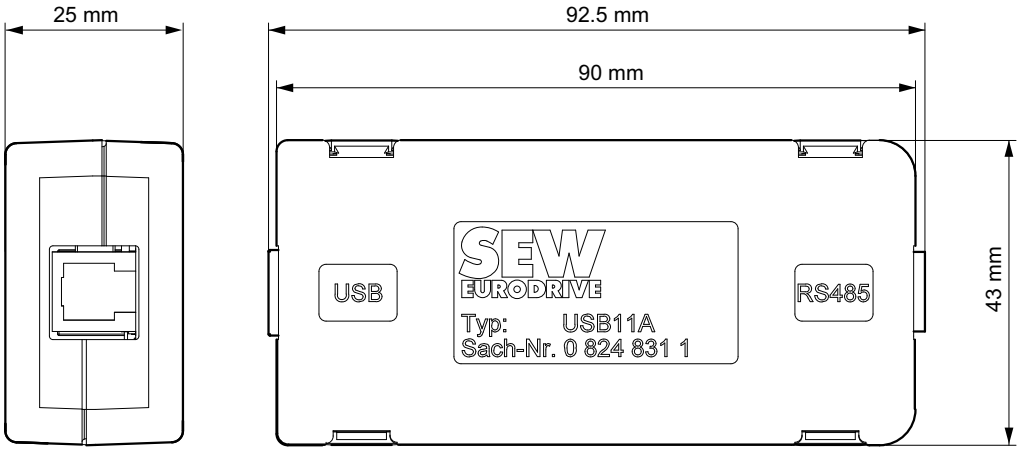
[19] Memory card

3.3.3 USB11A interface adapter

The USB11A option can be used to connect a PC or laptop with a USB interface to the XT slot of MOVIDRIVE®. The USB11A interface adapter supports USB 1.1 and USB 2.0.

The USB11A option is connected to the PC using a commercially available, shielded USB connection cable of the type USB A-B.

USB11A and MOVIDRIVE® are connected using a serial interface cable with RJ10 plugs.



3.3.4 Braking resistors BW

BW braking resistors are adapted to the MOVIDRIVE® inverter series. The type of cooling is natural cooling KS (air cooling).

The surfaces of the resistors get very hot if loaded with P_N. Make sure that you select an installation site that will accommodate these high temperatures. For this reason, braking resistors are usually mounted on the control cabinet roof.

Plan for a load derating of 4% per 10 K from an ambient temperature of 45 °C (113 °F). Do not exceed the maximum ambient temperature of 80 °C (176 °F). When installed in the control cabinet, bear in mind the maximum permissible temperature of other components (e.g. MOVIDRIVE®).

The following resistor is installed in the didactics module:

Braking resistor type	BR100-005
Part number	08262691
Design	Flat design
100% cdf	0.45 kW
50% cdf[1)]	0.60 kW
25% cdf	0.83 kW
12% cdf	1.11 kW
6% cdf	2 kW

Braking resistor type	BR100-005
Resistance value R_{BW}	100 Ω ±10%
Tripping current (of F16) I_F	0.8 A
Ambient temperature ϑ_A	-20 °C to +40 °C
For MOVIDRIVE® B (recommendation)	0005 – 0022
Type of cooling	KS (self-cooling)
Degree of protection	IP54

[1)]cdf = cyclic duration factor of the braking resistor with reference to a cyclic duration of $T_{D \leq}$ 120 s.

3.3.5 Motor types

SEW-EURODRIVE recommends the following motor types for training with asynchronous AC motors and synchronous servomotors:

- DR.. series AC motor

  Recommended: Didactics motor assembly DRS71S4
- CM.. motors

  Recommended: Didactics motor assembly CMP50M

28519477/EN – 04/2019

4 Installation

4.1 Requirements

4.1.1 Device output

Only connect ohmic/inductive load (motor).

4.1.2 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.

4.1.3 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 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 mm^2:
  - Copper PE conductor with half the cross section of the supply system cable.

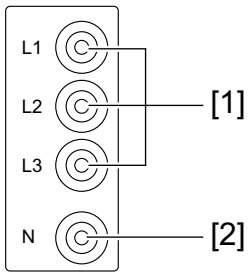
4.1.4 Interference emission

Recommendation: Use shielded motor cables for EMC compliant installation.

28519477/EN – 04/2019

4.2 Electrical connections

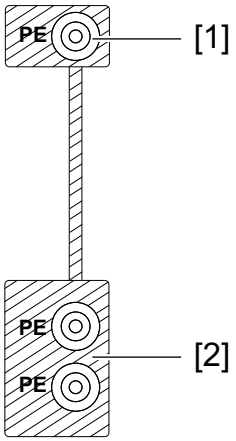
4.2.1 Power section connection



9007214233925899

[1] L1 − L3: Line connection phases
[2] N: Line connection of neutral conductor

4.2.2 PE connection



28742713739

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

4.2.3 X2: Motor connection

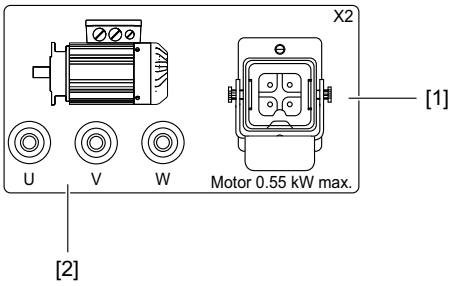
NOTICE

Damage to the didactics module due to overload.

Damage to property.

- Only connect one motor to the didactics module.

28519477/EN – 04/2019



9007206962988555

[1] Motor connection HARTING connector type Han®Q5 EMC female
Article no.: Connector: 09620030301, insert: 09120053101
[2] Motor phases U, V, W

You can connect the motor via the 4 mm connections of the U, V and W motor phases, or via the connector.

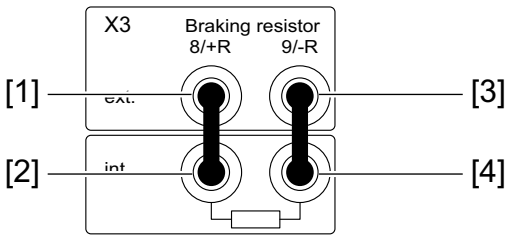
4.2.4 X3: Braking resistor (external or internal)

⚠ WARNING

Electric shock when disconnecting or connecting voltage-carrying jumpers.

Severe or fatal injuries.

- Disconnect all supply voltages.
- Make sure that the device is de-energized.
- Never disconnect or connect jumpers while they are carrying voltage.



18014413489196043

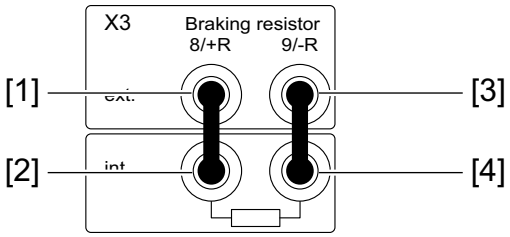
[1] ext. 8/+R
[2] int. 8/+R
[3] ext. 9/-R
[4] int. 9/-R

Using an internal braking resistor

The didactics module comes equipped with a BW027−003 braking resistor.

Make sure that the braking resistor in motor-inverter operation is used in a suitable manner. Observe the information in the documentation of the components in use.

Do the following to use the internal braking resistor:



18014413489196043

1. Jumper terminal [1] with terminal [2].
2. Jumper terminal [3] with terminal [4].

Using an external braking resistor

Use a braking resistor matching the selected motor.

⚠ WARNING

The surfaces of the braking resistors get very hot when the braking resistors are loaded with P_N.

Risk of burns and fire.

- Choose a suitable installation location.
- Do not touch the braking resistors.

Do the following to use an external braking resistor:

1. Connect the external braking resistor to terminals [1] and [2].
   ⇨ Terminals [3] and [4] remain unassigned.

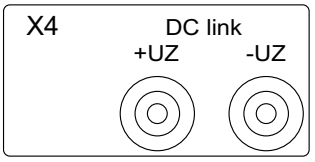
4.2.5 X4: DC link

⚠ WARNING

DC link voltages up to 600 V in regenerative operation.

Severe or fatal injuries.

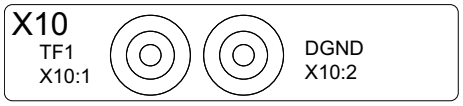
- Do not insert metallic objects into the sockets.



9007214234502411

28519477/EN – 04/2019

4.2.6 X10: Connection for temperature sensors

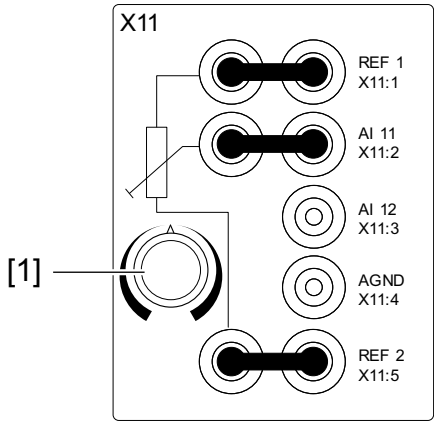


9007214234590091

TF1	X10:1 KTY+/TF/TH connection, factory set to "No response"
DGND	X10:2 Reference potential for digital signals

4.2.7 X11: Setpoint input/analog input

In delivery condition, the REF1, AL11 and REF2 connections are jumpered as follows:

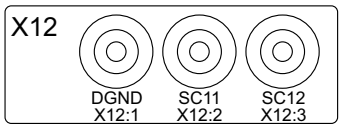


9007214531606411

[1]	Potentiometer for setpoint input
REF1	X11.1: DC+10 V (max. DC 3 mA) for setpoint potentiometer
AI11/12	X11.2/3: Setpoint input n1
AGND	X11.4: Reference potential for analog signals (REF1, REF2, AI..., AO...)
REF2	X11.5:DC−10 V (max. DC 3 mA) for setpoint potentiometer

Set the setpoint using the potentiometer [1].

4.2.8 X12: System bus



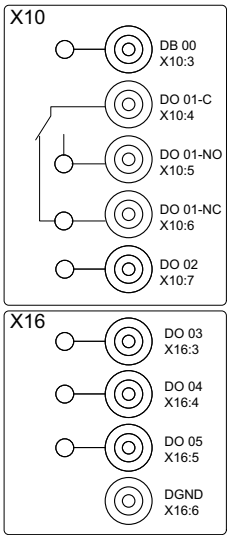
9007214234852619

DGND	X12.1: Reference potential system bus
SC11	X12.2: System bus high
SC12	X12.3: System bus low

4.2.9 X10/X16: Digital outputs

INFORMATION

Do not apply external voltages to digital outputs X16.3 to X16.5.



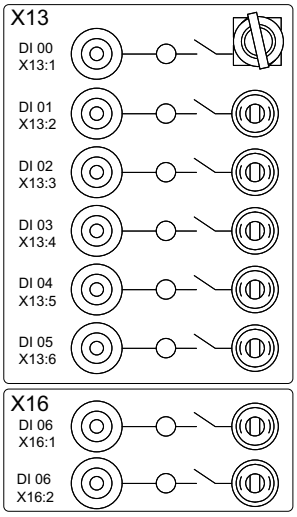
9007214234594827

DB 00	X10.3: Digital output, with fixed assignment "/Brake", max. load capacity DC 150 mA (protected against external voltage up to DC 30 V)
DO 01-C	X10.4: Shared contact digital output 1, factory set to "Ready"
DO 01-NO	X10.5: Normally open contact digital output 1, max. load capacity of relay contacts DC 30 V and DC 0.8 A
DO 01-NC	X10.6: NC contact digital output 1
DO 02	X10.7: Digital output, factory set to "/Fault", max. load capacity DC 50 mA (protected against external voltage up to DC 30 V)
DO 03	X16.3: Digital output 3, factory set to "IPOS output"
DO 04	X16.4: Digital output 4, factory set to "IPOS output"
DO 05	X16.5: Digital output 5, factory set to "IPOS output"
DGND	X16.6: Reference potential for binary signals

A digital output signal can be picked off from the 4 mm terminals. In this case, observe the technical specification of the frequency inverter.

28519477/EN – 04/2019

4.2.10 X13/X16: Digital inputs



9007214120337803

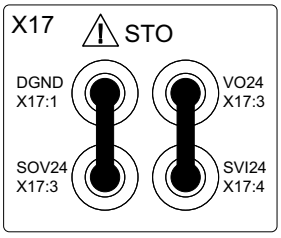
DI 00 X13.1: Digital input 1, with fixed assignment "/Controller inhibit"
DI 01 X13.2: Digital input 2, factory set to "CW/stop"
DI 02 X13.3: Digital input 3, factory set to "CCW/stop"
DI 03 X13.4: Digital input 4, factory set to "Enable/stop"
DI 04 X13.5: Digital input 5, factory set to "n11/n21"
DI 05 X13.6: Digital input 6, factory set to "n12/n22"
DI 06 X16.1: Digital input 7, factory set to "No function"
DI 07 X16.2: Digital input 8, factory set to "No function"

You can set the digital input signals DI 00 to DI 07 using the switches (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.

4.2.11 X17: Safe torque off (STO)

INFORMATION

Without a higher-level safety function, terminals X17.1/X17.3 and X17.2/X17.4 must be jumpered with 4 mm cables.

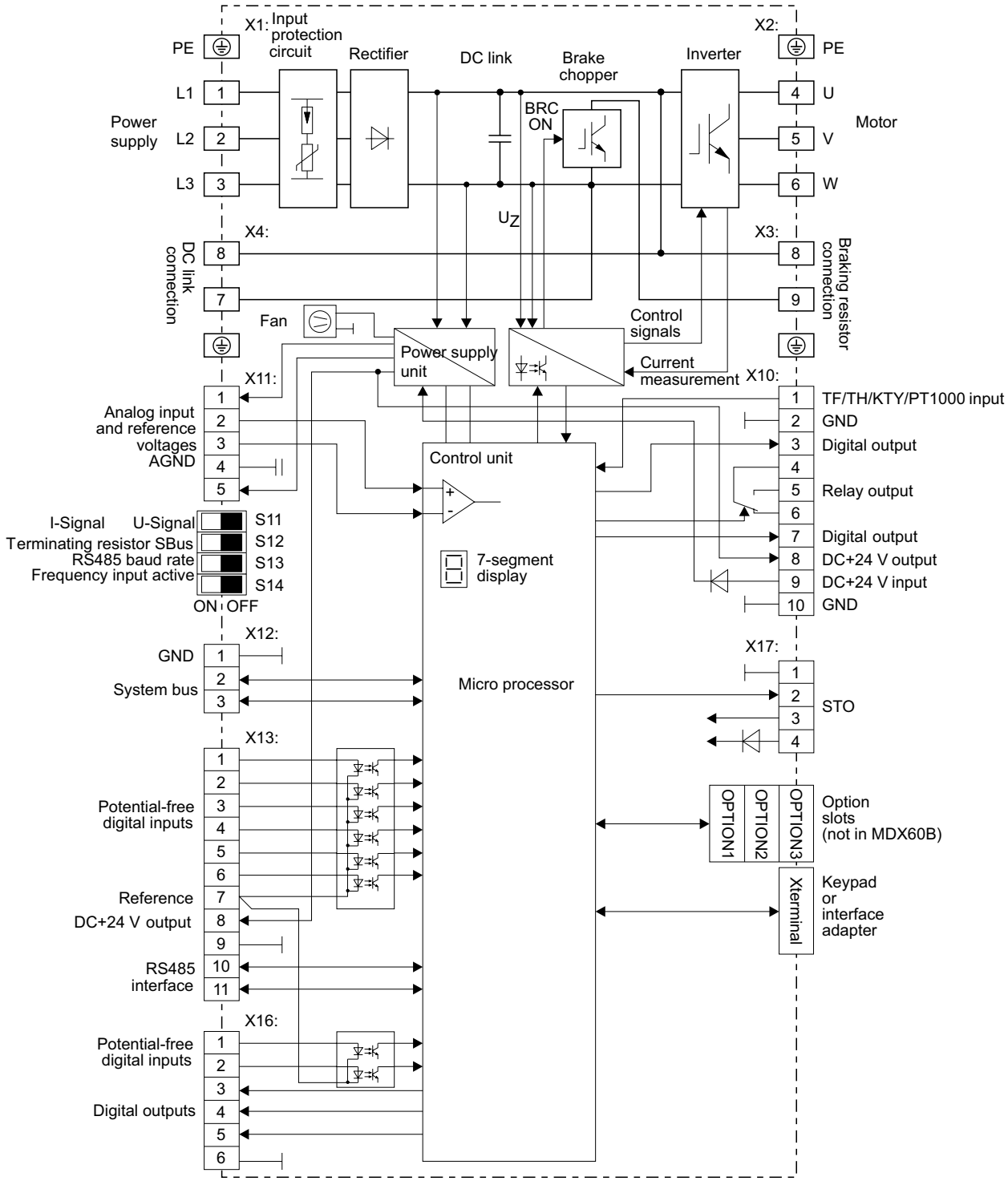


9007214234681483

DGND X17.1: Reference potential for X17:2
VO24 X17.2: Auxiliary voltage output DC+24 V input, only for supplying X17:4 of the same device
S0V24 X17.3: Reference potential for DC +24 V "STO" input (safety contact)
SVI24 X17.4: DC+24 V "STO" input (safety contact)

28519477/EN – 04/2019

4.3 Block diagram



18014399962320907

28519477/EN – 04/2019

5 Startup

5.1 Requirement

Correct project planning for the drive is a prerequisite for successful startup.

Bear in mind the output voltage of the frequency inverter (e.g. 3-phase/230 V) when selecting the motor.

The MOVIDRIVE® B drive inverter leaves the factory in delivery state. To being able to use the inverter, it must be started up correctly for operation with the respective asynchronous motor or synchronous servomotor.

5.2 Preliminary work

Do the following before taking the didactics module into operation:

1. Write down all the technical data of the motor nameplate. You will need this information for startup. If you use a third-party motor, make sure the motor is suited for frequency inverter operation.
2. Connect the line voltage (3-phase/400 V/50 Hz) to the didactics module.
3. Define the connection type of the motor (⅄ or △), 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 00 through DI 07 with the didactics module. Do not connect the connections during ongoing 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.
7. Apply the line voltage.

5.3 Starting up the didactics module

⚠ WARNING

Risk of crushing if the motor starts up unintentionally.

Severe or fatal injuries.

- Ensure that the motor cannot start unintentionally, by removing the X12 electronics terminal block for example.
- Additional safety precautions must be taken depending on the application, such as monitoring systems or mechanical protection devices, to avoid injury to people and damage to machinery.

28519477/EN – 04/2019

⚠ WARNING

Risk of injury due to device malfunction caused by incorrect device setting.

Severe or fatal injuries.

- Make sure that the installation was carried out by trained specialists.
- Check the parameters and data sets.
- Only use settings that are correct for the function.

MOVIDRIVE® can be started up using the DBG60B keypad and via the USB interface USB11B. For starting up the didactics module, refer to the "Startup" chapter in the following documents:

- "MOVIDRIVE® MDX60B/61B" operating instructions
- "MOVIDRIVE® MDX60B/61B" system manual
- "MOVITOOLS® MotionStudio" manual

28519477/EN – 04/2019

6 Operation

6.1 Status displays

The LEDs of the didactics module indicate whether a signal is present at the input triggered by the switch/button. A certain action is triggered in the inverter depending on how the inputs of the didactics module were programmed.

Refer to the keyword "Input/output assignment" in the documentation for the inverter.

6.2 MOVITOOLS® MotionStudio

The MOVITOOLS® MotionStudio program includes:

- Parameter tree
- Startup
- SCOPE
- Application Builder
- Data management

You can perform the following functions with the device:

- Take it into operation
- Set parameters
- Visualize and diagnose

6.2.1 SCOPE

SCOPE for MOVITOOLS® MotionStudio is an oscilloscope program for the inverters of SEW-EURODRIVE. SCOPE allows you to optimize the drives yourself. The inverter records, for example, response functions to setpoint changes in real time. You can transfer this information to the PC and graphically display it. SCOPE shows up to four analog and digital measured variables in differently colored curves. You can scale both the x-axis and the y-axis as required.

SCOPE also enables you to record digital input and output signals of the inverter. This means you can record complete program sequences of the higher-level controller and then evaluate them.

SCOPE supports simple documentation of the set parameters and the recorded measurement data by providing the following functions:

- Save
- Meta data
- Print

The online help functions enable you to familiarize yourself quickly with how to use SCOPE.

SCOPE is a multi-document interface (MDI application). This interface enables you to observe and analyze several data sets simultaneously. SCOPE displays every new data set in a new window. All settings for viewing and editing the data set take effect in the active window only.

28519477/EN – 04/2019

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

28519477/EN – 04/2019

8 Technical data

Didactics MOVIDRIVE® B inverter module (MDX)	
Part number	18978398/18978096
Degree of protection	IP20
Line connection	3-phase AC connection
Operating voltage	400 V
Control voltage	24 V
Line frequency	50 Hz
Mass	9.2 kg
Dimensions W × H × D	420 mm × 295 mm × 390 mm

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

28519477/EN – 04/2019

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.

28519477/EN – 04/2019

10 Address list

Germany			
Headquarters Production Sales	Bruchsal	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 42 76646 Bruchsal	Tel. +49 7251 75-0 Fax +49 7251 75-1970 http://www.sew-eurodrive.de sew@sew-eurodrive.de
Production / Industrial Gears	Bruchsal	SEW-EURODRIVE GmbH & Co KG Christian-Pähr-Str. 10 76646 Bruchsal	Tel. +49 7251 75-0 Fax +49 7251 75-2970
Production	Graben	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 1 76676 Graben-Neudorf	Tel. +49 7251 75-0 Fax +49 7251-2970
	Östringen	SEW-EURODRIVE GmbH & Co KG, Werk Östringen Franz-Gurk-Straße 2 76684 Östringen	Tel. +49 7253 9254-0 Fax +49 7253 9254-90 oestringen@sew-eurodrive.de
Service Competence Center	Mechanics / Mechatronics	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 1 76676 Graben-Neudorf	Tel. +49 7251 75-1710 Fax +49 7251 75-1711 scc-mechanik@sew-eurodrive.de
	Electronics	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 42 76646 Bruchsal	Tel. +49 7251 75-1780 Fax +49 7251 75-1769 scc-elektronik@sew-eurodrive.de
Drive Technology Center	North	SEW-EURODRIVE GmbH & Co KG Alte Ricklinger Straße 40-42 30823 Garbsen (Hannover)	Tel. +49 5137 8798-30 Fax +49 5137 8798-55 dtc-nord@sew-eurodrive.de
	East	SEW-EURODRIVE GmbH & Co KG Dänkritzer Weg 1 08393 Meerane (Zwickau)	Tel. +49 3764 7606-0 Fax +49 3764 7606-30 dtc-ost@sew-eurodrive.de
	South	SEW-EURODRIVE GmbH & Co KG Domagkstraße 5 85551 Kirchheim (München)	Tel. +49 89 909552-10 Fax +49 89 909552-50 dtc-sued@sew-eurodrive.de
	West	SEW-EURODRIVE GmbH & Co KG Siemensstraße 1 40764 Langenfeld (Düsseldorf)	Tel. +49 2173 8507-30 Fax +49 2173 8507-55 dtc-west@sew-eurodrive.de
Drive Center	Berlin	SEW-EURODRIVE GmbH & Co KG Alexander-Meißner-Straße 44 12526 Berlin	Tel. +49 306331131-30 Fax +49 306331131-36 dc-berlin@sew-eurodrive.de
	Ludwigshafen	SEW-EURODRIVE GmbH & Co KG c/o BASF SE Gebäude W130 Raum 101 67056 Ludwigshafen	Tel. +49 7251 75 3759 Fax +49 7251 75 503759 dc-ludwigshafen@sew-eurodrive.de
	Saarland	SEW-EURODRIVE GmbH & Co KG Gottlieb-Daimler-Straße 4 66773 Schwalbach Saar – Hülzweiler	Tel. +49 6831 48946 10 Fax +49 6831 48946 13 dc-saarland@sew-eurodrive.de
	Ulm	SEW-EURODRIVE GmbH & Co KG Dieselstraße 18 89160 Dornstadt	Tel. +49 7348 9885-0 Fax +49 7348 9885-90 dc-ulm@sew-eurodrive.de
	Würzburg	SEW-EURODRIVE GmbH & Co KG Nürnbergerstraße 118 97076 Würzburg-Lengfeld	Tel. +49 931 27886-60 Fax +49 931 27886-66 dc-wuerzburg@sew-eurodrive.de
Drive Service Hotline / 24 Hour Service			0 800 SEWHELP 0 800 7394357

28519477/EN – 04/2019

Index

28519477/EN – 04/19

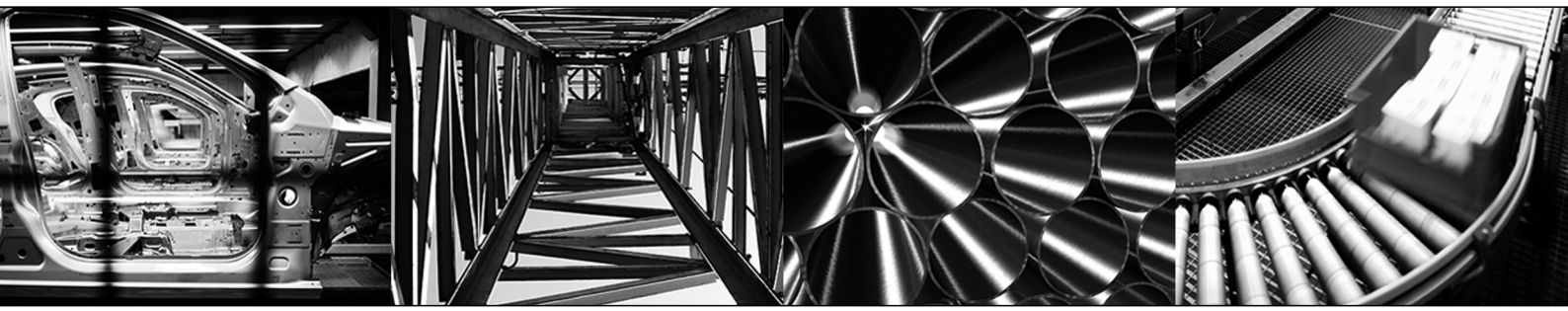
T

U

W

X

28519477/EN – 04/19



SEW-EURODRIVE
Driving the world

SEW-EURODRIVE GmbH & Co KG
Ernst-Blickle-Str. 42
76646 BRUCHSAL
GERMANY
Tel. +49 7251 75-0
Fax +49 7251 75-1970
sew@sew-eurodrive.com
➞ **www.sew-eurodrive.com**