



SEW
EURODRIVE

Operating Instructions



MOVIFIT® compact



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1 General information

1.1 About this documentation

This documentation is an integral part of the product. The documentation is written for all employees who assemble, install, start up, and service this product.

Make sure this documentation is accessible and legible. Ensure that persons responsible for the machinery and its 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 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 drive system or its environment.
INFORMATION	Useful information or tip: Simplifies handling of the drive system.	

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
	Warning of dangerous electrical voltage
	Warning of hot surfaces
	Warning of risk of crushing
	Warning of suspended load
	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 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.

1.4 Exclusion of liability

Read the information in this documentation, otherwise safe operation is impossible. You must comply with the information contained in this documentation to achieve the specified product characteristics and performance features. SEW-EURODRIVE assumes no liability for injury to persons or damage to equipment or property resulting from non-observance of these operating instructions. In such cases, SEW-EURODRIVE assumes no liability for defects.

1.5 Other applicable documentation

Observe the following additional documentation:

- Operating instructions "AC motors DR..71 – 315, ..."

This documentation can be downloaded and ordered on the Internet (<http://www.sew-eurodrive.de>).

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 have the purpose to avoid injury 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 Operator's duties

Make sure that the basic safety notes are read and observed. Make sure that persons responsible for the machinery and its operation as well as persons who work on the device 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.

The operator must ensure that the following works are only performed by qualified personnel:

- Transport
- Storage
- Setup and assembly
- Installation and connection
- Startup
- Maintenance and repair
- Shutdown
- Disassembly
- Waste disposal

Make sure persons working on the product adhere to the following regulations, requirements, documents and information:

- National and regional safety and accident prevention regulations
- Warning and safety signs on the product
- All other relevant project planning documents, installation and startup instructions, wiring diagrams and schematics
- Do not assemble, install or operate damaged products
- All specific specifications and requirements for the system

Make sure that systems with the product installed are equipped with additional monitoring and protection devices. Observe the applicable safety regulations and legislation governing technical equipment and accident prevention regulations.

2.3 Target group

Specialist for mechanical work

Any mechanical work may only be performed by adequately qualified personnel. Qualified personnel 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 mechanics according to applicable national regulation.
- They are familiar with this documentation

Specialist for electrotechnical work	<p>Any electronic work may only be performed by adequately skilled persons (electrically). Qualified electricians in the context of this documentation are persons familiar with electrical installation, startup, troubleshooting and servicing of the product who possess the following qualifications:</p> <ul style="list-style-type: none"> • Qualification in the field of electrical engineering according to applicable national regulation. • They are familiar with this documentation <p>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 above mentioned persons must have the authorization expressly issued by the company to operate, program, configure, label and ground devices, systems and circuits in accordance with the standards of safety technology.</p>
Instructed persons	<p>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.</p>

2.4 Designated use

The product is intended for installation in electrical plants or machines.

In case of installation in electrical systems or machines, startup of the product is prohibited until it is determined that the machine meets the requirements stipulated in the local laws and directives. For Europe, Machinery Directive 2006/42/EC as well as the EMC Directive 2014/30/EU apply. Observe EN 60204-1 (Safety of machinery - electrical equipment of machines). The product meets the requirements stipulated in the Low Voltage Directive 2014/35/EU.

The standards given in the declaration of conformity apply to the product.

The systems can be mobile or stationary. The motors must be suitable for operation with inverters. Do not connect any other loads to the product. Never connect capacitive loads to the product.

The product can be used to operate the following motors in industrial and commercial systems:

- AC asynchronous motors with squirrel-cage rotor

Technical data and information on the connection conditions are provided on the nameplate and in chapter "Technical data" in the documentation. Always comply with the data and conditions.

Unintended or improper use of the product may result in severe injury to persons and damage to property.

Do not use the product as a climbing aid.

2.4.1 Hoist applications

The inverter may not be used for lifting applications or on slopes.

The motor starter is suitable for lifting applications only to a limited degree. The motor starter may not be used as a safety device for lifting applications.

2.5 Functional safety technology

The product must not perform any safety functions without a higher-level safety system, unless explicitly allowed by the documentation.

2.6 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:

- Ensure that the product is not subject to mechanical impact during transportation.
- Before transportation, cover the connections with the supplied protection caps.
- Only place the product on the cooling fins or on the side without connectors during transportation.
- Always use lifting eyes if available.

If necessary, use suitable, sufficiently dimensioned handling equipment.

Observe the information on climatic conditions in chapter "Technical data" of the documentation.

2.7 Installation/assembly

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

Protect the product from excessive mechanical strain. The product and its mounted components must not protrude into the path of persons or vehicles. Ensure that components are not deformed and that insulation spaces are maintained, particularly during transportation. Electric components must not be mechanically damaged or destroyed.

Observe the notes in the chapter "Mechanical installation" of the documentation.

2.7.1 Restrictions of use

The following applications are prohibited unless explicitly permitted:

- Use in potentially explosive areas
- 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
- Operation at installation altitudes above 4000 m above sea level

The product can be used at altitudes above 1000 m asl up to 4000 m asl under the following conditions:

- Taking the reduced continuous rated current into consideration, see chapter "Technical data" of the documentation.
- Above 2000 m asl, the air and creeping distances are only sufficient for overvoltage class II according to EN 60664. If the installation requires overvoltage category III according to EN 60664 you have to reduce the overvoltages on the system side from category III to II using additional external overvoltage protection.
- If a protective electrical separation is required, then implement this outside the product at altitudes of more than 2000 m above sea level (protective separation in accordance with EN 61800-5-1 and EN 60204-1)

2.8 Electrical connection

Make yourself familiar with the applicable national accident prevention guidelines before you work on the product.

Perform electrical installation according to the pertinent regulations (e.g. cable cross sections, fusing, protective conductor connection). The documentation at hand contains additional information.

Make sure that all required covers are installed correctly after electrical installation.

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

2.9 Protective separation

The product meets all requirements for protective separation of power and electronics connections in accordance with EN 61800-5-1. To ensure protective separation, all connected circuits must also meet the requirements for protective separation.

2.10 Startup/operation

Observe the safety notes in the chapters "Startup" and "Operation" in the documentation.

Make sure that the present transport protection is removed.

Do not deactivate monitoring and protection devices of the machine or system even for a test run.

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

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

Additional preventive measures may be required for applications with increased hazard potential. You have to check the protection devices after each modification.

When in doubt, switch off the product whenever changes occur in relation to normal operation. Possible changes are e.g. increased temperatures, noise, or oscillation. Determine the cause. Contact SEW-EURODRIVE if necessary.

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.

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:

1 minute.

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 safety functions of the product can cause a motor standstill. Eliminating the cause of the problem or performing a reset may result in the drive re-starting 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.

Risk of burns: The surface temperature of the product can exceed 60 °C during operation.

Do not touch the product during operation.

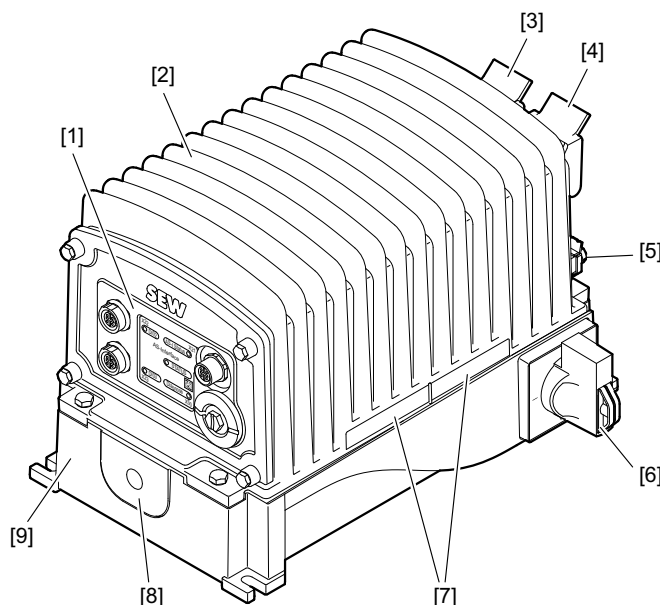
Let the product cool down before touching it.

3 Device structure

3.1 MOVIFIT® compact

MOVIFIT® compact is a decentralized drive unit for controlling AC motors.

The following image shows a MOVIFIT® compact dual-motor starter with AS-Interface:



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- [1] Control unit
- [2] EBOX with cooling fins and electronics (inverter or motor starter)
- [3] X9 connection for motor 1
- [4] X8 connection for motor 2, (with the dual-motor starter version only)
- [5] PE connection ⊕ (outer)
- [6] Maintenance switch
- [7] Nameplate
- [8] Cable seal for cable diameter 13 – 15 mm
- [9] ABOX with FieldPower® contact module (connection unit)

3.2 Versions

MOVIFIT® compact is available in the following versions:

- Inverter For 1 motor with CW and CCW rotation and 4 setpoint speeds
- Dual-motor starter For 2 motors with 1 direction of rotation each
The direction of rotation depends on the phase sequence.
- Reversing starter For 1 motor with CW and CCW rotation

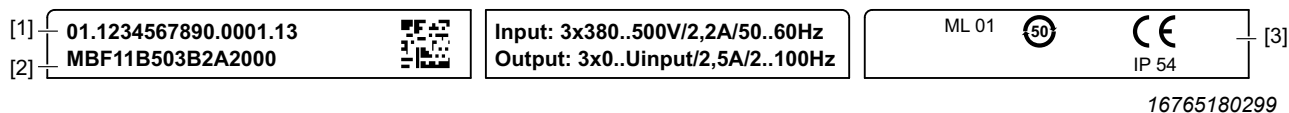
MOVIFIT® compact is available with the following control units:

- Drives with AS-Interface
- Control unit with binary signal inputs and outputs

3.3 Type designations

3.3.1 Nameplate

The image shows examples of the MOVIFIT® compact inverter nameplates:



[1] Serial number

[2] Type designation

[3] The right nameplate can be found beneath the motor connections.

3.3.2 Type designation

The following table shows an example of the type designation of the MOVIFIT® compact inverter **MBF11B-503-B2-A2-0-00**:

DS	Unit series	MB = MOVIFIT® compact
F	Device type	F = Frequency inverter S = Motor starter
11	Device power /design	07 = 0.75 kW inverter 11 = 1.1 kW inverter 15 = 1.5 kW inverter 2R = 2.2 kW reversing starter 4R = 4.0 kW reversing starter 4D = 2 x 2.2 kW dual-motor starter
B	Version	
-		
50	Connection voltage	50 = AC 380 – 500 V
3	Connection type	3 = 3-phase
-		
B	Controller	B = Binary control K = Via AS-Interface
2	Version	
-		
A2	Mounting module	A1 = ABOX, standard A2 = ABOX with maintenance switch
-		
0	Filters	0 = Without filter A = With EMC filter
-		
00	Design	00 = Standard design 03 = Special design of the inverter with AS-Interface, compatible with MOVIFIT® basic

3.4 Purchase order numbers

3.4.1 MOVIFIT® compact (standard design)

The following table shows the purchase order numbers of MOVIFIT® compact with the standard designs:

Device type	Control via AS-Interface		Binary control	
	Type	Purchase order number	Type	Purchase order number
Inverter	MBF07B-503-K2-A1-0-00	EB000101	MBF07B-503-B2-A1-0-00	EB000102
	MBF07B-503-K2-A1-A-00	EB000109	MBF07B-503-B2-A1-A-00	EB000110
	MBF07B-503-K2-A2-0-00	EB000105	MBF07B-503-B2-A2-0-00	EB000106
	MBF07B-503-K2-A2-A-00	EB000113	MBF07B-503-B2-A2-A-00	EB000114
	MBF11B-503-K2-A1-0-00	EB000103	MBF11B-503-B2-A1-0-00	EB000104
	MBF11B-503-K2-A1-A-00	EB000111	MBF11B-503-B2-A1-A-00	EB000112
	MBF11B-503-K2-A2-0-00	EB000107	MBF11B-503-B2-A2-0-00	EB000108
	MBF11B-503-K2-A2-A-00	EB000115	MBF11B-503-B2-A2-A-00	EB000116
	MBF15B-503-K2-A1-0-00	EB000117	MBF15B-503-B2-A1-0-00	EB000118
	MBF15B-503-K2-A1-A-00	EB000121	MBF15B-503-B2-A1-A-00	EB000122
	MBF15B-503-K2-A2-0-00	EB000119	MBF15B-503-B2-A2-0-00	EB000120
	MBF15B-503-K2-A2-A-00	EB000123	MBF15B-503-B2-A2-A-00	EB000124
Reversing starter	MBS2RB-503-K2-A1-0-00	EB000501	MBS2RB-503-B2-A1-0-00	EB000502
	MBS2RB-503-K2-A2-0-00	EB000505	MBS2RB-503-B2-A2-0-00	EB000506
	MBS4RB-503-K2-A1-0-00	EB000503	MBS4RB-503-B2-A1-0-00	EB000504
	MBS4RB-503-K2-A2-0-00	EB000507	MBS4RB-503-B2-A2-0-00	EB000508
Dual-motor starter	MBS4DB-503-K2-A1-0-00	EB000509	MBS4DB-503-B2-A1-0-00	EB000510
	MBS4DB-503-K2-A2-0-00	EB000511	MBS4DB-503-B2-A2-0-00	EB000512

These standard designs (**motor starter** and **inverter with binary control**) are compatible with MOVIFIT® basic with regard to control.

The special designs "MBF...-03" (**inverter with AS-Interface**) are compatible with MOVIFIT® basic with regard to control (see following page).

3.4.2 MOVIFIT® compact (special design "MBF...-03")

The following table shows the purchase order numbers of MOVIFIT® compact in the special designs "MBF...-03" inverter with AS-Interface.

Device type	Control via AS-Interface	
	Type	Purchase order number
Inverter	MBF07B-503-K2-A1-0- 03	EB000128
	MBF07B-503-K2-A1-A- 03	EB000132
	MBF07B-503-K2-A2-0- 03	EB000130
	MBF07B-503-K2-A2-A- 03	EB000134
	MBF11B-503-K2-A1-0- 03	EB000129
	MBF11B-503-K2-A1-A- 03	EB000133
	MBF11B-503-K2-A2-0- 03	EB000131
	MBF11B-503-K2-A2-A- 03	EB000135
	MBF15B-503-K2-A1-0- 03	EB000136
	MBF15B-503-K2-A1-A- 03	EB000126
	MBF15B-503-K2-A2-0- 03	EB000125
	MBF15B-503-K2-A2-A- 03	EB000127

These special designs are compatible with MOVIFIT® basic with regard to control.

4 Mechanical installation

4.1 General information

Observe the following notes for installation:

- Always observe the general safety notes.
- Only install MOVIFIT® on a level, low-vibration, and torsionally rigid substructure; see chapter "Permitted mounting position".
- Strictly observe all instructions referring to the technical data and the permissible conditions regarding the place of installation.
- Only use the provided attachment options when mounting the device.
- When selecting and dimensioning the mounting and safety elements, observe the applicable standards, the technical data of the units, and the local circumstances.
- Use the right cable seals for the cables.
- Close off unused cable entries with seals (without cable entry).
- Cover the unused plug connectors with blind caps.
- Use suitable mating connectors with plug connector variants.

4.2 Tools required

- Set of wrenches
- Socket wrench, SW7 mm
- Socket wrench, SW8 mm
- Torque wrench
- Screwdriver set

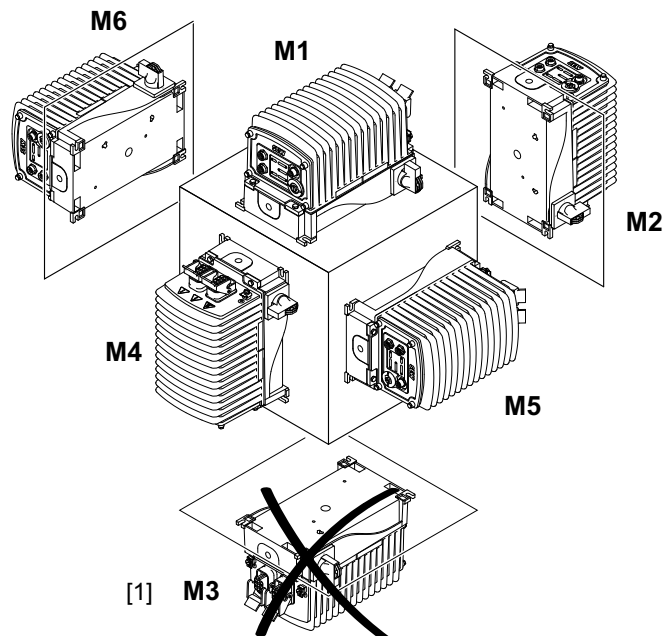
4.3 Installation requirements

Make sure that the following requirements are met before you start installing the device:

- The information on the nameplate of the MOVIFIT® device corresponds to the mains voltage.
- The MOVIFIT® device is undamaged (no damage caused by transport or storage).
- The ambient temperature corresponds to the specifications in chapter "Technical data".
- The MOVIFIT® device must **not** be installed under the following damaging ambient conditions:
 - Potentially explosive atmosphere
 - Oils
 - Acids
 - Gases
 - Vapors
 - Radiation
 - etc.

4.4 Permitted mounting position

The following illustration shows the mounting positions of the MOVIFIT® compact device.



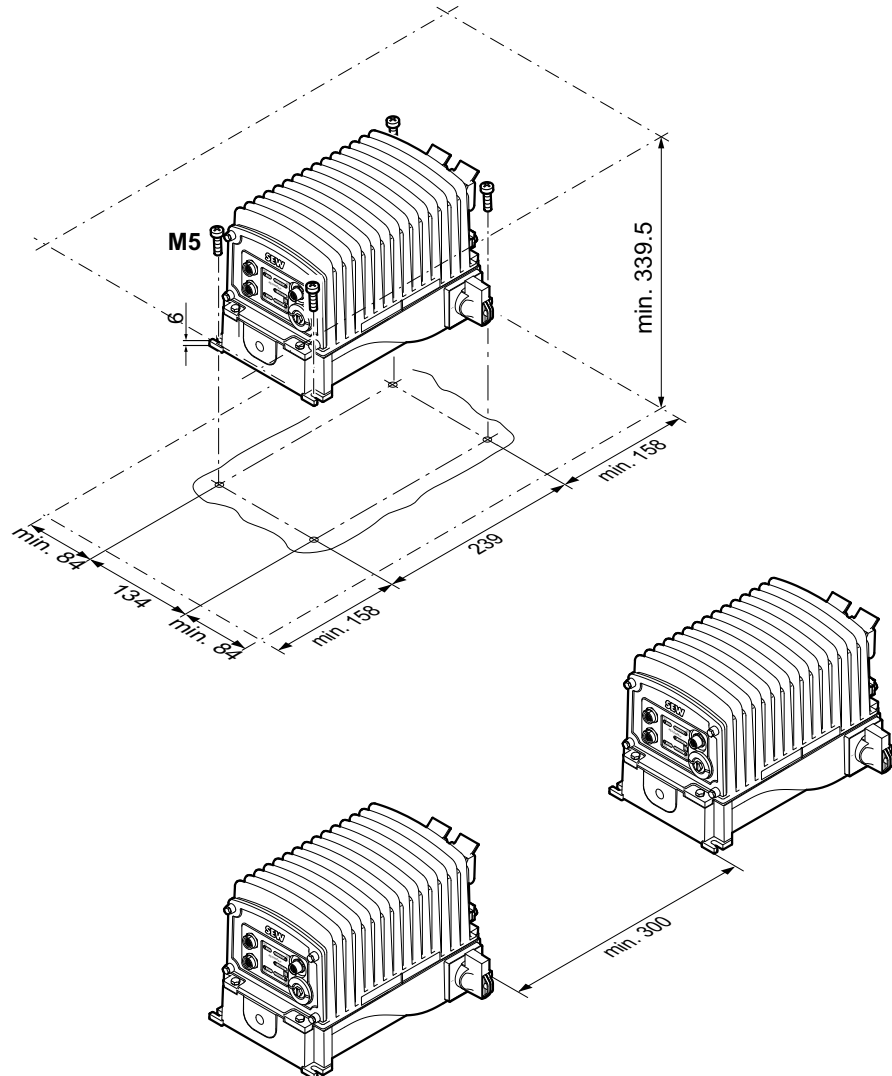
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- [1] Do not install the MOVIFIT® compact device **in mounting position M3**.
The MOVIFIT® compact device may be installed in any other mounting position.

4.5 MOVIFIT® compact installation

Secure the MOVIFIT® compact device with 4 bolts as shown in the following illustration:

(Tightening torque 2.0 – 2.4 Nm)



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5 Electrical installation

5.1 General information

Observe the following notes for installation:

- Always observe the general safety notes.
- Only install MOVIFIT® on a level, low-vibration, and torsionally rigid substructure; see chapter "Permitted mounting position".
- Strictly observe all instructions referring to the technical data and the permissible conditions regarding the place of installation.
- Only use the provided attachment options when mounting the device.
- When selecting and dimensioning the mounting and safety elements, observe the applicable standards, the technical data of the units, and the local circumstances.
- Use the right cable seals for the cables.
- Close off unused cable entries with seals (without cable entry).
- Cover the unused plug connectors with blind caps.
- Use suitable mating connectors with plug connector variants.

5.2 Low-voltage supply systems

The device is only suitable and approved for operation on the following systems:

- TN and TT systems with directly grounded star point

5.3 Installation instructions

5.3.1 Connecting supply system leads

- The nominal voltage and frequency of the MOVIFIT® device must correspond to the data of the supplying system.
- Dimension the cable cross section according to the input current I_{line} for rated power (see chapter "Technical data").
- Install fuses at the beginning of the supply system cables behind the supply bus junction.

The following fuses are permitted:

- Fuses of utilization category gG
- Power circuit breakers with characteristic B or C
- Motor circuit breaker

Dimension the fuses according to the cable cross section.

5.3.2 Residual current device



▲ WARNING

No protection against electric shock if an incorrect type of residual current device is used.

Severe or fatal injuries.

- Use only universal current sensitive residual current devices of type B for inverters.
- Inverters generate a DC current component in the leakage current and can significantly reduce the sensitivity of a residual current device of type A. A type A residual current device is thus not permitted as protection device.
- If the use of a residual current device is not mandatory according to the standards, SEW-EURODRIVE recommends not to use a residual current device.

5.3.3 Line contactor

- Use contactor switch contacts of utilization category AC-3 according to EN 60947-4-1 to connect the supply system cable.

5.3.4 Notes on PE connection

▲ WARNING

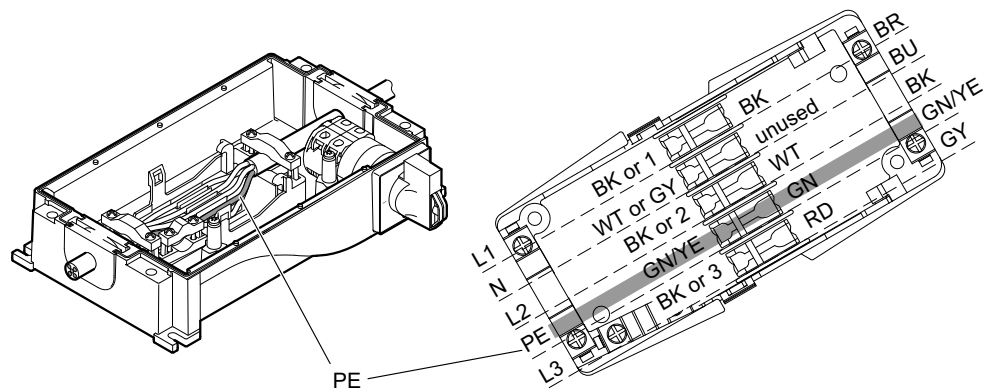
Electric shock due to faulty connection of PE.

Severe or fatal injuries.

- Observe the following notes regarding PE connection.

PE connection in the device

Establish a PE connection in the device.

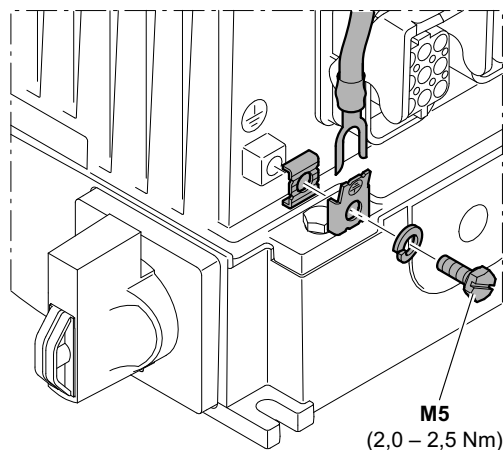


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PE connection on outside of housing

During normal operation of the MOVIFIT® compact inverter, leakage currents of ≥ 3.5 mA can occur. In order to fulfill EN 61800-5-1, observe the following notes:

- The ground (PE) connection must meet the requirements for plants with high earth-leakage currents.
- For this reason, a **second** PE connection cable must be fitted to the outside of the housing.



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The cross section of the second PE connection cable must be no less than 4 mm² and no smaller than the cross section of the mains cable.

5.3.5 EMC-compliant installation

INFORMATION



This drive system is not designed for operation on a public low voltage supply system that supplies residential areas.

This is a product with restricted availability (categories C1 to C4 according to EN 61800-3). This product may cause EMC interference. In this case, it is recommended for the user to take suitable measures.

With respect to the EMC regulation, frequency inverters cannot be operated as stand-alone units. Regarding EMC, they can only be evaluated when they are integrated in a drive system. Conformity is declared for a described, CE-typical drive system.

5.3.6 Installation altitude higher than 1000 m above sea level

MOVIFIT® devices with supply voltages of 380 to 500 V can be used at altitudes above 1000 up to 4000 m above sea level. To do so, you must observe the following basic conditions.

- At heights above 1000 m above sea level, the nominal continuous power is reduced due to reduced cooling: I_N reduction by 1% per 100 m.
- At altitudes of 2000 to 4000 m above sea level you must take limiting measures which reduce the line side overvoltage from category III to category II for the entire system.

5.3.7 Protection devices

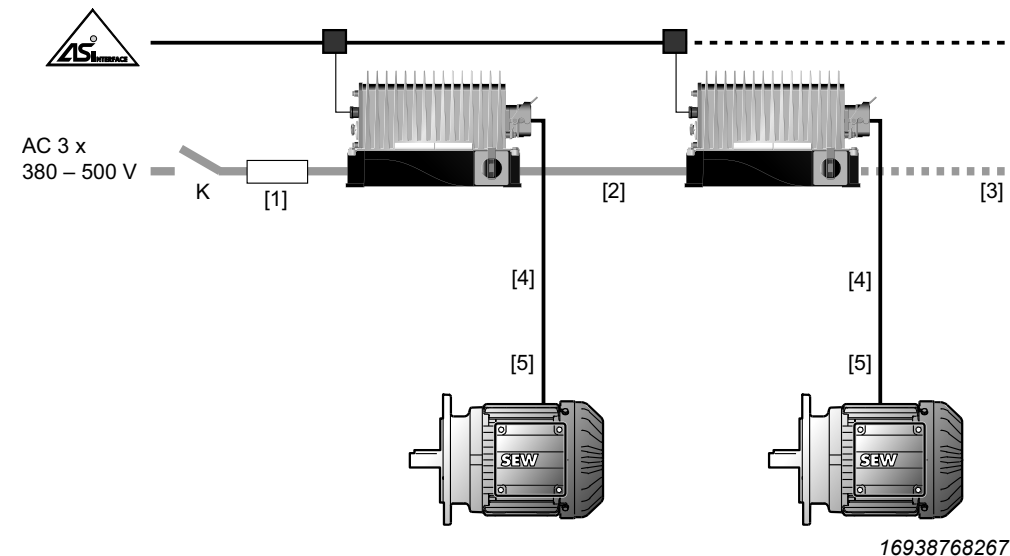
MOVIFIT® drives have integrated protection devices against overloads. External overload devices are not necessary.

5.3.8 UL-compliant installation (in preparation)

The UL and cUL approval for the MOVIFIT® compact device series is in preparation.

5.4 Installation topology

The following illustration shows the basic installation topology of the MOVIFIT® compact with AS-Interface control:



K: Line contactor

Cable protection device	Power bus (power supply cable)				Motor cables	
	Supply impedance upstream of each protective device	Minimum conductor cross section	Rated value or setting of protection device I_N	Maximum cable length ¹⁾	Minimum conductor cross section	Maximum length
[1]		[2]		[3]	[4]	[5]
B16	500 mΩ	2.5 mm ²	16 A	130 m	1.5 mm ²	3 m
B16	500 mΩ	2.5 mm ²	20 A	94 m	2.5 mm ²	3 m
B20	500 mΩ	4.0 mm ²	20 A	140 m	2.5 mm ²	3 m
B25	500 mΩ	4.0 mm ²	25 A	114 m	2.5 mm ²	3 m

1) Maximum cable length when using power circuit breakers with characteristic B ($I_A = 5 \times I_N$, switch-off time = 0.1 s)

The table shows typical characteristics at an ambient temperature of 40 °C with routing type B2 according to EN 60204-1.

The applicable country-specific standards and regulations must also be observed for individual project planning and installation.

5.5 Power bus connection (line cable)



▲ WARNING

Electric shock due to dangerous voltages in the ABOX.

Severe or fatal injuries.

- De-energize the MOVIFIT® device. Observe the minimum switch-off time after disconnection from the supply system:
 - 1 minute



▲ WARNING

Electric shock due to connecting or disconnecting plug connectors when voltage is applied.

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.



▲ WARNING

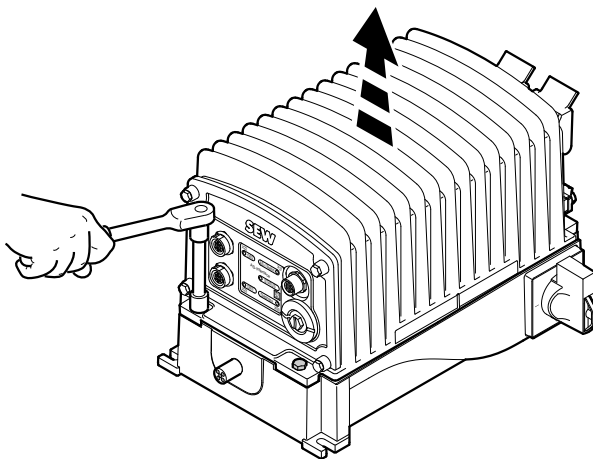
Danger of burns due to hot surfaces of the device (e.g. the heat sink).

Serious injuries.

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

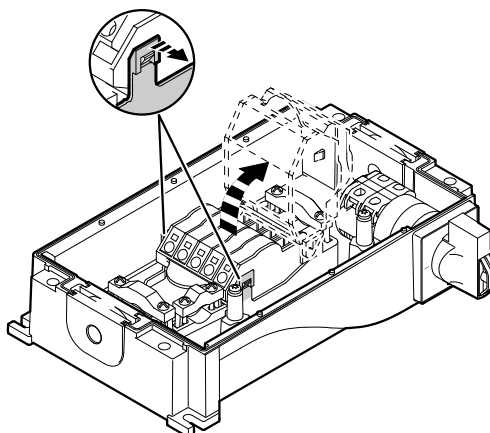
Connect the MOVIFIT® compact device to the power bus as follows.

1. Loosen the 4 screws and remove the EBOX from the ABOX.



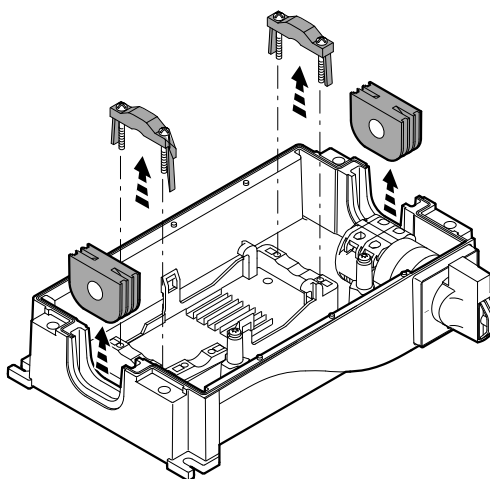
16938773771

2. Pull the two interlocking lugs outwards and swivel the upper part of the FieldPower® contact module upwards.



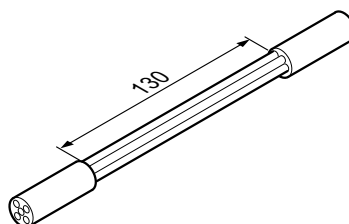
16938791947

3. Loosen the 4 screws and remove the strain relief brackets. Remove the two cable seals.



16938794635

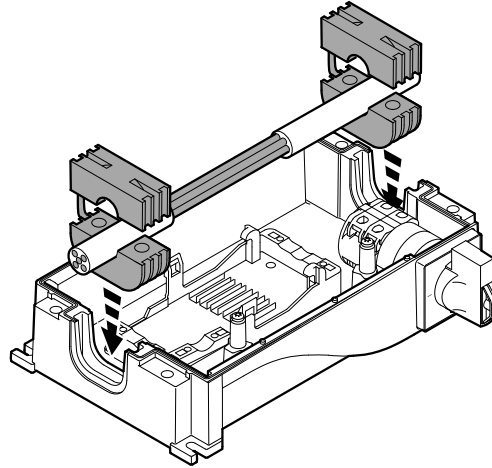
4. Remove the sheath of the power supply cable with a suitable stripping tool.



9007202094610955

5. Fix the cable seals around the power supply cable.

6. **NOTICE!** Penetration by moisture or dust caused by non-permissible cable seal. Damage to the MOVIFIT® compact device.
Only use cable seals that are approved for the diameter of the power supply cable (→ 102). Insert the cable seals with the power supply cable in the recesses in the ABOX.



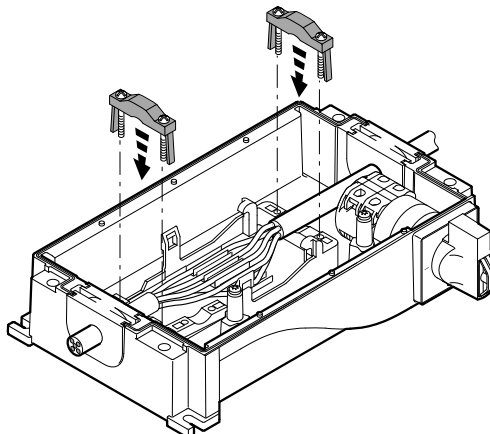
16938797323

7. **▲ WARNING!** Risk of crushing due to wrong direction of rotation or damage due to reverse connection of phases. Severe or fatal injuries, irreparable damage to the device.
Observe the following connection diagram. Prevent short circuits. Insert the conductors of the power supply cable into the cable entries in accordance with the following connection diagram:

		Conductor	Conductor color/conductor marking According to:		
			IEC 60757	UL 1277 TC-ER	UL 62 ST OOW
L1	L1	L1	Brown	Black or 1	Black
N	N	N	Blue	White or gray	–
L2	L2	L2	Black	Black or 2	White
PE	PE	PE	Green/yellow	Green/yellow	Green
L3	L3	L3	Gray	Black or 3	Red

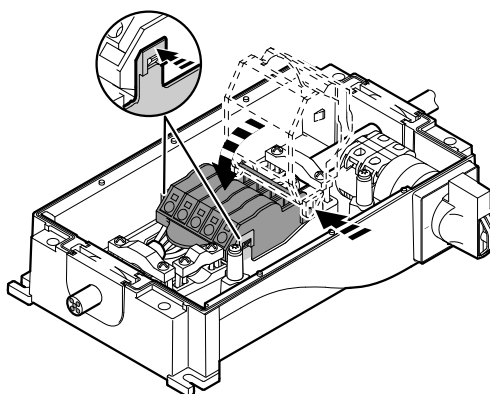
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8. Screw the strain relief brackets to the ABOX and fix the power supply cable with the brackets (tightening torque: 0.6 Nm).



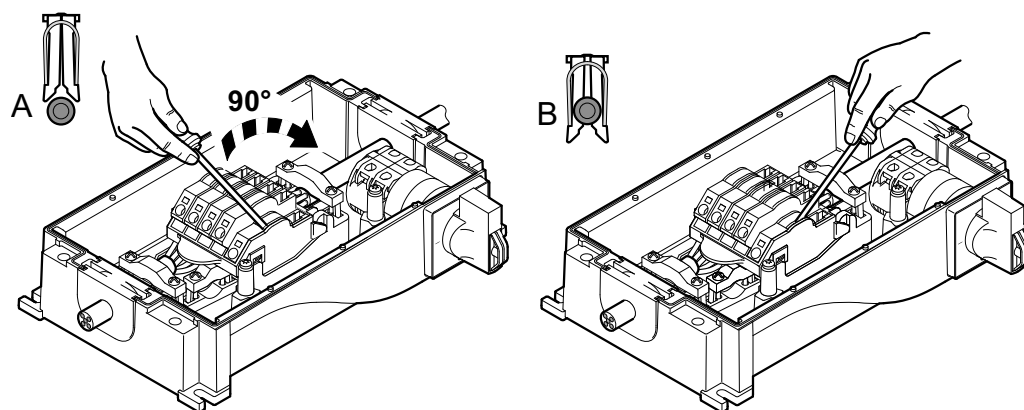
16938800011

9. Place the upper part of the contact module on the hinge hooks. Swivel the upper part of the contact module downwards until it engages at both sides.



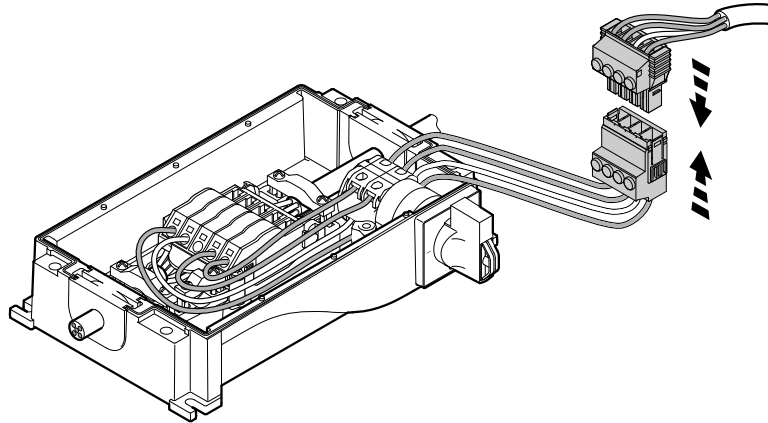
16938802699

10. Use the screwdriver (blade width 3 – 3.5 mm) to lever all contacts of the insulation displacement connector downwards.



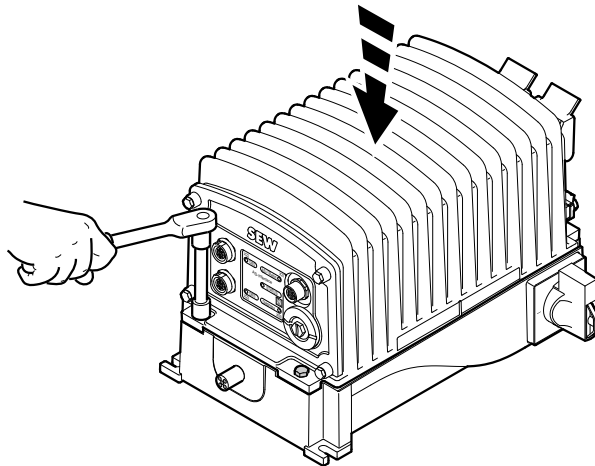
16938818187

11. Plug the supply system plug connector of the EBOX into the socket of the ABOX.



16938869515

12. Position the EBOX on the ABOX. Screw on the EBOX with 4 screws (tightening torque: 2 Nm). Avoid crushing the cable.

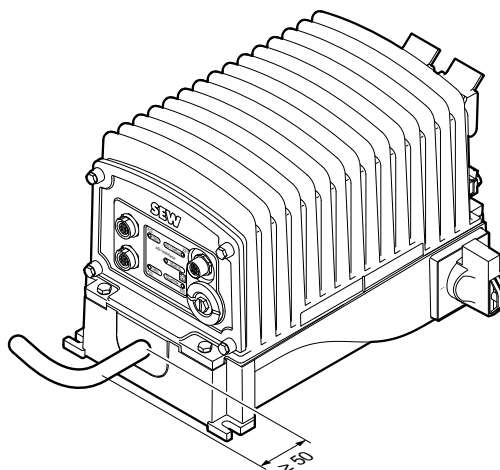


16938820875

13. **NOTICE!** Damage to device from penetration by moisture or dust from bending the power supply cable.

Do **not** bend the power supply cable within a minimum distance of 50 mm from the device.

The MOVIFIT® compact device only fulfills the requirements of degree of protection IP54 if the power supply cable is **not** bent within 50 mm of the device.



16938823563

5.6 Motor connection

5.6.1 Motor connection variants



▲ WARNING

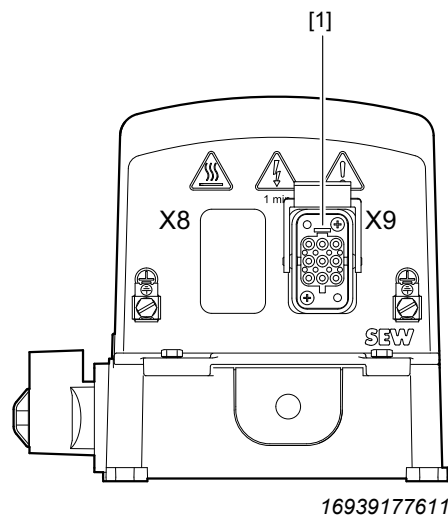
Electric shock due to connecting or disconnecting plug connectors when voltage is applied.

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.

The following illustration shows the designs of the motor plug connectors on the MOVIFIT® compact:

MOVIFIT® compact inverter
MOVIFIT® compact reversing starter

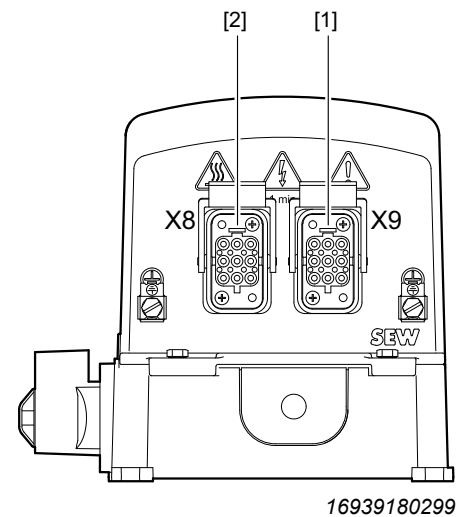


16939177611

[1] X9 Motor 1 connection

[2] X8 Motor 2 connection

MOVIFIT® compact dual-motor starter



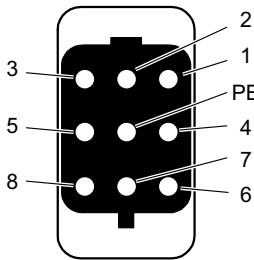
16939180299

5.6.2 X9, (X8): Motor connection

Plug connector X8 is only present on the MOVIFIT® compact dual-motor starter.

Connection

The following table provides information about this connection:

Function		
Power connection for motor with brake		
Connection type		
Q 8/0, female		
Connection image		
		
No.	Name	Function
1	U	Motor phase U output
2	n. c.	Not connected
3	W	Motor phase W output
4	L1	Supply of mechanical brake (Only with MOVIFIT® compact inverter)
5	n. c.	Not connected
6	L2_S	Supply of mechanical brake switched (Only with MOVIFIT® compact inverter)
7	V	Motor phase V output
8	n. c.	Not connected
PE	PE	Protective earth

Connection cable

The following table shows possible motor cables:

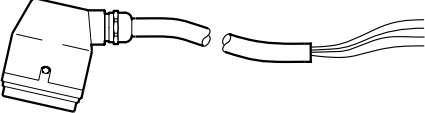
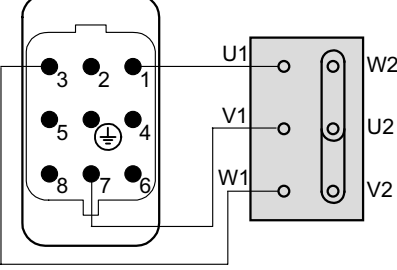
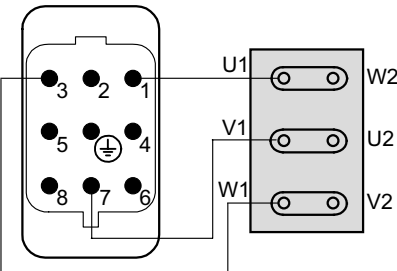
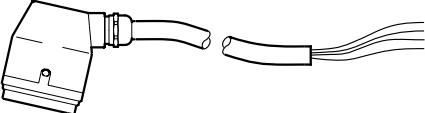
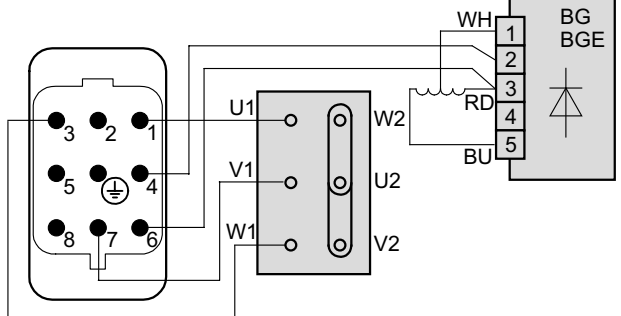
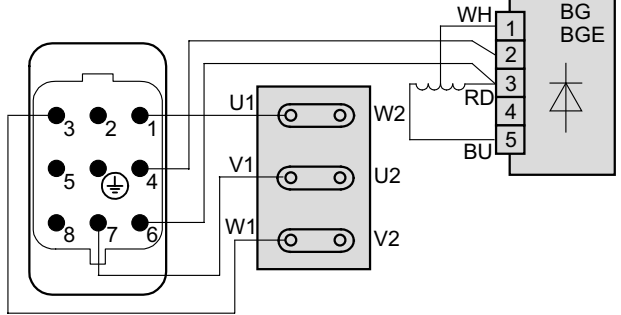


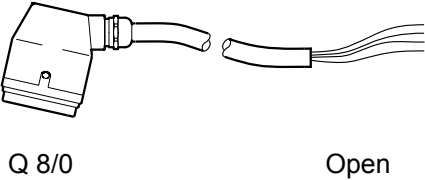
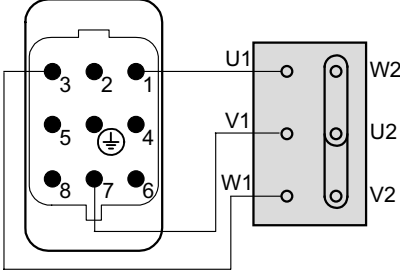
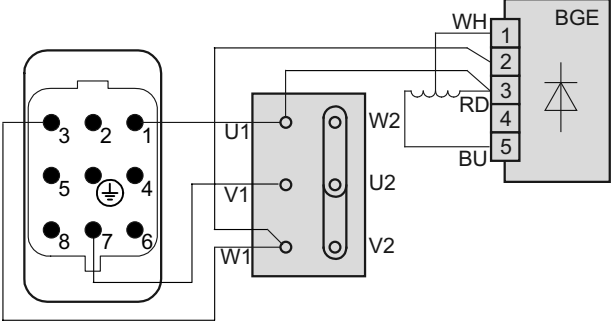
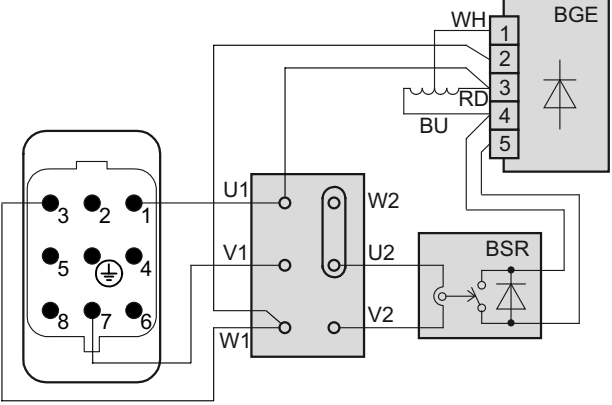
NOTICE

Danger due to short circuit. The motor outputs of the MOVIFIT® compact motor starter are not protected against short circuits.

MOVIFIT® compact motor starter is destroyed.

- Observe the following wiring diagrams.
- Prevent any short circuits between the conductors.

Connection cable and component	Motor cable	Motor connection
MOVIFIT® compact	<p>Cable design: 4G2.5, unshielded, 3 m Part number: 18148743</p>  <p>Q 8/0 Open</p>	<p>Motor without brake, λ connection</p>  <p>2719757451</p> <p>Motor without brake, Δ connection</p>  <p>2719762187</p>
MOVIFIT® compact inverter	<p>Cable design: 7G2.5, unshielded, 3 m Part number: 18149928</p>  <p>Q 8/0 Open</p>	<p>Motor with brake, λ connection</p>  <p>19168160395</p> <p>Motor with brake, Δ connection</p>  <p>19170163723</p>

Connection cable and component	Motor cable	Motor connection
MOVIFIT® compact motor starter	Cable design: 4G2.5, unshielded, 3 m Part number: 18148743 	<p>Motor without brake</p>  <p>2719757451</p> <p>Motor with brake</p>  <p>9007218424935691</p> <p>Motor with brake and BSR brake controller</p>  <p>9007218424991499</p> <p>For applications with regenerative mode, SEW-EURODRIVE recommends the BSR brake controller.</p>

Motor cable connection**4-core**

The following table shows the conductor assignments of the 4-conductor motor cable with part number **18148743**, the associated pins of the plug connector, and the associated terminals at the motor:

Plug connector No.	Motor cables Conductor color / conductor marking	Terminal on motor
1	Black/1	U1
3	Black/3	W1
7	Black/2	V1
2, 4, 5, 6, 8	Not connected	
PE	Green/yellow	PE

7-core

The following table shows the conductor assignments of the 7-conductor motor cable with part number **18149928**, the associated pins of the plug connector, and the associated terminals at the motor:

Plug connector No.	Motor cable Conductor color / conductor marking	Terminal on motor
1	Black/1	U1
3	Black/3	W1
4	Black/4	2 ¹⁾
6	Black/6	3 ¹⁾
7	Black/2	V1
2, 5, 8	Not connected	
PE	Green/yellow	PE

1) Terminal on brake rectifier

Mating connector

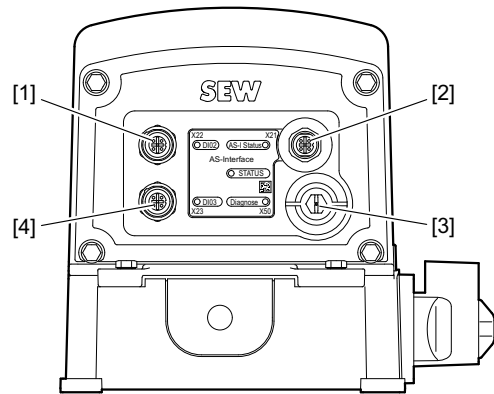
In order to assemble this motor cable, use a plug connector of type Q8/0. If a mating connector with a metal housing is used, pay attention to the following:

- Ensure a suitable shield connection.
- Connect the housing of the mating connector with PE.

5.7 Control unit connections

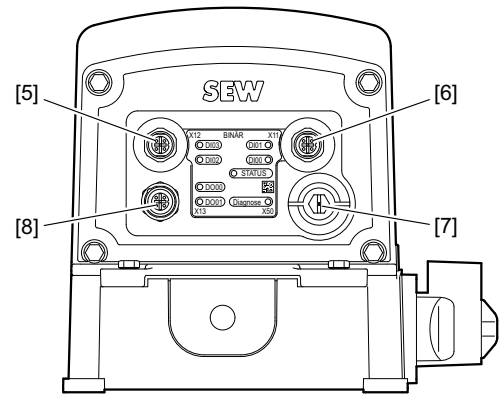
The following illustration shows the designs of the control units of the MOVIFIT® compact:

**MOVIFIT® compact
with AS-Interface**



16939484555

**MOVIFIT® compact
with binary control**



16939487243

- [1] X22 Digital input sensor 2
- [2] X21 AS-Interface connection
- [3] X50 Diagnostic interface
- [4] X23 Digital input sensor 3

- [5] X12 Signal inputs DI02 + DI03
- [6] X11 Signal inputs DI00 + DI01
- [7] X50 Diagnostic interface
- [8] X13 Signal outputs DO00 + DO01

INFORMATION

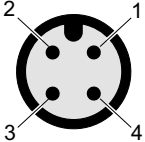


Only use M12 plug connectors with a straight outlet for connecting the digital inputs and outputs.

5.8 Connections of MOVIFIT® compact with AS-Interface

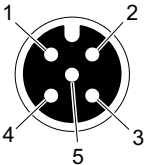
5.8.1 X21: AS-Interface connection

The following table provides information on this connection:

Function		
AS-Interface – input		
Connection type		
M12, 4-pin, male, A-coded, straight outlet		
Connection image		
		
No.	Name	Function
1	AS-Interface +	AS-Interface +
2	n. c.	Not connected
3	AS-Interface –	AS-Interface –
4	n. c.	Not connected

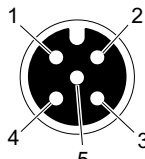
5.8.2 X22: Binary input sensor 2

The following table provides information on this connection:

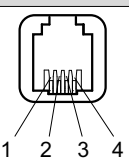
Function		
Digital input sensor 2		
Connection type		
M12, 5-pin, female, A-coded, straight outlet		
Connection image		
		
No.	Name	Function
1	+24 V	DC 24 V output (sensor supply)
2	n. c.	Not connected
3	0V24	0V24 reference potential
4	DI02	Digital input sensor 2
5	n. c.	Not connected

5.8.3 X23: Binary input sensor 3

The following table provides information on this connection:

Function		
Digital input sensor 3		
Connection type		
M12, 5-pin, female, A-coded, straight outlet		
Connection image		
		
No.	Name	Function
1	+24 V	DC 24 V output (sensor supply)
2	n. c.	Not connected
3	0V24	0V24 reference potential
4	DI03	Digital input sensor 3
5	n. c.	Not connected

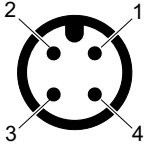
5.8.4 X50: Diagnostic interface

Function		
Diagnostic interface		
Connection type		
RJ10, female		
Connection image		
		
No.	Name	Function
1	+5V	5 V supply
2	RS+	RS485 diagnostic interface
3	RS-	RS485 diagnostic interface
4	0V5	0 V reference potential for RS485

5.9 Connections of MOVIFIT® compact with binary control

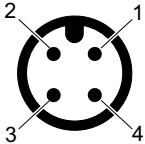
5.9.1 X11: Signal inputs 0 and 1

The following table provides information on this connection:

Function		
Digital inputs 0 and 1		
Connection type		
M12, 4-pin, male, A-coded, straight outlet		
Connection image		
		
No.	Name	Function
1	n. c.	Not connected
2	DI01	Digital input 1
3	0V24	0V24 reference potential
4	DI00	Digital input 0

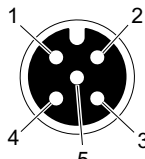
5.9.2 X12: Signal inputs 2 and 3

The following table provides information on this connection:

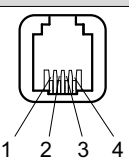
Function		
Digital inputs 2 and 3		
Connection type		
M12, 4-pin, male, A-coded, straight outlet		
Connection image		
		
No.	Name	Function
1	n. c.	Not connected
2	DI03	Digital input 3
3	0V24	0V24 reference potential
4	DI02	Digital input 2

5.9.3 X13: Signal outputs 0 and 1

The following table provides information on this connection:

Function		
Digital outputs 0 and 1		
Connection type		
M12, 5-pin, female, A-coded, straight outlet		
Connection image		
		
No.	Name	Function
1	+24 V	DC 24 V output
2	DO01	Digital output 1
3	0V24	0V24 reference potential
4	DO00	Digital output 0
5	n. c.	Not connected

5.9.4 X50: Diagnostic interface

Function		
Diagnostic interface		
Connection type		
RJ10, female		
Connection image		
		
No.	Name	Function
1	+5V	5 V supply
2	RS+	RS485 diagnostic interface
3	RS-	RS485 diagnostic interface
4	0V5	0 V reference potential for RS485

5.10 Connecting the MBBG11A operator panel

The MOVIFIT® compact device has an X50 diagnostic interface (RJ10 socket).
The diagnostic interface is located on the connection block of the control unit.
You must remove the screw plug before plugging the connector into the diagnostic interface.

▲ WARNING! Risk of burns on hot surfaces of the MOVIFIT® compact device. Serious injuries.

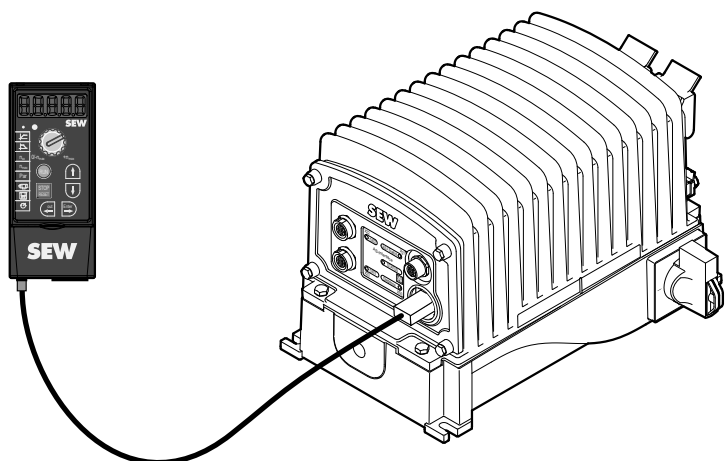
Wait until the MOVIFIT® compact device has cooled down sufficiently before touching it.

▲ CAUTION! Loss of the ensured degree of protection if the screw plug is not installed on the X50 diagnostic interface. Damage to the MOVIFIT® compact device.
If no screw plug is screwed into the diagnostic interface, you must ensure that no moisture or dust can penetrate the MOVIFIT® compact device.

Use the supplied operator panel cable to connect the operator panel to the MOVIFIT® compact device.

Scope of delivery:

Type	Part number	Scope of delivery
MBBG11A	28230809	<ul style="list-style-type: none"> • MBBG11A operator panel • Cable with RJ10 – RJ10 plug connectors



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5.11 Connecting a PC/laptop

The MOVIFIT® compact device has an X50 diagnostic interface (RJ10 socket) for startup, parameterization, and service.

The diagnostic interface is located on the connection block of the control unit.

You must remove the screw plug before plugging the connector into the diagnostic interface.

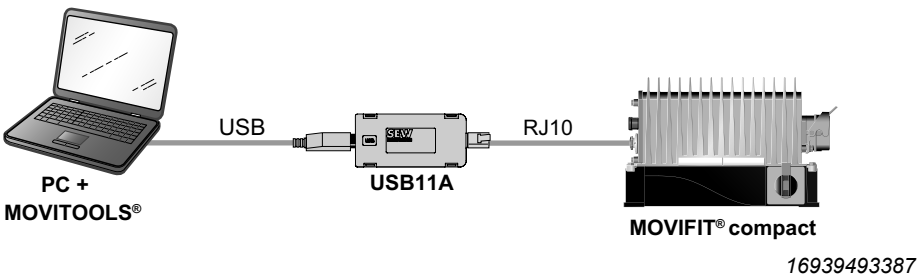
▲ WARNING! Risk of burns on hot surfaces of the MOVIFIT® compact device. Serious injuries.
Wait until the MOVIFIT® compact device has cooled down sufficiently before touching it.

▲ CAUTION! Loss of the ensured degree of protection if the screw plug is not installed on the X50 diagnostic interface. Damage to the MOVIFIT® compact device.
If no screw plug is screwed into the diagnostic interface, you must ensure that no moisture or dust can penetrate the MOVIFIT® compact device.

The diagnostic interface is connected to a normal commercial PC/laptop using the USB-B11A interface adapter.

Scope of delivery:

Type	Part number	Scope of delivery
USB11A	08248311	<ul style="list-style-type: none">• USB11A interface adapter• USB cable• Cable with RJ10 – RJ10 plug connectors



6 Startup

6.1 General information



INFORMATION

You must comply with the general safety notes in the chapter "Safety notes" during startup.



▲ WARNING

Electric shock due to dangerous voltages in the ABOX.

Severe or fatal injuries.

- De-energize the MOVIFIT® device. Observe the minimum switch-off time after disconnection from the supply system:
 - 1 minute



▲ WARNING

Electric shock due to missing or defective protective covers.

Severe or fatal injuries.

- Make sure all protective covers are installed properly.
- Never start the device if the protective covers are not installed.



▲ WARNING

Danger if the motor starts up unintentionally.

Fatal or severe injuries and damage to property.

- Before starting the work, switch off the power to the MOVIFIT® device.
- Safeguard the MOVIFIT® device from unintentional activation.



▲ WARNING

Uncontrolled device behavior due to ineffective emergency off circuit.

Severe or fatal injuries.

- Comply with the installation notes.
- Always have the installation carried out by a trained specialist.



▲ WARNING

Device malfunction due to incorrect device setting.

Severe or fatal injuries.

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

**▲ WARNING**

Danger of burns due to hot surfaces of the device (e.g. the heat sink).

Serious injuries.

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

**NOTICE**

Danger due to arcing.

Damage to electrical components.

- Do not unplug the power connectors during operation. Do not plug in the power connectors during operation.
- Never remove the EBOX during operation.

**INFORMATION**

During startup and parameterization, written parameters are stored in non-volatile memory (e.g. in an EEPROM). However, memory modules only allow a certain number of write cycles.

- For this reason, ensure that write accesses to parameters do not take place cyclically.

6.2 Requirements**The following conditions apply to startup:**

- The MOVIFIT® compact device must be mechanically and electrically installed in accordance with regulations.
- Appropriate safety measures prevent the drives from starting up unintentionally.
- Appropriate safety measures must be taken to prevent personal injury or damage to machine.

The following hardware must be present in order to start up and parameterize the MOVIFIT® compact device:

- MBBG11A operator panel, see chapter "Connecting the MBBG11A operator panel"
- or PC/laptop, see chapter "Connecting a PC/laptop"

The following software must be installed on the PC or laptop in order to start up and parameterize the MOVIFIT® compact inverter:

- MOVITOOLS® MotionStudio, version 6.2 or above

6.3 Startup procedure for MOVIFIT® compact inverter





To start up the inverter, proceed as follows:

1. Check the connection of the MOVIFIT® compact device.
⇒ See chapter "Electrical installation".
2. Ensure that the motor does not start up, and that there is no hazard from an unwanted motor startup.
3. Switch on the line voltage. The "STATUS" LED illuminates in yellow.
4. Connect the MBBG11A operator panel or PC/laptop to the MOVIFIT® compact device.
⇒ See chapter "Connecting the MBBG11A operator panel"
⇒ or chapter "Connecting a PC/laptop".


There are two ways of starting up the inverter:

- Use Easy mode for a quick startup of SEW-EURODRIVE motors.
 - Use PROFI mode to start up third-party motors. The system requires more data to start up third-party motors.
5. To start up in Easy mode, set the following parameters on the MBBG11A operator panel (see (→ 55)) or on the PC/laptop (see (→ 58)):
⇒ The parameter list can be found in chapter "Parameter list of the MOVIFIT® compact inverter" (→ 61).

Parameters for Easy mode (with 4-pole SEW-EURODRIVE motors)






SEW-EURODRIVE motor				
Size	Setting on the MBBG11A operator panel		Parameter in MOVITOOLS® MotionStudio	
			Group	Parameter
Startup mode		EASY	3	Startup = EASY
Nominal motor voltage		UoLt	3	Nominal voltage
Nominal motor power		PoUEr	3	Nominal power
"Commence motor startup" function		CALC = St Art	3	Commence motor start-up = Yes ¹⁾
Acceleration ramp			1	P-130 Ramp up
Deceleration ramp			1	P-131 Ramp down
Setpoint speed n1		n1	1	P-170 fixed setpoint n1
Setpoint speed n2		n2	1	P-171 fixed setpoint n2
Setpoint speed n3		n3	1	P-172 fixed setpoint n3
Setpoint speed n4		n4	1	P-173 fixed setpoint n4

In order to operate with LVFC control, the following parameters are also required:


Operating mode		ModE = L VFC	7	P-700 operating mode = LVFC
----------------	-------------------------------------------------------------------------------------	--------------	---	-----------------------------

- 1) Click on the [Commence startup] button in MOVITOOLS® MotionStudio.

Parameters for PROFI mode (with 4-pole non-SEW motors)

Non-SEW motor				
Size	Setting on the MBBG11A operator panel		Parameter in MOVITOOLS® MotionStudio	
			Group	Parameter
Nominal motor voltage		UoLt	3	Nominal voltage
Nominal motor power		PoUEr	3	Nominal power
Nominal motor current		AMPEr	3	Nominal motor current
Rated motor frequency		hErtZ	3	Nominal frequency
Nominal motor speed		rPN	3	Nominal speed
"Commence motor startup" function		CALC = St Art	3	Commence motor start-up = Yes ¹⁾
Acceleration ramp			1	P-130 Ramp up
Deceleration ramp			1	P-131 Ramp down
Setpoint speed n1		n1	1	P-170 fixed setpoint n1
Setpoint speed n2		n2	1	P-171 fixed setpoint n2
Setpoint speed n3		n3	1	P-172 fixed setpoint n3
Setpoint speed n4		n4	1	P-173 fixed setpoint n4

In order to operate with LVFC control, the following parameters are also required:

Operating mode		ModE = LVFC	7	P-700 operating mode = LVFC
----------------	-------------------------------------------------------------------------------------	-------------	---	-----------------------------

1) Click on the [Commence startup] button in MOVITOOLS® MotionStudio.

6. **NOTICE!** Loss of the ensured degree of protection if the screw plug is not installed or not installed correctly on the diagnostic interface. Damage to the MOVIFIT® compact device.
Make sure the screw plug of the diagnostic interface has a seal and screw it in.
7. Switch off the line voltage.
8. Set the AS-Interface slave address of the MOVIFIT® compact device (only with MOVIFIT® compact with AS-Interface).
⇒ See chapter "Assigning the AS-Interface slave address".
9. Start up the higher-level controller.
10. Connect the plug of the motor to the MOVIFIT® compact.
11. Switch on the line voltage.

The MOVIFIT® compact drive can now be controlled using the higher-level controller (binary signals or via AS-Interface).

6.4 Startup procedure for MOVIFIT® compact motor starter

To start up the motor starter, proceed as follows:

1. Check the connection of the MOVIFIT® compact device.
 - ⇒ See chapter "Electrical installation".
2. Ensure that the motor does not start up, and that there is no hazard from an unwanted motor startup.
3. Switch on the line voltage. The "STATUS" LED illuminates in yellow.
4. Connect the MBBG11A operator panel or PC/laptop to the MOVIFIT® compact device.
 - ⇒ See chapter "Connecting the MBBG11A operator panel"
 - ⇒ or chapter "Connecting a PC/laptop".
5. For a simple startup, set the parameters of the motor as described in the following chapters. The following operating modes are available in the MOVIFIT® compact motor starter for operating an asynchronous motor:
 - ⇒ Voltage limiting
 - ⇒ Current limiting
6. **NOTICE!** Loss of the ensured degree of protection if the screw plug is not installed or not installed correctly on the diagnostic interface. Damage to the MOVIFIT® compact device.
Make sure the screw plug of the diagnostic interface has a seal and screw it in.
7. Switch off the line voltage.
8. Set the AS-Interface slave address of the MOVIFIT® compact device (only with MOVIFIT® compact with AS-Interface).
 - ⇒ See chapter "Assigning the AS-Interface slave address".
9. Start up the higher-level controller.
10. Connect the plug of the motor to the MOVIFIT® compact.
11. Switch on the line voltage.

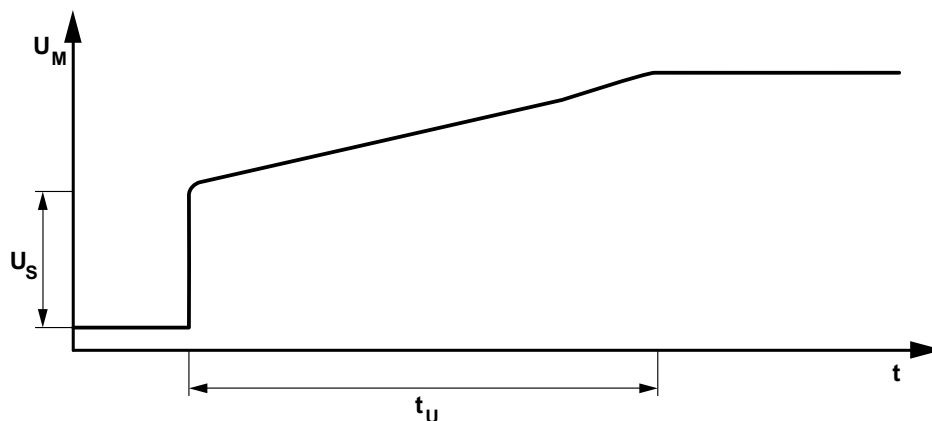
The MOVIFIT® compact drive can now be controlled using the higher-level controller (binary signals or via AS-Interface).

6.4.1 Parameters for “Voltage limitation” operating mode

Description

The MOVIFIT® compact motor starter increases the motor voltage along a ramp within the set time $t_U = 0 - 2$ s up to the nominal value.

The starting voltage at which the acceleration procedure begins can be set within the limits $U_S = 40 - 80\%$ of the motor voltage U_M via the parameters *Start voltage drive 1* or *Start voltage drive 2*.



When you cancel the enable, the MOVIFIT® compact motor starter reduces the motor voltage along a ramp within the set braking time.

Parameter

In order to start up in “Voltage limitation” operating mode, set the following parameters:

“Voltage limiting” operating mode				
Size	Setting on the MB-BG11A operator panel		Parameter in MOVITOOLS®MotionStudio	
			Group	Parameter
Start mode	Par	P-01 drive 1 = 0	7	Start mode drive 1 = Voltage-limited
		P-02 drive 2 ¹⁾ = 0	7	Start mode drive 2 = Voltage-limited ¹⁾
Nominal motor current		P-03 drive 1	3	Nominal motor current drive 1
		P-04 drive 2 ¹⁾	3	Nominal motor current drive 2 ¹⁾
Soft start t _U		P-05 drive 1	1	P-130 soft start time drive 1
		P-06 drive 2 ¹⁾	1	P-131 soft start time drive 2 ¹⁾
Braking time		P-07 drive 1	1	Braking time drive 1
		P-08 drive 2 ¹⁾	1	Braking time drive 2 ¹⁾
Start voltage U _s		P-11 drive 1	3	Starting voltage drive 1
		P-12 drive 2 ¹⁾	3	Start voltage drive 2 ¹⁾

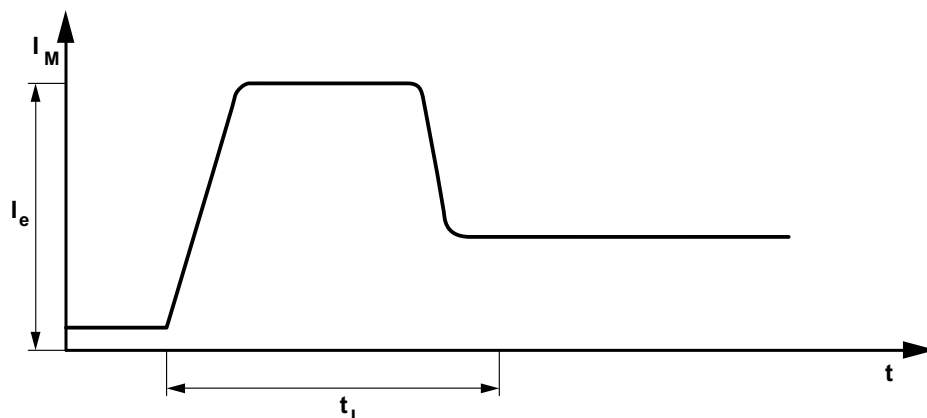
1) Only with dual-motor starter

6.4.2 Parameters for “Current limiting” operating mode

Description

When the drive starts, the MOVIFIT® compact motor starter imposes the current I_e into the motor. The current I_e is defined with parameter *P13 Current limit*. The motor accelerates depending on the motor current I_M .

Time t_i is used to monitor the starting procedure. Within the monitoring time t_i , the motor current must have left its increased startup value and have dropped to the nominal current or below. If the motor is still carrying a current that is greater than the nominal motor current after monitoring time t_i , the MOVIFIT® compact motor starter switches to fault condition F 34 (Start time monitoring error); see chapter "MOVIFIT® compact motor starter error list" (→ 89).



Parameter

In order to start up in “Current limiting” operating mode, set the following parameters:

“Current limiting” operating mode				
Size	Setting on the MB-BG11A operator panel		Parameter in MOVITOOLS® MotionStudio	
			Group	Parameter
Start mode	Par	P-01 drive 1 = 1	7	Start mode drive 1 = current limited
		P-02 drive 2 ¹⁾ = 1	7	Drive 2 start mode = Current-limited ¹⁾
Nominal motor current		P-03 drive 1	3	Nominal motor current drive 1
		P-04 drive 2 ¹⁾	3	Nominal motor current drive 2 ¹⁾
Current limit I _e		P-13 drive 1	3	Current limit drive 1
		P-14 drive 2 ¹⁾	3	Current limit drive 2 ¹⁾
Monitoring time t _i start phase		P-09 drive 1	5	Monitoring time for start phase drive 1
		P-10 drive 2 ¹⁾		Monitoring time for start phase drive 2 ¹⁾

1) Only with dual-motor starter

6.5 Assigning the AS-Interface slave address

SEW-EURODRIVE delivers MOVIFIT® compact with AS-Interface with the address 0.

The following options are available for assigning the AS-Interface address of the MOVIFIT® compact (address 1A – 31A and 1B – 31B):

- **Automatic address assignment** within a configured AS-Interface system after replacing a MOVIFIT® compact drive.

The following prerequisites must be fulfilled:

- The new MOVIFIT® compact drive must have the address 0.
- If you replace several MOVIFIT® compact drives, they must be replaced individually one after the other.

- **Manual address assignment via the plant master**

Connect the drives to the AS-Interface cable one after another. This prevents several MOVIFIT® compact drives from being given the same AS-Interface address.

- **Manual address assignment using a hand-held AS-Interface programming device**

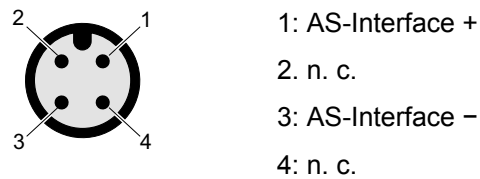
When connecting the MOVIFIT® compact drive to the AS-Interface cable, pay attention to the information in the following chapter.

6.5.1 Assigning the slave address using a hand-held programming device

Hand-held AS-Interface programming devices offer the following functions:

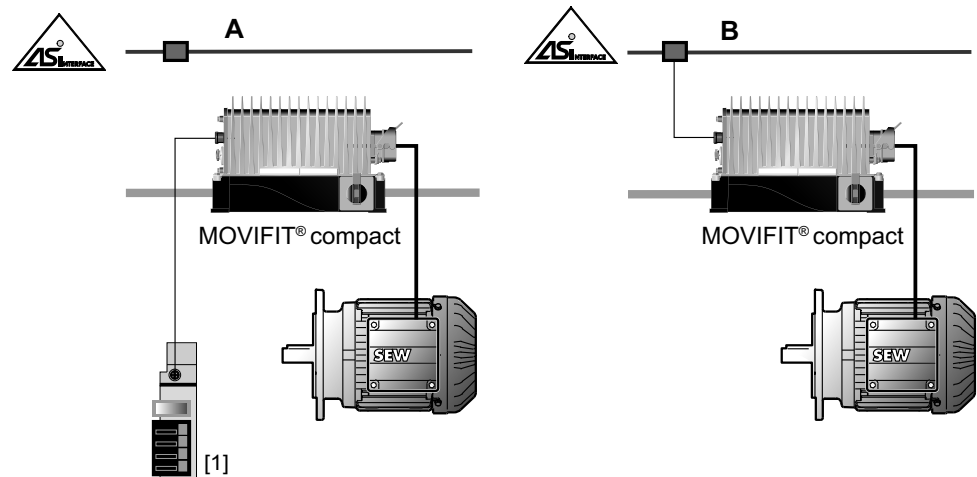
- Reading out and changing an AS-Interface slave address
- Reading out the AS-Interface profile
- Reading out and changing the data and parameter bits
- Function test and test run.

To use a hand-held programming device, you need a connecting cable that fits the AS-Interface plug connector X21 on the MOVIFIT® compact device (see following illustration).



Example:

1. Disconnect the AS-Interface nodes from the AS-Interface network **individually** and address them with the hand-held programming device (step **A**).
2. Then integrate the AS-Interface node in the AS-Interface network again (step **B**).



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[1] AS-Interface hand-held programming device

6.6 Parameterization with the MBBG11A operator panel

6.6.1 MBBG11A operator panel description

Function

You can start up, parameterize, and control MOVIFIT® compact devices in manual mode with the MBBG11A operator panel. In addition to that, the keypad displays important information about the state of the drive.

Features







- 7-segment display
- Setpoint adjuster/potentiometer (only for inverters in setpoint adjuster mode)
- Navigation bar for displaying the current menus and the operating mode
- 6 keys for menu guidance, executing functions, and for setting parameters
- Connection cables

Key assignment

The following illustration shows the key assignments of the MBBG11A operator panel:

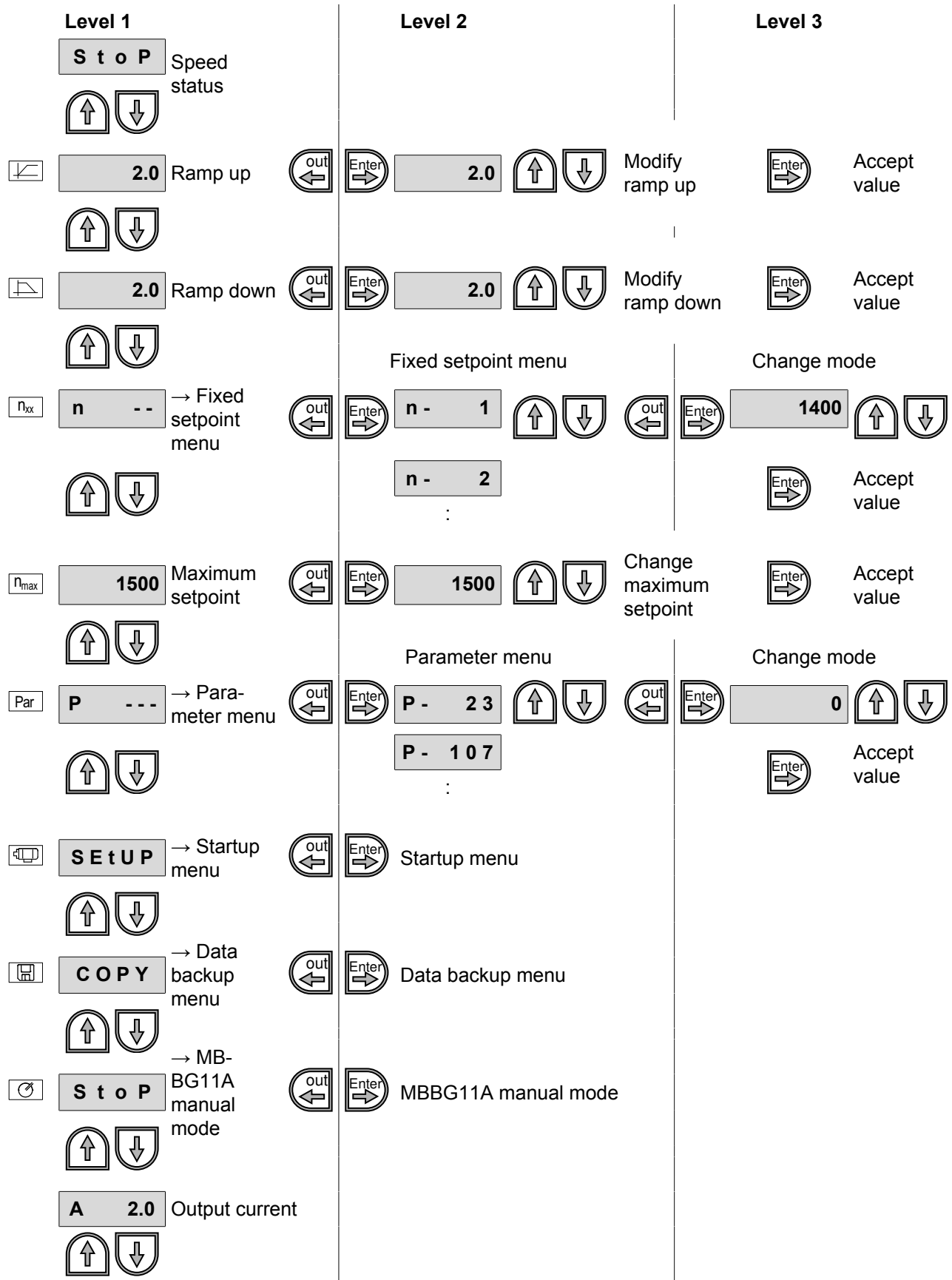


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Key  <UP>	<ul style="list-style-type: none"> • Select an icon • Increase value
Key  <DOWN>	<ul style="list-style-type: none"> • Select an icon • Decrease value
Key  <OUT>	<ul style="list-style-type: none"> • Deactivate icon • Exit Parameter menu
Key  <ENTER>	<ul style="list-style-type: none"> • Activate icon • Open parameter menu
Key  <RUN>	<ul style="list-style-type: none"> • Start bus/automatic mode • Enable drive in manual mode
Key  <STOP/RESET>	<ul style="list-style-type: none"> • Stop drive • Reset error

6.6.2 Operation

The following illustration shows the menu guidance of the MBBG11A operator panel:



Menu system

If you select an icon with the <UP> or <DOWN> button, the LED of the icon illuminates. With icons that only represent display values, the current display value appears on the 7-segment display.

Status display

If the drive is enabled, the operator panel displays the calculated actual speed.

Error display

If an error occurs, the operator panel displays the fault code flashing, e.g., "F-11", see chapter "Service" > "MOVIFIT® compact error list".

Warnings

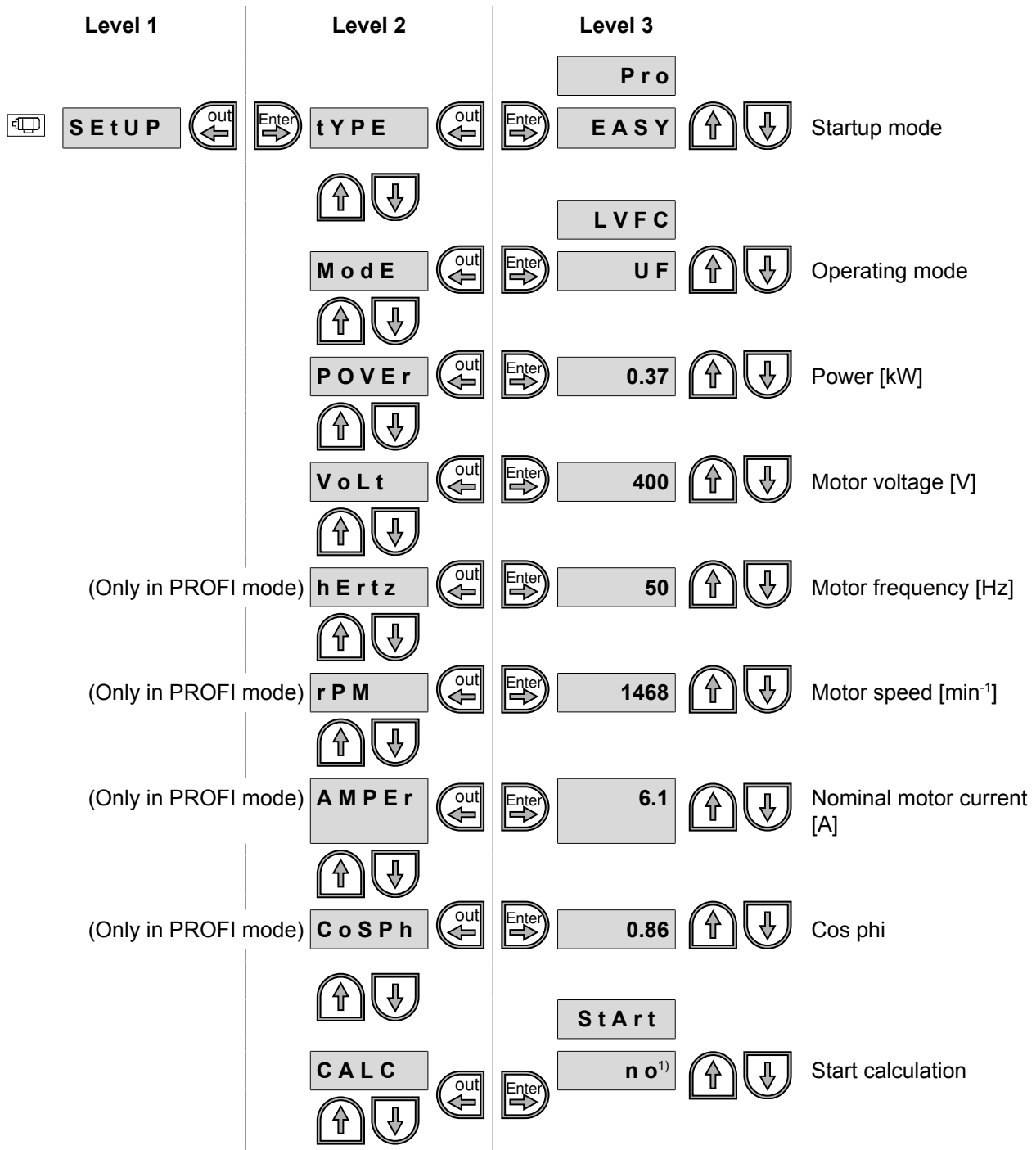
Some parameters cannot be changed in all operating statuses. If you attempt to do this anyway, the operator panel displays a warning code, e.g.: "r-32". The warning code that is displayed depends on your action. The meaning of the warning codes can be found in the chapter "Operation" > "Operating displays of the MBBG11A operator panel".

6.6.3 Inverter parameterization

You can only switch to the "SEtUP" menu in the operating state "No enable". The "SEtUP" menu provides 2 startup modes:

- In Easy mode (display: "EASY") you can only start up 4-pole motors from SEW-EURODRIVE.
- In PROFI mode (display: "Pro") you can start up third-party motors.

The following illustration shows the menu guidance for starting up in the "SEtUP" menu:



1) Display after switching on = "no", display after completing startup = "donE"

Saving parameters

INFORMATION

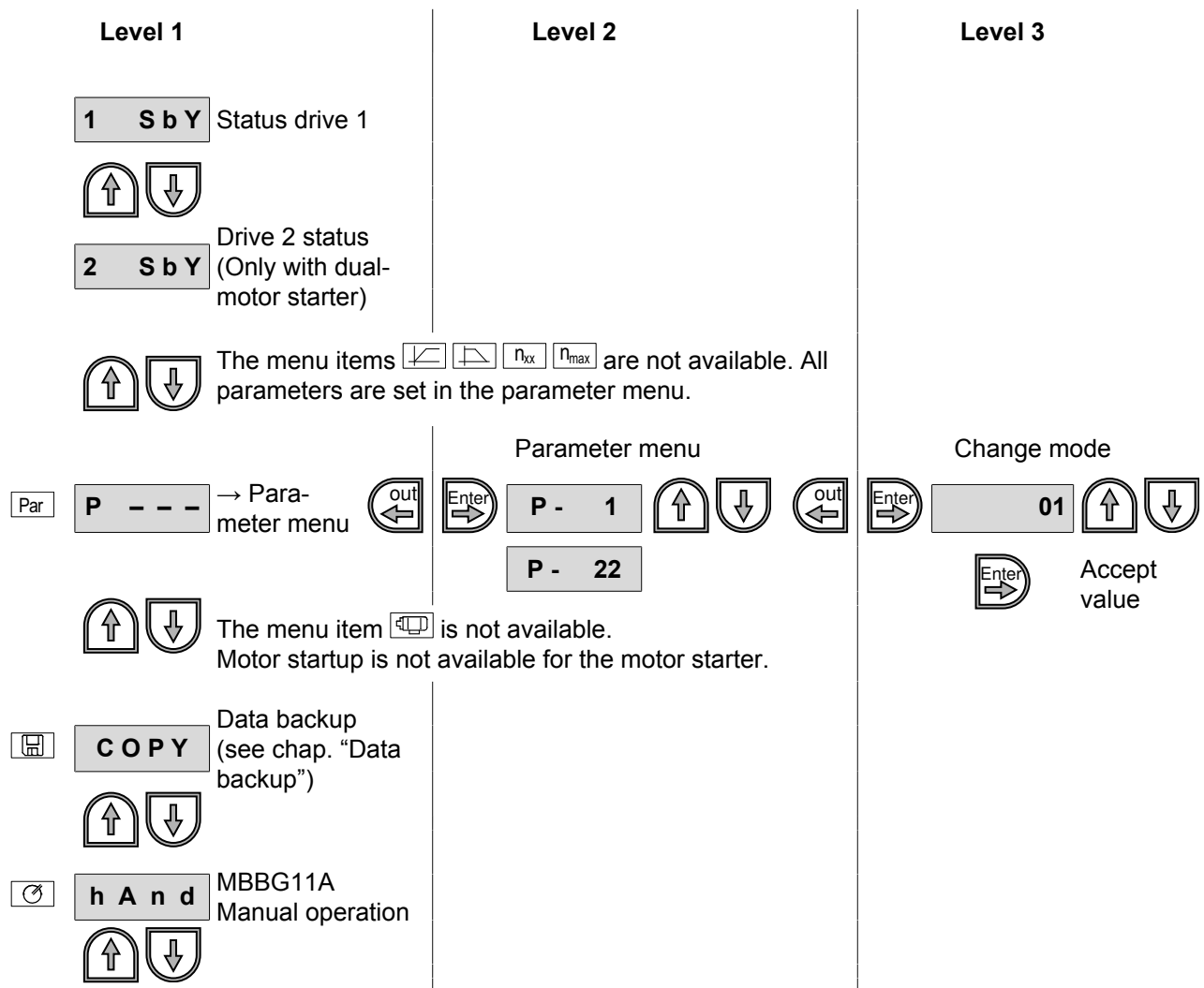


Commence startup and parameter saving by setting the value in the last menu "CALC" to "StArt".

If you exit the "SETUP" menu using the <OUT> key without completing the startup, the previously changed values will **not** be saved.

6.6.4 Motor starter parameterization

The following illustration shows the menu guidance during motor starter parameterization:

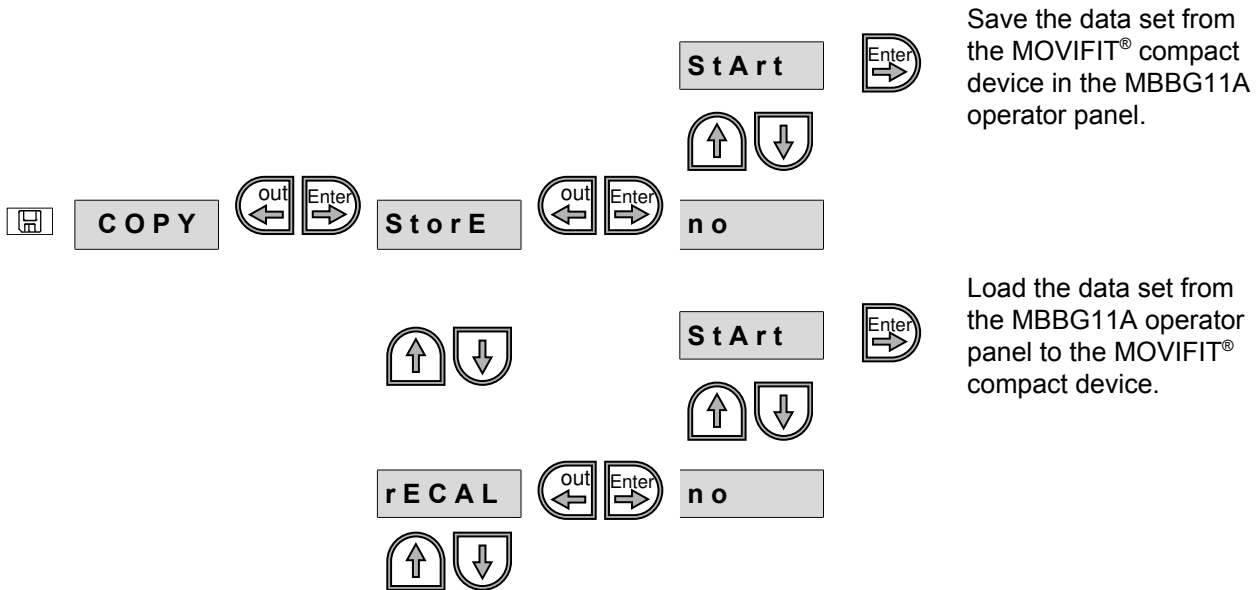


6.6.5 Data backup

SEW-EURODRIVE recommends backing up the data set after startup. The data set can then be re-used for other MOVIFIT® compact devices with identical motors. Switch from the main menu to the data backup menu. The data backup menu provides 2 functions:

- Save the data set from the MOVIFIT® compact device in the MBBG11A operator panel (display: "StorE").
- Load the data set from the MBBG11A operator panel to the MOVIFIT® compact device (display: "rECAL").

The following illustration shows the menu guidance of the data backup menu:



Saving the data set from the MOVIFIT® compact device in the MBBG11A operator panel

Save the data set in the MBBG11A operator panel as shown in the menu guidance above. During the saving process, the MBBG11A operator panel displays "u.u.".

After saving, the following appears for 1 second:

- The positive acknowledgment "donE"
- or an error code in the form "r-xx".

Then "no" is displayed again.

If you press the <OUT> key twice, you return to the main menu.

Loading the data set from the MBBG11 operator panel to the MOVIFIT® compact device

The data set can only be loaded to the MOVIFIT® compact device in "No enable" operating state.

Load the data set to the MOVIFIT® compact as shown in the menu guidance above. During the saving process, the MBBG11A operator panel displays "d. d.".

After saving, the following appears for 1 second:

- The positive acknowledgment "donE"
- or an error code in the form "r-xx".

Then "no" is displayed again.

To enable the MOVIFIT® compact again, press the <RUN> key.

6.7 Parameterization with the PC/laptop

6.7.1 MOVITOOLS® MotionStudio

The "MOVITOOLS® MotionStudio" software package is the SEW-EURODRIVE cross-device engineering tool that you can use to access all SEW-EURODRIVE drive units. You can use MOVITOOLS® MotionStudio for startup and diagnosis of the MOVIFIT® compact.

Install the latest software version of MOVITOOLS® MotionStudio on your PC/laptop.

MOVITOOLS® MotionStudio can communicate with the drives using many different communication and field bus systems.

The following chapters describe the simplest application for connecting a PC/laptop to a MOVIFIT® inverter via the X50 diagnostic interface (point-to-point coupling).

6.7.2 First steps with MOVITOOLS® MotionStudio

Starting the software and creating a project

To start MOVITOOLS® MotionStudio and create a project, proceed as follows:

1. Start the MOVITOOLS® MotionStudio from the Windows start menu via:
[Start] > [Programs] > [SEW] > [MOVITOOLS MotionStudio] > [MOVITOOLS MotionStudio]
2. Create a project with a name and directory.

Establishing a communication and scanning the network

In order to set up communication using MOVITOOLS® MotionStudio and scan your network, proceed as follows:

- ✓ There is a serial connection between your PC/laptop and the MOVIFIT® compact device via the USB11A interface adapter.

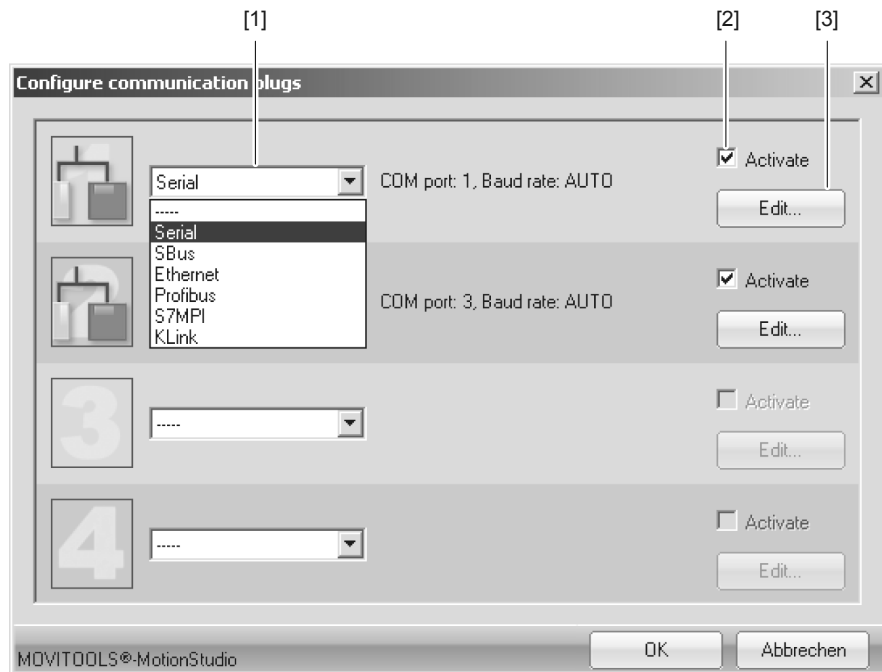
1. Click the icon [1] in the toolbar.



[1]

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- ⇒ The following window is displayed.



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2. Select the communication type "Serial" from the drop-down list [1].
 - ⇒ In the example, "Serial" is activated as the communication type for the first communication channel [2].

3. Click the button [3].

⇒ This displays the settings for the communication type "Serial".



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4. In the "COM-Port" choice box, select the port to which the MOVIFIT® compact device is connected to the PC/laptop via the USB11A interface adapter.
5. In the "Baud rate" choice box, select a baud rate of 9.6 kB.
6. Scan your network (device scan). To do so, click the [Start network scan] button [1] in the toolbar.



[1]

27021598896943499

6.7.3 Parameterization with MOVITOOLS® MotionStudio

Set the parameters as follows:

1. In the network of MOVITOOLS® MotionStudio, click on the displayed MOVIFIT® compact device with the right mouse button.
2. Select "Startup" > "Parameter tree" in the context menu.

⇒ The parameter tree appears.
3. Double-click on the required parameter group.
4. Click on the input field of the parameter.
5. Enter the parameter value and confirm the entry with the <ENTER> key.

An overview of the parameters can be found in the chapters "Parameter list of the MOVIFIT® compact inverter" (→ 61) and "Parameter list for the MOVIFIT® compact motor starter" (→ 66).




6.8 Parameter list of the MOVIFIT® compact inverter

The following tables show the device-related parameters of the MOVIFIT® compact inverter.

MOVITOOLS® MotionStudio parameter no.	MBBG11A / parameter no. Display	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
0__		Display values				
00_		Process values				
000	Display	8318	0	Speed	[min ⁻¹]	
004	-	8321	0	Output current	[%]	
008	26	8325	0	DC link voltage	[V]	
009	Display	8326	0	Output current	[A]	
01_		Status displays				
010	Display	8310	0	Inverter status	[Text]	
011	Display			Operating status	[Text]	
012	Display			Error status	[Text]	
014	29	8327	0	Cooling air temperature	[°C]	
03_		Digital inputs				
030	90	8334	0	Status DI00	0, 1	
031				Status DI01	0, 1	
032				Status DI02	0, 1	
033				Status DI03	0, 1	
05_		Digital outputs				
-	90	8349	0	Status DO00	0, 1	
051				Status DO01	0, 1	
07_	-	Device data				
070	-	8301	0	Device type	[Text]	
-	-	-	-	Device family	[Text]	
073	-	8300	0	Front option firmware (control unit)	[Text]	
076	-	10546	27	Basic unit firmware	[Text]	
700		10546	42	Operating mode	[Text]	
-	-	8314 8315 8316 8317	0	Signature	[Text]	
-	-	8652	0	Nominal voltage	[V]	
-	-	8640	0	Nominal frequency	[Hz]	




MOVITOOLS® MotionStudio parameter no.	MBBG11A / parameter no. Display	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
0__		Display values				
-	-	8642	0	Nominal speed	[min ⁻¹]	
-	-	10546	13	Nominal power	[kW]	
08_		Fault memory				
080	99	8366	0	Error code T0 ¹⁾	[Code]	
	103	9304	0	Sub-error code T0	[Code]	
	107	8883	0	Internal error T0	[Code]	
081	-	8367	0	Error code T1 ¹⁾	[Code]	
	-	9305	0	Sub-error code T1	[Code]	
	-	8884	0	Internal error T1	[Code]	
082	-	8368	0	Error code T2 ¹⁾	[Code]	
	-	9306	0	Sub-error code T2	[Code]	
	-	8885	0	Internal error T2	[Code]	
083	-	8369	0	Error code T3 ¹⁾	[Code]	
	-	9307	0	Sub-error code T3	[Code]	
	-	8886	0	Internal error T3	[Code]	



1) The MBBG11A operator panel only displays the last error. MOVITOOLS® MotionStudio displays the last 4 errors.

MOVITOOLS® MotionStudio parameter no.	MBBG11A / parameter no. Display	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
1__		Setpoints / ramp generators				
13_		Speed ramps				
130		8807	0	Ramp up	0.125 – 1500 s ¹⁾	1 s
131		8808	0	Ramp down	0.125 – 1500 s ¹⁾	1 s
17_		Fixed setpoints				
170		8489	0	Fixed setpoint n1	15 – 6000 min ⁻¹	15 min ⁻¹
171		8490	0	Fixed setpoint n2	15 – 6000 min ⁻¹	250 min ⁻¹
172		8491	0	Fixed setpoint n3	15 – 6000 min ⁻¹	750 min ⁻¹
173		10096	31	Fixed setpoint n4	15 – 6000 min ⁻¹	1500 min ⁻¹

1) The ramp time relates to a setpoint jump of 1500 rpm.

MOVITOOLS® MotionStudio parameter no.	MBBG11A / parameter no. Display	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
3__		Motor parameters				
30_		Limits 1				

MOVITOOLS® MotionStudio parameter no.	MBBG11A / parameter no. Display	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
3__		Motor parameters				
302		8517	0	Maximum speed	15 – 6000 min ⁻¹	1500 min ⁻¹
303	34	8518	0	Current limit	0 – 150 %	150%
32_		Motor adjustment 1				
-	23	10546	23	Boost	0 – 50 V	0 V
33_		Motor startup				
-		10546	41	Startup	EASY PROFI	EASY
-		10546	13	Nominal power	90 – 3000 W	250 W
-		8652	0	Nominal voltage	0 – 700 V	230 V
-		8640	0	Nominal frequency	10 – 500 Hz	50 Hz
-		8642	0	Nominal speed	10 – 6000 min ⁻¹	1300 min ⁻¹
08		8648	0	Nominal motor current	0.1 – 300 A	1.195 A
-		8674	0	Cos phi	0.5 – 0.95	0.81
-		10546	43	Commencing startup	Yes No	No (Complete)
700		10546	42	Operating mode	U/f LVFC	U/f
34_		Motor protection				
-	38	10546	38	UL motor current weight- ing factor	0 – 100	1.4
MOVITOOLS® MotionStudio parameter no.	MBBG11A / parameter no. Display	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
6__		Terminal assignment				
60_		Terminal configuration				
600	98	10546	98	Terminal configuration	Default mode Alternative mode (→  72)	Default mode
MOVITOOLS® MotionStudio parameter no.	MBBG11A / parameter no. Display	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
7__		Control functions				
70_		Operating modes				

MOVITOOLS® MotionStudio parameter no.	MBBG11A / parameter no. Display	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
7__		Control functions				
700		10546	42	Operating mode	U/f LVFC	U/f
MOVITOOLS® MotionStudio parameter no.	MBBG11A / parameter no. Display	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
8__		Unit functions				
80__		Setup				
802	95	8594	0	Load factory setting	Yes No	No
84__		Reset behavior				
840		8617	0	Manual reset	Yes No	No
86__		Modulation				
860	40	10546	40	PWM frequency	4 kHz 16 kHz	4 kHz

6.8.1 Description of inverter parameters

Parameter index 10546.23

Boost

Range of values: 0 – 50 V

A voltage boost when the drive is started increases the breakaway torque of the drive.

Parameter index 10546.38

UL motor current weighting factor

Range of values: 0 – 1.4 – 100

The UL motor protection function fulfills the requirements of standard UL 508C. The motor current that is used in the UL motor protection function is the product of the currently measured actual current and the adjustable parameter index 10546.38 *UL motor current evaluation factor*.

Parameter 860

PWM frequency

Range of values: 4 kHz, 16 kHz

The nominal output of the inverter that is specified in the technical data applies to the pulse width modulation frequency (PWM frequency) of 4 kHz.

The PWM frequency of 16 kHz is not possible at every operating point, and it is particularly dependent on the speed (stator frequency f_s) and the thermal capacity utilization (cooling air temperature) of the inverter.

The stator frequency f_s is an important influential factor for operation with a PWM frequency of 16 kHz. A 4-pole motor with a nominal motor voltage of 400 V and a rated motor frequency of 50 Hz in a 400 V supply system can only be operated with a PWM frequency of 16 kHz from a speed of 780 min⁻¹.

For other motor/network voltage combinations, the required stator frequency f_s from which a PWM frequency of 16 kHz is possible should be calculated using the following formula:

$$f_s = V_{\text{line}} / V_N \times f_N / 2$$

f_s	Stator frequency
V_{line}	Line voltage
V_N	Nominal motor voltage
f_N	Rated motor frequency

6.9 Parameter list for the MOVIFIT® compact motor starter

The following tables show the device-related parameters of the MOVIFIT® compact motor starter.

MOVITOOLS® MotionStudio parameter no.	MBBG11A / parameter no. Display	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
0__		Display values				
01_		Status displays				
010	Display	8310	0	Starter status	[Text]	-
011	Display			Operating status	[Text]	-
012	Display			Error status	[Text]	-
03_		Digital inputs				
030	90	8334	0	Status DI00	0, 1	-
031				Status DI01	0, 1	-
032				Status DI02	0, 1	-
033				Status DI03	0, 1	-
05_		Digital outputs				
-	90	8349	0	Status DO00	0, 1	-
051				Status DO01	0, 1	-
07_	-	Device data				
070	-	8301	0	Device type	[Text]	-
-	-	-	-	Device family	[Text]	
073	-	8300	0	Front option firmware (control unit)	[Text]	-
076	-	10546	27	Basic unit firmware	[Text]	-
-	-	8314 8315 8316 8317	0	Signature	[Text]	
-	-	10546	201	Start mode drive 1	[Text]	-
-	-	10546	202	Start mode drive 2	[Text]	-
-	-	8648	0	Nominal motor current drive 1	[A]	-
-	-	8649	0	Nominal motor current drive 2	[A]	-
08_		Fault memory				
080	99	8366	0	Error code T0 ¹⁾	[Code]	
	103	9304	0	Sub-error code T0	[Code]	
	107	8883	0	Internal error T0	[Code]	

MOVITOOLS® MotionStudio parameter no.	MBBG11A / parameter no. Display	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
0__		Display values				
081	-	8367	0	Error code T1 ¹⁾	[Code]	
	-	9305	0	Sub-error code T1	[Code]	
	-	8884	0	Internal error T1	[Code]	
082	-	8368	0	Error code T2 ¹⁾	[Code]	
	-	9306	0	Sub-error code T2	[Code]	
	-	8885	0	Internal error T2	[Code]	
083	-	8369	0	Error code T3 ¹⁾	[Code]	
	-	9307	0	Sub-error code T3	[Code]	
	-	8886	0	Internal error T3	[Code]	

1) The MBBG11A operator panel only displays the last error. MOVITOOLS® MotionStudio displays the last 4 errors.


MOVITOOLS® MotionStudio parameter no.	MBBG11A parameter no.	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
1__		Setpoints / ramp generators				
13_		Speed ramps				
130	5	10096	1	Soft start time drive 1	0 – 2 s	1 s
131	6	10096	2	Soft start time drive 2	0 – 2 s	1 s
-	7	10546	207	Braking time drive 1	0 – 2 s	1 s
-	8	10546	208	Braking time drive 2	0 – 2 s	1 s

MOVITOOLS® MotionStudio parameter no.	MBBG11A parameter no.	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
3__		Motor parameters				
30_		Limits 1				
-	13	10546	213	Current limit drive 1	100 – 500%	400%
-	14	10546	214	Current limit drive 2	100 – 500%	400%
32_		Motor adjustment 1				
-	3	8648	0	Nominal motor current drive 1	0.1 – 10 A	5 A
-	4	8649	0	Nominal motor current drive 2	0.1 – 10 A	5 A
-	11	10546	211	Starting voltage drive 1	40 – 80%	50%
-	12	10546	212	Starting voltage drive 2	40 – 80%	50%

MOVITOOLS® MotionStudio parameter no.	MBBG11A parameter no.	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
5__		Monitoring functions				
50_		Start phase monitoring time				
-	9	10546	209	Monitoring time for start phase drive 1	0 – 5 s	3 s
-	10	10546	210	Monitoring time for start phase drive 2	0 – 5 s	3 s

MOVITOOLS® MotionStudio parameter no.	MBBG11A parameter no.	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
6__		Terminal assignment				
60_		Terminal configuration				
600	98	10546	98	Terminal configuration	Default mode Alternative mode (→ 72)	Default mode

MOVITOOLS® MotionStudio parameter no.	MBBG11A parameter no.	Index dec.	Su- binde x dec.	Name	Range of values	Factory setting
7__		Control functions				
70_		Operating modes				
-	1	10546	201	Start mode drive 1	0: Voltage limiting 1: Current limiting	0: Voltage limiting
-	2	10546	202	Start mode drive 2	0: Voltage limiting 1: Current limiting	0: Voltage limiting
-	21	10546	221	Increased switching operation, drive 1	Off On	Off
-	22	10546	222	Increased switching operation, drive 2	Off On	Off
-	15	10546	215	Boost mode drive 1	Off On	Off
-	16	10546	216	Boost mode drive 2	Off On	Off
-	17	10546	217	Boost voltage drive 1	60 – 100%	80%
-	18	10546	218	Boost voltage drive 2	60 – 100%	80%
-	19	10546	219	Boost duration drive 1	0.1 – 2 s	0.5 s
-	20	10546	220	Boost duration drive 2	0.1 – 2 s	0.5 s

MOVITOOLS® MotionStudio parameter no.	MBBG11A / parameter no. Display	Index dec.	Sub- binde x dec.	Name	Range of values	Factory setting
8__		Unit functions				
80_		Setup				
802	95	8594	0	Load factory setting	Yes No	No
84_		Reset behavior				
840	22	8617	0	Manual reset	Yes No	No

6.9.1 Description of motor starter parameters

Parameter 130/131

Soft start time, drive 1/2

Range of values: 0 – 1 – 2 s

This parameter defines the soft start time for limiting the starting current.

Observe the following restrictions:

<i>P130 = 0</i> <i>P131 = 0</i>	<i>P130 > 0</i> <i>P131 > 0</i>		
	Brake BE05 – BE2	Brake BE5	Brake BE11
No limitation	No limitation	Max. braking torque = 28 Nm	Motor with brake BE11 is not permissible.

Parameter index 10546.207/10546.208

Braking time, drive 1/2

Range of values: 0 – 1 – 2 s

This parameter defines the braking time of drive 1/2.

When you cancel the enable, the motor starter reduces the motor voltage along a ramp within the set braking time.

Observe the following restrictions:

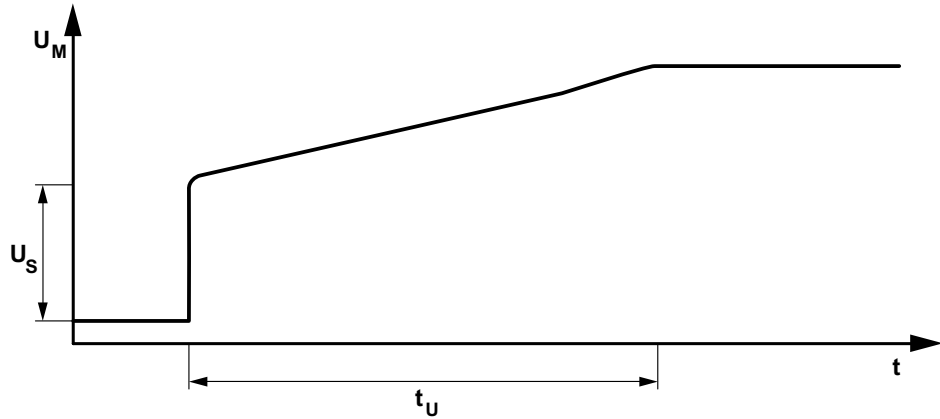
<i>P10546.207 = 0</i> <i>P10546.208 = 0</i>	<i>P10546.207 > 0</i> <i>P10546.208 > 0</i>		
	Brake BE05 – BE2	Brake BE5	Brake BE11
No limitation	No limitation	Max. braking torque = 28 Nm	Motor with brake BE11 is not permissible.

Parameter index 10546.211/10546.212

Drive 1/2 starting voltage

Range of values: 40 – **50** – 80% of nominal motor voltage

If the output is insufficient to start the motor with the preset values, increase the starting voltage U_s of the drive (P10546.211/P10546.212). For example, this may be required for motors or applications with a large mass moment of inertia.



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- U_M Motor voltage
 U_s Starting voltage
 t_U Soft start time

Parameter index 10546.221/10546.222

Increased switching operation, drive 1/2

Range of values: **Off**, on

If the *Increased switching operation* parameter index is active, the bypass relays are no longer used.

INFORMATION

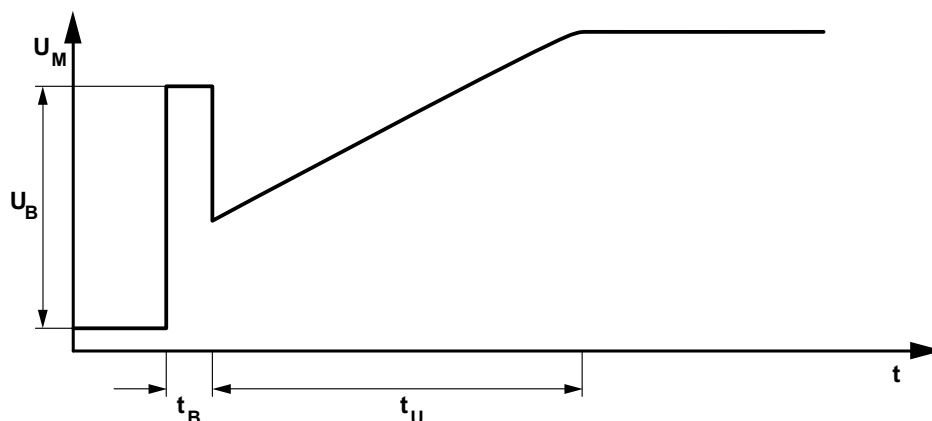
If the *Increased switching operation* parameter index is active, higher switching losses occur in the device.

Parameter index 10546.215/10546.216**Boost mode, drive 1/2**

Range of values: **Off**, on

Boost mode can be activated if an increased breakaway torque is required.

If boost mode is activated, the motor is activated with the boost voltage U_B after enabling before the soft start begins. After the boost time t_B has elapsed, the soft start phase commences with the parameterized starting voltage U_s .



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U_M	Motor voltage
U_B	Boost voltage
t_B	Boost duration
t_U	Soft start time

Parameter index 10546.217/10546.218**Boost voltage, drive 1/2**

Range of values: 60 – **80** – 100% of nominal motor voltage

The boost voltage U_B is the motor voltage increase during the boost time t_B .

Parameter index 10546.219/10546.220**Boost duration, drive 1/2**

Range of values: 0.1 – **0.5** – 2 s

The boost time t_B is the duration for which the boost voltage is active.

6.10 Functions of the MOVIFIT® compact with AS-Interface

6.10.1 AS-Interface master → MOVIFIT® compact data transmission

MOVIFIT® compact inverter

The following table shows the 4 data bits that the AS-Interface master transmits to the MOVIFIT® compact inverter and the functions of the drive:

AS-Interface bit				Function
DO03	DO02	DO01	DO00	MOVIFIT® compact inverter
X	X	0	0	Stop
X	X	0	1	Enable CW rotation
X	X	1	0	Enable CCW rotation
X	X	1	1	Stop/reset
0	0	X	X	Setpoint speed = n1
0	1	X	X	Setpoint speed = n2
1	0	X	X	Setpoint speed = n3
1	1	X	X	Setpoint speed = n4

MOVIFIT® compact reversing and dual-motor starter (default mode, $P-600 = 0$)

The following table shows the 3 data bits that the AS-Interface master transmits to the MOVIFIT® compact motor starter and the functions of the drive:

AS-Interface bit ¹⁾			Function	
DO02	DO01	DO00	MOVIFIT® compact reversing starter	MOVIFIT® compact dual-motor starter
0	0	0	Stop	Stop
0	0	1	Enable CW rotation	Enable signal motor 1 at connect.X9
0	1	0	Enable CCW rotation	Enable signal motor 2 at connect. X8
0	1	1	Stop	Enable signal for motors at X9 + X8
1	X	X	Reset	Reset

MOVIFIT® compact reversing starter (alternative mode, $P-600 = 1$)

The following table shows the 3 data bits that the AS-Interface master transmits to the MOVIFIT® compact reversing starter and the functions of the drive:

AS-Interface bit ¹⁾			Function
DO02	DO01	DO00	MOVIFIT® compact reversing starter
X	0	0	Stop
X	0	1	Enable CW rotation
X	1	0	Enable CCW rotation
X	1	1	Reset

X = any status

1) DO03 is not used with the motor starter and should be = 0 for compatibility reasons.

6.10.2 MOVIFIT® compact → AS-Interface master data transmission (default mode, $P-600 = 0$)

The following table shows the 4 data bits that the MOVIFIT® compact transmits back to the AS-Interface master:

AS-Interface bit				Meaning
DI03	DI02	DI01	DI00	
X	X	X	1/0	Ready signal 0: The MOVIFIT® compact drive is not operational. 1: The MOVIFIT® compact drive is operational.
X	X	1/0	X	Manual mode 0: MOVIFIT® compact controller via AS-Interface 1: MOVIFIT® compact controller via manual operation
X	1/0	X	X	Sensor input 2 0: The signal of sensor 2 = "0" 1: The signal of sensor 2 = "1"
1/0	X	X	X	Sensor input 3 0: The signal of sensor 3 = "0" 1: The signal of sensor 3 = "1"

X = any status

6.10.3 MOVIFIT® compact → AS-Interface master data transmission (alternative mode, $P-600 = 1$)

The following table shows the 4 data bits that the MOVIFIT® compact transmits back to the AS-Interface master:

AS-Interface bit				Meaning
DI03	DI02	DI01	DI00	
X	X	X	1/0	Manual mode 0: MOVIFIT® compact controller via manual operation 1: MOVIFIT® compact controller via control signals
X	X	1/0	X	Ready signal 0: The MOVIFIT® compact drive is not operational. 1: The MOVIFIT® compact drive is operational.
X	1/0	X	X	Sensor input 2 0: The signal of sensor 2 = "0" 1: The signal of sensor 2 = "1"
1/0	X	X	X	Sensor input 3 0: The signal of sensor 3 = "0" 1: The signal of sensor 3 = "1"

X = any status

6.11 Functions of the MOVIFIT® compact with binary control

6.11.1 PLC → MOVIFIT® compact data transmission

MOVIFIT® compact inverter

The following table shows the control signals that the higher-level controller transmits to the MOVIFIT® compact inverter and the functions of the drive:

Control signals				Function
DI03	DI02	DI01	DI00	MOVIFIT® compact inverter
X	X	0	0	Stop
X	X	0	1	Enable CW rotation
X	X	1	0	Enable CCW rotation
X	X	1	1	Stop/reset
0	0	X	X	Setpoint speed = n1
0	1	X	X	Setpoint speed = n2
1	0	X	X	Setpoint speed = n3
1	1	X	X	Setpoint speed = n4

MOVIFIT® compact reversing and dual-motor starter (default mode, $P-600 = 0$)

The following table shows the control signals that the higher-level controller transmits to the MOVIFIT® compact motor starter and the functions of the drive:

Control signals			Function	
DI02	DI01	DI00	MOVIFIT® compact reversing starter	MOVIFIT® compact dual-motor starter
0	0	0	Stop	Stop
0	0	1	Enable CW rotation	Enable signal motor 1 at connect. X9
0	1	0	Enable CCW rotation	Enable signal motor 2 at connect. X8
0	1	1	Stop	Enable signal motors at X9 + X8
1	X	X	Reset	Reset

MOVIFIT® compact reversing starter (alternative mode, $P-600 = 1$)

The following table shows the control signals that the higher-level controller transmits to the MOVIFIT® compact reversing starter in **alternative mode** ($P-600 = 1$) and the functions of the drive:

Control signals			Function
DI02	DI01	DI00	MOVIFIT® compact reversing starter
X	0	0	Stop
X	0	1	Enable CW rotation
X	1	0	Enable CCW rotation
X	1	1	Reset

X = any status

6.11.2 MOVIFIT® compact → PLC data transmission (default mode, $P-600 = 0$)

The following table shows the binary signals that the MOVIFIT® compact transmits back to the higher-level controller (e.g. PLC):

Binary signals		Meaning
DO01	DO00	
X	1/0	Ready signal 0: The MOVIFIT® compact drive is not operational. 1: The MOVIFIT® compact drive is operational.
1/0	X	Manual mode 0: MOVIFIT® compact controller via control signals 1: MOVIFIT® compact controller via manual operation

X = any status

6.11.3 MOVIFIT® compact → PLC data transmission (alternative mode, $P-600 = 1$)

The following table shows the binary signals that the MOVIFIT® compact transmits back to the higher-level controller (e.g. PLC) **in alternative mode** ($P-600 = 1$):

Binary signals		Meaning
DO01	DO00	
X	1/0	Manual mode 0: MOVIFIT® compact controller via manual operation 1: MOVIFIT® compact controller via control signals
1/0	X	Ready signal 0: The MOVIFIT® compact drive is not operational. 1: The MOVIFIT® compact drive is operational.

X = any status

7 Operation

7.1 General information

INFORMATION



You must comply with the general safety notes in the chapter "Safety notes" during startup.



▲ WARNING

Electric shock caused by dangerous voltages at the connections, cables, and motor terminals.

When the device is switched on, dangerous voltages can occur at the connectors and at any connected cables and motor terminals. This also applies even if the device is inhibited and the motor is at standstill.

Severe or fatal injuries.

- Do not switch under load.
- Before performing any work on the device, disconnect it from the voltage supply. Note that dangerous voltages can occur at the terminals and connections for up to 1 minute after the controller is switched off.
- Block the output stage of the inverter before switching at the output of the device.



▲ WARNING

Risk of electric shock from capacitors that have not fully discharged.

Severe or fatal injuries.

- De-energize the MOVIFIT® device. Observe the minimum switch-off time after disconnection from the supply system:
 - **1 minute**



▲ WARNING

Risk of injury and possible damage to property due to automatic restart of the drive after fault elimination or after a reset.

Fatal or severe injuries and damage to property.

- Disconnect the device from the power supply before rectifying a fault if automatic restart of the driven machine is not permitted for safety reasons.
- After a reset, make sure that the drive can start up automatically depending on the setting.



▲ WARNING

Danger of burns due to hot surfaces of the device (e.g. the heat sink).

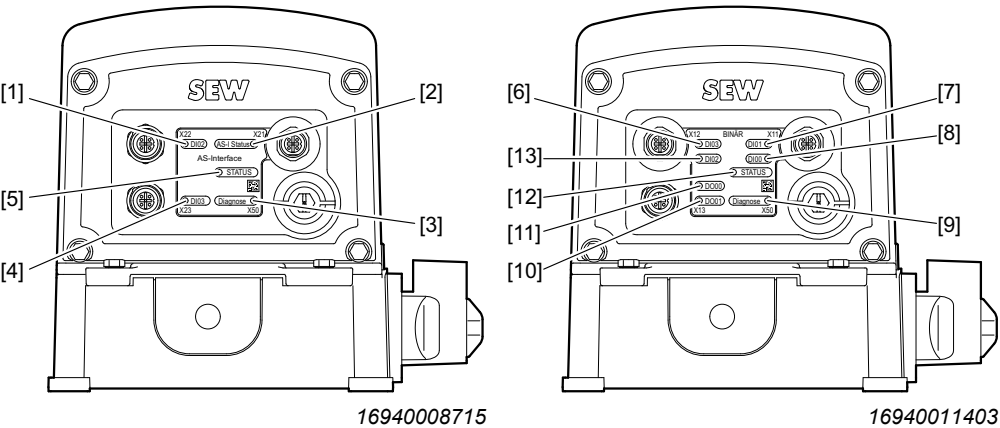
Serious injuries.

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

7.2 MOVIFIT® compact operating displays (LEDs)

The following illustration shows the LEDs of the MOVIFIT® compact:

MOVIFIT® compact with AS-Interface MOVIFIT® compact with binary control



- [1] "DI02" LED

[2] "AS-I status" LED

[3] "Diagnostics" LED

[4] "DI03" LED

[5] "STATUS" LED
- [6] "DI03" LED

[7] "DI01" LED

[8] "DI00" LED

[9] "Diagnostics" LED

[10] "DO01" LED

[11] "DO00" LED

[12] "STATUS" LED

[13] "DI02" LED

7.2.1 "DI00 – DI03" LEDs

LED	Meaning
Off	Input signal at DI. digital input is open or "0".
Green	Input signal present at DI. digital input.

7.2.2 "DO00 – DO01" LEDs

LED	Meaning
Off	DO.. output is logical "0".
Green	DO.. output is switched.

7.2.3 "STATUS" LED

LED	Meaning
Off	No voltage supply.
Green Illuminates	The MOVIFIT® compact drive is enabled.
Yellow Illuminates	The MOVIFIT® compact drive is operational.
Yellow Flashing	The MOVIFIT® compact drive has been locked by the MBBG11A operator panel. The <STOP> key has been pressed. The MOVIFIT® compact drive is not operational.
Yellow Flashes 2x, pause	The MOVIFIT® compact drive is in manual mode with the MBBG11A operator panel. In order to switch to automatic operation, first stop manual operation with the MBBG11A operator panel (see operating instructions > chapter "Manual operation with the MBBG11A operator panel").
Green/yellow Flashing	Internal communication error between control unit and power section.
Red Illuminates or flashes	An error has occurred.

7.2.4 "AS-I status" LED

LED	Meaning
Off	No 24 V supply at AS-Interface connection.
Green Illuminated	Normal operation 24 V supply at AS-Interface connection is OK. Communication established.
Red Illuminated	Communication is interrupted or slave address set to 0.
Red/green Flashing	Communication is interrupted.

7.2.5 "Diagnostics" LED

The "Diagnostics" LED function is in preparation.

7.3 Operating displays of the MBBG11A operator panel

The MBBG11A operator panel has the following operating displays:

StoP	The power stage of the MOVIFIT® is switched off (with inverter).
1 S b Y	The power stage of the MOVIFIT® for motor 1 is switched off (with reversing or dual-motor starter).
2 S b Y	The power stage of the MOVIFIT® for motor 2 is switched off (with dual-motor starter). These messages appear if the drive enable has been canceled and no errors are present. MOVIFIT® is ready for normal operation.
SEtUP menu	Opens the motor start-up menu.
ModE	Selects the operating mode. Press the <ENTER> key. Select the operating mode.
PoVEr	Selects power in [kW]. Press the <ENTER> key. Select the motor power.
VoLt	Selects motor voltage in [V]. Press the <ENTER> key. Select the motor voltage.
hErtZ	Selects rated motor frequency in [Hz]. Press the <ENTER> key. Select the rated motor frequency.
rPM	Selects the nominal motor speed in [min ⁻¹]. Press the <ENTER> key. Select the nominal motor speed.
AMPEr	Selects nominal motor current in [Hz]. Press the <ENTER> key. Select the nominal motor current.
CoSPh	Selects power factor cos φ. Press the <ENTER> key. Select the power factor.
COPY	Switches to data backup. Press the <ENTER> key.
rECAL	Data backup MBBG11A → MOVIFIT® is selected. Press the <ENTER> key.
StorE	Data backup MOVIFIT® → MBBG11A is selected. Press the <ENTER> key.
StArt	Start the selected data backup by pressing the <ENTER> key.
2.0	Display of ramp up (acceleration) or ramp down (deceleration). Press the <ENTER> key. Select the ramp time in [s].

n - 2	Display of fixed setpoint number (fixed setpoint menu) Press the <ENTER> key. Select the fixed setpoint in [min ⁻¹].
1500	Display of maximum speed in [min ⁻¹] Press the <ENTER> key. Select the maximum speed.
P- 8	Display of the parameter number (parameter menu) Press the <ENTER> key. Select the parameter value.
A 1.2	Display of the current output current of the MOVIFIT® in [A].
F - 00	Display of the current error code
r - 2	Warning code: Timeout to internal power section
r - 31	Warning code: NV storage error <ul style="list-style-type: none"> • Error when saving parameters.
r - 32	Warning code: Enable <ul style="list-style-type: none"> • Parameters can only be written in the “No enable” state. • Manual operation is inhibited when the drive is enabled in automatic operation. • Automatic operation is inhibited when the drive is enabled in manual operation.
r - 34	Warning code: Error in sequence <ul style="list-style-type: none"> • NV storage error (error when saving parameters) • Communication error • Copy error F 97 still active
r - 38	Warning code: Wrong data set from MBBG11A operator panel <ul style="list-style-type: none"> • Invalid identifier • CRC error • Data length incorrect

7.4 Manual operation with the MBBG11A operator panel

7.4.1 Manual mode

For manual operation of the MOVIFIT® compact, the MBBG11A operator panel has the following modes:

- **Binary signal specification mode** (for inverters and motor starters)
In binary signal specification mode, you control the MOVIFIT® compact drive by setting/resetting binary signals. The MBBG11A operator panel simulates control via the digital inputs or the AS-Interface.
The bit assignments can be found in chapter "Functions of the MOVIFIT® compact with AS-Interface" (→ 72).
- **Setpoint adjuster mode** (only for inverters)
In setpoint adjuster mode, you control the MOVIFIT® compact drive with the setpoint adjuster (potentiometer) and the <STOP/RESET> key.

7.4.2 Activating manual operation

▲ **WARNING**

Risk of crushing due to unexpected start-up of the drive. The signals of the MBBG11A operator panel are effective immediately when manual mode is activated. The drive operates at the speed that is specified by the MBBG11A operator panel.

Severe or fatal injuries.

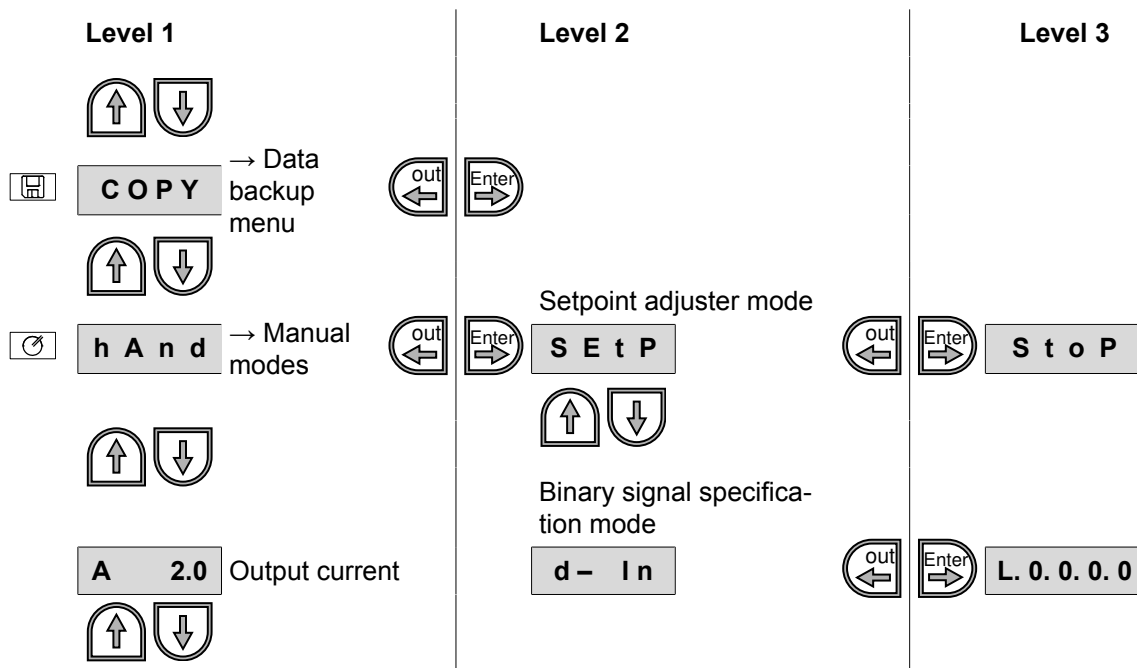
- Ensure that no persons are present in the hazard zone of the drive.
- Before manual operation is activated, the MBBG11A operator panel must be configured to prevent the drive from starting up.

INFORMATION

In order to activate manual operation, the drive must not be enabled and must be at a standstill.

- Stop automatic mode by pressing the <STOP> key.
- Wait until the drive is at a standstill.

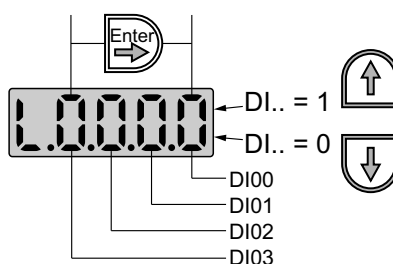
Activate manual mode then as follows:



7.4.3 Manual operation in binary signal specification mode

Control the MOVIFIT® compact drive in binary signal specification mode as follows:

1. Open "Binary signal specification mode" as described in chapter "Activating manual operation".
 - ⇒ Control in "Binary signal specification mode" is now operational (STOP mode).
 - ⇒ The numbers in the 7-segment display flash.
2. Activate manual operation using the <RUN> key (RUN mode).
 - ⇒ The dots and the segments of the currently selected digital input flash in the display.
3. Control the individual digital inputs as follows:



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Switch between the individual digital inputs using the <ENTER> key. The respective selected digital input flashes.

- Set the selected digital input using the <UP> key.
If "1" flashes in the display, the digital input is set (= 1).
- The selected digital input is reset using the <DOWN> key.
If "0" flashes in the display, the digital input is not set (= 0).

Deactivating manual operation



▲ WARNING

Risk of crushing due to unexpected start-up of the drive. The signals of the higher-level controller are effective immediately when automatic operation is activated. The drive runs with the speed that is specified by the higher-level controller.

Severe or fatal injuries.

- Ensure that no persons are present in the hazard zone of the drive.
- Before you activate automatic operation with the <RUN> key, you must set the signals of the higher-level controller so that the drive does not start.

Deactivate manual mode as follows:

1. Stop the drive with the <STOP/RESET> key.
2. Deactivate manual operation using the <OUT> key.
3. Activate automatic operation using the <RUN> key.

7.4.4 Manual operation in setpoint adjuster mode



▲ WARNING

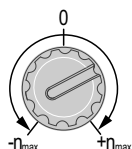
Risk of crushing due to unexpected start-up of the drive. When you activate the controller in setpoint adjuster mode, the drive starts with the setpoint that is set at the setpoint adjuster (potentiometer).

Severe or fatal injuries.

- Ensure that no persons are present in the hazard zone of the drive.
- Ensure that the setpoint adjuster (potentiometer) is set to the neutral position 0.

Control the MOVIFIT® compact drive in setpoint adjuster mode as follows:

1. Open "Setpoint adjuster mode" as described in chapter "Activating manual operation".
 - ⇒ The manual operation controller is now operational.
 - ⇒ The display "S T o P" flashes.
2. Set the setpoint speed at the setpoint adjuster (potentiometer) as follows:



$n = -n_{\max}$

If you turn the setpoint adjuster (potentiometer) to the **left** ($n < 0$), the drive runs counterclockwise.



$n = 0$

If the setpoint adjuster (potentiometer) is in the **middle** ($n = 0$), the drive stops.



$n = n_{\max}$

If you turn the setpoint adjuster (potentiometer) to the **right** ($n > 0$), the drive runs clockwise.

3. The drive is started by pressing the <RUN> key.
4. The drive is stopped by pressing the <STOP/RESET> key.

Deactivating manual operation



▲ WARNING

Risk of crushing due to unexpected start-up of the drive. The signals of the higher-level controller are effective immediately when automatic operation is activated. The drive runs with the speed that is specified by the higher-level controller.

Severe or fatal injuries.

- Ensure that no persons are present in the hazard zone of the drive.
- Before you activate automatic operation with the <RUN> key, you must set the signals of the higher-level controller so that the drive does not start.

Deactivate manual mode as follows:

1. Stop the drive with the <STOP/RESET> key.
2. Deactivate manual operation using the <OUT> key.
3. Activate automatic operation using the <RUN> key.

8 Service

8.1 "STATUS" LED error codes

The "Status" LED signals the following error codes of the MOVIFIT® compact:

LED Color Status	Code	Meaning
Red is lit	F 50	Error in supply voltage of internal power section (inverter or motor starter)
Red flashes slowly	-	All errors that are not mentioned in this table.
Red flashes 2 x, pause	F 07	DC link voltage too high.
Red flashes 3 x, pause	F 01	Overcurrent in output stage
	F 11	Overtemperature in output stage
Red flashes 4 x, pause	F 84	Overload in motor
Red flashes 6 x, pause	F 06	Line phase failure
Green/yellow flashes	F 43	Internal communication error

8.2 MOVIFIT® compact error list

The MBBG11A operator panel displays the error codes that occur at the MOVIFIT® compact.

8.2.1 MOVIFIT® compact inverter error list

Code	Subcode	Meaning	Possible cause	Measure
F 01	0	Overcurrent in output stage	Short circuit at inverter output	<ul style="list-style-type: none"> Check the connection between the inverter output and the motor. Check the motor winding for short circuiting.
			Sudden overload of motor	<ul style="list-style-type: none"> Check motor shaft for blocking.
F 06	0	Phase failure	Failure of one or more line phases	<ul style="list-style-type: none"> Check the supply system cable for phase failure.
F 07	0	DC link voltage too high	Ramp time too short	<ul style="list-style-type: none"> Extend the ramp time.
			Non-permissible line voltage range	<ul style="list-style-type: none"> Ensure that the line voltage is permissible for the device.
F 09	0	Motor startup error	Error during start-up of motor in PROFi mode	<ul style="list-style-type: none"> Check/correct the data that has been entered. Repeat the motor startup.
F 11	0	Thermal overload of output stage	Cooling fins soiled	<ul style="list-style-type: none"> Clean the cooling fins.
			Ambient temperature too high	<ul style="list-style-type: none"> Reduce the ambient temperature.
			Heat build-up at MOVIFIT® compact device	<ul style="list-style-type: none"> Prevent heat build-up at the MOVIFIT® compact device. Check distance from neighboring components.
			Drive load too high	<ul style="list-style-type: none"> Reduce the drive load.
F 18	13, 103	CPU error	-	<ul style="list-style-type: none"> Reset the error. If the error persists, contact SEW-EURODRIVE Service.
F 25	5, 7, 8, 203	EEPROM error	-	<ul style="list-style-type: none"> Load the factory settings and repeat the startup.
F 36	0	MBBG11A timeout error	MBBG11A disconnected during manual operation.	<ul style="list-style-type: none"> Plug in the plug connector of the MBBG11A operator panel again. Reset the error.
F 37	0	Inverter software run-time error		<ul style="list-style-type: none"> Contact SEW-EURODRIVE Service.

Code	Subcode	Meaning	Possible cause	Measure
F 43	0	Internal communication error	Communication problem between internal control section and power section.	<ul style="list-style-type: none"> • Contact SEW-EURODRIVE Service.
F 45	o	Initialization error	Current offset measurement out of tolerance.	<ul style="list-style-type: none"> • Reset the error. • If the error persists, contact SEW-EURODRIVE Service.
	17, 20	Initialization error, power section assignment	Internal power section not compatible	<ul style="list-style-type: none"> • Contact SEW-EURODRIVE Service.
F 50	0, 7	Supply voltage error in internal power section		<ul style="list-style-type: none"> • Contact SEW-EURODRIVE Service.
F 84	0	Thermal overload of motor	Ambient temperature at motor too high	<ul style="list-style-type: none"> • Lower the ambient temperature at the motor. • Reset the error.
			Heat build-up at the motor	<ul style="list-style-type: none"> • Prevent heat build-up at the motor. • Reset the error.
			Motor load too high	<ul style="list-style-type: none"> • Reduce the load of the motor.
			Speed of motor too slow	<ul style="list-style-type: none"> • Increase the speed. • Reset the error.
F 94	12	Detected power section does not correspond to the configured power section.	When the internal power section was replaced, a different type than the previous one was installed.	<ul style="list-style-type: none"> • Contact SEW-EURODRIVE Service.
F 97	0, 1	Copy error	Error during data backup with the MBBG11A operating panel	<ul style="list-style-type: none"> • Repeat the copying process. • Load the factory settings and re-parametrize the device.
F 98	0	CRC calculation via flash code	-	<ul style="list-style-type: none"> • Reset the error. • If the error persists, contact SEW-EURODRIVE Service.
F 196	0	Power section collective error, error assignment not possible.	Error detection aborted or sensor signal missing.	<ul style="list-style-type: none"> • Reset the error. • If the error persists, contact SEW-EURODRIVE Service.

8.2.2 Error list for MOVIFIT® compact motor starter

Code	Subcode	Meaning	Possible cause	Measure
F 01	3	Overcurrent at motor terminal X9 (Reversing starter/dual-motor starter, motor 1)	Short circuit at starter output	<ul style="list-style-type: none"> Check the connection between the starter output and the motor. Check the motor winding for short circuiting.
			Sudden overload of motor	<ul style="list-style-type: none"> Check motor shaft for blocking.
	4	Overcurrent at motor terminal X8 (Dual-motor starter, motor 2)	Short circuit at starter output	<ul style="list-style-type: none"> Check the connection between the starter output and the motor. Check the motor winding for short circuiting.
			Sudden overload of motor	<ul style="list-style-type: none"> Check motor shaft for blocking.
F 06	1, 2	Phase failure during initialization	Failure of one or more line phases	<ul style="list-style-type: none"> Check the supply system cable for phase failure.
			Motors not connected correctly	<ul style="list-style-type: none"> Check whether the motors are connected correctly.
F 18	13, 103	CPU error	-	<ul style="list-style-type: none"> Reset the error. If the error persists, contact SEW-EURODRIVE Service.
F 25	0, 5, 7, 8, 203	EEPROM error	-	<ul style="list-style-type: none"> Load the factory settings and re-parametrize the device.
F 34	1	Start time monitoring error (Reversing starter / dual-motor starter, motor 1)	Insufficient acceleration power Too much load	<ul style="list-style-type: none"> Check the motor phases. Reduce the load.
	2	Start time monitoring error (Dual-motor starter, motor 2)	Insufficient acceleration power Too much load	<ul style="list-style-type: none"> Check the motor phases. Reduce the load.
F 36	0	MBBG11A timeout error	MBBG11A disconnected during manual operation.	<ul style="list-style-type: none"> Plug in the plug connector of the MBBG11A operator panel again. Reset the error.
F 37	0	Starter software run-time error		<ul style="list-style-type: none"> Contact SEW-EURODRIVE Service.
F 43	0	Internal communication error	Communication problem between internal control section and power section.	<ul style="list-style-type: none"> Contact SEW-EURODRIVE Service.
F 44	100	Device overload (I^2t)	Device overload (I^2t)	<ul style="list-style-type: none"> Reduce the drive load. Avoid enabling both drives at the same time.
F 45	17, 20	Initialization error, power section assignment	Internal power section not compatible	<ul style="list-style-type: none"> Contact SEW-EURODRIVE Service.

Code	Subcode	Meaning	Possible cause	Measure
F 50	7	Supply voltage error in internal power section		<ul style="list-style-type: none"> • Contact SEW-EURODRIVE Service.
F 84	9	Thermal motor overload at X9 (Reversing starter/dual-motor starter, motor 1)	Ambient temperature at motor too high	<ul style="list-style-type: none"> • Lower the ambient temperature at the motor. • Reset the error.
			Heat build-up at the motor	<ul style="list-style-type: none"> • Prevent heat build-up at the motor. • Reset the error.
			Motor load too high	<ul style="list-style-type: none"> • Reduce the load of the motor.
			Speed of motor too slow	<ul style="list-style-type: none"> • Increase the speed. • Reset the error.
	10	Thermal motor overload at X8 (Dual-motor starter, motor 2)	Ambient temperature at motor too high	<ul style="list-style-type: none"> • Lower the ambient temperature at the motor. • Reset the error.
			Heat build-up at the motor	<ul style="list-style-type: none"> • Prevent heat build-up at the motor. • Reset the error.
			Motor load too high	<ul style="list-style-type: none"> • Reduce the load of the motor.
			Speed of motor too slow	<ul style="list-style-type: none"> • Reset the error.
F 94	12	Detected power section does not correspond to the configured power section.	When the power section was replaced, a different type than the previous one was installed.	<ul style="list-style-type: none"> • Contact SEW-EURODRIVE Service.
F 97	0, 1	Copy error	Error during data transmission with the MBBG11A operating panel	<ul style="list-style-type: none"> • Repeat the copying process. • Load the factory settings and re-parametrize the device.
F 98	0	CRC calculation via flash code	-	<ul style="list-style-type: none"> • Reset the error. • If the error persists, contact SEW-EURODRIVE Service.
F 118	8	Power section has detected communication failure	Communication problem between control section and power section.	<ul style="list-style-type: none"> • Contact SEW-EURODRIVE Service.

8.3 Reset



▲ WARNING

Electric shock due to dangerous voltages in the ABOX.

Severe or fatal injuries.

- De-energize the MOVIFIT® device. Observe the minimum switch-off time after disconnection from the supply system:
 - **1 minute**



▲ WARNING

Danger if the motor starts up unintentionally.

Fatal or severe injuries and damage to property.

- Before starting the work, switch off the power to the MOVIFIT® device.
- Safeguard the MOVIFIT® device from unintentional activation.

8.3.1 Manual reset

Depending on the current operating mode and the device type of the MOVIFIT® compact device, a manual reset can be performed as follows:

Device type	Manual reset		
	in automatic mode ¹⁾	with the MBBG11A operator panel	with MOVITOOLS® MotionStudio
Frequency inverter MBF07B-.. MBF11B-.. MBF15B-..	Set DI0 and DI1 = 1.	Press the <STOP/RE-SET> key.	Set parameter <i>P840</i> = 1.
Motor starter MBS2RB-.. MBS4RB-.. MBS4DB-..	Set DI2 = 1.	Press the <STOP/RE-SET> key.	Set parameter <i>P840</i> = 1.

1) With binary control or AS-Interface controller

8.4 Inspection/maintenance

8.4.1 MOVIFIT® device

The MOVIFIT® device is maintenance-free. SEW-EURODRIVE does not prescribe any inspection or maintenance work for the MOVIFIT® device.

INFORMATION



Do not open any internal components of the device. Repairs to the device may only be carried out by SEW-EURODRIVE.

8.5 Shutdown

To shut down the MOVIFIT® device, de-energize the device using appropriate measures.



▲ WARNING

Electric shock due to charged capacitors.

Severe or fatal injuries.

- Observe a minimum switch-off time of 1 minute after disconnecting the power supply.

8.6 Storage

Observe the following instructions when shutting down or storing MOVIFIT® device:

- If you shut down and store the MOVIFIT® device for a longer period, you must close open cable bushings and cover ports with protective caps.
- Make sure that the device is not subject to mechanical impact during storage.

Observe the notes on storage temperature in chapter "Technical data".

8.7 Extended storage

If the device is stored for a long time, connect it to the line voltage for at least 5 minutes every 2 years. Otherwise, the service life of the device may be reduced.

8.8 Disposal

This product consists of:

- Aluminum
- Plastics
- Electronic components

Dispose of all parts in accordance with applicable regulations!

9 Technical data

9.1 Conformity

9.1.1 CE marking

- Low voltage directive:

The MOVIFIT® drive system fulfills the regulations of the low voltage directive 2014/35/EU.

- Electromagnetic compatibility (EMC):

MOVIFIT® compact devices are intended to be used as components for installing in machinery and systems. They comply with the EMC product standard EN 61800-3 "Adjustable-speed electrical drives". Provided that the installation notes are followed, the requirements for CE marking of the entire machine/system equipped with these devices on the basis of the EMC directive 2014/30/EU are met. For detailed information on EMC-compliant installation, refer to the documentation "Electromagnetic Compatibility in Drive Engineering" from SEW-EURODRIVE.



The CE mark on the nameplate represents conformity with the low voltage directive 2014/35/EU and the EMC directive 2014/30/EU.

9.1.2 UL approval (in preparation)



The UL and cUL approval for the MOVIFIT® compact device series documented in these operating instructions is in preparation.

9.1.3 RCM approval (in preparation)



The RCM approval for the MOVIFIT® compact device series documented in these operating instructions is in preparation.

RCM certifies conformity with the ACMA (Australia Communication and Media Authority).

9.2 MOVIFIT® compact inverter

MOVIFIT® compact type		MBF07B-..	MBF11B-..	MBF15B-..
Apparent output power with $V_{line} = AC\ 380 - 500\ V$	S_N	1.8 kVA	2.2 kVA	2.8 kVA
Connection voltages	U_{Mains}	3 x AC 380 V -10% – AC 500 V ±10%		
Line frequency	f_{Mains}	50 – 60 Hz ±5%		
Nominal line current (with $V_{line} = AC\ 400\ V$)	I_{Mains}	AC 1.5 A	AC 2.2 A	AC 2.8 A
Output voltage	V_O	0 – V_{line} (output is short-circuit-proof)		
Output frequency	f_A	2 – 200 Hz		
Operating point		3 x AC 400 V at 50 Hz		
Nominal output current	I_N	AC 1.7 A	AC 2.5 A	AC 3.4 A
Motor power S1	P_{Mot}	0.09 – 0.75 kW 0.12 – 1.0 HP	0.09 – 1.1 kW 0.12 – 1.5 HP	0.09 – 1.5 kW 0.12 – 2.0 HP
PWM frequency		4 (factory setting), 16 kHz		
Efficiency		> 96%		
Current limiting	I_{max}	150%, 60 s		130%, 60 s
Maximum motor cable length		3 m unshielded		
Permitted motors		Asynchronous motors		
Interference immunity		Complies with EN 61800-3		
Interference emission		<ul style="list-style-type: none"> Fulfills category C3 in accordance with EN 61800-3 (without EMC filter) Fulfills category C2 in accordance with EN 61800-3 (EMC filter MNF21A-MB or MNF21A-MB/CA11 installed) 		
Ambient temperature	ϑ_A	-25 °C to +40 °C P_N reduction: by 3% per K up to max. 60 °C		
Climate class		EN 60721-3-3, class 3K3		
Storage temperature ¹⁾		-25 °C to +75 °C (EN 60721-3-3, class 3K3)		
Permissible vibration and impact load		3M7 in accordance with EN 50178		
Degree of protection		IP55 (MOVIFIT® compact housing closed and all plug connections sealed off).		
Degree of pollution		2		
Duty type		S1 (EN 60149-1-1 and 1-3)		
Type of cooling (DIN 41751)		Natural cooling		

MOVIFIT® compact type		MBF07B-..	MBF11B-..	MBF15B-..
Installation altitude		$h \leq 1000$ m: no reduction $h > 1000$ m: I_N reduction 1% per 100 m $h > 2000$ m: U_{Mains} reduction AC 6 V per 100 m, overvoltage class 2 in accordance with EN 60664-1 $h_{max} = 4000$ m		
Mass		4.5 kg		
Dimensions		See chapter "Dimension drawing"		
Required preventive measures		Grounding the device		
Protection functions		<ul style="list-style-type: none"> • Shutdown in the event of overcurrent due to earth fault, short circuit, or overload • Shutdown in the event of overvoltage at the DC link • Shutdown in the event of overtemperature • Motor monitoring in accordance with UL function 		

1) Connect device to the line voltage for at least 5 minutes every 2 years in the event of extended storage. Otherwise, the service life of the device may be reduced.

9.3 MOVIFIT® compact reversing starter

MOVIFIT® compact type		MBS2RB-..	MBS4RB-..
Connection voltages	V_{line}	3 × AC 380 V –10% – AC 500 V +10%	
Line frequency	f_{line}	50 – 60 Hz ±5%	
Output voltage	V_O	V_{line} The motor output is not short-circuit-proof. Notice: Dangerous contact voltages. The motor output is switched using semiconductors.	
Output frequency	f_A	f_{line}	
Nominal output current	I_N	AC 5.0 A	AC 10.0 A
Motor power S1 (with $V_{line} = 400$ V)	P_{Mot}	0.18 – 2.2 kW 0.24 – 3.0 HP	2.2 – 4.0 kW 3.0 – 5.4 HP
Device variant		1	
Utilization category		5A:AC-53b:5-2:10	10 A:AC-53b:4-2:10 According to EN 60947-4-2:2012
Rated insulation voltage		500 V	
Rated insulation surge voltage		4 kV	
Start-up type		Voltage ramp, current limiting, boost	
Starting voltages		40 – 80%	
Current limiting		100 – 500%	
Boost		60 – 100% for 100 – 2000 ms	
Soft start/braking time		0 – 2 s	
Repeat readiness		50 ms	
Switching frequency		Max. 300 switching operations per hour	
Switching frequency (bypass deactivated)		Max. 3000 switching operations per hour	
I^2t power semiconductor		390 A ² s	
Efficiency		> 95% With increased switching operation, the efficiency can be < 95%.	
Maximum motor cable length		10 m unshielded	
Permitted motors		Asynchronous motors	
Interference immunity		Fulfills EN 60947-4-2:2012	
Interference emission		Fulfills class B in accordance with EN 60947-4-2:2012	
Ambient temperature	ϑ_A	-20 °C – +40 °C P_N reduction: by 3% per K up to max. 60 °C	
Climate class		EN 60721-3-3, class 3K3	

MOVIFIT® compact type		MBS2RB-..	MBS4RB-..
Storage temperature ¹⁾		–25 °C to +85 °C (EN 60721-3-3, class 3K3)	
Permissible vibration and impact load		3M5 according to EN 50178	
Degree of protection		IP55 (MOVIFIT® compact housing closed and all plug connections sealed off).	
Degree of pollution		2	
Rated short-circuit current		5 kA	
Operating mode		S1 (EN 60149-1-1 and 1-3)	
Type of cooling (DIN 41751)		Natural cooling	
Installation altitude		h ≤ 1000 m: no reduction h > 1000 m: I _N reduction 2% per 100 m h > 2000 m: V _{line} maximum 480 V h _{max} = 4000 m	
Weight		4.5 kg	
Dimensions		See chapter "Dimension drawing"	
Required preventive measure		Grounding the device	
Protection functions		<ul style="list-style-type: none"> • Shutdown in the event of overcurrent • Shutdown caused by overtemperature • Motor monitoring in accordance with I²t model 	

1) If the device is stored for a long time, connect it to the line voltage for at least 5 minutes every 2 years. Otherwise, the service life of the device may be reduced.

9.4 MOVIFIT® compact dual-motor starter

MOVIFIT® compact type		MBS4DB-..
Connection voltages	V_{line}	3 × AC 380 V –10% – AC 500 V +10%
Line frequency	f_{line}	50 – 60 Hz ±5%
Output voltage	V_O	V_{line} The motor outputs are not short-circuit-proof. Notice: Dangerous contact voltages. The motor outputs are switched using semiconductors.
Output frequency	f_A	f_{line}
Nominal output current	I_N	2 × AC 5.0 A
Motor power S1 (with $V_{line} = 400$ V)	P_{Mot}	2 × 0.18 – 2.2 kW 2 × 0.24 – 3.0 HP
Device variant		1
Utilization category		5A:AC-53b:5-2:10 in accordance with EN 60947-4-2:2012
Rated insulation voltage		500 V
Rated insulation surge voltage		4 kV
Start-up type		Voltage ramp, current limiting, boost
Starting voltages		40 – 80%
Current limiting		100 – 500%
Boost		60 – 100% for 100 – 2000 ms
Soft start/braking time		0 – 2 s
Repeat readiness		50 ms
Switching frequency		Max. 300 switching operations per hour
Switching frequency (bypass deactivated)		Max. 3000 switching operations per hour
I^2t power semiconductor		390 A ² s
Efficiency		> 95% With increased switching operation, the efficiency can be < 95%.
Maximum motor cable length		10 m unshielded
Permitted motors		Asynchronous motors
Interference immunity		Fulfills EN 60947-4-2:2012
Interference emission		Fulfills class B in accordance with EN 60947-4-2:2012
Ambient temperature	ϑ_A	-20 °C – +40 °C P_N reduction: by 3% per K up to max. 60 °C
Climate class		EN 60721-3-3, class 3K3

MOVIFIT® compact type		MBS4DB-..
Storage temperature ¹⁾		–25 °C to +85 °C (EN 60721-3-3, class 3K3)
Permissible vibration and impact load		3M5 according to EN 50178
Degree of protection		IP55 (MOVIFIT® compact housing closed and all plug connections sealed off).
Degree of pollution		2
Rated short-circuit current		5 kA
Operating mode		S1 (EN 60149-1-1 and 1-3)
Type of cooling (DIN 41751)		Natural cooling
Installation altitude		h ≤ 1000 m: no reduction h > 1000 m: I _N reduction 2% per 100 m h > 2000 m: V _{line} maximum 480 V h _{max} = 4000 m
Mass		4.5 kg
Dimensions		See chapter "Dimension drawing"
Required preventive measure		Grounding the device
Protection functions		<ul style="list-style-type: none"> • Shutdown in the event of overcurrent • Shutdown caused by overtemperature • Motor monitoring in accordance with I²t model

1) If the device is stored for a long time, connect it to the line voltage for at least 5 minutes every 2 years. Otherwise, the service life of the device may be reduced.

9.5 AS-Interface technical data

9.5.1 AS-Interface technical data, standard version

AS-Interface (inverter and motor starter)	
Control input (X21)	Connecting the AS-Interface using M12 plug connector
Control functions	DO00 – DO03 (→ 72)
Signaling functions	DI00 – DI03 (→ 72)
Protocol variant	AS-Interface binary slave with S-7.A.7.7 profile "4I/4O-AB-Slave"
AS-Interface profile	S-7.A.7.7
I/O configuration	7 _{hex}
ID code	A _{hex}
ext. ID code 2	7 _{hex}
ext. ID code 1	7 _{hex}
Address	1A – 31A, 1B – 31B (AB slave), can be modified any number of times
Electronic supply	I _{E AS-Interface} ≤ 40 mA (typical 25 mA with 30 V) ¹⁾

1) The sensors are supplied from the AS-Interface cable. The current increases by the demand of the connected sensors (max 100 mA).

9.5.2 AS-Interface technical data, special design "MBF...-03"

AS-Interface (inverter)	
Control input (X21)	Connecting the AS-Interface using M12 plug connector
Control functions	DO00 – DO03 (→ 72) (Control function identical to standard version)
Signaling functions	DI00 – DI03 (→ 72) (Signaling function identical to standard version)
Protocol variant	AS-Interface binary slave with a S-7.F profile "four bit I/O mode slave"
AS-Interface profile	S-7.F
I/O configuration	7 _{hex}
ID code	F _{hex}
ext. ID code2	E _{hex}
ext. ID code1	F _{hex}
Address	1 – 31 (standard slave), can be modified any number of times
Electronic supply	I _{E AS-Interface} ≤ 40 mA (typical 25 mA with 30 V) ¹⁾

1) The sensors are supplied from the AS-Interface cable. The current increases by the demand of the connected sensors (max 100 mA).

9.6 Digital inputs (AS-Interface)

Digital inputs		
Sensor connections (X22, X23)	DI02 Digital input sensor 2 DI03 Digital input sensor 3	
Sensor inputs	PLC compatible according to EN 61131-2, sampling cycle ≤ 8 ms R_i approx. 3.0 k Ω I_E approx. 10 mA	
Signal level	+15 – +30 V	"1"
	-3 – +5 V	"0"
Maximum sensor cable length	15 m	

9.7 Digital inputs (binary control)

Digital inputs		
4 digital inputs (X11, X12)	Isolated via optocoupler; PLC-compatible (EN 61131-2) $R_i \approx 3.0$ k Ω , $I_E \approx 10$ mA, sampling cycle ≤ 8 ms	
Signal level	+15 – +30 V	"1"
	-3 – +5 V	"0"
Control functions	DI00 – DI03, see chapter "Functions of the MOVIFIT® compact with binary control"	

9.8 Digital outputs

Digital outputs		
2 digital outputs (X13)	PLC-compatible in accordance with EN 61131-2	
Signal level	+15 – +30 V	"1"
	-3 – +5 V	"0"
Rated current	Max. 20 mA per output / not permanently short-circuit-proof	
Signaling functions	DO00 – DO03, see chapter "Functions of the MOVIFIT® compact with binary control"	
DC 24 V output	Interference-voltage-proof and short-circuit-proof DC 24 V ± 25 % Max. 100 mA minus current load from binary outputs DO00 + DO01	

9.9 Accessories and options

9.9.1 MBBG11A



Type	MBBG11A
Part number	28230809
Function	Keypad With 3 m long connecting cable and plug connector RJ10 for connection to diagnostic interface X50
Degree of protection	IP20 (EN 60529) without mounting
Ambient temperature	0 – +50 °C
Storage temperature	0 – +60 °C

9.9.2 USB11A



Type	USB11A
Part number	08248311
Function	USB – RS485 interface adapter
Scope of delivery	<ul style="list-style-type: none"> • USB11A interface adapter • USB cable • Cable with RJ10 – RJ10 plug connectors

9.9.3 Accessories for installation

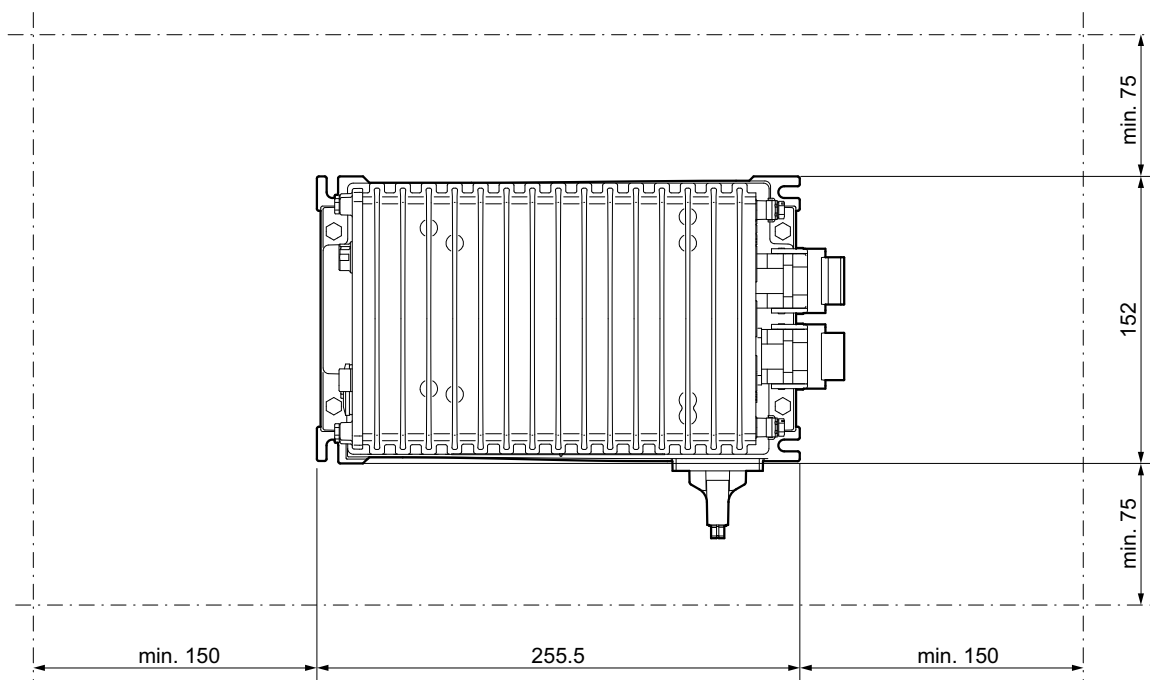
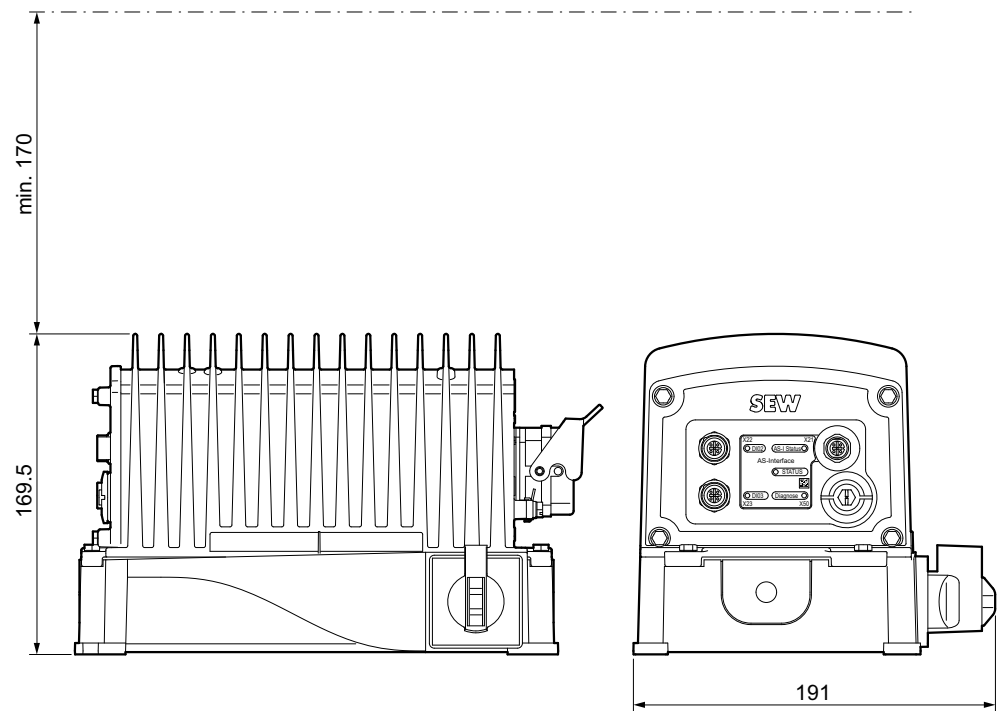
The following accessories for MOVIFIT® compact can be purchased from Weidmüller Interface GmbH & Co. KG (see www.weidmueller.com):

Accessories	Part number (Weidmüller)
Cable seal, for cables with Ø = 7.5 – 9 mm	4329610000
Cable seal, for cables with Ø = 9 – 11 mm	4323210000
Cable seal, for cables with Ø = 11 – 13 mm	4323230000
Cable seal, for cables with Ø = 13 – 15 mm ¹⁾	4323220000
Cable seal, for cables with Ø = 15 – 17 mm	4324010000
Seal (without cable entry)	4323240000

1) 2 of these cable seals are included in the scope of delivery of the MOVIFIT® compact device.

9.10 Dimension drawing

9.10.1 MOVIFIT® compact dimension drawing



9007216194831883

10 Address list

Algeria			
Sales	Algiers	REDUCOM Sarl 16, rue des Frères Zaghroune Bellevue 16200 El Harrach Alger	Tel. +213 21 8214-91 Fax +213 21 8222-84 http://www.reducom-dz.com info@reducom-dz.com
Argentina			
Assembly Sales	Buenos Aires	SEW EURODRIVE ARGENTINA S.A. Ruta Panamericana Km 37.5, Lote 35 (B1619IEA) Centro Industrial Garín Prov. de Buenos Aires	Tel. +54 3327 4572-84 Fax +54 3327 4572-21 http://www.sew-eurodrive.com.ar sewar@sew-eurodrive.com.ar
Australia			
Assembly Sales Service	Melbourne	SEW-EURODRIVE PTY. LTD. 27 Beverage Drive Tullamarine, Victoria 3043	Tel. +61 3 9933-1000 Fax +61 3 9933-1003 http://www.sew-eurodrive.com.au enquires@sew-eurodrive.com.au
	Sydney	SEW-EURODRIVE PTY. LTD. 9, Sleigh Place, Wetherill Park New South Wales, 2164	Tel. +61 2 9725-9900 Fax +61 2 9725-9905 enquires@sew-eurodrive.com.au
Austria			
Assembly Sales Service	Vienna	SEW-EURODRIVE Ges.m.b.H. Richard-Strauss-Straße 24 1230 Wien	Tel. +43 1 617 55 00-0 Fax +43 1 617 55 00-30 http://www.sew-eurodrive.at sew@sew-eurodrive.at
Bangladesh			
Sales	Bangladesh	SEW-EURODRIVE INDIA PRIVATE LIMITED 345 DIT Road East Rampura Dhaka-1219, Bangladesh	Tel. +88 01729 097309 salesdhaka@seweurodrivebangladesh.com
Belarus			
Sales	Minsk	Foreign unitary production enterprise SEW- EURODRIVE RybalkoStr. 26 220033 Minsk	Tel. +375 17 298 47 56 / 298 47 58 Fax +375 17 298 47 54 http://www.sew.by sales@sew.by
Belgium			
Assembly Sales Service	Brussels	SEW-EURODRIVE n.v./s.a. Researchpark Haasrode 1060 Evenementenlaan 7 3001 Leuven	Tel. +32 16 386-311 Fax +32 16 386-336 http://www.sew-eurodrive.be info@sew-eurodrive.be
Service Competence Center	Industrial Gears	SEW-EURODRIVE n.v./s.a. Rue de Parc Industriel, 31 6900 Marche-en-Famenne	Tel. +32 84 219-878 Fax +32 84 219-879 http://www.sew-eurodrive.be service-IG@sew-eurodrive.be
Brazil			
Production Sales Service	São Paulo	SEW-EURODRIVE Brasil Ltda. Estrada Municipal José Rubim, 205 – Rodovia Santos Dumont Km 49 Indaiatuba – 13347-510 – SP	Tel. +55 19 3835-8000 sew@sew.com.br
Assembly Sales Service	Rio Claro	SEW-EURODRIVE Brasil Ltda. Rodovia Washington Luiz, Km 172 Condomínio Industrial Conpark Caixa Postal: 327 13501-600 – Rio Claro / SP	Tel. +55 19 3522-3100 Fax +55 19 3524-6653 montadora.rc@sew.com.br
	Joinville	SEW-EURODRIVE Brasil Ltda. Rua Dona Francisca, 12.346 – Pirabeiraba 89239-270 – Joinville / SC	Tel. +55 47 3027-6886 Fax +55 47 3027-6888 filial.sc@sew.com.br
Bulgaria			
Sales	Sofia	BEVER-DRIVE GmbH Bogdanovetz Str.1 1606 Sofia	Tel. +359 2 9151160 Fax +359 2 9151166 bever@bever.bg

Cameroon

Sales	Douala	SEW-EURODRIVE S.A.R.L. Ancienne Route Bonabéri P.O. Box B.P 8674 Douala-Cameroun	Tel. +237 233 39 02 10 Fax +237 233 39 02 10 info@sew-eurodrive-cm
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Canada

Assembly Sales Service	Toronto	SEW-EURODRIVE CO. OF CANADA LTD. 210 Walker Drive Bramalea, ON L6T 3W1	Tel. +1 905 791-1553 Fax +1 905 791-2999 http://www.sew-eurodrive.ca l.watson@sew-eurodrive.ca
	Vancouver	SEW-EURODRIVE CO. OF CANADA LTD. Tilbury Industrial Park 7188 Honeyman Street Delta, BC V4G 1G1	Tel. +1 604 946-5535 Fax +1 604 946-2513 b.wake@sew-eurodrive.ca
	Montreal	SEW-EURODRIVE CO. OF CANADA LTD. 2555 Rue Leger Lasalle, PQ H8N 2V9	Tel. +1 514 367-1124 Fax +1 514 367-3677 a.peluso@sew-eurodrive.ca

Chile

Assembly Sales Service	Santiago de Chile	SEW-EURODRIVE CHILE LTDA Las Encinas 1295 Parque Industrial Valle Grande LAMP Santiago de Chile P.O. Box Casilla 23 Correo Quilicura - Santiago - Chile	Tel. +56 2 2757 7000 Fax +56 2 2757 7001 http://www.sew-eurodrive.cl ventas@sew-eurodrive.cl
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China

Production Assembly Sales Service	Tianjin	SEW-EURODRIVE (Tianjin) Co., Ltd. No. 78, 13th Avenue, TEDA Tianjin 300457	Tel. +86 22 25322612 Fax +86 22 25323273 http://www.sew-eurodrive.cn info@sew-eurodrive.cn
Assembly Sales Service	Suzhou	SEW-EURODRIVE (Suzhou) Co., Ltd. 333, Suhong Middle Road Suzhou Industrial Park Jiangsu Province, 215021	Tel. +86 512 62581781 Fax +86 512 62581783 suzhou@sew-eurodrive.cn
	Guangzhou	SEW-EURODRIVE (Guangzhou) Co., Ltd. No. 9, JunDa Road East Section of GETDD Guangzhou 510530	Tel. +86 20 82267890 Fax +86 20 82267922 guangzhou@sew-eurodrive.cn
	Shenyang	SEW-EURODRIVE (Shenyang) Co., Ltd. 10A-2, 6th Road Shenyang Economic Technological Development Area Shenyang, 110141	Tel. +86 24 25382538 Fax +86 24 25382580 shenyang@sew-eurodrive.cn
	Taiyuan	SEW-EURODRIVE (Taiyuan) Co., Ltd. No.3, HuaZhang Street, TaiYuan Economic & Technical Development Zone ShanXi, 030032	Tel. +86-351-7117520 Fax +86-351-7117522 taiyuan@sew-eurodrive.cn
	Wuhan	SEW-EURODRIVE (Wuhan) Co., Ltd. 10A-2, 6th Road No. 59, the 4th Quanli Road, WEDA 430056 Wuhan	Tel. +86 27 84478388 Fax +86 27 84478389 wuhan@sew-eurodrive.cn
	Xi'An	SEW-EURODRIVE (Xi'An) Co., Ltd. No. 12 Jinye 2nd Road Xi'An High-Technology Industrial Development Zone Xi'An 710065	Tel. +86 29 68686262 Fax +86 29 68686311 xian@sew-eurodrive.cn
Sales Service	Hong Kong	SEW-EURODRIVE LTD. Unit No. 801-806, 8th Floor Hong Leong Industrial Complex No. 4, Wang Kwong Road Kowloon, Hong Kong	Tel. +852 36902200 Fax +852 36902211 contact@sew-eurodrive.hk

Colombia			
Assembly Sales Service	Bogota	SEW-EURODRIVE COLOMBIA LTDA. Calle 17 No. 132-18 Interior 2 Bodega 6, Manzana B Santafé de Bogotá	Tel. +57 1 54750-50 Fax +57 1 54750-44 http://www.sew-eurodrive.com.co sew@sew-eurodrive.com.co
Croatia			
Sales Service	Zagreb	KOMPEKS d. o. o. Zeleni dol 10 10 000 Zagreb	Tel. +385 1 4613-158 Fax +385 1 4613-158 kompeks@inet.hr
Czech Republic			
Assembly Sales Service	Hostivice	SEW-EURODRIVE CZ s.r.o. Floriánova 2459 253 01 Hostivice	Tel. +420 255 709 601 Fax +420 235 350 613 http://www.sew-eurodrive.cz sew@sew-eurodrive.cz
	Drive Service Hotline / 24 Hour Service	+420 800 739 739 (800 SEW SEW)	Service Tel. +420 255 709 632 Fax +420 235 358 218 servis@sew-eurodrive.cz
Denmark			
Assembly Sales Service	Copenhagen	SEW-EURODRIVEA/S Geminivej 28-30 2670 Greve	Tel. +45 43 95 8500 Fax +45 43 9585-09 http://www.sew-eurodrive.dk sew@sew-eurodrive.dk
Egypt			
Sales Service	Cairo	Copam Egypt for Engineering & Agencies Building 10, Block 13005, First Industrial Zone, Obour City Cairo	Tel. +202 44812673 / 79 (7 lines) Fax +202 44812685 http://www.copam-egypt.com copam@copam-egypt.com
Estonia			
Sales	Tallin	ALAS-KUUL AS Reti tee 4 75301 Peetri küla, Rae vald, Harjumaa	Tel. +372 6593230 Fax +372 6593231 http://www.alas-kuul.ee veiko.soots@alas-kuul.ee
Finland			
Assembly Sales Service	Hollola	SEW-EURODRIVE OY Vesimäentie 4 15860 Hollola	Tel. +358 201 589-300 Fax +358 3 780-6211 http://www.sew-eurodrive.fi sew@sew.fi
Service	Hollola	SEW-EURODRIVE OY Keskikankaantie 21 15860 Hollola	Tel. +358 201 589-300 Fax +358 3 780-6211 http://www.sew-eurodrive.fi sew@sew.fi
Production Assembly	Karkkila	SEW Industrial Gears Oy Santasalonkatu 6, PL 8 03620 Karkkila, 03601 Karkkila	Tel. +358 201 589-300 Fax +358 201 589-310 http://www.sew-eurodrive.fi sew@sew.fi
France			
Production Sales Service	Hagenau	SEW-USOCOME 48-54 route de Soufflenheim B. P. 20185 67506 Haguenau Cedex	Tel. +33 3 88 73 67 00 Fax +33 3 88 73 66 00 http://www.usocom.com sew@usocom.com
Production	Forbach	SEW-USOCOME Zone industrielle Technopôle Forbach Sud B. P. 30269 57604 Forbach Cedex	Tel. +33 3 87 29 38 00
	Brumath	SEW-USOCOME 1 Rue de Bruxelles 67670 Mommernheim Cedex	Tel. +33 3 88 37 48 00
Assembly Sales Service	Bordeaux	SEW-USOCOME Parc d'activités de Magellan 62 avenue de Magellan – B. P. 182 33607 Pessac Cedex	Tel. +33 5 57 26 39 00 Fax +33 5 57 26 39 09

France

Lyon	SEW-USOCOME 75 rue Antoine Condorcet 38090 Vaulx-Milieu	Tel. +33 4 74 99 60 00 Fax +33 4 74 99 60 15
Nantes	SEW-USOCOME Parc d'activités de la forêt 4 rue des Fontenelles 44140 Le Bignon	Tel. +33 2 40 78 42 00 Fax +33 2 40 78 42 20
Paris	SEW-USOCOME Zone industrielle 2 rue Denis Papin 77390 Verneuil l'Étang	Tel. +33 1 64 42 40 80 Fax +33 1 64 42 40 88

Gabon

Sales	Libreville	SEW-EURODRIVE SARL 183, Rue 5.033.C, Lalala à droite P.O. Box 15682 Libreville	Tel. +241 03 28 81 55 +241 06 54 81 33 http://www.sew-eurodrive.cm sew@sew-eurodrive.cm
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Germany

Headquarters Production Sales	Bruchsal	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 42 76646 Bruchsal P.O. Box Postfach 3023 – D-76642 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 P.O. Box Postfach 1220 – D-76671 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 oesstringen@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

Germany			
	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
Great Britain			
Assembly Sales Service	Normanton	SEW-EURODRIVE Ltd. DeVilliers Way Trident Park Normanton West Yorkshire WF6 1GX	Tel. +44 1924 893-855 Fax +44 1924 893-702 http://www.sew-eurodrive.co.uk info@sew-eurodrive.co.uk
Drive Service Hotline / 24 Hour Service			Tel. 01924 896911
Greece			
Sales	Athens	Christ. Boznos & Son S.A. 12, K. Mavromichali Street P.O. Box 80136 18545 Piraeus	Tel. +30 2 1042 251-34 Fax +30 2 1042 251-59 http://www.boznos.gr info@boznos.gr
Hungary			
Sales Service	Budapest	SEW-EURODRIVE Kft. Csillaghegyi út 13. 1037 Budapest	Tel. +36 1 437 06-58 Fax +36 1 437 06-50 http://www.sew-eurodrive.hu office@sew-eurodrive.hu
Iceland			
Sales	Reykjavik	Varma & Vélaverk ehf. Knarrarvogi 4 104 Reykjavik	Tel. +354 585 1070 Fax +354 585)1071 http://www.varmaverk.is vov@vov.is
India			
Registered Office Assembly Sales Service	Vadodara	SEW-EURODRIVE India Private Limited Plot No. 4, GIDC POR Ramangamdi • Vadodara - 391 243 Gujarat	Tel. +91 265 3045200 Fax +91 265 3045300 http://www.seweurodriveindia.com salesvadodara@seweurodriveindia.com
Assembly Sales Service	Chennai	SEW-EURODRIVE India Private Limited Plot No. K3/1, Sipcot Industrial Park Phase II Mambakkam Village Sriperumbudur - 602105 Kancheepuram Dist, Tamil Nadu	Tel. +91 44 37188888 Fax +91 44 37188811 saleschennai@seweurodriveindia.com
	Pune	SEW-EURODRIVE India Private Limited Plant: Plot No. D236/1, Chakan Industrial Area Phase- II, Warale, Tal- Khed, Pune-410501, Maharashtra	Tel. +91 21 35 628700 Fax +91 21 35 628715 salespune@seweurodriveindia.com
Indonesia			
Sales	Medan	PT. Serumpun Indah Lestari Jl.Pulau Solor no. 8, Kawasan Industri Medan II Medan 20252	Tel. +62 61 687 1221 Fax +62 61 6871429 / +62 61 6871458 / +62 61 30008041 sil@serumpunindah.com serumpunindah@yahoo.com http://www.serumpunindah.com
	Jakarta	PT. Cahaya Sukses Abadi Komplek Rukan Puri Mutiara Blok A no 99, Sunter Jakarta 14350	Tel. +62 21 65310599 Fax +62 21 65310600 csajkt@cbn.net.id
	Jakarta	PT. Agrindo Putra Lestari Jl.Pantai Indah Selatan, Komplek Sentra Industri Terpadu, Pantai indah Kapuk Tahap III, Blok E No. 27 Jakarta 14470	Tel. +62 21 2921-8899 Fax +62 21 2921-8988 aplindo@indosat.net.id http://www.aplindo.com

Indonesia

Surabaya	PT. TRIAGRI JAYA ABADI Jl. Sukosemolo No. 63, Galaxi Bumi Permai G6 No. 11 Surabaya 60111	Tel. +62 31 5990128 Fax +62 31 5962666 sales@triagri.co.id http://www.triagri.co.id
Surabaya	CV. Multi Mas Jl. Raden Saleh 43A Kav. 18 Surabaya 60174	Tel. +62 31 5458589 Fax +62 31 5317220 sianhwa@sby.centrin.net.id http://www.cvmultimas.com

Ireland

Sales Service	Dublin	Alpertone Engineering Ltd. 48 Moyle Road Dublin Industrial Estate Glasnevin, Dublin 11	Tel. +353 1 830-6277 Fax +353 1 830-6458 http://www.alpertone.ie info@alpertone.ie
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Israel

Sales	Tel Aviv	Liraz Handasa Ltd. Ahofer Str 34B / 228 58858 Holon	Tel. +972 3 5599511 Fax +972 3 5599512 http://www.liraz-handasa.co.il office@liraz-handasa.co.il
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Italy

Assembly Sales Service	Milan	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Via Bernini, 14 20020 Solaro (Milano)	Tel. +39 02 96 980229 Fax +39 02 96 980 999 http://www.sew-eurodrive.it milano@sew-eurodrive.it
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Ivory Coast

Sales	Abidjan	SEW-EURODRIVE SARL Ivory Coast Rue des Pêcheurs, Zone 3 26 BP 916 Abidjan 26	Tel. +225 21 21 81 05 Fax +225 21 25 30 47 info@sew-eurodrive.ci http://www.sew-eurodrive.ci
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Japan

Assembly Sales Service	Iwata	SEW-EURODRIVE JAPAN CO., LTD 250-1, Shimoman-no, Iwata Shizuoka 438-0818	Tel. +81 538 373811 Fax +81 538 373814 http://www.sew-eurodrive.co.jp sewjapan@sew-eurodrive.co.jp hamamatsu@sew-eurodrive.co.jp
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Kazakhstan

Sales	Almaty	SEW-EURODRIVE LLP 291-291A, Tole bi street 050031, Almaty	Tel. +7 (727) 350 5156 Fax +7 (727) 350 5156 http://www.sew-eurodrive.kz sew@sew-eurodrive.kz
	Tashkent	SEW-EURODRIVE LLP Representative office in Uzbekistan 96A, Sharaf Rashidov street, Tashkent, 100084	Tel. +998 71 2359411 Fax +998 71 2359412 http://www.sew-eurodrive.uz sew@sew-eurodrive.uz
	Ulaanbaatar	IM Trading LLC Naryn zam street 62 Sukhbaatar district, Ulaanbaatar 14230	Tel. +976-77109997 Fax +976-77109997 imt@imt.mn

Kenya

Sales	Nairobi	SEW-EURODRIVE Pty Ltd Transnational Plaza, 5th Floor Mama Ngina Street P.O. Box 8998-00100 Nairobi	Tel. +254 791 398840 http://www.sew-eurodrive.co.tz info@sew.co.tz
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Latvia

Sales	Riga	SIA Alas-Kuul Katlakalna 11C 1073 Riga	Tel. +371 6 7139253 Fax +371 6 7139386 http://www.alas-kuul.lv info@alas-kuul.com
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Lebanon			
Sales (Lebanon)	Beirut	Gabriel Acar & Fils sarl B. P. 80484 Bourj Hammoud, Beirut	Tel. +961 1 510 532 Fax +961 1 494 971 ssacar@inco.com.lb
Sales (Jordan, Kuwait , Beirut Saudi Arabia, Syria)		Middle East Drives S.A.L. (offshore) Sin El Fil. B. P. 55-378 Beirut	Tel. +961 1 494 786 Fax +961 1 494 971 http://www.medrives.com info@medrives.com
Lithuania			
Sales	Alytus	UAB Irseva Statybininku 106C 63431 Alytus	Tel. +370 315 79204 Fax +370 315 56175 http://www.irseva.lt irmantas@irseva.lt
Luxembourg			
representation: Belgium			
Macedonia			
Sales	Skopje	Boznos DOOEL Dime Anicin 2A/7A 1000 Skopje	Tel. +389 23256553 Fax +389 23256554 http://www.boznos.mk
Malaysia			
Assembly Sales Service	Johor	SEW-EURODRIVE SDN BHD No. 95, Jalan Seroja 39, Taman Johor Jaya 81000 Johor Bahru, Johor West Malaysia	Tel. +60 7 3549409 Fax +60 7 3541404 sales@sew-eurodrive.com.my
Mexiko			
Assembly Sales Service	Quéretaro	SEW-EURODRIVE MEXICO S.A. de C.V. SEM-981118-M93 Tequisquiapan No. 102 Parque Industrial Quéretaro C.P. 76220 Querétaro, México	Tel. +52 442 1030-300 Fax +52 442 1030-301 http://www.sew-eurodrive.com.mx scmexico@seweurodrive.com.mx
Sales Service	Puebla	SEW-EURODRIVE MEXICO S.A. de C.V. Calzada Zavaleta No. 3922 Piso 2 Local 6 Col. Santa Cruz Buenavista C.P. 72154 Puebla, México	Tel. +52 (222) 221 248 http://www.sew-eurodrive.com.mx scmexico@seweurodrive.com.mx
Mongolia			
Technical Office	Ulaanbaatar	IM Trading LLC Narny zam street 62 Union building, Suite A-403-1 Sukhbaatar district, Ulaanbaatar 14230	Tel. +976-77109997 Tel. +976-99070395 Fax +976-77109997 http://imt.mn/ imt@imt.mn
Morocco			
Sales Service	Bouskoura	SEW-EURODRIVE Morocco Parc Industriel CFCIM, Lot 55 and 59 Bouskoura	Tel. +212 522 88 85 00 Fax +212 522 88 84 50 http://www.sew-eurodrive.ma sew@sew-eurodrive.ma
Namibia			
Sales	Swakopmund	DB Mining & Industrial Services Einstein Street Strauss Industrial Park Unit1 Swakopmund	Tel. +264 64 462 738 Fax +264 64 462 734 anton@dbminingnam.com
Netherlands			
Assembly Sales Service	Rotterdam	SEW-EURODRIVE B.V. Industrieweg 175 3044 AS Rotterdam Postbus 10085 3004 AB Rotterdam	Tel. +31 10 4463-700 Fax +31 10 4155-552 Service: 0800-SEWHELP http://www.sew-eurodrive.nl info@sew-eurodrive.nl

New Zealand

Assembly Sales Service	Auckland	SEW-EURODRIVE NEW ZEALAND LTD. P.O. Box 58-428 82 Greenmount drive East Tamaki Auckland	Tel. +64 9 2745627 Fax +64 9 2740165 http://www.sew-eurodrive.co.nz sales@sew-eurodrive.co.nz
	Christchurch	SEW-EURODRIVE NEW ZEALAND LTD. 30 Lodestar Avenue, Wigram Christchurch	Tel. +64 3 384-6251 Fax +64 3 384-6455 sales@sew-eurodrive.co.nz

Nigeria

Sales	Lagos	Greenpeg Nig. Ltd Plot 296A, Adeyemo Akapo Str. Omole GRA Ikeja Lagos-Nigeria	Tel. +234-701-821-9200-1 http://www.greenpeg ltd.com bolaji.adekunle@greenpeg ltd.com
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Norway

Assembly Sales Service	Moss	SEW-EURODRIVE A/S Solgaard skog 71 1599 Moss	Tel. +47 69 24 10 20 Fax +47 69 24 10 40 http://www.sew-eurodrive.no sew@sew-eurodrive.no
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Pakistan

Sales	Karachi	Industrial Power Drives Al-Fatah Chamber A/3, 1st Floor Central Com- mercial Area, Sultan Ahmed Shah Road, Block 7/8, Karachi	Tel. +92 21 452 9369 Fax +92-21-454 7365 sew eurodrive@cyber.net.pk
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Paraguay

Sales	Fernando de la Mora	SEW-EURODRIVE PARAGUAY S.R.L De la Victoria 112, Esquina nueva Asunción Departamento Central Fernando de la Mora, Barrio Bernardino	Tel. +595 991 519695 Fax +595 21 3285539 sewpy@sew-eurodrive.com.py
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Peru

Assembly Sales Service	Lima	SEW EURODRIVE DEL PERU S.A.C. Los Calderos, 120-124 Urbanizacion Industrial Vulcano, ATE, Lima	Tel. +51 1 3495280 Fax +51 1 3493002 http://www.sew-eurodrive.com.pe sewperu@sew-eurodrive.com.pe
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Philippines

Sales	Makati	P.T. Cerna Corporation 4137 Ponte St., Brgy. Sta. Cruz Makati City 1205	Tel. +63 2 519 6214 Fax +63 2 890 2802 mech_drive_sys@ptcerna.com http://www.ptcerna.com
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Poland

Assembly Sales Service	Łódź	SEW-EURODRIVE Polska Sp.z o.o. ul. Techniczna 5 92-518 Łódź	Tel. +48 42 293 00 00 Fax +48 42 293 00 49 http://www.sew-eurodrive.pl sew@sew-eurodrive.pl
	Service	Tel. +48 42 293 0030 Fax +48 42 293 0043	24 Hour Service Tel. +48 602 739 739 (+48 602 SEW SEW) serwis@sew-eurodrive.pl

Portugal

Assembly Sales Service	Coimbra	SEW-EURODRIVE, LDA. Av. da Fonte Nova, n.º 86 3050-379 Mealhada	Tel. +351 231 20 9670 Fax +351 231 20 3685 http://www.sew-eurodrive.pt info sew@sew-eurodrive.pt
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Romania

Sales Service	Bucharest	Sialco Trading SRL str. Brazilia nr. 36 011783 Bucuresti	Tel. +40 21 230-1328 Fax +40 21 230-7170 sialco@sialco.ro
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Russia

Assembly Sales Service	St. Petersburg	ЗАО «СЕВ-ЕВРОДРАЙФ» а. я. 36 195220 Санкт-Петербург	Tel. +7 812 3332522 / +7 812 5357142 Fax +7 812 3332523 http://www.sew-eurodrive.ru sew@sew-eurodrive.ru
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Sambia

representation: South Africa

Senegal

Sales	Dakar	SENEMECA Mécanique Générale Km 8, Route de Rufisque B.P. 3251, Dakar	Tel. +221 338 494 770 Fax +221 338 494 771 http://www.senemeca.com senemeca@senemeca.sn
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Serbia

Sales	Belgrade	DIPAR d.o.o. Ustanicka 128a PC Košum, IV floor 11000 Beograd	Tel. +381 11 347 3244 / +381 11 288 0393 Fax +381 11 347 1337 office@dipar.rs
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Singapore

Assembly Sales Service	Singapore	SEW-EURODRIVE PTE. LTD. No 9, Tuas Drive 2 Jurong Industrial Estate Singapore 638644	Tel. +65 68621701 Fax +65 68612827 http://www.sew-eurodrive.com.sg sewsingapore@sew-eurodrive.com
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Slovakia

Sales	Bratislava	SEW-Eurodrive SK s.r.o. Rybničná 40 831 06 Bratislava	Tel. +421 2 33595 202, 217, 201 Fax +421 2 33595 200 http://www.sew-eurodrive.sk sew@sew-eurodrive.sk
	Košice	SEW-Eurodrive SK s.r.o. Slovenská ulica 26 040 01 Košice	Tel. +421 55 671 2245 Fax +421 55 671 2254 Mobile +421 907 671 976 sew@sew-eurodrive.sk

Slovenia

Sales Service	Celje	Pakman - Pogonska Tehnika d.o.o. Ul. XIV. divizije 14 3000 Celje	Tel. +386 3 490 83-20 Fax +386 3 490 83-21 pakman@siol.net
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South Africa

Assembly Sales Service	Johannesburg	SEW-EURODRIVE (PROPRIETARY) LIMITED Eurodrive House Cnr. Adcock Ingram and Aerodrome Roads Aeroton Ext. 2 Johannesburg 2013 P.O.Box 90004 Bertsham 2013	Tel. +27 11 248-7000 Fax +27 11 248-7289 http://www.sew.co.za info@sew.co.za
	Cape Town	SEW-EURODRIVE (PROPRIETARY) LIMITED Rainbow Park Cnr. Racecourse & Omuramba Road Montague Gardens Cape Town P.O.Box 36556 Chempet 7442	Tel. +27 21 552-9820 Fax +27 21 552-9830 Telex 576 062 bgriffiths@sew.co.za
	Durban	SEW-EURODRIVE (PROPRIETARY) LIMITED 48 Prospecton Road Isipingo Durban P.O. Box 10433, Ashwood 3605	Tel. +27 31 902 3815 Fax +27 31 902 3826 cdejager@sew.co.za
	Nelspruit	SEW-EURODRIVE (PROPRIETARY) LIMITED 7 Christie Crescent Vintonia P.O.Box 1942 Nelspruit 1200	Tel. +27 13 752-8007 Fax +27 13 752-8008 robermeyer@sew.co.za

South Korea

Assembly Sales Service	Ansan	SEW-EURODRIVE KOREA CO., LTD. 7, Dangjaengi-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Zip 425-839	Tel. +82 31 492-8051 Fax +82 31 492-8056 http://www.sew-eurodrive.kr master.korea@sew-eurodrive.com
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South Korea

Busan	SEW-EURODRIVE KOREA CO., LTD. 28, Noksansandan 262-ro 50beon-gil, Gangseo-gu, Busan, Zip 618-820	Tel. +82 51 832-0204 Fax +82 51 832-0230
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Spain

Assembly Sales Service	Bilbao	SEW-EURODRIVE ESPAÑA, S.L. Parque Tecnológico, Edificio, 302 48170 Zamudio (Vizcaya)	Tel. +34 94 43184-70 Fax +34 94 43184-71 http://www.sew-eurodrive.es sew.spain@sew-eurodrive.es
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Sri Lanka

Sales	Colombo	SM International (Pte) Ltd 254, Galle Raod Colombo 4, Sri Lanka	Tel. +94 1 2584887 Fax +94 1 2582981
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Swaziland

Sales	Manzini	C G Trading Co. (Pty) Ltd PO Box 2960 Manzini M200	Tel. +268 2 518 6343 Fax +268 2 518 5033 engineering@cgtrading.co.sz
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Sweden

Assembly Sales Service	Jönköping	SEW-EURODRIVE AB Gnejsvägen 6-8 553 03 Jönköping Box 3100 S-550 03 Jönköping	Tel. +46 36 34 42 00 Fax +46 36 34 42 80 http://www.sew-eurodrive.se jonkoping@sew.se
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Switzerland

Assembly Sales Service	Basel	Alfred Imhof A.G. Jurastrasse 10 4142 Münchenstein bei Basel	Tel. +41 61 417 1717 Fax +41 61 417 1700 http://www.imhof-sew.ch info@imhof-sew.ch
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Taiwan

Sales	Taipei	Ting Shou Trading Co., Ltd. 6F-3, No. 267, Sec. 2 Tung Huw S. Road Taipei	Tel. +886 2 27383535 Fax +886 2 27368268 Telex 27 245 sewtwn@ms63.hinet.net http://www.tingshou.com.tw
	Nan Tou	Ting Shou Trading Co., Ltd. No. 55 Kung Yeh N. Road Industrial District Nan Tou 540	Tel. +886 49 255353 Fax +886 49 257878 sewtwn@ms63.hinet.net http://www.tingshou.com.tw

Tanzania

Sales	Daressalam	SEW-EURODRIVE PTY LIMITED TANZANIA Plot 52, Regent Estate PO Box 106274 Dar Es Salaam	Tel. +255 0 22 277 5780 Fax +255 0 22 277 5788 http://www.sew-eurodrive.co.tz info@sew.co.tz
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Thailand

Assembly Sales Service	Chonburi	SEW-EURODRIVE (Thailand) Ltd. 700/456, Moo.7, Donhuaroh Muang Chonburi 20000	Tel. +66 38 454281 Fax +66 38 454288 sewthailand@sew-eurodrive.com
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Tunisia

Sales	Tunis	T. M.S. Technic Marketing Service Zone Industrielle Mghira 2 Lot No. 39 2082 Fouchana	Tel. +216 79 40 88 77 Fax +216 79 40 88 66 http://www.tms.com.tn tms@tms.com.tn
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Turkey

Assembly Sales Service	Kocaeli-Gebze	SEW-EURODRIVE Hareket Sistemleri San. Ve TIC. Ltd. Sti Gebze Organize Sanayi Böl. 400 Sok No. 401 41480 Gebze Kocaeli	Tel. +90 262 9991000 04 Fax +90 262 9991009 http://www.sew-eurodrive.com.tr sew@sew-eurodrive.com.tr
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Ukraine			
Assembly Sales Service	Dnipropetrovsk	ООО «СЕВ-Евродрайв» ул. Рабочая, 23-В, офис 409 49008 Днеп	Tel. +380 56 370 3211 Fax +380 56 372 2078 http://www.sew-eurodrive.ua sew@sew-eurodrive.ua
Uruguay			
Assembly Sales	Montevideo	SEW-EURODRIVE Uruguay, S. A. Jose Serrato 3569 Esquina Corumbe CP 12000 Montevideo	Tel. +598 2 21181-89 Fax +598 2 21181-90 sewuy@sew-eurodrive.com.uy
USA			
Production Assembly Sales Service	Southeast Region	SEW-EURODRIVE INC. 1295 Old Spartanburg Highway P.O. Box 518 Lyman, S.C. 29365	Tel. +1 864 439-7537 Fax Sales +1 864 439-7830 Fax Production +1 864 439-9948 Fax Assembly +1 864 439-0566 Fax Confidential/HR +1 864 949-5557 http://www.seweurodrive.com cslyman@seweurodrive.com
Assembly Sales Service	Northeast Region	SEW-EURODRIVE INC. Pureland Ind. Complex 2107 High Hill Road, P.O. Box 481 Bridgeport, New Jersey 08014	Tel. +1 856 467-2277 Fax +1 856 845-3179 csbridgeport@seweurodrive.com
	Midwest Region	SEW-EURODRIVE INC. 2001 West Main Street Troy, Ohio 45373	Tel. +1 937 335-0036 Fax +1 937 332-0038 cstroy@seweurodrive.com
	Southwest Region	SEW-EURODRIVE INC. 3950 Platinum Way Dallas, Texas 75237	Tel. +1 214 330-4824 Fax +1 214 330-4724 csdallas@seweurodrive.com
	Western Region	SEW-EURODRIVE INC. 30599 San Antonio St. Hayward, CA 94544	Tel. +1 510 487-3560 Fax +1 510 487-6433 cshayward@seweurodrive.com
	Wellford	SEW-EURODRIVE INC. 148/150 Finch Rd. Wellford, S.C. 29385	IGLogistics@seweurodrive.com
Additional addresses for service provided on request!			
Uzbekistan			
Technical Office	Tashkent	SEW-EURODRIVE LLP Representative office in Uzbekistan 96A, Sharaf Rashidov street, Tashkent, 100084	Tel. +998 71 2359411 Fax +998 71 2359412 http://www.sew-eurodrive.uz sew@sew-eurodrive.uz
Vietnam			
Sales	Ho Chi Minh City	Nam Trung Co., Ltd Huế - South Vietnam / Construction Materials 250 Binh Duong Avenue, Thu Dau Mot Town, Binh Duong Province HCM office: 91 Tran Minh Quyen Street District 10, Ho Chi Minh City	Tel. +84 8 8301026 Fax +84 8 8392223 khanh-nguyen@namtrung.com.vn http://www.namtrung.com.vn
	Hanoi	MICO LTD Quảng Trị - North Vietnam / All sectors except Construction Materials 8th Floor, Ocean Park Building, 01 Dao Duy Anh St, Ha Noi, Viet Nam	Tel. +84 4 39386666 Fax +84 4 3938 6888 nam_ph@micogroup.com.vn http://www.micogroup.com.vn

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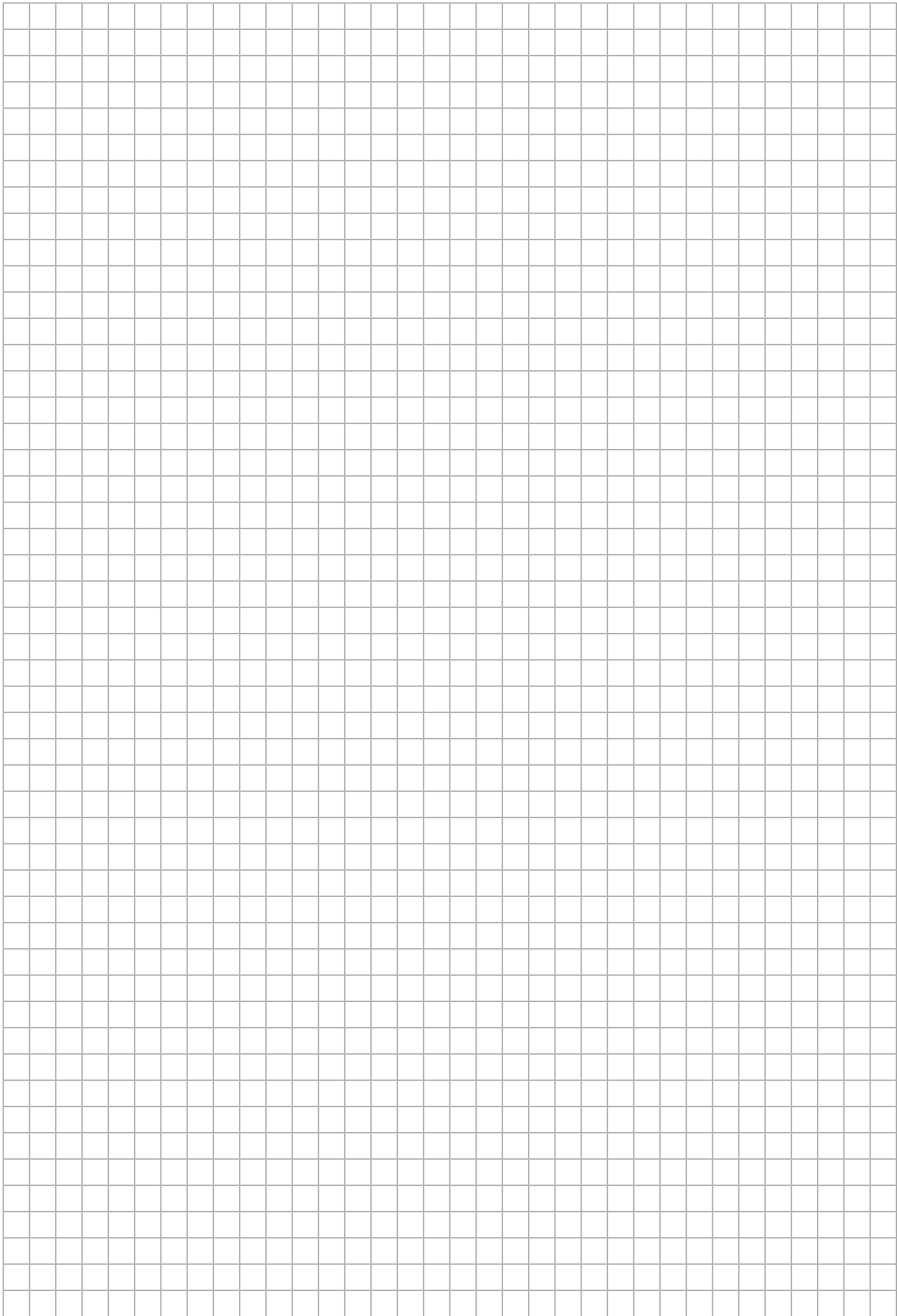
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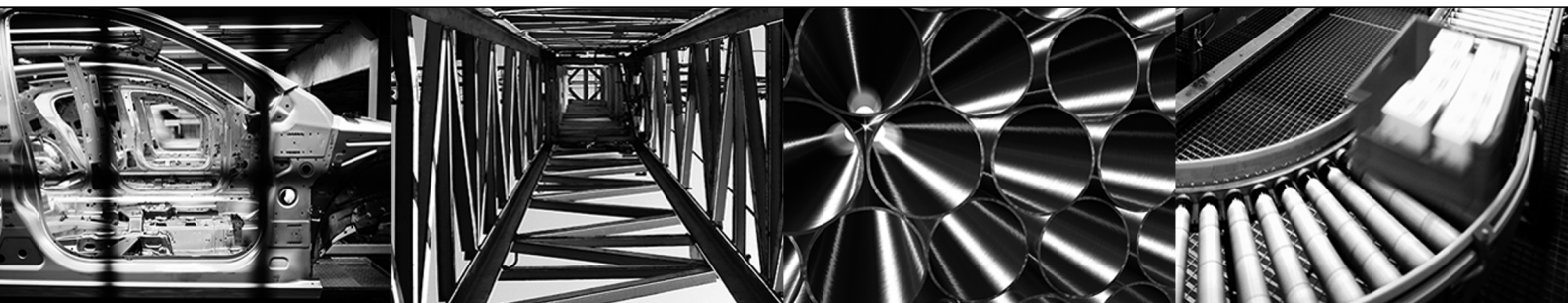
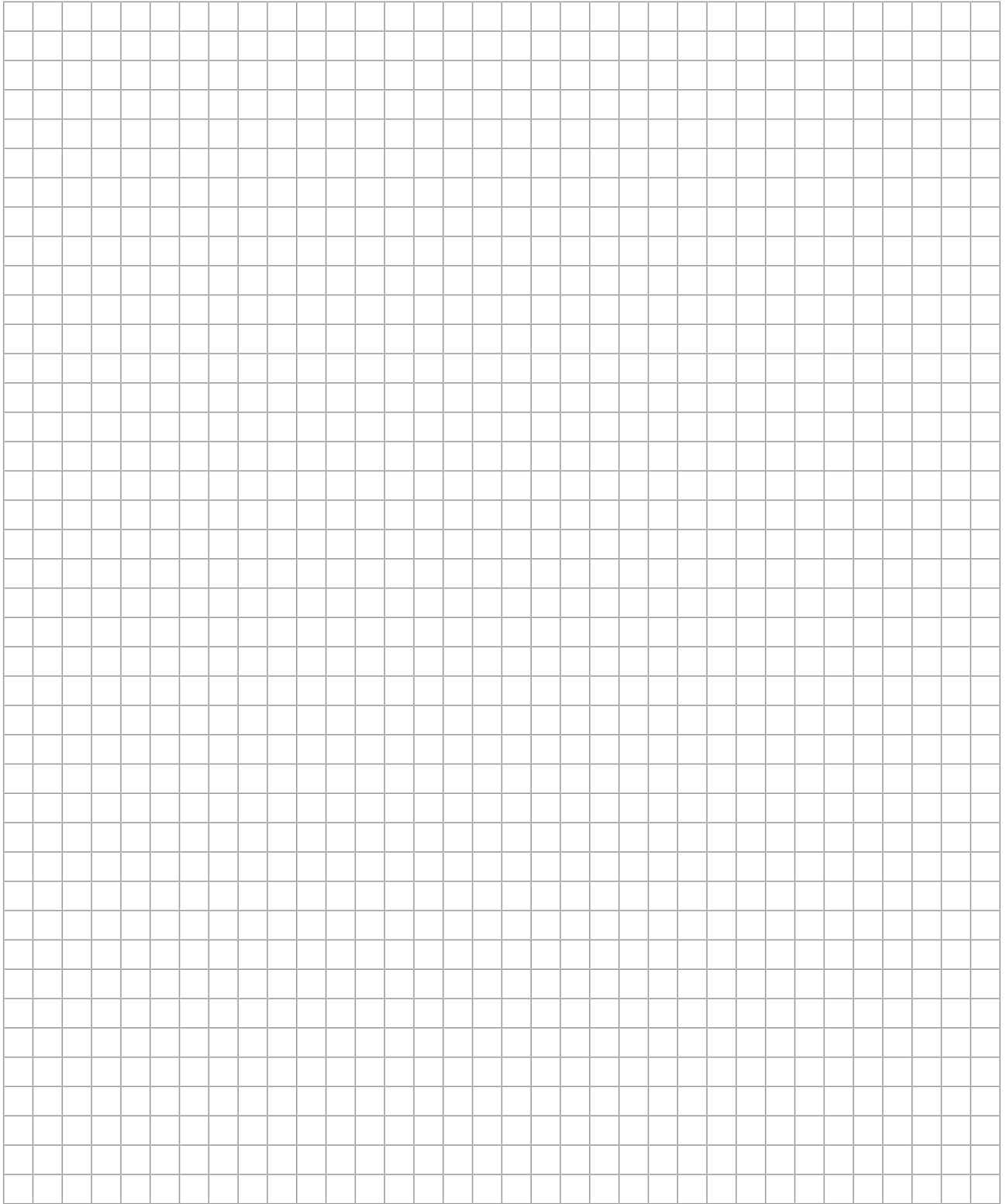
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SEW-EURODRIVE
Driving the world

SEW
EURODRIVE

SEW-EURODRIVE GmbH & Co KG
P.O. Box 3023
76642 BRUCHSAL
GERMANY
Phone +49 7251 75-0
Fax +49 7251 75-1970
sew@sew-eurodrive.com
→ www.sew-eurodrive.com