



SEW
EURODRIVE

Addendum to the Operating Instructions



MOVIFIT® FC
Special Design Dual-Motor Operation



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1 General information

1.1 Structure of the safety notes

1.1.1 Meaning of signal words

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

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

1.1.2 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.

1.1.3 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.

1.2 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.

1.3 Other applicable documentation

- This additional information does not replace the detailed operating instructions or the manual.
- Installation and startup only by trained personnel observing the relevant accident prevention regulations and the following publications:
 - "MOVIFIT® FC" operating instructions
and
 - "MOVIFIT® – Functional Safety" manual
and
 - "MOVIFIT® Function Level Classic ..." manual
or
 - "MOVIFIT® Function Level Technology ..." manual

2 Device structure

2.1 Special design "MOVIFIT® FC for dual-motor operation"

INFORMATION

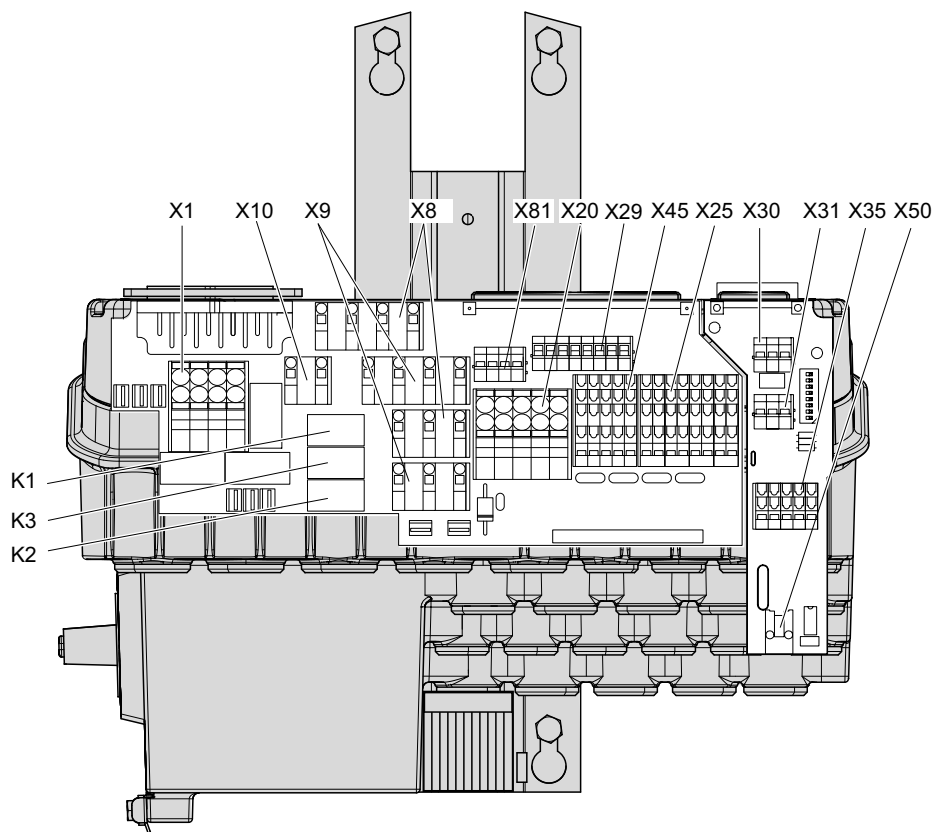


This special design "MTA...-S...-30." comprises the following changes to the ABOX compared to the standard design:

Results

- Modified connection assignment of the ABOX.
- 1 TH thermostat each can be connected to all motors.
- As an alternative, 1 TF temperature sensor can be connected to a maximum of 2 motors.
- Integrated K1/K2/K3 relay for switching between drive 1 and drive 2. The relays have a service life of **3 000 000 switching cycles**. The relays have to be replaced after that.
- The digital output DB00 is not available.
- **This special design is not allowed for hoist operation.**

The following figure shows the connection board of the special design "MOVIFIT® FC for dual-motor operation":



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2.1.1 ABOX type designation

The following table shows the type designation of the special design ABOX of MOVIFIT® FC:

MT	Series	MT = MOVIFIT®
A	Device type	A = ABOX (connection box)
11	Series	11 = Standard (IP65) 12 = Hygienic ^{plus} (IP69K)
A	Version A	
-		
50	Connection voltage	50 = AC 380 – 500 V
3	Connection type	3 = 3-phase
-		
S52	Connection configuration	S02 = Standard ABOX with terminals and cable entries S42 = Hybrid ABOX with M12 for I/Os S52 = Hybrid ABOX with M12 for I/Os + bus S62 = Hybrid ABOX with M12 for I/Os and push-pull RJ45 for bus
3	Fieldbus	1 = PROFIBUS 2 = DeviceNet™ 3 = EtherNet/IP™, PROFINET IO, Modbus TCP
-		
D01	Maintenance switch	D01 = Load disconnecter M11 = Load disconnecter and line protection up to 4 A ¹⁾ M12 = Load disconnecter and line protection up to 9 A ²⁾
-		
30	ABOX design	30 = Special design dual-motor operation
/		
BW2	ABOX option 1	BW1/BW2 = Integrated braking resistor
/		
M11	ABOX option 2	M11 = Stainless steel mounting rail

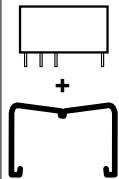
1) Only available in connection with UL.

2.1.2 Accessories

The following accessories are required for replacing faulty relays.

The relays can also be replaced during maintenance to increase system availability.

The accessories are available from SEW-EURODRIVE.

Type	Figure	Content	Part number
Switching relay including support bracket		3 pieces	18217478
		30 pieces	18217486

3 Electrical installation

INFORMATION



- The following section describes the modified connection assignment of the ABOX.
- For the terminal assignment of all terminals that are not described here, refer to the "MOVIFIT® FC" operating instructions.
- Observe the "MOVIFIT® FC" operating instructions, in particular the safety and warning notes.

3.1 Terminal assignment



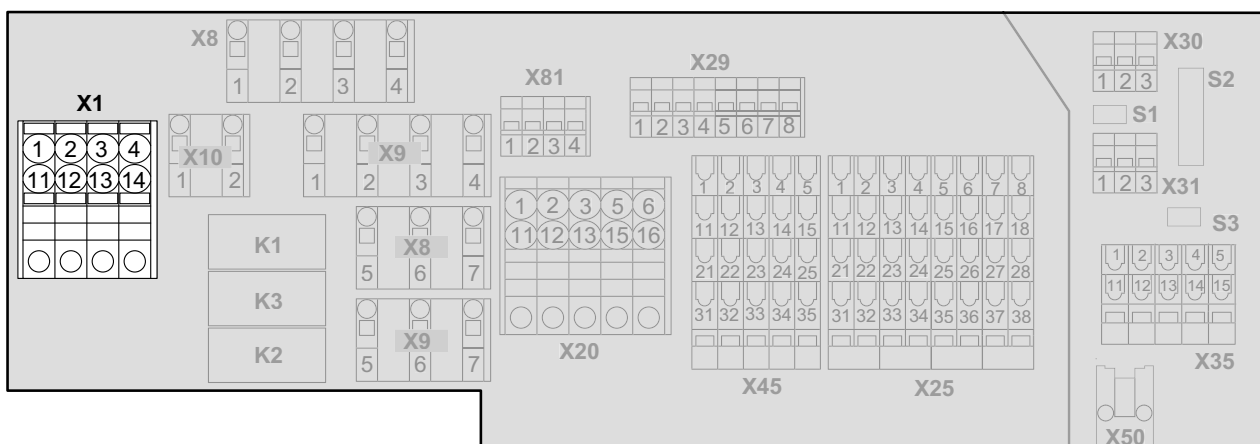
⚠ WARNING

Electric shock due to dangerous voltages in the ABOX.

The maintenance switch only disconnects the integrated frequency inverter from the power supply. Voltage is still present at the terminals of MOVIFIT®.

- Switch off the power to the MOVIFIT® device using a suitable external disconnecting device, and wait at least 1 minute before opening the wiring space.

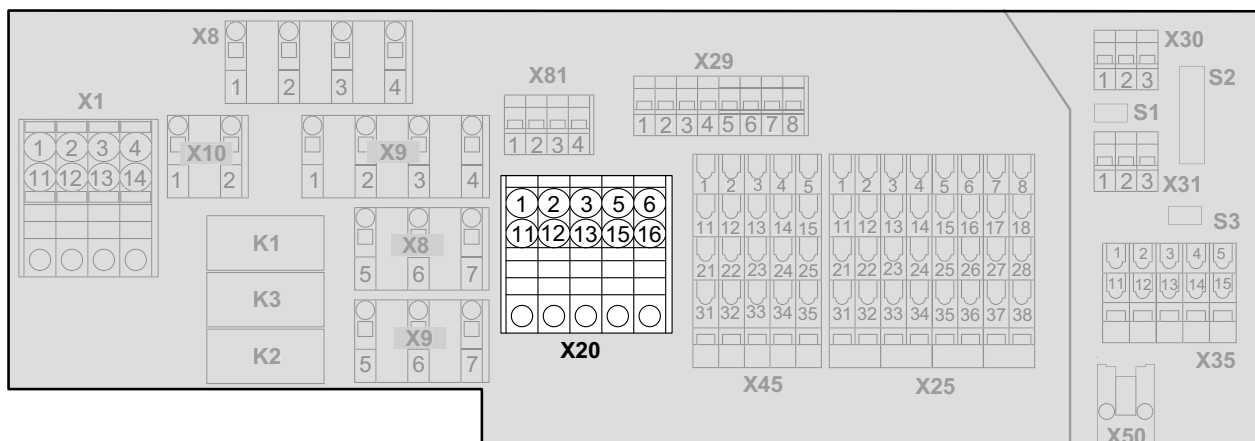
3.1.1 X1: Line terminals (power bus)



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Line terminal (power bus)			
No.		Name	Function
X1	1	PE	Line connection PE (IN)
	2	L1	Line connection phase L1 (IN)
	3	L2	Line connection phase L2 (IN)
	4	L3	Line connection phase L3 (IN)
	11	PE	Line connection PE (OUT)
	12	L1	Line connection phase L1 (OUT)
	13	L2	Line connection phase L2 (OUT)
	14	L3	Line connection phase L3 (OUT)

3.1.2 X20: 24 V supply terminal (24 V power bus)

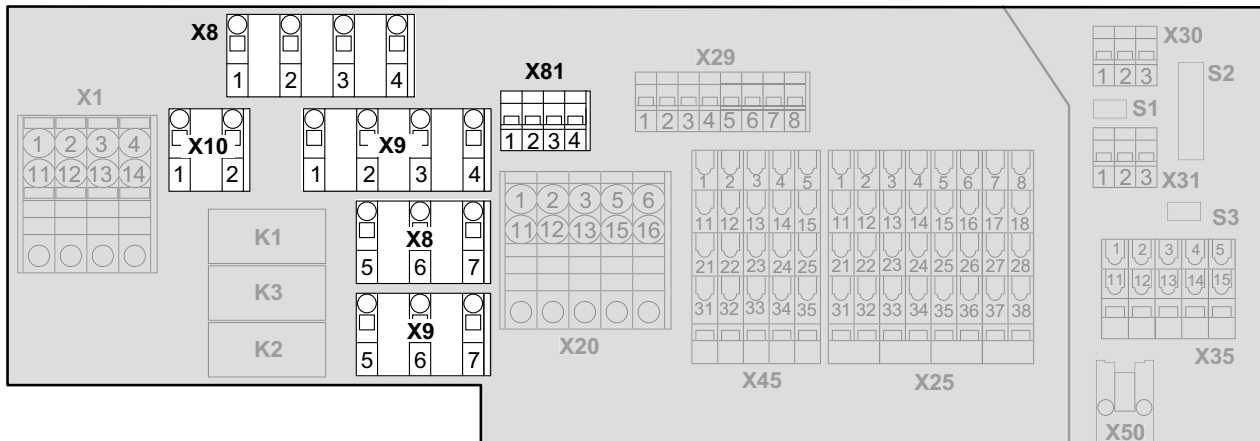


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24 V supply terminal (24 V power bus)

No.	Name	Function
X20	1	FE Functional earth (IN)
	2	+24V_C +24 V continuous voltage supply (IN)
	3	0V24_C 0V24 reference potential – continuous voltage (IN)
	5	+24V_S +24 V supply – switched (IN)
	6	0V24_S 0V24 reference potential – switched (IN)
	11	FE Functional earth (OUT)
	12	+24V_C +24 V continuous voltage supply (OUT)
	13	0V24_C 0V24 reference potential – continuous voltage (OUT)
	15	+24V_S +24 V supply - switched (OUT)
	16	0V24_S 0V24 reference potential – switched (OUT)

3.1.3 X8, X81, X9 and X10: Motor terminals, braking resistor



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Connecting 2 motors

Motor terminal (connection via hybrid cable)			
No.	Name	Function	
X8	1	PE	Motor 1 PE connection
	2	U	Output motor 1 phase U
	3	V	Output motor 1 phase V
	4	W	Output motor 1 phase W
	5	15	Connection for SEW brake motor 1 terminal 15 (blue)
	6	14	Connection for SEW brake motor 1 terminal 14 (white)
	7	13	Connection for SEW brake motor 1 terminal 13 (red)
X9	1	PE	Motor 2 PE connection
	2	U	Output motor 2 phase U
	3	V	Output motor 2 phase V
	4	W	Output motor 2 phase W
	5	15	Connection for SEW brake motor 2 terminal 15 (blue)
	6	14	Connection for SEW brake motor 2 terminal 14 (white)
	7	13	Connection for SEW brake motor 2 terminal 13 (red)
X81	1	TH+	Connection for temperature sensor TH/TF (+) motor 1
	2	TH	Connection for temperature sensor TH/TF (-) motor 1
	3	TH+	Connection for temperature sensor TH/TF (+) motor 2
	4	TH	Connection for temperature sensor TH/TF (-) motor 2
X10	1	-R	Braking resistor connection -R
	2	+R	Braking resistor connection +R

Connecting only 1 motor

If you operate only one motor with the MOVIFIT® FC dual-motor operation special design, connect the motor to terminals X8 and X81 of the ABOX.

Motor terminal (connection via hybrid cable)			
No.		Name	Function
X8	1	PE	Motor 1 PE connection
	2	U	Output motor 1 phase U
	3	V	Output motor 1 phase V
	4	W	Output motor 1 phase W
	5	15	Connection for SEW brake motor 1 terminal 15 (blue)
	6	14	Connection for SEW brake motor 1 terminal 14 (white)
	7	13	Connection for SEW brake motor 1 terminal 13 (red)
X81	1	TH+	Connection for temperature sensor TH/TF (+) motor 1
	2	TH	Connection for temperature sensor TH/TF (-) motor 1
	3	TH+	Jumpered with X81/4
	4	TH	Jumpered with X81/3
X10	1	-R	Braking resistor connection -R
	2	+R	Braking resistor connection +R

Jumper the terminal X81/3 with terminal X81/4.

3.1.4 X29: 24V distributor terminal

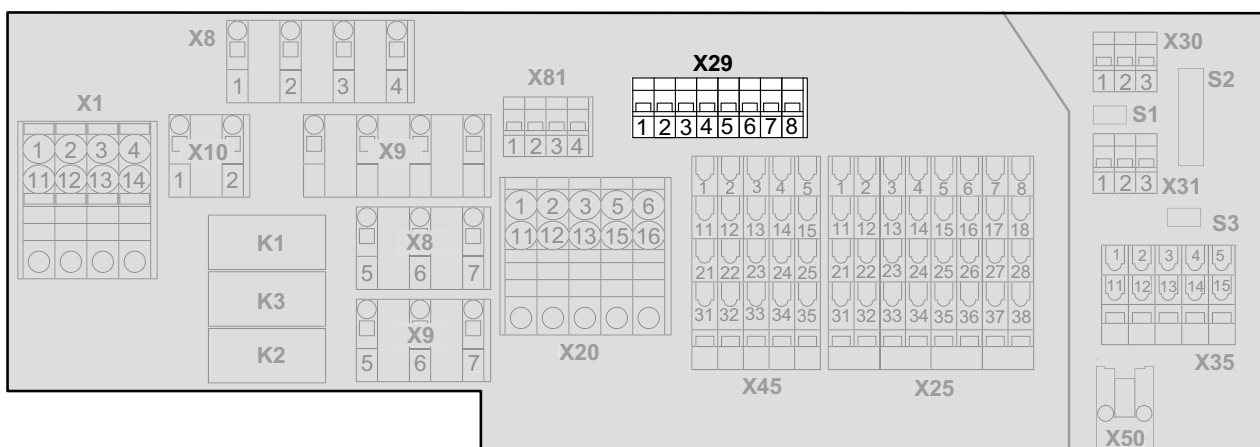
▲ WARNING



Danger through unexpected device behavior. When you use terminals X29/5, X29/6 for safe disconnection, you must observe the "MOVIFIT® MC/FC – Functional Safety" manual.

Severe or fatal injuries.

- If you use MOVIFIT® with the PROFIsafe option S11, observe the permissible wiring diagrams as well as the safety conditions specified in the "MOVIFIT® MC/FC – Functional Safety" manual.
- If you use MOVIFIT® with the safety option S12, observe the permissible wiring diagrams as well as the safety conditions specified in the "MOVIFIT® MC/FC – Functional Safety with Safety Option S12" manual.



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24 V distributor terminal			
(For distributing the supply voltage(s) to the integrated inverter and the option card)			
No.	Name	Function	
X29	1	+24V_C	+24 V supply for digital inputs – continuous voltage (jumped with X20/2)
	2	0V24_C	0V24 reference potential for digital inputs - continuous voltage (jumped with X20/3)
	3	+24V_S	+24 V supply for digital outputs – switched (jumped with X20/5)
	4	0V24_S	0V24 reference potential for digital outputs – switched (jumped with X20/6)
	5	+24V_P	+24 V supply for integrated frequency inverter (IN)
	6	0V24_P	0V24 reference potential for integrated frequency inverter (IN)
	7	+24V_O	+24 V supply for option card, supply
	8	0V24_O	0V24 reference potential for the option card, supply

3.2 Replacing switching relays



⚠ WARNING

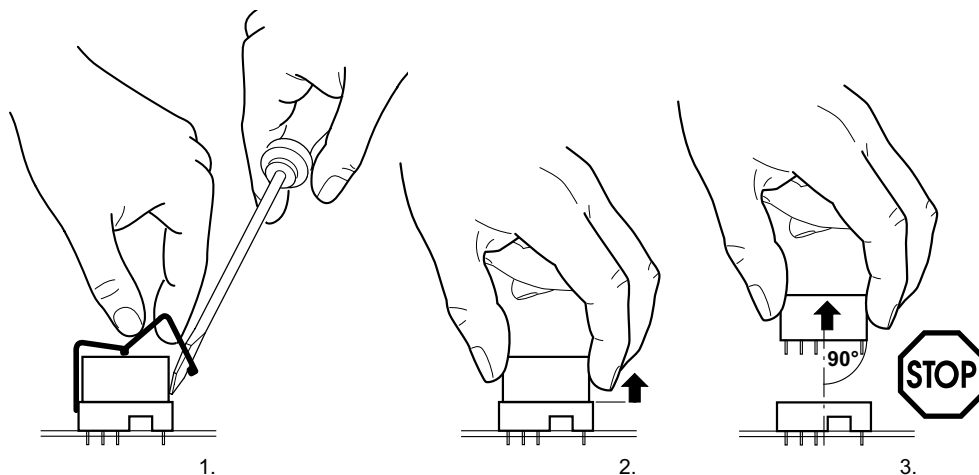
Electric shock due to dangerous voltages in the ABOX.

Severe or fatal injuries.

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

You can replace the K1, K2 or K3 switching relays as follows:

1. Remove the support brackets of the relay.
2. Carefully remove the relay in upward direction.
3. **NOTICE!** Damage to the base and its contacts.
Make sure you do not tilt the relay.



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4. Replace the faulty relay by the new one and install the parts in reverse order.
 - ⇒ Make sure you do not damage the new relay when inserting it.

INFORMATION



SEW-EURODRIVE recommends to replace all 3 relays to increase system availability.

4 Startup

4.1 Startup procedure for MOVIFIT® FC

⚠ WARNING



Danger due to improper safety shutdown in applications with safe disconnection.

Severe or fatal injuries.

- If you use MOVIFIT® with the PROFIsafe option S11, observe the permissible wiring diagrams as well as the safety conditions specified in the "MOVIFIT® MC/FC – Functional Safety" manual.
- If you use MOVIFIT® with the safety option S12, observe the permissible wiring diagrams as well as the safety conditions specified in the "MOVIFIT® MC/FC – Functional Safety with Safety Option S12" manual.

The following chapters describes the motor startup of the MOVIFIT® FC special design.

Also observe the documents in the following table:

[1]		Motor startup	<p>→ For information, refer to:</p> <ul style="list-style-type: none"> • "DR.71 – 315 AC Motors" operating instructions • or "DR/DV/DT/DTE/DVE AC Motors, CT/CV Asynchronous Servomotors" operating instructions
[2]		MOVIFIT® startup	<p>→ For information, refer to:</p> <ul style="list-style-type: none"> • "MOVIFIT® FC" operating instructions
[3]		Parameteriza- tion ¹⁾ Programming with MOVITOOLS® MotionStudio	<p>→ For information, refer to:</p> <ul style="list-style-type: none"> • "MOVIFIT Function Level Classic .." manual²⁾ • "MOVIFIT Function Level Technology .." manual²⁾ • "MOVI-PLC® Programming in the PLC Editor" manual • "MPLCMotion_MC07 and MPLCMotion_MM Libraries for MOVI-PLC®" manual
[4]		Fieldbus configuration	<p>→ For information, refer to:</p> <ul style="list-style-type: none"> • "MOVIFIT® FC" operating instructions, chapter: "Startup of MOVIFIT® on the fieldbus" • "MOVIFIT Function Level Classic .." manual²⁾ • "MOVIFIT Function Level Technology .." manual²⁾

1) Parameters can only be set in "Expert mode".

2) The "MOVIFIT® Function Level Classic" and "MOVIFIT® Function Level Technology" manuals are available in several fieldbus-specific variants.

4.2 Preparations

4.2.1 MOVITOOLS® Motion Studio

MOVITOOLS® MotionStudio is the universal engineering tool that you can use to access all SEW-EURODRIVE drive units. With simple applications, you can use MOVITOOLS® MotionStudio to perform diagnostics for the MOVIFIT® device family. For more demanding applications, you can use the wizards available in MOVITOOLS® MotionStudio to startup, configure and program MOVIFIT® devices.

MOVITOOLS® MotionStudio can communicate with the drive units using different communication and fieldbus systems.

The most simple application for connecting a PC/laptop and a MOVIFIT® device via the diagnostics interface (serial RS485) (point-to-point connection) is described in the following section.

4.2.2 Preparations on MOVIFIT®

1. Always follow the safety and warning instructions in the relevant operating instructions when working on MOVIFIT® devices.
2. Install the latest software version of MOVITOOLS® MotionStudio (version 5.6.0 or later) on your PC/laptop.
3. Set DIP switch S10/1 to "ON" (activating "Expert mode")

S10



4.2.3 Connecting a PC/laptop

The following figure shows the connection of a PC/laptop to the diagnostic interface X50 of MOVIFIT®:

The diagnostic interface is located under the screw plug shown in the following figure.

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

⚠ WARNING!

Risk of burns due to hot surfaces of the MOVIFIT® or external options, e.g. braking resistor.

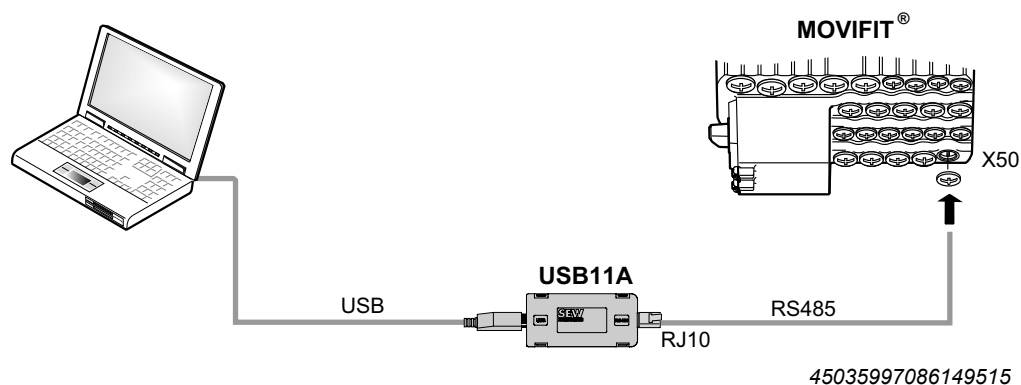
Serious injuries.

- Do not touch the MOVIFIT® unit and external options until they have cooled down sufficiently.

The diagnostic interface can be connected to a commercially available PC/laptop via the USB11A interface adapter (part number: 08.248.311).

Scope of delivery:

- USB11A interface adapter
- Cable with RJ10 plug connector
- USB interface cable



4.2.4 Integrating MOVIMOT® into MOVITOOLS® MotionStudio

Starting the software and creating the 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 communication and scanning the network

To establish communication with MOVITOOLS® MotionStudio and to scan the network, proceed as follows:

1. Set up a communication channel to communicate with your devices.
 - ⇒ For detailed information on how to configure a communication channel, see the section regarding the relevant communication type.
2. Scan your network (unit scan). In the toolbar, click the [Scan] button [1].



[1]

3. Select the device you want to configure.
4. Right-click to open the context menu.

The context menu shows the device-specific tools for performing the functions of the devices. These tools include:

- Bus monitor
- Startup
- Parameter setting

4.3 Motor/brake startup with MOVIFIT® FC

INFORMATION



Expert mode (S10/1 = "ON") must be active for the following motor/brake startup procedure.

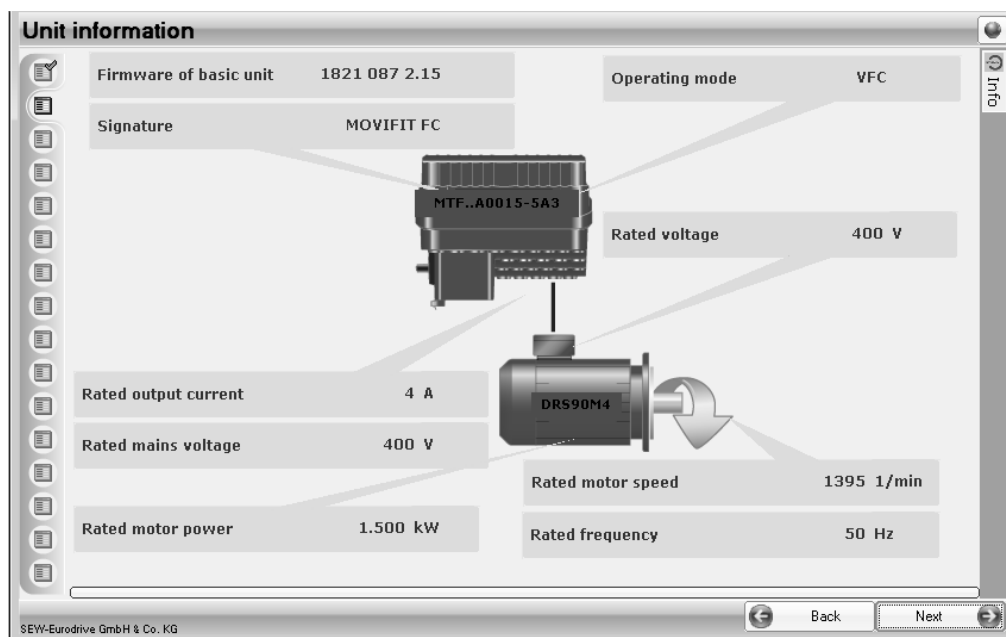
4.3.1 Starting up drive 1

1. Select the startup tool MOVITOOLS® MotionStudio (see chapter Integrating "MOVIFIT® into MOVITOOLS® MotionStudio").
⇒ The window for selecting the parameter set appears.
2. Select parameter set 1 for drive 1.



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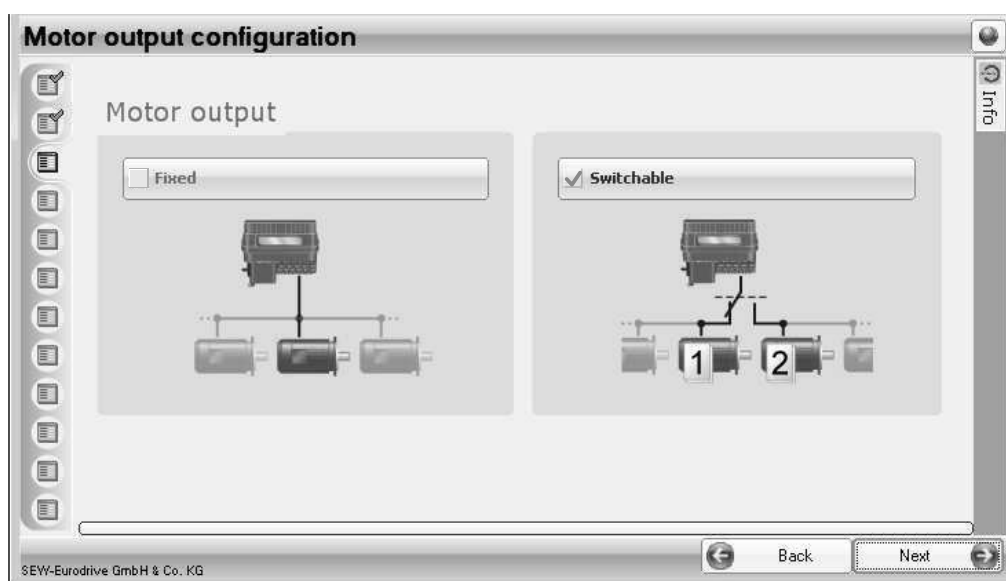
3. After you have selected the parameter set, the startup tool displays an overview displaying the current device information (display values only):



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4. Select the configuration of the motor output:

⇒ Activate the "Switchable" check box.



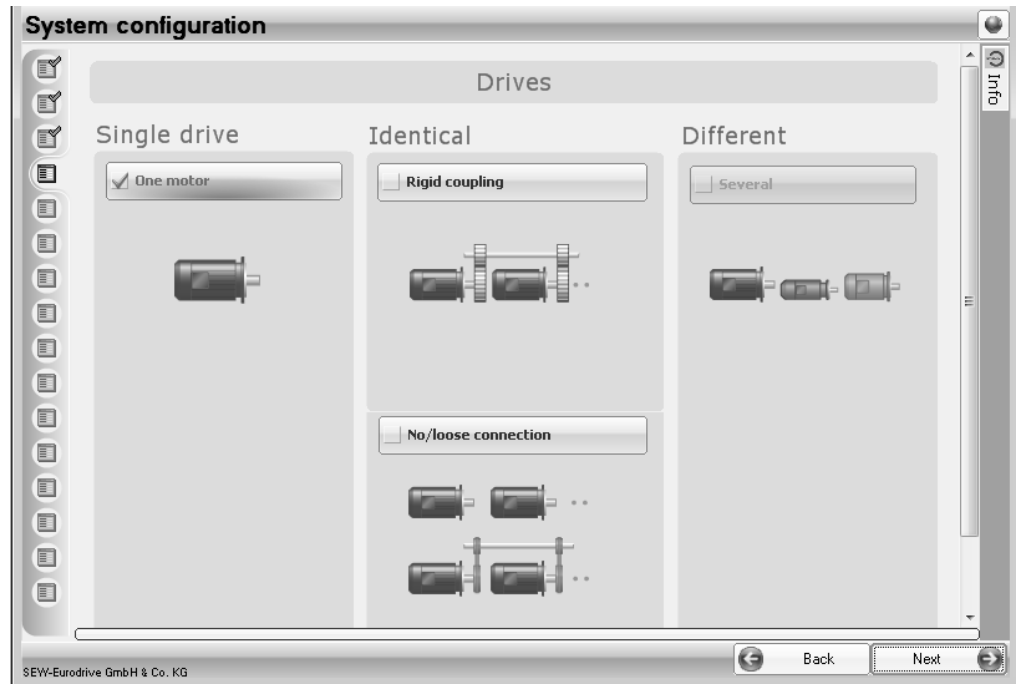
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INFORMATION

If only 1 motor is installed, activate the "Switchable" check box as well.

5. Choose the system configuration:



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- ⇒ When selecting "One motor", MOVIFIT® FC controls a single motor.
- ⇒ When selecting "Rigid coupling", MOVIFIT® FC controls several motors with the same power with rigidly coupled axes.
- ⇒ When selecting "No/loose connection", MOVIFIT® FC controls several motors with the same power but with loose or no coupling.

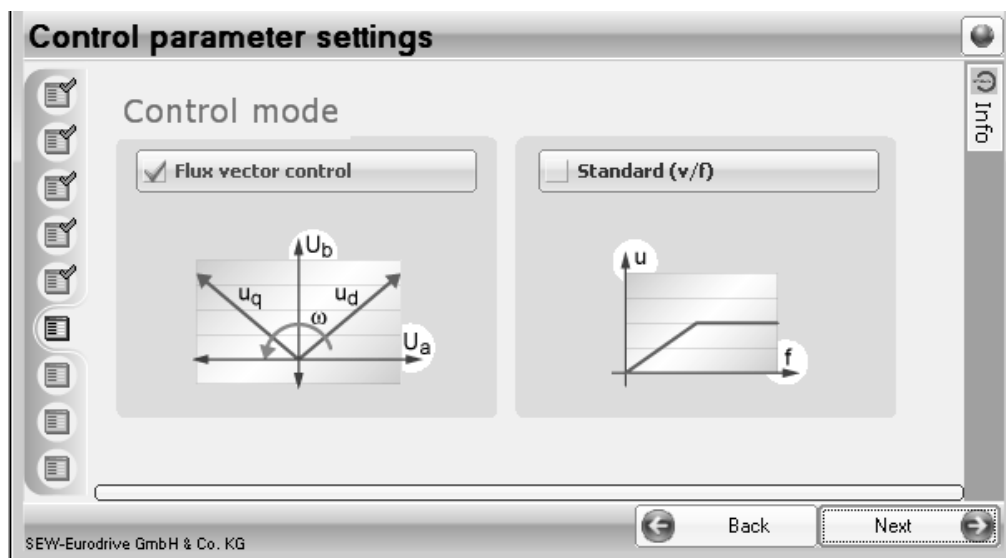
INFORMATION



When selecting "Rigid coupling" or "No/loose coupling", you have to select the alternative brake control "via constant voltage" in the "Brake" menu.

"Different" is not possible for MOVIFIT® devices.

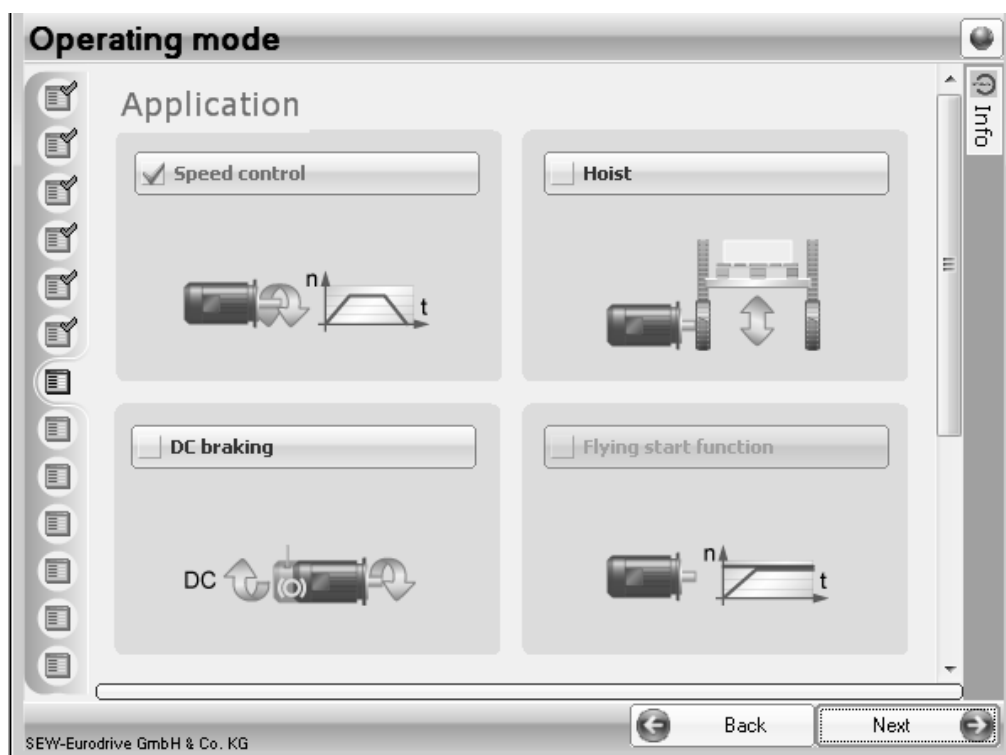
6. Select the controller procedure:



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- ⇒ The vector-controlled operating mode (VFC) is adapted for use with SEW-EURODRIVE motors.
- ⇒ You can select the operating mode V/f characteristic curve for third-party motors if VFC operation does not lead to sufficient results.

7. Select the operating mode:



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- ⇒ Speed control
- ⇒ DC braking

INFORMATION



Selecting the "Hoist" operating mode is not possible.

The operating mode "DC braking" is used to decelerate a drive without giving off regenerative energy to a connected three-wire brake coil from SEW-EURODRIVE or a braking resistor. In this mode, the energy released during the braking process is converted to heat losses in the motor.

8. Choose the connected motor.

Motor type

Standard motors

DR DT DV DAS ED DZ DX

DRS DRE DRP DRN IEC CSA NEMA JEC BRASIL

Explosion-proof standard motors

EX IEC SP

EDR: ATEX EDR: IEC-EX EDR: Hazloc-NA

DR...J synchronous motors (LSPM technology)

LSPM

DRE J DRP J DRU J

Non-SEW motors

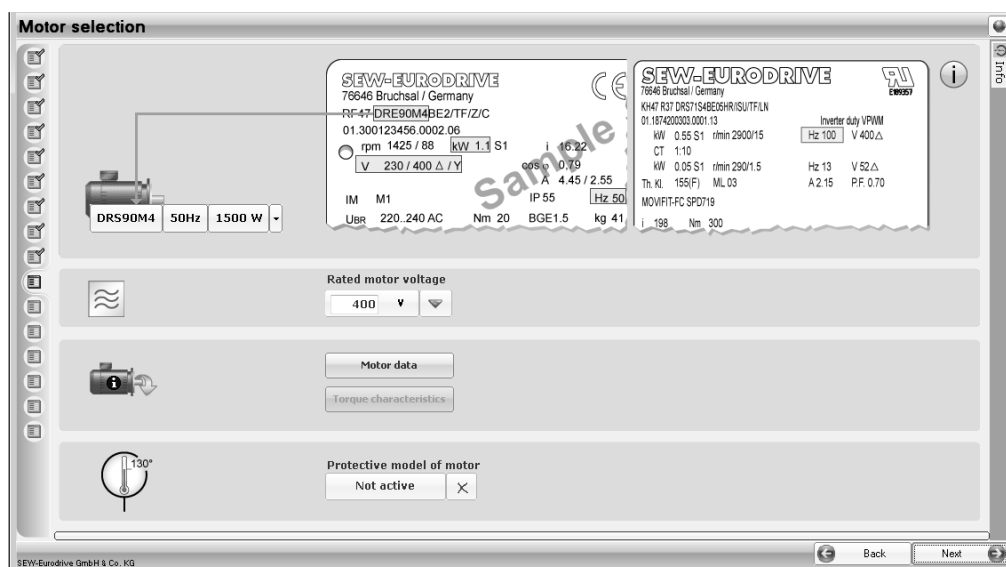
Measure

SEW-Eurodrive GmbH & Co. KG

Back Next

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Standard motors



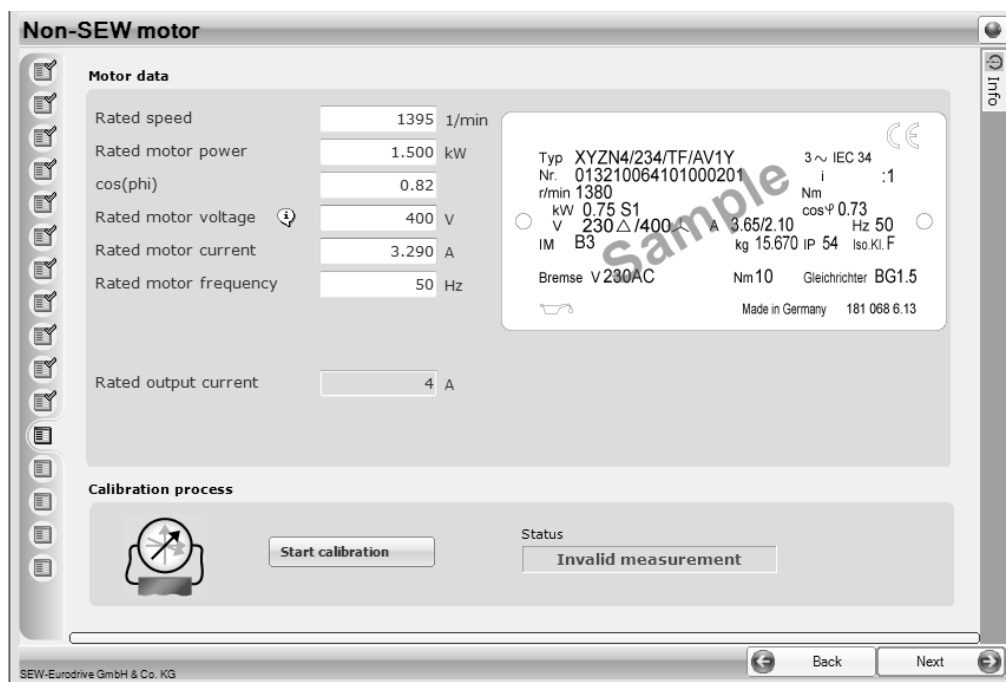
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If selecting an SEW-EURODRIVE standard motor, select:

- the motor type
- the nominal motor voltage (according to the connection type "star" or "delta")
- and the rated motor frequency

You find the corresponding information on the nameplate of the motor.

Non-SEW motors



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With third-party motors, you have to provide additional motor data which you will find on the motor nameplate.



⚠ WARNING

Danger due to dangerous voltages in the terminal box of the connected drive during calibration.

Severe or fatal injuries.

- Ensure that the connection box of the motor is closed before starting calibration.

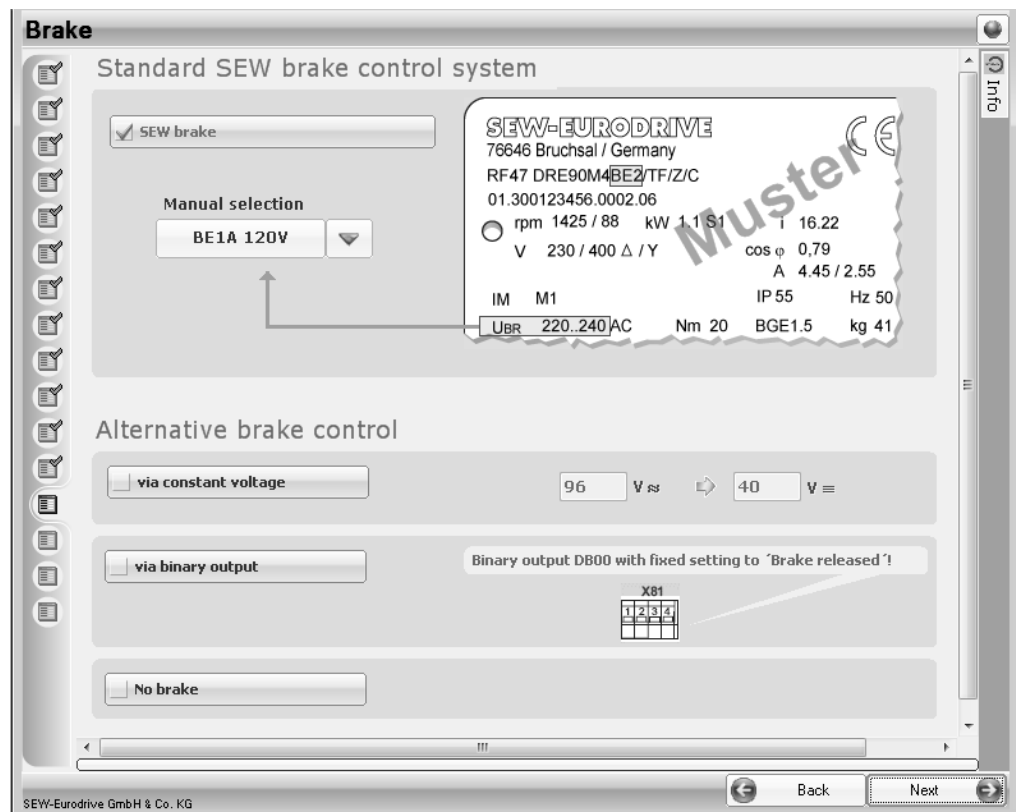
You must start a calibration process to determine additional motor parameters.

Before starting calibration, make sure that:

- The motor is connected.
- The line voltage is applied.
- The device is ready for operation.

Start calibration by clicking [Start calibration].

9. Select the connected brake (only for a brakemotor).



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Standard brake
control from
SEW-EURODRIVE

If the motor is equipped with the brake intended for the MOVIFIT® drive,

- activate the "SEW brake" check box.
- select the brake according to the nameplate data in "manual selection".

With the standard SEW-EURODRIVE brake control, the connected brake is supplied from the DC link and thus uses regenerative energy. The temperature of the brake is monitored.

Alternative brake
control

When using the alternative brake control, the drive has to be equipped with an internal or external braking resistor. The braking resistor dissipates the regenerative power during deceleration.

The alternative brake control is intended for the following cases:

- The motor is equipped with a brake that is **not** intended for the MOVIFIT® drive (see table on the following page).
- Several motors/brakes are operated with one MOVIFIT® device in parallel.
I.e. you selected "no / loose coupling" in the window "system configuration" (step 4).

In this case, the brakes must have the same nominal voltage.

Brake control via constant voltage is the only available option for such cases.

- Tick the "via constant voltage" check box.
- Enter the brake supply voltage either as AC or DC voltage.

If the motor is not equipped with a brake, tick the "No brake" check box.

INFORMATION



Brake control via digital output is not available.

Brake assignment

For the assignment of motor and standard brake to MOVIFIT®, refer to the "MOVIFIT® FC" operating instructions > chapter "Startup" > "Description of DIP switches" > "DIP switch 10/5".

For DT/DV motors, the brake type is not stated explicitly. You can determine the type of the installed brake on the basis of the motor size and the specified braking torque (see motor nameplate).

The following table shows the assignment of brake types and braking torques to the motor sizes. The table also lists the reduced braking torques of the brakes.

Brake Type	Motor size	$M_{B \max}$	Reduced braking torques $M_{B \text{ red}}$			
		Nm	Nm			
BMG02	DT56	1.2	0.8			
BR03	DR63	3.2	2.4	1.6	0.8	
BMG05	DT71 DT80	5.0	4	2.5	1.6	1.2
BMG1	DT80	10	7.5	6		
BMG2	DT90 DV100	20	16	10	6.6	5.0
BMG4	DV100	40	30	24		

Example 1:

Designation¹⁾ Brake V 230 VAC **20 Nm** for a **DT90L4**

Interpretation²⁾ Motor: DT90

Brake: BMG2 with braking torque $M_{B \max} = 20 \text{ Nm}$

Example 2:

Designation¹⁾ Brake V 230 VAC **10 Nm** for a **DV100L4**

Interpretation²⁾ Motor: DV100

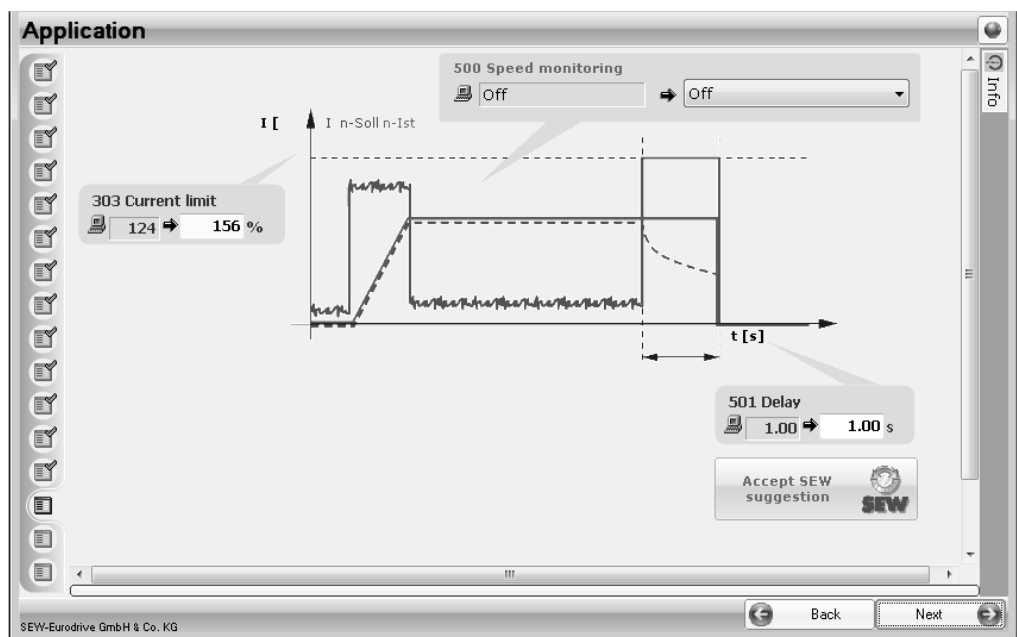
Brake: BMG2 with reduced braking torque $M_{B \max} = 10 \text{ Nm}$

The BMG4 brake cannot be installed in this example, as the respective braking torque is not listed in the table.

1) Designation on the motor nameplate

2) Interpretation using the table

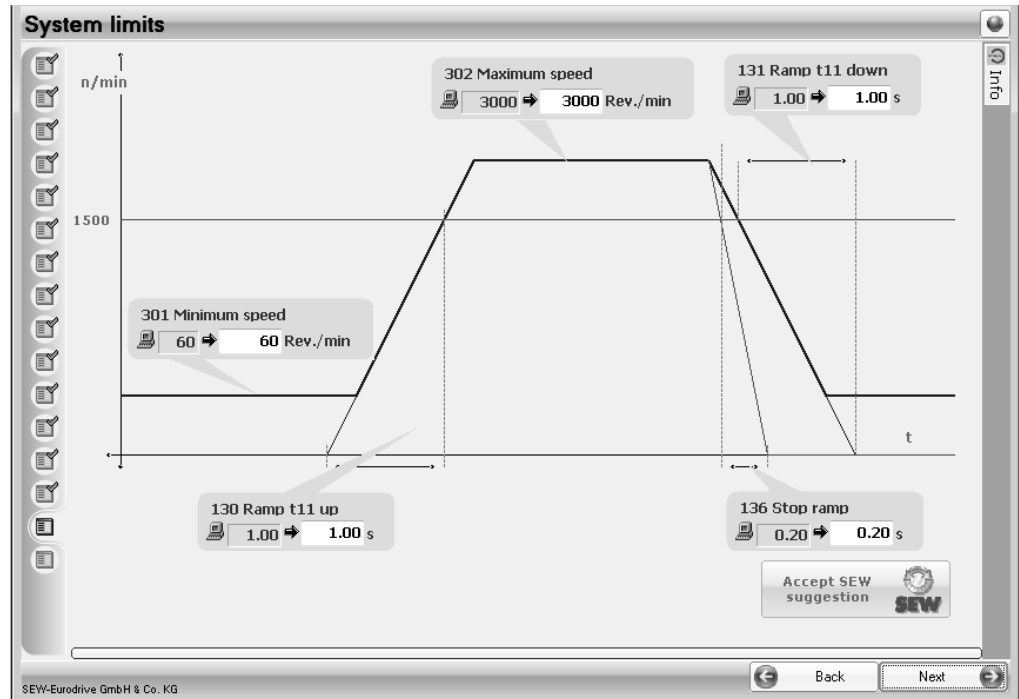
10. Parameterize the current limit and activate the "Speed monitoring" function if necessary.



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- ⇒ When speed monitoring is active, a fault is triggered after the specified deceleration time when the output current reaches the set current limit continuously.
- ⇒ The percentage current level is based on the nominal device current. The output frequency is reduced to protect the motor from stalling when the current limit is reached. To ensure stall protection, accept the default value for the current limit.
- ⇒ You can accept the default values by clicking the black arrow. Click the right mouse button in the input field to display additional input options.
- ⇒ You can accept each default value individually, or you can accept all default values at once by clicking the [Accept SEW suggestion] button.

11. Parameterize the speed limits and ramp times.



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- ⇒ The ramp times are always based on a change in the output speed of 1500 min^{-1} . The ramp times apply when a ramp time has not been specified via the process data and an enable/revoke enable occurs. The stop ramp is active when a "Rapid stop" is requested or when specific errors occur.
- ⇒ You can accept the default values by clicking the black arrow. Click the right mouse button in the input field to display additional input options.
- ⇒ You can accept each default value individually, or you can accept all default values at once by clicking the [Accept SEW suggestion] button.

12. Start downloading all set parameters to the device by clicking the [Download] or [Finish] button. Before you download the parameters, you can switch to any of the previous menus. The settings are not lost.



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INFORMATION



Startup of a hoist drive is not permitted with this special design.

4.3.2 Starting up drive 2

- ✓ Startup of drive 1 must have been completed successfully by clicking on the button [Finish].
- 1. Select the startup tool in MOVITOOLS® MotionStudio (see chapter Integrating "MOVIFIT® into MOVITOOLS® MotionStudio").
 - ⇒ The window for selecting the parameter set appears.
- 2. Select parameter set 2 for drive 2.



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- 3. Do **not** change the setting "switchable" in the menu "Motor output configuration".
- 4. All other points are the same as for startup of drive 1, see points 3 to 12.

4.3.3 Do not change parameter *P620*



▲ WARNING

Danger due to uncontrolled device behavior when changing parameter *P620*.

The parameter *P620* was set to "Parameter set" during startup. The digital output DB00 is not available.

- Do **not** change the setting "Parameter set" of parameter *P620*.

4.4 Switchover between drive 1 and drive 2

4.4.1 Switching via MOVIFIT® FC control word

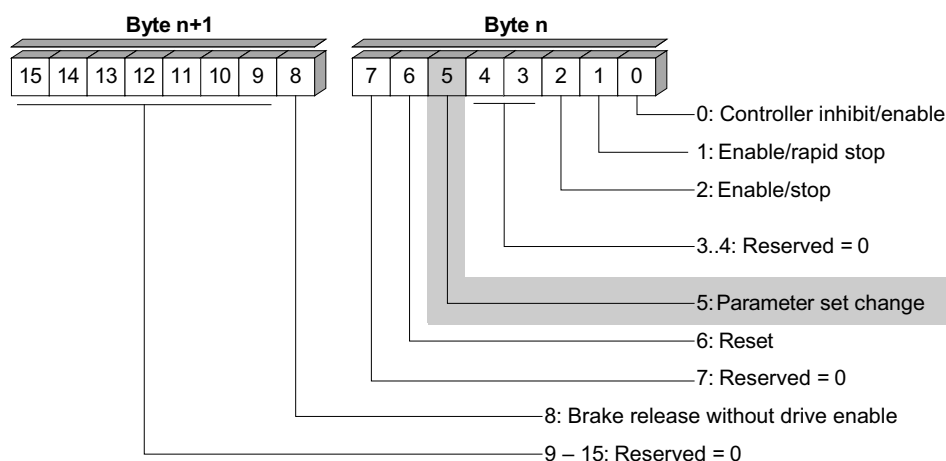
Bit 5 "Parameter set switchover" in the MOVIFIT® FC control word is used for switching between drive 1 and drive 2.

INFORMATION



A switchover is only possible when the output stage is inhibited (evaluation via status word 1, bit 0, "" (→ 32)).

The relays have a service life of 3 000 000 switching cycles. The relays have to be replaced after that"" (→ 14).



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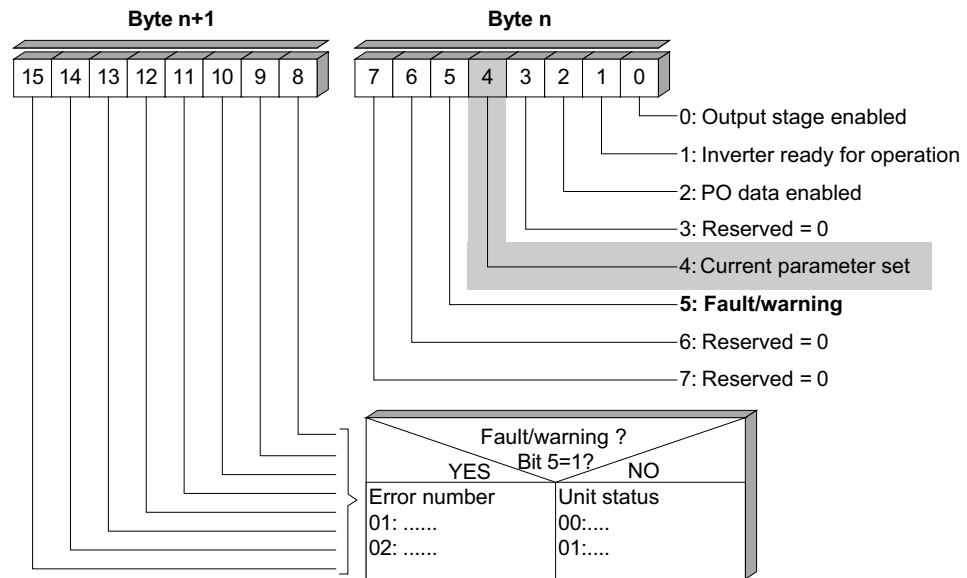
The following table shows the functions of the control word for MOVIFIT® FC:

Bit	Meaning	Explanation
0	Controller inhibit/en-able	0: Enable 1: Inhibit controller, activate brake
1	Enable/Rapid stop	0: Rapid stop 1: Enable
2	Enable/stop	0: Stop at normal ramp 1: Enable
3	Reserved	For reserved bits, the value 0 must be transferred for later use.
4	Reserved	For reserved bits, the value 0 must be transferred for later use.
5	Parameter set switchover = Switchover between drive 1 and drive 2	0: Parameter set 1 = drive 1 1: Parameter set 2 = drive 2 Information: When the special design is operated with only one motor, parameter set 1 applies. Set bit 5 = 0.
6	Fault reset	If there is a fault in the inverter power section, an error reset is requested by changing this bit from 0 to 1.

Bit	Meaning	Explanation
7	Reserved	For reserved bits, the value 0 must be transferred for later use.
8	Brake release without drive enable	The functionality can be inhibited by setting a parameter. 1: Releasing the brake without drive enable 0: Do not release brake
9 – 15	Reserved	For reserved bits, the value 0 must be transferred for later use.

Evaluation via status word 1 for MOVIFIT® FC

Bit 4 "Current parameter set" in the MOVIFIT® FC status word 1 is used for determining which drive has been activated via the control word:



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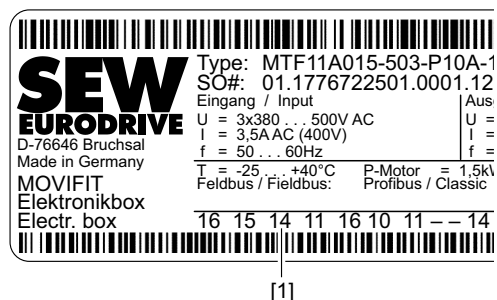
The following table shows the assignment of status word 1 for MOVIFIT® FC:

Bit	Meaning	Explanation
0	Output stage enabled	1: MOVIFIT® inverter output stage is enabled. 0: MOVIFIT® inverter output stage is not enabled.
1	Inverter ready	1: Inverter power section is ready for operation. 0: Inverter power section is not ready for operation.
2	PO data enabled	1: Process data is enabled. Drive can be controlled via fieldbus. 0: Process data is inhibited. Drive cannot be controlled via fieldbus.
3	Reserved	For reserved bits, the value 0 is transferred for later use.
4	Current parameter set = activated drive	0: Parameter set 1 = drive 1 1: Parameter set 2 = drive 2

Bit	Meaning	Explanation
5	Failure/warning	1: Error/warning present. 0: OK
6	Reserved	For reserved bits, the value 0 is transferred for later use.
7	Reserved	For reserved bits, the value 0 is transferred for later use.
8 – 15	Bit 5 = 0: Device status 0: 24 V operation 1: Controller inhibit 2: Not enabled 3: Standstill current 4: Enable 18: Manual mode active Bit 5 = 1: Error number	If there is no fault/warning (bit 5 = 0), the operating/enable status of the inverter power section is displayed in this byte. If there is a fault/warning (bit 5 = 1), the fault number is displayed in this byte.

4.4.2 Switchover in manual mode

The following function is only available for EBOX designs as of firmware version 14.



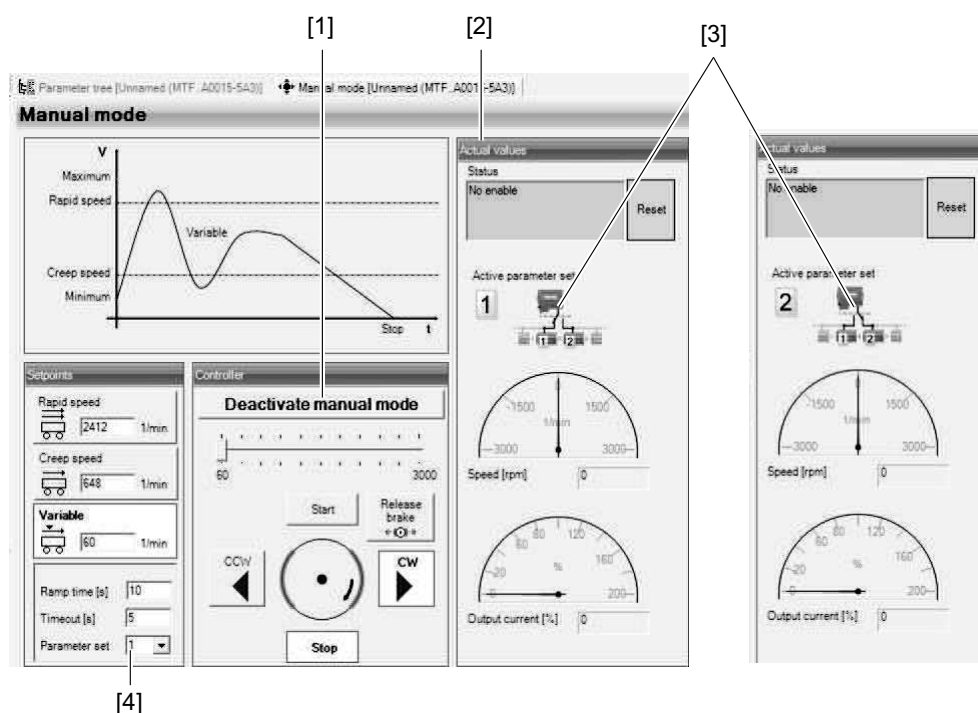
[1]

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[1] EBOX firmware version

Use manual mode in MOVITOOLS® MotionStudio to switch between drive 1 and drive 2.

1. Perform the startup procedure for both drives.
2. Open the "Manual mode" menu by clicking the [Manual mode] button.



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3. Activate manual mode by clicking the [Activate manual mode] button [1].
⇒ The "Actual values" field [2] appears.
4. For switching between drives, select the other parameter set in the "Parameter set" field [4].
⇒ The switch symbol [3] changes its switching position (see figure above).





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