SEW EURODRIVE

MOVITRAC® 07

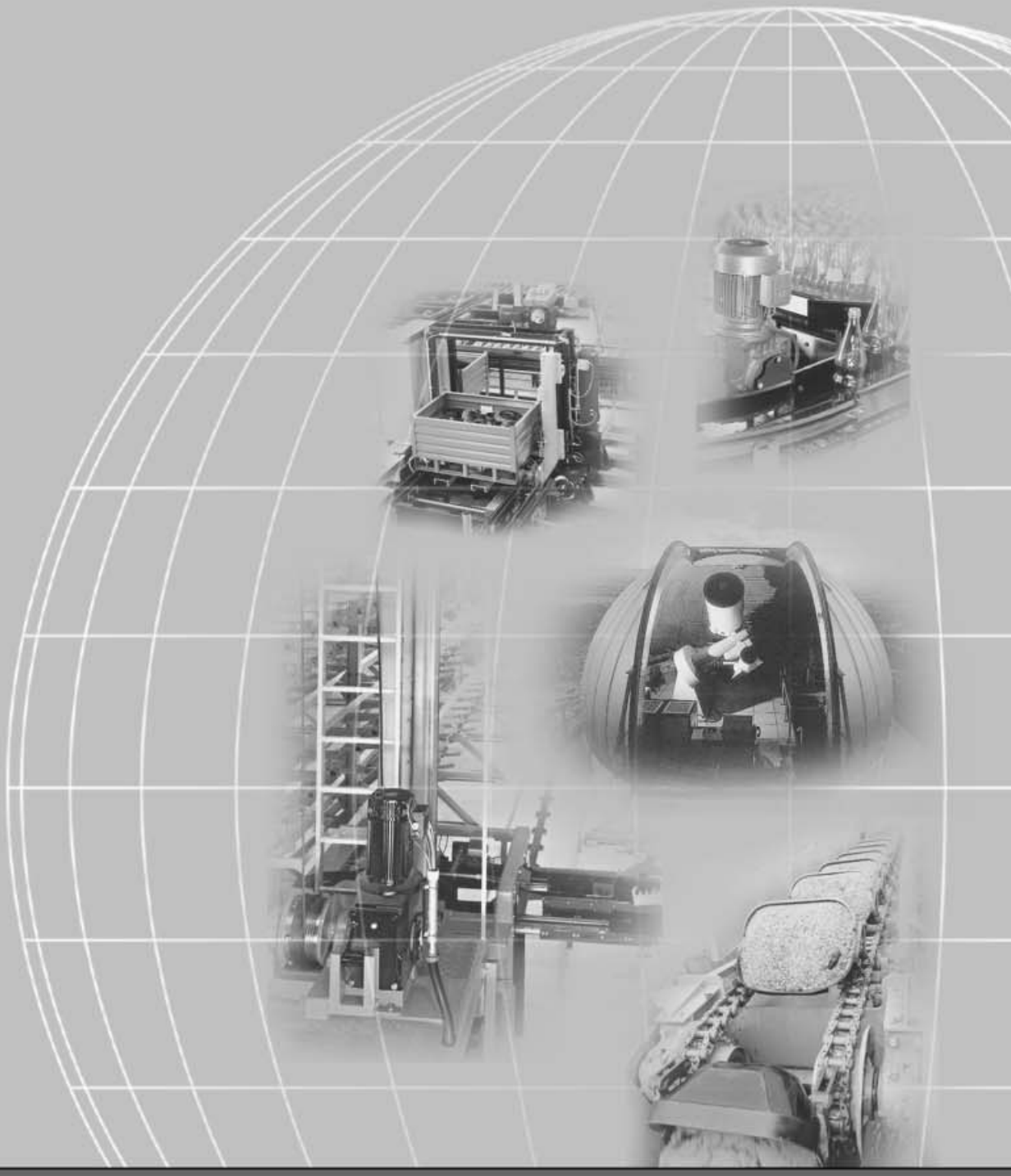
Edition

10/2001

Operating Instructions

1053 4415 / EN

SEW
EURODRIVE



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1 Important Notes

Safety and warning instructions

Always follow the safety and warning instructions contained in this publication!

Electrical hazard
Possible consequences: Severe or fatal injuries.

Hazard
Possible consequences: Severe or fatal injuries.

Hazardous situation
Possible consequences: Slight or minor injuries.

Harmful situation
Possible consequences: Damage to the unit and the environment.

Tips and useful information.

A requirement of trouble-free operation and fulfillment of any rights to claim under guarantee is that you adhere to the information in the **operating instructions**. **Consequently, read the operating instructions** before you start working with the unit!

The operating instructions contain **important information about servicing** and should be kept **in the vicinity of the unit**.

Designated use

MOVITRAC® 07 frequency inverters are intended for use in industrial and commercial systems for the operation of AC asynchronous motors. These motors must be suitable for operation with frequency inverters. No other loads may be connected to the units.

MOVITRAC® 07 frequency inverters are units intended for stationary installation in switch cabinets. All instructions referring to the technical data and the permissible conditions where the unit is operated must be followed.

Do not start up the unit (take it into operation in the designated fashion) until you have established that the machine complies with the EMC Directive 89/336/EEC and that the conformity of the end product has been determined in accordance with the Machinery Directive 89/392/EEC (with reference to EN 60204).

Application environment

The following uses are forbidden unless measures are expressly taken to make them possible:

- Use in explosion-proof areas
- Use in areas exposed to harmful oils, acids, gases, vapors, dust, radiation, etc.
- Use in non-stationary applications which are subject to mechanical vibration and shock loads in excess of the requirements in EN 50178
- Use in applications in which the inverter undertakes independent safety functions (without master safety systems) for ensuring the safety of machinery and people

Waste disposal

Please follow the current instructions: Dispose in accordance with the material structure and the regulations in force, for instance as:

Electronic scrap (printed-circuit boards), plastic (housing), sheet metal, copper, etc.

2 Safety Notes

Installation and startup

- **Never install damaged products or take them into operation.** In case of a damage, submit a complaint to the shipping company immediately.
- **Installation, startup and service work** should be performed by **trained personnel** only observing any accident prevention regulations in force (e.g. EN 60204, VBG 4, DIN-VDE 0100/0113/0160).
- Follow the **specific instructions** during **installation** and **startup** of the motor and the brake!

- Make sure that **preventive measures** and **protection devices** correspond to the **applicable regulations** (e.g. EN 60204 or EN 50178).

  Required preventive measures: Grounding the unit

  Required protection device: Overcurrent protection devices
- **The unit meets all requirements for protective separation** of power and electronics connections in accordance with EN 50178. **All connected circuits** must also **satisfy the requirements for protective separation.**
- Take **appropriate measures** (e.g. connect binary inputs DI01 – DI03 to GND) to ensure that the connected **motor does not start up automatically** when the inverter is **switched on**.

Operation and service

- **Disconnect the unit from the power supply system** prior to **removing the protective cover. Dangerous voltages** may still be present for up to **10 minutes after disconnection**.

- The unit has **IP 00** enclosure with the **protective cover removed**. **Dangerous voltages** are present at all subassemblies except for the control electronics. The unit must be closed during operation.
- **Dangerous voltages** are present at the **output terminals** and the **connected cables and motor terminals when the unit is switched on**. The same is true when the unit is inhibited and the motor at standstill.
- Just because the **LEDs and the 7-segment displays** are no longer illuminated **does not mean** that the unit has been disconnected from the power supply system and is **de-energized**.

- **Safety functions inside the unit** or a **mechanical blockage** may cause a **motor standstill**. The **removal of the source for the malfunction** or a **reset** can result in an **automatic restart of the drive**. If, for safety reasons, this is **not permitted** for the driven machine, the **unit must be disconnected from the power supply system** before correcting the error.

3 Unit Structure

3.1 Unit design

Size 0S, 0M, 0L

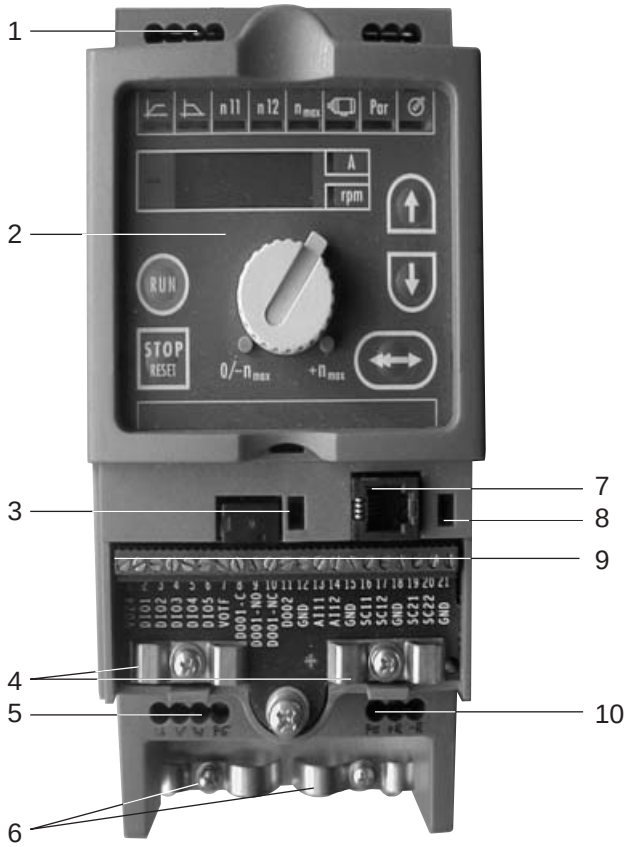

Fig. 1: MOVITRAC® 07 unit structure, sizes 0S, 0M, 0L

1. X1: Mains connection 3-phase: L1 / L2 / L3 / PE or 1-phase: L / N / PE
2. Operating panel
3. DIP switch S11: V-signal / I-signal
4. Electronics shield clamp
5. X2: Motor connection U / V / W / PE
6. Power shield clamp
7. X11: RS-485 connection (for service purposes only)
8. DIP switch S12: system bus terminating resistor
9. X10: Electronics terminal strip
10. X3: Braking resistor connection PE / R+ / R-

Size 1, 2S, 2

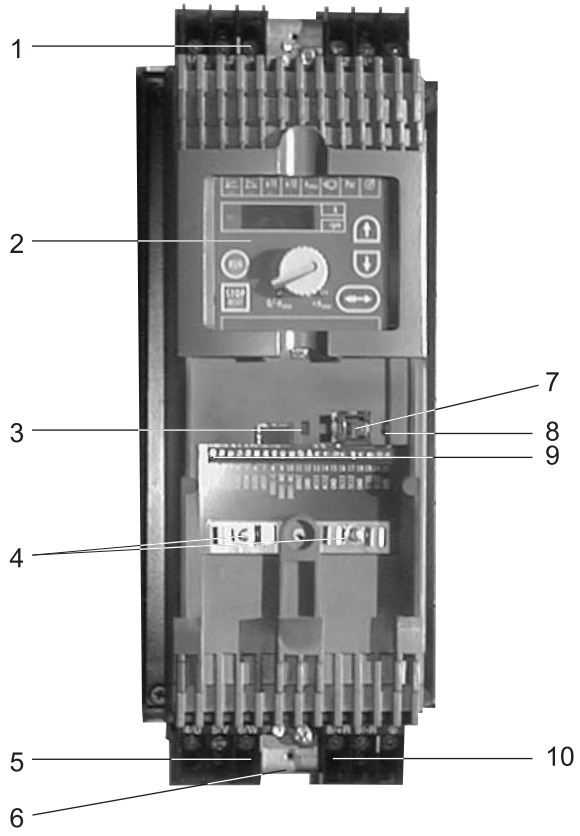

Fig. 2: MOVITRAC® 07 unit structure, sizes 1, 2S, 2

1. X1: Mains connection 3-phase: L1 / L2 / L3 / PE screw
2. Operating panel
3. DIP switch S11: V-signal / I-signal
4. Electronics shield clamp
5. X2: Motor connection U / V / W / PE screw
6. Space for power shield clamp
7. X11: RS-485 connection (for service purposes only)
8. DIP switch S12: system bus terminating resistor
9. X10: Electronics terminal strip
10. X3: Braking resistor connection R+ / R- / PE

Size 3

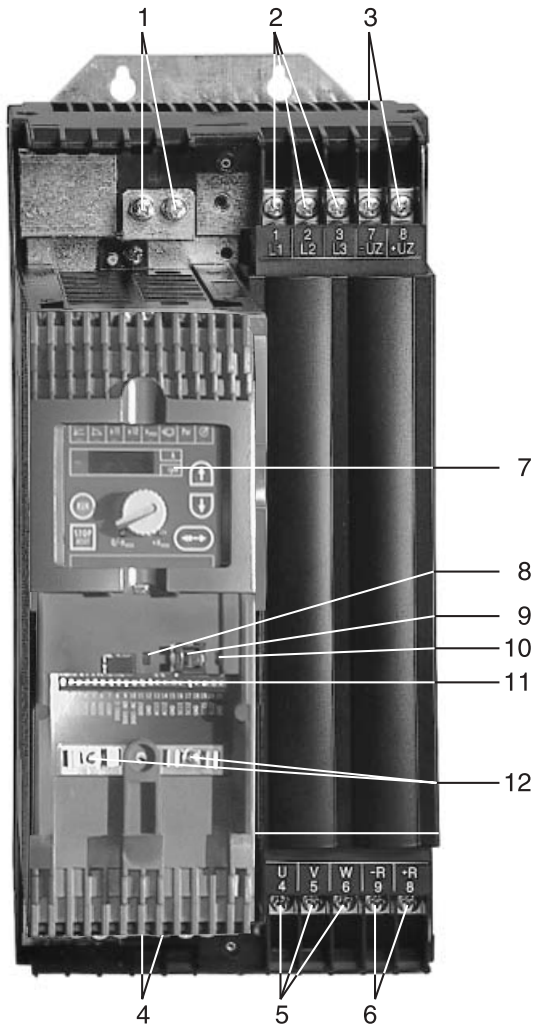

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Fig. 3: MOVITRAC® 07 unit structure, size 3

1. PE connections
2. X1: Mains connection 3-phase: L1 (1) / L2 (2) / L3 (3)
3. X4: DC link circuit connection (not used)
4. PE connections (not visible)
5. X2: Motor connection U (4) / V (5) / W (6)
6. X3: Braking resistor connection R+ (8) / R- (9)
7. Operating panel
8. DIP switch S12 for system bus terminating resistor
9. X11: RS-485 connection (for service purposes only)
10. DIP switch S11: V-signal / I-signal
11. X10: Electronics terminal strip
12. Electronics shield clamp

Size 4

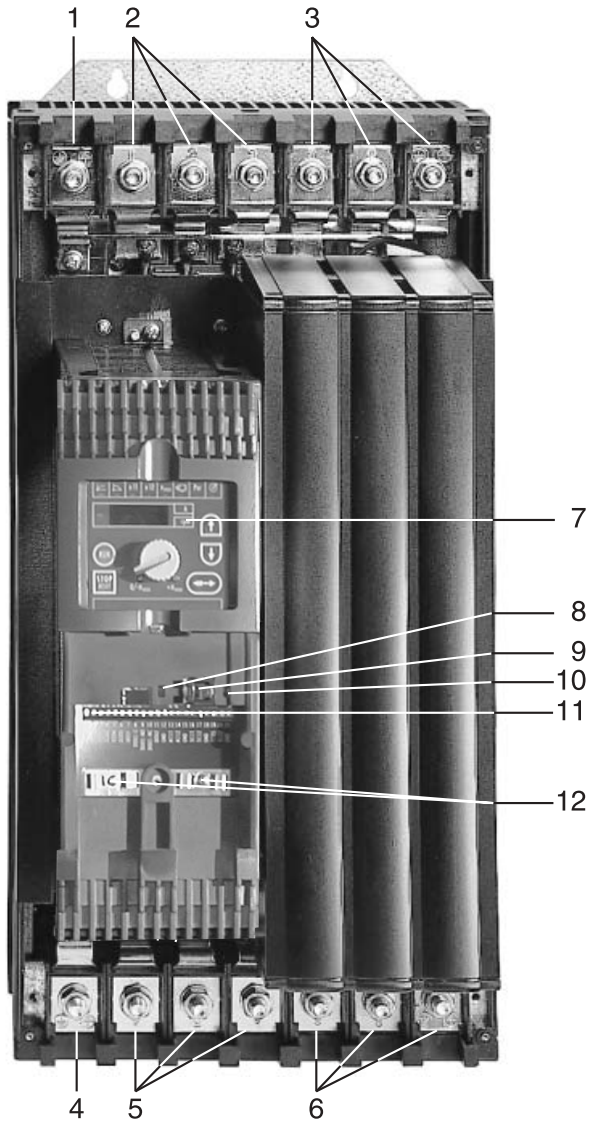

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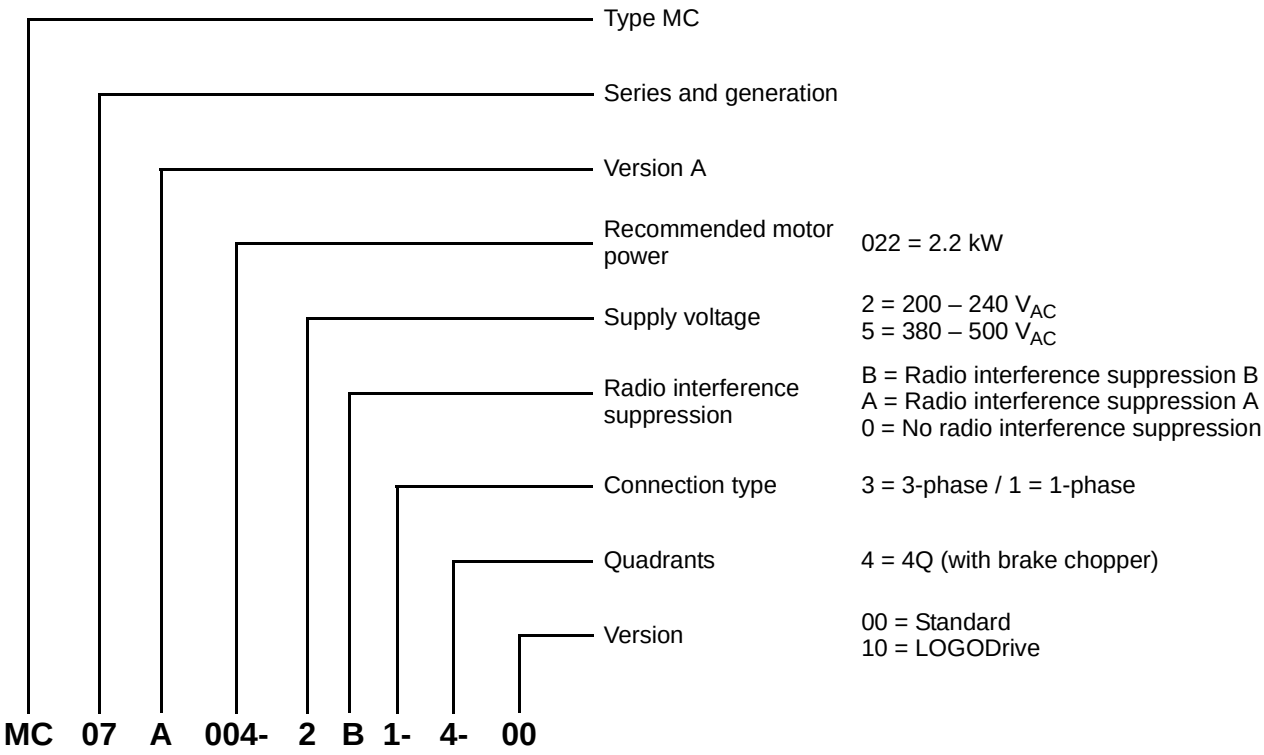
Fig. 4: MOVITRAC® 07 unit structure, size 4

1. X2: PE connection
2. X1: Mains connection 3-phase: L1 (1) / L2 (2) / L3 (3)
3. X4: DC link circuit connection (not used)
4. X2: PE connection
5. X2: Motor connection U (4) / V (5) / W (6)
6. X3: Braking resistor connection R+ (8) / R- (9) and PE connection
7. Operating panel
8. DIP switch S12 for system bus terminating resistor
9. X11: RS-485 connection (only for service purposes)
10. DIP switch S11: V-signal / I-signal
11. X10: Electronics terminal strip
12. Electronics shield clamp

3.2 Unit designation and scope of delivery

Sample unit designation



Sample nameplate

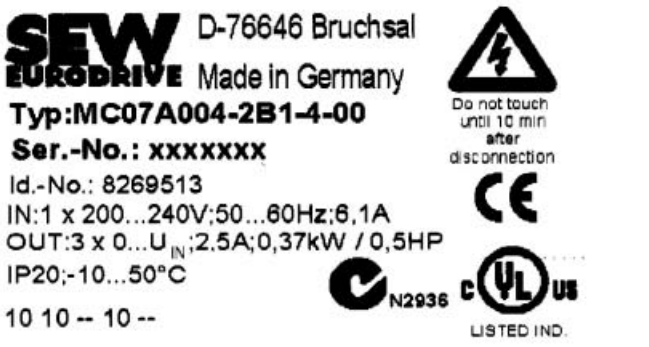


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Fig. 5: Sample nameplate

Scope of delivery, loose parts

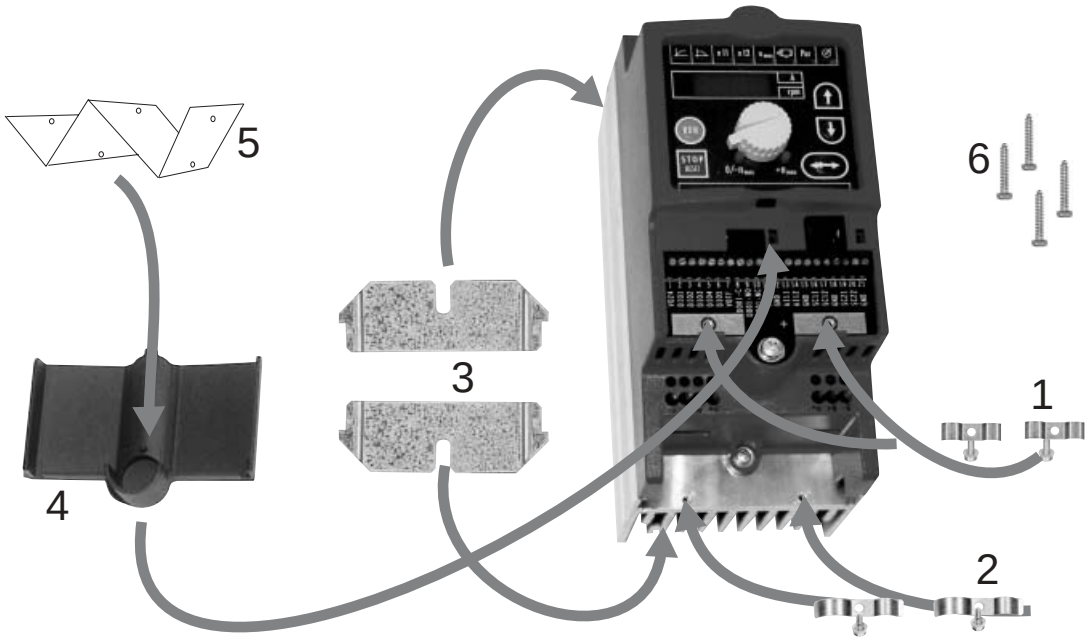

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Fig. 6: Scope of delivery, loose parts for size 0

Scope of delivery, loose parts for size				
0	1	2	3	4
• Shield clamps for electronics cables (2 clamps with one screw each) • Hood cover for installation onto the unit • Information label to be attached to the rear of the hood cover				
• Shield clamps for motor and brake • Mounting brackets for installation into the heat sink • Retaining screws for optional braking resistor	• Power shield clamp with retaining screws		–	• Touch guard with retaining screws

4 Installation

4.1 Installation notes

It is essential to comply with the safety notes during installation!

Tightening torques

- Use **genuine connection elements** only. Note the **permitted tightening torques** of the power terminals.
  - Size 0S/M/L → 0.5 Nm (4.4 lb.in)
  - Size 1 → 0.6 Nm (5.3 lb.in)
  - Size 2S/2 → 1.5 Nm (13.3 lb.in)
  - Size 3 → 3.5 Nm (31 lb.in)
  - Size 4 → 14 Nm (124 lb.in)

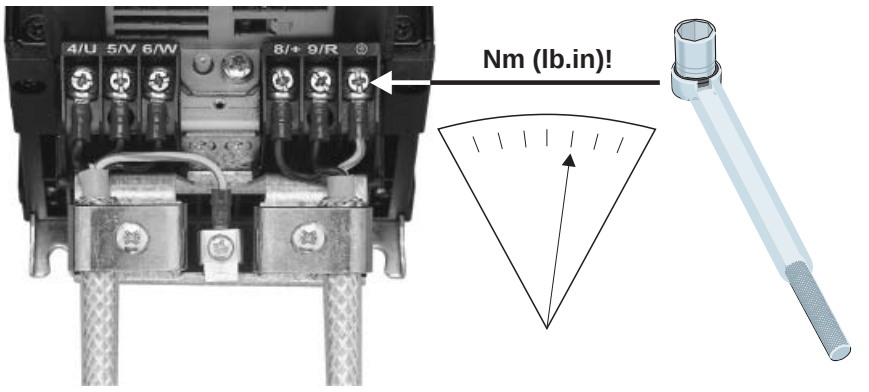

Fig. 7: Note the tightening torques

Recommended tools

- Use a screwdriver with a 2.5 mm wide blade for connecting the electronics terminal strip X10.

Conductor end sleeves

- The terminals are provided for installation without conductor end sleeves.

Minimum clearance and mounting position

- Leave **100 mm (4 in) clearance at the top and bottom** for optimum cooling. No lateral clearance required; the units can be set up side-by-side. With sizes 4 and 5, do not install any components sensitive to high temperatures within 300 mm (11.81 in) of the top of the unit. Install the units **vertically** only. You may not install the units horizontally, at an angle or upside down.

Line choke

- With **more than four 3-phase units** or **more than one 1-phase unit** connected to one **mains contactor** designed for the total current: **Insert a line choke in the circuit** to limit the inrush current.

Separate cable ducts

- Route power cables and electronics cables in separate cable ducts.

Input fuses and earth leakage circuit-breakers

- Install **input fuses at the beginning of the power cable** behind the supply bus junction. Use type D, DO, NH fuses or power circuit breakers.

  Using an **earth-leakage circuit breaker as the sole protection device is not permitted**. **Earth-leakage currents > 3.5 mA** can arise during normal operation of the inverter.

PE input connection

- Connect the PE conductor according to the regulations of the country in question.

  Earth-leakage currents > 3.5 mA may arise in service.

IT systems

- SEW recommends using **earth-leakage monitors with a pulse code measuring process** in voltage supply systems with a non-earthed star point (IT systems). This avoids mis-tripping of the earth-leakage monitor due to the earth capacitance of the inverter.

Contactor

- Use contactors in utilization category AC-3 (IEC 158-1) only.

Cross sections

- Power cables: **Cross section according to rated input current** I_{mains} at rated load

  Motor cables: **Cross section according to rated output current** I_N

  Electronics cables: maximum 1.5 mm^2 (AWG16) without conductor end sleeves

  maximum 1.0 mm^2 (AWG17) with conductor end sleeves

Cable lengths for single drives

The cable lengths for size 0 are independent of the PWM frequency. The motor cables for sizes 1 to 4 depend on the frequency. The permitted motor cable lengths are listed in the "Project Planning" section.

Unit output

- Connect an **ohmic/inductive load (motor)** only; do not connect a capacitive load!

Braking resistor connection

- Shorten the cables to the required length.

Binary inputs / binary outputs

- **Binary outputs** are **short-circuit proof** and **interference-voltage proof** up to 35 V. They can suffer irreparable damage from higher external voltages!

Interference emission

- Shielded motor cables or HD output chokes can be used as possible solutions for EMC compliant installation at the output end in accordance with EN 55011, limit value class B.

Shielding and earthing

- The control cables must be shielded.
- Connect the shield by the shortest possible route and make sure it is earthed over a wide area.
- Provide high frequency compatible earthing for MOVITRAC® 07 and all additional units (wide area metal-on-metal contact between the heat sink and ground, e.g. unpainted switch cabinet mounting panel).

Line filter

- MOVITRAC® 07 units have a line filter installed as standard in order to maintain the class B limit (1-phase) / class A limit (3 x 230 V: 0.37 – 7.5 kW / 3 x 400/500 V: 0.55 – 11 kW).

No EMC limits are specified for interference emission in voltage supply systems without an earthed star point (IT systems). The effectiveness of line filters is severely limited.

Flat-type braking resistor BW for size 0

The braking resistor is installed on the back of the heat sink and fastened onto the heat sink with the four screws supplied.

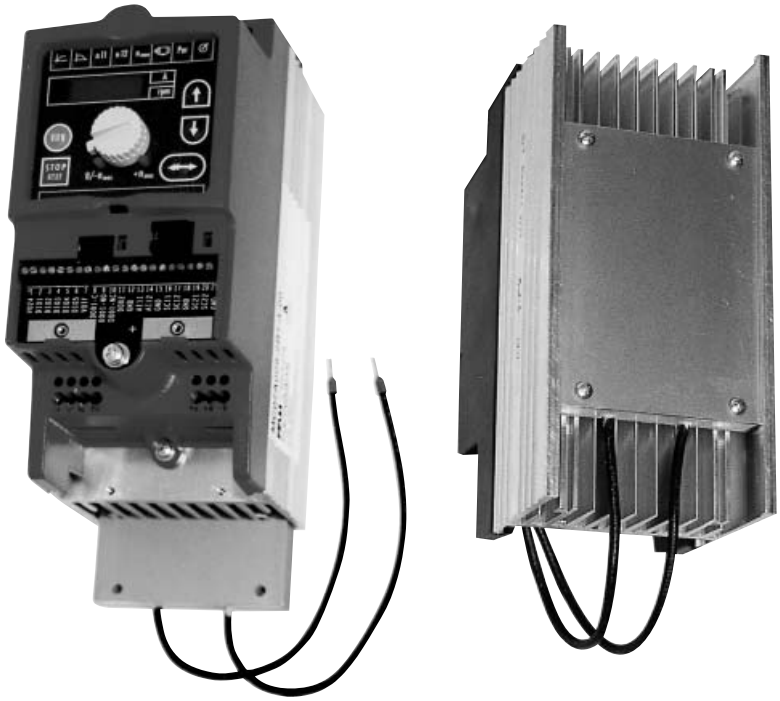

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Fig. 8: Installing the braking resistor BW

Output choke HD

- Install the output choke close to the MOVITRAC® 07 unit **and not within the minimum clearance**.
- Always route all three phases (**not the PE!**) through the output choke.
- If the cable is shielded, the shield **may not** be routed through the output choke.

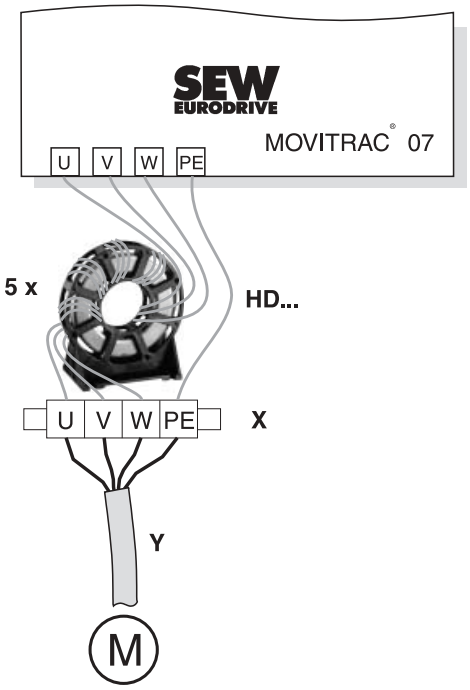

Fig. 9: Connecting HD output choke

In the case of the **HD** output choke, the cable must be wrapped around the choke **five times**.

4.2 UL compliant installation

Please note the following points for UL compliant installation:

- Use copper cables with the following temperature ranges as connection cables only:
  - for MOVITRAC® 07 ... temperature range 60/75 °C.
- Tightening torques of MOVITRAC® 07 power terminals: See installation notes.

- MOVITRAC® 07 frequency inverters are suitable for operation in voltage systems with an earthed star point (TN and TT systems) that can supply a max. current in accordance with the following table and have a maximum voltage rating of 240 V_{AC}. The performance data of the fuses must not exceed the values in the table.

Maximum values / fuses

230 V units

MOVITRAC® 07	Max. supply current	Max. supply voltage	Fuses
004/005/008/011/015/022	5000 A_{AC}	240 V_{AC}	35 A / 250 V
037	5000 A_{AC}	240 V_{AC}	30 A / 250 V
055/075	5000 A_{AC}	240 V_{AC}	30 A / 250 V
110	5000 A_{AC}	240 V_{AC}	175 A / 250 V
150	5000 A_{AC}	240 V_{AC}	225 A / 250 V
220/300	10000 A_{AC}	240 V_{AC}	350 A / 250 V

400/500 V units

MOVITRAC® 07	Max. supply current	Max. supply voltage	Fuses
005/008/011	5000 A_{AC}	500 V_{AC}	15 A / 600 V
015/022/030/040	5000 A_{AC}	500 V_{AC}	30 A / 600 V
055/075	10000 A_{AC}	500 V_{AC}	30 A / 600 V
110	10000 A_{AC}	500 V_{AC}	30 A / 600 V
150/220	5000 A_{AC}	500 V_{AC}	175 A / 600 V
300	5000 A_{AC}	500 V_{AC}	225 A / 600 V

UL certification does not apply to operation in voltage supply systems with a non-earthed star point (IT systems).

4.3 Power shield clamp

For sizes 1 / 2S A power shield clamp is supplied as standard with MOVITRAC® 07 size 1 / 2S. Install this power shield clamp together with the retaining screws of the unit.

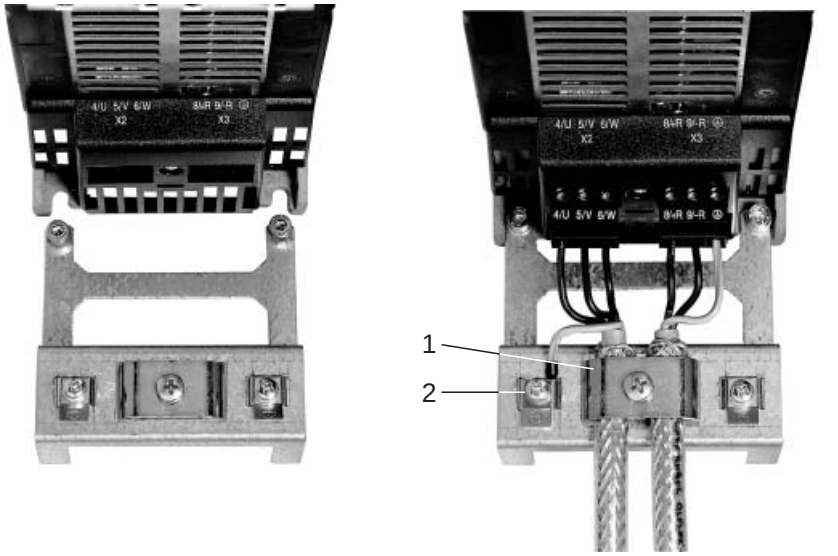

Fig. 10: Power shield clamp for MOVITRAC® 07 size 1

1. Shield clamp
2. PE connection (⏚)

For size 2

A power shield clamp with two retaining screws is supplied as standard with MOVITRAC® 07 size 2. Install this power shield clamp together with the two retaining screws at X6.

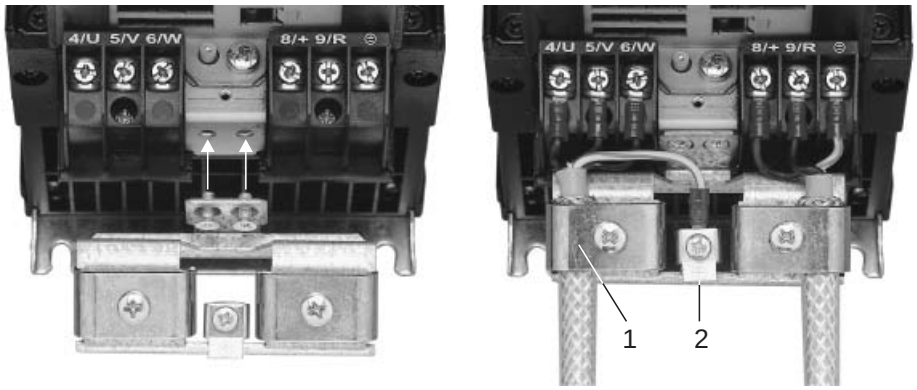

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Fig. 11: Power shield clamp for MOVITRAC® 07 size 2

1. Shield clamp
2. PE connection (⏚)

Power shield clamps provide you with a very convenient way of installing the shield for the motor cables and brake lines. Fit the shield and PE connection as shown in the figures.

4.4 Touch guard

Two touch guards with eight retaining screws are supplied as standard with MOVITRAC® 07 size 4. Install the touch guard on the two hood covers for the power section terminals.

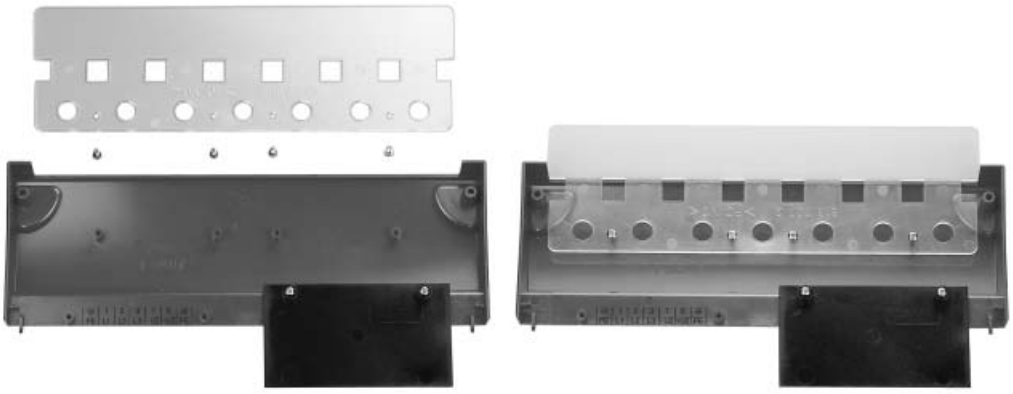

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Fig. 12: Touch guard for MOVITRAC® 07 size 4

MOVITRAC® 07 size 4 units achieve enclosure IP 10 with installed touch guard and IP 00 without touch guard.

4.5 Wiring diagram 230 V 0.37 – 2.2 kW / 400 V 0.55 – 4.0 kW

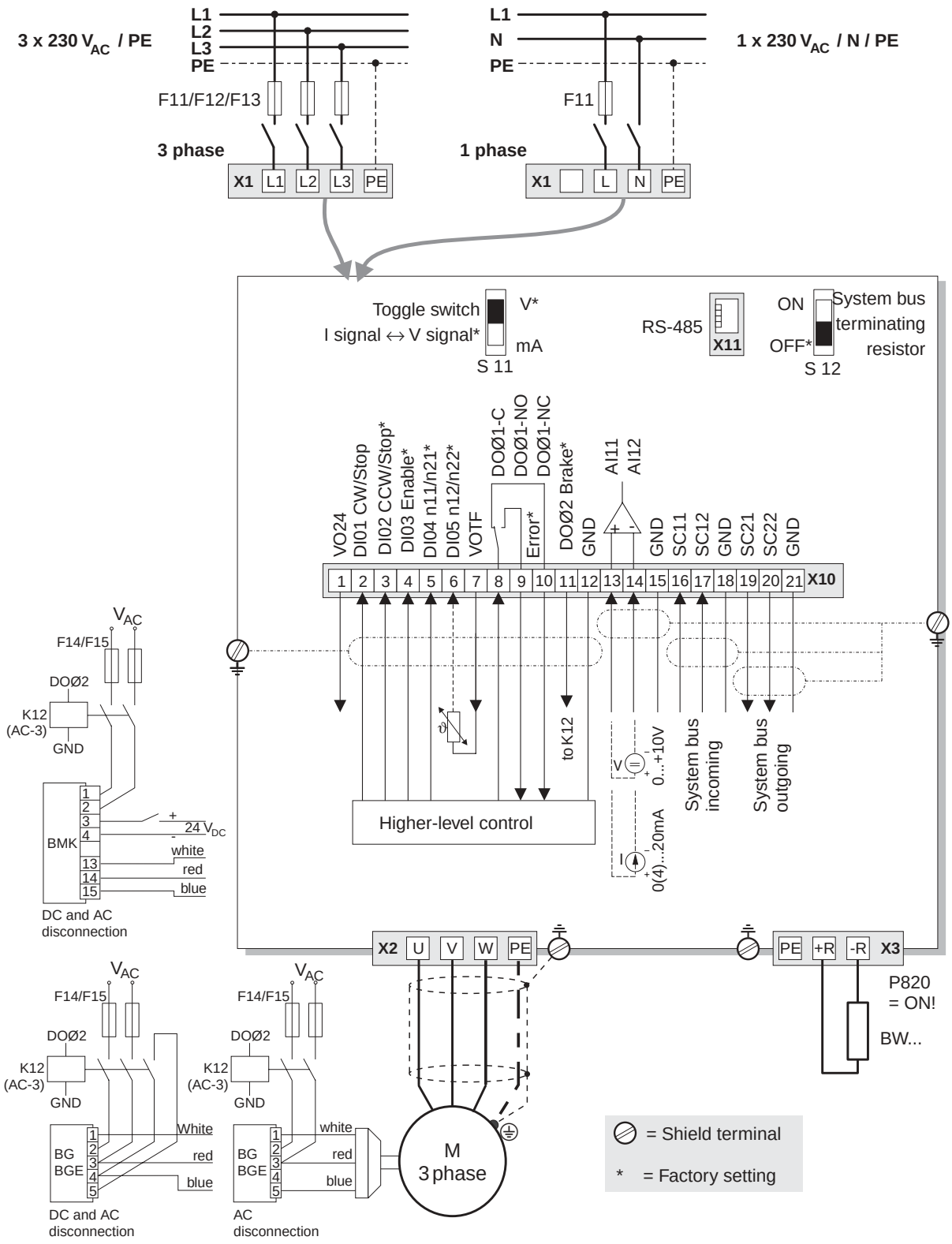

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Fig. 13: Wiring diagram for size 0

4.6 Wiring diagram 230 V 3.7 – 30 kW / 400 V 5.5 – 30 kW

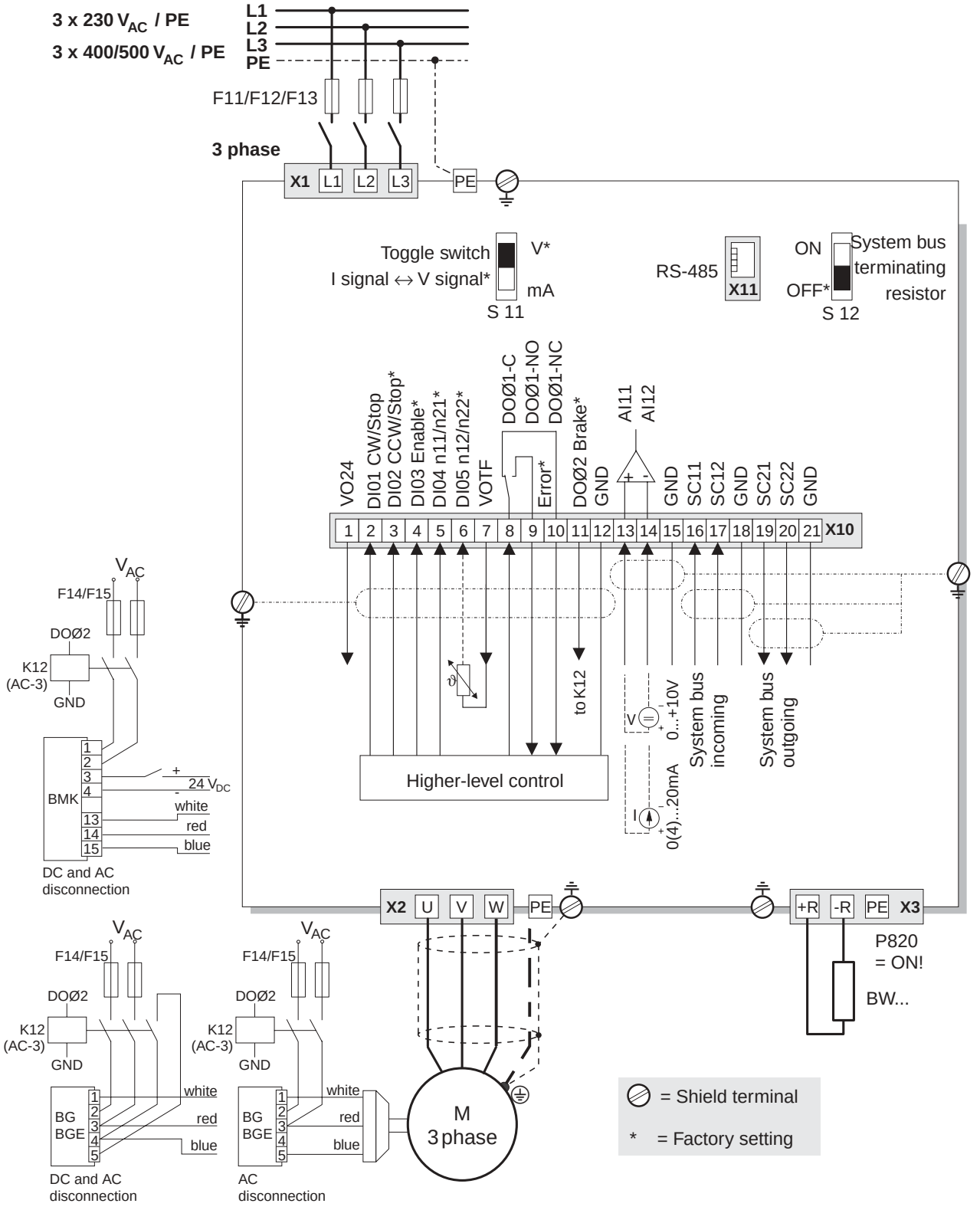

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Fig. 14: Wiring diagram for sizes 1 – 4

Connection of the brake rectifier

A separate power cable is required for connecting the brake rectifier; supply from the motor voltage is not permitted!

Use contactors in utilization category AC-3 (IEC 158-1) for K11 and K12 only.

Always switch off the brake on the DC and AC sides under the following conditions:

- all hoist applications
- drives which require a rapid brake reaction time.

Route the connection cables between the brake rectifier and the brake separately from other power cables if the brake rectifier is installed in the switch cabinet. Routing with other cables is permitted only if the other cables are shielded.

The relevant connection regulations must be followed for brakes without BG/BGE or BME. Please refer to the publication "Drive Engineering – Practical Implementation, Vol. 4" for detailed information about SEW brakes.

Functional description of the terminals

Terminal		Function
X1	L1/L2/L3/PE L/N/PE	Mains connection
X2	U/V/W/PE	Motor connection
X3	PE/+R/-R	Braking resistor connection
X10:		
1	VO24	Auxiliary supply output +24 V (max. 50 mA)
2	DI01	Binary input 1, with fixed assignment CW/STOP
3	DI02	Binary input 2, with factory setting CCW/STOP
4	DI03	Binary input 3, with factory setting Enable
5	DI04	Binary input 4, with factory setting n11/n21
6	DI05	Binary input 5, with factory setting n12/n22 (**TF** can **be connected to DI05 only**)
7	VOTF	Voltage supply for TF (PTC thermistor)
8	DO01-C	Binary output 1, factory setting "/Error"
9	DO01-NO	Binary output 1, NO contact
10	DO01-NC	Binary output 1, NC contact
11	DO02	Binary output 2, factory setting "Brake released" (I_{max} = 150 mA)
12	GND	Reference potential
13 14	AI11 AI12	Analog input 0 – 10 V / 0(4) – 20 mA
15	GND	Reference potential
16	SC11	System bus high, incoming
17	SC12	System bus low, incoming
18	GND	Reference potential
19	SC21	System bus high, outgoing
20	SC22	System bus low, outgoing
21	GND	Reference potential
		SC21 and SC22 are deactivated when S12 = ON. This is necessary in units at the end of the bus.
X11	RS-485	Service interface for UWS21A on PC or UBP11A parameter module

5 Startup

Using the IN/OUT key : Pressing the key once moves you "down" in the menu structure (selecting functions), pressing the key twice or pressing the key and waiting before releasing it moves you back into the higher levels of the menu structure.

5.1 General startup instructions

It is essential to comply with the safety notes during startup!

Prerequisite

Correct project planning of the drive is the pre-requisite for successful startup.

MOVITRAC® 07 frequency inverters are factory set to be taken into operation with the SEW motor which is adapted to the correct power level (4-pole, 50 Hz).

The motor can be connected and the drive started immediately.

The startup functions described in this section are used for setting the inverter so it is optimally adapted to the motor which is actually connected and to the given boundary conditions.

5.2 Preliminary work and resources

- Check the installation (Installation section).
- Connect the power supply system and the motor. **Do not connect any signal terminals!**
- Turn on the power supply.
- Display shows `Stop`.
- Program the signal terminals.
- Correct preliminary parameter settings (e.g. factory setting).
- Check the set terminal assignment (→ P60_ (MOVITOOLS) / P60- (display)).
- Turn off the power supply.
- Connect the signal terminals.
- Turn on the power supply.

STOP

The startup procedure automatically changes parameter values.

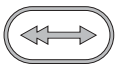
5.3 Integrated operating panel

Operation

The following basic principle applies: Pressing the  key once activates the edit mode; double-clicking the  key exits the edit mode.

Functions of the operating panel

Use the UP, DOWN and IN/OUT keys to navigate through the menus, the RUN and STOP/RESET keys to control the drive and the setpoint potentiometer for setpoint selection:

	"UP" for scrolling through the symbols and editing parameters.
	"IN/OUT" for activating and deactivating the symbols or parameter menus.
	"DOWN" for scrolling through the symbols and editing parameters.
	The drive can be started with "RUN."
	"STOP/RESET" is used for resetting errors and stopping the drive.

5.4 Operating principles for the integrated operating panel

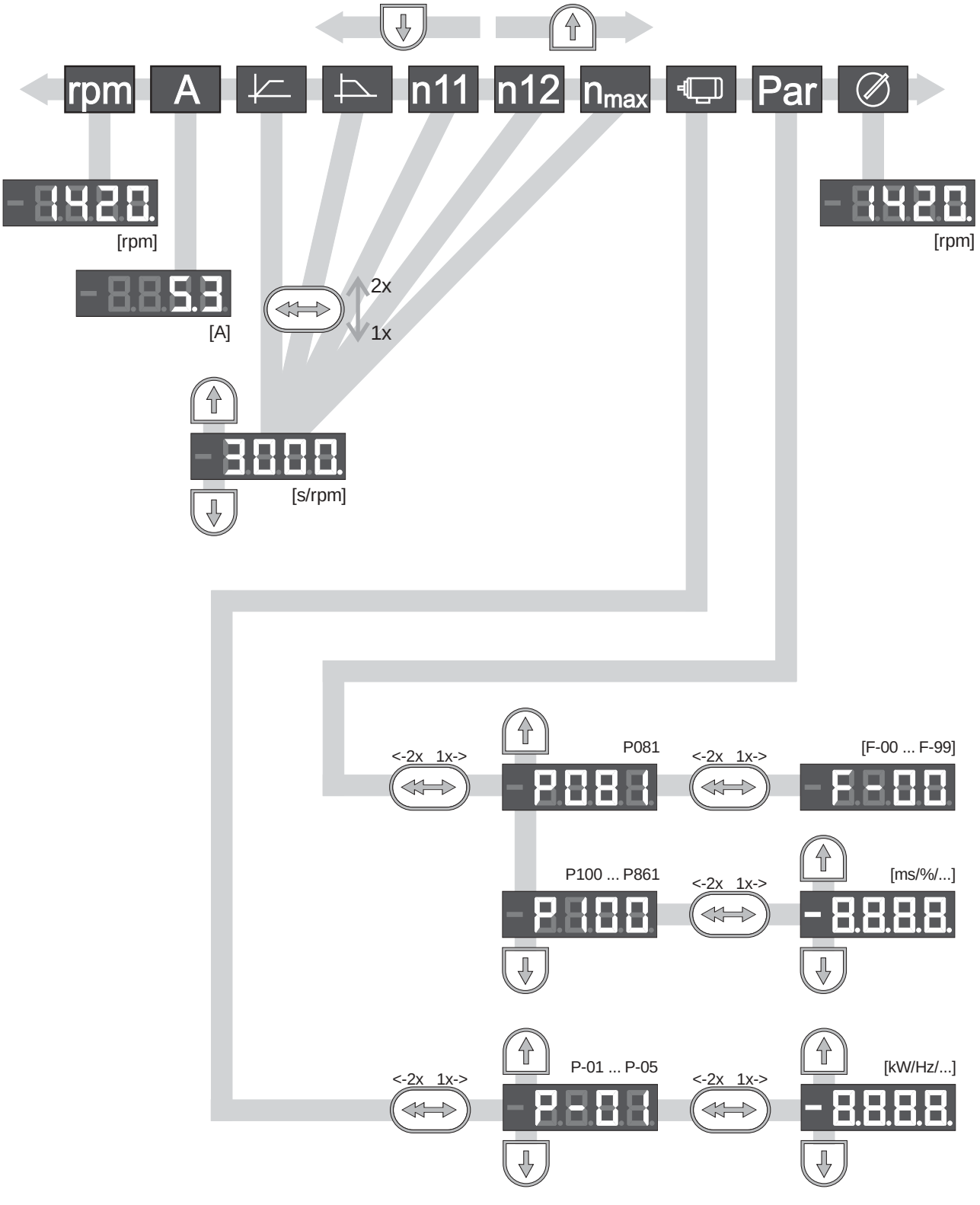
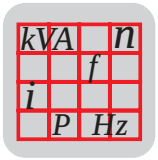


Fig. 15: Operating principles with the integrated operating panel (2x = double-click)



Available symbols

The following symbols can be selected using the ⇧ and ⇩ keys:

Symbol	Function
rpm	Displays the inverter status or (in "drive enabled" status) the calculated actual speed in [rpm]
A	Displays the apparent output current in [A]
	Sets the acceleration ramp in [s]
	Sets the deceleration ramp in [s]
n_{max}	Sets the maximum speed in [rpm]
n11	Sets fixed setpoint n11 in [rpm]
n12	Sets fixed setpoint n12 in [rpm]
	Motor startup P-01 – P-06
Par	Sets the inverter parameters
	Activates the manual speed control module on the operating panel

Menu system

The LED integrated in the symbol lights up when it is selected. In the case of symbols which represent display values only, the current display value appears immediately on the 7-segment display.

Editing parameters

After selecting the Par symbol (display: `P---`), you can select the required parameter with the ⇔ key using the ⇧ and ⇩ keys.

Pressing the ⇔ key once displays the number of the required parameter. Press the ⇔ key again to edit the parameter value. If the LED in the corresponding symbol starts flashing, it indicates that the value can now be altered. The value takes effect when you exit the edit mode by pressing the ⇔ key twice or about 1 s following the last key press.

Display

It is possible to select prepared combinations for terminal assignment parameters (601 – 604, 620, 621) on the operating panel using parameters 60- and 62-. The display shows `----` if you set a different combination with MOVITOOLS.

Status displays

Selecting the rpm symbol calls up the status display or the calculated actual speed if the status is "drive enabled."

- Drive "controller inhibit:" `dIS` (disable)
- Drive "no enable:" `StoP` (Stop)
- Drive "enabled:" `8888` (actual speed)
- Factory settings being reactivated: `SEt` (Set)

Error indication The display changes to the rpm symbol when an error occurs and the error code is shown (display flashing), for example `F-11` (refer to the error list in the Operation and Service section).

Warnings Some parameters should not be altered in all operating states. The display shows `r-19` ...`r-32` if this is attempted anyway. This step involves displaying a code corresponding to the specific action, e.g. `r-28` (controller inhibit necessary) (see the Operating and Service section for the list of warnings).

5.5 Manual speed control module and external setpoint selection

Manual speed control module on the operating panel (local manual operation): **LED flashes**

External setpoint selection (control via terminals, serial interface and setpoint potentiometer on AI11/AI12)

Manual speed control module

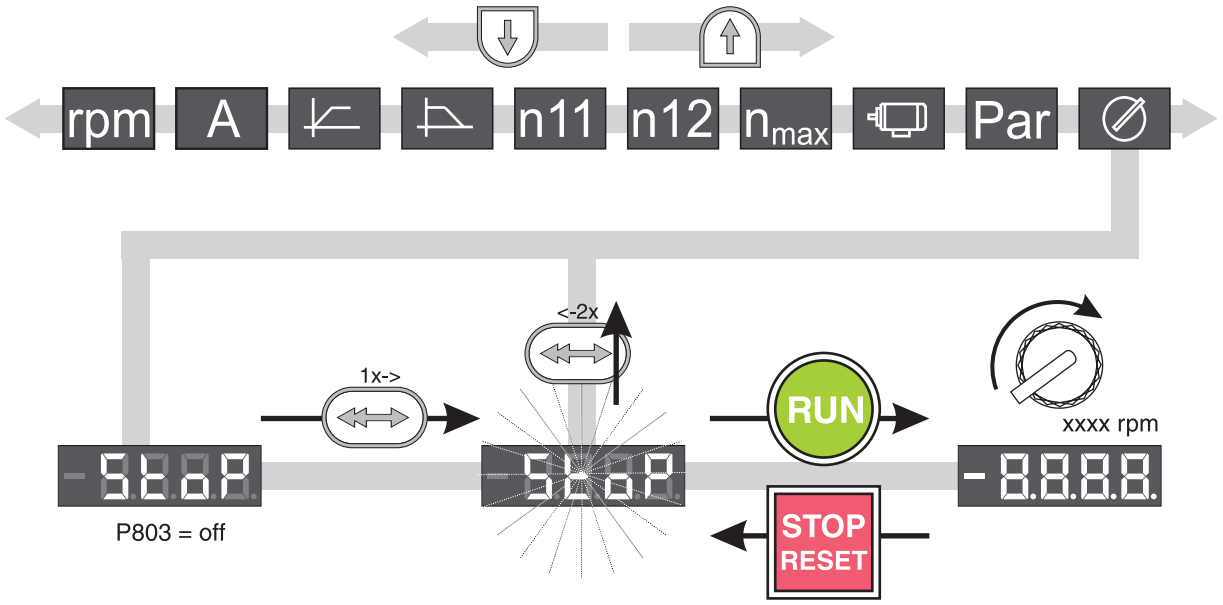


Fig. 16: Manual setpoint adjustment (2x = double-click)

The only relevant parameters in "manual speed control module" operating mode are:

- *P122 Local Potentiometer Mode*
- "RUN" and "STOP/RESET" keys
- Setpoint potentiometer

Speed is limited by *P301 Minimum speed* and *P302 Maximum speed*.

After an error, a reset can be performed using the "STOP/RESET" key, the terminal or the interface. "Manual speed control module" operating mode is reactivated after the reset; the drive stays stopped.

The Stop display flashes to indicate that the drive has to be re-enabled using the "RUN" key.

The *P760 Lock-out RUN/STOP keys* parameter does not have any effect in the "manual speed control button" operating mode.

External setpoint selection

The inverter can be enabled using the "RUN" key and stopped again using the "STOP/RESET" key. The function of both keys can be switched off using *P760 Lock-out RUN/STOP keys*.

Setpoint direction of rotation

The set direction of rotation is specified by:

- "CW/STOP" and "CCW/STOP" in *P101 Control signal source = TERMINALS* or *P101 Control signal source = 3-WIRE-CONTROL*
- The polarity of the setpoint in the process data word in *P101 Control signal source = RS-485 or SBus* **and** *P100 Setpoint source = RS-485 or SBus*

Setpoint speed

The set speed is specified by:

- The setpoint potentiometer (if *P121 Addition setpoint potentiom.* is set to ON)
- *P100 Setpoint source*
  - Fixed setpoints
  - Fixed setpoints with analog input
  - Process data word from SBus or RS-485 (RS-485 for service purposes only)
  - Motor potentiometer

Direction of rotation enable with RS-485 or SBus

If *P101 Control signal source* **and** *P100 Setpoint source* are set to RS485 or SBus, then the following directions of rotation can be enabled (RS-485 for service purposes only):

"CW/STOP" terminal	"CCW/STOP" terminal	Direction of rotation enable
0	0	Drive inhibited
1	0	CW / n_{set} > ∅ (CCW inhibited)
0	1	CCW / n_{set} < ∅ (CW inhibited)
1	1	CCW and CW

The "CW" direction of rotation is enabled if *P101 Control signal source* is set to RS485 or SBus **and** *P100 Setpoint source* is set to UNIPOL/FIX.SETPT, MOTOR POT, FIX SETP+AI1 or FIX SETP*AI1.

STOP/RESET

The STOP/RESET key has priority over a terminal enable or an enable via the interface. If a drive is stopped using the STOP/RESET key, it must be re-enabled using the RUN key.

The STOP/RESET key can be used for performing a reset after an error has occurred with a programmed error response. The drive is then inhibited and must be enabled using the RUN key.

RUN

If the drive was stopped using the STOP/RESET key, then the Stop display flashes to indicate that the drive must be enabled using the "RUN" key.

External setpoint potentiometer

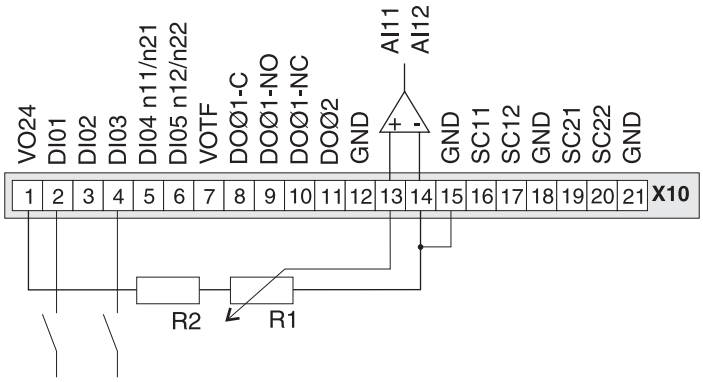
The external setpoint potentiometer is not in effect when manual mode is active.

Parameter 121 *Addition Setpoint Potentiom.* on the operating panel must be set to ON / on.

There are two possible ways of connecting an external setpoint potentiometer:

With dropping resistor

The resistance value of the external setpoint potentiometer R1 should be about 10 kΩ. The dropping resistor R2 should have a resistance value of about 12 kΩ.

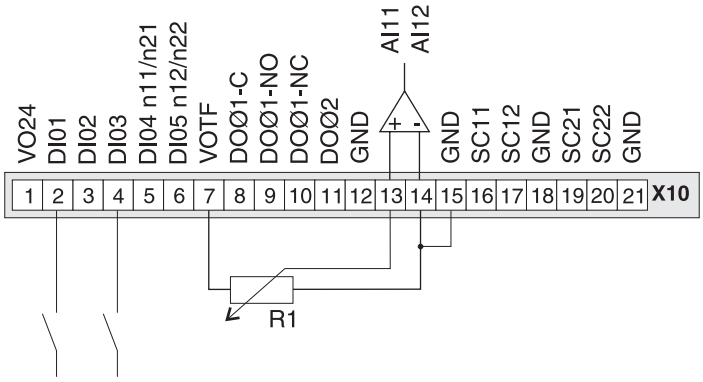


03416CXX

Fig. 17: External setpoint potentiometer with DI01 = CW/STOP / DI02 = CCW/STOP / DI03 = Enable / DO02 = Brake

Without dropping resistor

The resistance value of the external setpoint potentiometer R1 should be about 47 kΩ. No TF is allowed to be connected if the external setpoint potentiometer does not have a dropping resistor.



05324AXX

Fig. 18: External setpoint potentiometer with DI01 = CW/STOP / DI02 = CCW/STOP / DI03 = Enable / DO02 = Brake

5.6 Startup with the integrated operating panel

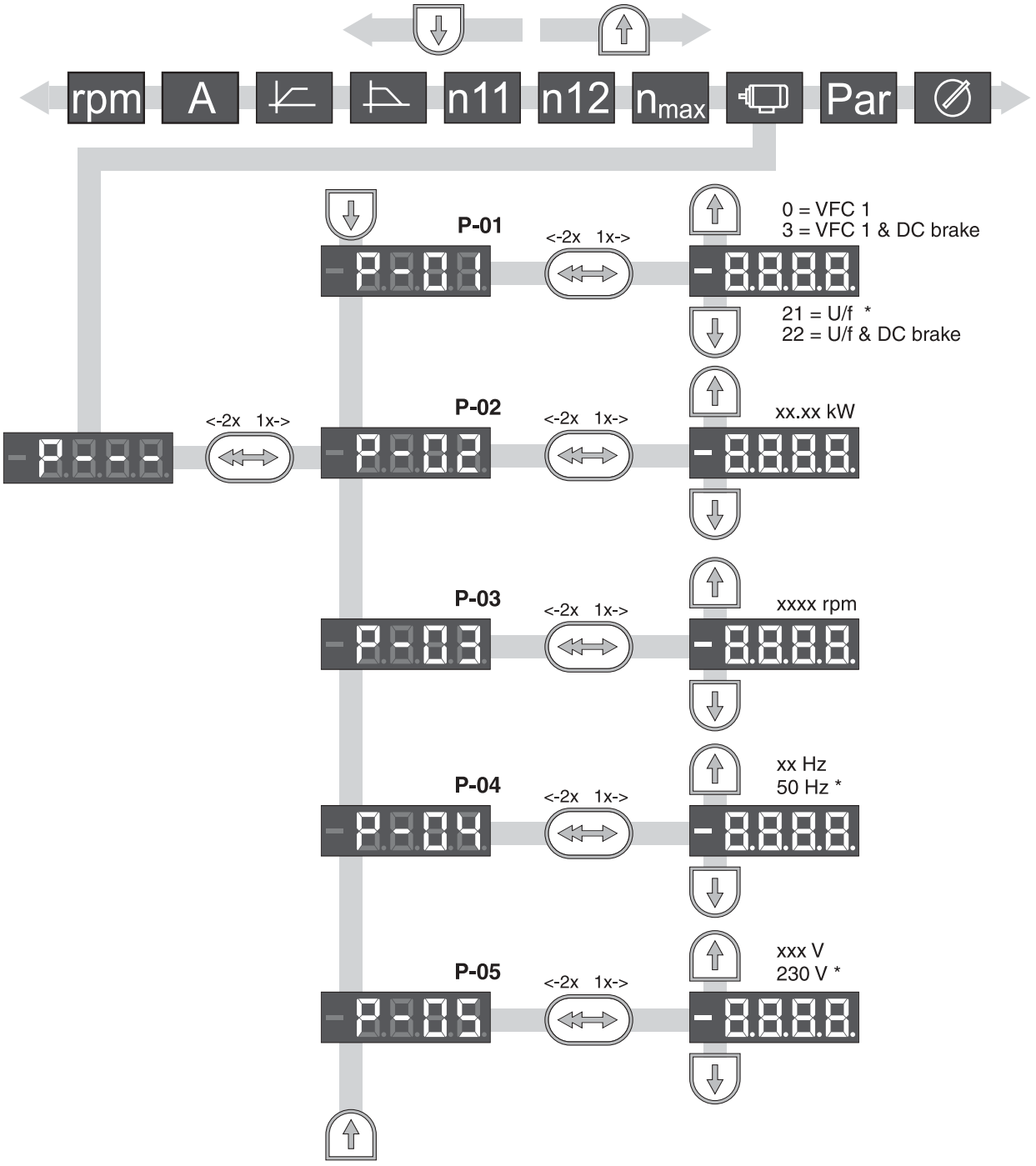


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*Fig. 19: Startup with the integrated operating panel (2x = double-click / * = factory setting)*

P-01 = Operating mode
P-02 = Rated motor power
P-03 = Rated motor speed
P-04 = Rated motor frequency
P-05 = Rated motor voltage

General information

Parameters P-01 to P-05 must be entered correctly for successful startup if the motor identified in the motor selection table is **not** connected (access via):

No.	Name	Range / Factory setting	
P-01	Operating mode:	0 3 4 **21** 22	VFC 1 or VFC 1 & HOIST (can be set in MOVITOOLS only) VFC 1 & DC BRAK. VFC 1 &FLY.START **V/f character.** V/f & DC BRAKING
P-02	Rated motor power	0.25 0.37 0.55 ... ... 15.0 22.0 30.0	[kW] Factory setting: Rated motor power in kW corresponding to the rated inverter power If a smaller or a larger motor is connected (maximum difference one frame size), then a value must be selected here which is as close as possible to the rated motor power.
P-03	Rated motor speed	10 – **1420** – 5500 [rpm]	
P-04	Rated motor frequency	**50** 60	[Hz]
P-05	Rated motor voltage	50 – 700 [V]	

The maximum speed P302 is automatically set to the transition speed during startup.

Activating startup

Prerequisites:

- Drive "no enable:" `Stop` (Stop)

The complete startup procedure is not complete until you have returned to the main menu level by pressing the key.

VFC

The default operating mode setting is V/f. Startup must be performed in VFC or VFC & DC BRAK. operating mode for high torque, continuous operation at low frequencies, accurate slip compensation and a more dynamic response. This step is accomplished during startup with the operating panel by selecting VFC (operating panel display shows 0) or VFC & DC BRAK. (operating panel display shows 3) using the symbol in point `P-01` and then performing motor adjustment using *parameter 320 Automatic adjustment*.

5.7 Starting the motor

Analog setpoints

The following table shows which signals must be present on terminals X10:2 – X10:4 (DIØ1 – DIØ5) when the "UNIPOL/FIX.SETPT" setpoint is selected (P100) to operate the drive with the analog setpoints.

Terminal	X10:13/14	X10:2	X10:3	X10:4
Function	Analog input	CW/STOP	CCW/STOP	Enable
/No enable	X	X	X	0
Enable and stop	X	0	0	1
Clockwise at 50 % n_{max}	5 V	1	0	1
Clockwise n_{max}	10 V	1	0	1
Counterclockwise at 50 % n_{max}	5 V	0	1	1
Counterclockwise n_{max}	10 V	0	1	1

X = Any
0 = Low
1 = High

The following travel diagram shows by way of example how the drive is started with the wiring of terminals X10:2 – X10:6 and the internal fixed setpoints.

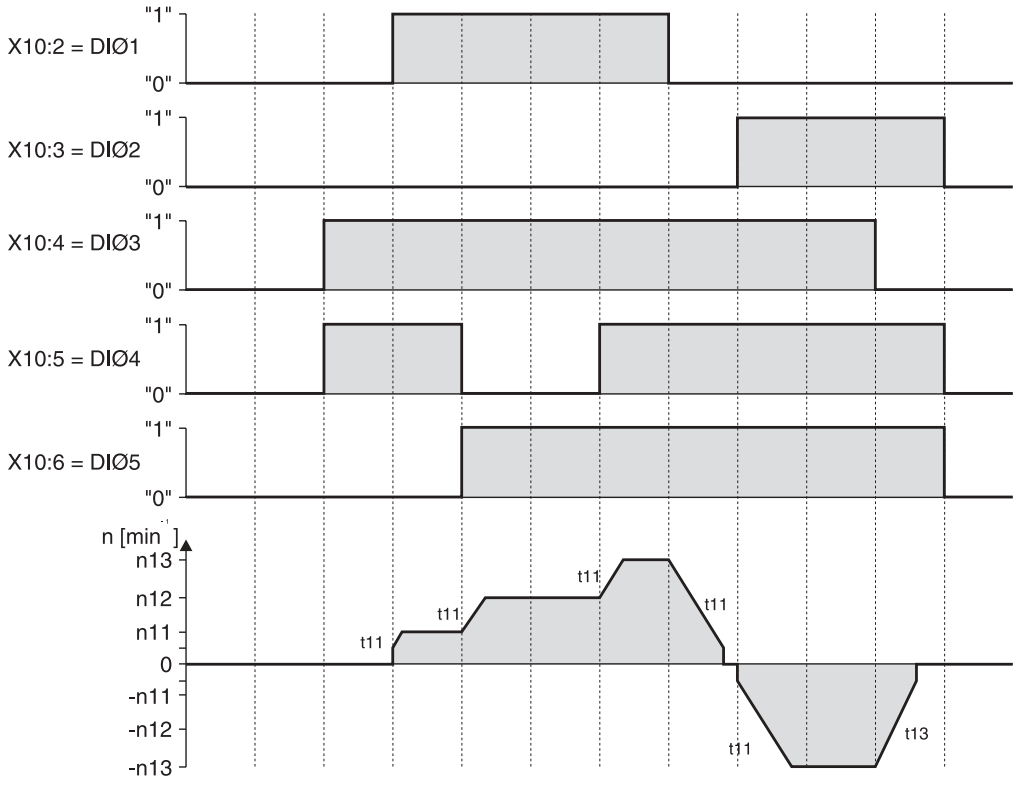

Fig. 20: Travel cycle with internal fixed setpoints

X10:2 = CW/STOP
X10:3 = CCW/STOP
X10:4 = Enable/Rapid stop
X10:5 = n11/n21
X10:6 = n12/n22

5.8 Loading a LOGODrive program

- Start the MOVITOOLS Manager.
- Connect the MOVITRAC® 07 to a free serial port on your PC using the UWS21A interface adapter. Select this interface in the PC-COM group.
- Connect the MOVITRAC® 07 to the power supply system.
- Click the Update key. This looks for all connected units and displays them in the connected inverters list.
- Click the LOGODrive button.
- Load the program you want using File / Open.
- Compile the program with Program / Compile.
- Load the program into the MOVITRAC® 07 using Program / Load.
- Start the program with Program / Start.
- If a program is currently being processed in the inverter, this fact is indicated on the display by a decimal point after the 4 digits of the speed display.

5.9 Parameter list

All parameters that can also be displayed and edited using the Par symbol on the operating panel have a • in the "OP" (operating panel) column. If more than one value can be selected, the factory setting is highlighted in **bold**.

No.	OP	Index dec.	Name	Range / Factory setting		Value after startup
				Display	MOVITOOLS	
0__			**Display values** (read only)			
00_			**Process values**			
000			Speed (signed)	rpm	[rpm]	
002			Frequency (signed)		[Hz]	
004			Output current (value)		[% I_N]	
005			Active current (signed)		[% I_N]	
008			DC link voltage		[V]	
009			Output current	A	[A]	

No.	OP	Index dec.	Name	Range / Factory setting		Value after startup
				Display	MOVITOOLS	
01_			**Status displays**			
010			Inverter status	rpm	[Text]	
011			Operational status	rpm	[Text]	
012			Error status	rpm	[Text]	
014			Heat sink temperature		[°C]	
02_			**Analog setpoint**			
020			Analog input AI1		[V]	
03_			**Binary inputs**			
031			Binary input DI01		CW/STOP (fixed assignment)	
032			Binary input DI02		CCW/STOP (factory setting)	
033			Binary input DI03		ENABLE/RAP.STOP (factory setting)	
034			Binary input DI04		n11/n21 (factory setting)	
035			Binary input DI05		n12/n22 (factory setting)	
036			Binary inputs DI01..DI05		Binary display	
05_			**Binary outputs**			
051			Binary output DO01		/ERROR (factory setting)	
052			Binary output DO02		BRAKE RELEASED (factory setting)	
053			Binary outputs DO01, DO02		Binary display	
07_			**Unit data**			
070			Unit type		[Text]	
071			Rated output current		[A]	
076			Firmware basic unit		[Part number and version]	
08_			**Error memory**			
080	•	8366	Error t-0	Error code	Background information for errors which occurred previously.	
09_			**Bus diagnostics**			
090			PD configuration		1 PD + PARAMETER / 1 PD / 2 PD + PARAMETER / 2 PD / 3PD + PARAMETER / 3 PD	
094	•	8455	PO1 setpoint		[hex]	
095	•	8456	PO2 setpoint		[hex]	
096	•	8457	PO3 setpoint		[hex]	
097			PI1 actual value		[hex]	
098			PI2 actual value		[hex]	
099			PI3 actual value		[hex]	

No.	OP	Index dec.	Name	Range / Factory setting		Value after startup
				Display	MOVITOOLS	
1__			**Setpoints/ramp generators**			
10_			**Setpoint preselection**			
100	•	8461	Setpoint source	**1** 2 4 6 7 10 11	**UNIPOL/FIX SETP** RS-485 MOTOR POT FIX SETP+AI1 FIX SETP *AI1 SBus Frequency input (in preparation)	
101	•	8462	Control signal source	**0** 1 3 4	**TERMINALS** RS-485 SBus 3-WIRE-CONTROL	
102	•	8840	Frequency scaling	Setting range 0.1 – **10** – 65.00 [kHz]		
11_			**Analog input 1 (+10V)**			
110	•	8463	AI1 scaling	0.1 – **1** – 10		
112	•	8465	AI1 operation mode	0 **1** 5 6	3000 rpm (0 - 10 V) **N-MAX (0 - 10 V)** N-MAX (0 - 20mA) N-MAX (4 - 20mA)	
12_			**Analog input 2 (setpoint potentiometer of the integrated operating panel)**			
121	•	8811	Addition setpoint potentiometer	**off** on	**OFF** ON	
122	•	8799	Local potentiometer mode	**0** 1 2	**UNIPOLAR CW** UNIPOLAR CCW BIPOLAR CW+CCW	
13_			**Speed ramps**			
130	•	8807	Ramp t11 up	0.1 – **2** – 2000 [s]		
131	•	8808	Ramp t11 down	0.1 – **2** – 2000 [s]		
136	•	8476	Stop ramp t13	0.1 – **2** – 20 [s]		
138		8794	Ramp limit	0 **1**	NO **YES**	
15_			**Motor potentiometer function**			
150	•	8809	Ramp t3 up	0.2 – **20** – 50 [s]		
152	•	8488	Save last setpoint	**off** on	**OFF** ON	
16_			**Fixed setpoints (set 1)**			
160	•	8489	Internal setpoint n11	n11	0 – **150** – 5000 [rpm]	
161	•	8490	Internal setpoint n12	n12	0 – **750** – 5000 [rpm]	
162	•	8491	Internal setpoint n13	0 – **1500** – 5000 [rpm]		

No.	OP	Index dec.	Name	Range / Factory setting		Value after startup
				Display	MOVITOOLS	
163	•	8814	Internal setpoint n11 PI controller	0 – **3** – 100 [% I_N]		
164	•	8815	Internal setpoint n12 PI controller	0 – **15** – 100 [% I_N]		
165	•	8816	Internal setpoint n13 PI controller	0 – **30** – 100 [% I_N]		
17_			**Fixed setpoints (set 2)**			
170	•	8492	Internal setpoint n21	0 – **150** – 5000 [rpm]		
171	•	8493	Internal setpoint n22	0 – **750** – 5000 [rpm]		
172	•	8494	Internal setpoint n23	0 – **1500** – 5000 [rpm]		
173	•	8817	Internal setpoint n21 PI controller	0 – **3** – 100 [% I_N]		
174	•	8818	Internal setpoint n22 PI controller	0 – **15** – 100 [% I_N]		
175	•	8819	Internal setpoint n23 PI controller	0 – **30** – 100 [% I_N]		
2__			**Controller parameters**			
25_			**PI controller**			
250	•	8800	PI controller	**0** 1 2	**OFF** ON NORMAL ON INVERTED	
251	•	8801	P-gain	0 – **1** – 64		
252	•	8802	I-component	0 – **1** – 2000 [s]		
253	•	8465	PI actual value mode	**1** 5 6	**0 – 10 V** 0 – 20 mA 4 – 20 mA	
254	•	8463	PI actual value scaling	0 – **1.0** – 10.0		
255	•	8812	PI actual value offset	**0.0** – 100.0 [%]		
3__			**Motor parameters**			
30_			**Limits**			
301	•	8516	Minimum speed	0 – **15** – 5500 [rpm]		
302	•	8517	Maximum speed	n_{max} 0 – **1500** – 5500 [rpm]		
303	•	8518	Current limit	0 – **150** [% I_N]		

No.	OP	Index dec.	Name	Range / Factory setting		Value after startup
				Display	MOVITOOLS	
32_			**Motor adjustment**			
320	•	8523	Automatic adjustment	off **on**	OFF **ON**	
321	•	8524	Boost	0 – 100 [%]		
322	•	8525	IxR compensation	0 – 100 [%]		
323	•	8526	Premagnetizing time	0 – 2000 [ms]		
324	•	8527	Slip compensation	0 – 500 [rpm]		
325	•	8834	No-load damping	**off** on	**OFF** ON	
4__			**Reference signals**			
40_			**Speed reference signal**			
400	•	8539	Speed reference value	0 – **750** – 5000 [rpm]		
401	•	8540	Hysteresis	0 – **100** – +500 [rpm]		
402	•	8541	Delay time	0 – **1** – 9 [s]		
403	•	8542	Signal = "1" if:	**0** 1	**n < n_{ref}** n > n_{ref}	
45_			**PI controller reference signal**			
450	•	8813	PI actual value threshold	**0.0** – 100.0 [%]		
5__			**Monitoring functions**			
50_			**Speed monitoring**			
500	•	8557	Speed monitoring	**0** 3	**OFF** MOT. & REGEN.MODE	
501	•	8558	Delay time	0 – **1** – 10 [s]		
6__			**Terminal assignment**			
60_			**Binary inputs**			
60-	•	8803	Binary inputs DI01 has a fixed setting of CW/STOP.		DI02 / DI03 / DI04 / DI05	
				0	CCW/STOP / FIX SETPT TOG / n11/n21 / n12/n22	
				1	**CCW/STOP / ENABLE / n11/n21 / n12/n22**	
				2	CCW/STOP / ENABLE / MOTOR POT UP / MOT. POT DOWN	
				3	ENABLE / FIX SETPT TOG / n11/n21 / n12/n22	
				4	CCW/STOP / SETPOINT HOLD / n11/n21 / n12/n22	
				5	CCW/STOP / ENABLE / EXT. ERROR / ERROR RESET	
				6	CCW/STOP / ENABLE / ERROR RESET / TF RESPONSE	
				7	CCW/STOP / EXT. ERROR / n11/n21 / n12/n22	
				8	CCW/STOP / ENABLE / n11/n21 / CTRL.INHIBIT	
				-	(deviating combination set with MOVITOOLS)	

No.	OP	Index dec.	Name	Range / Factory setting		Value after startup
				Display	MOVITOOLS	
601		8336	Binary input DI02		NO FUNCTION ENABLE /STOP CW/STOP CCW/STOP n11/n21 n12/n22 FIX SETPT TOGGLE MOTOR POT UP MOTOR POT DOWN /EXT. ERROR ERROR RESET SETPOINT HOLD TF RESPONSE (with DI05 only) CONTROLLER INHIBIT	
602		8337	Binary input DI03			
603		8338	Binary input DI04			
604		8339	Binary input DI05			
62_			**Binary outputs**			
62-	•	8804	Binary outputs		DO01 DO02 **0 /ERROR BRAKE RELEASED** 1 READY BRAKE RELEASED 2 SPEED REFERENCE BRAKE RELEASED 3 SP/ACT.VAL.COMP. BRAKE RELEASED 4 /ERROR SPEED REFERENCE 5 /ERROR SP/ACT.VAL.COMP. 6 /ERROR READY 7 /ERROR ROT. FIELD ON 8 /ERROR PI ACT.VALUE REF. 9 PI ACT.VALUE REF. BRAKE RELEASED - (deviating combination set with MOVITOOLS)	
620		8350	Binary output DO01		NO FUNCTION /ERROR READY OUTP. STAGE ON ROT. FIELD ON BRAKE RELEASED SPEED REFERENCE SP/ACT.VAL.COMP. PI ACT.VALUE REF.	
621		8351	Binary output DO02			
7__			**Control functions**			
70_			**Operating modes**			
700		8574	Operating mode (setting on the operating panel with , P-01).	0 3 4 "0" **21** 22	VFC 1 VFC 1 & DC BRAK. VFC 1 & FLY.START VFC 1 & HOIST (with MOVITOOLS only) **V/f CHARACTERISTICS** V/f & CHARACTERISTICS & DC BRAKING	
72_			**Setpoint stop function**			
720	•	8578	Setpoint stop function	**off** on	**OFF** ON	
721	•	8579	Stop setpoint	0 – **30** – 500 [rpm]		
722	•	8580	Start offset	0 – **30** – 500 [rpm]		
73_			Brake function			
736	•	8828	Brake application time	0.0 – **0.1** – 2 [s]		
76_			**Manual operation**			
760	•	8798	Lock-out RUN/ STOP keys	**no** yes	**NO** YES	

No.	OP	Index dec.	Name	Range / Factory setting		Value after startup
				Display	MOVITOOLS	
8__			**Unit functions**			
80_			**Setup**			
802	•	8594	Factory setting	yes **no**	FACTORY SETTING **NO** STATUS AT DELIVERY	
803	•	8595	Parameter lock	**off** on	**OFF** ON	
804		8596	Reset statistics data		**NO** ERROR MEMORY	
81_			**Serial communication**			
810	•	8597	RS485 address	**0** – 99		
811		8598	RS-485 group address		**100** – 199	
812		8599	RS485 remote timeout		**0** – 650 [s]	
813	•	8600	SBus address	**0** – 63		
814		8601	SBus group address		**0** – 63	
815		8602	SBus timeout delay		**0** – 650 [s]	
816	•	8603	SBus baud rate	0 1 **2** 3	125 kbaud 250 kbaud **500 kbaud** 1000 kbaud	
82_			**Brake operation**			
820	•	8607	4-quadrant operation	off **on**	OFF **ON**	
83_			**Error response**			
830	•	8609	Response EXT. ERROR	2 **4**	IMM. STOP/ERROR **RAPID STOP/ERROR**	
84_			**Reset response**			
840		8617	Manual reset		YES **NO**	
86_			**Modulation**			
860	•	8620	PWM frequency	**0** 1 2 3	**4 kHz** 8 kHz 12 kHz 16 kHz	
862	•	8751	PWM fix	yes **no**	YES **NO**	

No.	OP	Index dec.	Name	Range / Factory setting		Value after startup
				Display	MOVITOOLS	
87_			**Fieldbus parameter setting**			
870		8304	Setpoint description PO1		**NO FUNCTION** (factory setting P872) **SPEED** (factory setting P871) MAX. SPEED RAMP **CTRL. WORD 1** (factory setting P870) SPEED [%] PI CONTROLLER SETPOINT	
871		8305	Setpoint description PO2			
872		8306	Setpoint description PO3			
873		8307	Actual value description PI1		NO FUNCTION **SPEED** (factory setting P874) **OUTP. CURRENT** (factory setting P875) ACTIVE CURRENT **STATUS WORD 1** (factory setting P873) SPEED [%] IPOS PI-DATA PI CONTROLLER [%]	
874		8308	Actual value description PI2			
875		8309	Actual value description PI3			
876		8622	PO data enable		OFF **ON**	
9__			IPOS/LOGODRIVE parameters			
93_			IPOS/LOGODRIVE special functions			
931			Task 1/2	**off** on		
932			Task 2	**off** on		

6 Operation and Service

6.1 Error information

Error memory

The error message is stored in error memory P080. A new error is not stored until the error message has been acknowledged. The last error which occurred is displayed on the local operating panel. This means if a double error occurs, e.g. F-07 DC link overvoltage followed by F-34 Ramp timeout, the error stored in P080 and the value displayed on the operating panel will not be the same (here: F-07 in P080 and F-34 on the operating panel).

The following information is stored when a malfunction takes place:

Error which occurred / Status of the binary inputs/outputs / Operational status of the inverter / Inverter status / Heat sink temperature / Speed / Output current / Active current / Unit utilization / DC link circuit voltage.

Switch-off responses

There are three switch-off responses depending on the error.

Inhibit means: Output stage inhibited, reset required.

Immediate switch-off

The unit can no longer brake the drive; the output stage goes to high resistance in the event of an error and the brake is applied immediately.

Rapid stop with inhibit

The drive is braked with the stop ramp t13. The brake is applied when the *minimum speed P301* is reached. **The output stage goes into high-resistance.** In case *P820 4-quadrant operation = OFF*, deceleration is not with a ramp but instead by means of direct current braking.

Rapid stop without inhibit

The drive is braked with the stop ramp t13. The brake is applied when the *minimum speed P301* is reached. If *P820 4-quadrant operation = OFF*, deceleration is not with a ramp but instead by means of direct current braking.

Reset

An error message can be acknowledged by:

- Switching the power supply off and on again. Recommendation: Observe a minimum switch-off time of 10 s for the mains contactor.
- Reset via input terminals, i.e. via an appropriately assigned binary input (DIØ2 – DIØ5).
- Manual reset in MOVITOOLS (*P840 Manual reset = YES* or the Reset button in the Status window
- Manual reset on the operating panel (STOP/RESET key)

The STOP/RESET key has priority over a terminal enable or an enable via the interface.

The STOP/RESET key can be used for performing a reset after an error has occurred with a programmed error response. The drive is inhibited after a reset and must be enabled using the RUN key.

Current limit

The speed display starts to flash when the current limit is reached.

6.2 List of errors (F-00 – F-97)

No.	Name	Response	Possible cause	Action
00	No error			
01	Overcurrent	Immediate switch-off	• Short circuit on output • Output switching • Motor too large • Defective output stage • Ramp limit (P138) switched off	• Rectify the short circuit • Only switch when output stage inhibited • Connect a smaller motor • Call SEW Service for advice if the error still cannot be reset • Ramp limit (P138 = YES)
03	Ground fault	Immediate switch-off	• Ground fault on motor • Ground fault on inverter • Ground fault in the motor lead • Overcurrent (see F-01)	• Replace motor • Replace MOVITRAC® 07 • Rectify the ground fault • See F-01
04	Brake chopper	Immediate switch-off	• Excessive regenerative power • Braking resistor circuit interrupted • Short circuit in braking resistor circuit • Excessively high braking resistance • Brake chopper defective	• Extend deceleration ramps • Check connecting harness for braking resistor • Rectify the short circuit • Check technical data of braking resistor • Replace MOVITRAC® 07
06	Supply system phase failure (only with three-phase inverter)	Immediate switch-off	Phase fault	Check supply system lead
07	DC-link overvoltage	Immediate switch-off	DC link voltage too high	• Extend deceleration ramps • Check connecting harness for braking resistor • Check technical data of braking resistor
08	Speed monitoring	Immediate switch-off	Current controller is operating at the setting limit due to: • mechanical overload • phase fault in supply system • phase fault in motor Maximum speed for VFC operating mode exceeded	• Reduce load • Increase delay time setting P501 • Check current limitation • Extend deceleration ramps • Check power supply phases • Check motor cable and motor • Reduce maximum speed
10	ILLOP	Emergency stop	• Incorrect command during running of program • Incorrect conditions during running of program	• Check program • Check program structure
11	Overtemper-ature	Rapid stop with inhibit	Thermal overload of inverter	• Reduce load and/or ensure adequate cooling • If the braking resistor is integrated in the heat sink: Mount the braking resistor externally
17-24	System error	Immediate switch-off	Inverter electronics disrupted, possibly due to effect of EMC	Check ground connections and shields; improve them if necessary. Contact SEW Service for advice if problem reoccurs.
25	EEPROM	Rapid stop with inhibit	Error when accessing EEPROM	Call up default setting, perform reset and set parameters again. Contact SEW Service for advice if problem reoccurs.

No.	Name	Response	Possible cause	Action
26	External terminal	Program-mable	Read in external error signal via programmable input	Eliminate specific cause of error; reprogram terminal if appropriate.
31	TF sensor	Rapid stop with inhibit	• Motor too hot, TF sensor has tripped • TF sensor of motor not connected or not connected properly • Connection of MOVITRAC® 07 and TF interrupted on motor	• Let motor cool down and reset error • Check connections/links between MOVITRAC® 07 and TF
32	Index overrun	Emergency stop	Basic programming rules violated causing internal stack overflow	Check and correct user program
34	Ramp timeout	Immediate switch-off	F34 is signaled if the rapid stop ramp time t13 is exceeded (rotating field is still switched on) by a certain time value after the enable has been withdrawn.	Extend the rapid stop ramp time
37	Watchdog timer	Immediate switch-off	Error in system software sequence	Check ground connections and shields; improve them if necessary. Contact SEW Service for advice if this reoccurs.
38	System software	Immediate switch-off	System error	Check ground connections and shields; improve them if necessary. Contact SEW Service for advice if problem reoccurs.
43	RS-485 timeout	Rapid stop without inhibit[1)]	Communication between inverter and PC interrupted	Check connection between inverter and PC.
44	Unit utilization	Immediate switch-off	Excessive unit utilization (Ixt value)	• Reduce power output • Extend ramps • If these points are not possible: use a larger inverter
45	Initialization	Immediate switch-off with inhibit	Error during initialization	Contact SEW Service.
47	System bus timeout	Rapid stop without inhibit[1)]	Error during communication via system bus	Check system bus connection.
77	Control word	None	Attempt was made to set an invalid automatic mode (via external control)	• Check serial connection to external control • Check write values of external control
81	Start condition	Immediate switch-off	**In "VFC hoist" operating mode only:** Current during premagnetization phase could not be injected into motor at a high enough level: • Rated motor power too small in relation to rated inverter power • Motor cable cross section too small	• Check connection between inverter and motor • Check startup data and repeat startup if necessary
82	Output open	Immediate switch-off	**In "VFC hoist" operating mode only:** • Two or all output phases interrupted • Rated motor power too small in relation to rated inverter power	Check connection between inverter and PC.
94	EEPROM checksum	Immediate switch-off	EEPROM defective	Contact SEW Service for advice.

No.	Name	Response	Possible cause	Action
97	Copy error	Immediate switch-off	• Parameter module disconnected during copying process • Switching off/on during copying process	Prior to acknowledging the error: • Activate factory setting or • load complete data record from parameter module

1) No reset required, error message disappears after communication is reestablished

6.3 List of warnings (r-19 – r-32)

No.	Name	Meaning
17	Function not implemented	Function not available in inverter
19	Parameter lock-out active	Parameters cannot be altered
32	Enable	Function cannot be performed in ENABLE status

6.4 SEW electronics service

Send in for repair

Please contact the **SEW electronics service if an error cannot be rectified** (→ "Customer and spare parts service").

When contacting the SEW electronics service, please always quote the digits of your service code to enable our service personnel to assist you more effectively.

Please provide the following information if you are sending the unit in for repair:
Serial number (→ nameplate)
Unit designation
Brief description of the application (application, control via terminals or serial)
Motor which is connected (motor voltage, star or delta connection)
Nature of the error
Peripheral circumstances
Your own presumptions of what has happened
Any unusual events, etc. preceding the error

7 Technical Data

7.1 General technical data

The following table lists the technical data applicable to all MOVITRAC® 07 frequency inverters, regardless of their size and performance.

MOVITRAC® 07	All sizes
Interference immunity	To EN 61800-3
Interference emission with EMC-compliant installation	To class B limit (1-phase) / class A limit (3-phase 230 V: up to 7.5 kW, 400/500 V: up to 11 kW) acc. to EN 55011 and EN 55014; complies with EN 61800-3
Earth-leakage current	> 3.5 mA
Ambient temperature ϑ_{amb} Power reduction Climate class	-10 °C – + 50 °C at 100 % I_N and f_{PWM} = 4 kHz -10 °C – +40 °C at 125 % I_N and f_{PWM} = 4 kHz 3.0 % I_N per K to max. 60 °C EN 60721-3-3, class 3K3
Storage temperature Shipping temperature	-25 °C – +75 °C -25 °C – +75 °C
Enclosure	IP 20
Operating mode	Continuous duty (EN 60149-1-1 and 1-3)
Installation altitude	h ≤ 1000 m (3300 ft) I_N reduction: 1 % per 100 m (330 ft) from 1000 m (3300 ft) to max. 4000 m (13,200 ft) V_N reduction: 3 V per 100 m (330 ft) from 2000 m (6600 ft) to max. 4000 m (13,200 ft) above 2000 m (6600 ft), overvoltage class 2 only, external measures are required for overvoltage class 3 (overvoltage classes acc. to DIN VDE 0110-1)
Vibration-resistance	To EN 50 178 / VDE 0160

7.2 Technical data of MOVITRAC® 07 A...

Technical data of MOVITRAC® 07 A...-2B1-4-..

1 phase 230 V_{AC}

0.37 – 2.2 kW

MOVITRAC® 07 (1 phase power supply)		004	005	008	011	015	022
Part number		**826 951 3**	**826 952 1**	**826 953 X**	**826 954 8**	**826 955 6**	**826 956 4**
Part number with LOGODrive		**827 185 2**	**827 186 0**	**827 187 9**	**827 188 7**	**827 189 5**	**827 190 9**
INPUT							
Input voltage Permitted range	V_{mains}	1 x 230 V_{AC} V_{mains} = 200 V_{AC} -10 % – 240 V_{AC} +10 %					
Input frequency	f_{mains}	50/60 Hz +/-5 %					
Rated system current, 1-ph. (at V_{mains} = 230 V_{AC})	100 % I_{sys} 125 % I_{sys}	6.1 A_{AC} 7.5 A_{AC}	8.5 A_{AC} 10.2 A_{AC}	9.9 A_{AC} 11.8 A_{AC}	13.4 A_{AC} 16.8 A_{AC}	16.7 A_{AC} 20.7 A_{AC}	19.7 A_{AC} 24.3 A_{AC}
OUTPUT							
Output voltage	V_N	3 x 0 – V_{mains}					
Recommended motor power under constant load (at V_{mains} = 230 V_{AC})	P_{mot}	0.37 kW 0.5 HP	0.55 kW 0.75 HP	0.75 kW 1.0 HP	1.1 kW 1.5 HP	1.5 kW 2.0 HP	2.2 kW 3.0 HP
Recommended motor power under variable torque load or constant load without overload (at V_{mains} = 230 V_{AC})	P_{mot}	0.55 kW 0.75 HP	0.75 kW 1.0 HP	1.1 kW 1.5 HP	1.5 kW 2.0 HP	2.2 kW 3.0 HP	3.0 kW 4.0 HP
Rated output current (at V_{mains} = 230 V_{AC})	I_N	2.5 A_{AC}	3.3 A_{AC}	4.2 A_{AC}	5.7 A_{AC}	7.3 A_{AC}	8.6 A_{AC}
GENERAL							
Power loss at I_N	P_V	45 W	55 W	65 W	75 W	100 W	125 W
Current limitation		125 % I_N continuous duty (fan/pump operation) 150 % I_N for maximum 60 seconds					
PWM frequency	f_{PWM}	4 / 8 / 12 / 16 kHz					
Speed range Resolution	n_A Δn_A	0 – 5500 rpm 1 rpm					
Connections		Terminals 2.5 mm^2			Terminals 4 mm^2		
Dimensions	WxHxD	90 x 185 x 150 mm 3.5 x 7.2 x 5.9 in			90 x 295 x 150 mm 3.5 x 9.5 x 5.9 in		
Weight	m	1.5 kg 3.3 lb			2.5 kg 5.5 lb		
Size		0S			0L		

Technical data of MOVITRAC® 07 A...-2A3-4-..

3 phase 230 V_{AC}

0.37 – 2.2 kW

MOVITRAC® 07 (3 phase power supply)		004	005	008	011	015	022
Part number		**826 957 2**	**826 958 0**	**826 959 9**	**826 960 2**	**826 961 0**	**826 962 9**
Part number with LOGODrive		**827 191 7**	**827 192 5**	**827 193 3**	**827 194 1**	**827 195 X**	**827 196 8**
INPUT							
Input voltage Permitted range	V_{mains}	3 x 230 V_{AC} V_{mains} = 200 V_{AC} -10 % – 240 V_{AC} +10 %					
Input frequency	f_{mains}	50/60 Hz +/-5 %					
Rated system current, 3 ph. (at V_{mains} = 230 V_{AC})	100 % I_{sys} 125 % I_{sys}	2.0 A_{AC} 2.4 A_{AC}	2.8 A_{AC} 3.4 A_{AC}	3.3 A_{AC} 4.1 A_{AC}	5.1 A_{AC} 6.3 A_{AC}	6.4 A_{AC} 7.9 A_{AC}	7.6 A_{AC} 9.5 A_{AC}
OUTPUT							
Output voltage	V_N	3 x 0 – V_{mains}					
Recommended motor power under constant load (at V_{mains} = 230 V_{AC})	P_{mot}	0.37 kW 0.5 HP	0.55 kW 0.75 HP	0.75 kW 1.0 HP	1.1 kW 1.5 HP	1.5 kW 2.0 HP	2.2 kW 3.0 HP
Recommended motor power under variable torque load or constant load without overload (at V_{mains} = 230 V_{AC})	P_{mot}	0.55 kW 0.75 HP	0.75 kW 1.0 HP	1.1 kW 1.5 HP	1.5 kW 2.0 HP	2.2 kW 3.0 HP	3.0 kW 4.0 HP
Rated output current (at V_{mains} = 230 V_{AC})	I_N	2.5 A_{AC}	3.3 A_{AC}	4.2 A_{AC}	5.7 A_{AC}	7.3 A_{AC}	8.6 A_{AC}
GENERAL							
Power loss at I_N	P_V	45 W	55 W	65 W	75 W	100 W	125 W
Current limitation		125 % I_N continuous duty (fan/pump operation) 150 % I_N for maximum 60 seconds					
PWM frequency	f_{PWM}	4 / 8 / 12 / 16 kHz					
Speed range Resolution	n_A Δn_A	0 – 5500 rpm 1 rpm					
Connections		Terminals 2.5 mm^2			Terminals 4 mm^2		
Dimensions	WxHxD	90 x 185 x 150 mm 3.5 x 7.2 x 5.9 in			90 x 295 x 150 mm 3.5 x 9.5 x 5.9 in		
Weight	m	1.5 kg 3.3 lb			2.5 kg 5.5 lb		
Size		0S			0L		

Technical data of MOVITRAC® 07 A...-2.3-4-..

3 phase 230 V_{AC}

3.7 – 30 kW

MOVITRAC® 07 (3 phase power supply)		037	055	075	110	150	220	300
Part number		**827 278 6**	**827 279 4**	**827 280 8**	**827 281 6**	**827 282 4**	**827 283 2**	**827 284 0**
Part number with LOGODrive		**827 285 9**	**827 286 7**	**827 287 5**	**827 288 3**	**827 289 1**	**827 290 5**	**827 291 3**
INPUT								
Input voltage Permitted range	V_{mains}	3 x 230 V_{AC} V_{mains} = 200 V_{AC} -10 % – 240 V_{AC} +10 %						
Input frequency	f_{mains}	50/60 Hz +/-5 %						
Rated system current, 3-ph (at V_{mains} = 230 V_{AC})	100 % I_{syst} 125 % I_{sys}	12.9 A_{AC} 16.1 A_{AC}	19.5 A_{AC} 24.4 A_{AC}	27.4 A_{AC} 34.3 A_{AC}	40.0 A_{AC} 50.0 A_{AC}	48.6 A_{AC} 60.8 A_{AC}	72 A_{AC} 90 A_{AC}	86 A_{AC} 107 A_{AC}
OUTPUT								
Output voltage	V_N	3 x 0 – V_{mains}						
Recommended motor power under constant load (at V_{mains} = 230 V_{AC})	P_{mot}	3.7 kW 5 HP	5.5 kW 7.5 HP	7.5 kW 10 HP	11 kW 15 HP	15 kW 20 HP	22 kW 30 HP	30 kW 40 HP
Recommended motor power under variable torque load or constant load without overload (at V_{mains} = 230 V_{AC})	P_{mot}	5.5 kW 7.5 HP	7.5 kW 10 HP	11 kW 15 HP	15 kW 20 HP	22 kW 30 HP	30 kW 40 HP	37 kW 50 HP
Output rated current (at V_{mains} = 230 V_{AC})	I_N	14.5 A_{AC}	22 A_{AC}	29 A_{AC}	42 A_{AC}	54 A_{AC}	80 A_{AC}	95 A_{AC}
GENERAL								
Power loss at I_N	P_V	210 W	300 W	380 W	580 W	720 W	1100 W	1300 W
Current limitation		125 % I_N continuous duty (fan/pump operation) 150 % I_N for maximum 60 seconds						
PWM frequency	f_{PWM}	4 / 8 / 12 / 16 kHz						
Speed range Resolution	n_A Δn_A	0 – 5500 rpm 1 rpm						
Connections	Terminals	4 mm^2		6 mm^2	10 mm^2	16 mm^2	25 mm^2	35 mm^2
Dimensions	WxHxD	105 x 315 x 144 mm 4.1 x 12.4 x 5.7 in	130 x 335 x 196 mm 5.1 x 13.2 x 7.7 in		200 x 465 x 218 mm 7.9 x 18.3 x 8.6 in		280 x 522 x 222 mm 11.0 x 20.6 x 8.7 in	
Weight	m	3.5 kg 7.7 lb	6.6 kg 14.6 lb		15 kg 33.1 lb		27 kg 59.5 lb	
Size		1	2		3		4	

Technical data of MOVITRAC® 07 A...-5A3-4-..

3 phase 400 V_{AC}

0.55 – 4.0 kW

MOVITRAC® 07 (3 phase supply system)		**005**	**008**	**011**	**015**	**022**	**030**	**040**
Part number		**827 247 6**	**827 248 4**	**827 249 2**	**827 250 6**	**827 251 4**	**827 252 2**	**827 253 0**
Part number with LOGODrive		**827 292 1**	**827 293 x**	**827 294 8**	**827 295 6**	**827 296 4**	**827 297 2**	**827 298 0**
INPUT								
Input voltage Permitted range	V_{mains}	3 x 400 V_{AC} V_{mains} = 380 V_{AC} -10 % – 500 V_{AC} +10 %						
Input frequency	f_{supply}	50/60 Hz +/-5 %						
Rated system current, 3 ph (at V_{mains} = 400 V_{AC})	100 % I_{sys} 125 % I_{sys}	1.8 A_{AC} 2.3 A_{AC}	2.2 A_{AC} 2.6 A_{AC}	2.8 A_{AC} 3.5 A_{AC}	3.6 A_{AC} 4.5 A_{AC}	5.0 A_{AC} 6.2 A_{AC}	6.3 A_{AC} 7.9 A_{AC}	8.6 A_{AC} 10.7 A_{AC}
OUTPUT								
Output voltage	V_N	3 x 0 – V_{mains}						
Recommended motor power under constant load (at V_{mains} = 400 V_{AC})	P_{mot}	0.55 kW 0.75 HP	0.75 kW 1.0 HP	1.1 kW 1.5 HP	1.5 kW 2.0 HP	2.2 kW 3.0 HP	3.0 kW 4.0 HP	4.0 kW 5.0 HP
Recommended motor power under variable torque load or constant load without overload (at V_{mains} = 400 V_{AC})	P_{mot}	0.75 kW 1.0 HP	1.1 kW 1.5 HP	1.5 kW 2.0 HP	2.2 kW 3.0 HP	3.0 kW 4.0 HP	4.0 kW 5.0 HP	5.5 kW 7.5 HP
Rated output current (at V_{mains} = 400 V_{AC})	I_N	2.0 A_{AC}	2.4 A_{AC}	3.1 A_{AC}	4.0 A_{AC}	5.5 A_{AC}	7.0 A_{AC}	9.5 A_{AC}
GENERAL								
Power loss at I_N	P_V	42 W	48 W	58 W	74 W	97 W	123 W	155 W
Current limitation		125 % I_N continuous duty (fan/pump operation) 150 % I_N for maximum 60 seconds						
PWM frequency	f_{PWM}	4 / 8 / 12 / 16 kHz						
Speed range Resolution	n_A Δn_A	0 – 5500 rpm 1 rpm						
Connections		Terminals 4 mm^2			Terminals 4 mm^2			
Dimensions	WxHxD	90 x 245 x 150 mm 3.5 x 9.6 x 5.9 in			90 x 295 x 150 mm 3.5 x 11.6 x 5.9 in			
Weight	m	2.0 kg 4.4 lb			2.5 kg 5.5 lb			
Size		0M			0L			

Technical data of MOVITRAC® 07 A...-5A3-4-..

3 phase 400 V_{AC}

5.5 – 30 kW

MOVITRAC® 07 (3 phase power supply)		055	075	110	150	220	300
Part number		**827 254 9**	**827 255 7**	**827 256 5**	**827 257 3**	**827 258 1**	**827 259 x**
Part number with LOGODrive		**827 299 9**	**827 300 6**	**827 301 4**	**827 302 2**	**827 303 0**	**827 304 9**
INPUT							
Input voltage Permitted range	V_{mains}	3 x 400 V_{AC} V_{mains} = 380 V_{AC} -10 % – 500 V_{AC} +10 %					
Input frequency	f_{mains}	50/60 Hz +/-5 %					
Rated system current, 3-ph. (at V_{mains} = 400 V_{AC})	100 % I_{sys} 125 % I_{sys}	11.3 A_{AC} 14.1 A_{AC}	14.4 A_{AC} 18.0 A_{AC}	21.6 A_{AC} 27.0 A_{AC}	28.8 A_{AC} 36.0 A_{AC}	41.4 A_{AC} 51.7 A_{AC}	54.0 A_{AC} 67.5 A_{AC}
OUTPUT							
Output voltage	V_N	3 x 0 – V_{mains}					
Recommended motor power under constant load (at V_{mains} = 400 V_{AC})	P_{mot}	5.5 kW 7.5 HP	7.5 kW 10 HP	11 kW 15 HP	15 kW 20 HP	22 kW 30 HP	30 kW 40 HP
Recommended motor power under variable torque load or constant load without overload (at V_{mains} = 400 V_{AC})	P_{mot}	7.5 kW 10 HP	11 kW 15 HP	15 kW 20 HP	22 kW 30 HP	30 kW 40 HP	37 kW 50 HP
Rated output current (at V_{mains} = 400 V_{AC})	I_N	12.5 A_{AC}	16 A_{AC}	24 A_{AC}	32 A_{AC}	46 A_{AC}	60 A_{AC}
GENERAL							
Power loss at I_N	P_V	220 W	290 W	400 W	550 W	750 W	950 W
Current limitation		125 % I_N continuous duty (fan/pump operation) 150 % I_N for maximum 60 seconds					
PWM frequency	f_{PWM}	4 / 8 / 12 / 16 kHz					
Speed range Resolution	n_A Δn_A	0 – 5500 rpm 1 rpm					
Connections	Terminals	4 mm^2		4 mm^2	6 mm^2	10 mm^2	16 mm^2
Dimensions	WxHxD	105 x 335 x 205 mm 4.1 x 13.2 x 8.1 in		130 x 335 x 196 mm 5.1 x 13.2 x 7.7 in	200 x 465 x 218 mm 7.9 x 18.3 x 8.6 in		
Weight	m	5.0 kg 11.0 lb		6.6 kg 14.6 lb	15 kg 33.1 lb		
Size		2S		2	3		

8 Index of changes

- New units:
  - 230 V units 3-phase from 3.7 kW to 30 kW
  - 400/500 V units 3-phase from 0.55 kW to 30 kW
- 230 V units from 3.7 kW, 400/500 V units from 5.5 kW and LOGODrive units in addition with:
  - Flying restart circuit
  - Hoisting function
  - Setpoint stop function
  - Frequency input
- New size designation: Old size 1 = New size 0S / Old size 2 = New size 0L
- Parameter module UBP11A
- Fieldbus gateways for PROFIBUS UFP11A, DeviceNet UFD11A and INTERBUS UFI11A
- Additional braking resistors BW072-005, BW027-006, BW027-012, BW018-015, BW018-075, BW12-025, BW12-050, BW12-100, BW039-003, BW039-006, BW039-012, BW039-026, BW039-050, BW915, BW106, BW206, BW168, BW268, BW147, BW247, BW347, BW100-006
- Additional output chokes HD001, HD003
- Additional line chokes ND045-013, ND085-013
- New line filters NF009, NF014, NF018, NF035, NF048, NF063, NF085, NF115
- New output filters HF015-503, HF022-503, HF030-503, HF040-503, HF055-503, HF075-503, HF023-403, HF033-403, HF047-403
- P100 Setpoint source can now also be set to *Frequency input*
- New *P102 Frequency scaling*
- P700 Operating mode additionally with VFC 1 & HOIST and VFC 1 &FLY.START
- New *P931 TASK 1/2* and *P932 TASK 2*

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Address List

Germany			
Headquarters **Production** **Sales** **Service**	**Bruchsal**	SEW-EURODRIVE GmbH & Co Ernst-Blickle-Straße 42 D-76646 Bruchsal P.O. Box Postfach 3023 · D-76642 Bruchsal	Tel. (0 72 51) 75-0 Fax (0 72 51) 75-19 70 http://www.sew-eurodrive.de sew@sew-eurodrive.de
Production	**Graben**	SEW-EURODRIVE GmbH & Co Ernst-Blickle-Straße 1 D-76676 Graben-Neudorf P.O. Box Postfach 1220 · D-76671 Graben-Neudorf	Tel. (0 72 51) 75-0 Fax (0 72 51) 75-29 70 Telex 7 822 276
Assembly **Service**	**Garbsen** (near Hannover)	SEW-EURODRIVE GmbH & Co Alte Ricklinger Straße 40-42 D-30823 Garbsen P.O. Box Postfach 110453 · D-30804 Garbsen	Tel. (0 51 37) 87 98-30 Fax (0 51 37) 87 98-55 scm-garbsen@sew-eurodrive.de
	Kirchheim (near München)	SEW-EURODRIVE GmbH & Co Domagkstraße 5 D-85551 Kirchheim	Tel. (0 89) 90 95 52-10 Fax (0 89) 90 95 52-50 scm-kirchheim@sew-eurodrive.de
	Langenfeld (near Düsseldorf)	SEW-EURODRIVE GmbH & Co Siemensstraße 1 D-40764 Langenfeld	Tel. (0 21 73) 85 07-30 Fax (0 21 73) 85 07-55 scm-langenfeld@sew-eurodrive.de
	Meerane (near Zwickau)	SEW-EURODRIVE GmbH & Co Dänkritzer Weg 1 D-08393 Meerane	Tel. (0 37 64) 76 06-0 Fax (0 37 64) 76 06-30 scm-meerane@sew-eurodrive.de
	Additional addresses for service in Germany provided on request!		
France			
Production **Sales** **Service**	**Haguenau**	SEW-USOCOME 48-54, route de Soufflenheim B. P. 185 F-67506 Haguenau Cedex	Tel. 03 88 73 67 00 Fax 03 88 73 66 00 http://www.usocome.com sew@usocome.com
Assembly **Sales** **Service**	**Bordeaux**	SEW-USOCOME Parc d'activités de Magellan 62, avenue de Magellan - B. P. 182 F-33607 Pessac Cedex	Tel. 05 57 26 39 00 Fax 05 57 26 39 09
	Lyon	SEW-USOCOME Parc d'Affaires Roosevelt Rue Jacques Tati F-69120 Vaulx en Velin	Tel. 04 72 15 37 00 Fax 04 72 15 37 15
	Paris	SEW-USOCOME Zone industrielle 2, rue Denis Papin F-77390 Verneuil l'Etang	Tel. 01 64 42 40 80 Fax 01 64 42 40 88
	Additional addresses for service in France provided on request!		
Argentina			
Assembly **Sales** **Service**	**Buenos Aires**	SEW EURODRIVE ARGENTINA S.A. Centro Industrial Garin, Lote 35 Ruta Panamericana Km 37,5 1619 Garin	Tel. (3327) 45 72 84 Fax (3327) 45 72 21 sewar@sew-eurodrive.com.ar
Australia			
Assembly **Sales** **Service**	**Melbourne**	SEW-EURODRIVE PTY. LTD. 27 Beverage Drive Tullamarine, Victoria 3043	Tel. (03) 99 33 10 00 Fax (03) 99 33 10 03 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. (02) 97 25 99 00 Fax (02) 97 25 99 05 enquires@sew-eurodirve.com.au
Austria			
Assembly **Sales** **Service**	**Wien**	SEW-EURODRIVE Ges.m.b.H. Richard-Strauss-Strasse 24 A-1230 Wien	Tel. (01) 6 17 55 00-0 Fax (01) 6 17 55 00-30 http://sew-eurodrive.at sew@sew-eurodrive.at

Belgium			
Assembly **Sales** **Service**	**Brüssel**	CARON-VECTOR S.A. Avenue Eiffel 5 B-1300 Wavre	Tel. 0032 (010) 23 13 11 Fax 0032 (010) 2313 36 http://www.caron-vector.be info@caron-vector.be
Brazil			
Production **Sales** **Service**	**Sao Paulo**	SEW DO BRASIL Motores-Redutores Ltda. Rodovia Presidente Dutra, km 208 CEP 07210-000 - Guarulhos - SP	Tel. (011) 64 60-64 33 Fax (011) 64 80 33 28 http://www.sew.com.br sew@sew.com.br
	Additional addresses for service in Brazil provided on request!		
Bulgaria			
Sales	**Sofia**	BEVER-DRIVE GMBH Bogdanovetz Str.1 BG-1606 Sofia	Tel. (92) 9 53 25 65 Fax (92) 9 54 93 45 bever@mbox.infotel.bg
Canada			
Assembly **Sales** **Service**	**Toronto**	SEW-EURODRIVE CO. OF CANADA LTD. 210 Walker Drive Bramalea, Ontario L6T3W1	Tel. (905) 7 91-15 53 Fax (905) 7 91-29 99 http://www.sew-eurodrive.ca l.reynolds@sew-eurodrive.ca
	Vancouver	SEW-EURODRIVE CO. OF CANADA LTD. 7188 Honeyman Street Delta. B.C. V4G 1 E2	Tel. (604) 9 46-55 35 Fax (604) 946-2513 b.wake@sew-eurodrive.ca
	Montreal	SEW-EURODRIVE CO. OF CANADA LTD. 2555 Rue Leger Street LaSalle, Quebec H8N 2V9	Tel. (514) 3 67-11 24 Fax (514) 3 67-36 77 a.peluso@sew-eurodrive.ca
	Additional addresses for service in Canada provided on request!		
Chile			
Assembly **Sales** **Service**	**Santiago de Chile**	SEW-EURODRIVE CHILE Motores-Reductores LTDA. Panamericana Norte No 9261 Casilla 23 - Correo Quilicura RCH-Santiago de Chile	Tel. (02) 6 23 82 03+6 23 81 63 Fax (02) 6 23 81 79 sewsales@entelchile.net
China			
Production **Assembly** **Sales** **Service**	**Tianjin**	SEW-EURODRIVE (Tianjin) Co., Ltd. No. 46, 7th Avenue, TEDA Tianjin 300457	Tel. (022) 25 32 26 12 Fax (022) 25 32 26 11 http://www.sew.com.cn
Colombia			
Assembly **Sales** **Service**	**Bogotá**	SEW-EURODRIVE COLOMBIA LTDA. Calle 22 No. 132-60 Bodega 6, Manzana B Santafé de Bogotá	Tel. (0571) 5 47 50 50 Fax (0571) 5 47 50 44 sewcol@andinet.com
Croatia			
Sales **Service**	**Zagreb**	KOMPEKS d. o. o. PIT Erdödy 4 II HR 10 000 Zagreb	Tel. +385 14 61 31 58 Fax +385 14 61 31 58 kompeks@net.hr
Czech Republic			
Sales	**Praha**	SEW-EURODRIVE CZ S.R.O. Business Centrum Praha Luná 591 CZ-16000 Praha 6 - Vokovice	Tel. 02/20 12 12 34 + 20 12 12 36 Fax 02/20 12 12 37 http://www.sew-eurodrive.cz sew@sew-eurodrive.cz
Denmark			
Assembly **Sales** **Service**	**Kopenhagen**	SEW-EURODRIVEA/S Geminivej 28-30, P.O. Box 100 DK-2670 Greve	Tel. 0045 (043) 95 8500 Fax 0045 (043) 95 8509 http://www.sew-eurodrive.dk sew@sew-eurodrive.dk
Estonia			
Sales	**Tallin**	ALAS-KUUL AS Paldiski mnt.125 EE 0006 Tallin	Tel. 6 59 32 30 Fax 6 59 32 31

Finland			
Assembly **Sales** **Service**	**Lahti**	SEW-EURODRIVE OY Vesimäentie 4 FIN-15860 Hollola 2	Tel. (3) 589 300 Fax (3) 780 6211 http://www.sew-eurodrive.fi sew@sew-eurodrive.fi
Great Britain			
Assembly **Sales** **Service**	**Normanton**	SEW-EURODRIVE Ltd. Beckbridge Industrial Estate P.O. Box No.1 GB-Normanton, West- Yorkshire WF6 1QR	Tel. 19 24 89 38 55 Fax 19 24 89 37 02 http://www.sew-eurodrive.co.uk info@sew-eurodrive.co.uk
Greece			
Sales **Service**	**Athen**	Christ. Boznos & Son S.A. 12, Mavromichali Street P.O. Box 80136, GR-18545 Piraeus	Tel. 0030 1 04 22 51 34 Fax 0030 1 04 22 51 59 http://www.boznos.gr Boznos@otenet.gr
Hong Kong			
Assembly **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. 2-7 96 04 77 + 79 60 46 54 Fax 2-7 95-91 29 sew@sewhk.com
Hungary			
Sales **Service**	**Budapest**	SEW-EURODRIVE Kft. H-1037 Budapest Kunigunda u. 18	Tel. +36 1 437 06 58 Fax +36 1 437 06 50 sew-eurodrive.voros@matarnet.hu
India			
Assembly **Sales** **Service**	**Baroda**	SEW-EURODRIVE India Pvt. Ltd. Plot No. 4, Gidc Por Ramangamdi · Baroda - 391 243 Gujarat	Tel. 0 265-83 10 86 Fax 0 265-83 10 87 sew.baroda@gecsl.com
Ireland			
Sales **Service**	**Dublin**	Alperton Engineering Ltd. 48 Moyle Road Dublin Industrial Estate Glasnevin, Dublin 11	Tel. (01) 8 30 62 77 Fax (01) 8 30 64 58
Italy			
Assembly **Sales** **Service**	**Milano**	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Via Bernini,14 I-20020 Solaro (Milano)	Tel. (02) 96 98 01 Fax (02) 96 79 97 81 sewit@sew-eurodrive.it
Japan			
Assembly **Sales** **Service**	**Toyoda-cho**	SEW-EURODRIVE JAPAN CO., LTD 250-1, Shimoman-no, Toyoda-cho, Iwata gun Shizuoka prefecture, 438-0818	Tel. (0 53 83) 7 3811-13 Fax (0 53 83) 7 3814 sewjapan@lilac.ocn.ne.jp
Korea			
Assembly **Sales** **Service**	**Ansan-City**	SEW-EURODRIVE KOREA CO., LTD. B 601-4, Banweol Industrial Estate Unit 1048-4, Shingil-Dong Ansan 425-120	Tel. (031) 4 92-80 51 Fax (031) 4 92-80 56 master@sew-korea.co.kr
Luxembourg			
Assembly **Sales** **Service**	**Brüssel**	CARON-VECTOR S.A. Avenue Eiffel 5 B-1300 Wavre	Tel. 0032 (010) 23 13 11 Fax 0032 (010) 2313 36 http://www.caron-vector.be info@caron-vector.be
Macedonia			
Sales	**Skopje**	SGS-Skopje / Macedonia "Teodosij Sinactaski" 66 91000 Skopje / Macedonia	Tel. (0991) 38 43 90 Fax (0991) 38 43 90 sgs@mol.com.mk

Malaysia			
Assembly **Sales** **Service**	**Johore**	SEW-EURODRIVE SDN BHD No. 95, Jalan Seroja 39, Taman Johor Jaya 81000 Johor Bahru, Johor West Malaysia	Tel. (07) 3 54 57 07 + 3 54 94 09 Fax (07) 3 5414 04 kchtan@pd.jaring.my
Netherlands			
Assembly **Sales** **Service**	**Rotterdam**	VECTOR Aandrijftechniek B.V. Industrieweg 175 NL-3044 AS Rotterdam Postbus 10085 NL-3004 AB Rotterdam	Tel. +31 10 44 63 700 Fax +31 10 41 55 552 http://www.vector-aandrijftechniek.nl info@vector.nu
New Zealand			
Assembly **Sales** **Service**	**Auckland**	SEW-EURODRIVE NEW ZEALAND LTD. P.O. Box 58-428 82 Greenmount drive East Tamaki Auckland	Tel. 0064-9-2 74 56 27 Fax 0064-9-2 74 01 65 sales@sew-eurodrive.co.za
	Christchurch	SEW-EURODRIVE NEW ZEALAND LTD. 10 Settlers Crescent, Ferrymead Christchurch	Tel. 0064-3-3 84 62 51 Fax 0064-3-3 85 64 55 sales@sew-eurodrive.co.nz
Norway			
Assembly **Sales** **Service**	**Moss**	SEW-EURODRIVE A/S Solgaard skog 71 N-1599 Moss	Tel. 0047 (69) 2410 20 Fax 0047 (69) 2410 40 sew@sew-eurodrive.no
Peru			
Assembly **Sales** **Service**	**Lima**	SEW DEL PERU MOTORES REDUCTORES S.A.C. Los Calderos # 120-124 Urbanizacion Industrial Vulcano, ATE, Lima	Tel. (511) 349-52 80 Fax (511) 349-30 02 sewperu@terra.com.pe
Poland			
Sales	**Lodz**	SEW-EURODRIVE Polska Sp.z.o.o. ul. Techniczna 3/5 PL-92-519 Lodz	Tel. (042) 6 77 10 90 Fax (042) 6 77 10 99 http://www.sew-eurodrive.pl sew@sew-eurodrive.pl
Portugal			
Assembly **Sales** **Service**	**Coimbra**	SEW-EURODRIVE, LDA. Apartado 15 P-3050-901 Mealhada	Tel. (0231) 20 96 70 Fax (0231) 20 36 85 http://www.sew-eurodrive.pt infosew@sew-eurodrive.pt
Romania			
Sales **Service**	**Bucuresti**	Sialco Trading SRL str. Madrid nr.4 71222 Bucuresti	Tel. (01) 2 30 13 28 Fax (01) 2 30 71 70 sialco@mediasat.ro
Russia			
Sales	**St. Petersburg**	ZAO SEW-EURODRIVE P.O. Box 193 RUS-193015 St. Petersburg	Tel. (812) 5 35 71 42 + 5 35 04 30 Fax (812) 5 35 22 87 sew@sew-eurodrive.ru
Singapore			
Assembly **Sales** **Service**		SEW-EURODRIVE PTE. LTD. No 9, Tuas Drive 2 Jurong Industrial Estate Singapore 638644	Tel. 8 62 17 01-705 Fax 8 61 28 27 Telex 38 659 sales@sew-eurodrive.com.sg
Slovenia			
Sales **Service**	**Celje**	Pakman - Pogonska Tehnika d.o.o. UI. XIV. divizije 14 SLO – 3000 Celje	Tel. 00386 3 490 83 20 Fax 00386 3 490 83 21 pakman@siol.net

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 70 00 Fax +27 11 494 23 11 ljansen@sew.co.za
	Capetown	SEW-EURODRIVE (PROPRIETARY) LIMITED Rainbow Park Cnr. Racecourse & Omuramba Road Montague Gardens Cape Town P.O.Box 36556 Chempet 7442 Cape Town	Tel. +27 21 552 98 20 Fax +27 21 552 98 30 Telex 576 062 dswanepoel@sew.co.za
	Durban	SEW-EURODRIVE (PROPRIETARY) LIMITED 2 Monaceo Place Pinetown Durban P.O. Box 10433, Ashwood 3605	Tel. +27 31 700 34 51 Fax +27 31 700 38 47 dtait@sew.co.za
Spain			
Assembly **Sales** **Service**	**Bilbao**	SEW-EURODRIVE ESPAÑA, S.L. Parque Tecnológico, Edificio, 302 E-48170 Zamudio (Vizcaya)	Tel. 9 44 31 84 70 Fax 9 44 31 84 71 sew.spain@sew-eurodrive.es
Sweden			
Assembly **Sales** **Service**	**Jönköping**	SEW-EURODRIVE AB Gnejsvägen 6-8 S-55303 Jönköping Box 3100 S-55003 Jönköping	Tel. 0046 (036) 34 42 00 Fax 0046 (036) 34 42 80 http://www.sew-eurodrive.se info@sew-eurodrive.se
Switzerland			
Assembly **Sales** **Service**	**Basel**	Alfred Imhof A.G. Jurastrasse 10 CH-4142 Münchenstein bei Basel	Tel. 0041 (061) 4 17 17 17 Fax 0041 (061) 4 17 17 00 http://www.imhof-sew.ch info@imhof-sew.ch
Thailand			
Assembly **Sales** **Service**	**Chon Buri**	SEW-EURODRIVE (Thailand) Ltd. Bangpakong Industrial Park 2 700/456, Moo.7, Tambol Donhuaroh Muang District Chon Buri 20000	Tel. 0066-38 21 40 22 Fax 0066-38 21 45 31 sewthailand@sew-eurodrive.co.th
Turkey			
Assembly **Sales** **Service**	**Istanbul**	SEW-EURODRIVE Hareket Sistemleri Sirketi Bagdat Cad. Koruma Cikmazi No. 3 TR-81540 Maltepe ISTANBUL	Tel. (0216) 4 41 91 63 + 4 41 91 64 + 3 83 80 14 + 3 83 80 15 Fax (0216) 3 05 58 67 seweurodrive@superonline.com.tr
USA			
Production **Assembly** **Sales** **Service**	**Greenville**	SEW-EURODRIVE INC. 1295 Old Spartanburg Highway P.O. Box 518 Lyman, S.C. 29365	Tel. (864) 4 39 75 37 Fax Sales (864) 439-78 30 Fax Manuf. (864) 4 39-99 48 Fax Ass. (864) 4 39-05 66 Telex 805 550 http://www.seweurodrive.com cslyman@seweurodrive.com

USA			
Assembly **Sales** **Service**	**San Francisco**	SEW-EURODRIVE INC. 30599 San Antonio St. Hayward, California 94544-7101	Tel. (510) 4 87-35 60 Fax (510) 4 87-63 81 cshayward@seweurodrive.com
	Philadelphia/PA	SEW-EURODRIVE INC. Pureland Ind. Complex 200 High Hill Road, P.O. Box 481 Bridgeport, New Jersey 08014	Tel. (856) 4 67-22 77 Fax (856) 8 45-31 79 csbridgeport@seweurodrive.com
	Dayton	SEW-EURODRIVE INC. 2001 West Main Street Troy, Ohio 45373	Tel. (9 37) 3 35-00 36 Fax (9 37) 4 40-37 99 cstroy@seweurodrive.com
	Dallas	SEW-EURODRIVE INC. 3950 Platinum Way Dallas, Texas 75237	Tel. (214) 3 30-48 24 Fax (214) 3 30-47 24 csdallas@seweurodrive.com
	Additional addresses for service in the USA provided on request!		
Venezuela			
Assembly **Sales** **Service**	**Valencia**	SEW-EURODRIVE Venezuela S.A. Av. Norte Sur No. 3, Galpon 84-319 Zona Industrial Municipal Norte Valencia, Estado Carabobo	Tel. +58 (241) 8 32 98 04 Fax +58 (241) 8 38 62 75 sewventas@cantv.net sewfinanzas@cantv.net

SEW-EURODRIVE GmbH & Co · P.O. Box 3023 · D-76642 Bruchsal/Germany · Phone +49-7251-75-0
Fax +49-7251-75-1970 · http://www.sew-eurodrive.com · sew@sew-eurodrive.com