



SEW
EURODRIVE

Catalog



Frequency Inverters **MOVITRAC® LTP-B**



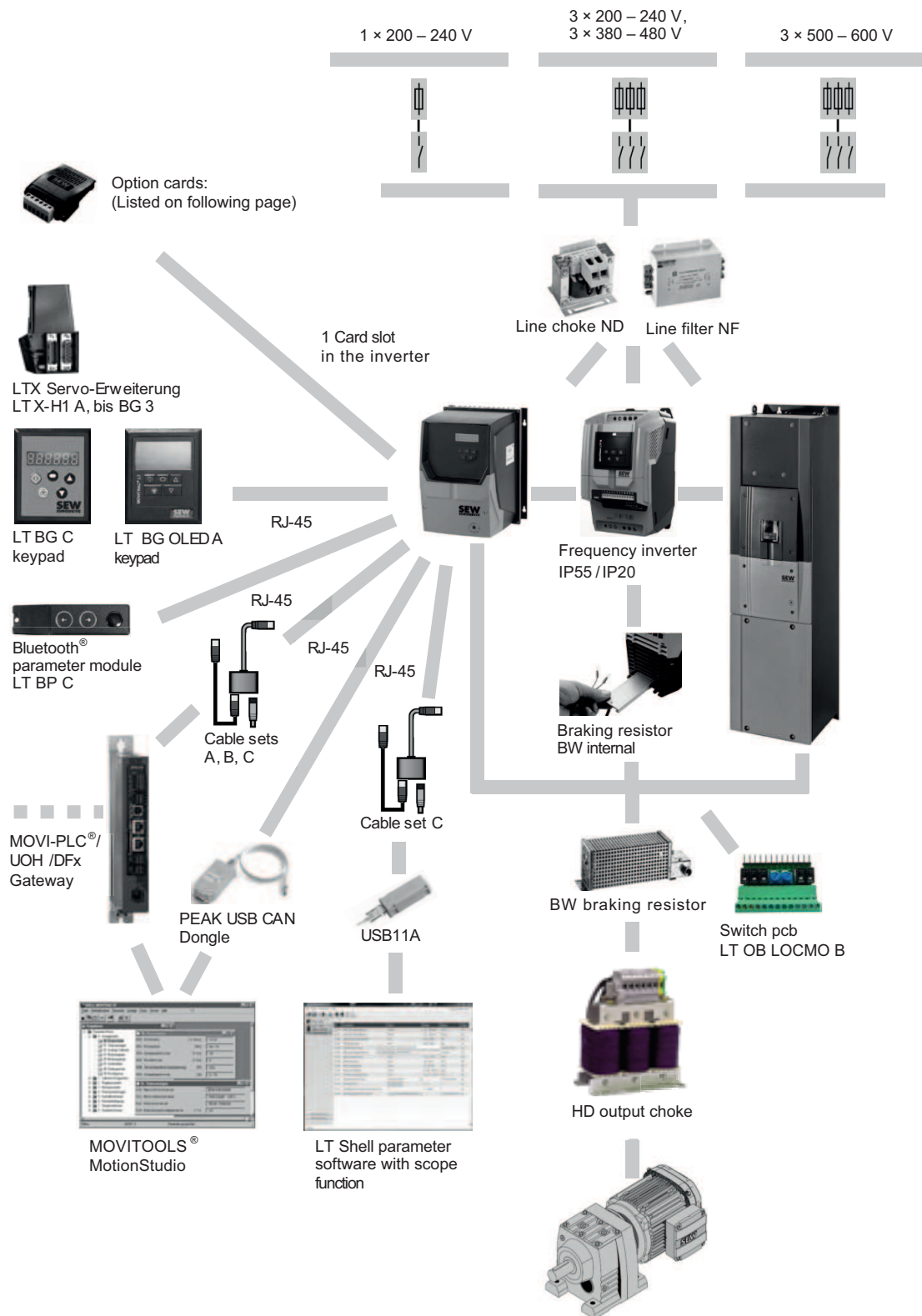
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1 System description

1.1 System Overview of MOVITRAC® LTP-B



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Option cards:

Relay outputs	LT OB 3ROUT A
Digital I/O	LT OB IO A
Encoder card TTL	LT OB ENC A
Encoder card HTL	LT OB ENH A
PROFIBUS	LT FP 11A
PROFINET	LT FE 32A
Ethernet/IP™	LT FE 33A
EtherCAT®	LT FE 24A
DeviceNet™	LT FD 11A
MODBUS TCP	LT FE 31A
POWERLINK™	LT FE 25A

1.2 The inverters at a glance

Line connection	Motor power	Nominal output current	Type designation	Degree of protection	Size
230 V 1-phase	0.75 kW / 1 PS	4.3 A	MC LTP-B-0008-2B1-4-00	IP20	2
			MC LTP-B-0008-2B1-4-10	IP55	2
	1.5 kW / 2 PS	7 A	MC LTP-B-0015-2B1-4-00	IP20	2
			MC LTP-B-0015-2B1-4-10	IP55	2
	2.2 kW / 3 PS	10.5 A	MC LTP-B-0022-2B1-4-00	IP20	2
			MC LTP-B-0022-2B1-4-10	IP55	2
230 V 3-phase	0.75 kW / 1 PS	4.3 A	MC LTP-B-0008-2A3-4-00	IP20	2
			MC LTP-B-0008-2A3-4-10	IP55	2
	1.5 kW / 2 PS	7 A	MC LTP-B-0015-2A3-4-00	IP20	2
			MC LTP-B-0015-2A3-4-10	IP55	2
	2.2 kW / 3 PS	10.5 A	MC LTP-B-0022-2A3-4-00	IP20	2
			MC LTP-B-0022-2A3-4-10	IP55	2
	3 kW / 4 PS	14 A	MC LTP-B-0030-2A3-4-00	IP20	3
			MC LTP-B-0030-2A3-4-10	IP55	3
	4 kW / 5.4 PS	18 A	MC LTP-B-0040-2A3-4-00	IP20	3
			MC LTP-B-0040-2A3-4-10	IP55	3
	5.5 kW / 7.4 PS	24 A	MC LTP-B-0055-2A3-4-00	IP20	3
			MC LTP-B-0055-2A3-4-10	IP55	4
	7.5 kW / 10 PS	30 A	MC LTP-B-0075-2A3-4-10	IP55	4
	11 kW / 15 PS	46 A	MC LTP-B-0110-2A3-4-10	IP55	4
	15 kW / 20 PS	61 A	MC LTP-B-0150-2A3-4-10	IP55	5
	18.5 kW / 25 PS	72 A	MC LTP-B-0185-2A3-4-10	IP55	5
	22 kW / 30 PS	90 A	MC LTP-B-0220-2A3-4-10	IP55	6
	30 kW / 40 PS	110 A	MC LTP-B-0300-2A3-4-10	IP55	6
	37 kW / 50 PS	150 A	MC LTP-B-0370-2A3-4-10	IP55	6
	45 kW / 60 PS	180 A	MC LTP-B-0450-2A3-4-10	IP55	6
	55 kW / 74 PS	202 A	MC LTP-B-0550-2A3-4-10	IP55	7
	75 kW / 100 PS	248 A	MC LTP-B-0750-2A3-4-10	IP55	7

Line connection	Motor power	Nominal out-put current	Type designation	Degree of protection	Size
400 V 3-phase	0.75 kW / 1 PS	2.2 A	MC LTP-B-0008-5A3-4-00	IP20	2
			MC LTP-B-0008-5A3-4-10	IP55	2
	1.5 kW / 2 PS	4.1 A	MC LTP-B-0015-5A3-4-00	IP20	2
			MC LTP-B-0015-5A3-4-10	IP55	2
	2.2 kW / 3 PS	5.8 A	MC LTP-B-0022-5A3-4-00	IP20	2
			MC LTP-B-0022-5A3-4-10	IP55	2
	4 kW / 5.4 PS	9.5 A	MC LTP-B-0040-5A3-4-00	IP20	2
			MC LTP-B-0040-5A3-4-10	IP55	2
	5.5 kW / 7.4 PS	14 A	MC LTP-B-0055-5A3-4-00	IP20	3
			MC LTP-B-0055-5A3-4-10	IP55	3
	7.5 kW / 10 PS	18 A	MC LTP-B-0075-5A3-4-00	IP20	3
			MC LTP-B-0075-5A3-4-10	IP55	3
	11 kW / 15 PS	24 A	MC LTP-B-0110-5A3-4-00	IP20	3
			MC LTP-B-0110-5A3-4-10	IP55	4
	15 kW / 20 PS	30 A	MC LTP-B-0150-5A3-4-10	IP55	4
	18.5 kW / 25 PS	39 A	MC LTP-B-0185-5A3-4-10	IP55	4
	22 kW / 30 PS	46 A	MC LTP-B-0220-5A3-4-10	IP55	4
	30 kW / 40 PS	61 A	MC LTP-B-0300-5A3-4-10	IP55	5
	37 kW / 50 PS	72 A	MC LTP-B-0370-5A3-4-10	IP55	5
	45 kW / 60 PS	90 A	MC LTP-B-0450-5A3-4-10	IP55	6
	55 kW / 74 PS	110 A	MC LTP-B-0550-5A3-4-10	IP55	6
	75 kW / 100 PS	150 A	MC LTP-B-0750-5A3-4-10	IP55	6
	90 kW / 120 PS	180 A	MC LTP-B-0900-5A3-4-10	IP55	6
	110 kW / 148 PS	202 A	MC LTP-B-1100-5A3-4-10	IP55	7
	132 kW / 177 PS	240 A	MC LTP-B-1320-5A3-4-10	IP55	7
	160 kW / 215 PS	302 A	MC LTP-B-1600-5A3-4-10	IP55	7
575 V 3-phase	0.75 kW / 1 PS	2.1 A	MC LTP-B-0008-603-4-00	IP20	2
			MC LTP-B-0008-603-4-10	IP55	2
	1.5 kW / 2 PS	3.1 A	MC LTP-B-0015-603-4-00	IP20	2
			MC LTP-B-0015-603-4-10	IP55	2
	2.2 kW / 3 PS	4.1 A	MC LTP-B-0022-603-4-00	IP20	2
			MC LTP-B-0022-603-4-10	IP55	2
	4.0 kW / 5.4 PS	6.5 A	MC LTP-B-0040-603-4-00	IP20	2
			MC LTP-B-0040-603-4-10	IP55	2
	5.5 kW / 7.4 PS	9 A	MC LTP-B-0055-603-4-00	IP20	2
			MC LTP-B-0055-603-4-10	IP55	2
	7.5 kW / 10 PS	12 A	MC LTP-B-0075-603-4-00	IP20	3
			MC LTP-B-0075-603-4-10	IP55	3
	11 kW / 15 PS	17 A	MC LTP-B-0110-603-4-00	IP20	3
			MC LTP-B-0110-603-4-10	IP55	3
	15 kW / 20 PS	22 A	MC LTP-B-0150-603-4-00	IP20	3
			MC LTP-B-0150-603-4-10	IP55	4
	18.5 kW / 25 PS	28 A	MC LTP-B-0185-603-4-10	IP55	4
	22 kW / 30 PS	34 A	MC LTP-B-0220-603-4-10	IP55	4
	30 kW / 40 PS	43 A	MC LTP-B-0300-603-4-10	IP55	4
	37 kW / 50 PS	54 A	MC LTP-B-0370-603-4-10	IP55	5
	45 kW / 60 PS	65 A	MC LTP-B-0450-603-4-10	IP55	5
	55 kW / 74 PS	78 A	MC LTP-B-0550-603-4-10	IP55	6
	75 kW / 100 PS	105 A	MC LTP-B-0750-603-4-10	IP55	6
	90 kW / 120 PS	130 A	MC LTP-B-0900-603-4-10	IP55	6
	110 kW / 148 PS	150 A	MC LTP-B-1100-603-4-10	IP55	6

1.3 Markets and applications

Frequency inverters of the MOVITRAC® LTP-B series are optimally matched to meet the requirements of indoor applications outside a control cabinet.

They have been designed and developed for controlling the speed of asynchronous and synchronous motors without encoder and are particularly economical in conveyor applications, hoists, as well as in fans and pumps.

For applications in dirty or moist environments indoors, MOVITRAC® LTP-B is also available in degree of protection IP55 in the power range from 0.75 kW to 160 kW. Optionally, it is available up to 11 kW with a control cabinet housing in degree of protection IP20.

1.4 Unit types

The MOVITRAC® LTP-B drive inverters are available in 2 variants:

- With IP55 housing in size 2 – 7
- With IP20 housing in size 2 – 3

Both designs for all components have identical technical and functional features, besides the housing.

1.5 Coated pcbs

All MOVITRAC® LTP-B designs have coated printed circuit boards (pcb). This leads to a higher resistance against environmental influences. In case of environments with especially high demands additional measures to protect the frequency inverter are required, for example in case of applications with conducting dusts, fibers or similar materials.

1.6 Accessories

- Braking resistors
- Line choke
- Output choke
- Line filter
- Shield plate
- Remote operator terminals
- Parameter module
- Cable splitter
- Network packages
- Interface adapter
- Relay output card
- Digital I/O card
- HTL/TTL encoder card
- Fieldbus option cards in the unit
- Fieldbus gateway

1.7 Input voltage ranges

Depending on the model and the nominal power, the frequency inverters are designed for direct connection to the following voltage sources:

MOVITRAC® LTP-B			
Nominal voltage according to EN 50160	Size	Connection type	Rated frequency
200 – 240 V ± 10%	2	1-phase*	50 – 60 Hz ± 5%
200 – 240 V ± 10%	All	3-phase	
380 – 480 V ± 10%			
500 – 600 V ± 10%			

Units that are connected to a 3-phase supply system are designed for a maximum power grid imbalance of 3% between the phases. For supply systems with a power grid imbalance of more than 3% (for example, in India and parts of the Asia-Pacific region including China), SEW-EURODRIVE recommends that you use input chokes.

INFORMATION



*Single-phase frequency inverters can also be connected to 2 phases of a 3-phase power supply system of 200 – 240 V.

1 System description

Nameplate

1.8 Nameplate

The following figure shows a nameplate:



9007212810031499

1.9 Type designation

Example: MCLTP-B 0015-2B1-4-00 (60 Hz)		
Product name	MCLTP	MOVITRAC® LTP-B
Version	B	Version status of the unit series
Recommended motor power	0015	0015 = 1.5 kW
Connection voltage	2	2 = 200 – 240 V 5 = 380 – 480 V 6 = 500 – 600 V
Interference suppression on the input	B	0 = Class 0 A = Class C2 B = Class C1
Connection type	1	1 = 1-phase 3 = 3-phase
Quadrants	4	4 = Four-quadrant operation
Design	00	00 = Standard IP20 housing 10 = IP55/NEMA-12K housing
Country-specific variant	(60 Hz)	60 Hz design

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1.10 Overload capacity

The MOVITRAC® LTP-B supplies a constant output current of 100%.

Frequency inverters

Overload capacity based on nominal current of the frequency inverter	60 seconds	2 seconds
MOVITRAC® LTP-B	150%	175%

Motors

Overload capacity based on nominal motor current	60 seconds	2 seconds
Asynchronous motor	150%	175%
Synchronous motors	200%	250% ¹⁾

1) Only 200% for size 3; 5.5 kW.

Overload capacity based on nominal motor current	60 seconds	2 seconds
MGF..2-DSM with MC LTP-B 0015-5A3-4-xx	200%	220%
MGF..4-DSM with MC LTP-B 0022-5A3-4-xx	190%	220%
MGF..4/XT-DSM ¹⁾ with MC LTP-B 0040-5A3-4-xx	% ¹⁾	% ¹⁾

1) In preparation.

1.11 Protection function

- Output short circuit, phase-phase, phase-ground
- Output overcurrent
- Overload protection
 - Frequency inverter responds to overload as described in chapter "Overload capacity" (→ 11).
- Overvoltage fault
 - Set to 123% of the maximum nominal line voltage of the frequency inverter.
- Undervoltage fault
- Overtemperature fault
- Undertemperature fault
 - The frequency inverter is shut down at a temperature below -10 °C.
- Line phase failure
 - A running frequency inverter shuts down when one phase of a three-phase system fails for longer than 15 seconds.
- Thermal motor overload protection according to NEC (National Electrical Code, US).
- Evaluation of TF, TH, KTY84 and PT1000

1.12 Conformity

All products meet the following international standards:

- CE marking according to low voltage directive
- UL 508C power converter
- EN 61800-3:2004/A1:2012 Variable-speed electrical drives – part 3
- EN ISO 13849-1 Safe Torque Off (STO) to PL d
- Degree of protection according to NEMA 250, EN 60529
- Flammability class according to UL 94
- ACMA
- cUL
- RoHS
- EAC

1.13 User interface

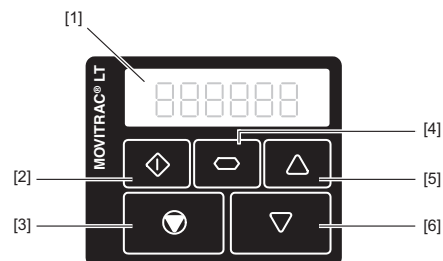
1.13.1 Keypad

Each MOVITRAC® LT inverter is equipped with a keypad that allows for operating the frequency inverter without any further devices.

Manual mode via the keypad is also possible.

The integrated display allows to display process values during operation, such as:

- Speed
- Current
- Power
- Frequency



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- | | |
|-------------------------------|---------------------|
| [1] 6-digit 7-segment display | [4] Navigate button |
| [2] Start button | [5] Up button |
| [3] Stop/Reset button | [6] Down button |

1.13.2 Display

A 6-digit 7-segment display is integrated in each drive to visualize drive functions and parameters.

1.13.3 Software overview

The following software is available:

- LT Shell
- MOVITOOLS® MotionStudio

Refer to chapter "Software" (→ 77) for a detailed description and scope of functions of the software.

1.14 Overview of signal terminals

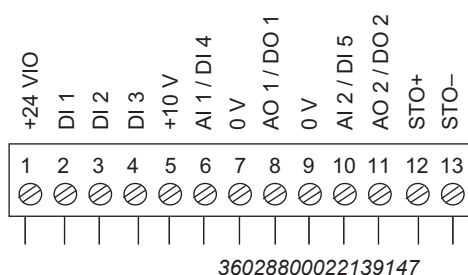
1.14.1 Main terminals

NOTICE

Applying voltages of more than 30 V to the signal terminals can damage the controller.

Possible damage to property.

- The voltage applied to the signal terminals must not exceed 30 V.



The signal terminal block is equipped with the following signal connections:

Ter- minal no.	Signal	Connection	Description
1	+24 VIO	+24 V: Reference voltage/ backup voltage	Reference voltage for controlling the digital inputs (max. 100 mA) ¹⁾ Adhere to the "Notes on connection" (→ 15).
2	DI 1	Digital input 1	Positive logic "Logic 1" input voltage range: DC 8 – 30 V "Logic 0" input voltage range: DC 0 – 2 V Compatible with PLC requirement if 0 V is connected to terminal 7 or 9.
3	DI 2	Digital input 2	
4	DI 3	Digital input 3	
5	+10 V	Output +10 V: Reference voltage	10 V: Reference voltage for analog input (Potential supply +, 10 mA max., 1 – 10 kΩ)
6	AI 1 / DO 4	Analog input 1 (12 bit) Digital input 4	analog: 0 – 10 V, 10 – 0 V, -10 – 10 V, 0 – 20 mA, 4 – 20 mA, 20 – 4 mA digital: "Logic 1" input voltage range: DC 8 – 30 V
7	0 V	0 V: Reference potential	Adhere to the "Notes on connection" (→ 15).
8	AO 1 / DO 1	Analog output 1 (10 bit) Digital output 1	analog: 0 – 10 V, 10 – 0 V, 0 – 20 mA, 20 – 0 mA, 4 – 20 mA, 20 – 4 mA digital: 0 / 24 V maximum output current: 20 mA
9	0 V	0 V: Reference potential	Adhere to the "Notes on connection" (→ 15).

Ter- minal no.	Signal	Connection	Description
10	AI 2 / DO 5	Analog input 2 (12 bit) Digital input 5 / thermistor contact	analog: 0 – 10 V, 10 – 0 V, PTC-th, 0 – 20 mA, 4 – 20 mA, 20 – 4 mA, KTY84, PT1000 digital: "Logic 1" input voltage range: DC 8 – 30 V
11	AO 2 / DO 2	Analog output 2 (10 bit) Digital output 2	analog: 0 – 10 V, 10 – 0 V, 0 – 20 mA, 20 – 0 mA, 4 – 20 mA, 20 – 4 mA digital: 0 / 24 V maximum output current: 20 mA
12	STO+	Output stage enable	DC +24 V input, max. 100 mA current consumption STO safety contact, high = DC 18 – 30 V Adhere to the "Notes on connection" (→ 15).
13	STO		GND reference potential for DC +24 V input STO safety contact Adhere to the "Notes on connection" (→ 15).

1) With inverter operation with fieldbus option, terminal 1 can be used to supply the backup voltage.

All digital inputs are enabled with an input voltage in the range of 8 – 30 V. This means they are +24 V compatible.

The response time of the digital and analog inputs is less than 4 ms. The resolution of the analog inputs is 12 Bit at an accuracy of $\pm 2\%$ in reference to the set maximum scaling.

Notes on connection

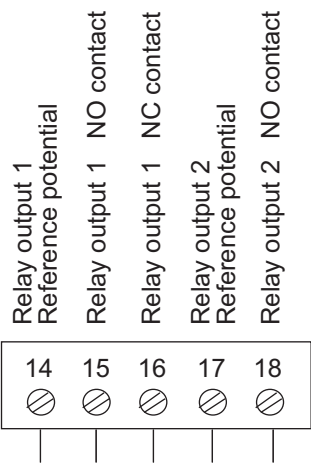


INFORMATION

The terminals 7 and 9 are not connected to the GND reference potential. If a frequency inverter is controlled by a PLC or an external 24 V, terminal 7 and 9 must be simultaneously connected to the GND/0 V potential of the external voltage supply. Connect STO+ to +24 V and STO- to 0 V to enable the power output stage; else the frequency inverter indicates "Inhibit". If STO is to act as a safety function, observe the notes and connection information in the operating instructions.

If terminal 12 is permanently supplied with 24 V, and terminal 13 is permanently connected to GND, then the "STO" function is permanently disabled.

1.14.2 Relay terminals



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NOTICE

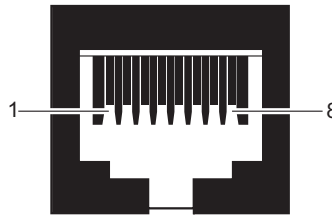
Possible damage to property
 Do not connect any inductive loads to the relay contact.

Ter- minal no.	Signal	Relay function selec- tion	Description
14	Relay output 1 reference	P2-15	Relay contact (AC 250 V / DC 30 V, max. 5 A)
15	Relay output 1 NO contact		
16	Relay output 1 NC contact		
17	Relay output 2 reference	P2-18	
18	Relay output 2 NO contact		

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1.15 Communication socket RJ45

Socket at unit



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- [1] SBus-/CAN bus-
- [2] SBus+/CAN bus+
- [3] 0 V
- [4] RS485- (engineering)
- [5] RS485+ (engineering)
- [6] +24 V (output voltage/backup voltage)
- [7] RS485- (Modbus RTU)
- [8] RS485+ (Modbus RTU)

2 Technical data of basic unit

2.1 Electromagnetic compatibility

The MOVITRAC® LTP-B frequency inverter series is suited for use in machines and systems. It complies with the EMC product standard EN 61800-3:2004 for variable-speed inverters. Observe the specifications of Directive 2004/108/EC (EMC) for EMC-compliant installation of the inverter system.

MOVITRAC® LTP-B meets the interference immunity requirements of the EN 61800-3 standard for industry and household applications (light industry).

With regard to interference emission, MOVITRAC® LTP-B meets the limit values of the standards EN 61800-3:2004 and EN 55014 and can therefore be used in the industry and for household applications (light industry).

To ensure best possible electromagnetic compatibility, install the inverters as described in the operating instructions. Use shielded motor cables to comply with interference emission regulations.

The table below specifies the conditions for using MOVITRAC® LTP-B in inverter applications:

Inverter type	Cat. C1 (class B)	Cat. C2 (class A)	Cat. C3
	According to EN 61800-3		
230 V, 1-phase LTP-B xxxx 2B1-x-xx	No additional filtering required Use a shielded motor cable.		
230 V, 3-phase LTP-B xxxx 2A3-x-xx 400 V, 3-phase LTP-B xxxx 5A3-x-xx	Use an external filter of the type NF LT xxx xxx Use a shielded motor cable.	No additional filtering required Use a shielded motor cable.	
575 V, 3-phase LTP-B xxxx 603-x-xx	If necessary, you can use a line filter of the type NF LT xxx to reduce the electromagnetic interference emission. However, compliance with the limit classes cannot be guaranteed. Use a shielded motor cable.		

2.2 Ambient conditions

Ambient temperature range during operation (For PWM frequency 2 kHz)	-10 °C – +50 °C (IP20, NEMA 1) -10 °C – +40 °C (IP55, NEMA 12K)
Derating depending on the ambient temperature	2.5%/°C – 60 °C for BG 2 and 3 IP20 2.5%/°C – 50 °C for BG 2 and 3 IP55 1.5%/°C – 50 °C for BG 4 and 7 IP55
Storage temperature	-40 °C – +60 °C
Maximum installation altitude for nominal operation	1000 m
Derating above 1000 m	1%/100 m – max. 2 000 m with UL and to max. 4 000 m without UL
Maximum relative humidity	95 % (condensation not permitted)
Unit types	IP20, NEMA 1 IP55, NEMA 12K

2.3 Output power and current load

The "Horsepower" (HP) specification is defined as follows:

- 200 – 240 V units: NEC2002, table 430-150, 230 V
- 380 – 480 V units: NEC2002, table 430-150, 460 V
- 500 – 600 V units: NEC2002, table 430-150, 575 V

2.3.1 1-phase system AC 200 – 240 V

INFORMATION



The cable cross sections and fusing recommended below apply to the use of copper conductors with PVC insulation laid in cable ducts at an ambient temperature of 25° C. Also comply with the regulations issued by specific countries and for specific machines regarding power supply system and motor cable.

MOVITRAC® LTPB – EMC filter class C1 according to EN 61800-3					
Power in kW			0.75	1.5	2.2
IP20/NEMA-1 housing	Type	MC LTP-B..	0008-2B1-4-00	0015-2B1-4-00	0022-2B1-4-00
	Part number		18251382	18251528	18251641
IP55/NEMA-12K housing	Type	MC LTP-B..	0008-2B1-4-10	0015-2B1-4-10	0022-2B1-4-10
	Part number		18251390	18251536	18251668
INPUT					
Line voltage V _{line} according to EN 50160		V	1 × AC 200 – 240 ±10%		
Line frequency f _{line}		Hz	50 / 60 ±5%		
Recommended power supply cable cross section	mm ²		1.5		2.5
	AWG		14		12
Line fuse		A	16		25 (35) ¹⁾
Nominal input current		A	8.5	13.9	19.5
OUTPUT					
Recommended motor power		kW	0.75	1.5	2.2
		HP	1	2	3
Output voltage V _{motor}		V	3 × 20 – V _{line}		
Output current		A	4.3	7	10.5
Maximum output frequency		Hz	500		
Cross section of motor cable Cu 75C		mm ²	1.5		2.5
		AWG	14		12
Maximum motor cable length	Shielded	m	100		
	Unshielded		150		
GENERAL INFORMATION					
Size			2		
Heat loss at nominal output power		W	22	45	66
Minimum braking resistance value		Ω	27		
Tightening torque		Nm	1		
Maximum unit terminal cross section	AWG		8		
	mm ²		10		
Maximum control terminal cross section	AWG		30 – 12		
	mm ²		0.05 – 2.5		

1) Recommended values for UL compliance

2.3.2 3-phase system AC 200 – 240 V

Sizes 2 and 3

MOVITRAC® LTPB – EMC filter class C2 according to EN 61800-3									
Power in kW			0.75	1.5	2.2	3	4	5.5	
IP20/ NEMA-1 housing	Type	MC LTP-B..	0008-2A3-4-00	0015-2A3-4-00	0022-2A3-4-00	0030-2A3-4-00	0040-2A3-4-00	0055-2A3-4-00	
	Part number		18251358	18251471	18251617	18251722	18251765	18251846	
IP55/ NEMA-12K housing	Type	MC LTP-B..	0008-2A3-4-10	0015-2A3-4-10	0022-2A3-4-10	0030-2A3-4-10	0040-2A3-4-10	0055-2A3-4-10	
	Part number		18251366	18251498	18251625	18251730	18251773	18251854	
INPUT									
Line voltage V _{line} according to EN 50160		V	3 × AC 200 – 240 ±10%						
Line frequency f _{line}		Hz	50 / 60 ±5%						
Recommended power supply cable cross section		mm²	1.5		2.5		4.0	6.0	
		AWG	16		14		12	10	
Line fuse		A	10		16	20 (35) ¹⁾	25 (35) ¹⁾	35	
Nominal input current		A	4.5	7.3	11	16.1	18.8	24.8	
OUTPUT									
Recommended motor power		kW	0.75	1.5	2.2	3	4	5.5	
		HP	1	2	3	4	5	7.5	
Output voltage V _{motor}		V	3 × 20 - V _{line}						
Output current		A	4.3	7	10.5	14	18	24	
Maximum output frequency		Hz	500						
Cross section of motor cable Cu 75C		mm²	1.5		2.5		4.0	6.0	
		AWG	16		14		12	10	
Max. motor cable length	Shielded	m	100						
	Unshielded		150						
GENERAL INFORMATION									
Size			2			3		3/4 ²⁾	
Heat loss at nominal output power		W	22	45	66	90	120	165	
Minimum braking resistance value		Ω	27						22
Tightening torque		Nm	1						
Maximum unit terminal cross section		AWG	8						8/6 ²⁾
		mm²	10						10/16 ²⁾
Maximum control terminal cross section		AWG	30 – 12						
		mm²	0.05 – 2.5						

1) Recommended values for UL compliance

2) IP20 housing: Size 3 / IP55 housing: Size 4

2 Technical data of basic unit

Output power and current load

Sizes 4 and 5

MOVITRAC® LTPB – EMC filter class C2 according to EN 61800-3						
		Power in kW	7.5	11	15	18.5
IP55/NEMA-12K housing	Type	MC LTP-B..	0075-2A3-4-10	0110-2A3-4-10	0150-2A3-4-10	0185-2A3-4-10
	Part number		18251919	18251978	18252036	18252060
INPUT						
Line voltage V _{line} according to EN 50160		V	3 × AC 200 – 240 ±10%			
Line frequency f _{line}		Hz	50 / 60 ±5%			
Recommended power supply cable cross section		mm ²	10	16	25	35
		AWG	8	6	4	2
Line fuse		A	50	63	80	100
Nominal input current		A	40	47.1	62.4	74.1
OUTPUT						
Recommended motor power		kW	7.5	11	15	18.5
		HP	10	15	20	25
Output voltage V _{motor}		V	3 × 20 - V _{line}			
Output current		A	39	46	61	72
Maximum output frequency		Hz	500			
Cross section of motor cable Cu 75C		mm ²	10	16	25	35
		AWG	8	6	4	2
Maximum motor cable length	Shielded	m	100			
	Unshielded		150			
GENERAL INFORMATION						
Size			4		5	
Heat loss at nominal output power		W	225	330	450	555
Minimum braking resistance value		Ω	22	12		6
Tightening torque		Nm	4		15	
Maximum unit terminal cross section	AWG		6		2	
	mm ²		16		35	
Maximum control terminal cross section	AWG		30 – 12			
	mm ²		0.05 – 2.5			

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Size 6

MOVITRAC® LTPB – EMC filter class C2 according to EN 61800-3						
Power in kW			22	30	37	45
IP55/NEMA-12K housing	Type	MC LTP-B..	0220-2A3-4-10	0300-2A3-4-10	0370-2A3-4-10	0450-2A3-4-10
	Part number		18252087	18252117	18252141	18252176
INPUT						
Line voltage V _{line} according to EN 50160		V	3 × AC 200 – 240 ±10%			
Line frequency f _{line}		Hz	50 / 60 ±5%			
Recommended power supply cable cross section	mm²		35	50	95	
	AWG		2	1	3 / 0	
Line fuse		A	100	150	200	
Nominal input current		A	92.3	112.7	153.5	183.8
OUTPUT						
Recommended motor power		kW	22	30	37	45
		HP	30	40	50	60
Output voltage V _{motor}		V	3 × 20 - V _{line}			
Output current		A	90	110	150	180
Maximum output frequency		Hz	500			
Cross section of motor cable Cu 75C	mm²		35	50	95	
	AWG		2	1	3 / 0	
Maximum motor cable length	Shielded	m	100			
	Unshielded		150			
GENERAL INFORMATION						
Size			6			
Heat loss at nominal output power		W	660	900	1110	1350
Minimum braking resistance value		Ω	6	3		
Tightening torque		Nm	20			
Maximum unit terminal cross section	AWG		-			
			M10 stud with nut max. 95 mm² M8 braking resistor connector max. 70 mm² Crimping cable lug DIN 46235			
Maximum control terminal cross section	AWG		30 – 12			
	mm²		0.05 – 2.5			

2 Technical data of basic unit

Output power and current load

Size 7

MOVITRAC® LTPB – EMC filter class C2 according to EN 61800-3				
Power in kW			55	75
IP55/NEMA-12K housing	Type	MC LTP-B..	0550-2A3-4-10	0750-2A3-4-10
	Part number		18252206	18252230
INPUT				
Line voltage V_{line} according to EN 50160		V	3 × AC 200 – 240 ±10%	
Line frequency f_{line}		Hz	50 / 60 ±5%	
Recommended power supply cable cross section		mm²	120	150
		AWG	4 / 0	–
Line fuse		A	250	315
Nominal input current		A	206.2	252.8
OUTPUT				
Recommended motor power		kW	55	75
		HP	75	100
Output voltage V_{motor}		V	3 × 20 - V_{line}	
Output current		A	202	248
Maximum output frequency		Hz	500	
Cross section of motor cable Cu 75C		mm²	120	150
		AWG	4 / 0	–
Maximum motor cable length	Shielded	m	100	
	Unshielded		150	
GENERAL INFORMATION				
Size			7	
Heat loss at nominal output power		W	1650	2250
Minimum braking resistance value		Ω	3	
Tightening torque		Nm	20	
Maximum unit terminal cross section		AWG	–	
			M10 stud with nut max. 95 mm² M8 braking resistor connector max. 70 mm² Crimping cable lug DIN 46235	
Maximum control terminal cross section		AWG	30 – 12	
		mm²	0.05 – 2.5	

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2.3.3 3-phase system AC 380 – 480 V

Sizes 2 and 3

MOVITRAC® LTPB – EMC filter class C2 according to EN 61800-3									
Power in kW			0.75	1.5	2.2	4	5.5	7.5	11
IP20/ NEMA- 1 hous- ing	Type	MC LTP-B..	0008-5A3-4-00	0015-5A3-4-00	0022-5A3-4-00	0040-5A3-4-00	0055-5A3-4-00	0075-5A3-4-00	0110-5A3-4-00
	Part number		18251412	18251552	18251684	18251803	18251870	18251927	18251986
IP55/ NEMA- 12K housing	Type	MC LTP-B..	0008-5A3-4-10	0015-5A3-4-10	0022-5A3-4-10	0040-5A3-4-10	0055-5A3-4-10	0075-5A3-4-10	0110-5A3-4-10
	Part number		18251420	18251560	18251692	18251811	18251889	18251935	18251994
INPUT									
Line voltage V _{line} according to EN 50160		V	3 × AC 380 – 480 ±10%						
Line frequency f _{line}		Hz	50 / 60 ±5%						
Recommended power supply cable cross sec- tion		mm ²	1.5			2.5			6
		AWG	16			14			10
Line fuse		A	10			16 (15) ¹⁾	16	20	35
Nominal input current		A	2.4	4.3	6.1	9.8	14.6	18.1	24.7
OUTPUT									
Recommended motor power		kW	0.75	1.5	2.2	4	5.5	7.5	11
		HP	1	2	3	5	7.5	10	15
Output voltage V _{motor}		V	3 × 20 - V _{line}						
Output current		A	2.2	4.1	5.8	9.5	14	18	24
Maximum out- put frequency		Hz	500						
Cross section of motor cable Cu 75C		mm ²	1.5			2.5			6
		AWG	16			14			10
Max. motor cable length	Shiel- ded	m	100						
	Un- shiel- ded		150						
GENERAL INFORMATION									
Size			2				3		3/4 ²⁾
Heat loss at nominal output power		W	22	45	66	120	165	225	330
Minimum brak- ing resistance value		Ω	68				39		
Tightening torque		Nm	1						1/4 ²⁾
Maximum unit terminal cross section		AWG	8						8/6 ²⁾
		mm ²	10						10/16 ²⁾
Maximum con- trol terminal cross section		AWG	30 – 12						
		mm ²	0.05 – 2.5						

1) Recommended values for UL compliance

2) IP20 housing: Size 3 / IP55 housing: Size 4

2 Technical data of basic unit

Output power and current load

Sizes 4 and 5

MOVITRAC® LTPB – EMC filter class C2 according to EN 61800-3							
Power in kW		15	18.5	22	30	37	
IP55/ NEMA-12K housing	Type	MC LTP-B..	0150-5A3-4-10	0185-5A3-4-10	0220-5A3-4-10	0300-5A3-4-10	0370-5A3-4-10
	Part number		18252044	18252079	18252095	18252125	18252168
INPUT							
Line voltage V _{line} according to EN 50160	V	3 × AC 380 – 480 ±10%					
Line frequency f _{line}	Hz	50 / 60 ±5%					
Recommended power supply cable cross section	mm ²	6	10	16	25	35	
	AWG	10	8	6	4	2	
Line fuse	A	35	50	63	80	100	
Nominal input current	A	30.8	40	47.1	62.8	73.8	
OUTPUT							
Recommended motor power	kW	15	18.5	22	30	37	
	HP	20	25	30	40	50	
Output voltage V _{motor}	V	3 × 20 - V _{line}					
Output current	A	30	39	46	61	72	
Maximum output frequency	Hz	500					
Cross section of motor cable Cu 75C	mm ²	6	10	16	25	35	
	AWG	10	8	6	4	2	
Max. motor cable length	Shielded	m	100				
	Unshielded		150				
GENERAL INFORMATION							
Size		4			5		
Heat loss at nominal output power	W	450	555	660	900	1110	
Minimum braking resistance value	Ω	22			12		
Tightening torque	Nm	4			15		
Maximum unit terminal cross section	AWG	6			2		
	mm ²	16			35		
Maximum control terminal cross section	AWG	30 – 12					
	mm ²	0.05 – 2.5					

Size 6

MOVITRAC® LTPB – EMC filter class C2 according to EN 61800-3						
Power in kW		45	55	75	90	
IP55/ NEMA-12K housing	Type	MC LTP-B..	0450-5A3-4-10	0550-5A3-4-10	0750-5A3-4-10	0900-5A3-4-10
	Part number		18252184	18252214	18252249	18252273
INPUT						
Line voltage V _{line} according to EN 50160		V	3 × AC 380 – 480 ±10%			
Line frequency f _{line}		Hz	50 / 60 ±5%			
Recommended power supply cable cross section		mm²	50	70	95	120
		AWG	1	2 / 0	3 / 0	4 / 0
Line fuse		A	125	150	200	250
Nominal input current		A	92.2	112.5	153.2	183.7
OUTPUT						
Recommended motor power		kW	45	55	75	90
		HP	60	75	100	150
Output voltage V _{motor}		V	3 × 20 - V _{line}			
Output current		A	90	110	150	180
Maximum output frequency		Hz	500			
Cross section of motor cable Cu 75C		mm²	50	70	95	120
		AWG	1	2 / 0	3 / 0	4 / 0
Max. motor cable length	Shielded	m	100			
	Unshielded		150			
GENERAL INFORMATION						
Size			6			
Heat loss at nominal output power		W	1350	1650	2250	2700
Minimum braking resistance value		Ω	6			
Tightening torque		Nm	20			
Maximum unit terminal cross section		AWG	-			
			M10 stud with nut max. 95 mm² M8 braking resistor connector max. 70 mm² Crimping cable lug DIN 46235			
Maximum control terminal cross section		AWG	30 – 12			
		mm²	0.05 – 2.5			

2 Technical data of basic unit

Output power and current load

Size 7

MOVITRAC® LTPB – EMC filter class C2 according to EN 61800-3					
Power in kW			110	132	160
IP55/NEMA-12K housing	Type	MC LTP-B..	1100-5A3-4-10	1320-5A3-4-10	1600-5A3-4-10
	Part number		18252303	18252311	18252346
INPUT					
Line voltage V _{line} according to EN 50160		V	3 × AC 380 – 480 ±10%		
Line frequency f _{line}		Hz	50 / 60 ±5%		
Recommended power supply cable cross section		mm²	120	150	185
		AWG	4 / 0	–	–
Line fuse		A	250	315	355
Nominal input current		A	205.9	244.5	307.8
OUTPUT					
Recommended motor power		kW	110	132	160
		HP	175	200	250
Output voltage V _{motor}		V	3 × 20 - V _{line}		
Output current		A	202	240	302
Maximum output frequency		Hz	500		
Cross section of motor cable Cu 75C		mm²	120	150	185
		AWG	4 / 0	–	–
Maximum motor cable length	Shielded	m	100		
	Unshielded		150		
GENERAL INFORMATION					
Size			7		
Heat loss at nominal output power		W	3300	3960	4800
Minimum braking resistance value		Ω	6		
Tightening torque		Nm	20		
Maximum unit terminal cross section		AWG	–		
			M10 stud with nut max. 95 mm² M8 braking resistor connector max. 70 mm² Crimping cable lug DIN 46235		
Maximum control terminal cross section		AWG	30 – 12		
		mm²	0.05 – 2.5		

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2.3.4 3-phase system AC 500 – 600 V

Size 2

MOVITRAC® LTPB – EMC filter class 0 according to EN 61800-3							
Power in kW			0.75	1.5	2.2	4	5.5
IP20/ NEMA-1 housing	Type	MC LTP-B..	0008-603-4-00	0015-603-4-00	0022-603-4-00	0040-603-4-00	0055-603-4-00
	Part number		18251447	18251587	18251714	18410812	18410839
IP55/ NEMA-12K housing	Type	MC LTP-B..	0008-603-4-10	0015-603-4-10	0022-603-4-10	0040-603-4-10	0055-603-4-10
	Part number		18251455	18251595	18410804	18410820	18410847
INPUT							
Line voltage V _{line} according to EN 50160		V	3 × AC 500 – 600 ±10%				
Line frequency f _{line}		Hz	50 / 60 ±5%				
Recommended power supply cable cross section		mm²	1.5				2.5
		AWG	16				14
Line fuse		A	10/(6) ¹⁾		10		16/(15) ¹⁾
Nominal input current		A	2.5	3.7	4.9	7.8	10.8
OUTPUT							
Recommended motor power		kW	0.75	1.5	2.2	4	5.5
		HP	1	2	3	5	7.5
Output voltage V _{motor}		V	3 × 20 - V _{line}				
Output current		A	2.1	3.1	4.1	6.5	9
Maximum output frequency		Hz	500				
Cross section of motor cable Cu 75C		mm²	1.5				2.5
		AWG	16				14
Max. motor cable length	Shielded	m	100				
	Unshielded		150				
GENERAL INFORMATION							
Size			2				
Heat loss at nominal output power		W	22	45	66	120	165
Minimum braking resistance value		Ω	68				
Tightening torque		Nm	1				
Maximum unit terminal cross section		AWG	8				
		mm²	10				
Maximum control terminal cross section		AWG	30 – 12				
		mm²	0.05 – 2.5				

1) Recommended values for UL compliance

2 Technical data of basic unit

Output power and current load

Sizes 3 and 4

MOVITRAC® LTPB – EMC filter class 0 according to EN 61800-3								
Power in kW			7.5	11	15	18.5	22	30
IP20/ NEMA-1 housing	Type	MC LTP-B..	0075-603-4-00	0110-603-4-00	0150-603-4-00	-	-	-
	Part number		18410855	18410863	18410871	-	-	-
IP55/ NEMA-12K housing	Type	MC LTP-B..	0075-603-4-10	0110-603-4-10	0150-603-4-10	0185-603-4-10	0220-603-4-10	0300-603-4-10
	Part number		18251951	18252028	18252052	18410898	18252109	18252133
INPUT								
Line voltage V_{line} according to EN 50160		V	3 × AC 500 – 600 ±10%					
Line frequency f_{line}		Hz	50 / 60 ±5%					
Recommended power supply cable cross section		mm ²	2.5	4	6		10	14
		AWG	14	12	10		8	6
Line fuse		A	20	25/(30) ¹⁾	35	40/(45) ¹⁾	50/(60) ¹⁾	63/(70) ¹⁾
Nominal input current		A	14.4	20.6	26.7	34	41.2	49.5
OUTPUT								
Recommended motor power		kW	7.5	11	15	18.5	22	30
		HP	10	15	20	25	30	40
Output voltage V_{motor}		V	3 × 20 - V_{line}					
Output current		A	12	17	22	28	34	43
Maximum output frequency		Hz	500					
Cross section of motor cable Cu 75C		mm ²	2.5	4	6		10	14
		AWG	14	12	10		8	6
Max. motor cable length	Shielded	m	100					
	Unshielded		150					
GENERAL INFORMATION								
Size			3		3/4 ²⁾	4		
Heat loss at nominal output power	W		225	330	450	555	660	900
Minimum braking resistance value	Ω		39			22		
Tightening torque	Nm		1		1/4 ²⁾	4		
Maximum unit terminal cross section	AWG		8		8/6 ²⁾	6		
	mm ²		10		10/16 ²⁾	16		
Maximum control terminal cross section	AWG		30 – 12					
	mm ²		0.05 – 2.5					

1) Recommended values for UL compliance

2) IP20 housing: Size 3 / IP55 housing: Size 4

Sizes 5 and 6

MOVITRAC® LTPB – EMC filter class 0 according to EN 61800-3								
Power in kW			37	45	55	75	90	110
IP55/ NEMA-12K housing	Type	MC LTP-B..	0370-603-4-10	0450-603-4-10	0550-603-4-10	0750-603-4-10	0900-603-4-10	1100-603-4-10
	Part number		18410901	18252192	18252222	18252257	18252281	18410928
INPUT								
Line voltage V _{line} according to EN 50160		V	3 × AC 500 – 600 ±10%					
Line frequency f _{line}		Hz	50 / 60 ±5%					
Recommended power supply cable cross section		mm ²	25	35		50	70	95
		AWG	4	2		1	2 / 0	3 / 0
Line fuse		A	80	100		125/(150) ¹⁾	160/(175) ¹⁾	200
Nominal input current		A	62.2	75.8	90.9	108.2	127.7	158.4
OUTPUT								
Recommended motor power		kW	37	45	55	75	90	110
		HP	50	60	75	100	125	150
Output voltage V _{motor}		V	3 × 20 - V _{line}					
Output current		A	54	65	78	105	130	150
Maximum output frequency		Hz	500					
Cross section of motor cable Cu 75C		mm ²	25	35		50	70	95
		AWG	4	2		1	2 / 0	3 / 0
Max. motor cable length	Shielded	m	100					
	Unshielded		150					
GENERAL INFORMATION								
Size			5		6			
Heat loss at nominal output power		W	1110	1350	1650	2250	2700	3300
Minimum braking resistance value		Ω	22		12		6	
Tightening torque		Nm	15		20			
Maximum unit terminal cross section		AWG	2		–			
		mm ²	35		M10 stud with nut max. 95 mm ² M8 braking resistor connector max. 70 mm ² Crimping cable lug DIN 46235			
Maximum control terminal cross section		AWG	30 – 12					
		mm ²	0.05 – 2.5					

1) Recommended values for UL compliance

2.4 Housing variants and dimensions

2.4.1 Sizes

MOVITRAC® LTP-B is available in the sizes 2 – 7.

2.4.2 Housing variants

MOVITRAC® LTP-B is available with 2 housing variants:

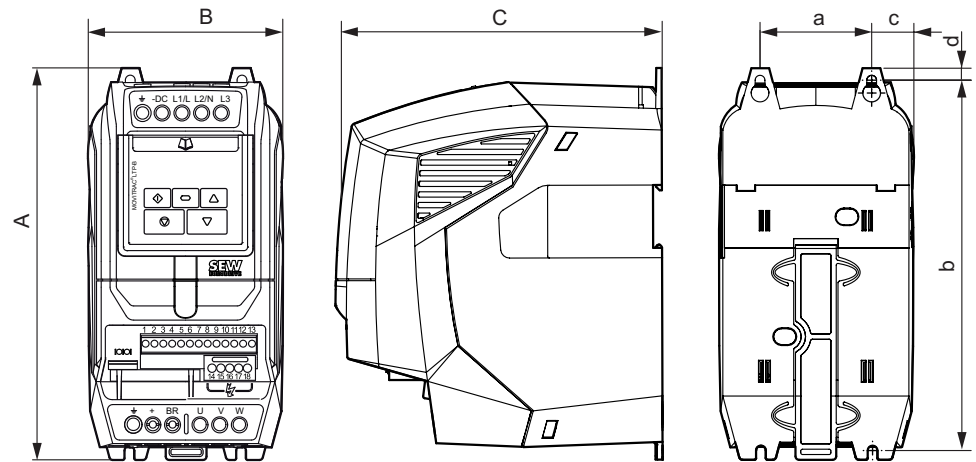
- IP20/NEMA-1 housing for use in control cabinets
- IP55/NEMA-12K housing

The IP55 and NEMA 12K housing is protected against humidity and dust. This allows for operating the frequency inverter indoors under difficult conditions. The frequency inverter functions are identical.

2.4.3 Dimensions of the IP20 housing

Sizes 2 and 3

2

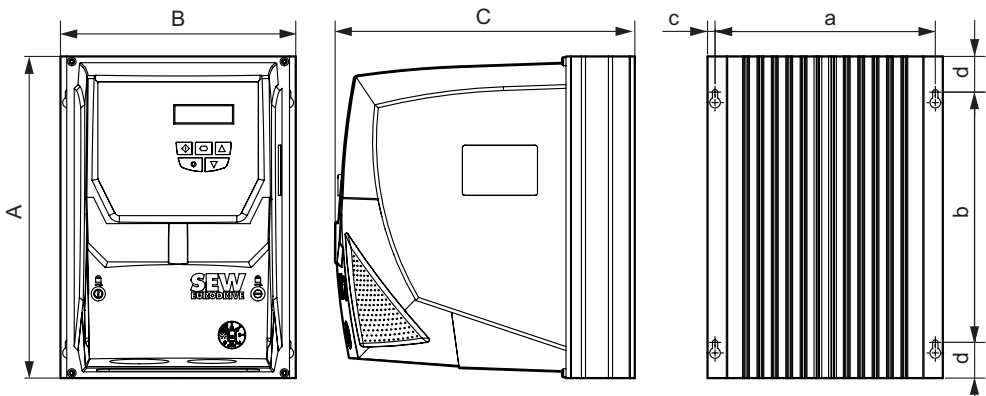


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Dimension		Size 2	Size 3
Height (A)	mm	221	261
Width (B)	mm	110	131
Depth (C)	mm	185	205
Weight	kg	1.8	3.5
a	mm	63.0	80.0
b	mm	209.0	247
c	mm	23	25.5
d	mm	7.00	7.75
Recommended screw size		4 × M4	

2.4.4 Dimensions of the IP55/NEMA-12K housing (LTP xxx-10)

Sizes 2 and 3



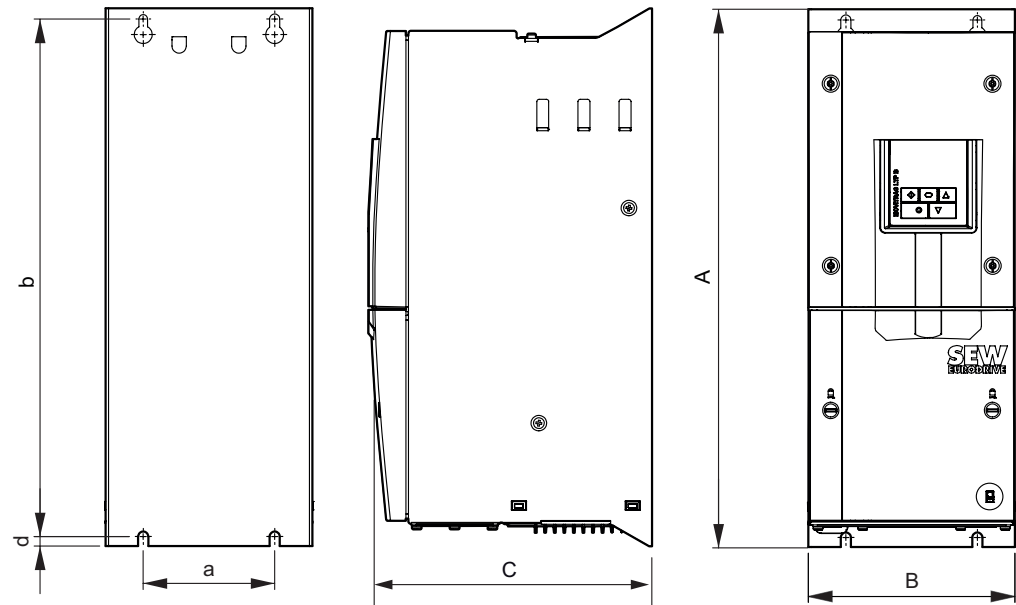
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Dimension		Size 2	Size 3
Height (A)	mm	257	310
Width (B)	mm	188	211
Depth (C)	mm	239	270
Weight	kg	4.8	7.3
a	mm	178	200
b	mm	200	252
c	mm	5	5.5
d	mm	28.5	29
Recommended screw size		4 × M4	

Sizes 4 – 7

Frequency inverters sizes 4 – 7 are each delivered with a removable base plate without bores for the cable bushing.

2



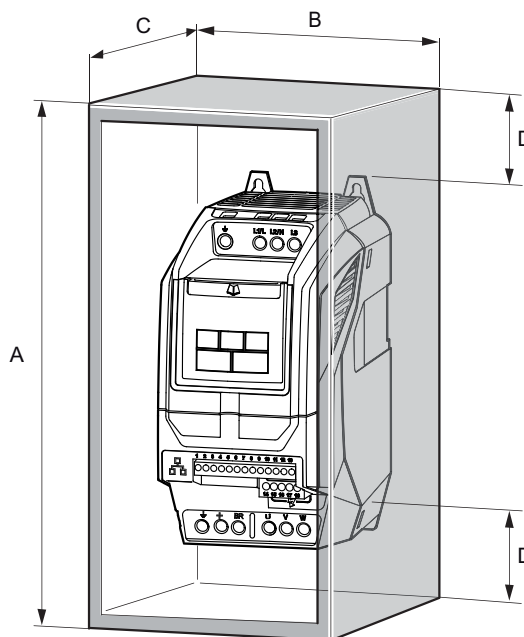
Dimension		Size 4	Size 5	Size 6	Size 7
Height (A)	mm	450	540	865	1280
Width (B)	mm	171	235	330	330
Depth (C)	mm	235	268	335	365
Weight	kg	11.5	22.5	50	80
a	mm	110	175	200	200
b	mm	423	520	840	1255
c	mm	61	60	130	130
d	mm	8	8	10	10
Recommended screw size		4 × M8		4 × M10	

2.5 IP20 housing: Installation and installation space

For applications that require a higher IP degree of protection than IP20, the frequency inverter must be installed in a control cabinet. Observe the following requirements:

- The control cabinet must be made of a heat conductive material unless it has forced air cooling.
- When using a control cabinet with ventilation openings, the openings must be provided above and below the frequency inverter to allow for unobstructed circulation of air. The air must be supplied below the frequency inverter and dissipated above it.
- If the frequency inverter is operated in external environments with particles of dirt (such as dust), ventilation openings either have to be equipped with a suitable particle filter or forced air cooling has to be used. The filter has to be serviced and cleaned.
- In environments with a high level of humidity, salt or chemicals, a suitable enclosed control cabinet (without ventilation openings) must be used.
- The IP20 frequency inverter can be assembled directly next to one another without clearance.

2.5.1 Dimensions of metal cabinet without ventilation openings



3080168459

Power rating		Sealed control cabinet			
		A	B	C	D
		mm	mm	mm	mm
Size 2	230 V: 0.75 kW, 1.5 kW 400 V: 0.75 kW, 1.5 kW, 2.2 kW	400	300	250	60
Size 2	230 V: 2.2 kW	600	450	300	100
Size 3	All power ranges	800	600	350	150

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2.5.2 Dimensions of control cabinet with ventilation openings

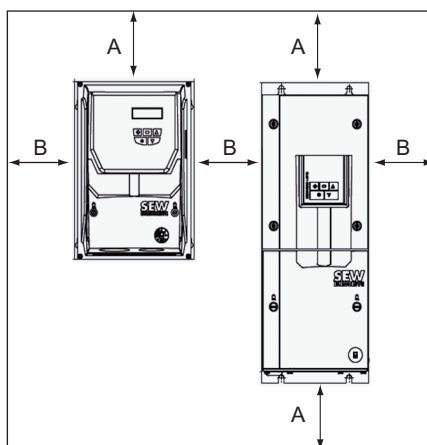
Power rating		Control cabinet with ventilation openings			
		A	B	C	D
		mm	mm	mm	mm
Size 2	230 V: 0.75 kW, 1.5 kW 400 V: 0.75 kW, 1.5 kW, 2.2 kW	400	300	250	60
Size 2	230 V: 2.2 kW	600	400	300	100
Size 3	All power ranges	800	600	350	100

2.5.3 Dimensions of control cabinet with forced cooling

Power rating		Control cabinet with forced cooling				
		A	B	C	D	Air flow rate
		mm	mm	mm	mm	
Size 2	230 V: 0.75 kW, 1.5 kW 400 V: 0.75 kW, 1.5 kW, 2.2 kW	400	300	250	60	> 45 m³/h
Size 2	230 V: 2.2 kW	400	300	250	100	> 45 m³/h
Size 3	All power ranges	600	400	250	100	> 80 m³/h

2.6 IP55 housing: Installation and control cabinet dimensions

In control cabinets or in field, the following minimum distances must not be underrun.



9656147979

Size	A	B
	mm	mm
2 + 3	100	10
4 – 7	200	10



INFORMATION

If the IP55 frequency inverter is installed in a control cabinet, a sufficient control cabinet ventilation must be ensured.

3 Operator terminals

The MOVITRAC® LT basic unit has an integrated keypad. Some applications require a remote keypad of the frequency inverter. The operating terminal option comes equipped with a self-adhesive gasket and a 3 m cable, which is plugged into the RJ45 socket of frequency inverter. This option is supplied with 24 V via the RJ45 cable of the frequency inverter.

The maximum cable length between keypad and frequency inverter is 25 m with shielded cables. The length of all the cables in the network must not exceed 25 m for unshielded cables, and 100 m for shielded cables.

3.1 System structure

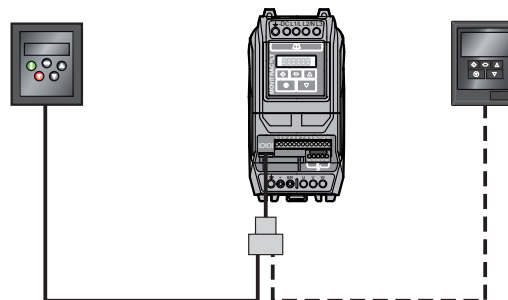
As soon as the physical connection is established, the keypad can be used. The keypad supports a network with different LT frequency inverter via the respective communication address. See chapter Setting the communication address in the operating instructions.

A maximum of 2 keypads may be integrated into an existing network.

One keypad can be used for controlling up to 63 frequency inverters in one network. The keypad displays and controls one frequency inverter.

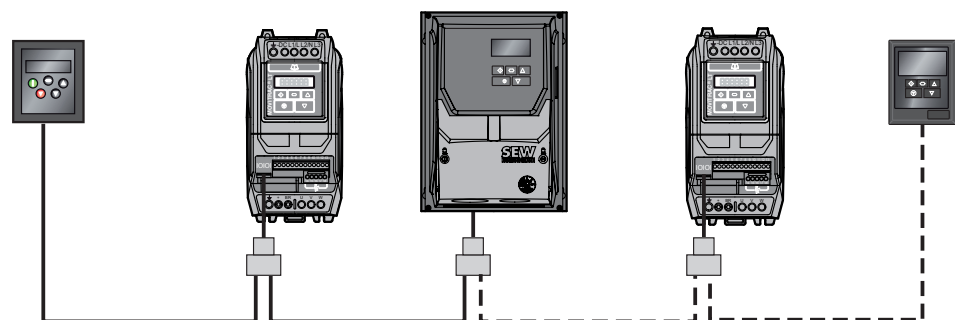
You can use the keypad as follows:

- One frequency inverter with one or a maximum of 2 remote keypads.



13686480267

- Several different frequency inverters (up to 63) with 1 or a maximum of 2 keypads.



13686477323

3.2 LT BG-C remote keypad

We offer a 7-segment display keypad as an additional option.

Type	Part number
LT BG-C	18241522

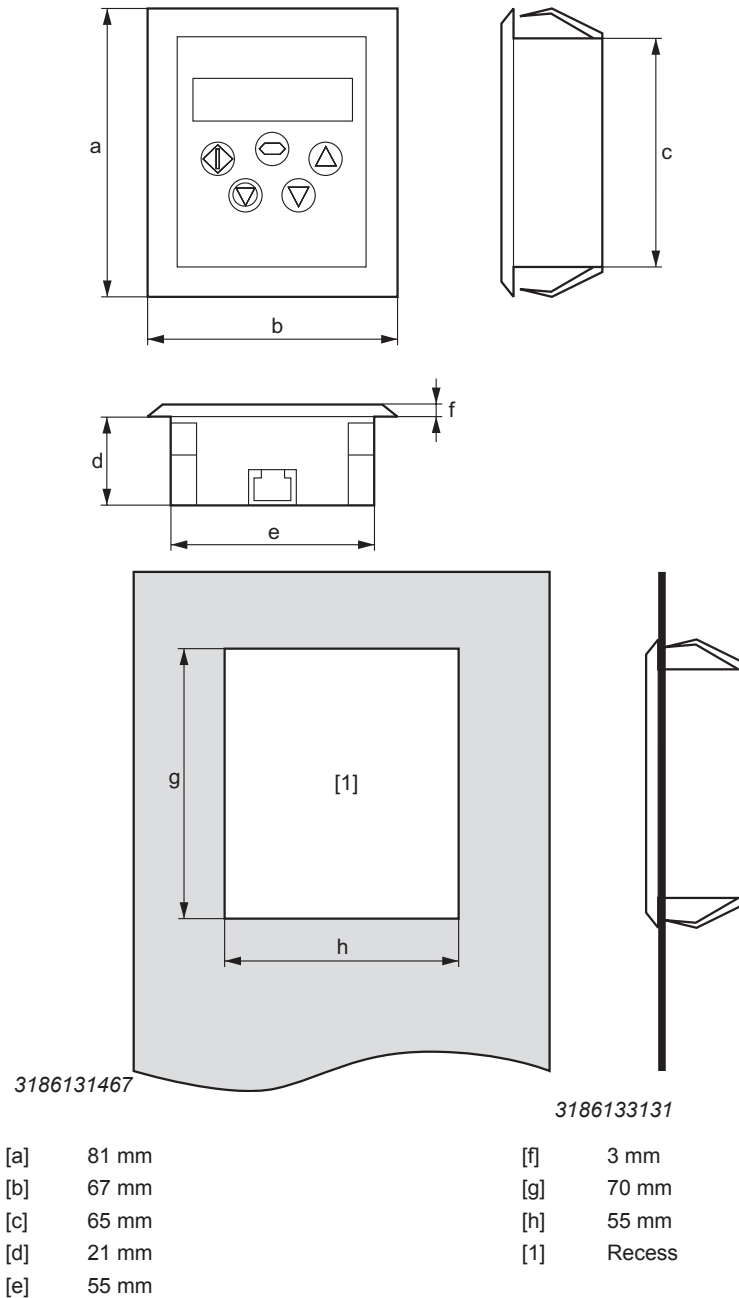


3186128779

3.2.1 Installation in the control cabinet or control panel

For installing an LT BG-C in the door of a control cabinet or in a control panel, the metal has to be cut as shown in the illustration below. The installed keypad meets standard IP54/NEMA 13 if the self-adhesive gasket enclosed in the delivery is used.

3



3.2.2 Technical data

Unit connections	RJ45
Supply voltage	DC 24 V ± 10%
Supply current	30 mA
Degree of protection	IP20 (if not installed in the control cabinet) IP54 / NEMA 13 (if installed in the control cabinet door)
Ambient temperature during operation	0 °C – +50 °C
Maximum relative humidity	95%, condensation not permitted

3.3 LT BG OLED A remote keypad

We offer a full text OLED keypad as an additional option.

Type	Part number
LT BG OLED A	28205731

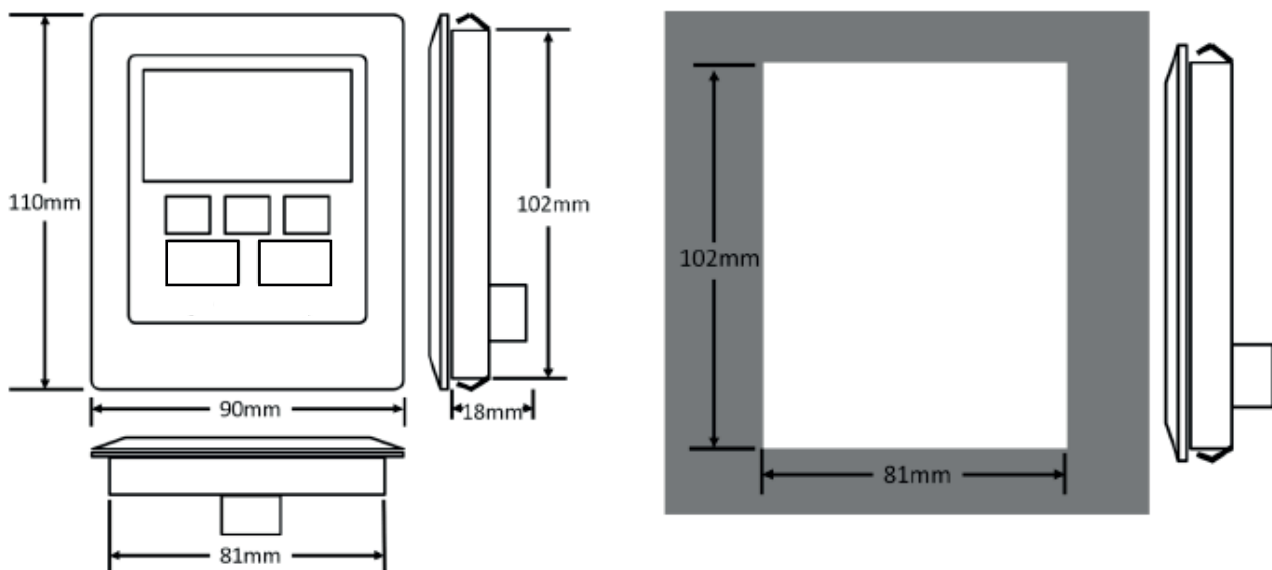
3



9661213707

3.3.1 Installation in the control cabinet or control panel

For installing an LT BG OLED in the door of a control cabinet or in a control panel, the metal has to be cut as shown in the illustration below. The installed keypad meets standard IP54 / NEMA 13 if the self-adhesive gasket enclosed in the delivery is used.



9288183563

3.3.2 Technical data

Unit connections	RJ45
Supply voltage	DC 24 V ± 10%
Supply current	30 mA
Degree of protection	IP20 (if not installed in the control cabinet) IP54 / NEMA 13 (if installed in the control cabinet door)
Ambient temperature during operation	-10 °C – +50 °C
Maximum relative humidity	95%, condensation not permitted

3.4 LT OB LOCMO B control board

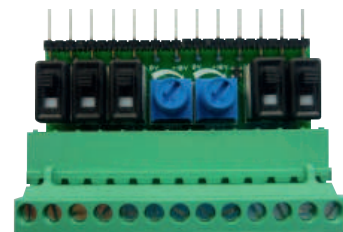
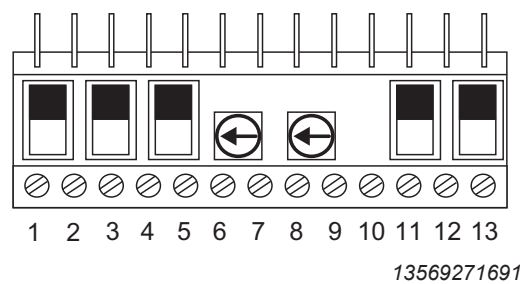
Type	Part number
LT OB LOCMO B	28205758

The control board allows the user to operate the frequency inverter easily and quickly via the terminal control on site. The control board is connected to the 13-pole terminal and supplied with 24 V via terminal 1.

INFORMATION



This option serves for test purposes only. The application in the field, a permanently-wired connection is required for controlling the drive.



3.4.1 Technical data

Degree of protection	IP00
Switch position	Up → open → 0 V → logical "0" Down → closed → 24 V → logical "1"
Potentiometer position	Left stop = 0 V Right stop = 10 V
Ambient temperature	-10 °C – +50 °C
Dimensions	mm 67 × 33 (without pins) × 14

4 Network packages, interfaces, parameter module

4.1 Network packages

For a network connection between MOVITRAC® LTP-B or LTP-B and a gateway in a UOx housing, network packages with respective components are available.

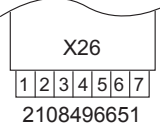
4.1.1 Basic package (cable set A)

The basic package (cable set A) contains all components to connect the frequency in-verter to a gateway, MOVI-PLC® or a CCU.

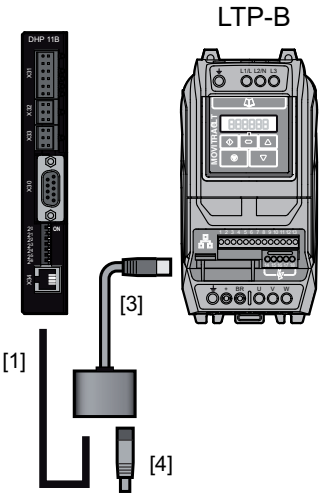
Cable set A also contains a heat shrink tubing for insulation of the cable splitter.

Type	Quantity	Description	length	Part number
LT OP 003 A2	1	RJ45 cable with open end	0.5 m	28202554
	1	Cable splitter	-	
	1	Terminating connector	-	

Connect the RJ45 cable with the 7-pin connector of the MOVI-PLC® or the gateway.

Side view Single unit	Description	Terminal		Connection to the RJ45 connector
	X26 connector: CAN 1 and voltage supply (plug-in terminal)	X26:1	CAN 1H	SBus+ (orange)
		X26:2	CAN 1L	SBus- (white-orange)
		X26:3	DGND	0 V (white-green)
		X26:4	Reserved	—
		X26:5	Reserved	—
		X26:6	DGND	—
		X26:7	DC 24 V	—

The terminating connector must be plugged into the Y adapter of the last frequency in-verter in the network.



9288388363

- [1] RJ45 cable with open end
- [3] Cable splitter
- [4] Terminating connector (120 Ω)

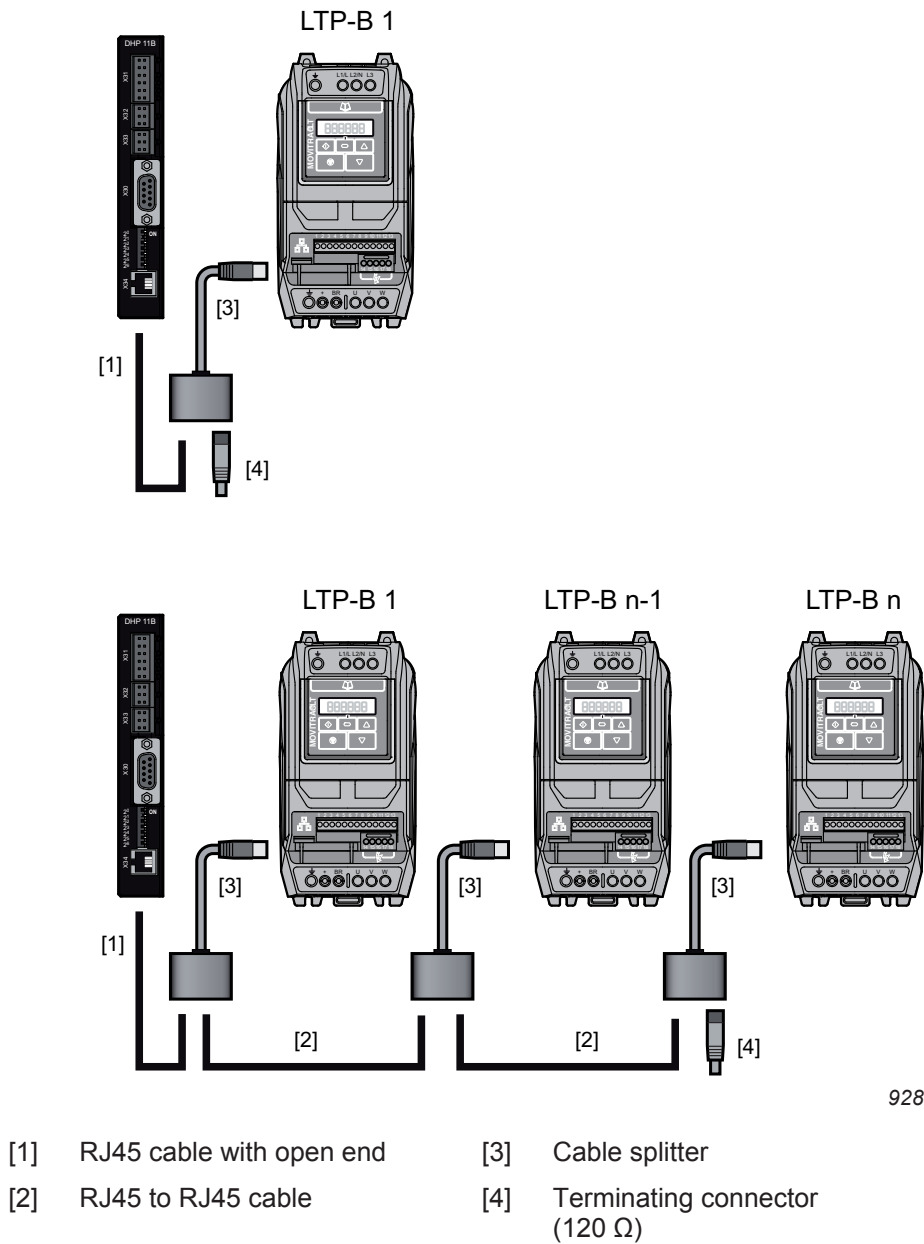
4.1.2 Extension package (cable set B)

The extension package is used in addition to the basic package (cable set A) to connect more frequency inverters in the network. Cable set B also contains a heat shrink tubing for insulation of the cable splitter.

Type	Quantity	Description	length	Part number
LT OP 005 B2	1	RJ45 to RJ45 cable	0.5 m	28202546
	1	Cable splitter	-	
LT OP 010 B2	1	RJ45 to RJ45 cable	1 m	28202562
	1	Cable splitter	-	

Example

The following example shows the operation of three inverters at one gateway (controller). This requires cable set A and two times the extension package (cable set B).



9288460171

4 Network packages, interfaces, parameter module

Network packages

4.1.3 PC engineering package (cable set C)

This cable set is used to connect the inverters to the engineering software LT Shell for software updates or for configuration purposes. In addition, an USB11A interface adapter is required.

The PC engineering package (C) contains all components for the connection to a network with MOVITRAC® LTE-B, LTP-B, LTP-A or MOVIFIT® *basic* via RS485.

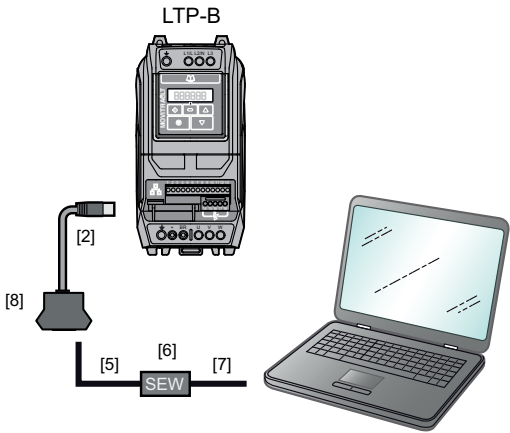
Type	Quantity	Description	length	Part number
LT OP 003 C	1	RJ adapter (RJ45, RJ45, RJ10)	-	18243681
	1	1 × RJ45 to RJ45 cable (blue) (LTE-B, LTP-B)	0.5 m	
	1	1 × RJ45 to RJ11 cable (black) (LTP-A, MOVIFIT® <i>basic</i>)	0.5 m	



3805148171

Example 1

The following example shows how to use the cable set C.



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- [2]

RJ45 to RJ45 cable
- [5]

RJ10 to RJ10 cable
- [6]

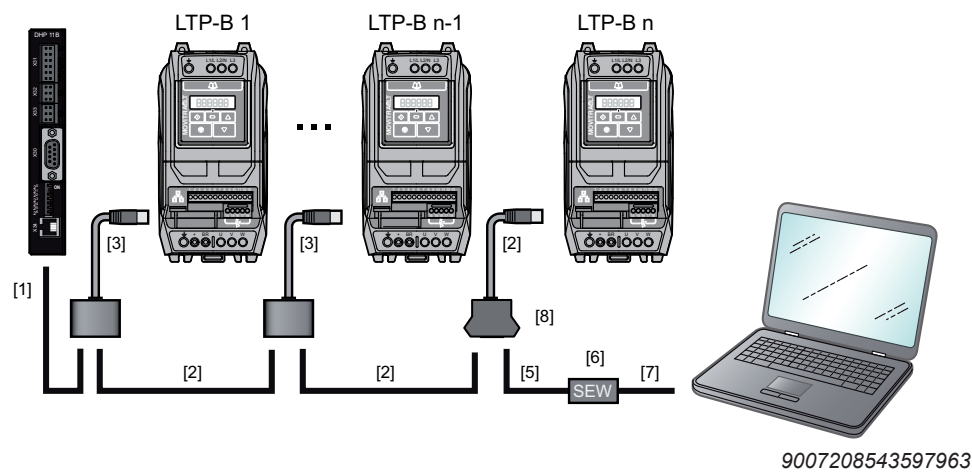
USB11A
- [7]

Cable USB A-B
- [8]

RJ adapter (2 x RJ45, 1 x RJ10)

Example 2

The following example shows the use of cable set C within an existing fieldbus network.



- | | |
|-----------------------------------|-------------------------------------|
| [1] RJ45 cable with open end | [5] RJ10 to RJ10 cable |
| [2] RJ45 to RJ45 cable | [6] USB11A |
| [3] Cable splitter | [7] Cable USB A-B |
| [4] Terminating connector (120 Ω) | [8] RJ adapter (2 x RJ45, 1 x RJ10) |

In an SBus network, the terminating connector or RJ adapter is equipped with a terminating resistor. If you use the PC engineering package (C) with the basic package (A), you have to replace the terminating connector with the RJ adapter.

Connect the RJ10 connector (4-pin) to USB11A.

INFORMATION



Only use the blue RJ45-RJ45 cable for MOVITRAC® LTP-B and MOVITRAC® LTE-B.

Only use the black RJ45-RJ11 cable for MOVITRAC® LTP-A and MOVIFIT® basic.

If the wrong kind of connectors are used in the RJ sockets, the pins may be damaged.

4 Network packages, interfaces, parameter module

Network packages

4.1.4 Cable splitter 1 to 2

Type	Part number
LT RJ CS 21 C	28201140



9007204376907403

The RJ cable splitter is required to connect the RJ45 communication interface of the MOVITRAC® LT to another frequency inverter or keypad.

Typical applications are a required communication connection between one of the following sources and several frequency inverters in a network.

- Remote keypad
- Inverter network to MOVI-PLC® via SBus
- Fieldbus communication via UOH/DFx gateway

INFORMATION



The cable sets A and B contain all components for unit connection. No additional splitter is required.

4.1.5 Terminating resistor

The terminating resistor of 120 Ohm is integrated in the RJ45 connector and is used as bus termination for SBus, CANopen and Modbus.

Type	Part number
LT RJ CS TR C	28230299

NOTE

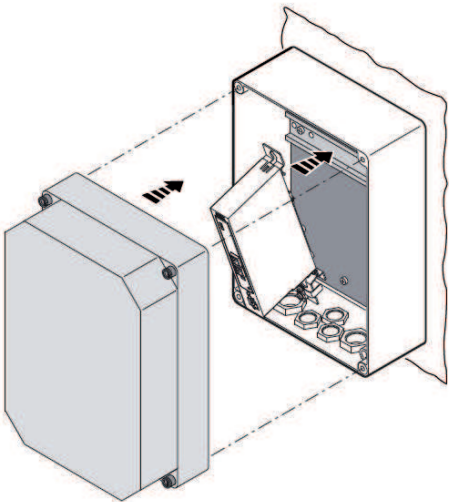
Cable set A contains a terminating resistor; in cable set C, the terminating resistor is integrated in the RJ45-RJ45-RJ10 connector. When cable set C is used, no additional terminating resistors are required.

4.1.6 UOH65A housing

With the UOH65A housing option, gateways or controllers can be installed with UOx housing in the field.

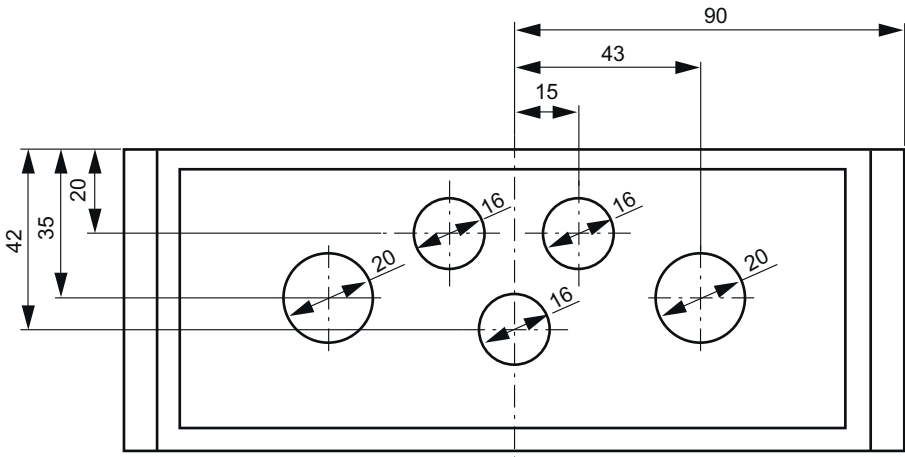
The housing is delivered with prefabricated screw fittings and mounting rail with appropriate accessories for mounting.

Type	Part number
UOH65A	18149227



9450040203

Dimensions of the cable bushings



12263605515

Housing dimensions

Width	Height	Depth
254 mm	180 mm	165 mm

4 Network packages, interfaces, parameter module

USB11A interface adapter USB/RS485

Technical data

Housing material	Lower part	Glass fiber reinforced polycarbonate color RAL 7035
	Top part	Glass fibre reinforced polycarbonate transparent
Degree of protection		IP65 (EN 60529)
Ambient temperature during operation		-10 °C – +55 °C

4.2 USB11A interface adapter USB/RS485

With the USB11A option, a PC or laptop with USB interface can be connected to the RJ adapter. The USB11A interface adapter supports USB1.1 and USB2.0.

The connection between USB11A and PC is made using a standard USB cable type USB A-B (shielded).

The USB11A adapter is required to connect the inverter to the engineering software LT Shell.

- **NOTE**

The engineering package (cable set C) is required additionally.

Type	Part number
USB11A	8248311

4.2.1 Scope of delivery

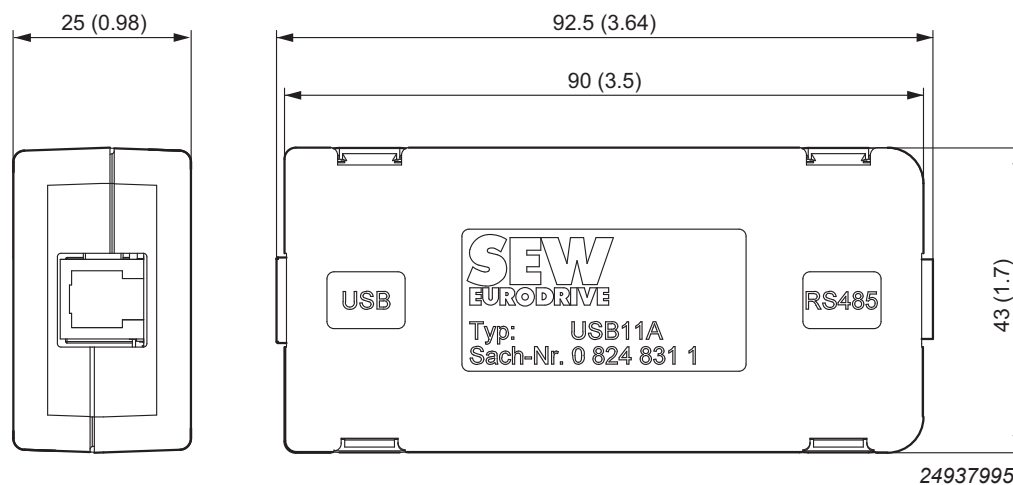
- USB11A unit
- USB connection cable type USB A-B to connect PC to USB11A.
- Serial interface cable with 2 x RJ10 connectors to connect USB11A to RJ adapter.
- CD-ROM with drivers and MOVITOOLS® MotionStudio software.

4.2.2 Technical data

Ambient temperature during operation	0 °C to 40 °C
Degree of protection	IP20

4.2.3 Dimensions

The dimensions are specified in mm (in).



4.2.4 RS485 interface

A maximum of 63 MOVITRAC® LTP-B and LTE-B units can be connected via the RS485 interface of the USB11A for communication purposes.

The maximum shielded cable length is 100 m.

Each inverter needs a unique address.

4.3 Parameter module

The parameter module is exclusively designed for operation in the RJ45 port of the frequency inverter.

Type	Part number
LT BP-C	18241549



9007202440910859

- Functionality:
 - Saves data from the frequency inverter to the parameter module.
 - Simultaneously saves data from both LT frequency inverter types to the parameter module.
 - Integrated parameter lock. Prevents overwriting of saved parameters if activated.
 - Loads data back from the parameter module to the frequency inverter.
 - Bluetooth® interface for communication between engineering software LT Shell and MOVITRAC® LT or directly with the parameter module.

4.3.1 Technical data

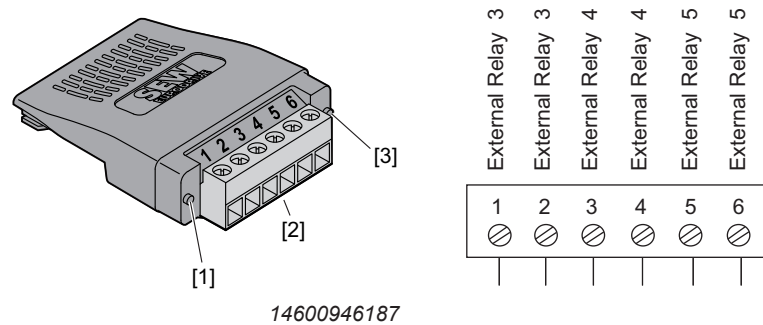
Degree of protection	IP20, NEMA 1
Ambient temperature during operation	-10 °C – +50 °C
Range	< 10 m, depending on ambient conditions
Data transmission	Bluetooth®

5 Option cards

5.1 Relay output card

Type	Part number
LT OB 3ROUT A	28201159

In case an application requires more relay outputs than the frequency inverter provides, the relay output option card can be used. The option card relay output offers 3 additional relay outputs.



5.1.1 Technical data

INFORMATION



Note that only one option card can be used per frequency inverter.

Maximum input voltage	AC 250 V/DC 30 V
Maximum relay switching current	AC 6 A (250 V)/DC 5 A (30 V)
Digital input	8 – 30 V
Digital input response time	< 8 ms
Conformity	IP20, UL94V-0, IP55 (for IP55 devices)
Ambient temperature	-10 °C – +50 °C
Storage temperature	-40 °C – +60 °C
Tightening torque of terminal strip	0.5 Nm

5.1.2 Startup and operation

Relay outputs 3 and 4 can be individually programmed according to the parameters specified in the table below. Relay output 5 is permanently set to function 3 motor speed ≥ 0 .

Set-ting	Function	Explanation
0	Inverter enabled	Relay contacts closed when drive is enabled.
1	Inverter ok (digital)	Relay contacts closed when inverter is ok (no error).
2	Motor runs at target speed (digital)	Relay contacts closed when output frequency = setpoint frequency ± 0.1 Hz.
3	Motor speed ≥ 0 (digital)	Relay contacts closed when output frequency is greater than "zero frequency" (0.3 % of base frequency).
4	Motor speed $\geq$ limit value (digital)	If the output frequency is higher than set in the parameter "upper limit of user relay", the relay is closed. Relay contacts open when the value is smaller than the value set in parameter "User relay lower limit".
5	Motor current $\geq$ limit value (digital)	If the motor current / motor torque is higher than set in the parameter "upper limit of user relay", the relay is closed. Relay contacts open when the value is smaller than the value set in parameter "User relay lower limit".
6	Motor torque $\geq$ limit value (digital)	
7	Analog input 2 $\geq$ limit value (digital)	Relay contacts closed when the value at the second analog input is above the limit value.
8	Fieldbus control	Relay contacts via fieldbus controls
9	STO status	Relay contacts open if STO circuit is open. Inverter indicates "inhibit".
10	PID error $\geq$ limit value	Relay contacts closed when the control error is higher than the user relay upper limit. The relay opens also with negative control errors.

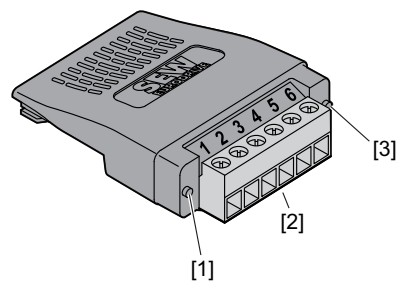
5.2 Digital I/O card

Type	Part number
LT OB IO A	28201167

If an application requires more digital inputs/outputs than the frequency inverter supplies, the option card digital I/O can be used. The option card provides 3 additional digital inputs and an additional relay output. The digital inputs can be assigned to various functions in the frequency inverter. In addition, their status can be read by the higher-level controller via process data communication.

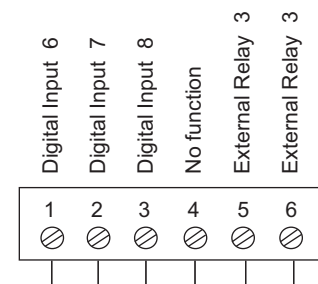
The option card digital I/O supports:

- 3 digital inputs/outputs (DIO6, DIO7, DIO8)
- 1 relay output (relay 3)



14600946187

- [1] LED: A
[2] Labeling: Digital I/O
[3] LED: B



5.2.1 Technical data

INFORMATION



Note that only one option card can be used per frequency inverter.

Maximum input voltage	AC 250 V/DC 30 V
Maximum relay switching current	AC 6 A (250 V)/DC 5 A (30 V)
Digital input	8 – 30 V
Digital input response time	< 8 ms
Conformity	IP20, UL94V-0, IP55 (for IP55 devices)
Ambient temperature	-10 °C – +50 °C
Storage temperature	-40 °C – +60 °C
Tightening torque of terminal strip	0.5 Nm

5.2.2 Startup and operation

Relay 3 can be individually programmed according to the parameters specified in the table below.

Set-ting	Function	Description
0	Inverter enabled	Relay contacts closed when inverter is enabled.
1	Inverter ok (digital), no error	Relay contacts closed when inverter is ok (no error).
2	Motor operates at setpoint speed (digital)	Relay contacts closed when output frequency = setpoint frequency ± 0.1 Hz.
3	Motor speed ≥ 0 (digital)	Relay contacts closed when output frequency is greater than "zero frequency" (0.3 % of base frequency).
4	Motor speed $\geq$ limit value (digital)	If the output frequency is higher than set in the parameter "upper limit of user relay", the relay is closed. Relay contacts open when the value is smaller than the value set in parameter "User relay lower limit".
5	Motor current $\geq$ limit value (digital)	If the motor current / motor torque is higher than set in the parameter "upper limit of user relay", the relay is closed. Relay contacts open when the value is smaller than the value set in parameter "User relay lower limit".
6	Motor torque $\geq$ limit value (digital)	
7	Analog input 2 $\geq$ limit value (digital)	Relay contacts closed when the value at the second analog input is above the limit value.
8	Fieldbus control	Relay contacts via fieldbus control.
9	STO status	Relay contacts open if STO circuit is open. Inverter indicates "inhibit".
10	PID error $\geq$ limit value	Relay contacts closed when the control error is higher than the user relay upper limit. The relay opens also with negative control errors.

The functions of the digital inputs can be individually programmed according to the parameters specified in the table below.

To do so, set parameter *P1-15* to 0. All digital inputs at the frequency inverter are then set to no function and must be defined via parameter group 9.

6

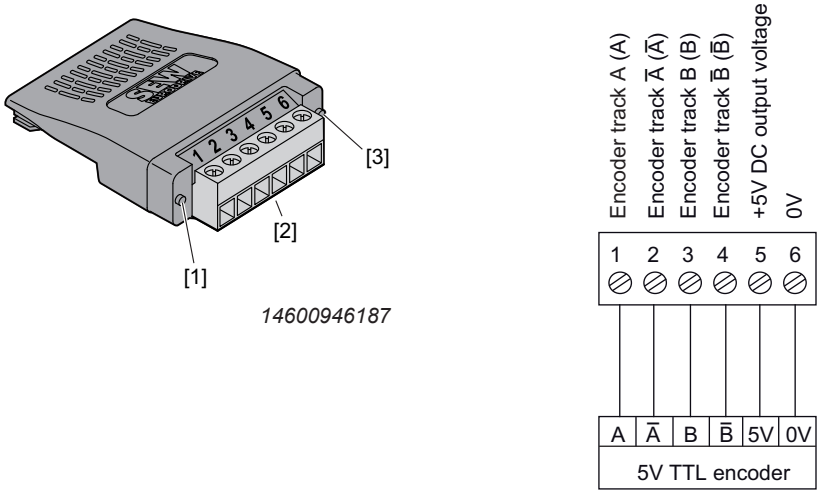
Encoder cards

6.1

TTL encoder card

Designation	Part number
LT OB ENC A	28201175

The TTL encoder card serves only to regulate speed control with the frequency in-
verter and cannot be used for positioning. The TTL encoder card enables a detailed
speed control under 1 Hz and a full torque from a speed of 0 on.



- [1] LED: A
- [2] Labeling: Line Encoder
- [3] LED: B

6.1.1 Technical data

INFORMATION



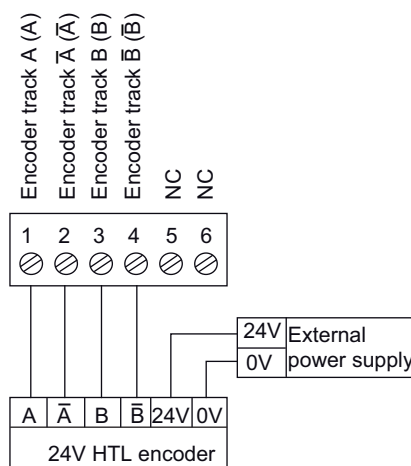
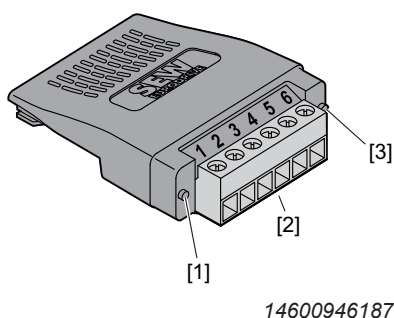
Note that only one option card can be used per frequency inverter.

Compatible encoders	5 V, channel A and B with complement
Minimal and maximal PPR count	512 – 4096
Maximum input frequency	500 kHz
Maximum input voltage	DC 5.5 V
Maximum output voltage/current	5.5 V DC, 200 mA
Maximum cable length	100 m, twisted in pairs, shielded
Relative humidity	95% (without condensation)
Conformity	IP20, IP55 (for IP55 devices)
Ambient temperature	0 °C – +50 °C
Storage temperature	-20 °C – +60 °C
Dimensions (L × W × H)	52 × 50 × 22 mm
Tightening torque of terminal strip	0.5 Nm

6.2 HTL encoder card

Designation	Part number
LT OB ENH A	28226437

The HTL encoder card serves only to regulate speed control with the frequency inverter and cannot be used for positioning. The HTL encoder card enables a detailed speed control under 1 Hz and a full torque from a speed of 0 on.



- [1] LED: A
- [2] Labeling: Line Encoder
- [3] LED: B

14600381195

6.2.1 Technical data

INFORMATION



Note that only one option card can be used per frequency inverter.

Compatible encoders	30 V, channel A and B with complement INFORMATION: The HTL encoder card requires an external DC 24 V power supply.
Minimal and maximal PPR count	512 – 4096
Maximum input frequency	500 kHz
Maximum input voltage	DC 30 V
Maximum output voltage/current	External voltage supply
Maximum cable length	200 m, twisted in pairs, shielded
Relative humidity	95% (without condensation)
Conformity	IP20, IP55 (for IP55 devices)
Ambient temperature	0 °C – +50 °C
Storage temperature	-20 °C – +60 °C
Dimensions (L × W × H)	52 × 50 × 22 mm
Tightening torque of terminal strip	0.5 Nm

7 Fieldbus interface via gateway

The fieldbus gateways convert standard fieldbuses to the SBus of SEW-EURODRIVE. This means that up to 8 inverters can be triggered via 3 process data each using one gateway.

The controller (PLC or PC) and the MOVITRAC® LTP-B frequency inverter exchange process data, such as control words or speed, using the fieldbus.

You can also connect and operate other SEW-EURODRIVE units (e. g. MOVIDRIVE® inverters) via SBus.

7.1 Available gateways

For the fieldbus interfaces, gateways are available for the following bus systems:

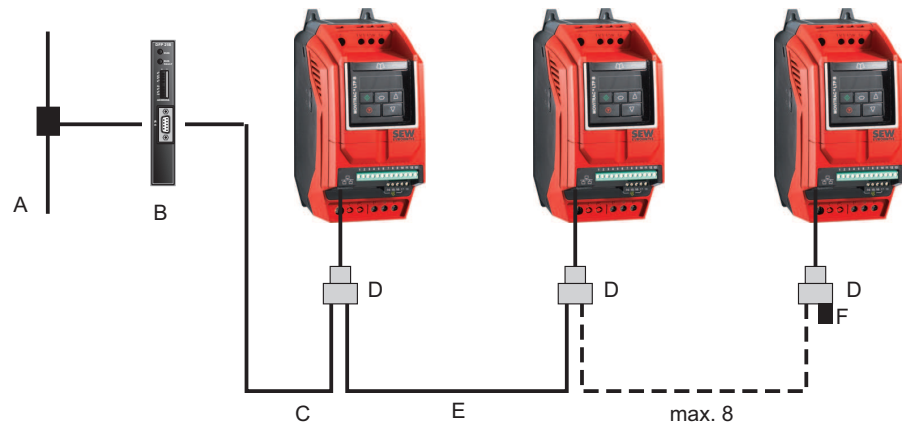
Bus	Separate housing
PROFIBUS	DFP21B / UOH11B
EtherCAT®	DFE24 / UOH11B
DeviceNet™	DFD11 / UOH11B
PROFINET	DFE32 / UOH11B
Ethernet/IP™	DFE33B / UOH11B
Interbus	UFI11A

7.2 Available controllers

Type	Fieldbus interfaces
DHE21B / 41B in UOH11B	- Ethernet TCP/IP - UDP
DHF21B / 41B in UOH21B	- Ethernet TCP/IP - UDP - PROFIBUS DP V1 - DeviceNet™
DHR21B / 41B in UOH21B	- Ethernet TCP/IP - UDP - PROFINET - Ethernet/IP™ - Modbus TCP/IP

7.3 Operating principle

The fieldbus gateways have standardized interfaces. Connect lower-level MOVITRAC® LTP-B units to the fieldbus gateway via the SBus unit system bus.



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Key		Further information
A	Bus connection	–
B	Gateway	See chapter "Available gateways" (→ 62)
C	Prefabricated cable	See chapter "Network packages" (→ 46)
D	Cable splitter	See chapter Cable splitter 1 to 2
E	Prefabricated cable	See chapter "Network packages" (→ 46)
F	Terminating connector	See chapter "Network packages" (→ 46)

8 Fieldbus interface via option cards

8.1 General

The fieldbus connection via option cards has the following advantages:

- Degree of protection refers to the inverter's degree of protection (IP20, IP55) and is thus ideal for decentralized applications.
- Cable lengths refer to the possible fieldbus specification

The respective option cards offer the following functionality:

- Cyclic process data exchange
- 4 process input words
- 4 process output words
- Backup operation with external 24 V supply¹⁾

INFORMATION



When the fieldbus option card is used, the Modbus RTU is no longer available via the RJ45 bushing at the frequency inverter.

Note that only one option card can be used per frequency inverter.

1) in preparation

8.2 Structure and settings of process data words

Control and status word have a fixed assignment. All the other process data words can be freely configured as required using parameter group *P5-xx*.

The structure of process data words is identical for SBus/Modbus RTU/CANopen, as well as with inserted communication card.

	Higher byte	Lower byte
Bit	15 – 8	7 – 0

8.2.1 Process output words

Description		Bit		Settings
PA1	Control word	0	Output stage inhibit (the motor coasts to a stop), for brakemotors the brake is applied immediately.	0: Start 1: Stop
		1	Rapid stop along the second deceleration ramp/rapid stop ramp (<i>P2-25</i>)	0: Rapid stop 1: Start
		2	Stop along process ramp <i>P1-03</i> / <i>P1-04</i> or <i>PO3</i>	0: Stop 1: Start
		3 – 5	Reserved	0
		6	Error reset	Edge 0 set to 1 = error reset
		7 – 15	Reserved	0
PO2	Setpoint speed in % (default setting), freely configurable via <i>P5-09</i>			
PO3	No function, freely configurable via <i>P5-10</i>			
PO4	No function, freely configurable via <i>P5-11</i>			

8.2.2 Process input words

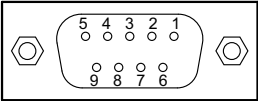
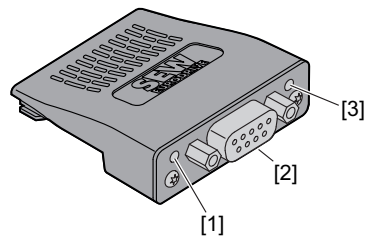
Description		Bit		Settings	Byte
PI1	Status word	0	Output stage enable	0: Disabled 1: Enabled	Low byte
		1	Frequency inverter ready for operation	0: Not ready 1: Ready	
		2	PO data enabled	1 if <i>P1-12</i> = 5	
		3 – 4	Reserved		
		5	Fault/warning	0: No fault 1: Error	
		6	Limit switch positive active (Limit switch assignment can be set via <i>P1-15</i> .) ¹⁾	0: Disabled 1: Enabled	
		7	Limit switch negative active (Limit switch assignment can be set via <i>P1-15</i> .) ¹⁾	0: Disabled 1: Enabled	
		8 – 15	Frequency inverter status if bit 5 = 0 0x01 = STO – Safe torque off active 0x02 = no enable 0x05 = speed control 0x06 = torque control 0x0A = technology function 0x0C = reference travel		
	Frequency inverter status if bit 5 = 1				
PI2	Actual speed	Freely configurable via <i>P5-12</i>			
PI3	Actual current	Freely configurable via <i>P5-13</i>			
PI4	No function, freely configurable via <i>P5-14</i>				

1) Refer to the addendum to the operating instructions "MOVITRAC® LTX Servo Module for MOVITRAC® LTP-B".

8.3 PROFIBUS DP

Designation	Part number
LT FP 11A	28203941

The PROFIBUS DP option card in combination with the MOVITRAC® LTP-B offers a direct bus connection.



- [1]

LED: A
- [2]

Labeling: PROFIBUS DP
- [3]

LED: B
- 1

N/C
- 2

N/C
- 3

Receiving/sending data P
RxD/TxD-P (not B/B)
- 4

Repeater control signal (TTL)
CNTR-P
- 5

Data reference potential (5 V)
DGND
- 6

Data reference potential (5 V) insu-
lated and short-circuit protection
- 7

N/C
- 8

Receiving/sending data P
RxD/TxD-P (not A/A)
- 9

N/C

8.3.1 Technical data

INFORMATION



Note that only one option card can be used per frequency inverter.

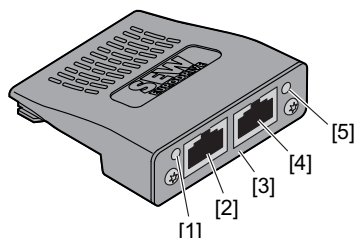
Connect the cable shield over a large area and on both sides to PE. If an IP55 housing is used, an angled PROFIBUS connector must be used.

Ambient temperature during operation	-40 °C (no hoarfrost) to +70 °C
Storage temperature	-40 °C – +85 °C
Relative humidity	5% to 95%, without condensation
Conformity	IP20, IP55 (for IP55 devices), RoHS, UL (POWERLINK does not have UL)
Voltage supply via backplane	3.3 ±0.15 V DC
Power consumption	< 500 mA
Network interface	galvanically isolated
Dimensions (L × W × H)	52 × 50 × 22 mm
Tightening torque of terminal strip	0.5 Nm
Automatic baud rate detection	9.6 – 12 MBd
Connection technology	9-pin D-sub connector
Bus termination	Not integrated, implement using suitable PROFIBUS connector with terminating resistors that can be switched on.
Tightening torque of the connecting terminal	0.5 Nm

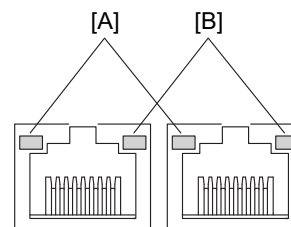
8.4 PROFINET IO

Designation	Part number
LT FE 32A	28226402

The PROFINET IO option card in combination with the MOVITRAC® LTP-B offers a direct bus connection.



- [1] LED: Network status (NS)
- [2] RJ45: Port 1 (P1)
- [3] Labeling: PROFINET IO
- [4] RJ45: Port 2 (P2)
- [5] LED: Module status (MS)



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- [A] LED: Activity
- [B] LED: Link

8.4.1 Technical data

INFORMATION



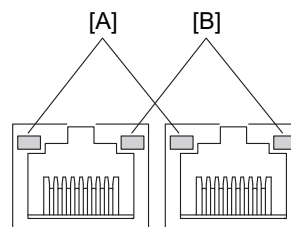
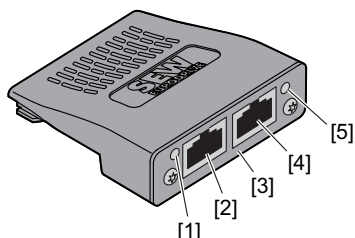
Connect the cable shield over a large area and on both sides to PE. Note that only one option card can be used per frequency inverter.

Ambient temperature during operation	-40 °C (no hoarfrost) to +70 °C
Storage temperature	-40 °C – +85 °C
Relative humidity	5% to 95%, without condensation
Conformity	IP20, IP55 (for IP55 devices), RoHS, UL (POWERLINK does not have UL)
Voltage supply via backplane	3.3 ±0.15 V DC
Power consumption	< 500 mA
Network interface	galvanically isolated
Dimensions (L × W × H)	52 × 50 × 22 mm
Tightening torque of terminal strip	0.5 Nm
Baud rate	10/100 Mbd in full duplex mode
Connection technology	2 × RJ45

8.5 EtherNet/IP™

Designation	Part number
LT FE 33A	28203917

The EtherNet/IP™ option card in combination with the MOVITRAC® LTP-B offers a direct bus connection.



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- | | |
|------------------------------|-------------------|
| [1] LED: Network status (NS) | [A] LED: Activity |
| [2] RJ45: Port 1 (P1) | [B] LED: Link |
| [3] Labeling: EtherNet/IP™ | |
| [4] RJ45: Port 2 (P2) | |
| [5] LED: Module status (MS) | |

8.5.1 Technical data

INFORMATION



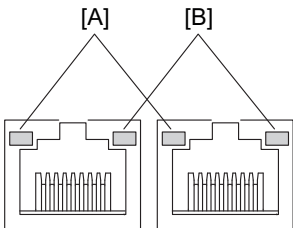
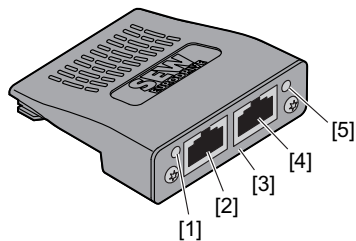
Connect the cable shield over a large area and on both sides to PE. Note that only one option card can be used per frequency inverter.

Ambient temperature during operation	-40 °C (no hoarfrost) to +70 °C
Storage temperature	-40 °C – +85 °C
Relative humidity	5% to 95%, without condensation
Conformity	IP20, IP55 (for IP55 devices), RoHS, UL (POWERLINK does not have UL)
Voltage supply via backplane	3.3 ±0.15 V DC
Power consumption	< 500 mA
Network interface	galvanically isolated
Dimensions (L × W × H)	52 × 50 × 22 mm
Tightening torque of terminal strip	0.5 Nm
Baud rate	10/100 Mbd in full duplex mode
Connection technology	2 × RJ45

8.6 EtherCAT®

Designation	Part number
LT FE 24A	28226410

The EtherCAT® option card in combination with the MOVITRAC® LTP-B offers a direct bus connection.



14600378763

- [1]

LED: RUN
- [2]

RJ45: IN, incoming EtherCAT® connection
- [3]

Labeling: EtherCAT®
- [4]

RJ45: OUT, outgoing EtherCAT® connection
- [5]

LED: Error (ERR)
- [A]

LED: Activity
- [B]

LED: Link

INFORMATION



In accordance with IEC 802.3, the maximum permitted cable length for 100 MBaud Ethernet (100BaseT), e.g. between 2 bus stations, is 100 m.

Connect the cable shield over a large area and on both sides to PE. Make sure you supply adequate equipotential bonding in accordance with relevant VDE regulations in such a case.

8.6.1 Technical data

INFORMATION

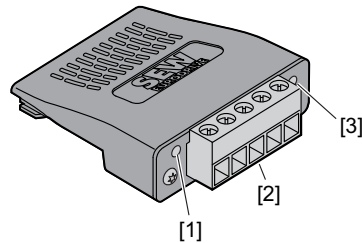
Note that only one option card can be used per frequency inverter.

Ambient temperature during operation	-40 °C (no hoarfrost) to +70 °C
Storage temperature	-40 °C – +85 °C
Relative humidity	5% to 95%, without condensation
Conformity	IP20, IP55 (for IP55 devices), RoHS, UL (POWERLINK does not have UL)
Voltage supply via backplane	3.3 ±0.15 V DC
Power consumption	< 500 mA
Network interface	galvanically isolated
Dimensions (L × W × H)	52 × 50 × 22 mm
Tightening torque of terminal strip	0.5 Nm
Baud rate	100 Mbd in full duplex mode
Connection technology	2 × RJ-45

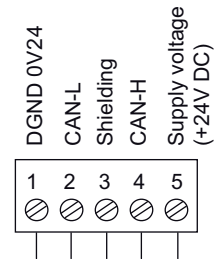
8.7 DeviceNet™

Designation	Part number
LT FD 11A	28203925

The DeviceNet™ option card in combination with the MOVITRAC® LTP-B offers a direct bus connection.



- [1] LED: Network status (NS)
- [2] Labeling: DeviceNet™
- [3] LED: Module status (MS)



8.7.1 Technical data

INFORMATION



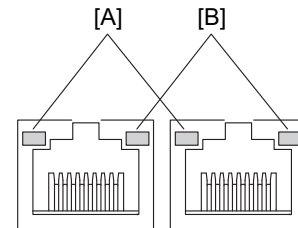
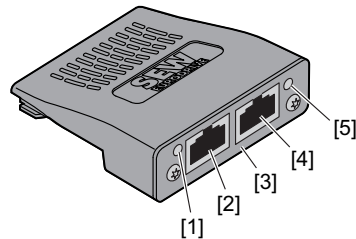
Connect the cable shield over a large area and on both sides to PE. Note that only one option card can be used per frequency inverter.

Ambient temperature during operation	-40 °C (no hoarfrost) to +70 °C
Storage temperature	-40 °C – +85 °C
Relative humidity	5% to 95%, without condensation
Conformity	IP20, IP55 (for IP55 devices), RoHS, UL (POWERLINK does not have UL)
Voltage supply via backplane	3.3 ±0.15 V DC
Power consumption	< 500 mA
Network interface	galvanically isolated
Dimensions (L × W × H)	52 × 50 × 22 mm
Tightening torque of terminal strip	0.5 Nm
Baud rate	125, 205, 500 kBd, can be set via parameters
MAC-ID (Media Access Control Identifier)	The MAC-ID supports address range 0 – 63
Connection technology	3-wire bus and 2-wire supply voltage DC 24 V with 5-pin Phoenix terminal
Pin assignment	According to DeviceNet™ specification

8.8 Modbus/TCP

Designation	Part number
LT FE 31A	28228154

The Modbus/TCP option card in combination with the MOVITRAC® LTP-B offers a direct bus connection.



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- | | |
|------------------------------|-------------------|
| [1] LED: Network status (NS) | [A] LED: Activity |
| [2] RJ45: Port 1 (P1) | [B] LED: Link |
| [3] Labeling: Modbus/TCP | |
| [4] RJ45: Port 2 (P2) | |
| [5] LED: Module status (MS) | |

8.8.1 Technical data

INFORMATION



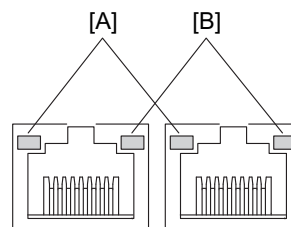
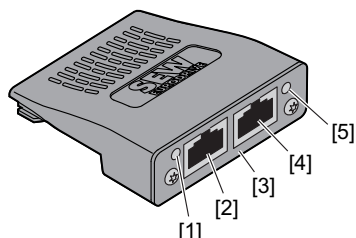
Connect the cable shield over a large area and on both sides to PE. Note that only one option card can be used per frequency inverter.

Ambient temperature during operation	-40 °C (no hoarfrost) to +70 °C
Storage temperature	-40 °C – +85 °C
Relative humidity	5% to 95%, without condensation
Conformity	IP20, IP55 (for IP55 devices), RoHS, UL (POWERLINK does not have UL)
Voltage supply via backplane	3.3 ±0.15 V DC
Power consumption	< 500 mA
Network interface	galvanically isolated
Dimensions (L × W × H)	52 × 50 × 22 mm
Tightening torque of terminal strip	0.5 Nm
Baud rate	10/100 Mbd in full duplex mode
Connection technology	2 × RJ45

8.9 POWERLINK

Designation	Part number
LT FE 25A	28226429

The POWERLINK option card in combination with the MOVITRAC® LTP-B offers a direct bus connection.



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- [1] LED: Status (STS)
- [2] RJ45: P1
- [3] Labeling: POWERLINK
- [4] RJ45: P2
- [5] LED: Error (ERR)

- [A] LED: Activity
- [B] LED: Link

8.9.1 Technical data

INFORMATION



Connect the cable shield over a large area and on both sides to PE. Note that only one option card can be used per frequency inverter.

Ambient temperature during operation	-40 °C (no hoarfrost) to +70 °C
Storage temperature	-40 °C – +85 °C
Relative humidity	5% to 95%, without condensation
Conformity	IP20, IP55 (for IP55 devices), RoHS, UL (POWERLINK does not have UL)
Voltage supply via backplane	3.3 ±0.15 V DC
Power consumption	< 500 mA
Network interface	galvanically isolated
Dimensions (L × W × H)	52 × 50 × 22 mm
Tightening torque of terminal strip	0.5 Nm
Baud rate	10/100 Mbd in full duplex mode
Connection technology	2 × RJ45

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9 Software

9.1 MOVITOOLS® MotionStudio engineering software

The software can be connected to the inverter as follows:

- Via an SBus-connection between PC and inverter. A CAN dongle is required. A prefabricated cable is not available and must be manufactured according to the RJ45 assignment and the inverter interface.
- Via a connection of the PC with a gateway or a MOVI-PLC®. The connection between PC and gateway/MOVI-PLC® is possible via USB11A, USB or Ethernet.

The following functions are available in MOVITOOLS® MotionStudio:

- Observe, upload and download parameter
- Save parameter settings
- Monitor the state of the inputs/outputs and the motor

9

9.2 Software LT Shell

The LT Shell software enables an easy and quick startup of MOVITRAC® LT inverters. It is available for download on the SEW-EURODRIVE homepage. After the installation, perform software updates on a regular basis.

In combination with the engineering package (cable set C) and the USB11A interface adapter, the frequency inverter can be connected to the software.

Maximum 63 inverters can be connected to an LT Shell in a network.

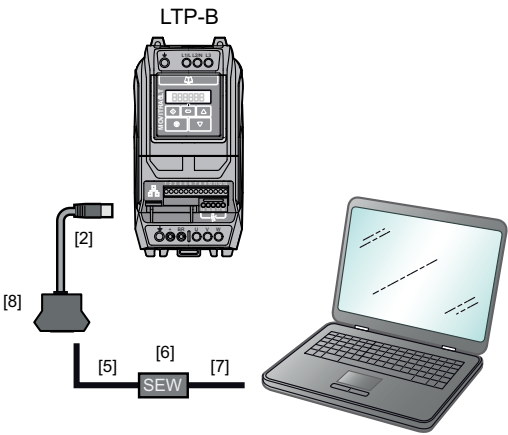
The software can be used to carry out the following tasks:

- Observe, upload and download parameter
- Save parameter settings
- Firmware update (manual and automatic)
- Export frequency inverter parameters to Microsoft® Word
- Monitor the state of the inputs and outputs and the motor
- Control frequency inverter / manual mode
- Scope (in preparation).

9.2.1 Connection to LT Shell

The connection is performed via an RS485 interface (USB11A + PC engineering package) or via Bluetooth® (parameter module).

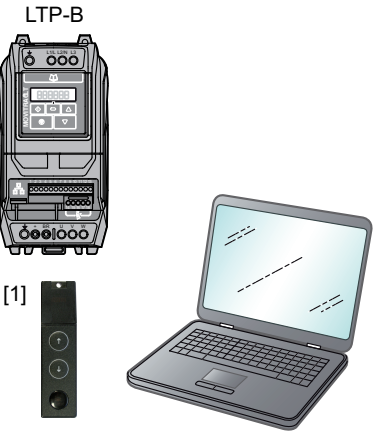
RS485



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- [2] RJ45 to RJ45 cable
- [5] RJ10 to RJ10 cable
- [6] USB11A
- [7] Cable USB A-B
- [8] RJ adapter (2 x RJ45, 1 x RJ10)

Bluetooth®



17185818763

- [1] Parameter module

10 System accessories

10.1 Braking resistors

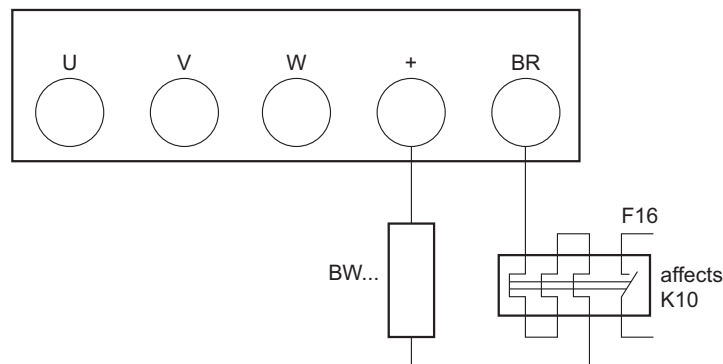
10.1.1 Braking resistor circuit

A braking resistor connected to the MOVITRAC® LTP-B can be used to convert braking energy generated by the motor into thermal energy. This brake circuit is usually necessary for applications with short deceleration ramp or high mass moment of inertia.

SEW-EURODRIVE recommends to additionally protect the wire and grid resistors against overload using a bimetallic relay as shown in the figure below. The relay output disconnects the MOVITRAC® LTP-B from the supply system. It **must not** disconnect the connection between braking resistor and MOVITRAC® LTP-B.

The bimetallic relay is not needed for braking resistors BW LT 100 002, for SEW-EURODRIVE flat-type braking resistors, and for all other overload protected braking resistors.

The following figure shows the wiring diagram for the braking resistor.



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10.1.2 BW... braking resistors / BW...-T / BW...-P

General information

- Braking resistors BW... / BW...-T and BW...-P match the technical features of the MOVITRAC® LTP-B inverters.
- Take account of a power reduction of 4% per 10 K from an ambient temperature of 40 °C. Do not exceed a maximum ambient temperature of 80 °C.

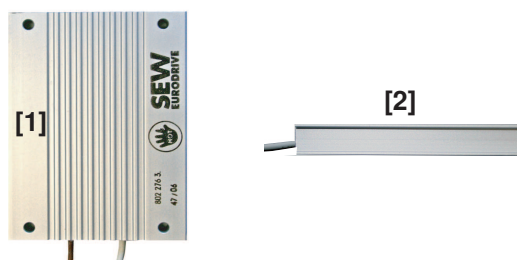
PTC resistor BW090-P52B

- The resistor protects itself (reversible) against regenerative overload by changing abruptly to high resistance and no longer consuming any more energy. The inverter then trips with the "overvoltage DC link" error.

Flat-type braking resistors

- Protection against contact (IP54).
- With internal thermal overload protection.
- With a touch guard on the mounting rail.

INFORMATION: The load capacity specified in the assignment tables applies to a horizontal mounting position [2]. Values are reduced by 10% for a vertical mounting position [1].

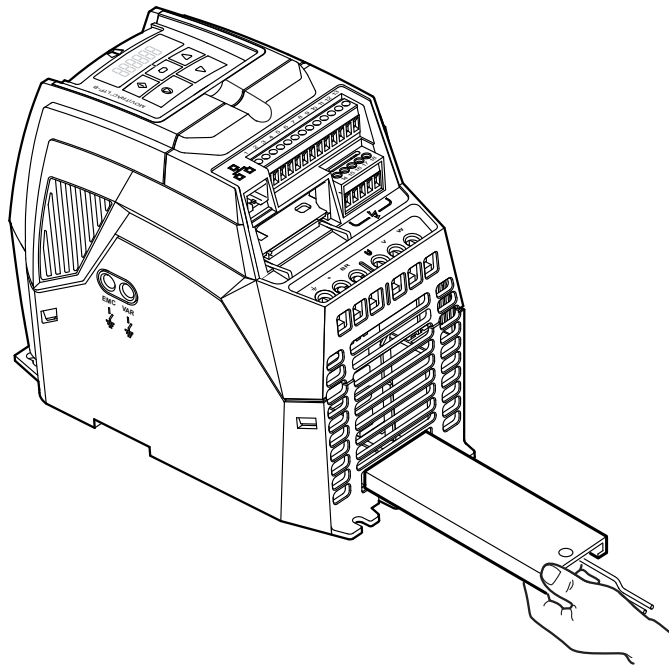


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Plug-in flat-type resistors

A special resistor in flat design is available for MOVITRAC® LTP-B.

Plug-in flatpack resistors for size 2 + 3 in IP20, and size 4 + 5 in IP55 allow for activating the internal heating function P6-21. This function heats up the inverter to operating temperature in cold environments.

IP20 size 2+3

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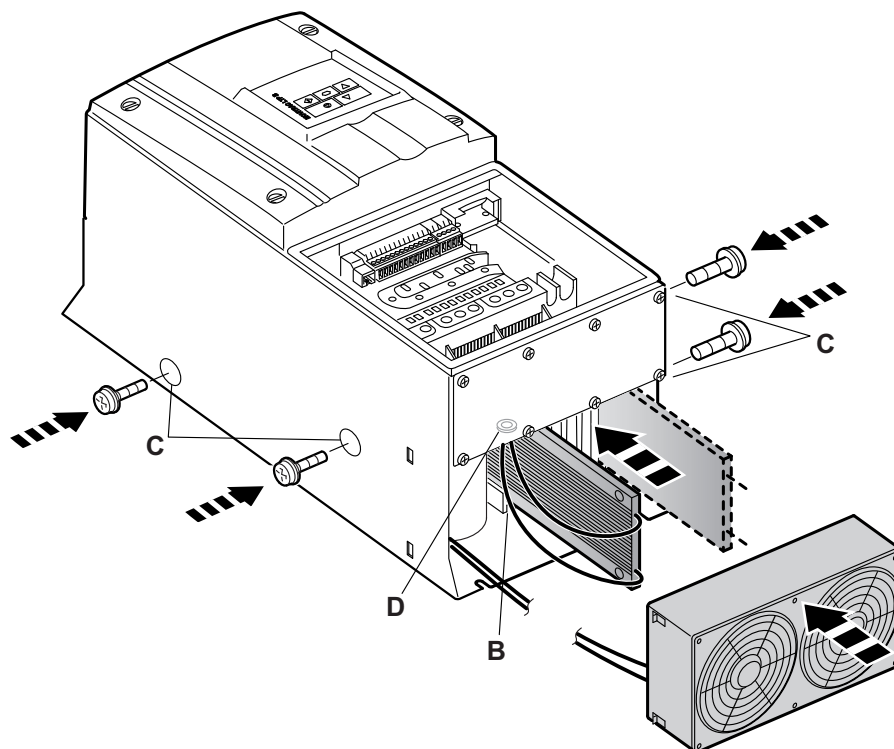
- This resistor can be installed in the inverter.
- No additional space is required for the resistor.
- The resistor is suited for all MOVITRAC® LTP-B units in applications with a low mass moment of inertia.

Braking resistor	BW LT 100 002
Part number	18208770
Current-carrying capacity at • Continuous duty • 0.125 s	200 W 12 kW
Resistance value	100 Ω
Connections	Cable
Ambient temperature	-20 °C – +50 °C
Degree of protection	IP20
Suited for MOVITRAC® LTP-B	Size 2 and 3 (only with degree of protection IP20)

IP55 size 4+5

Size 4 can be equipped with an integrated braking resistor.

Size 5 can be equipped with 1 or 2 integrated braking resistors.



13943462795

- This resistor can be installed in the inverter.
- No additional space is required for the resistor.
- The resistor is suited for all MOVITRAC® LTP-B units in applications with a low mass moment of inertia.

Type	BW LT 050 002 55	BW LT 033 005
Part number	18218342	18201938
100% cdf	200 W	500 W
Resistance value	50 $\Omega \pm 10 \%$	33 $\Omega \pm 10 \%$
Connections	Cable	Cable
Ambient temperature	-20 °C – 50 °C	-20 °C – 50 °C
Degree of protection	IP55	IP55
Dimensions L × W × H (mm)	330 × 80 × 12	330 × 80 × 10

Wire and grid resistors

- Perforated sheet cover (IP20) open to mounting surface.
- The short-time load capacity of the wire and grid resistors is greater than in the flat-type braking resistors.
- A temperature switch is integrated in the BW...-T braking resistor.
- A thermal overcurrent relay is integrated in the BW...-P braking resistor.

SEW-EURODRIVE recommends implementing additional protection against overload for the wire and grid resistors by using a bimetallic relay with trip characteristics of trip class 10 or 10 A (in accordance with EN 60947-4-1). Set the tripping current to the value I_F (→ following tables). Do not use electronic or electromagnetic fuses because these can be triggered even in case of short-term excess currents that are still within the tolerance range.

For braking resistors in the BW...-T / BW...-P series, you can connect the integrated temperature sensor / overcurrent relay using a 2-core, shielded cable as an alternative to a bimetallic relay. The cable entry for BW...-T and BW...-P series braking resistors can be run from the front or the back (→ dimension drawing for BW... / BW...-T / BW...-P). Use filler plugs for tapped holes that are not connected.

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

The performance data listed in the tables below show the current-carrying capacity of the braking resistors according to their cyclic duration factor (cyclic duration factor = cdf of the braking resistor in % in relation to a cycle duration ≤ 120 s).

cUL approval

The BW...-T and BW...-P braking resistors have cRUus approval independent of the MOVITRAC® LTP-B inverters.

Parallel connection

Two braking resistors with the same value must be connected in parallel for some inverter/resistor combinations. In this case, the tripping current must be set on the bimetallic relay to twice the value of I_F entered in the table. For the BW...-T / BW...-P braking resistors, the temperature switch/overcurrent relay must be connected in series.

Assignment of braking resistors to AC 230 V units (...-2A3-.../...-2B1-...)

Braking resistor type BW...	BW039-003	BW039-006	BW039-012		BW027-006	BW027-012
Part number	8216878	8216886	8216894		8224226	8224234
Braking resistor type BW...-T			BW039-012-T	BW039-026-T		
Part number			18201369	18204155		
Continuous braking power (= 100% cdf)	0.3 kW	0.6 kW	1.2 kW	2.6 kW	0.6 kW	1.2 kW
	0.5 kW	1.1 kW	2.1 kW	4.6 kW	1.1 kW	2.1 kW
Current-carrying capacity 50 % cdf ¹⁾	1.0 kW	1.9 kW	3.8 kW	6.0 kW	1.9 kW	3.8 kW
At 25% cdf	1.8 kW	3.6 kW	6.0 kW ²⁾	6.0 kW	3.6 kW	7.2 kW
12% cdf	2.8 kW	5.7 kW	6.0 kW	6.0 kW	5.7 kW	8.7 kW
6% cdf	Observe the regenerative power limit of the inverter. (= 150% of the recommended motor power → technical data)					
Resistance value R_{BW}	39 $\Omega \pm 10\%$				27 $\Omega \pm 10\%$	
Tripping current (of F16) I_F	2.7 A	3.9 A	5.5 A	8.1 A	4.7 A	6.6 A
Design	Wire resistor					
Connections / Tightening torque	Ceramic terminals 2.5 mm ² (AWG12) 0.5 Nm					
Degree of protection	IP20 (when installed)					
Ambient temperature ϑ_A	-20 °C – +40 °C					
Type of cooling	KS = natural cooling					
For MOVITRAC® LTP-B (recom- mendation)	0008 – 0022				0015 – 0040	

1) cdf = Cyclic duration factor of the braking resistor in relation to a cycle duration of TD ≤ 120 s.

2) Physical power limit due to DC link voltage and resistance value

Braking resistor type	BW027-003	BW027-005	BW047-003	BW047-005
Part number	8269491	8269505	8262659	8262683
100% cdf	230 W	450 W	250 W	450 W
50% cdf	310 W	610 W	330 W	610 W
25% cdf	410 W	840 W	430 W	840 W
12% cdf	550 W	1200 W	580 W	1200 W
6% cdf	980 W	2360 W	1050 W	2360 W
Resistance value R_{BW}	27 $\Omega \pm 10\%$		47 $\Omega \pm 10\%$	
Tripping current of external bimetallic relay	1.0 A	1.4 A	0.8 A	1.2 A
Ambient temperature ϑ_A	-20 °C – +45 °C			
For MOVITRAC® LTP-B 230 V	0008 – 0040		0008 – 0055	0008 – 0075
Motors:	Flat design			
Degree of protection:	IP65			

Braking resistor type BW...-	BW012-025		
Part number	8216800		
Braking resistor type BW...-T/-P	BW012-025-P	BW012-050T	BW012-100-T
Part number	18204147	18201407	18201415
Continuous braking power (= 100% cdf)	2.5 kW	5.0 kW	10 kW
Current-carrying capacity 50% cdf ¹⁾	4.2 kW	8.5 kW	17 kW
At 25% cdf	7.5 kW	15.0 kW	30 kW
12% cdf	11.2 kW	22.5 kW	45 kW
6% cdf	19.0 kW	38.0 kW	76 kW
	Observe the regenerative power limit of the inverter. (= 150% of the recommended motor power → technical data)		
Resistance value R_{BW}	12 Ω $\pm$ 10%		
Tripping current (of F16) I_F	14.4 A	20.4 A	28.8 A
Design	Grid resistor		
Connections / Tightening torque	Bolt M8 / 6 Nm		
Degree of protection	IP20 (when installed)		
Ambient temperature ϑ_A	-20 °C – +40 °C		
Type of cooling	KS = natural cooling		
For MOVITRAC® LTP-B (recommendation)	0110/0150		

1) cdf = Cyclic duration factor of the braking resistor in relation to a cycle duration $T_D \leq 120$ s.

Braking resistor type BW...	BW018-015		
Part number	8216843		
Braking resistor type BW...-T/-P	BW018-015-P	BW018-035-T	BW018-075-T
Part number	18204163	18201385	18201393
Continuous braking power (= 100% cdf)	1.5 kW	3.5 kW	7.5 kW
	2.5 kW	5.9 kW	12.7 kW
Current-carrying capacity 50% cdf ¹⁾	4.5 kW	10.5 kW	22.5 kW
At 25% cdf	6.7 kW	15.7 kW	33.7 kW
12% cdf	11.4 kW	26.6 kW	52.2 kW ²⁾
6% cdf	Observe the regenerative power limit of the inverter. (= 150% of the recommended motor power → technical data)		
Resistance value R _{BW}	18 Ω ±10%		
Tripping current (of F16) I _F	9.1 A	13.9 A	20.4 A
Design	Wire resistor on ceramic core	Grid resistor	
Connections / Tightening torque	BW018-015: Ceramic terminal 2.5 mm ² (AWG13) / 0.5 Nm BW018-015-P: Terminal 2.5 mm ² (AWG13) / 1 Nm	Bolt M8 / 6 Nm	
Degree of protection	IP20 (when installed)		
Ambient temperature ϑ_A	-20 °C – +40 °C		
Type of cooling	KS = natural cooling		
For MOVITRAC® LTP-B (recommendation)	0110 – 0185	0110 – 0370	0220 – 0750

1) cdf = Cyclic duration factor of the braking resistor in relation to a cycle duration $T_D \leq 120$ s.

2) Physical power limit due to DC link voltage and resistance value

Braking resistor type BW...	BW147	BW247	BW347
Part number	8207135	8207143	8207984
Braking resistor type BW...-T	BW147-T	BW247-T	BW347-T
Part number	18201342	18200842	18201350

Braking resistor type BW...	BW147	BW247	BW347
Continuous braking power (= 100% cdf)	1.2 kW	2.0 kW	4.0 kW
Current-carrying capacity 50% cdf ¹⁾	2.2 kW	3.6 kW	7.2 kW
At 25% cdf	3.8 kW	6.4 kW	12.8 kW
12% cdf	7.2 kW	12 kW	20 kW ²⁾
6% cdf	11 kW	19 kW	20 kW
	Observe the regenerative power limit of the inverter. (= 150% of the recommended motor power → technical data)		
Resistance value R_{BW}	47 $\Omega \pm 10\%$		
Tripping current (of F16) I_F	5 A	6.5 A	9.2 A
Design	Wire resistor on ceramic core		
Connections / Tightening torque	Ceramic terminals 2.5 mm ² (AWG13) / 0.5 Nm BW347-T: Ceramic terminals 10 mm ² (AWG8) / 1.6 Nm		
Degree of protection	IP20 (when installed)		
Ambient temperature ϑ_A	-20 °C – +40 °C		
Type of cooling	KS = natural cooling		
For MOVITRAC® LTP-B (recommendation)	0055/0075		

1) cdf = Cyclic duration factor of the braking resistor in relation to a cycle duration $T_D \leq 120$ s.

2) Physical power limit due to DC link voltage and resistance value

Braking resistor type BW...-T/-P	BW915-T	BW106-T	BW206-T
Part number	18204139	18200834	18204120
Continuous braking power (= 100% cdf)	16 kW	13.5 kW	18 kW
Current-carrying capacity 50% cdf ¹⁾	27.2 kW	23 kW	30.6 kW
At 25% cdf	48 kW	39.2 kW	39.2 kW
12% cdf	62.7 kW	39.2 kW	39.2 kW
6% cdf	62.7 kW	39.2 kW	39.2 kW
	Observe the regenerative power limit of the inverter. (= 150% of the recommended motor power → technical data)		
Resistance value R_{BW}	15 $\Omega \pm 10\%$	6 $\Omega \pm 10\%$	
Tripping current (of F16) I_F	32.6 A	47.4 A	54.7 A
Design	Grid resistor		Grid resistor
Connections / Tightening torque	M8 stud / 6 Nm		
Degree of protection	IP20 (when installed)		
Ambient temperature ϑ_A	-20 °C – +40 °C		
Type of cooling	KS = natural cooling		
For MOVITRAC® LTP-B (recommendation)	0150 – 0185	0185 – 0370 and 2 × parallel with 0450 – 0750 ²⁾	

1) cdf = Cyclic duration factor of the braking resistor in relation to a cycle duration $T_D \leq 120$ s.

2) When connected in parallel, the current-carrying capacity and tripping current are doubled.

Assignment of braking resistors to AC 400 V units

Braking resistor type BW...	BW090-P52B	BW100-005	BW100-006	BW072-003	BW072-005
Part number	8245630	8262691	8217017	8260583	8260605
Braking resistor type BW...-T	—	—	BW100-006-T	—	—
Part number	—	—	18204198	—	—
Continuous braking power (= 100% cdf)	0.10 kW	0.45 kW	0.6 kW	0.23 kW	0.45 kW
	0.15 kW	0.60 kW	1.1 kW	0.31 kW	0.60 kW
Current-carrying capacity 50% cdf ¹⁾	0.2 kW	0.83 kW	1.9 kW	0.42 kW	0.83 kW
At 25% cdf	0.4 kW	1.11 kW	3.6 kW	0.58 kW	1.11 kW
12% cdf	0.7 kW	2.00 kW	5.7 kW	1.00 kW	2.00 kW
6% cdf					
	Observe the regenerative power limit of the inverter. (= 150% of the recommended motor power → technical data)				
Resistance value R _{BW}	90 Ω ±35%	100 Ω ±10%		72 Ω ±10%	
Tripping current (of F16) I _F	—	0.8 A	2.4 A	0.6 A	1 A
Design	PTC	Flat design	Wire resistor on ceramic core	Flat design	
Connections / Tightening torque	Cable	Cable	Ceramic terminals 2.5 mm ² (AWG13) 0.5 Nm	Cable	
Degree of protection	IP20	IP54	IP20 (when installed)	IP54	
Ambient temperature ϑ _A	-20 to +40 °C				
Type of cooling	KS = natural cooling				
For MOVITRAC® LTP-B (recommendation)	0008 – 0015	0008 – 0022	0015 – 0040	0008 – 0015	

1) cdf = Cyclic duration factor of the braking resistor in relation to a cycle duration $T_D \leq 120$ s.

Braking resistor type BW...	BW168	BW268	BW047-003	BW047-005
Part number	820604X	8207151	8262659	8262683
Braking resistor type BW...-T	BW168-T	BW268-T	—	—
Part number	18201334	18204171	—	—
Continuous braking power (= 100% cdf)	0.8 kW	1.2 kW	250 W	450 W
	1.4 kW	2.2 kW	330 W	610 W
Current-carrying capacity 50% cdf ¹⁾	2.6 kW	3.8 kW	430 W	840 W
At 25% cdf	4.8 kW	7.2 kW	580 W	1200 W
12% cdf	7.6 kW	11 kW	1050 W	2360 W
6% cdf				
	Observe the regenerative power limit of the inverter. (= 150% of the recommended motor power → technical data)			
Resistance value R _{BW}	68 Ω ±10%		47 Ω ±10%	
Tripping current (of F16) I _F	3.4 A	4.2 A	0.8 A	1.2 A
Design	Wire resistor on ceramic core		Flat design	
Connections / Tightening torque	Ceramic terminals 2.5 mm ² (AWG13) 0.5 Nm		Cable	
Degree of protection	IP20 (when installed)		IP54	
Ambient temperature ϑ _A	-20 °C – +40 °C			
Type of cooling	KS = natural cooling			
For MOVITRAC® LTP-B (recommendation)	0008 – 0040	0015 – 0040	0055 – 0110	

1) cdf = Cyclic duration factor of the braking resistor in relation to a cycle duration $T_D \leq 120$ s.

Braking resistor type BW...	BW147	BW247	BW347	BW039-012		
Part number	8207135	8207143	8207984	8216894		
Braking resistor type BW...-T	BW147-T	BW247-T	BW347-T	BW039-012-T	BW039-026-T	BW039-050-T
Part number	18201342	18200842	18201350	18201369	18204155	18201377
Continuous braking power (= 100% cdf)	1.2 kW	2.0 kW	4.0 kW	1.2 kW	2.6 kW	5.0 kW
	2.2 kW	3.6 kW	7.2 kW	2.1 kW	4.7 kW	8.5 kW
Current-carrying capacity 50% cdf ¹⁾	3.8 kW	6.4 kW	12.8 kW	3.8 kW	8.3 kW	15.0 kW
At 25% cdf	7.2 kW	12 kW	20 kW ²⁾	7.2 kW	15.6 kW	24.0 kW
12% cdf	11 kW	19 kW	20 kW	11.4 kW	24.0 kW	24.0 kW
6% cdf	Observe the regenerative power limit of the inverter. (= 150% of the recommended motor power → technical data)					
Resistance value R_{BW}	47 $\Omega \pm 10\%$			39 $\Omega \pm 10\%$		
Tripping current (of F16) I_F	5 A	6.5 A	9.2 A	5.5 A	8.1 A	11.3 A
Design	Wire resistor on ceramic core					Grid resistor
Connections / Tightening torque	Ceramic terminals 2.5 mm ² (AWG13) / 0.5 Nm BW347-T: Ceramic terminals 10 mm ² (AWG8) / 1.6 Nm					M8 stud / 6 Nm
Degree of protection	IP20 (when installed)					
Ambient temperature ϑ_A	-20 °C – +40 °C					
Type of cooling	KS = natural cooling					
For MOVITRAC® LTP-B (recommendation)	0055/0075	0055 – 0075 and 2 × parallel with 0150/0185/0220 ³⁾		0055 – 0110		

1) cdf = Cyclic duration factor of the braking resistor in relation to a cycle duration $T_D \leq 120$ s.

2) Physical power limit due to DC link voltage and resistance value

3) When connected in parallel, the current-carrying capacity and tripping current are doubled.

Braking resistor type BW...	BW018-015		
Part number	8216843		
Braking resistor type BW...-T/-P	BW018-015-P	BW018-035-T	BW018-075-T
Part number	18204163	18201385	18201393
Continuous braking power (= 100% cdf)	1.5 kW	3.5 kW	7.5 kW
	2.5 kW	5.9 kW	12.7 kW
Current-carrying capacity 50% cdf ¹⁾	4.5 kW	10.5 kW	22.5 kW
At 25% cdf	6.7 kW	15.7 kW	33.7 kW
12% cdf	11.4 kW	26.6 kW	52.2 kW ²⁾
6% cdf	Observe the regenerative power limit of the inverter. (= 150% of the recommended motor power → technical data)		
Resistance value R _{BW}	18 Ω ±10%		
Tripping current (of F16) I _F	9.1 A	13.9 A	20.4 A
Design	Wire resistor on ceramic core	Grid resistor	
Connections / Tightening torque	BW018-015: Ceramic terminal 2.5 mm ² (AWG13) / 0.5 Nm BW018-015-P: Terminal 2.5 mm ² (AWG13) / 1 Nm	Bolt M8 / 6 Nm	
Degree of protection	IP20 (when installed)		
Ambient temperature ϑ _A	-20 °C – +40 °C		
Type of cooling	KS = natural cooling		
For MOVITRAC® LTP-B (recommendation)	2 × parallel with 0450 ³⁾		

1) cdf = Cyclic duration factor of the braking resistor in relation to a cycle duration $T_D \leq 120$ s.

2) Physical power limit due to DC link voltage and resistance value

3) When connected in parallel, the current-carrying capacity and tripping current are doubled.

Braking resistor type BW...-	BW012-025		
Part number	8216800		
Braking resistor type BW...-T/-P	BW012-025-P	BW012-050T	BW012-100-T
Part number	18204147	18201407	18201415

Continuous braking power (= 100% cdf)	2.5 kW	5.0 kW	10 kW
Current-carrying capacity 50% cdf ¹⁾	4.2 kW	8.5 kW	17 kW
At 25% cdf	7.5 kW	15.0 kW	30 kW
12% cdf	11.2 kW	22.5 kW	45 kW
6% cdf	19.0 kW	38.0 kW	76 kW
	Observe the regenerative power limit of the inverter. (= 150% of the recommended motor power → technical data)		
Resistance value R_{BW}	12 Ω $\pm$ 10%		
Tripping current (of F16) I_F	14.4 A	20.4 A	28.8 A
Design	Grid resistor		
Connections / Tightening torque	Bolt M8 / 6 Nm		
Degree of protection	IP20 (when installed)		
Ambient temperature ϑ_A	-20 °C – +40 °C		
Type of cooling	KS = natural cooling		
For MOVITRAC® LTP-B (recommendation)	0300/0370		

1) cdf = Cyclic duration factor of the braking resistor in relation to a cycle duration $T_D \leq 120$ s.

Braking resistor type BW...	BW106-T	BW206-T
Part number	18200834	18204120
Continuous braking power (= 100% cdf)	13.5 kW	18 kW
Current-carrying capacity 50% cdf ¹⁾	23 kW	30.6 kW
At 25% cdf	40 kW	54 kW
12% cdf	61 kW	81 kW
6% cdf	102 kW	136.8 kW
Resistance value R_{BW}	6 Ω $\pm$ 10%	
Tripping current (of F16) I_F	47.4 A	54.7 A
Design	Grid resistor	
Connections / Tightening torque	Bolt M8 / 6 Nm	
Degree of protection	IP20 (when installed)	
Ambient temperature ϑ_A	-20 °C – +40 °C	
Type of cooling	KS = natural cooling	
For MOVITRAC® LTP-B (recommendation)	0450 – 0750 ²⁾	0900 – 1600 ²⁾

1) cdf = Cyclic duration factor of the braking resistor in relation to a cycle duration $T_D \leq 120$ s.

2) Note that the resistive load capacity might be insufficient for these sizes. In this case, third party resistors have to be used. Accurate calculation is required.

Assignment of braking resistors to AC 575 V units

Braking resistor type BW...	BW090-P52B	BW100-005	BW100-006	BW072-003	BW072-005	BW168	BW268
Part number	8245630	8262691	8217017	8260583	8260605	820604X	8207151
Braking resistor type BW...-T	—	—	BW100-006-T	—	—	BW168-T	BW268-T
Part number	—	—	18204198	—	—	18201334	18204171
Continuous braking power (= 100% cdf)	0.10 kW	0.45 kW	0.6 kW	0.23 kW	0.45 kW	0.8 kW	1.2 kW
	0.15 kW	0.60 kW	1.1 kW	0.31 kW	0.60 kW	1.4 kW	2.2 kW
Current-carrying capacity 50% cdf ¹⁾	0.2 kW	0.83 kW	1.9 kW	0.42 kW	0.83 kW	2.6 kW	3.8 kW
At 25% cdf	0.4 kW	1.11 kW	3.6 kW	0.58 kW	1.11 kW	4.8 kW	7.2 kW
12% cdf	0.7 kW	2.00 kW	5.7 kW	1.00 kW	2.00 kW	7.6 kW	11 kW
6% cdf							
	Observe the regenerative power limit of the inverter. (= 150% of the recommended motor power → technical data)						
Resistance value R _{BW}	90 Ω ±35%	100 Ω ±10%		72 Ω ±10%		68 Ω ±10%	
Tripping current (of F16) I _F	—	0.8 A	2.4 A	0.6 A	1 A	3.4 A	4.2 A
Design	PTC	Flat design	Wire resistor on ceramic core	Flat design		Wire resistor on ceramic core	
Connections / Tightening torque	Cable	Cable	Ceramic terminals 2.5 mm ² (AWG13) 0.5 Nm	Cable		Ceramic terminals 2.5 mm ² (AWG13) 0.5 Nm	
Degree of protection	IP20	IP54	IP20 (when installed)	IP54		IP20 (when installed)	
Ambient temperature ϑ_A	-20 °C – +40 °C						
Type of cooling	KS = natural cooling						
For MOVITRAC® LTP-B (recommendation)	0008 – 0015	0008 – 0022	0015 – 0040	0008 – 0015		0008 – 0055	

1) cdf = Cyclic duration factor of the braking resistor in relation to a cycle duration $T_D \leq 120$ s.

Braking resistor type BW...	BW147	BW247	BW347	—	—
Part number	8207135	8207143	8207984	—	—
Braking resistor type BW...-T	BW147-T	BW247-T	BW347-T	BW106-T	BW206-T
Part number	18201342	18200842	18201350	18200834	18204120
Continuous braking power (= 100% cdf)	1.2 kW	2.0 kW	4.0 kW	13.5 kW	18 kW
	2.2 kW	3.6 kW	7.2 kW	23 kW	30.6 kW
Current-carrying capacity 50% cdf ¹⁾	3.8 kW	6.4 kW	12.8 kW	40 kW	54 kW
At 25% cdf	7.2 kW	12 kW	20 kW ²⁾	61 kW	81 kW
12% cdf	11 kW	19 kW	20 kW	102 kW	136.8 kW
6% cdf	Observe the regenerative power limit of the inverter. (= 150% of the recommended motor power → technical data)				
Resistance value R _{BW}	47 Ω ±10%			6 Ω ±10%	
Tripping current (of F16) I _F	5 A	6.5 A	9.2 A	47.4 A	547 A
Design	Wire resistor on ceramic core			Grid resistor	
Connections / Tightening torque	Ceramic terminals 2.5 mm ² (AWG13) / 0.5 Nm BW347-T: Ceramic terminals 10 mm ² (AWG8) / 1.6 Nm			Bolt M8 / 6 Nm	
Degree of protection	IP20 (when installed)				
Ambient temperature ϑ _A	-20 °C – +40 °C				
Type of cooling	KS = natural cooling				
For MOVITRAC® LTP-B (recommendation)	0075	0075/0110/0150 and 2 × in parallel for 0185 – 0220 ³⁾ and 0300 – 0450 ³⁾⁴⁾		0900/1100 ⁴⁾	

1) cdf = Cyclic duration factor of the braking resistor in relation to a cycle duration $T_D \leq 120$ s.

2) Physical power limit due to DC link voltage and resistance value.

3) Load rating and tripping current double with parallel connection.

4) Bear in mind that the resistive current-carrying capacity might be insufficient for these sizes. In this case, third party resistors have to be used. Accurate calculation is required.

Braking resistor type BW...-	BW012-025	—	—
Part number	8216800	—	—
Braking resistor type BW...-T/-P	BW012-025-P	BW012-050T	BW012-100-T
Part number	18204147	18201407	18201415

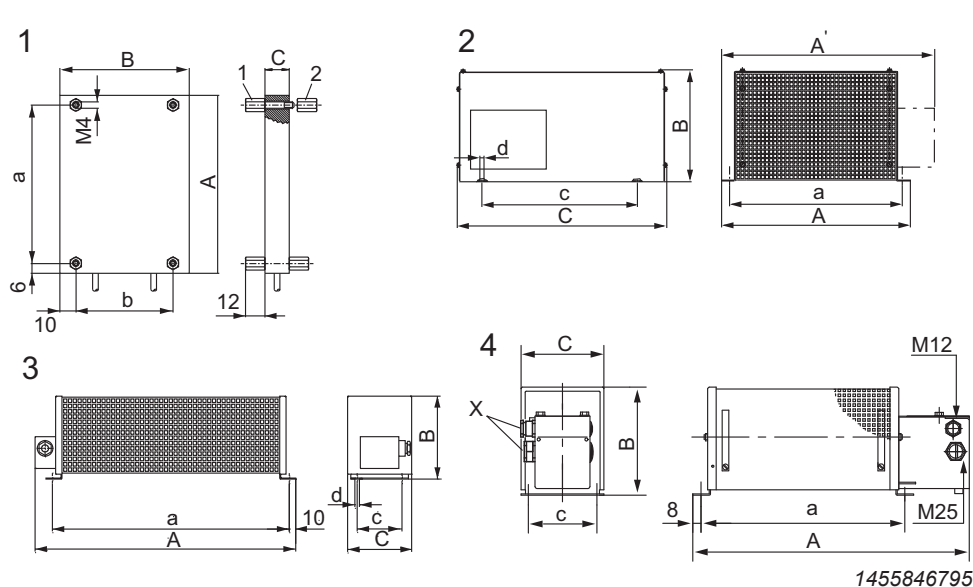
Continuous braking power (= 100% cdf) Current-carrying capacity 50% cdf ¹⁾ At 25% cdf 12% cdf 6% cdf	2.5 kW 4.2 kW 7.5 kW 11.2 kW 19.0 kW	5.0 kW 8.5 kW 15.0 kW 22.5 kW 38.0 kW	10 kW 17 kW 30 kW 45 kW 76 kW
	Observe the regenerative power limit of the inverter. (= 150% of the recommended motor power → technical data)		
Resistance value R_{BW}	12 $\Omega \pm 10\%$		
Tripping current (of F16) I_F	14.4 A	20.4 A	28.8 A
Design	Grid resistor		
Connections / Tightening torque	Bolt M8 / 6 Nm		
Degree of protection	IP20 (when installed)		
Ambient temperature ϑ_A	-20 °C – +40 °C		
Type of cooling	KS = natural cooling		
For MOVITRAC® LTP-B (recommend- ation)	0550/0750 ²⁾		

1) cdf = Cyclic duration factor of the braking resistor in relation to a cycle duration $T_D \leq 120$ s.

2) Bear in mind that the resistive load capacity might be insufficient for these sizes. In this case, third party resistors have to be used.
Accurate calculation is required.

Dimension drawing of BW.../BW...-T/BW...-P braking resistors

The following figure shows the mechanical dimensions in mm (in).



BW... :

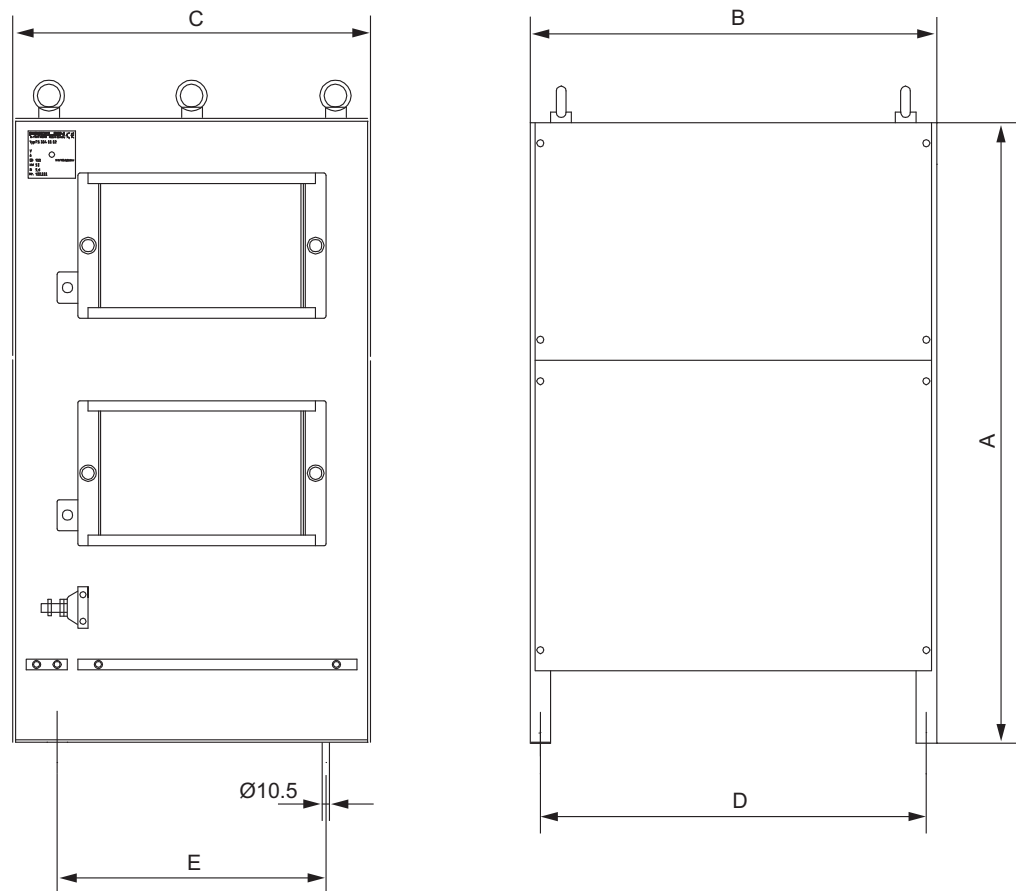
- 1 = Flat design
The connection lead is 500 mm long. The scope of delivery includes 4 M4 stud bolts each of type 1 and 2.
- 2 = Grid resistor
- 3 = Wire resistor
- 4 = Wire resistor with temperature switch (-T/-P)
Cable entry (X) is possible from both sides.

BW... type	Mounting position	Main dimensions in mm			Fastening parts mm			Cable gland	Weight kg
		A/A'	B	C	a	b/c	d		
BW...-T/BW...-P									
BW106-T	2	795	270	490	770	380	10.5	—	32
BW206-T	2	995	270	490	970	380	10.5	—	40
BW012-025	2	295	260	490	270	380	10.5	M12 + M25	8.0
BW012-025-P	2	295/355	260	490	270	380	10.5	M12 + M25	8.0
BW012-050-T	2	395	260	490	370	380	10.5	—	12
BW012-100-T	2	595	270	490	570	380	10.5	—	21
BW915-T	2	795	270	490	770	380	10.5	—	30
BW018-015	3	620	120	92	544	64	6.5	PG11	4.0
BW018-015-P	4	649	120	185	530	150	6.5	M12 + M25	5.8
BW018-035-T	2	295	270	490	270	380	10.5	—	9.0
BW018-075-T	2	595	270	490	570	380	10.5	—	18.5
BW027-006	3	486	120	92	430	64	6.5	PG11	2.2
BW027-012	3	486	120	185	426	150	6.5	PG11	4.3
BW039-003	3	286	120	92	230	64	6.5	PG11	1.5
BW039-006	3	486	120	92	430	64	6.5	PG11	2.2
BW039-012	3	486	120	185	426	150	6.5	PG11	4.3
BW039-012-T	4	549	120	185	426	150	6.5	M12 + M25	4.9
BW039-026-T	4	649	120	275	530	240	6.5	M12 + M25	7.5
BW039-050-T	2	395	260	490	370	380	10.5	—	12
BW147	3	465	120	185	426	150	6.5	PG13.5	4.3
BW147-T	4	549	120	185	426	150	6.5	M12 + M25	4.9
BW247	3	665	120	185	626	150	6.5	PG13.5	6.1
BW247-T	4	749	120	185	626	150	6.5	M12 + M25	9.2
BW347	3	670	145	340	630	300	6.5	PG13.5	13.2
BW347-T	4	749	210	185	630	150	6.5	M12 + M25	12.4
BW168	3	365	120	185	326	150	6.5	PG13.5	3.5
BW168-T	4	449	120	185	326	150	6.5	M12 + M25	3.6
BW268	3	465	120	185	426	150	6.5	PG13.5	4.3
BW268-T	4	549	120	185	426	150	6.5	M12 + M25	4.9
BW072-003	1	110	80	15	98	60	—	—	0.3
BW072-005	1	216	80	15	204	60	—	—	0.6

BW... type	Mounting position	Main dimensions in mm			Fastening parts mm			Cable gland	Weight kg
BW...-T/BW...-P		A/A'	B	C	a	b/c	d		
BW100-005	1	216	80	15	204	60	–	–	0.6
BW100-006	4	486	120	92	430	64	6.5	PG11	2.2
BW100-006-T	4	549	120	92	430	80	6.5	M12 + M25	3.0
BW206-120-T	2	595	270	490	570	380	10.5	2×2×M8	22.0
BW047-005	1	216	80	15	204	60	–	–	0.6

Dimension drawings of BW1.4-170 and BW003-420-T braking resistors

The following figure shows the mechanical dimensions in mm.



2649275275

BW... type	Main dimensions in mm					Terminal stud / tightening torque	Weight kg
BW...-T/BW...-P	A	B	C	D	E		
BW1.4-170	460	795	490	770	380	M12 / 15.5 Nm	51
BW003-420-T	710	995	490	970	380	M12 / 15.5 Nm	93

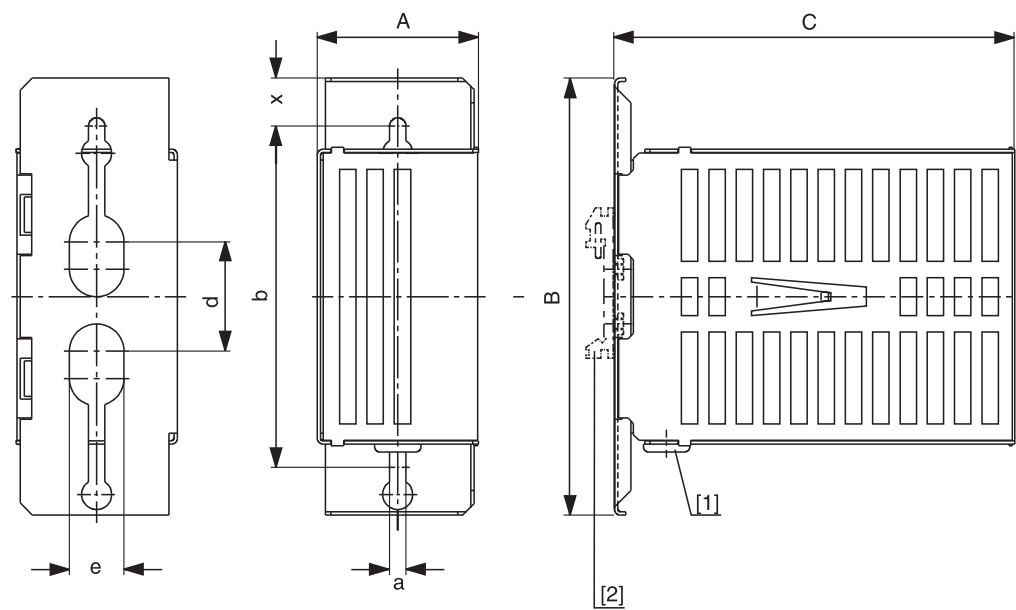
BS... touch guard

Description

A BS.. touch guard is available for braking resistors in flat design.

Touch guard	BS003	BS005
Part number	08131511	0813152X
for braking resistor	BW027-003 BW072-003	BW027-005 BW072-005 BW100-005

Dimension drawing for BS...



1455849867

- [1] Grommet
[2] Support rail mounting

Type	Main dimensions in mm			Mounting dimensions mm					Mass kg
	A	B	C	b	d	e	a	x	
BS-003	60	160	146	125	40	20	6	17.5	0.35
BS-005	60	160	252	125	4	20	6	17.5	0.5

Mounting rail installation

A mounting rail attachment HS001 is available from SEW-EURODRIVE, part number 8221944, for mounting the touch guard on a mounting rail.

22302611/EN – 12/2015

10.2 Line chokes

Using line chokes is optional in the following instances:

- Reduction of harmonic distortions in the power supply
- To support overvoltage protection
- To smoothen the line current, to reduce harmonics
- Protection in the event of distorted line voltage
- To limit the charging current when several inverters are connected together in parallel on the input end with shared line contactors (nominal current of line choke = total of inverter currents)

10.2.1 Technical data

IP20

Type		ND LT 016 180 21-20	ND LT 025 110 21-20	ND LT 006 480 53-20	ND LT 010 290 53-20	ND LT 036 081 53-20
Part number		28233417	18201652	18201660	18201679	18201687
Nominal voltage (according to EN 50160)	U_N	1 x AC 230 V, 50/60 Hz		3 x AC 230 – 500 V, 50/60 Hz		
Rated current	I_N	16 A	25 A	6 A	10 A	36 A
Inductance	L_N	1.8 mH	1.1 mH	4.8 mH	2.9 mH	0.81 mH
Ambient temperature		-25 °C – +45 °C				
IP protection		IP20 (EN 60529)				
Weight	m in kg	1.1	1.8	1.3	2.5	7.2
Assignment to AC 400 V		–	–	0008 / 0015	0022 / 0040	0055 – 0150
Assignment to AC 230 V		0008 / 0015	0022	0008	0015	0022 – 0055
UL/cUL approval		Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes

IP20/IP00

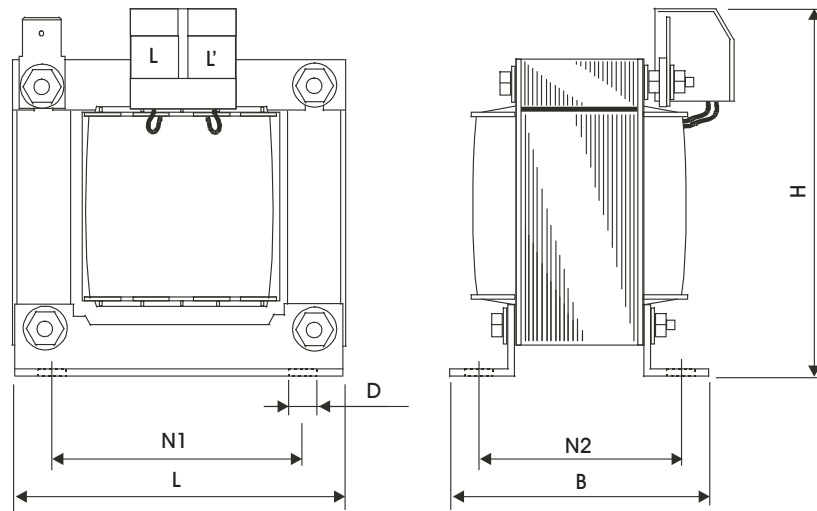
Type		ND LT 050 058 53-20	ND LT 090 032 53-20	ND LT 200 007 53-00	ND LT 300 005 53-00
Part number		18410936	18410944	28233433	28233441
Nominal voltage (according to EN 50160)	U_N	3 x AC 230 – 500 V, 50/60 Hz			
Rated current	I_N	50 A	90 A	200 A	300 A
Inductance	L_N	0.58 mH	0.32 mH	0.0735 mH	0,049 mH
Ambient temperature		-25 °C – +40 °C			
IP protection		IP20 (EN 60529)		IP00 (EN 60529)	
Weight	m in kg	8.7	16	35	48
Assignment to AC 400 V		0185 – 0220	0300 – 0370	0450 – 0900	1100 – 1600
Assignment to AC 230 V		0075 – 0110	0150 – 0185	0220 – 0450	0550 / 0750
UL/cUL approval		No / No	No / No	No / No	No / No

IP66

Type		ND LT 016 183 21-66	ND LT 025 117 21-66	ND LT 006 480 63-66	ND LT 010 386 63-66	ND LT 018 204 63-66
Part number		18217680	18217699	28233409	18217710	28233425
Nominal voltage (according to EN 50160)	U_N	1 x AC 230 V, 50/60 Hz		3 x AC 230 – 600 V, 50/60 Hz		
Rated current	I_N	16 A	25 A	6 A	10 A	18 A
Inductance	L_N	1.83 mH	1.17 mH	4.8 mH	3.86 mH	2.04 mH
Ambient temperature		-25 °C – +40 °C				
IP protection		IP66 (EN 60529)				
Weight	m in kg	1	1.3	1.6	3.5	7
Assignment to AC 230 V		0008 / 0015	0022	0008	0015	0022 / 0030
Assignment to AC 400 V		–	–	0008 / 0015	0022	0040 / 0055
Assignment to AC 575 V		–	–	0008 – 0022	0040	0055 / 0075
UL/cUL approval		Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes

10.2.2 Dimensions

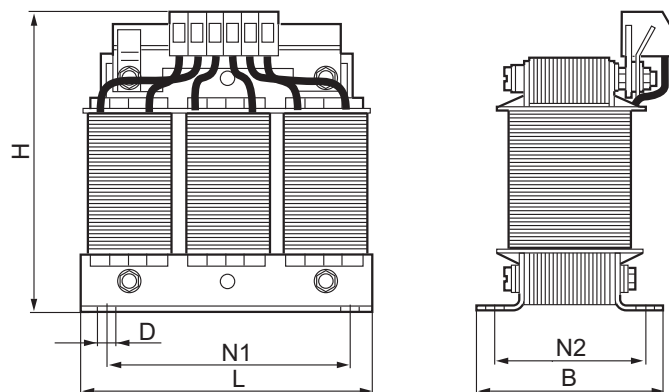
IP20, 1 × 230 V, 10/25 A



9007202440854667

Type	L	B	H	N1	N2	D
	mm	mm	mm	mm	mm	mm
ND LT 016 180 21-20	78	78	80	56	49	4.8
ND LT 025 110 21-20	85	76	158	100	55	5

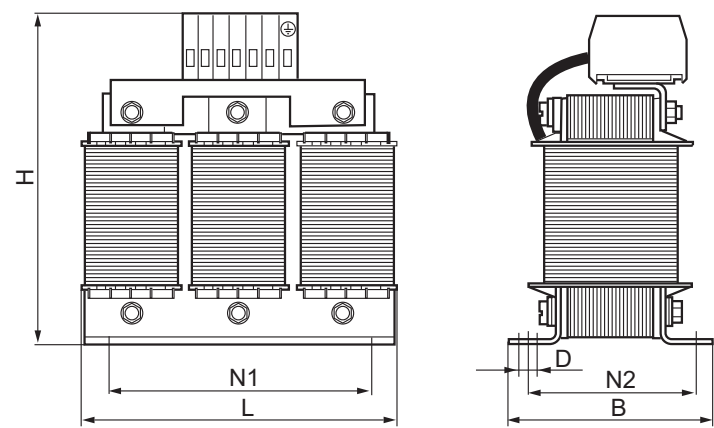
IP20, 3 × 230 – 500 V, 6/10 A



9453581067

Type	L	B	H	N1	N2	D
	mm	mm	mm	mm	mm	mm
ND LT 006 480 53-20	95	56	107	56	43	5 x 9
ND LT 010 290 53-20	125	71	127	100	55	5 x 8

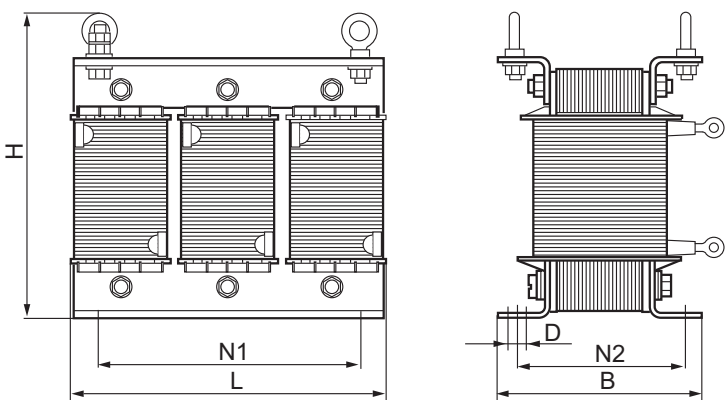
IP20, 3 × 230 – 500 V, 36 – 90 A



9453583371

Type	L	B	H	N1	N2	D
	mm	mm	mm	mm	mm	mm
ND LT 036 081 53-20	190	82	205	170	58	8 x 12
ND LT 050 058 53-20	190	102	220	170	78	8 x 12
ND LT 090 032 53-20	240	107	280	185	85	10 x 18

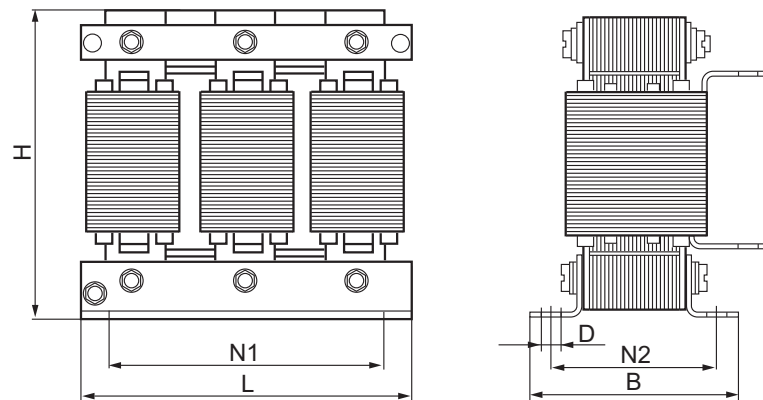
IP00, 3 × 230 – 500 V, 200 A



9453586059

Type	L	B	H	N1	N2	D
	mm	mm	mm	mm	mm	mm
ND LT 200 007 53-00	310	180	260	224	117	10x18

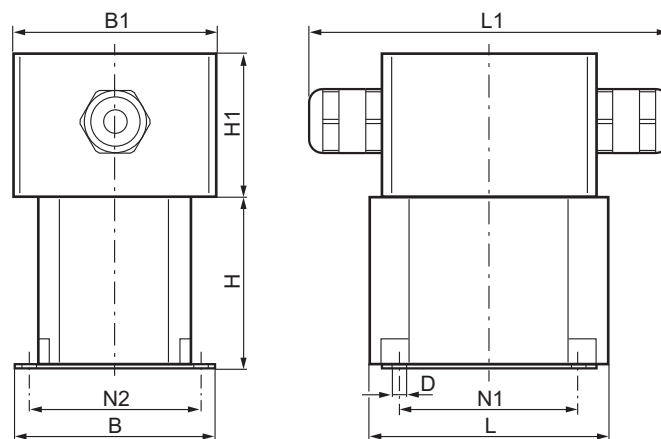
IP00, 3 × 230 – 500 V, 300 A



9453588107

Type	L	B	H	N1	N2	D
	mm	mm	mm	mm	mm	mm
ND LT 300 005 53-00	370	180	310	248	139	10 x 18

IP66, 1 x 230 V, 3 x 230 – 600 V, 6 – 25 A



9453666955

Type	L	B	H	N1	N2	D	L1	B1	H1
	mm	mm	mm	mm	mm	mm	mm	mm	mm
ND LT 016 183 21-66	82	70	70	70	58	6	151	85	60
ND LT 025 117 21-66	90	84	75	84	72	6	151	85	60
ND LT 006 480 63-66	115	74	88	80	60	5.5 x 7	151	85	60
ND LT 010 386 63-66	175	99	137	130	79	5.5 x 12	151	85	60
ND LT 018 204 63-66	175	114	137	130	94	5.5 x 12	151	85	60

10.3 Output chokes

Output chokes improve the quality of the output wave shape. When using an output choke, you can use twice the length of the maximum cable length indicated in the tables in chapter "Output power and current load" (→ 20).

Just like most inverters, MOVITRAC® LTP-B also has unfiltered outputs. In most applications, a satisfactory performance is achieved this way. For a few applications, an output filter is highly recommended to improve the functionality, reliability and service life of the system. These include:

- Long motor cables up to 300 m (the nominal length can be doubled when using an output choke), requires PWM frequency ≤ 4 kHz.
- High capacity motor cable (e.g. "Pyro" wire for fire protection).
- Several motors connected in parallel
- Motors without insulation suited for inverters (usually older motors).

A series of high-quality output chokes with the following main features are available for MOVITRAC® LTP-B:

- Limiting of output voltage drop, usually < 200 V/ μ s.
- Limiting of transient overvoltage at the motor terminals, usually < 1000 V.
- Suppressing line-related interference in low frequency ranges.
- Compensating capacitive load currents.
- Reducing HF interference emission of the motor cable.
- Reducing motor losses and audible noise caused by ripple.

10.3.1 Technical data

IP20

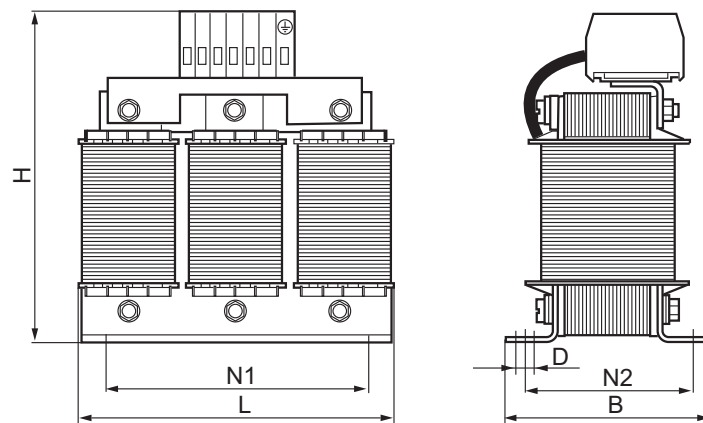
Type		HD LT 008 200 53-20	HD LT 012 130 53-20	HD LT 030 050 53-20	HD LT 075 022 53-20
Part number		18201695	18201709	18201717	18201725
Nominal voltage	U_N	3 x AC 200 – 500 V			
Rated current	I_N	8 A	12 A	30 A	75 A
Inductance	L_N	2 mH	1.3 mH	0.5 mH	0.22 mH
Degree of protection		IP20 (EN 60529)			
Weight	m in kg	1.5	2.8	4.2	8.6
Assignment to AC 400 V		0008 – 0022	0040	0055 / 0150	0185 – 0370
Assignment to AC 230 V		0008 / 0015	0022	0030 – 0075	0110 – 0185
UL/cUL approval		Yes / Yes	Yes / Yes	Yes / Yes	No / No

IP00

Type		HD LT 180 009 53-00	HD LT 250 007 53-00	HD LT 300 005 53-00
Part number		18201733	18201741	28233548
Nominal voltage	U_N	3 x AC 200 – 400 V		
Rated current	I_N	180 A	250 A	300 A
Inductance	L_N	0.09 mH	0,065 mH	0,053 mH
Degree of protection		IP00 (EN 60529)		
Weight	m in kg	30	35	48
Assignment to AC 400 V		0450 – 0900	1100 / 1320	1600
Assignment to AC 230 V		0220 – 0450	0550 / 0750	-
UL/cUL approval		No / No	No / No	No / No

IP66

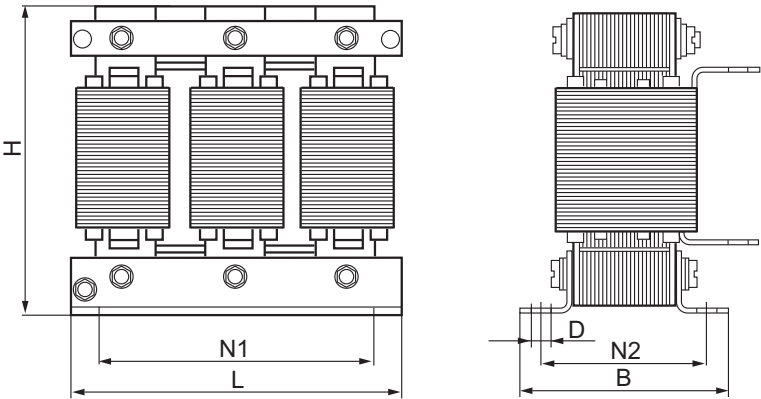
Type		HD LT 008 200 63-66	HD LT 012 120 63-66	HD LT 018 090 63-66
Part number		18216757	18216765	18216773
Nominal voltage	U_N	3 x AC 200 – 600 V		
Rated current	I_N	8 A	12 A	18 A
Inductance	L_N	2 mH	1.2 mH	0.9 mH
Degree of protection		IP66 (EN 60529)		
Weight	m in kg	1.7	3.2	3.2
Assignment to AC 230 V		0008 / 0015	0022	0030 / 0040
Assignment to AC 400 V		0008 – 0022	0040	0055 / 0075
Assignment to AC 575 V		0008 – 0040	0055 / 0075	0110
UL/cUL approval		Yes / Yes	Yes / Yes	Yes / Yes

10.3.2 Dimensions**IP20, 3 × 200 – 500 V**

9453583371

Type	L	B	H	N1	N2	D
	mm	mm	mm	mm	mm	mm
HD LT 008 200 53-20	95	61	107	56	43	4
HD LT 012 130 53-20	125	76	158	100	55	5
HD LT 030 050 53-20	155	66	185	130	57	8
HD LT 075 022 53-20	190	92	223	170	68	8

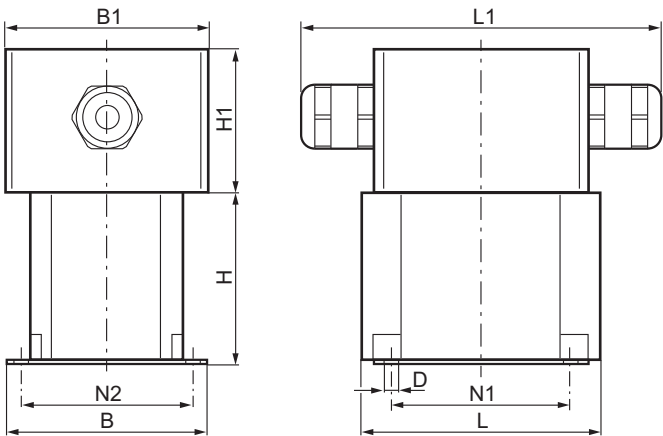
IP00, 3 × 200 – 400 V



9453588107

Type	L	B	H	N1	N2	D
	mm	mm	mm	mm	mm	mm
HD LT 180 009 53-00	360	180	263	264	122	10x18
HD LT 250 007 53-00	310	180	260	224	117	10x18
HD LT 300 005 53-00	380	180	310	248	139	10x18

IP66, 3 200 – 600 V



9453666955

Type	L	B	H	N1	N2	D	L1	B1	H1
	mm	mm	mm	mm	mm	mm	mm	mm	mm
HD LT 008 200 63-66	115	74	85	80	60	5.5 x 7	151	85	60
HD LT 012 120 63-66	140	87	110	100	70	5.5 x 12	151	85	60
HD LT 018 090 63-66	140	87	110	100	70	5.5 x 12	151	85	60

10.4 Line filter

Most electrical units generate unwanted electrical interferences which affect the line voltage. All MOVITRAC® LTP-B inverters are designed in such way that the interference is minimized. They thus offer a low interference emission, according to the table in chapter "Electromagnetic compatibility" (→ 18). If necessary, you can use additional line filters to minimize the electromagnetic interference emission.

10.4.1 Technical data

Nominal voltage 200 – 250 V

Type		NF LT 010 201-20	NF LT 025 201-20	NF LT 010 201-66	NF LT 025 201-66
Part number		18411029	18411037	18411134	18411142
Nominal voltage (according to EN 50160)	U_N	1 x AC 200 – 250 V, 48 – 62 Hz			
Rated current	I_N	10 A	25 A	10 A	25 A
Leakage current	I	< 5 mA			
Operating temperature	T	-25 °C – +40 °C			
Degree of protection		IP20		IP66	
Weight	kg	1.32	1.5	1.4	1.6
Assignment to AC 230 V		0008	0015 / 0022	0008	0015 / 0022
UL/cUL approval		No / No	No / No	No / No	No / No

Nominal voltage 220 – 440/480/500 V

Type		NF LT 006 503-20	NF LT 016 503-20	NF LT 025 503-20
Part number		18411045	18411053	18411061
Nominal voltage (according to EN 50160)	U _N	3 x AC 220 – 480 V, 48 – 62 Hz		
Rated current	I _N	6 A	16 A	25 A
Leakage current	I	< 10 mA	< 35 mA	< 35 mA
Operating temperature	T	-25 °C – +40 °C		
Degree of protection		IP20		
Weight	kg	1.58	2.5	2.7
Assignment to AC 230 V		0008	0015 – 0030	0040 / 0055
Assignment to AC 400 V		0008 – 0022	0040 / 0055	0075 / 0110
UL/cUL approval		No / No	No / No	No / No

Type		NF LT 006 503-66	NF LT 016 503-66	NF LT 025 503-66
Part number		18411150	18411169	18411177
Nominal voltage (according to EN 50160)	U _N	3 x AC 220 – 480 V, 48 – 62 Hz		
Rated current	I _N	6 A	16 A	25 A
Leakage current	I	< 10 mA	< 35 mA	< 35 mA
Operating temperature	T	-25 °C – +40 °C		
Degree of protection		IP66		
Weight	kg	1.6	2.5	2.7
Assignment to AC 230 V		0008	0015 – 0030	0040 / 0055
Assignment to AC 400 V		0008 – 0022	0040 / 0055	0075 / 0110
UL/cUL approval		No / No	No / No	No / No

Type		NF LT 050 503-20	NF LT 080 503-20	NF LT 180 503-20	NF LT 300 503-00
Part number		18411088	18411096	18411118	18411126
Nominal voltage (according to EN 50160)	U _N	3 x AC 220 – 440 V, 48 – 62 Hz	3 x AC 220 – 500 V, 48 – 62 Hz	3 x AC 220 – 440 V, 48 – 62 Hz	
Rated current	I _N	50 A	80 A	180 A	300 A
Leakage current	I	< 100 mA	< 100 mA	< 180 mA	< 180 mA
Operating temperature	T	-25 °C – +40 °C			
Degree of protection		IP20			IP00
Weight	kg	2.63	7.35	9.98	17.5
Assignment to AC 230 V		0075 / 0110	0150 / 0185	0022 – 0370	0450 – 0750
Assignment to AC 400 V		0150 – 0220	0300 / 0370	0450 – 0750	0900 – 1600
UL/cUL approval		Yes / No	Yes / No	Yes / No	Yes / No

Nominal voltage 600 V

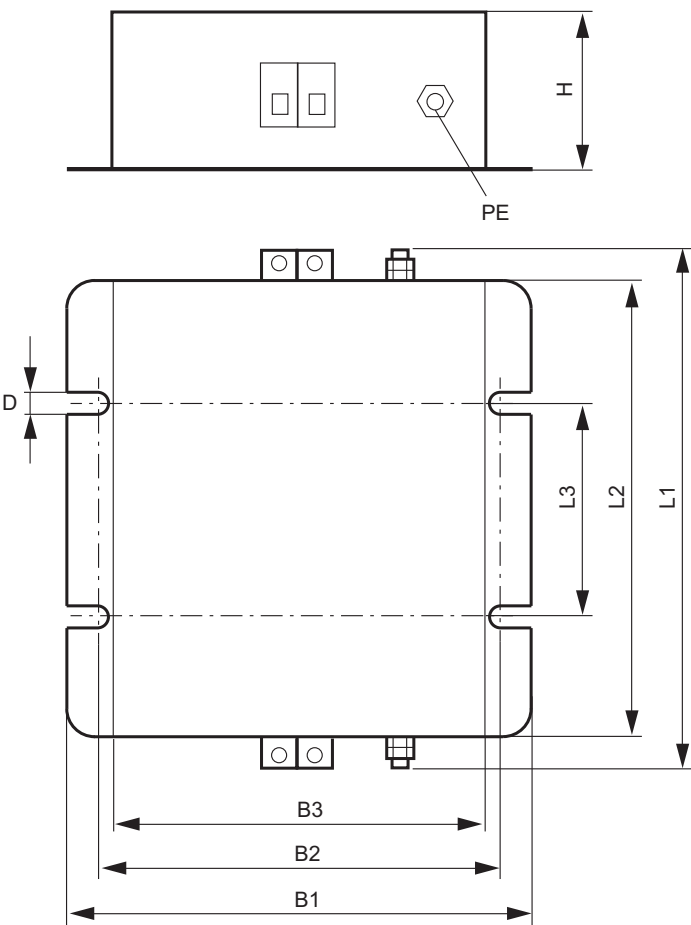
Type		NF LT 006 603-20	NF LT 016 603-20	NF LT 025 603-20
Part number		18411223	18411231	18411258
Nominal voltage (according to EN 50160)	U _N	3 x AC 500 – 600 V, 48 – 62 Hz		
Rated current	I _N	6 A	16 A	25 A
Leakage current	I	< 10 mA	< 35 mA	< 35 mA
Operating temperature	T	-25 °C – +40 °C		
Degree of protection		IP20		
Weight	kg	2.7		
Assignment to AC 600 V		0008 – 0022	0040 – 0075	0110
UL/cUL approval		No / No	No / No	No / No

Nominal voltage 690 V

Type		NF LT 050 603-20	NF LT 080 603-20	NF LT 180 603-20
Part number		18411266	18411274	18411282
Nominal voltage (according to EN 50160)	U_N	3 x AC 500 – 690 V, 48 – 62 Hz		
Rated current	I_N	50 A	80 A	180 A
Leakage current	I	< 80 mA	< 100 mA	< 100 mA
Operating temperature	T	-25 °C – +40 °C		
Degree of protection		IP20		
Weight	kg	3.38	5.67	6.99
Assignment to AC 600 V		0150 – 0300	0370/0450	0550 – 1100
UL/cUL approval		No / No	No / No	No / No

10.4.2 Dimensions

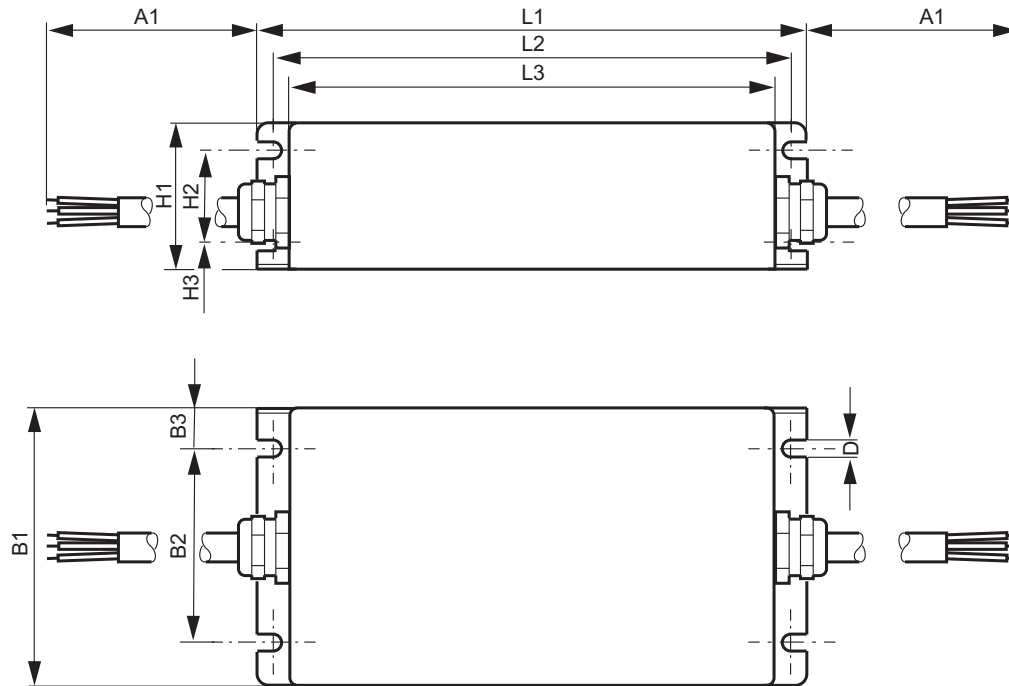
1 x AC 200 – 250 V, 10 – 25 A, IP20



12694590091

Part number	PE connec- tion	L1 mm	L2 mm	L3 mm	B1 mm	B2 mm	B3 mm	H mm	D mm
NF LT 010 201-20	2 x M6	180	160	150	70	45	12.5	65	6.2
NF LT 025 201-20	2 x M6	250	236	220	70	45	12.5	65	6.2

1 x AC 200 – 250 V, 10 – 25 A, IP66

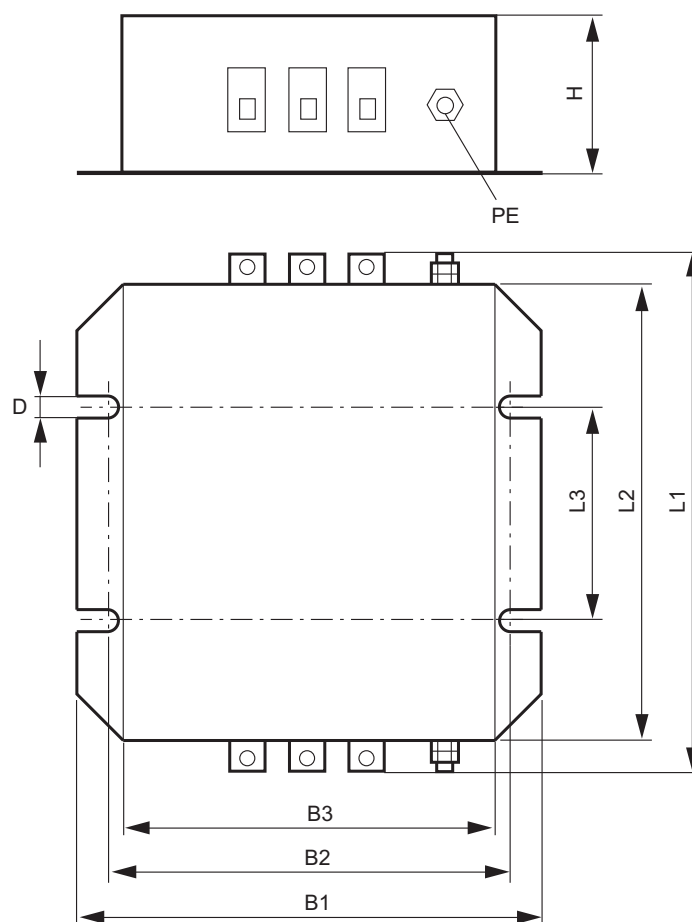


10

12263312139

Part number	PE connection	L1 mm	L2 mm	L3 mm	B1 mm	B2 mm	B3 mm	H1 mm	H2 mm	H3 mm	D mm	A1 mm
NF LT 010 201-66	3G2.5	180	166	150	70	45	12.5	65	40	12.5	6.2	500
NF LT 025 201-66	3G4.0	250	236	220	70	45	12.5	65	40	12.5	6.2	500

3 x AC 380 – 480 V, 6 – 50 A, IP20

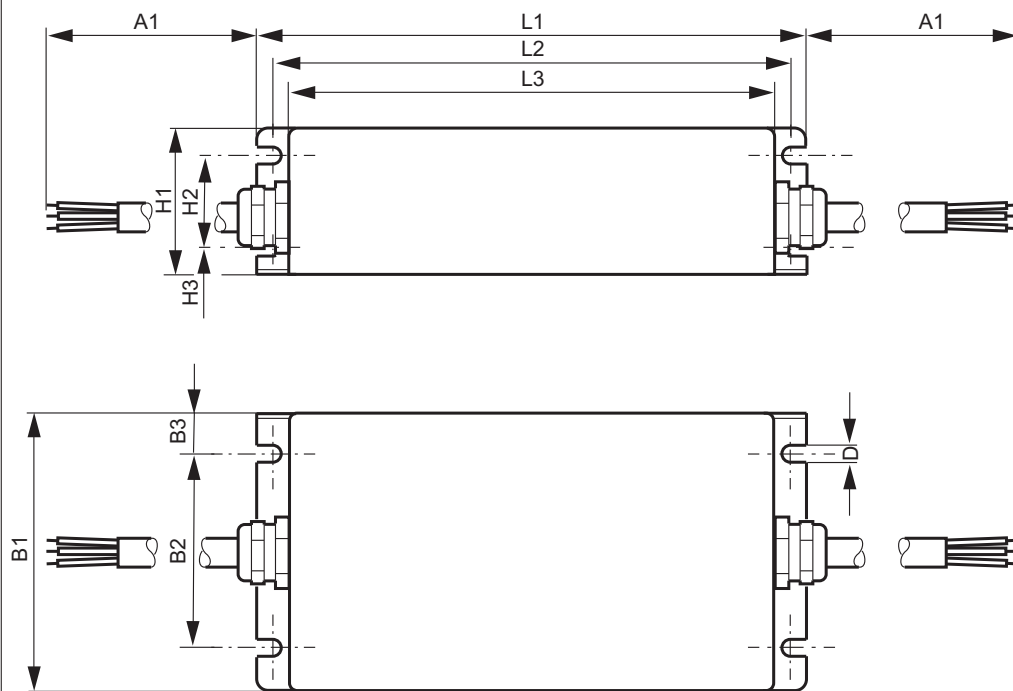


12263306379

Part number	PE connection	L1 mm	L2 mm	L3 mm	B1 mm	B2 mm	B3 mm	H mm	D mm
NF LT 006 503-20	2 x M6	210	196	180	85	55	15	60	6.2
NF LT 016 503-20	2 x M6	230	216	200	120	80	20	65	6.2
NF LT 025 503-20	2 x M6	230	216	200	120	80	20	65	6.2
NF LT 050 503-20	2 x M6	247	200	115	150	136	120	65	6.2

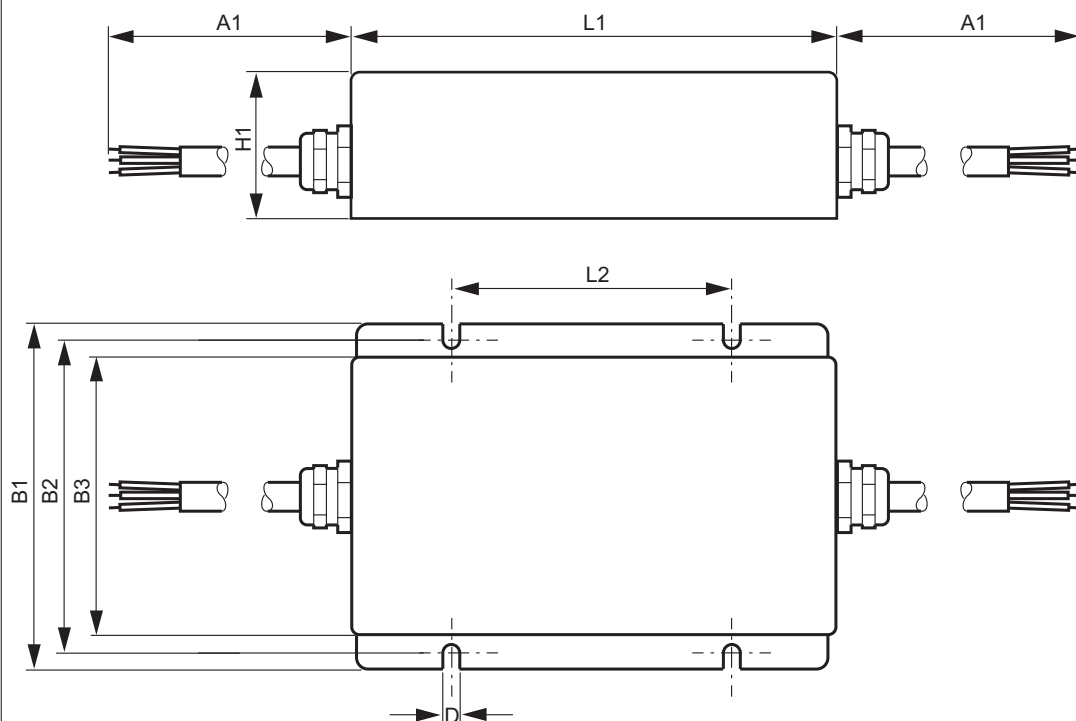
3 x AC 380 – 480 V, 6 – 25 A, IP66

NF LT 006 503-66, NF LT 016 503-66



12263312139

NF LT 025 503-66



12686783883

Part number	PE connection	L1 mm	L2 mm	L3 mm	B1 mm	B2 mm	B3 mm	H1 mm	H2 mm	H3 mm	D mm	A1 mm
NF LT 006 503-66	4G1.5	210	196	180	85	55	15	60	40	10	6.2	500
NF LT 016 503-66	4G2.5	230	216	200	120	80	20	65	40	12.5	6.2	500
NF LT 025 503-66	4G4.0	200	115	-	150	136	120	65	-	-	6.2	500

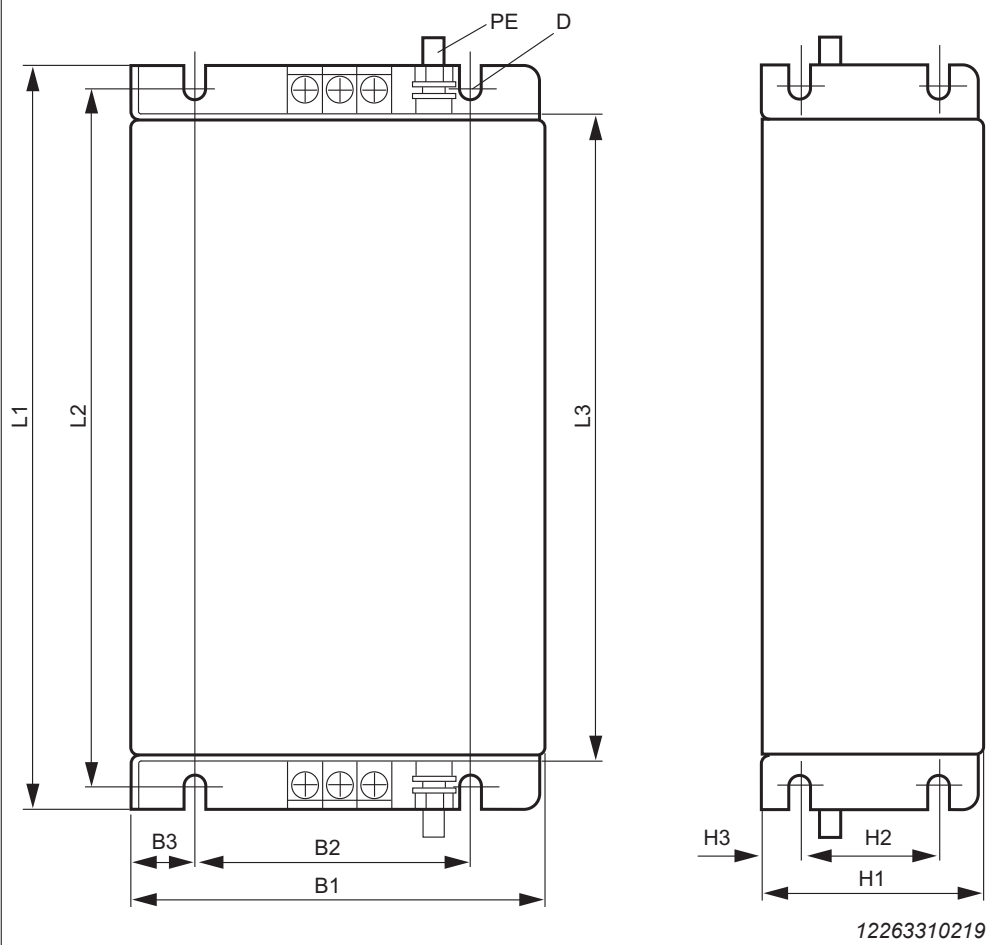
3 x AC 380 – 400 V, 80 – 300 A, IP20 / IP00

NF LT 080 503-20	NF LT 300 503-00
12694584203	12694587147

Part number	PE connection	L1 mm	L2 mm	L3 mm	L4 mm	B1 mm	B2 mm	H mm	D mm
NF LT 080 503-20	2 x M10	400	373	350	–	170	130	90	8.5
NF LT 180 503-20	2 x M10	510	470	360	–	180	156	115	10
NF LT 300 503-00	2 x M10	730	700	660	530	260	220	130	12

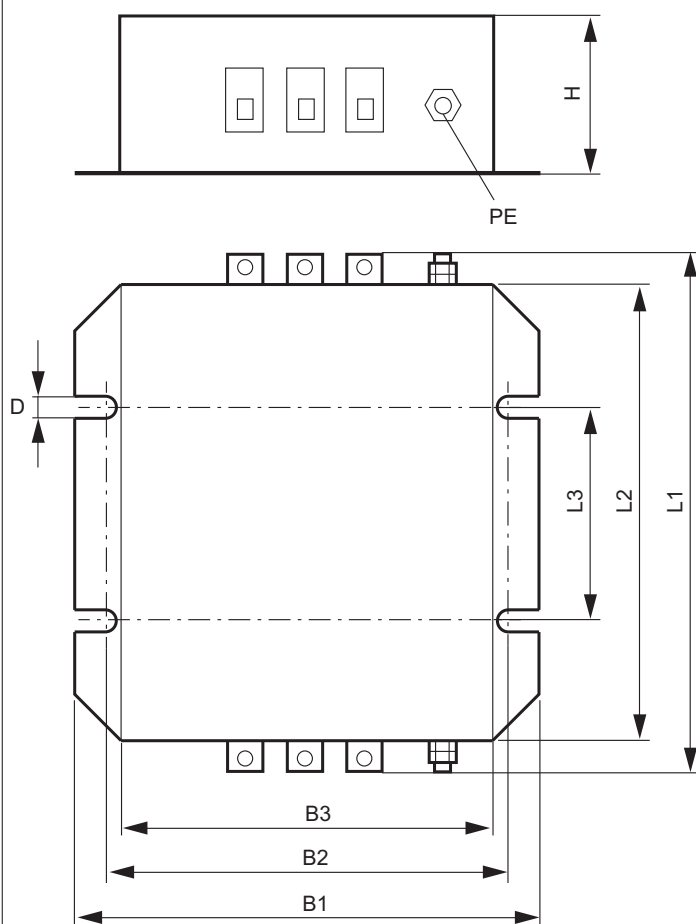
3 x AC 600 V / 690 V, 6 – 25 A, IP20

NF LT 006 603-20, NF LT 016 603-20, NF LT 025 603-20



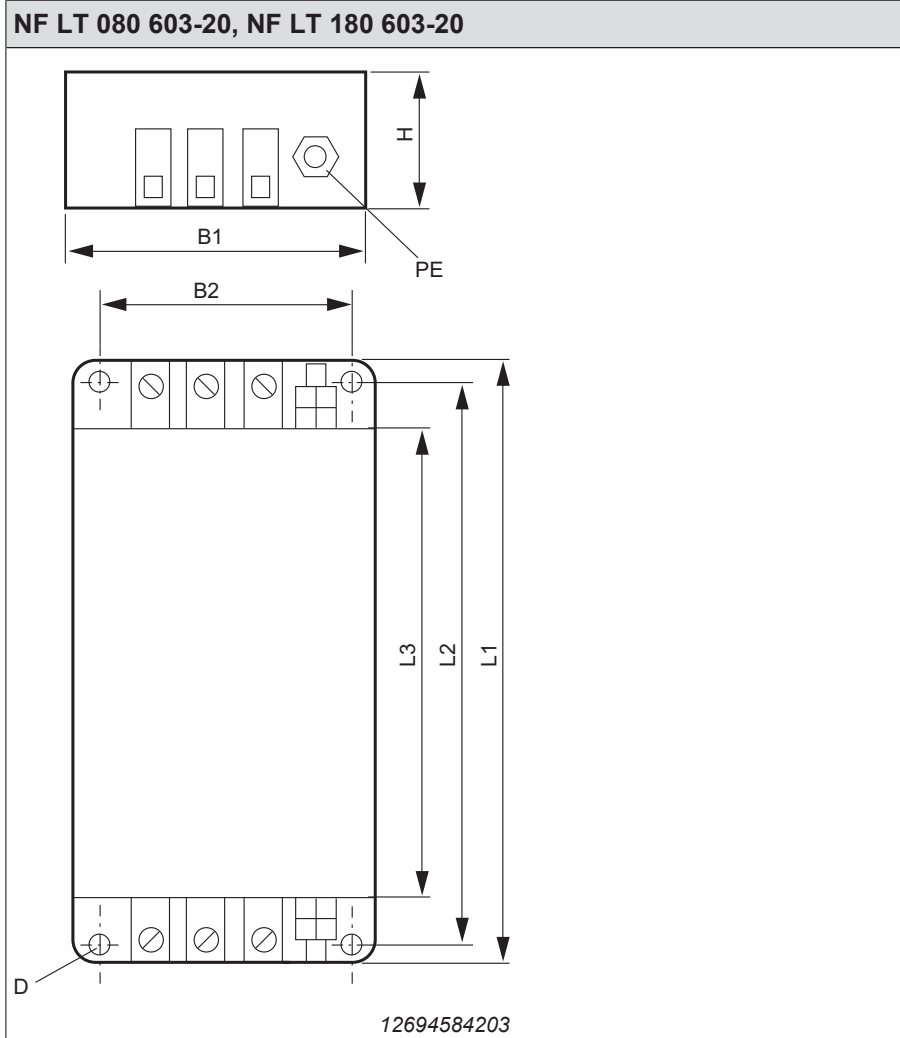
3 x AC 600 V / 690 V, 50 A, IP20

NF LT 050 603-20



12263306379

3 x AC 600 V / 690 V, 80 – 180 A, IP20

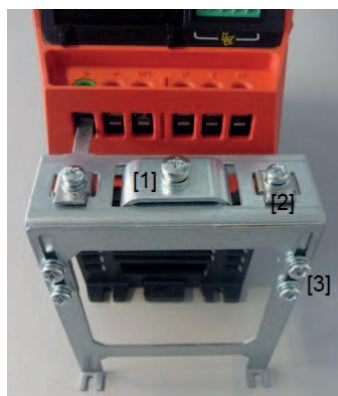


Part number	PE connection	L1 mm	L2 mm	L3 mm	B1 mm	B2 mm	B3 mm	H1 mm	H2 mm	H3 mm	D mm
NF LT 006 603-20	2 x M6	210	196	180	85	55	15	60	40	10	6.2
NF LT 016 603-20	2 x M6	230	216	200	120	80	20	65	40	12.5	6.2
NF LT 025 603-20	2 x M6	230	216	200	120	80	20	65	40	12.5	6.2
NF LT 050 603-20	2 x M6	270	240	160	148	130	120	70	-	-	7
NF LT 080 603-20	2 x M10	400	373	350	170	130	-	90	-	-	8.5
NF LT 180 603-20	2 x M10	510	470	360	180	156	-	115	-	-	10

10.5 Shield terminal

The shield terminal can be used optionally with IP20 units of size 2 and 3.

Type	Part number
LT SB 23 A	28214994

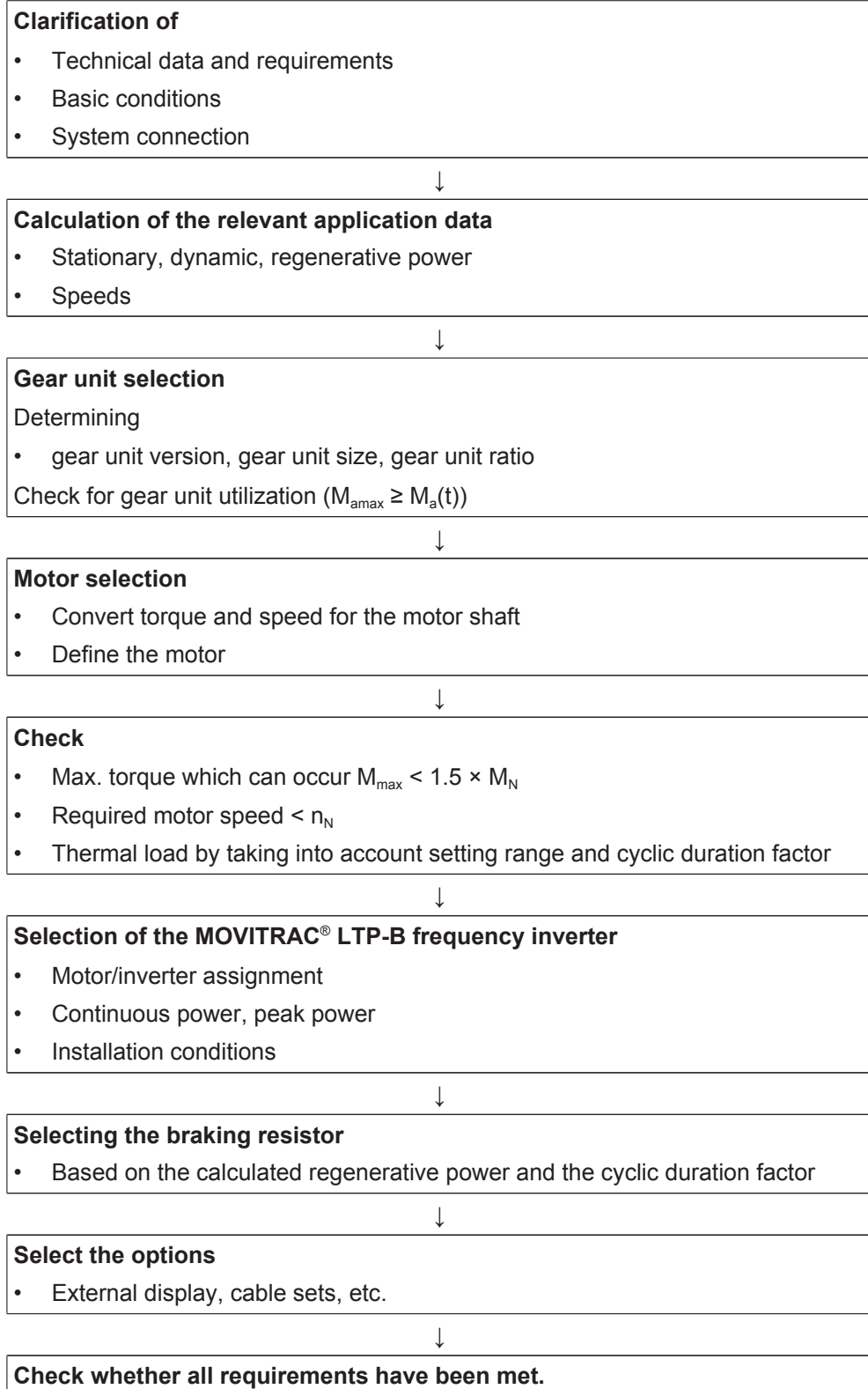


11908692619

- [1] Terminal for motor cable shield and encoder cable shield
- [2] PE terminal
- [3] Adjusting screw for size 2, 3 adjustment

11 Selecting a motor

11.1 Project planning flowchart



12 Address directory SEW-EURODRIVE

Algeria

Sales	Algiers	REDUCOM Sarl 16, rue des Frères Zaghroune Bellevue 16200 El Harrach Alger	Tel. +213 21 8214-91 Fax +213 21 8222-84 http://www.reducom-dz.com info@reducom-dz.com
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Argentina

Assembly Sales	Buenos Aires	SEW EURODRIVE ARGENTINA S.A. Ruta Panamericana Km 37.5, Lote 35 (B1619IEA) Centro Industrial Garín Prov. de Buenos Aires	Tel. +54 3327 4572-84 Fax +54 3327 4572-21 http://www.sew-eurodrive.com.ar sewar@sew-eurodrive.com.ar
	Córdoba	SEW EURODRIVE ARGENTINA S.A. Ruta Nacional 19, Manzana 97, Lote 5 (X5125) Malvinas Argentinas Prov. de Córdoba	Tel. +54 351-490-0010 http://www.sew-eurodrive.com.ar sewcor@sew-eurodrive.com.ar
	Santa Fe	SEW EURODRIVE ARGENTINA S.A. Ruta Prov. 21 Km 7, Lote 41 Parque Industrial Alvear (2126) Gral. Alvear Prov. de Santa Fe	Tel. +54 341-317-7277 http://www.sew-eurodrive.com.ar sewsfe@sew-eurodrive.com.ar
Service	Mendoza	SEW EURODRIVE ARGENTINA S.A. Francisco Gabrielli (ex Urquiza) 2060-Zona Industrial- Guaymallen- CP 5521	Tel. +54 261-4214150 http://www.sew-eurodrive.com.ar sewmen@sew-eurodrive.com.ar
Technical Offices	Tucumán	SEW EURODRIVE ARGENTINA S.A. Balcarce 609 (T4000IAM) S.M. de Tucumán Prov. de Tucumán	Tel. +54 381-400-4569 http://www.sew-eurodrive.com.ar sewtuc@sew-eurodrive.com.ar
	Bahía Blanca	SEW EURODRIVE ARGENTINA S.A. O'Higgins 95, 1er Piso A (B8000IVA) Bahía Blanca Prov. de Buenos Aires	Tel. +54 291-451-7345 http://www.sew-eurodrive.com.ar sewbb@sew-eurodrive.com.ar
	Neuquén	SEW EURODRIVE ARGENTINA S.A.	Tel. +54 299 15 588 7950 http://www.sew-eurodrive.com.ar sewnqn@sew-eurodrive.com.ar

Australia

Assembly Sales Service	Melbourne	SEW-EURODRIVE PTY. LTD. 27 Beverage Drive Tullamarine, Victoria 3043	Tel. +61 3 9933-1000 Fax +61 3 9933-1003 http://www.sew-eurodrive.com.au enquires@sew-eurodrive.com.au
	Sydney	SEW-EURODRIVE PTY. LTD. 9, Sleigh Place, Wetherill Park New South Wales, 2164	Tel. +61 2 9725-9900 Fax +61 2 9725-9905 enquires@sew-eurodrive.com.au
Sales Service	Adelaide	SEW-EURODRIVE PTY. LTD. 9C Park Way Mawson Lakes, SA 5095	Tel. +61 8 8161 4000 Fax +61 8 8161 4002 enquires@sew-eurodrive.com.au
	Brisbane	SEW-EURODRIVE PTY. LTD. 1 /34 Collinsvale St Rocklea, Queensland, 4106	Tel. +61 7 3276 5100 Fax +61 7 3276 5102 enquires@sew-eurodrive.com.au
	Perth	SEW-EURODRIVE PTY. LTD. 10 Colin Jamieson Drive Welshpool, WA 6106	Tel. +61 8 9251-4900 Fax +61 8 9251-4903 enquires@sew-eurodrive.com.au
Sales	Townsville	SEW-EURODRIVE PTY. LTD. 12 Leyland Street Garbutt, QLD 4814	Tel. +61 7 4779 4333 Fax +61 7 4779 5333 enquires@sew-eurodrive.com.au

Austria

Assembly Sales Service	Vienna	SEW-EURODRIVE Ges.m.b.H. Richard-Strauss-Strasse 24 A-1230 Wien	Tel. +43 1 617 55 00-0 Fax +43 1 617 55 00-30 http://www.sew-eurodrive.at sew@sew-eurodrive.at
Technical Offices	Linz	SEW-EURODRIVE Ges.m.b.H. Jaxstraße 2-4 A-4020 Linz	Tel. +43 732 655 109-0 Fax +43 732 655 109-20 tb-linz@sew-eurodrive.at

Graz	SEW-EURODRIVE Ges.m.b.H. Grabenstraße 231 A-8045 Graz	Tel. +43 316 685 756-0 Fax +43 316 685 756-20 tb-graz@sew-eurodrive.at
Dornbirn	SEW-EURODRIVE Ges.m.b.H. Lustenauerstraße 27/1 A-6850 Dornbirn	Tel. +43 5572 3725 99-0 Fax +43 5572 3725 99-20 tb-dornbirn@sew-eurodrive.at

Bangladesh

Sales	Bangladesh	SEW-EURODRIVE INDIA PRIVATE LIMITED 345 DIT Road East Rampura Dhaka-1219, Bangladesh	Tel. +88 01729 097309 salesdhaka@seweurodrivebangladesh.com
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Belarus

Sales	Minsk	Foreign Enterprise Industrial Components RybalkoStr. 26 BY-220033 Minsk	Tel. +375 17 298 47 56 / 298 47 58 Fax +375 17 298 47 54 http://www.sew.by sales@sew.by
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Belgium

Assembly Sales Service	Brussels	SEW-EURODRIVE n.v./s.a. Researchpark Haasrode 1060 Evenementenlaan 7 BE-3001 Leuven	Tel. +32 16 386-311 Fax +32 16 386-336 http://www.sew-eurodrive.be info@sew-eurodrive.be
Service Competence Center	Industrial Gears	SEW-EURODRIVE n.v./s.a. Rue de Parc Industriel, 31 BE-6900 Marche-en-Famenne	Tel. +32 84 219-878 Fax +32 84 219-879 http://www.sew-eurodrive.be service-wallonie@sew-eurodrive.be

Brazil

Production Sales Service	São Paulo	SEW-EURODRIVE Brasil Ltda. Estrada Municipal José Rubim, 205 – Rodovia Santos Dumont Km 49 Indaiatuba – 13347-510 – SP	Tel. +55 19 3835-8000 sew@sew.com.br
Assembly Sales Service	Rio Claro	SEW-EURODRIVE Brasil Ltda. Rodovia Washington Luiz, Km 172 Condomínio Industrial Conpark Caixa Postal: 327 13501-600 – Rio Claro / SP	Tel. +55 19 3522-3100 Fax +55 19 3524-6653 montadora.rc@sew.com.br
	Joinville	SEW-EURODRIVE Brasil Ltda. Rua Dona Francisca, 12.346 – Pirabeiraba 89239-270 – Joinville / SC	Tel. +55 47 3027-6886 Fax +55 47 3027-6888 filial.sc@sew.com.br

Bulgaria

Sales	Sofia	BEVER-DRIVE GmbH Bogdanovetz Str.1 BG-1606 Sofia	Tel. +359 2 9151160 Fax +359 2 9151166 bever@bever.bg
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Cameroon

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

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

Chile			
Assembly Sales Service	Santiago de Chile	SEW-EURODRIVE CHILE LTDA Las Encinas 1295 Parque Industrial Valle Grande LAMP RCH-Santiago de Chile P.O. Box Casilla 23 Correo Quilicura - Santiago - Chile	Tel. +56 2 2757 7000 Fax +56 2 2757 7001 http://www.sew-eurodrive.cl ventas@sew-eurodrive.cl
China			
Production Assembly Sales Service	Tianjin	SEW-EURODRIVE (Tianjin) Co., Ltd. No. 78, 13th Avenue, TEDA Tianjin 300457	Tel. +86 22 25322612 Fax +86 22 25323273 http://www.sew-eurodrive.cn info@sew-eurodrive.cn
Assembly Sales Service	Suzhou	SEW-EURODRIVE (Suzhou) Co., Ltd. 333, Suhong Middle Road Suzhou Industrial Park Jiangsu Province, 215021	Tel. +86 512 62581781 Fax +86 512 62581783 suzhou@sew-eurodrive.cn
	Guangzhou	SEW-EURODRIVE (Guangzhou) Co., Ltd. No. 9, JunDa Road East Section of GETDD Guangzhou 510530	Tel. +86 20 82267890 Fax +86 20 82267922 guangzhou@sew-eurodrive.cn
	Shenyang	SEW-EURODRIVE (Shenyang) Co., Ltd. 10A-2, 6th Road Shenyang Economic Technological Development Area Shenyang, 110141	Tel. +86 24 25382538 Fax +86 24 25382580 shenyang@sew-eurodrive.cn
	Taiyuan	SEW-EURODRIVE (Taiyuan) Co., Ltd. No.3, HuaZhang Street, TaiYuan Economic & Technical Development Zone ShanXi, 030032	Tel. +86-351-7117520 Fax +86-351-7117522 taiyuan@sew-eurodrive.cn
	Wuhan	SEW-EURODRIVE (Wuhan) Co., Ltd. 10A-2, 6th Road No. 59, the 4th Quanli Road, WEDA 430056 Wuhan	Tel. +86 27 84478388 Fax +86 27 84478389 wuhan@sew-eurodrive.cn
	Xi'An	SEW-EURODRIVE (Xi'An) Co., Ltd. No. 12 Jinye 2nd Road Xi'An High-Technology Industrial Development Zone Xi'An 710065	Tel. +86 29 68686262 Fax +86 29 68686311 xian@sew-eurodrive.cn
Sales Service	Hong Kong	SEW-EURODRIVE LTD. Unit No. 801-806, 8th Floor Hong Leong Industrial Complex No. 4, Wang Kwong Road Kowloon, Hong Kong	Tel. +852 36902200 Fax +852 36902211 contact@sew-eurodrive.hk
Colombia			
Assembly Sales Service	Bogota	SEW-EURODRIVE COLOMBIA LTDA. Calle 22 No. 132-60 Bodega 6, Manzana B Santafé de Bogotá	Tel. +57 1 54750-50 Fax +57 1 54750-44 http://www.sew-eurodrive.com.co sew@sew-eurodrive.com.co
Croatia			
Sales Service	Zagreb	KOMPEKS d. o. o. Zeleni dol 10 HR 10 000 Zagreb	Tel. +385 1 4613-158 Fax +385 1 4613-158 kompeks@inet.hr
Czech Republic			
Assembly Sales Service	Hostivice	SEW-EURODRIVE CZ s.r.o. Floriánova 2459 253 01 Hostivice	Tel. +420 255 709 601 Fax +420 235 350 613 http://www.sew-eurodrive.cz sew@sew-eurodrive.cz
	Drive Service Hotline / 24 Hour Service	+420 800 739 739 (800 SEW SEW)	Service Tel. +420 255 709 632 Fax +420 235 358 218 servis@sew-eurodrive.cz

Assembly Service	Plzeň	SEW-EURODRIVE CZ s.r.o. Areal KRPA a.s. Zahradní 173/2 326 00 Plzeň	Tel. +420 378 775 320 Fax +420 377 970 710 sew@sew-eurodrive.cz
Technical Offices	Brno	SEW-EURODRIVE CZ s.r.o. Křenová 52 60200 Brno	Tel. +420 543 254 174 Fax +420 543 256 845 ilona.cermakova@sew-eurodrive.cz
	Hradec Králové	SEW-EURODRIVE CZ s.r.o. Čechova 498 50202 Hradec Králové	Tel. +420 495 510 141 Fax +420 495 521 313 miroslav.moravec@sew-eurodrive.cz
	Ostrava	SEW-EURODRIVE CZ s.r.o. Studentská 6202/17 708 00 Ostrava-Poruba	Tel. +420 597 329 044 david.kenkus@sew-eurodrive.cz
	Klatovy	SEW-EURODRIVE CZ s.r.o. Videňská 841 33901 Klatovy	Tel. +420 376 331 634 Fax +420 376 331 634 viktor.kubernat@sew-eurodrive.cz
Service	Horní Moštěnice	SEW-EURODRIVE CZ s.r.o. Nám.Dr.M.Tyrše 14/64 751 17 Horní Moštěnice	Tel. +420 581 224 374 Fax +420 581 224 374 servis@sew-eurodrive.cz

Denmark

Assembly Sales Service	Copenhagen	SEW-EURODRIVEA/S Geminivej 28-30 DK-2670 Greve	Tel. +45 43 95 8500 Fax +45 43 9585-09 http://www.sew-eurodrive.dk sew@sew-eurodrive.dk
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Egypt

Sales Service	Cairo	Copam Egypt for Engineering & Agencies Building 10, Block 13005, First Industrial Zone, Obour City Cairo	Tel. +202 44812673 / 79 (7 lines) Fax +202 44812685 http://www.copam-egypt.com copam@copam-egypt.com
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Estonia

Sales	Tallin	ALAS-KUUL AS Reti tee 4 EE-75301 Peetri küla, Rae vald, Harjumaa	Tel. +372 6593230 Fax +372 6593231 http://www.alas-kuul.ee veiko.soots@alas-kuul.ee
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Finland

Assembly Sales Service	Hollola	SEW-EURODRIVE OY Vesimäentie 4 FIN-15860 Hollola 2	Tel. +358 201 589-300 Fax +358 3 780-6211 http://www.sew-eurodrive.fi sew@sew.fi
Service	Hollola	SEW-EURODRIVE OY Keskikankaantie 21 FIN-15860 Hollola	Tel. +358 201 589-300 Fax +358 3 780-6211 http://www.sew-eurodrive.fi sew@sew.fi
Production Assembly	Karkkila	SEW Industrial Gears Oy Santasalonkatu 6, PL 8 FI-03620 Karkkila, 03601 Karkkila	Tel. +358 201 589-300 Fax +358 201 589-310 http://www.sew-eurodrive.fi sew@sew.fi
Technical Offices	Helsinki	SEW-EURODRIVE OY Luutnantintie 5 FIN-00410 Helsinki	Tel. +358 201 589-300 sew@sew.fi
	Oulu	SEW Industrial Gears Oy Paulaharjuntie 22 FIN-90530 Oulu	Tel. +358 201 589 300 sew@sew.fi
	Vaasa	SEW Industrial Gears Oy Asemakatu 7 FIN-65100 Vaasa	Tel. +358 201 589-300 sew@sew.fi
	Kuopio	SEW Industrial Gears Oy Leväsentie 23 FIN-70780 Kuopio	Tel. +358 201 589-300 sew@sew.fi
	Tampere	SEW Industrial Gears Oy Hermiankatu 3 A FI-33720 Tampere	Tel. +358 201 589-300 sew@sew.fi

Kotka	SEW Industrial Gears Oy Heikinkatu 7 FIN-48100 Kotka	Tel. +358 201 589 300 sew@sew.fi
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France

Production Sales Service	Hagenau	SEW-USOCOME 48-54 route de Soufflenheim B. P. 20185 F-67506 Haguenau Cedex	Tel. +33 3 88 73 67 00 Fax +33 3 88 73 66 00 http://www.usocome.com sew@usocome.com
Production	Forbach	SEW-USOCOME Zone industrielle Technopôle Forbach Sud B. P. 30269 F-57604 Forbach Cedex	Tel. +33 3 87 29 38 00
	Brumath	SEW-USOCOME 1 Rue de Bruxelles F-67670 Mommenheim Cedex	Tel. +33 3 88 37 48 00
Assembly Sales Service	Bordeaux	SEW-USOCOME Parc d'activités de Magellan 62 avenue de Magellan – B. P. 182 F-33607 Pessac Cedex	Tel. +33 5 57 26 39 00 Fax +33 5 57 26 39 09
	Lyon	SEW-USOCOME 75 rue Antoine Condorcet F-38090 Vaulx-Milieu	Tel. +33 4 74 99 60 00 Fax +33 4 74 99 60 15
	Nantes	SEW-USOCOME Parc d'activités de la forêt 4 rue des Fontenelles F-44140 Le Bignon	Tel. +33 2 40 78 42 00 Fax +33 2 40 78 42 20
	Paris	SEW-USOCOME Zone industrielle 2 rue Denis Papin F-77390 Verneuil l'Étang	Tel. +33 1 64 42 40 80 Fax +33 1 64 42 40 88
Technical Offices	Alsace	SEW-USOCOME	Tel. +33 3 89 74 51 62 Fax +33 3 89 76 58 71
	Aquitaine / Charentes	SEW-USOCOME	Tel. +33 5 57 26 39 08 Fax +33 5 57 26 39 09
	Auvergne / Limousin	SEW-USOCOME	Tel. +33 5 55 20 12 10 Fax +33 5 55 20 12 11
	Lower Nor- mandie	SEW-USOCOME	Tel. +33 2 31 37 92 86 Fax +33 2 31 74 68 15
	Brittany	SEW-USOCOME	Tel. +33 2 40 78 42 04 Fax +33 2 40 78 42 20
	Burgundy	SEW-USOCOME	Tel. +33 3 85 49 92 18 Fax +33 3 85 49 92 19
	Centre / Poitou	SEW-USOCOME	Tel. +33 2 40 78 42 11 Fax +33 2 40 78 42 20
	Champagne- Ardenne	SEW-USOCOME	Tel. +33 3 25 79 63 24 Fax +33 3 25 79 63 25
	Franche- Comté	SEW-USOCOME	Tel. +33 3 84 68 57 71 Fax +33 3 84 68 57 95
	Île-de-France East / Aisne	SEW-USOCOME	Tel. +33 3 23 62 81 24 Fax +33 3 23 62 81 44
	Île-de-France North / Pi- cardie	SEW-USOCOME	Tel. +33 1 41 05 92 74 Fax +33 1 41 05 92 75
	Île-de-France South	SEW-USOCOME	Tel. +33 1 60 81 10 56 Fax +33 1 60 81 10 57
	Lorraine / Alsace North	SEW-USOCOME	Tel. +33 3 83 96 28 04 Fax +33 3 83 96 28 07
	Midi- Pyrénées / Roussillon	SEW-USOCOME	Tel. +33 5 61 08 15 85 Fax +33 5 61 08 16 44
	Nord-Pas-de- Calais	SEW-USOCOME	Tel. +33 3 21 10 86 86 Fax +33 3 21 10 86 87

Paris / Île-de-France West	SEW-USOCOME	Tel. +33 1 30 90 89 86 Fax +33 1 30 90 93 15
Pays de la Loire	SEW-USOCOME	Tel. +33 2 40 78 42 03 Fax +33 2 40 78 42 20
Provence-Alpes-Côte d'Azur	SEW-USOCOME	Tel. +33 4 91 18 00 11 Fax +33 4 91 18 00 12
Rhône-Alpes East	SEW-USOCOME	Tel. +33 4 75 05 65 95 Fax +33 4 75 05 65 96
Rhône-Alpes North	SEW-USOCOME	Tel. +33 4 74 99 60 03 Fax +33 4 74 99 60 15
Rhône-Alpes West	SEW-USOCOME	Tel. +33 4 74 99 60 04 Fax +33 4 74 99 60 15

Gabon

representation: Germany.

Germany

Headquarters Production Sales	Bruchsal	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 42 D-76646 Bruchsal P.O. Box Postfach 3023 – D-76642 Bruchsal	Tel. +49 7251 75-0 Fax +49 7251 75-1970 http://www.sew-eurodrive.de sew@sew-eurodrive.de
Production / Industrial Gears	Bruchsal	SEW-EURODRIVE GmbH & Co KG Christian-Pähr-Str. 10 D-76646 Bruchsal	Tel. +49 7251 75-0 Fax +49 7251 75-2970
Production	Graben	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 1 D-76676 Graben-Neudorf P.O. Box Postfach 1220 – D-76671 Graben-Neudorf	Tel. +49 7251 75-0 Fax +49 7251-2970
	Östringen	SEW-EURODRIVE GmbH & Co KG, Werk Östringen Franz-Gurk-Straße 2 D-76684 Östringen	Tel. +49 7253 9254-0 Fax +49 7253 9254-90 oesstringen@sew-eurodrive.de
Service Competence Center	Mechanics / Mechatronics	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 1 D-76676 Graben-Neudorf	Tel. +49 7251 75-1710 Fax +49 7251 75-1711 scc-mechanik@sew-eurodrive.de
	Electronics	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 42 D-76646 Bruchsal	Tel. +49 7251 75-1780 Fax +49 7251 75-1769 scc-elektronik@sew-eurodrive.de
Drive Technology Center	North	SEW-EURODRIVE GmbH & Co KG Alte Ricklinger Straße 40-42 D-30823 Garbsen (Hannover)	Tel. +49 5137 8798-30 Fax +49 5137 8798-55 dtc-nord@sew-eurodrive.de
	East	SEW-EURODRIVE GmbH & Co KG Dänkritzer Weg 1 D-08393 Meerane (Zwickau)	Tel. +49 3764 7606-0 Fax +49 3764 7606-30 dtc-ost@sew-eurodrive.de
	South	SEW-EURODRIVE GmbH & Co KG Domagkstraße 5 D-85551 Kirchheim (München)	Tel. +49 89 909552-10 Fax +49 89 909552-50 dtc-sued@sew-eurodrive.de
	West	SEW-EURODRIVE GmbH & Co KG Siemensstraße 1 D-40764 Langenfeld (Düsseldorf)	Tel. +49 2173 8507-30 Fax +49 2173 8507-55 dtc-west@sew-eurodrive.de
Drive Center	Berlin	SEW-EURODRIVE GmbH & Co KG Alexander-Meißner-Straße 44 D-12526 Berlin	Tel. +49 306331131-30 Fax +49 306331131-36 dc-berlin@sew-eurodrive.de
	Ludwigshafen	SEW-EURODRIVE GmbH & Co KG c/o BASF SE Gebäude W130 Raum 101 D-67056 Ludwigshafen	Tel. +49 7251 75 3759 Fax +49 7251 75 503759 dc-ludwigshafen@sew-eurodrive.de
	Saarland	SEW-EURODRIVE GmbH & Co KG Gottlieb-Daimler-Straße 4 D-66773 Schwalbach Saar – Hülzweiler	Tel. +49 6831 48946 10 Fax +49 6831 48946 13 dc-saarland@sew-eurodrive.de
	Ulm	SEW-EURODRIVE GmbH & Co KG Dieselstraße 18 D-89160 Dornstadt	Tel. +49 7348 9885-0 Fax +49 7348 9885-90 dc-ulm@sew-eurodrive.de

Germany

	Würzburg	SEW-EURODRIVE GmbH & Co KG Nürnbergerstraße 118 D-97076 Würzburg-Lengfeld	Tel. +49 931 27886-60 Fax +49 931 27886-66 dc-wuerzburg@sew-eurodrive.de
Drive Service Hotline / 24 Hour Service			0 800 SEWHELP 0 800 7394357
Technical Offices	Augsburg	SEW-EURODRIVE GmbH & Co KG August-Wessels-Straße 27 D-86156 Augsburg	Tel. +49 821 22779-10 Fax +49 821 22779-50 tb-augsburg@sew-eurodrive.de
	Lake Con- stance	SEW-EURODRIVE GmbH & Co KG Dornierstraße 4 D-88677 Markdorf	Tel. +49 7544 96590-90 Fax +49 7544 96590-99 tb-bodensee@sew-eurodrive.de
	Bremen	SEW-EURODRIVE GmbH & Co KG Bornstr.19 ... 22 D-28195 Bremen	Tel. +49 421 33918-10 Fax +49 421 33918-22 tb-bremen@sew-eurodrive.de
	Dortmund	SEW-EURODRIVE GmbH & Co KG Hildastraße 8 D-44145 Dortmund	Tel. +49 231 229028-10 Fax +49 231 229028-20 tb-dortmund@sew-eurodrive.de
	Dresden	SEW-EURODRIVE GmbH & Co KG Hauptstraße 32 D-01445 Radebeul	Tel. +49 351 26338-0 Fax +49 351 26338-38 tb-dresden@sew-eurodrive.de
	Erfurt	SEW-EURODRIVE GmbH & Co KG Dubliner Straße 12 D-99091 Erfurt	Tel. +49 361 21709-70 Fax +49 361 21709-79 tb-erfurt@sew-eurodrive.de
	Güstrow	SEW-EURODRIVE GmbH & Co KG Glasewitzer Chaussee 33 B D-18273 Güstrow P.O. Box Postfach 1216 – D-18262 Güstrow	Tel. +49 3843 8557-80 Fax +49 3843 8557-88 tb-guestrow@sew-eurodrive.de
	Hamburg	SEW-EURODRIVE GmbH & Co KG Bramfelder Straße 119 D-22305 Hamburg	Tel. +49 40 298109-60 Fax +49 40 298109-70 tb-hamburg@sew-eurodrive.de
	Hannover / Garbsen	SEW-EURODRIVE GmbH & Co KG Alte Ricklinger Str.40-42 D-30823 Garbsen P.O. Box Postfach 1104 53 – D-30804 Garbsen	Tel. +49 5137 8798-10 Fax +49 5137 8798-50 tb-hannover@sew-eurodrive.de
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	Koblenz	SEW-EURODRIVE GmbH & Co KG Bahnstraße 17a D-56743 Mendig	Tel. +49 2652 9713-30 Fax +49 2652 9713-40 tb-koblenz@sew-eurodrive.de
	Lahr	SEW-EURODRIVE GmbH & Co KG Europastraße 3/1 D-77933 Lahr / Schwarzwald	Tel. +49 7821 90999-60 Fax +49 7821 90999-79 tb-lahr@sew-eurodrive.de
	Langenfeld	SEW-EURODRIVE GmbH & Co KG Siemensstraße 1 D-40764 Langenfeld	Tel. +49 2173 8507-10 Fax +49 2173 8507-50 tb-langenfeld@sew-eurodrive.de
	Magdeburg	SEW-EURODRIVE GmbH & Co KG Breiteweg 53 D-39179 Barleben	Tel. +49 39203 7577-1 Fax +49 39203 7577-9 tb-magdeburg@sew-eurodrive.de
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München	SEW-EURODRIVE GmbH & Co KG Domagkstraße 5 D-85551 Kirchheim	Tel. +49 89 90955-110 Fax +49 89 90955-150 tb-muenchen@sew-eurodrive.de
Münster	SEW-EURODRIVE GmbH & Co KG Hafenplatz 4 D-48155 Münster	Tel. +49 251 41475-11 Fax +49 251 41475-50 tb-muenster@sew-eurodrive.de
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Zwickau / Meerane	SEW-EURODRIVE GmbH & Co KG Dankritzer Weg1 D-08393 Meerane	Tel. +49 3764 7606-0 Fax +49 3764 7606-20 tb-zwickau@sew-eurodrive.de

Great Britain

Assembly Sales Service	Normanton	SEW-EURODRIVE Ltd. DeVilliers Way Trident Park Normanton West Yorkshire WF6 1GX	Tel. +44 1924 893-855 Fax +44 1924 893-702 http://www.sew-eurodrive.co.uk info@sew-eurodrive.co.uk
	Drive Service Hotline / 24 Hour Service		Tel. 01924 896911

Service Competence Center	Southern Eng- land	SEW-EURODRIVE Ltd. Unit 41 Easter Park Benyon Road Silchester Reading Berkshire RG7 2PQ	Tel. +44 1189 701-699 Fax +44 1189 701-021
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Technical Offices	Midlands	SEW-EURODRIVE Ltd. 5 Sugar Brook court Aston Road Bromsgrove Worcs. B60 3EX	Tel. +44 1527 877-319 Fax +44 1527 575-245
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	Scotland	SEW-EURODRIVE Ltd. No 37 Enterprise House Springkerse Business Park Stirling FK7 7UF	Tel. +44 17 8647-8730 Fax +44 17 8645-0223
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	Northern Ire- land	Heyn Engineering (NI) Ltd. 1 Corry Place, Belfast, BT3 9AH	Tel. +44 02890350022 Fax +44 02890350012 http://www.heyne.co.uk info@heyne.co.uk
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Greece

Sales	Athens	Christ. Boznos & Son S.A. 12, K. Mavromichali Street P.O. Box 80136 GR-18545 Piraeus	Tel. +30 2 1042 251-34 Fax +30 2 1042 251-59 http://www.boznos.gr info@boznos.gr
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Technical Office	Thessaloniki	Christ. Boznos & Son S.A. Asklipiou 26 562 24 Evosmos, Thessaloniki	Tel. +30 2 310 7054-00 Fax +30 2 310 7055-15 info@boznos.gr
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Hungary

Sales Service	Budapest	SEW-EURODRIVE Kft. Csillaghegyi út 13. H-1037 Budapest	Tel. +36 1 437 06-58 Fax +36 1 437 06-50 http://www.sew-eurodrive.hu office@sew-eurodrive.hu
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Iceland			
Sales	Reykjavik	Varma & Vélaverk ehf. Knarrarvogi 4 IS-104 Reykjavik	Tel. +354 585 1070 Fax +354 585)1071 http://www.varmaverk.is vov@vov.is
India			
Registered Office Assembly Sales Service	Vadodara	SEW-EURODRIVE India Private Limited Plot No. 4, GIDC POR Ramangamdi • Vadodara - 391 243 Gujarat	Tel. +91 265 3045200 Fax +91 265 3045300 http://www.seweurodriveindia.com salesvadodara@seweurodriveindia.com
Assembly Sales Service	Chennai	SEW-EURODRIVE India Private Limited Plot No. K3/1, Sipcot Industrial Park Phase II Mambakkam Village Sriperumbudur - 602105 Kancheepuram Dist, Tamil Nadu	Tel. +91 44 37188888 Fax +91 44 37188811 saleschennai@seweurodriveindia.com
	Pune	SEW-EURODRIVE India Private Limited Plant: Plot No. D236/1, Chakan Industrial Area Phase- II, Warale, Tal- Khed, Pune-410501, Maharashtra	Tel. +91 21 35 628700 Fax +91 21 35 628715 salespune@seweurodriveindia.com
Technical Offices	Ahmedabad	SEW-EURODRIVE India Private Limited 306, Shaan office complex, Behind Sakar-IV, Ellisebridge, Ashram Road Ahmedabad – 380006, Gujarat	Tel. +91 79 40072067 / 68 Fax +91 79 40072069 salesahmedabad@seweurodriveindia.com
	Aurangabad	SEW-EURODRIVE India Private Limited Flat.No.403 , Prism Appt. The Venus Housing Society. Beed Bypass Road, Behind Nishant Park Hotel, Aurangabad – 431003, Maharashtra.	Tel. +91 86000 12333 salesaurangabad@seweurodriveindia.com
	Bangalore	SEW-EURODRIVE India Private Limited Sy.no:41-P3, Peenya1, Phase 1A, Peenya Vil- lage, Yeswanthapura Hobli, Bangalore North Taluk, Bangalore - 560058, Karnataka	Tel. +91 80 28370664 Fax +91 80 28370665 salesbangalore@seweurodriveindia.com
	Bangalore	SEW-EURODRIVE India Private Limited # C-104, 3rd Block, KSSIDC Complex, Electronic City. Bangalore – 560100, Karnataka	Tel. +91 80 28522662 / 28522663 salesbangalore@seweurodriveindia.com
	Bangladesh	SEW-EURODRIVE India Private Limited Genetic Udayanchal, House-96 (6th Floor), Road-23/A, Block-B, Banani, Dhaka-1213, Bangladesh	Tel. +88 01729 097309 salesdhaka@seweurodriveindia.com bangladesh.com
	Bellary	SEW-EURODRIVE India Private Limited Door no-56/279 Ward No-15, Sindhigi compound, Near Raghavendra talkies, Bellary-583101, Karnataka	Tel. +91 77609 88668 salesbellary@seweurodriveindia.com
	Chandigarh	SEW-EURODRIVE India Private Limited # 72, Type- 4, Power Colony, Chandigarh - Rupnagar Highway Rupnagar - 140001, Punjab	Tel. +91 81462 67606 saleschandigarh@seweurodriveindia.com
	Chennai	SEW-EURODRIVE India Private Limited 2nd Floor, Josmans Complex, No. 5, McNichols Road, Chetpet Chennai - 600031, Tamil Nadu	Tel. +91 44 42849812 / 13 / 14 / 15 Fax +91 44 42849816 saleschennai@seweurodriveindia.com
	Kochi	SEW-EURODRIVE India Private Limited House No: 30/1168 A Kaniyampuzha Road Vytila Post Office Cochin – 682019, Kerala	Tel. +91 98951 30375 salescochin@seweurodriveindia.com
	Coimbatore	SEW-EURODRIVE India Private Limited 687/2, Sri Sakthivel Towers (Near Deepam Hospital) Trichy Road, Ramanathapuram Coimbatore - 641 045, Tamil Nadu	Tel. +91 422 2322420 Fax +91 422 2323988 salescoimbatore@seweurodriveindia.com

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Gurgaon	SEW-EURODRIVE India Private Limited 136, Hope Appartment, Sec. 15, Part – II, Jharsa Road, Near Reliance Fresh, Gurgaon-122001, Haryana	Tel. +91 99588 78855 salesgurgaon@seweurodriveindia.com
Hyderabad	SEW-EURODRIVE India Private Limited 408, 4th Floor, Meridian Place Green Park Road, Amerpet Hyderabad - 500016, Telangana	Tel. +91 40 23414698 Fax +91 40 23413884 saleshyderabad@seweurodrivein- dia.com
Indore	SEW-EURODRIVE India Private Limited 103, Abhishek Avenue, Slide-4, Sch. No. 78, Indore - 452010, Madhya Pradesh	Tel. +91 97524 12068 salesindore@seweurodriveindia.com
Jamshedpur	SEW-EURODRIVE India Private Limited Flat No :- S1 "Kashi Kunj", h. No. 60, New Rani Kudar Road No - 3, P.o. + P.s. - Kadma Jamshedpur - 831005, Jharkhand	Tel. +91 99341 23671 salesjamshedpur@seweurodrivein- dia.com
Kolhapur	SEW-EURODRIVE India Private Limited C/O. Mr.S.V.Pawar.461/37, Abhideep Resid- ency, Opp-Shriram Petrol Pump, Kasaba Bawada, Kolhapur - 416 122, Maharashtra	Tel. +91 86000 20846 saleskolhapur@seweurodriveindia.com
Kolkata	SEW-EURODRIVE India Private Limited 2nd floor, Room No. 35 Chowringhee Court 55, Chowringhee Road Kolkata - 700 071, West Bengal	Tel. +91 33 22827457 Fax +91 33 22894204 saleskolkata@seweurodriveindia.com
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Nagpur	SEW-EURODRIVE India Private Limited Plot No 49, New Kailash Nager, Samta colony, Nagpur-440027, Maharashtra	Tel. +91 95610 89525 salesnagpur@seweurodriveindia.com
Nashik	SEW-EURODRIVE India Private Limited 107, "YOG" Bungalow, Mahatama Nagar, Trimbak Road, Nashik – 422 007, Maharashtra	Tel. +91 96657 52978 salesnashik@seweurodriveindia.com
New Delhi	SEW-EURODRIVE India Private Limited # B-206 DLF Towers-B District Centre Jasola New Delhi -110044	Tel. +91 11 26944551 Fax +91 11 26944467 salesdelhi@seweurodriveindia.com
Navi Mumbai	SEW-EURODRIVE India Private Limited No.202, Shivam Yeshoram Plot No. 262/257, Sector 19 Kopar Khairane, Navi Mumbai - 400 709, Maharashtra	Tel. +91 99677 21324 salesmumbai@seweurodriveindia.com

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Pune	SEW-EURODRIVE India Private Limited Plot No. 7, "Shri Shantadurga Niwas" Shivaji Co-operative Housing Society Ltd., Behind J.W. Marriot. Off Senapati Bapat Marg. Pune -411 016, Maharashtra	Tel. +91 20 25635466 / 467 salespune@seweurodriveindia.com
Pune	SEW-EURODRIVE India Private Limited Jai Tulajabhavani Complex. Office No:- 15 First Floor, Opp. Century Enka Company, MIDC Bhosari, Pune 411 026	Tel. +91 20-65118890 / 91 Fax +91 20 25380721 salespune@seweurodriveindia.com
Raipur	SEW-EURODRIVE India Private Limited A-42, Ashoka Millenium Complex, Ring Road-1, Raipur 492 001 - Chhattisgarh	Tel. +91 771 4090765 Fax +91 771 4090765 salesraipur@seweurodriveindia.com
Ranchi	SEW-EURODRIVE India Private Limited 1D- Shail Madhuri Apartment, Near Kokar Pool, H.B Road, Kokar Ranchi - 834001, Jharkhand.	Tel. +91 82946 30772 salesranchi@seweurodriveindia.com
Tiruchirappalli	SEW-EURODRIVE India Private Limited 12B, Indira Gandhi Street, K.K Nagar Trichy-620 021, Tamilnadu	Tel. +91 97899 79855 salestrichy@seweurodriveindia.com
Vadodara	SEW-EURODRIVE India Private Limited Unit No. 301, Savorite Bldg, Plot No. 143, Vinayak Society, off old Padra Road, Vadodara - 390 007, Gujarat	Tel. +91 265 2325258 Fax +91 265 2325259 salesvadodara@seweurodrivein- dia.com
Vizag	SEW-EURODRIVE India Private Limited D.No.7-13-50/1, Near Padmaja hospital, Ramalayam street, Chittinaidu colony, Old gajuwaka, Visakhapatnam - 530026, Andhra Pradesh	Tel. +91 99895 01748 salesvizag@seweurodriveindia.com

Indonesia

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	Jakarta	PT. Cahaya Sukses Abadi Komplek Rukan Puri Mutiara Blok A no 99, Sunter Jakarta 14350	Tel. +62 21 65310599 Fax +62 21 65310600 csajkt@cbn.net.id
	Jakarta	PT. Agrindo Putra Lestari Jl. Pantai Indah Selatan, Komplek Sentra In- dustri Terpadu, Pantai indah Kapuk Tahap III, Blok E No. 27 Jakarta 14470	Tel. +62 21 2921-8899 Fax +62 21 2921-8988 aplindo@indosat.net.id http://www.aplindo.com
	Surabaya	PT. TRIAGRI JAYA ABADI Jl. Sukosemolo No. 63, Galaxi Bumi Permai G6 No. 11 Surabaya 60111	Tel. +62 31 5990128 Fax +62 31 5962666 sales@triagri.co.id http://www.triagri.co.id
	Surabaya	CV. Multi Mas Jl. Raden Saleh 43A Kav. 18 Surabaya 60174	Tel. +62 31 5458589 Fax +62 31 5317220 sianhwa@sby.centrin.net.id http://www.cvmultimas.com

Ireland

Sales Service	Dublin	Alpert Engineering Ltd. 48 Moyle Road Dublin Industrial Estate Glasnevin, Dublin 11	Tel. +353 1 830-6277 Fax +353 1 830-6458 http://www.alpert.ie info@alpert.ie
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Israel			
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Drive Center	Bologna	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Via della Grafica, 47 I-40064 Ozzano dell'Emilia (Bo)	Tel. +39 051 65-23-801 Fax +39 02 96 980 499 bologna@sew-eurodrive.it
	Caserta	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Viale Carlo III Km. 23,300 I-81020 S. Nicola la Strada (Caserta)	Tel. +39 0823 219011 Fax +39 02 96 980 599 caserta@sew-eurodrive.it
	Milan	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Via Bernini,14 I-20020 Solaro (Milano)	Tel. +39 02 96 980229 Fax +39 02 96 980 999 milano@sew-eurodrive.it
	Pescara	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Viale Europa,132 I-65010 Villa Raspa di Spoltore (PE)	Tel. +39 085 41-59-427 Fax +39 02 96 980 699 pescara@sew-eurodrive.it
	Turin	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Filiale Torino c.so Unione Sovietica 612/15 - int. C I-10135 Torino	Tel. +39 011 3473780 Fax +39 02 96 980 799 torino@sew-eurodrive.it
	Verona	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Via Antonio Meucci, 5 I-37042 - Caldiero (VR)	Tel. +39 045 89-239-11 Fax +39 02 96 980 814 verona@sew-eurodrive.it
Ivory Coast			
Sales	Abidjan	SEW-EURODRIVE SARL Ivory Coast Rue des Pêcheurs, Zone 3 26 BP 916 Abidjan 26	Tel. +225 21 21 81 05 Fax +225 21 25 30 47 info@sew-eurodrive.ci http://www.sew-eurodrive.ci
Japan			
Assembly Sales Service	Iwata	SEW-EURODRIVE JAPAN CO., LTD 250-1, Shimoman-no, Iwata Shizuoka 438-0818	Tel. +81 538 373811 Fax +81 538 373814 http://www.sew-eurodrive.co.jp sewjapan@sew-eurodrive.co.jp hamamatsu@sew-eurodrive.co.jp
Technical Offices	Fukuoka	SEW-EURODRIVE JAPAN CO., LTD C-go, 5th-floor, Yakuin-Hiruzu-Bldg. 1-5-11, Yakuin, Chuo-ku Fukuoka, 810-0022	Tel. +81 92 713-6955 Fax +81 92 713-6860 fukuoka@sew-eurodrive.co.jp
	Kyoto	SEW-EURODRIVE JAPAN CO., LTD Kyoto Operation Center 9-1-11 Seikadai, Seika-cho, Souraku-gun, Kyoto 619-0238	Tel. +81 774 98-2750 Fax +81 774 93-2100 sewjapan@sew-eurodrive.co.jp
	Osaka	SEW-EURODRIVE JAPAN CO., LTD Higobashi Shimizu Bldg. 10th flor 1-3-7 Tosabori, Nishi-ku Osaka, 550-0001	Tel. +81 6 6444--8330 Fax +81 6 6444--8338 osaka@sew-eurodrive.co.jp
	Tokyo	SEW-EURODRIVE JAPAN CO., LTD Renai Partire Shiodome 5th floor 2-18-3 Higashi-Shinbashi, Minato-Ku, Tokyo 105-0021	Tel. +81 3 3239-0469 Fax +81 3 3239-0943 tokyo@sew-eurodrive.co.jp
Kazakhstan			
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	Tashkent	SEW-EURODRIVE LLP Representative office in Uzbekistan 96A, Sharaf Rashidov street, Tashkent, 100084	Tel. +998 71 2359411 Fax +998 71 2359412 http://www.sew-eurodrive.uz sew@sew-eurodrive.uz
	Ulaanbaatar	SEW-EURODRIVE LLP Representative office in Mongolia Suite 407, Tushig Centre Seoul street 23, Sukhbaatar district, Ulaanbaatar 14250	Tel. +976-77109997 Fax +976-77109997 http://www.sew-eurodrive.mn sew@sew-eurodrive.mn
Technical Offices	Karagandy	SEW-EURODRIVE LLP 82, Molokov Street 100004, Karagandy	Tel. +7 (7212) 955 956 Fax +7 (7212) 955 956 karagandy@sew-eurodrive.kz
	Oskemen	SEW-EURODRIVE LLP 20, Auezov street 070000, Oskemen	Tel. +7 (7232) 913 748 Fax +7 (7232) 913 748 oskemen@sew-eurodrive.kz
Kenya			
representation: Tanzania			
Latvia			
Sales	Riga	SIA Alas-Kuul Katlakalna 11C LV-1073 Riga	Tel. +371 6 7139253 Fax +371 6 7139386 http://www.alas-kuul.lv info@alas-kuul.com
Lebanon			
Sales (Lebanon)	Beirut	Gabriel Acar & Fils sarl B. P. 80484 Bourj Hammoud, Beirut	Tel. +961 1 510 532 Fax +961 1 494 971 ssacar@inco.com.lb
Sales (Jordan, Kuwait , Beirut Saudi Arabia, Syria)		Middle East Drives S.A.L. (offshore) Sin El Fil. B. P. 55-378 Beirut	Tel. +961 1 494 786 Fax +961 1 494 971 http://www.medrives.com info@medrives.com
Lithuania			
Sales	Alytus	UAB Irseva Statybininku 106C LT-63431 Alytus	Tel. +370 315 79204 Fax +370 315 56175 http://www.irseva.lt irmantas@irseva.lt
Luxembourg			
representation: Belgium			
Macedonia			
Sales	Skopje	Boznos DOOEL Dime Anicin 2A/7A 1000 Skopje	Tel. +389 23256553 Fax +389 23256554 http://www.boznos.mk
Madagascar			
Sales	Antananarivo	Ocean Trade BP21bis. Andraharo Antananarivo 101 Madagascar	Tel. +261 20 2330303 Fax +261 20 2330330 oceantrabp@moov.mg
Malaysia			
Assembly Sales Service	Johor	SEW-EURODRIVE SDN BHD No. 95, Jalan Seroja 39, Taman Johor Jaya 81000 Johor Bahru, Johor West Malaysia	Tel. +60 7 3549409 Fax +60 7 3541404 sales@sew-eurodrive.com.my
Technical Offices	Kuala Lumpur	SEW-EURODRIVE SDN BHD No. 2, Jalan Anggerik Mokara 31/46 Kota Kemuning Seksyen 31 40460 Shah Alam Selangor Darul Ehsan West Malaysia	Tel. +60 3 51229633 Fax +60 3 51229622 sewsa@sew-eurodrive.com.my

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Mexiko

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Mongolia

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Namibia

Sales	Swakopmund	DB Mining & Industrial Services Einstein Street Strauss Industrial Park Unit1 Swakopmund	Tel. +264 64 462 738 Fax +264 64 462 734 anton@dbminingnam.com
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Netherlands

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New Zealand

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Technical Office	Palmerston North	SEW-EURODRIVE NEW ZEALAND LTD. C/-Grant Shearman, RD 5, Aronui Road Palmerston North	Tel. +64 6 355-2165 Fax +64 6 355-2316 sales@sew-eurodrive.co.nz

Nigeria

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Norway			
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Paraguay			
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Peru			
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Poland			
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	Service	Tel. +48 42 293 0030 Fax +48 42 293 0043	24 Hour Service Tel. +48 602 739 739 (+48 602 SEW SEW) serwis@sew-eurodrive.pl
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Romania

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Sambia

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	Malmö	SEW-EURODRIVE AB Borrgatan 5 S-211 24 Malmö	Tel. +46 40 680 64 80 Fax +46 40 680 64 93 malmo@sew.se
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	Zürich, Ticino	Gian-Michele Muletta Fischerstrasse 61 CH-8132 Egg bei Zürich	Tel. +41 44 994 81 15 Fax +41 44 994 81 16
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	Nan Tou	Ting Shou Trading Co., Ltd. No. 55 Kung Yeh N. Road Industrial District Nan Tou 540	Tel. +886 49 255353 Fax +886 49 257878 sewtwn@ms63.hinet.net http://www.tingshou.com.tw
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Vietnam

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	Hanoi	MICO LTD Quảng Trị - North Vietnam / All sectors except Construction Materials 8th Floor, Ocean Park Building, 01 Dao Duy Anh St, Ha Noi, Viet Nam	Tel. +84 4 39386666 Fax +84 4 3938 6888 nam_ph@micogroup.com.vn http://www.micogroup.com.vn

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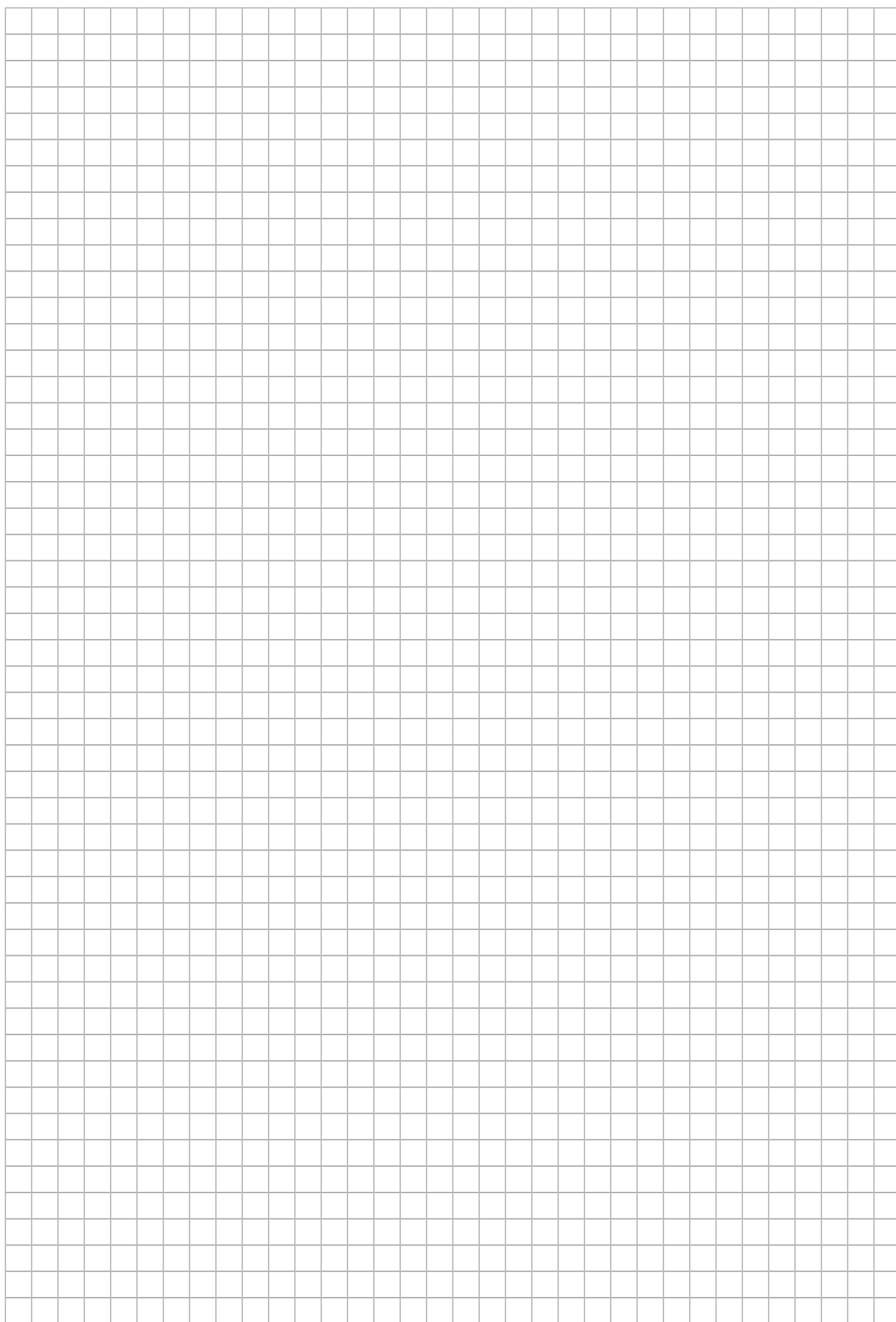
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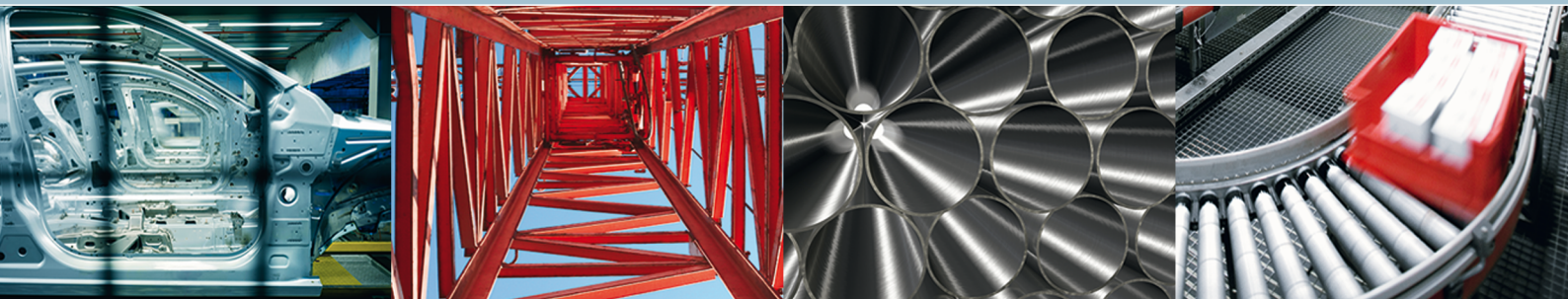
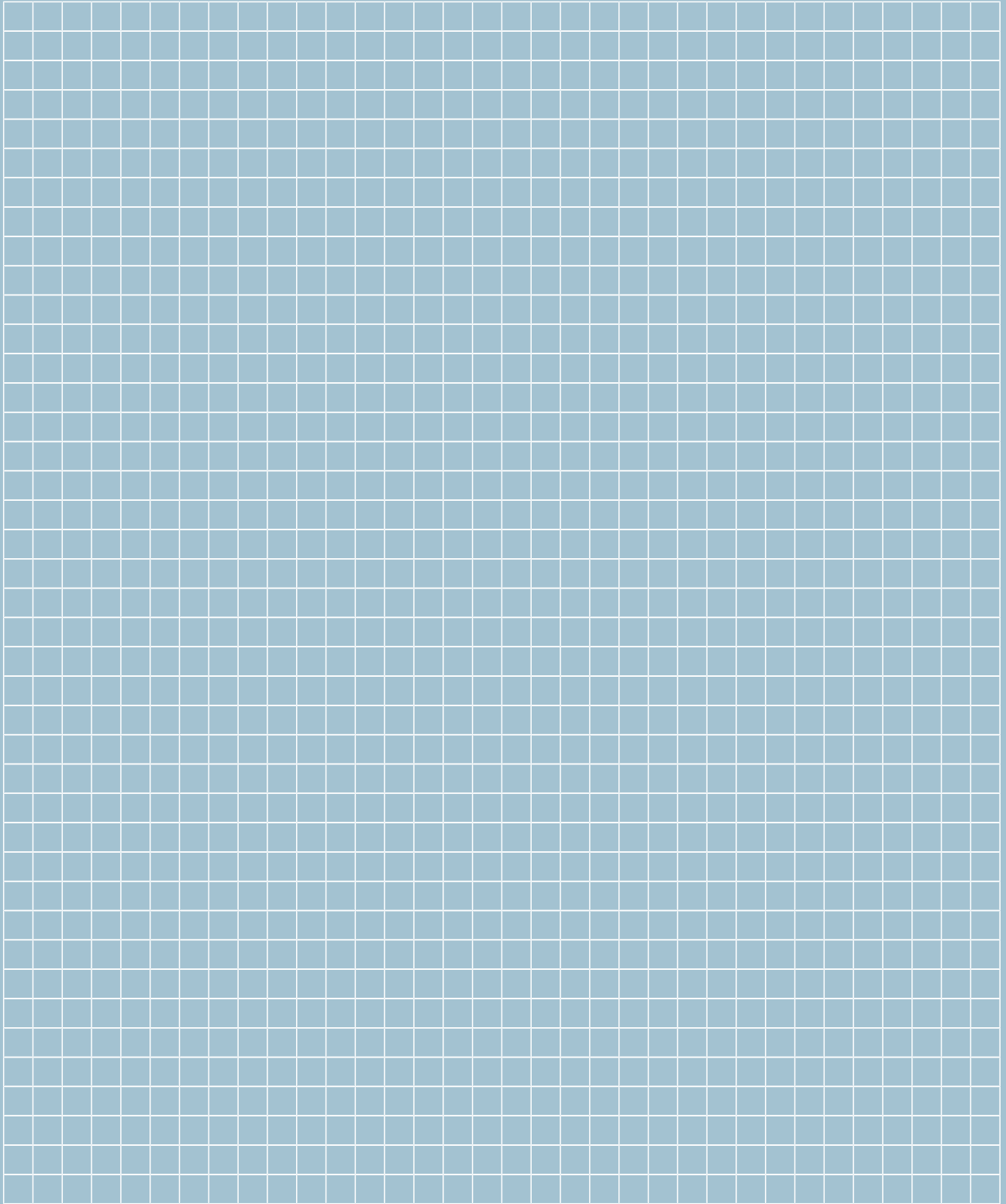
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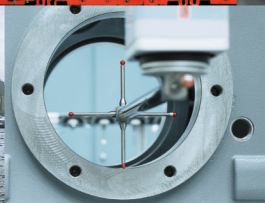
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