SEW EURODRIVE

Catalog

MOVITRAC® LTE-B

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Contents

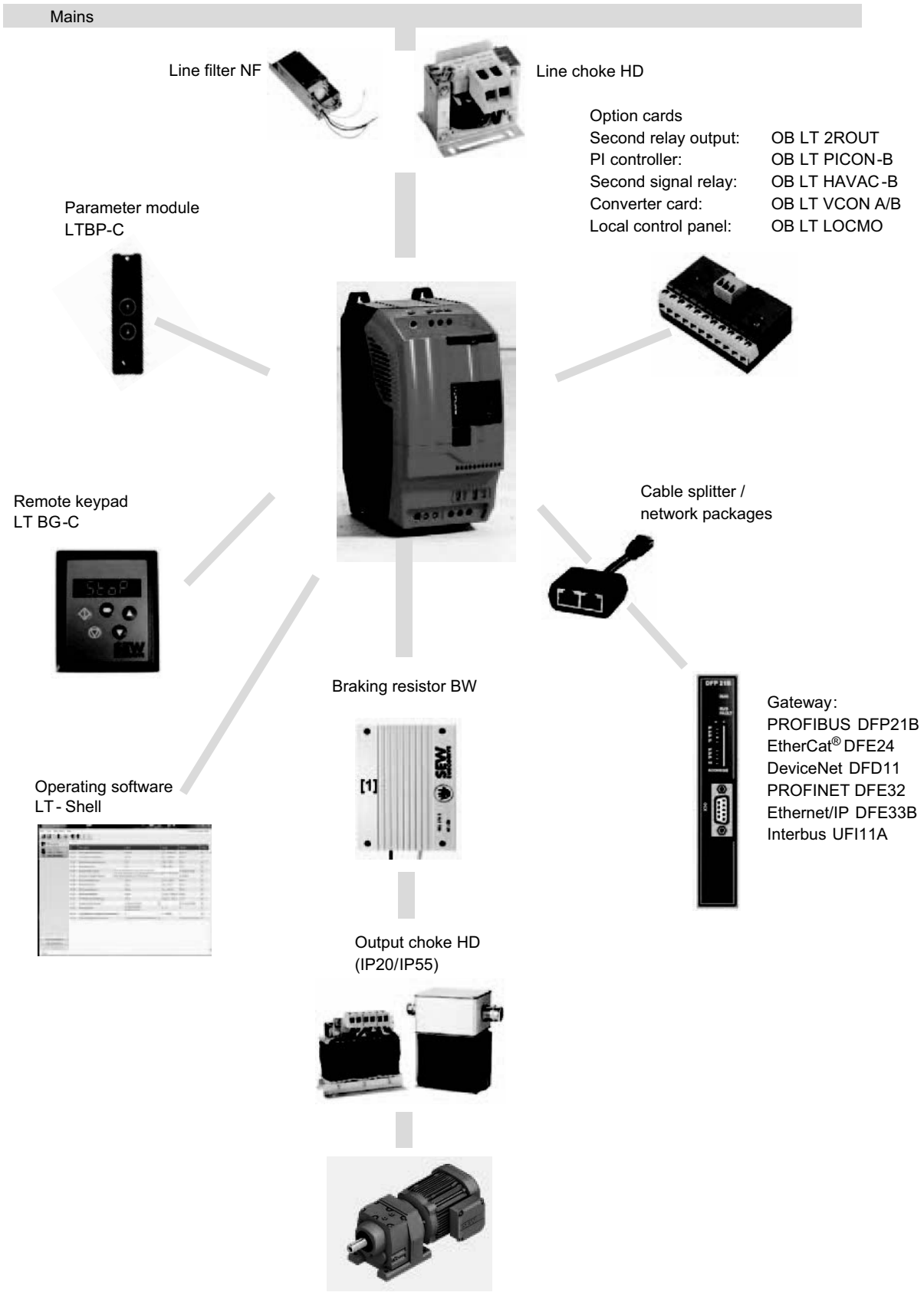
1 System Description

1.1 Technology

The MOVITRAC® LTE-B series consists of a series of products in three sizes for implementing cost efficient and easy to operate drives with 3-phase induction motors in a power range of 0.37 kW to 7.5 kW in IP66 degree of protection, and a power of 11 kW in IP20.

MOVITRAC® LTE-B controls the speed of the motor by means of a voltage/frequency controller. A digital controller combined with the latest IGBT power semiconductor technology makes for a compact and robust solution for universal drive applications. The product is designed for simple operation and installation and therefore offers user-friendly programming and startup. Another advantage is that the overall costs of the drive solution are kept to a minimum.

1.2 System overview of MOVITRAC® LTE-B



1.3 The units at a glance

Whether MOVITRAC® LTE-B is used with or without filter depends on the regulations applicable in the various countries where the product is used.

- Without filter: permitted in America, Asia, and Africa
- With filter: suited for use worldwide

1.3.1 MOVITRAC® LTE-B without filter

Line connection	Motor power	Nominal output current	MOVITRAC® LTE-B (IP20)	Size
115 V 1-phase without filter	0.37 kW / 0.5 PS	2.3 A	MC LTE-B0004-101-1-00	1
	0.75 kW / 1.0 PS	4.3 A	MC LTE-B0008-101-1-00	1
	1.1 kW / 1.5 PS	5.8 A	MC LTE-B0011-101-4-00	2
230 V 1-phase without filter	0.37 kW / 0.5 PS	2.3 A	MC LTE-B0004-201-1-00	1
	0.75 kW / 1.0 PS	4.3 A	MC LTE-B0008-201-1-00	1
	1.5 kW / 2.0 PS	7.0 A	MC LTE-B0015-201-1-00	1
	1.5 kW / 2.0 PS	7.0 A	MC LTE-B0015-201-4-00	2
	2.2 kW / 3.0 PS	10.5 A	MC LTE-B0022-201-4-00	2
	4.0 kW / 5.0 PS	15 A	MC LTE-B0040-201-4-00	3
230 V 3-phase without filter	0.37 kW / 0.5 PS	2.3 A	MC LTE-B0004-203-1-00	1
	0.75 kW / 1.0 PS	4.3 A	MC LTE-B0008-203-1-00	1
	1.5 kW / 2.0 PS	7.0 A	MC LTE-B0015-203-1-00	1
	1.5 kW / 2.0 PS	7.0 A	MC LTE-B0015-203-4-00	2
	2.2 kW / 3.0 PS	10.5 A	MC LTE-B0022-203-4-00	2
	4.0 kW / 5.0 PS	18 A	MC LTE-B0040-203-4-00	3s
400 V 3-phase without filter	0.75 kW / 1.0 PS	2.2 A	MC LTE-B0008-503-1-00	1
	1.5 kW / 2.0 PS	4.1 A	MC LTE-B0015-503-1-00	1
	1.5 kW / 2.0 PS	4.1 A	MC LTE-B0015-503-4-00	2
	2.2 kW / 3.0 PS	5.8 A	MC LTE-B0022-503-4-00	2
	4.0 kW / 5.0 PS	9.5 A	MC LTE-B0040-503-4-00	2
	5.5 kW / 7.5 PS	14.0 A	MC LTE-B0055-503-4-00	3s
	7.5 kW / 10 PS	18.0 A	MC LTE-B0075-503-4-00	3s
	11.0 kW / 15 PS	24.0 A	MC LTE-B0110-503-4-00	3s

1.3.2 MOVITRAC® LTE-B with filter

Line connection	Motor power	Nominal output current	MOVITRAC® LTE-B (IP20)	Size
230 V 1-phase with filter	0.37 kW / 0.5 PS	2.3 A	MC LTE-B0004-2B1-1-00	1
	0.75 kW / 1.0 PS	4.3 A	MC LTE-B0008-2B1-1-00	1
	1.5 kW / 2.0 PS	7.0 A	MC LTE-B0015-2B1-1-00	1
	1.5 kW / 2.0 PS	7.0 A	MC LTE-B0015-2B1-4-00	2
	2.2 kW / 3.0 PS	10.5 A	MC LTE-B0022-2B1-4-00	2
	4.0 kW / 5.0 PS	15 A	MC LTE-B0040-2B1-4-00	3
230 V 3-phase with filter	1.5 kW / 2.0 PS	7.0 A	MC LTE-B0015-2A3-4-00	2
	2.2 kW / 3.0 PS	10.5 A	MC LTE-B0022-2A3-4-00	2
	4.0 kW / 5.0 PS	18 A	MC LTE-B0040-2A3-4-00	3s
400 V 3-phase with filter	0.75 kW / 1.0 PS	2.2 A	MC LTE-B0008-5A3-1-00	1
	1.5 kW / 2.0 PS	4.1 A	MC LTE-B0015-5A3-1-00	1
	1.5 kW / 2.0 PS	4.1 A	MC LTE-B0015-5A3-4-00	2
	2.2 kW / 3.0 PS	5.8 A	MC LTE-B0022-5A3-4-00	2
	4.0 kW / 5.0 PS	9.5 A	MC LTE-B0040-5A3-4-00	2
	5.5 kW / 7.5 PS	14.0 A	MC LTE-B0055-5A3-4-00	3s
	7.5 kW / 10 PS	18.0 A	MC LTE-B0075-5A3-4-00	3s
	11.0 kW / 15 PS	24.0 A	MC LTE-B0110-5A3-4-00	3s

1.4 Grid compatibility

MOVITRAC® LTE-B is designed for direct connection to voltage supply systems used worldwide. The single-phase 115 V voltage doubler operates on a 115 V supply system. The 220 V unit operates on a 220 – 240 V supply system with one or three phases. The three-phase 380 V unit operates on a 380 – 480 V supply system with three phases.

1.5 Markets and applications

The MOVITRAC® LTE-B product series is intended for a wide market and applications that require general speed control. End customers with large quantities as well as OEMs benefit from this series as the time needed for startup is reduced significantly due to the user-friendliness and the innovative mechanical design.

The simple but powerful functions as well as the accessories available make MOVITRAC® LTE-B suited for numerous applications.

Typical applications:

- Pumps for water supply systems, the paper industry, and sewage systems
- Temperature control systems for air-conditioners, energy efficient applications, and refrigeration systems
- Compressors for refrigeration systems and compressed-air systems
- Conveyor belts

1.6 Accessories

- External EMC filter
- Line choke, reduces harmonics and offers additional protection for the drive
- Output choke, improves the output wave shape, for long motor cables
- PI controller for simple back-coupled systems
- Second analog input to toggle between two setpoints
- Second output relay for a second progammable relay output
- Remote keypad
- Gateway DFx
- Braking resistors

INFORMATION

For detailed information on accessories, refer to chapters "Technical Data – Options" (page 26) and "Technical Data – System accessories" (page 42).

1.7 Input voltage ranges

Depending on the model and power range, the drives can be connected directly to the following supply systems:

MOVITRAC® LTE-B size 1, 2 (input voltage 115 V):

115 V ± 10%, 1-phase, 50 – 60 Hz ± 5%

MOVITRAC® LTE-B size 1, 2 and 3s (200 – 240 V):

200 V – 240 V ± 10%, 1-phase[1] / 3-phase, 50 – 60 Hz ± 5%

MOVITRAC® LTE-B size 1, 2 and 3s (380 – 480 V):

380 V – 480 V ± 10%, 3-phase, 50 – 60 Hz ± 5%

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% (mainly in India and parts of the Asia-Pacific region including China), it is recommended that you use input chokes.

1.8 Overload capacity

All MOVITRAC® LTE-B units can be overloaded as follows:

- 150% for 60 seconds
- 175% for 2 seconds

With an output frequency of < 10 Hz, the overload capacity is reduced to 150% for 7.5 seconds.

For adjusting the motor overload, see parameter P08 in the "MOVITRAC® LTE-B" operating instructions.

1.9 Protection functions

- Output short circuit, phase-phase, phase-ground
- Output overcurrent
- Overload protection
- Overvoltage fault
- Undervoltage fault
- Overtemperature fault
- Undertemperature fault
- Line phase failure

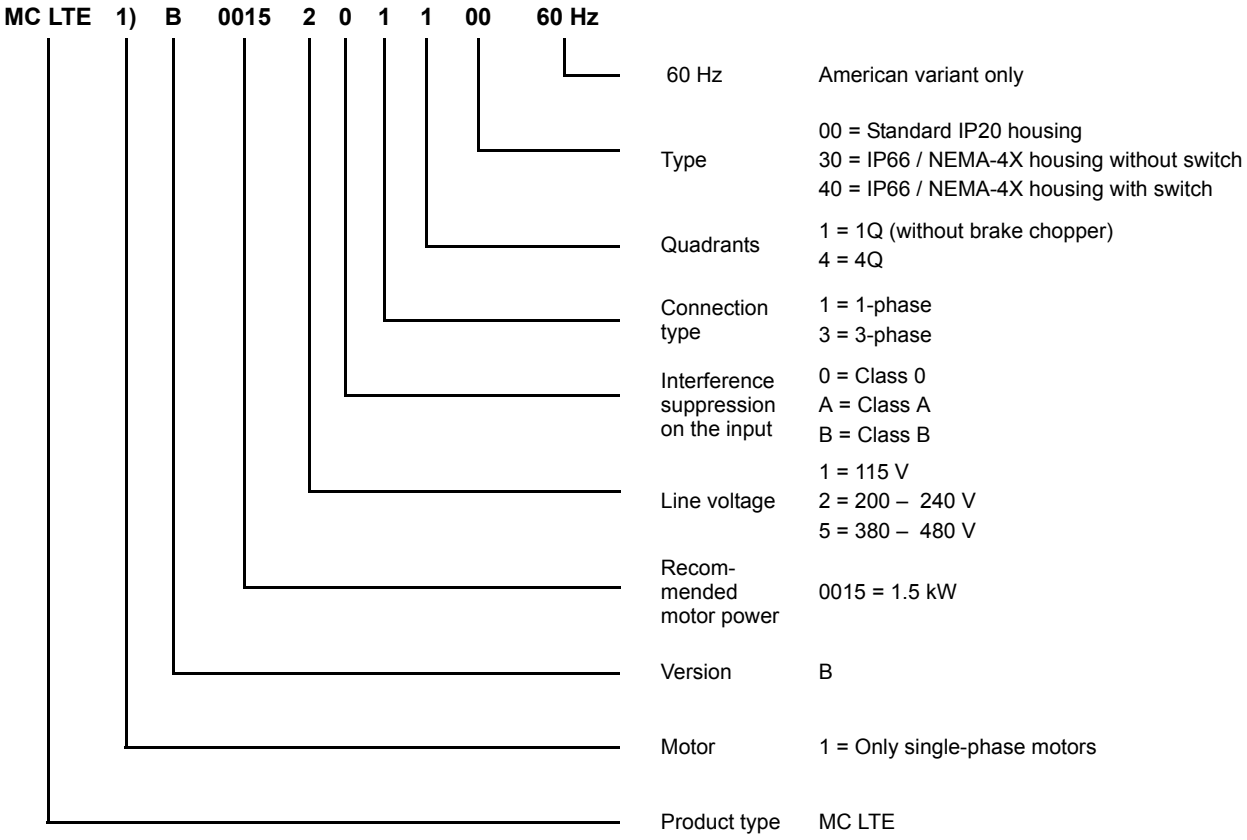
1) A single-phase MOVITRAC® LTE-B can be connected to two phases of a three-phase system with 200 – 240 V.

1.10 Conformity

All products meet the following international standards:

- CE marking according to low voltage directive
- EN 61800-5-1 Safety requirements on adjustable speed electrical power drive systems
- UL 508C power converter
- EN 61800-3 adjustable speed electrical power drive systems
- EN 55011
- Generic standard for interference immunity/interference emission (EMC)
- Degree of protection according to NEMA 250, EN 60529
- Flammability class according to UL 94
- C-Tick
- cUL

1.11 Product designation



1.12 User interface

1.12.1 Keypad

Each MOVITRAC® LTE-B is equipped with a keypad as standard that allows for operating and setting up the drive without any further devices.

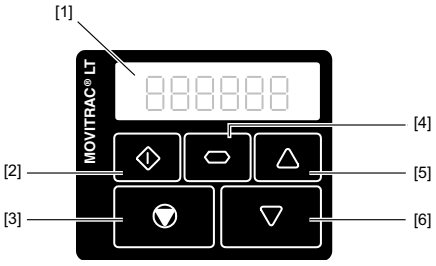
The keypad has five keys with the following functions:

Start/execute	• Motor enable • Direction of rotation reversal if bidirectional keypad mode is active
Stop/reset	• Stops the motor • Acknowledges an error
Navigate	• Shows real-time information • Press and hold to go to or exit parameter edit mode • Saves parameter changes
Up	• Speed increase in real-time mode • Increases the parameter values in parameter edit mode
Down	• Speed decrease in real-time mode • Decreases the parameter values in parameter edit mode

The start and stop keys of the keypad are disabled when the parameters are set to factory setting. To enable the start and stop keys of the keypad, set parameter P-12 to 1 or 2, see "MOVITRAC® LTE-B" operating instructions.

The parameter edit menu can only be accessed by pressing the <Navigate> key [4]. Press and hold this key (> 1 s) to toggle between the parameter edit menu and the real-time display (operating state of the drive/speed).

Press this key briefly (< 1 s) to toggle between the operating speed and operating current of the running drive.



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[1]	Display	[4]	Navigate
[2]	Start	[5]	Up
[3]	Stop/reset	[6]	Down

INFORMATION

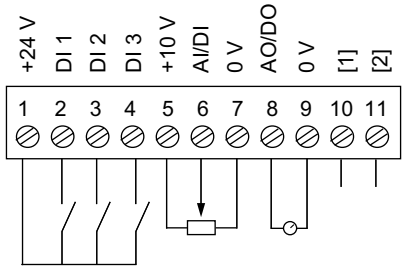
To reset the unit to the factory setting, press the <Up> [5] + <Down> [6] + <Stop> keys [3] simultaneouly for 2 seconds. "P-deF" appears on the display. Press the stop key [3] again to confirm the change and to reset the inverter.

1.12.2 Display

A six-digit 7-segment display is integrated in each drive. It can be used to monitor drive functions and to set parameters.

1.13 Overview of signal terminals

IP20 and IP66



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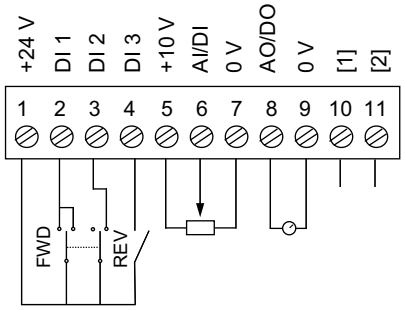
IP66 with switch option



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[1] Relay reference potential

[2] Relay contact

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

Terminal no.	Signal	Connection	Description
1	+24 V ref out	Output +24 V reference voltage	Reference voltage for activating DI1 – DI3 (max. 100 mA)
2	DI 1	Binary 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	Binary input 2	
4	DI 3	Binary input 3 / thermistor contact	
5	+10 V	Output +10 V reference voltage	10 V reference voltage for analog input (Pot. supply +, 10 mA max., 1 k Ω min.)
6	AI / DI	Analog input (12 bit) Binary input 4	0 – 10 V, 0 – 20 mA, 4 – 20 mA "Logic 1" input voltage range: DC 8 – 30 V
7	0 V	0 V reference potential	0 V reference potential for analog input (potential supply -)
8	AO / DO	Analog output (10 bit) Binary output	0 – 10 V, 20 mA analog 24 V, 20 mA digital
9	0 V	0 V reference potential	0 V reference potential for analog output
10	Relay reference potential	Relay reference potential	N.O. contact (AC 250 V / DC 30 V @ 5 A)
11	Relay contact	Relay contact	

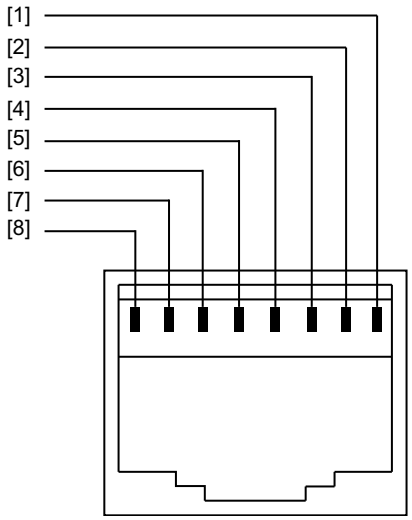
All binary inputs are enabled with an input voltage in the range of 8 V – 30 V. This means they are 24 V compatible.

INFORMATION

The voltage present on the control terminals must not exceed 30 V.

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

1.14 Communication socket RJ45



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[1] Not connected
[2] Not connected
[3] +24 V
[4] RS485+ / internal bus[1)]
[5] RS485- / internal bus[1)]
[6] 0 V
[7] SBus+[2)]
[8] SBus-[2)]

1) The bit format is defined as follows: 1 start bit / 8 data bits / 1 stop bit, no parity
2) P-12 must be set to 3 or 4 for SBus communication, see "MOVITRAC® LTE-B" operating instructions

2 Technical Data – Basic Unit

2.1 Electromagnetic compatibility

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

To ensure best possible electromagnetic compatibility, install the drives as described in the "MOVITRAC® LTE-B" operating instructions.

Ensure proper ground connection for the drive system. Use shielded motor cables to comply with interference emission regulations.

The below table specifies the conditions for using MOVITRAC® LTE-B in drive applications:

Inverter type / power	Cat. C1 (class B)	Cat. C2 (class A)	Cat. C3
230 V, 1-phase LTE-B xxxx 2B1-x-xx	No additional filtering required Use a shielded motor cable		
230 V / 400 V, 3-phase LTE-B xxxx 2A3-x-xx	Use an external filter of the type NF LT 5B3 0xx	No additional filtering required	
LTE-B xxxx 5A3-x-xx	Use a shielded motor cable		

An external filter and a shielded motor cable must be used to meet the requirements for inverters without internal filter:

Inverter type / power	Cat. C1 (class B)	Cat. C2 (class A)	Cat. C3
230 V, 1-phase LTE-B xxxx 201-x-xx	Use an external filter of the type NF LT 2B1 0xx Use a shielded motor cable		
230 V, 3-phase LTE-B xxxx 203-x-xx 400 V, 3-phase LTE-B xxxx 503-x-xx	Use an external filter of the type NF LT 5B3 0xx Use a shielded motor cable		

2.2 Information on ambient conditions

Ambient temperature during operation	-10 to 50 °C for PWM frequency in factory setting (IP20) -10 to 40 °C for PWM frequency in factory setting (IP66, NEMA 4X)
Maximum derating depending on the ambient temperature	4% / 1 °C to 55 °C for IP20 drives 4% / 1 °C to 45 °C for IP66 drives
Ambient temperature during storage	-40 °C to +60 °C
Maximum installation altitude for nominal operation	1000 m
Derating above 1000 m	1% / 100 m to max. 2000 m
Relative humidity	< 95 % (condensation not permitted)
Degree of protection of control cabinet inverter	IP20, NEMA 1
Inverter with high degree of protection	IP66, NEMA 4X

2.3 Output power and current utilization without filter

Whether MOVITRAC® LTE-B is used with or without filter depends on the regulations applicable in the various countries where the product is used.

- Without filter: permitted in America, Asia, and Africa
- With filter: suited for use worldwide

2.3.1 1-phase system AC 115 V for 3-phase AC 230 V motors (voltage doubler)

MOVITRAC® LTE-B – EMC filter class 0					
IP20 Standard	Type	MC LTE B	0004-101-1-00	0008-101-1-00	0011-101-4-00
	Part number		08296839	08296847	08296855
IP66/NEMA-4X housing with switch	Type	MC LTE B...	0004-101-1-40	0008-101-1-40	0011-101-4-40
	Part number		18252540	18252559	18252567
IP66/NEMA-4X housing without switch	Type	MC LTE B...	0004-101-1-30	0008-101-1-30	0011-101-4-30
	Part number		18254640	18254659	18254667
INPUT					
Line voltage V_{line}		V	1 × AC 115 V ± 10%		
Line frequency f_{line}		Hz	50/60 Hz ± 5%		
Input fuse		A	10	16 (15)[1)]	20
Nominal input current		A	6.7	12.5	16.8
OUTPUT					
Recommended motor power		kW	0.37	0.75	1.1
		PS	0.5	1.0	1.5
Output voltage V_{motor}		V	3 × 20 – 250 V (voltage doubler)		
Output current		A	2.3	4.3	5.8
Cross section of motor cable Cu 75C		mm^2	1.5		
		AWG	16		
Max. motor cable length	Shielded	m	25		100
	Unshielded		40		150
GENERAL INFORMATION					
Size		BG	1		2
Heat loss at nominal output power		W	11	22	33
Maximum braking resistance value		Ω	-		47

1) Recommended values for UL compliance

2.3.2 1-phase system AC 230 V for 3-phase AC 230 V motors

MOVITRAC® LTE-B – EMC filter class 0								
IP20 standard[1]	Type	MC LTE B...	0004-201-1-00	0008-201-1-00	0015-201-1-00	0015-201-4-00	0022-201-4-00	0040-201-4-00
	Part number		08296863	08296871	08296898	08296901	08296928	18250394
INPUT								
Line voltage V_{line}		V	1 × AC 200 – 240 V ± 10%					
Line frequency f_{line}		Hz	50/60 Hz ± 5%					
Input fuse		A	10	16	20		32 (35)[2]	40
Nominal input current		A	6.7	12.5	14.8	14.8	22.2	31.7
OUTPUT								
Recommended motor power		kW	0.37	0.75	1.5	1.5	2.2	4
		PS	0.5	1	2	2	3	5
Output voltage V_{motor}		V	3 × 20 – 250 V					
Output current		A	2.3	4.3	7	7	10.5	16
Cross section of motor cable Cu 75C		mm^2	1.5					2.5
		AWG	16					18
Max. motor cable length	Shielded	m	25			100		
	Unshielded		40			150		
GENERAL INFORMATION								
Size		BG	1			2		3
Heat loss at nominal output power		W	11	22	45	45	66	120
Minimum braking resistance value		Ω	-			47		

1) Device for America, Asia, and Africa

2) Recommended values for UL compliance

2.3.3 3-phase system AC 230 V for 3-phase AC 230 V motors

MOVITRAC® LTE-B – EMC filter class 0								
IP20 standard[1]	Type	MC LTE B...	0004-203-1-00	0008-203-1-00	0015-203-1-00	0015-203-4-00	0022-203-4-00	0040-203-4-00
	Part number		08296936	08296944	08296952	08296960	08296979	08296987
INPUT								
Line voltage V_{line}		V	3 × AC 200 – 240 V ± 10%					
Line frequency f_{line}		Hz	50/60 Hz ± 5%					
Input fuse		A	6	10	16 (15)[2]		20	32 (35)[2]
Nominal input current		A	3	5.8	9.2		13.7	20.7
OUTPUT								
Recommended motor power		kW	0.37	0.75	1.5	1.5	2.2	4.0
		PS	0.5	1	2	2	3	5
Output voltage V_{motor}		V	3 × 20 – 250 V					
Output current		A	2.3	4.3	7	7	10.5	18
Cross section of motor cable Cu 75C		mm^2	1.5					2.5
		AWG	16					12
Max. motor cable length	Shielded	m	25			100		
	Unshielded		40			150		
GENERAL INFORMATION								
Size		BG	1			2		3s
Heat loss at nominal output power		W	11	22	45		66	120
Minimum braking resistance value		Ω	-			47		

1) Device for America, Asia, and Africa

2) Recommended values for UL compliance

2.3.4 3-phase system AC 400 V for 3-phase AC 400 V motors

Sizes 1 and 2

MOVITRAC® LTE-B – EMC filter class 0							
IP20 standard[1]	Type	MC LTE B...	0008-503-1-00	0015-503-1-00	0015-503-4-00	0022-503-4-00	0040-503-4-00
	Part number		08296995	08297002	08297010	08297029	08297037
INPUT							
Line voltage V_{line}		V	3 × AC 380 – 480 V ± 10%				
Line frequency f_{line}		Hz	50/60 Hz ± 5%				
Input fuse		A	5	10			16 (15)[2]
Nominal input current		A	2.9	5.4		7.6	12.4
OUTPUT							
Recommended motor power		kW	0.75	1.5	1.5	2.2	4
		PS	1	2	2	3	5
Output voltage V_{motor}		V	3 × 20 – 480 V				
Output current		A	2.2	4.1	4.1	5.8	9.5
Cross section of motor cable Cu 75C		mm^2	1.5				
		AWG	16				
Max. motor cable length	Shielded	m	25		50		
	Unshielded		40		75		
GENERAL INFORMATION							
Size		BG	1		2		
Heat loss at nominal output power		W	22	45		66	120
Minimum braking resistance value		Ω	-		100		

1) Device for America, Asia, and Africa

2) Recommended values for UL compliance

Size 3

MOVITRAC® LTE-B – EMC filter class 0					
IP20 standard[1]	Type	MC LTE B...	0055-503-4-00	0075-503-4-00	0110-503-4-00
	Part number		08297045	08297053	08299218
INPUT					
Line voltage V_{line}		V	3 × AC 380 – 480 V ± 10%		
Line frequency f_{line}		Hz	50/60 Hz ± 5%		
Input fuse		A	20	25	32 (35)[2]
Nominal input current		A	16.1	20.7	27.1
OUTPUT					
Recommended motor power		kW	5.5	7.5	11
		PS	7.5	10	15
Output voltage V_{motor}		V	3 × 20 – 480 V		
Output current		A	14	18	24
Cross section of motor cable Cu 75C		mm^2	2.5		4
		AWG	12		10
Max. motor cable length	Shielded	m	100		
	Unshielded		150		
GENERAL INFORMATION					
Size		BG	3s		
Heat loss at nominal output power		W	165	225	330
Minimum braking resistance value		Ω	47		

1) Device for America, Asia, and Africa

2) Recommended values for UL compliance

2.4 Output power and current utilization with filter

Whether MOVITRAC® LTE-B is used with or without filter depends on the regulations applicable in the various countries where the product is used.

- With filter: suited for use worldwide
- Without filter: permitted in America, Asia, and Africa

2.4.1 1-phase system AC 230 V for 3-phase AC 230 V motors

MOVITRAC® LTE-B – EMC filter class B								
IP20 standard with filter[1)]	Type	MC LTE B...	0004-2B1-1-00	0008-2B1-1-00	0015-2B1-1-00	0015-2B1-4-00	0022-2B1-4-00	0040-2B1-4-00
	Part number		08297061	08297088	08297096	08297118	08297126	18250424
IP66/NEMA-4X housing with switch and filter[1)]	Type	MC LTE B...	0004-2B1-1-40	0008-2B1-1-40	0015-2B1-1-40	0015-2B1-4-40	0022-2B1-4-40	0040-2B1-4-40
	Part number		18251013	18251021	18251048	18251056	18251064	18251072
IP66/NEMA-4X housing without switch and with filter[1)]	Type	MC LTE B...	0004-2B1-1-30	0008-2B1-1-30	0015-2B1-1-30	0015-2B1-4-30	0022-2B1-4-30	0040-2B1-4-30
	Part number		18254675	18254683	18254691	18254705	18254713	18254721
INPUT								
Line voltage V_{line}		V	1 × AC 200 – 240 V ± 10%					
Line frequency f_{line}		Hz	50/60 Hz ± 5%					
Input fuse		A	10	16	20		32 (35)[2)]	40
Nominal input current		A	6.7	12.5	14.8	14.8	22.2	31.7
OUTPUT								
Recommended motor power		kW	0.37	0.75	1.5	1.5	2.2	4
		PS	0.5	1	2	2	3	5
Output voltage V_{motor}		V	3 × 20 – 250 V					
Output current		A	2.3	4.3	7	7	10.5	16
Cross section of motor cable Cu 75C		mm^2	1.5					2.5
		AWG	16					18
Max. motor cable length	Shielded	m	25			100		
	Unshielded		40			150		
GENERAL INFORMATION								
Size		BG	1			2		3
Heat loss at nominal output power		W	11	22	45	45	66	120
Minimum braking resistance value		Ω	-			47		

1) Device for Europe, Australia, and New Zealand

2) Recommended values for UL compliance

2.4.2 3-phase system AC 230 V for 3-phase AC 230 V motors

MOVITRAC® LTE-B – EMC filter class A					
IP20 standard with filter[1]	Type	MC LTE B...	0015-2A3-4-00	0022-2A3-4-00	0040-2A3-4-00
	Part number		08297134	08297142	08297150
IP66/NEMA 4X with switch and filter[1]	Type	MC LTE B...	0015-2A3-4-40	0022-2A3-4-40	0040-2A3-4-40
	Part number		18251110	18251129	18251137
IP66/NEMA 4X without switch and with filter[1]	Type	MC LTE B...	0015-2A3-4-30	0022-2A3-4-30	0040-2A3-4-30
	Part number		18254748	18254756	18254764
INPUT					
Line voltage V_{line}		V	3 × AC 200 – 240 V ± 10%		
Line frequency f_{line}		Hz	50/60 Hz ± 5%		
Input fuse		A	16 (15)[2]	20	32 (35)[2]
Nominal input current		A	9.2	13.7	20.7
OUTPUT					
Recommended motor power		kW	1.5	2.2	4.0
		PS	2	3	5
Output voltage V_{motor}		V	3 × 20 – 250 V		
Output current		A	7	10.5	18
Cross section of motor cable Cu 75C		mm^2	1.5		2.5
		AWG	16		12
Max. motor cable length	Shielded	m	100		
	Unshielded		150		
GENERAL INFORMATION					
Size		BG	2		3s
Heat loss at nominal output power		W		66	120
Minimum braking resistance value		Ω	47		

1) Device for Europe, Australia, and New Zealand

2) Recommended values for UL compliance

2.4.3 3-phase system AC 400 V for 3-phase AC 400 V motors

Sizes 1 and 2

MOVITRAC® LTE-B – EMC filter class A							
IP20 standard with filter[1]	Type	MC LTE B...	0008-5A3-1-00	0015-5A3-1-00	0015-5A3-4-00	0022-5A3-4-00	0040-5A3-4-00
	Part number		08297169	08297177	08297185	08297193	08297207
IP66/NEMA 4X with switch and filter[1]	Type	MC LTE B...	0008-5A3-1-40	0015-5A3-1-40	0015-5A3-4-40	0022-5A3-4-40	0040-5A3-4-40
	Part number		18251145	18251153	18251161	18251188	18251196
IP66/NEMA 4X without switch and with filter[1]	Type	MC LTE B...	0008-5A3-1-30	0015-5A3-1-30	0015-5A3-4-30	0022-5A3-4-30	0040-5A3-4-30
	Part number		18254772	18254780	18254799	18254802	18254810
INPUT							
Line voltage V_{line}		V	3 × AC 380 – 480 V ± 10%				
Line frequency f_{line}		Hz	50/60 Hz ± 5%				
Input fuse		A	5	10			16 (15)[2]
Nominal input current		A	2.9	5.4		7.6	12.4
OUTPUT							
Recommended motor power		kW	0.75	1.5	1.5	2.2	4
		PS	1	2	2	3	5
Output voltage V_{motor}		V	3 × 20 – 480 V				
Output current		A	2.2	4.1	4.1	5.8	9.5
Cross section of motor cable Cu 75C		mm^2	1.5				
		AWG	16				
Max. motor cable length	Shielded	m	25		50		
	Unshielded		40		75		
GENERAL INFORMATION							
Size		BG	1		2		
Heat loss at nominal output power		W	22	45		66	120
Minimum braking resistance value		Ω	-		100		

1) Device for Europe, Australia, and New Zealand

2) Recommended values for UL compliance

Size 3

MOVITRAC® LTE-B – EMC filter class A					
IP20 standard with filter[1]	Type	MC LTE B...	0055-5A3-4-00	0075-5A3-4-00	0110-5A3-4-00
	Part number		08297215	08297223	08299196
IP66/NEMA 4X with switch and filter[1]	Type	MC LTE B...	0055-5A3-4-40	0075-5A3-4-40	-
	Part number		18251218	18251226	-
IP66/NEMA 4X without switch and with filter[1]	Type	MC LTE B...	0055-5A3-4-30	0075-5A3-4-30	-
	Part number		18254829	18254837	-
INPUT					
Line voltage V_{line}		V	3 × AC 380 – 480 V ± 10%		
Line frequency f_{line}		Hz	50/60 Hz ± 5%		
Input fuse		A	20	25	32 (35)[2]
Nominal input current		A	16.1	20.1	27.1
OUTPUT					
Recommended motor power		kW	5.5	7.5	11
		PS	7.5	10	15
Output voltage V_{motor}		V	3 × 20 – 480 V		
Output current		A	14	18	24
Cross section of motor cable Cu 75C		mm^2	2.5		4
		AWG	12		10
Max. motor cable length	Shielded	m	100		
	Unshielded		150		
GENERAL INFORMATION					
Size		BG	3s		
Heat loss at nominal output power		W	165	225	330
Minimum braking resistance value		Ω	47		

1) Device for Europe, Australia, and New Zealand

2) Recommended values for UL compliance

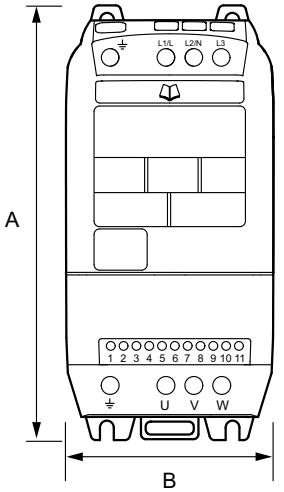
2.5 Dimensions

MOVITRAC® LTE-B is available in two housing variants:

- Standard IP20 housing for use in control cabinets
- IP66 / NEMA 4X

The IP66 / NEMA-4X housing is protected against moisture and dust. This allows for operating the inverter indoors under difficult conditions. The inverters are identical with respect to electronics. They differ only in the dimensions of the housing and in the weight.

2.5.1 Dimensions of the IP20 housing



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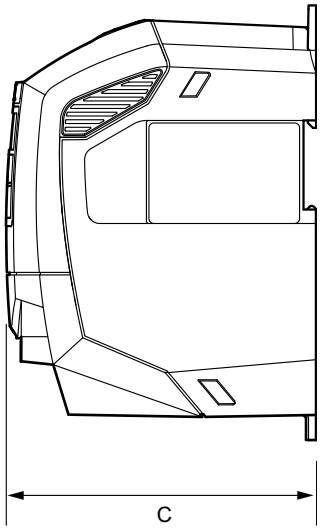

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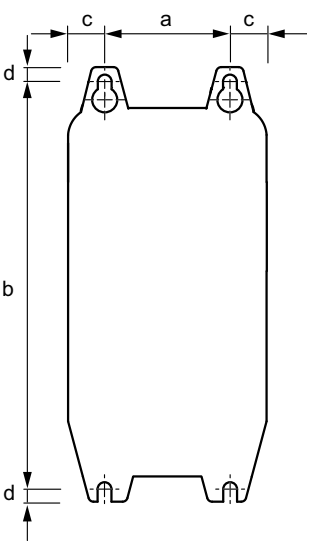

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Dimensions	Unit	Size 1	Size 2	Size 3
Height (A)	mm	174	220	261
	in	6.85	8.66	10.28
Width (B)	mm	79	104	126
	in	3.11	4.10	4.96
Depth (C)	mm	122.6	150	178
	in	4.83	5.90	7.01
Weight	kg	1.1	2.0	4.5
	lb	2.43	4.40	10.0
a	mm	50.0	63.0	80.0
	in	1.97	2.48	3.15
b	mm	162	209.0	247
	in	6.38	8.23	9.72
c	mm	16	23	25.5
	in	0.63	0.91	1.02
d	mm	5.0	5.25	7.25
	in	0.2	0.21	0.29

Table continued on next page.

Dimensions	Unit	Size 1	Size 2	Size 3
Tightening torque for terminals	Nm	1.0	1.0	1.0
	lb.in	8.85	8.85	8.85
Recommended screws		4 × M4	4 × M4	4 × M4

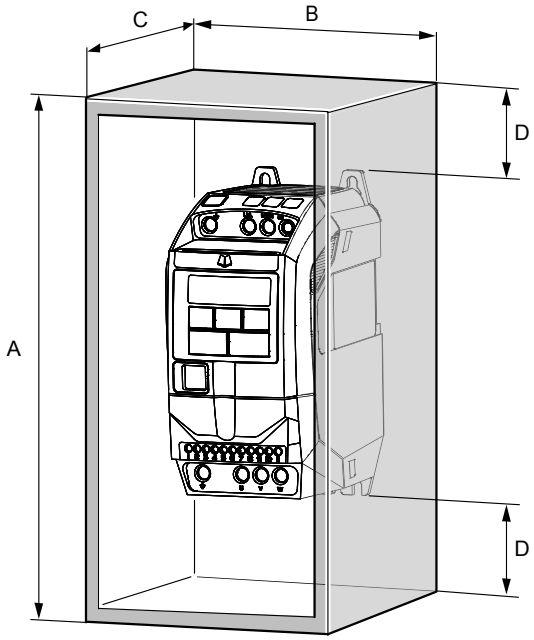
2.5.2 IP20 housing: Installation and control cabinet dimensions

For applications that require a higher IP protection level than the IP20 degree of protection of the standard housing, the inverter must be installed in a control cabinet. In this case, observe the following guidelines:

- The control cabinet must be made of a heat conductive material unless it has forced cooling.
- When using a control cabinet with ventilation openings, the openings must be provided above and underneath the inverter to allow for unobstructed circulation of air. The air must be supplied underneath the inverter and dissipated above the inverter.
- If the environment contains dirt particles (e.g. dust), a suitable particle filter must be attached to the ventilation openings and forced cooling 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.

Dimensions of metal cabinet without ventilation openings

Power rating		Sealed control cabinet							
		A		B		C		D	
		mm	in	mm	in	mm	in	mm	in
Size 1	0.37 kW, 0.75 kW 115 V 0.37 kW, 0.75 kW 230 V	300	11.81	250	9.84	200	7.87	50	1.97
Size 1	1.5 kW 230 V 0.75 kW, 1.5 kW 400 V	400	15.75	300	11.81	250	9.84	75	2.95
Size 2	1.1 kW 115 V 1.5 kW 230 V 1.5 kW, 2.2 kW 400 V	400	15.75	300	11.81	300	11.81	60	2.36
Size 2	2.2 kW 230 V 4.0 kW 400 V	600	23.62	450	17.72	300	11.81	100	3.94



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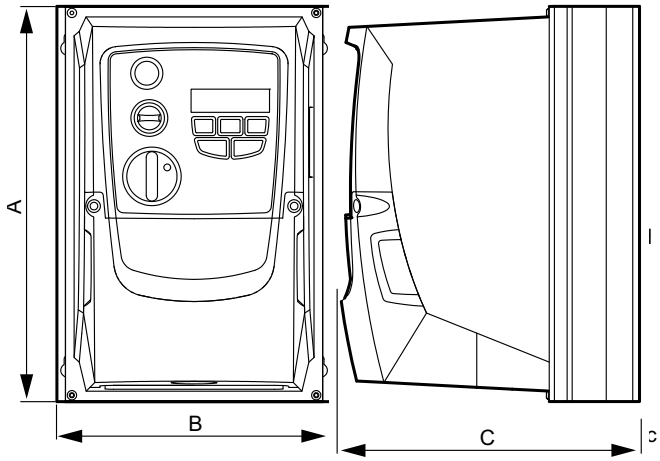
Dimensions of control cabinet with ventilation openings

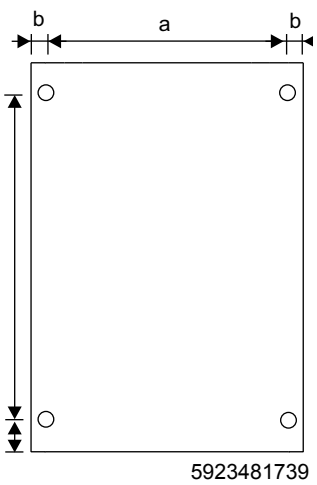
Drive power		Control cabinet with ventilation openings							
		A		B		C		D	
		mm	in	mm	in	mm	in	mm	in
Size 1	All power ranges	400	15.75	300	11.81	150	5.91	75	2.95
Size 2	All power ranges	600	23.62	400	15.75	250	9.84	100	3.94
Size 3	All power ranges	800	31.5	600	23.62	300	11.81	150	5.91

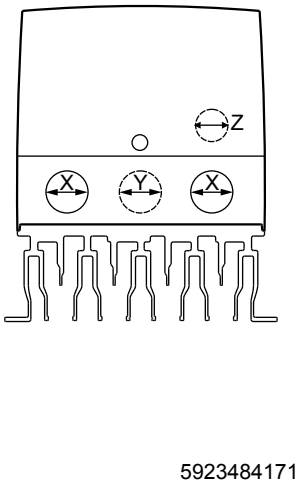
Dimensions of control cabinet with forced cooling

Drive power		Control cabinet with forced cooling (with fan)								
		A		B		C		D		
		mm	in	mm	in	mm	in	mm	in	Flow rate
Size 1	All power ranges	300	11.81	200	7.87	150	5.91	75	2.95	> 15 m^3/h
Size 2	All power ranges	400	15.75	300	11.81	250	9.84	100	3.94	> 45 m^3/h
Size 3	All power ranges	600	23.62	400	15.75	250	9.84	150	5.91	> 80 m^3/h

2.5.3 Dimensions of IP66/NEMA-4X housing







Dimensions		Size 1	Size 2	Size 3
Height (A)	mm	232	257	310
	in	9.13	10.12	12.20
Width (B)	mm	161	188	210.5
	in	6.34	7.4	8.29
Depth (C)	mm	179	186.5	228.7
	in	7.05	7.34	9
Weight	kg	2.8	4.6	7.4
	lb	6.2	10.1	16.3
a	mm	148.5	176	197.5
	in	5.85	6.93	7.78
b	mm	6.25	6	6.5
	in	0.25	0.24	0.26
c	mm	25	28.5	33.4
	in	0.98	1.12	1.31
d	mm	189	200	251.5
	in	7.44	7.87	9.9
Tightening torque for power terminals	Nm	1	1	1
	lb.in	8.85	8.85	8.85
Tightening torque for control terminals	Nm	0.5	0.5	0.5
	lb.in	4.43	4.43	4.43
Recommended screw size		4 × M4	4 × M4	4 × M4

3 Technical Data – Options

3.1 Remote keypad option LT BG-C

Type	Part number
LT BG-C	1824 1522

The MOVITRAC® LTE-B basic unit is equipped with an integrated keypad. However, some applications require an additional keypad at some distance away from the inverter. The keypad option comes equipped with a self-adhesive gasket and a 3 m cable, which is plugged into the RJ45 socket of MOVITRAC® LTE-B.

The maximum cable length between keypad and inverter is 25 m for unshielded cables, and 100 m for shielded cables.

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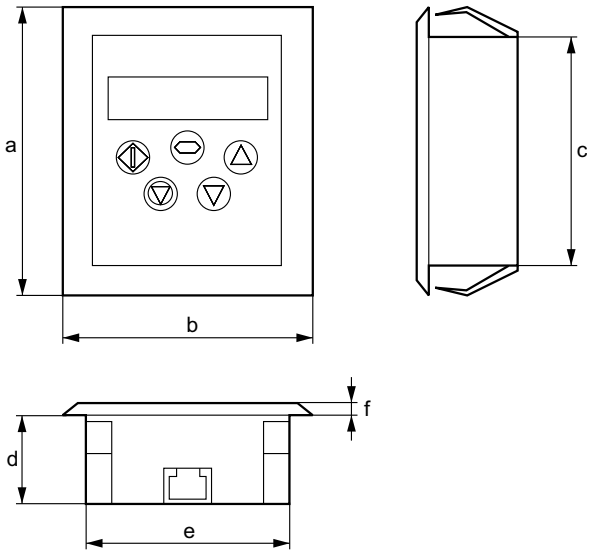
3.1.1 Installation in the control cabinet door or control panel

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



Dimension drawing

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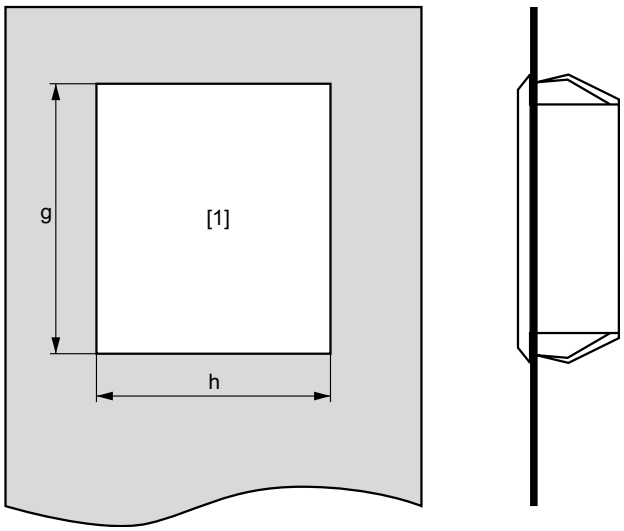

Recess for control cabinet installation

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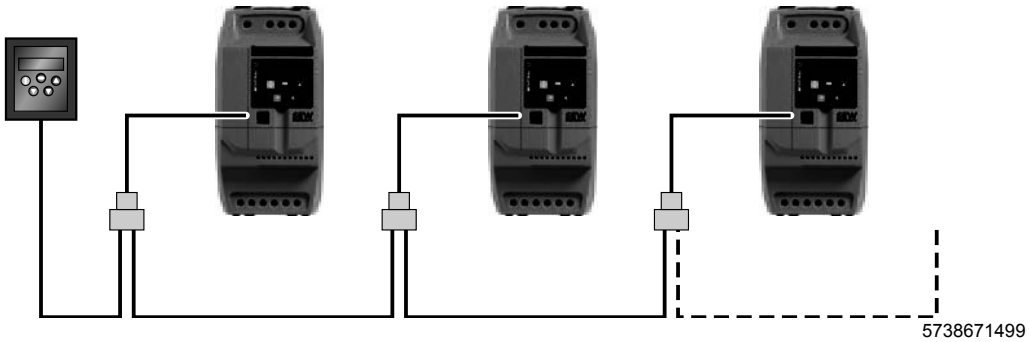
a	81 mm	f	3 mm
b	55 mm	g	70 mm
c	65 mm	h	55 mm
d	21 mm	1	Recess
e	55 mm		



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A keypad for controlling up to 63 drives can be installed in a network.

The length of all the cables in the network must not exceed 25 m for unshielded cables, and 100 m for shielded cables.

3.2 Network connection packages

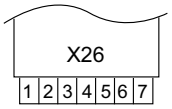
Network connection packages are available that contain all the parts required for network connection of MOVITRAC® LTE-B or LTP-B with a gateway in UOx housing.

3.2.1 Basic set (cable set A)

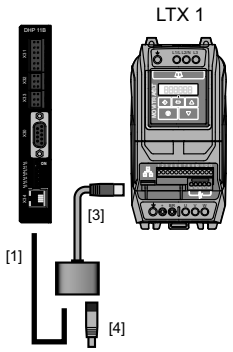
The basic set includes the basic configuration.

Quantity	Description	Part number
1	RJ45 open end cable	2820 2554
1	Cable splitter	
1	Terminating connector	

Connect the RJ45 open end cable to the 7-pin connector of the MOVI-PLC® or gateway.

Side view, Stand-alone unit	Description	Terminal		Connection to RJ45 connector
 2108496651	X26 connector: CAN 1 and voltage supply (plug-in terminal)	X26:1	CAN 1H	SBus +
		X26:2	CAN 1L	SBus –
		X26:3	DGND	0 V
		X26:4	Reserved	–
		X26:5	Reserved	–
		X26:6	DGND	–
		X26:7	DC 24 V	–

The terminating connector has to be connected to the last drive in the network.



[1] RJ45 open end cable
[2] RJ45 cable
[3] Cable splitter
[4] Terminating plug

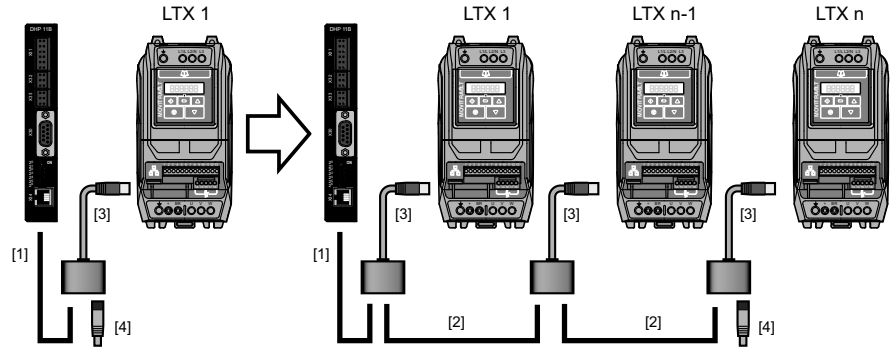
3.2.2 Extension set (cable set B)

The extension set is used in addition to the basic set (A) to connect further drives to the network.

Quantity	Description	Part number	
		0.5 m	1 m
1	Cable splitter	2820 2546	2820 2562
1	Variable length cable between drives		

3.2.3 Example

The following figure shows a network of 3 drives connected to a gateway.

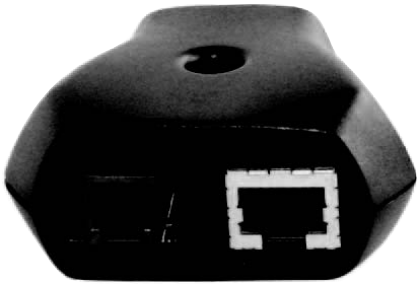


[1] RJ45 open end cable
[2] RJ45 cable
[3] Cable splitter
[4] Terminating plug

Package type	Quantity	Description	Part number
A	1	Basic package for gateway-drive connection	1840 8095
B	1	Extension set 1 m	1840 8117
B	1	Extension set 0.5 m	1840 8109

3.2.4 PC engineering package (cable set C)

The PC engineering package (C) includes all the components required for connection to a network with MOVITRAC® LTE-B, LTP-B, LTP-A or MOVIFIT® basic via RS-485.



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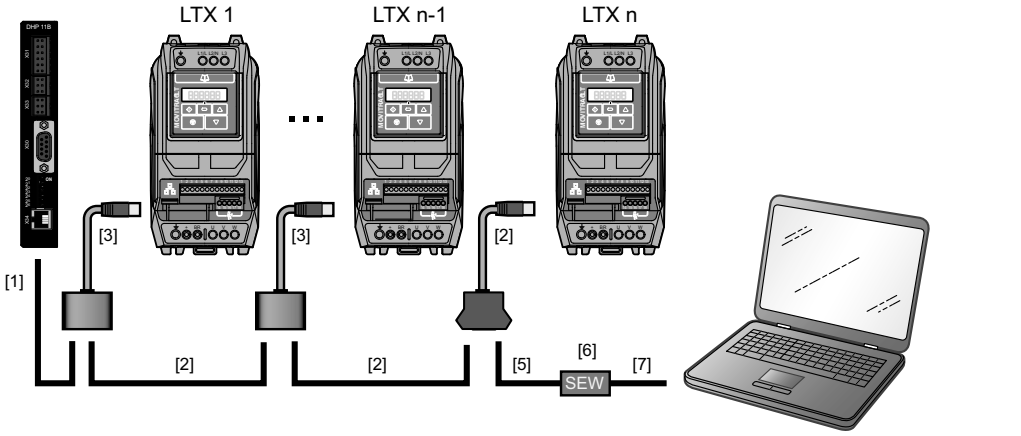
Quantity	Description	Part number
1	RJ converter	1824 3681
1	1 × RJ45 to RJ45 cable	
1	1 × RJ45 to RJ11 cable	



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[1] RJ45 open end cable
[2] RJ45 cable
[3] Cable splitter
[4] Terminating plug
[5] RJ11 cable
[6] USB11A
[7] USB A to B cable

In an SBus network, the terminating connector or RJ converter also contains a terminating resistor. If the PC engineering set (C) is used in conjunction with the basic set (A), the terminating connector must be replaced with the RJ converter.

The RJ10 (4 pin connector) must be connected to the USB11A.

If the PC engineering set is used for MOVITRAC® LTP-A or MOVIFIT® basic, the RJ45 to RJ11 cable has to be used to establish the connection to the drive.

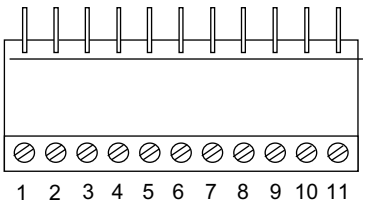
3.3 Second relay output

Type	Part number
OB LT 2ROUT	1822 3168

The second relay output is suited for applications where the analog output of MOVITRAC® LTE-B is to be converted to a relay output.

It is used when two relay outputs are required. The functions of the relay can be programmed in MOVITRAC® LTE-B. Possible functions:

- Drive enabled
- Drive ok
- Drive turns at setpoint speed
- Drive at standstill
- Drive turns at maximum speed
- Motor overload



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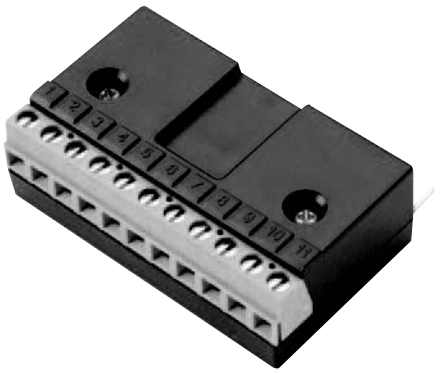

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Terminal no.	Signal	Connection	Description
1	+24 V	Output +24 V reference voltage	Reference voltage for activating DI1-DI3 (max. 100 mA)
2	DI 1	Binary input 1	Positive logic "Logic 1" input voltage range: DC 8 – 30 V "Logic 0" input voltage range: DC 0 – 2 V Compatible with PLC requirement if 0 V are present.
3	DI 2	Binary input 2	
4	DI 3	Binary input 3 / thermistor contact	
5	+10 V	Output +10 V reference voltage	10 V reference voltage for analog input (potential supply +, 10mA max., 1 K Ω min.)
6	AI / DI	Analog input (12 bit) Binary input 4	0 – 10 V, 0 – 20 mA, 4 – 20 mA "Logic 1" input voltage range: DC 8 – 30 V
7	0 V	0 V reference potential	0 V reference potential for analog input (potential supply -)

Table continued on next page.

Terminal no.	Signal	Connection	Description
8	Relay contact 2	Relay contact	N.O. (AC 250 V / DC 30 V @ 5 A)
9	Relay reference potential 2	Relay reference potential	
10	Relay contact 1	Relay contact	N.O. (AC 250 V / DC 30 V @ 5 A)
11	Relay reference potential 1	Relay reference potential	

INFORMATION

Once the printed circuit board is installed and completely connected to an IP66/NEMA-4X drive, it has to be slightly bent downwards to being able to close the front cover. The function of the printed circuit board is not affected by doing so.

3.3.1 Specification

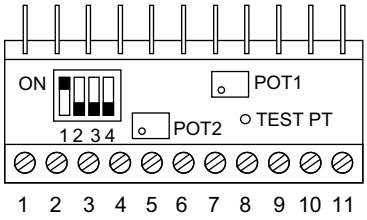
Maximum relay switching voltage		AC 250 V / DC 220 V
Maximum relay switching current		1 A
Conformity		IP00, UL94V-0
Ambient temperature		-10 to +50 °C
Dimensions	mm	56 × 24 (without pins) × 14
	in	2.20 × 0.98 (without pins) × 0.56

3.4 PI controller

Type	Part number
OB LT PICON-B	1821 8172

Main advantages:

- Small dimensions
- Encapsulated housing makes the controller robust and protects the environment
- Minimum configuration for fast and simple startup
  - Integrating gain is set using two switches
  - Proportional gain is set using potentiometer
- Integrated reference potentiometer to easily configure the feedback reference point.



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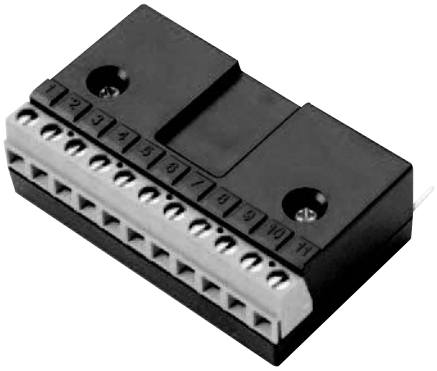

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Terminal no.	Signal	Connection	Description
1	+24 V	Output +24 V reference voltage	Reference voltage for activating DI1-DI3 (max. 100 mA)
2	DI 1	Binary input 1	Positive logic "Logic 1" input voltage range: DC 8 - 30 V "Logic 0" input voltage range: DC 0 - 2 V Compatible with PLC requirement if 0 V are present.
3	DI 2	Binary input 2	
4	DI 3	Binary input 3 / thermistor contact	
5	+10 V	Output +10 V reference voltage	10 V reference voltage for analog input
6	AI1	Analog input (12 bit)	0 – 10 V, 0 – 20 mA, 4 – 20 mA, reference, setpoint
7	AF	Analog feedback input	Feedback input PI reference, feedback, actual value
8	AO/DO	Analog output (10 bit) Binary output	0 – 10 V, 20 mA analog, correcting variable 24 V / 20 mA digital, correcting variable
9	0 V	0 V reference potential	
10	Relay contact	Relay contact	N.O. (AC 250 V / DC 30 V @ 5 A)
11	Relay reference potential	Relay reference potential	

INFORMATION

Once the printed circuit board is installed and completely connected to an IP66/NEMA-4X drive, it has to be slightly bent downwards to being able to close the front cover. The function of the printed circuit board is not affected by doing so.

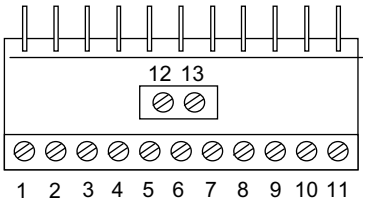
3.4.1 Specification

Input, reference, setpoint		± 10 V or 4 – 20 mA
Proportional gain range		0.2 – 30
Feedback input, feedback, actual value		± 10 V or 4 – 20 mA
Conformity		IP00, UL90V-0
Ambient temperature		-10 to +50 °C
Dimensions	mm	56 × 33 (without pins) × 16
	in	2.20 × 1.31 × 0.64

3.5 Two signal relays

Type	Part number
OB LT HVAC-B	1821 8180

The HVAC relay option module is suited for applications where two indications are needed: "Drive running" and "Drive disabled".



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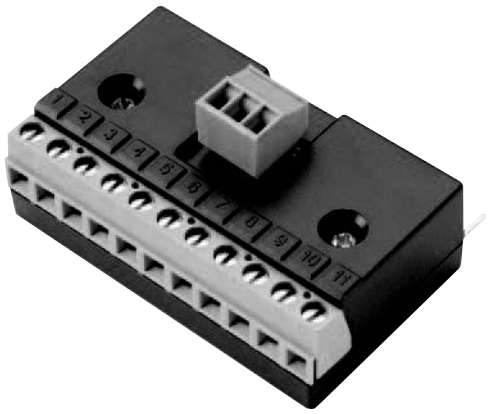

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Terminal no.	Signal	Connection	Description
1	+24 V	Output +24 V reference voltage	Reference voltage for activating DI1 – DI3 (max. 100 mA)
2	DI 1	Binary input 1	Positive logic "Logic 1" input voltage range: DC 8 – 30 V "Logic 0" input voltage range: DC 0 – 2 V Compatible with PLC requirement if 0 V are connected.
3	DI 2	Binary input 2	
4	DI 3	Binary input 3 / thermistor contact	
5	+10 V	Output +10 V reference voltage	10 V reference voltage for analog input (potential supply +, 10mA max., 1 K Ω min.)
6	AI / DI	Analog input (12 bit) Binary input 4	0 – 10 V, 0 – 20 mA, 4 – 20 mA "Logic 1" input voltage range: DC 8 – 30 V
7	0 V	0 V reference potential	0 V reference potential for analog input (potential supply -)
8	AO / DO	Analog output (10 bit) Binary output	0 – 10 V, 20 mA analog 24 V / 20 mA digital
9	0 V	0 V reference potential	0 V reference potential for analog output
10	Relay contact 1	Relay contact	N.O. (AC 250 V / DC 30 V @ 5 A)
11	Reference potential 1	Relay reference potential	
12	Relay contact 2	Relay contact	N.O. (AC 250 V / DC 30 V @ 5 A)
13	Reference potential 2	Relay reference potential	

INFORMATION

Once the printed circuit board is installed and completely connected to an IP55/NEMA-12 drive, it has to be slightly bent downwards to being able to close the front cover. The function of the printed circuit board is not affected by doing so.

3.5.1 Specification

Maximum relay switching voltage		AC 250 V / DC 220 V
Maximum relay switching current		1 A
Conformity		IP00, UL94V-0
Ambient temperature		-10 to +50 °C
Dimensions	mm	56 × 24 (without pins) × 14
	in	2.20 × 0.98 (without pins) × 0.56

3.6 Converter card

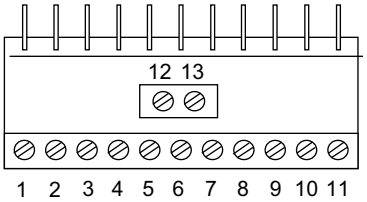
Type	Part number	Description
OB LT VCON A	1821 7672	110 V / 24 V converter
OB LT VCON B	1822 1947	240 V / 24 V converter

The converter card is used to directly control the binary inputs of the drive from a 110 V or 240 V control supply without interconnected relays.

INFORMATION

The existing analog input can be continued to be used due to the connection of the analog signal on terminal 6. This does not affect the other inputs/outputs of the drive.

The binary input terminals are isolated via optocoupler.



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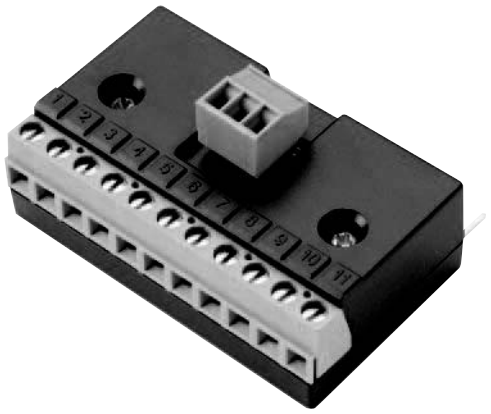

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Terminal no.	Signal	Connection	Description
1	Neutral	Neutral	Must not be connected to 0 V
2	DI 1	Binary input 1	AC 80 – 250 V, 68 kΩ impedance
3	DI 2	Binary input 2	
4	DI 3	Binary input 3	
5	+10 V	Output +10 V reference voltage	10 V reference voltage for analog input (potential supply +, 10mA max., 1 K Ω min.)
6	AI / DI	Analog input (12 bit) Binary input 4	0 – 10 V, 0 – 20 mA, 4 – 20 mA "Logic 1" input voltage range: DC 8 – 30 V
7	0 V	0 V reference potential	0 V reference potential for analog input (potential supply -)
8	AO / DO	Analog output (10 bit) Binary output	0 – 10 V, 20 mA analog 24 V / 20 mA digital

Table continued on next page.

Terminal no.	Signal	Connection	Description
9	0 V	0 V reference potential	0 V reference potential for analog output
10	Relay contact 1	Relay contact	N.O. (AC 250 V / DC 30 V @ 5 A)
11	Reference potential 1	Relay reference potential	
12	Neutral	Neutral	Must not be connected to 0 V
13	DI4	Binary input 4	AC 80 – 250 V, 68 kΩ impedance

INFORMATION

Once the printed circuit board is installed and completely connected to an IP66/NEMA-4X drive, it has to be slightly bent downwards to being able to close the front cover. The function of the printed circuit board is not affected by doing so.

3.6.1 Specification

Maximum relay switching voltage		AC 250 V / DC 220 V
Maximum relay switching current		1 A
Conformity		IP00, UL94V-0
Ambient temperature		-10 to +50 °C
Dimensions	mm	56 × 24 (without pins) × 14
	in	2.20 × 0.98 (without pins) × 0.56

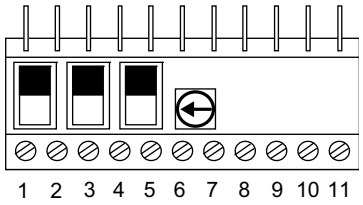
3.7 Local control panel

Type	Part number
OB LT LOCMO	1820 5607

The local control panel is an additional way of enabling the drive via terminals or controlling the speed. The panel has switches that are directly connected with the binary inputs. The potentiometer is connected with the anaog input.

INFORMATION

This option serves for test purposes only. A hard-wired connection is required for the application in the field for controlling the drive.



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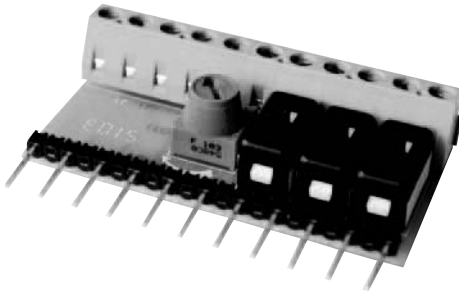

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INFORMATION

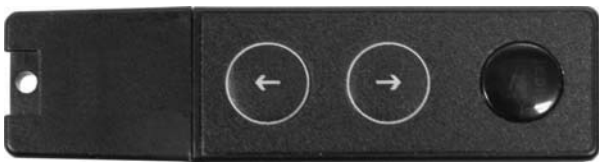
The terminal connections on the local control panel correspond to those of MOVITRAC® LTE-B

3.7.1 Specification

Conformity		IP00, UL90V-0
Ambient temperature		-10 to +50 °C
Dimensions	mm	56 × 33 (without pins) × 16
	in	2.20 × 1.31 (without pins) × 0.64

3.8 Parameter module

Type	Part number
LTBP-C	1824 1549



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- Functionality
  - Saves data from the inverter to the parameter module
  - Loads data back from the parameter module to the inverter
  - Bluetooth® interface for communication between PC/laptop and MOVITRAC® LTE-B.
- Supported unit types
  - MOVITRAC® LTE-B
  - MOVITRAC® LTP-B

3.9 Fieldbus gateways

The fieldbus gateways convert standard fieldbuses to the SBus of SEW-EURODRIVE. Up to eight inverters can be operated using one gateway.

The controller (PLC or PC) and the MOVITRAC® LTE-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.

3.9.1 Available gateways

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

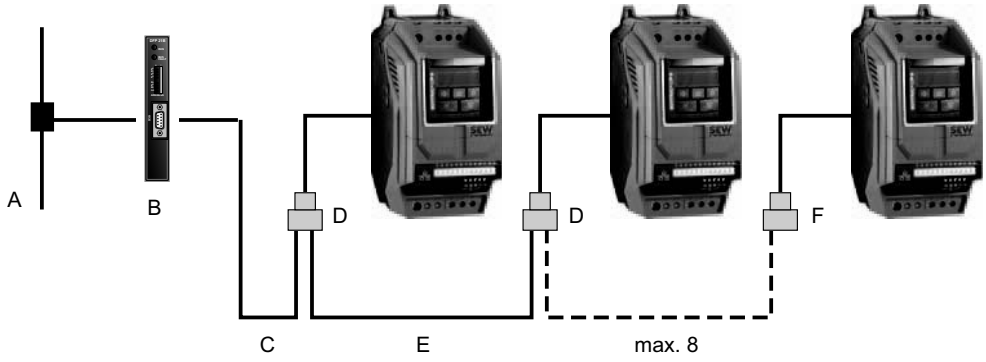
Bus	Separate housing
PROFIBUS	DFP21B / UOH11B
EtherCAT®	DFE24 / UOH11B
DeviceNet	DFD11 / UOH11B
PROFINET	DFE32 / UOH11B
Ethernet / IP	DFE33B / UOH11B
Interbus	UFI11A

3.9.2 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

3.9.3 Functional principle

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



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Key		More information
A	Bus connection	–
B	Gateway	See chapter "Available gateways" (page 40)
C	Prefabricated cable	See chapter "Network packages" (page 28)
D	Splitter	
E	Pre-fabricated cable	
F	Terminating plug	

4 Technical Data – System Accessories

4.1 Braking resistors

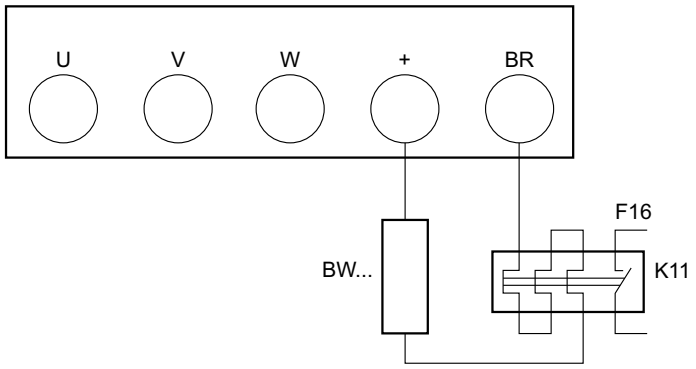
4.1.1 Braking resistor circuit

MOVITRAC® LTE-B sizes 2 and 3s come equipped with a braking transistor. It can be used together with an external braking resistor to convert braking energy generated by the motor into thermal energy. This braking circuit is usually required 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 bimetal relay as shown in the figure below.

The bimetal relay is not needed for braking resistors BW LT 050 002, 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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K11: Line contactor of the inverter

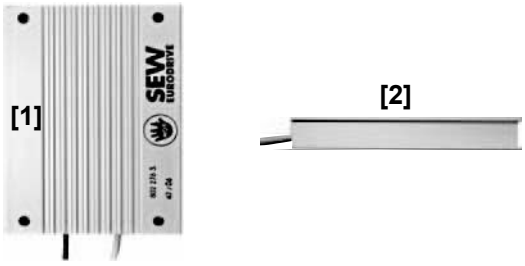
4.1.2 Braking resistor minimum values

MOVITRAC® LTE-B	1.5 kW	2.2 kW	4.0 kW	5.5 kW	7.5 kW	11 kW
115 / 230 V	47 Ω	47 Ω	47 Ω	-	-	-
400 V	100 Ω	100 Ω	100 Ω	22 Ω	22 Ω	22 Ω

4.1.3 Flat-type resistors

Flat-type resistors have IP54 degree of protection and are equipped with internal thermal overload protection. This thermal overload protection can not be replaced.

Important: The load capacity applies to a horizontal mounting position [2]. The power values are reduced by 10% for a vertical mounting position [1].



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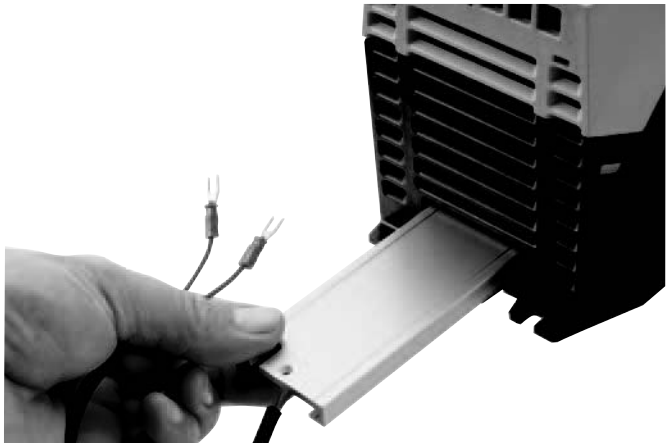
Braking resistor type	BW027-003	BW027-005	BW047-003	BW047-005	BW072-003	BW072-005	BW100-005
Part number	826 949 1	826 950 5	826 265 9	826 268 3	826 058 3	826 060 5	826 269 1
100% cdf 50% cdf 25% cdf 12% cdf 6% cdf	230 W 310 W 410 W 550 W 980 W	450 W 610 W 840 W 1200 W 2360 W	250 W 330 W 430 W 580 W 1050 W	450 W 610 W 840 W 1200 W 2360 W	230 W 310 W 420 W 580 W 1000 W	450 W 610 W 840 W 1200 W 2360 W	450 W 610 W 840 W 1200 W 2360 W
Resistance value R_{BW}	27 Ω ±10%		47 Ω ±10%		72 Ω ±10%		100 Ω ±10%
Trip current I_F	1.0 A	1.4 A	0.8 A	1.2 A	0.6 A	1.0 A	0.8 A
Ambient temperature	-20 °C to +45 °C						

4.1.4 Wire resistors

Resistor type	BW027-006	BW027-012	BW147	BW247	BW100-006
Part number	822 422 6	822 423 4	820 713 5	820 714 3	821 701 7
100% cdf 50% cdf 25% cdf 12% cdf 6% cdf	0.6 kW 1.2 kW 2.0 kW 3.5 kW 6.0 kW	1.2 kW 2.3 kW 5.0 kW 7.5 kW 8.5 kW	1.2 kW 2.2 kW 3.8 kW 7.2 kW 11 kW	2.0 kW 3.8 kW 6.4 kW 12 kW 19 kW	0.6 kW 1.1 kW 1.9 kW 3.6 kW 5.7 kW
Resistance value R_{BW}	27 Ω ±10%		47 Ω ±10%		100 Ω ±10%
Trip current I_F	4.7 A_{RMS}	6.7 A_{RMS}	5 A_{RMS}	6.5 A_{RMS}	2.4 A_{RMS}
Connections	Ceramic terminals 2.5 mm^2 (AWG12)				
Tightening torque	0.5 Nm / 4 lb in				

4.1.5 Flat-type braking resistor



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

- This resistor can easily be installed on the side of the heat sink.
- No additional space is required for the resistor.
- Suited for all MOVITRAC® LTE-B units in applications with low mass moment of inertia

Braking resistor type	IP20 resistor [1] BW LT 100 002	IP55 resistor[1] BW LT 050 002 55
Part number	1820 8770	1821 8342
Load capacity in: • Continuous duty • 0.125 s	 200 W 12 kW	 200 W 12 kW
Resistance value	100 Ω	50 Ω
For MOVITRAC® LTE-B . .	Sizes 2 + 3	

1) No UL approval

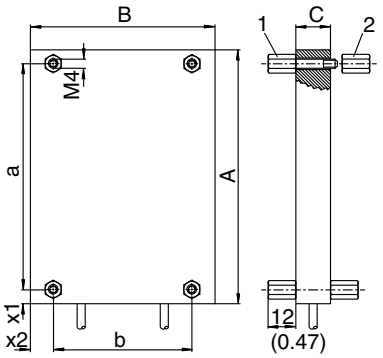
4.1.6 Dimensions of BW braking resistors

Flat design

The connecting lead is 500 mm long.

Scope of delivery:

- 4 × M4 threaded holes, type 1
- 4 × M4 theaded holes, type 2



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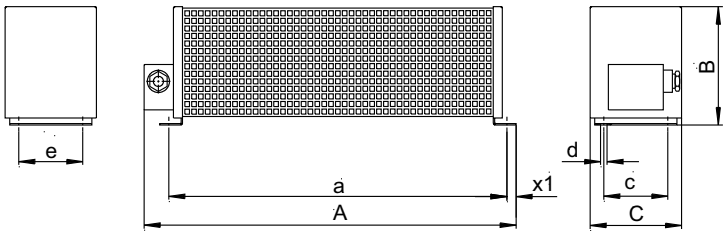
Type	Main dimensions mm (in)			Fastening parts mm (in)				Weight kg (lb)
	A	B	C	a	b	x1	x2	
BW027-003 BW047-003 BW072-003	110 (4.33)	80 (3.1)	15 (0.59)	98 (3.9)	60 (2.4)	6 (0.2)	10 (0.39)	0.3 (0.7)
BW027-005 BW047-005 BW072-005 BW100-005	216 (8.50)	80 (3.1)	15 (0.59)	204 (8.03)	60 (2.4)	6 (0.2)	10 (0.39)	0.6 (1)

Wire resistors



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Type	Main dimensions mm (in)			Fastening parts mm (in)				Weight kg (lb)
	A	B	C	a	c/e	x1	d	
BW027-006	486 (19.1)	120 (4.72)	92 (3.6)	426 (16.8)	64 (2.5)	10 (0.39)	5.8 (0.23)	2.2 (4.9)
BW027-012	486 (19.1)	120 (4.72)	185 (7.28)	426 (16.8)	150 (5.91)	10 (0.39)	5.8 (0.23)	4.3 (9.5)
BW100-006	486 (19.1)	120 (4.72)	92 (3.6)	426 (16.8)	64 (2.5)	10 (0.39)	5.8 (0.23)	2.2 (4.9)
BW147	465 (18.3)	120 (4.72)	185 (7.28)	426 (16.8)	150 (5.91)	10 (0.39)	5.8 (0.23)	4.3 (9.5)
BW247	665 (26.2)	120 (4.72)	185 (7.28)	626 (24.6)	150 (5.91)	10 (0.39)	5.8 (0.23)	6.1 (13)

4.2 Line filters

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For USA, MOVITRAC® LTE-B is also available without internal EMC filter. The filter option is used when the standards for conducted emission EN 61000-6-3/4 have to be met. Bear in mind that all MOVITRAC® LTE-B units comply with the standard for EMC interference emission (EN 55011) if the wiring was carried out properly.

The installed EMC filters are divided as follows:

- Single-phase MOVITRAC® LTE-B units with integrated filter meet EN 55011 for residential environments (class B/C1)
- Three-phase MOVITRAC® LTE-B units with integrated filter meet EN 55011 for industrial environments (class A/C2)

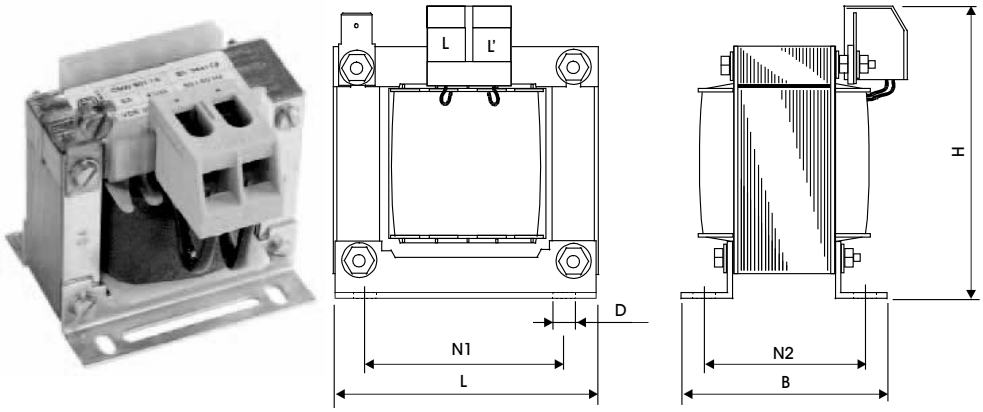
External EMC filters can be used for more demanding applications where, for example, a 480 V drive has to meet the interference emission standards for residential areas. They are allocated as follows:

MOVITRAC® LTE-B BG	1	1	2	2	3s
Line filter type	NF LT 2B1 010[1)]	NF LT 5B3 006[1)]	NF LT 2B1 010[1)]	NF LT 5B3 016[1)]	NF LT 5B3 030[1)]
Part number	1820 1571	1820 1601	1820 1598	1820 1628	1820 1636
Line voltage V ± 10%	220 – 240	220 – 480	220 – 240	220 – 480	220 – 480
Phases	1	3	1	3	3
Max. output current A	10	6	16	16	30

1) No UL approval

4.3 Line chokes

Line chokes reduce harmonic distortions in the power supply and protect MOVITRAC® LTE-B units from harmful power supply disturbances. They also reduce the influence of MOVITRAC® LTE-B on the harmonic distortion of the power supply.



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Line chokes are also used to protect the power input circuits of MOVITRAC® LTE-B against overvoltage peaks, which might be caused by lightning or other devices connected to the same power supply.

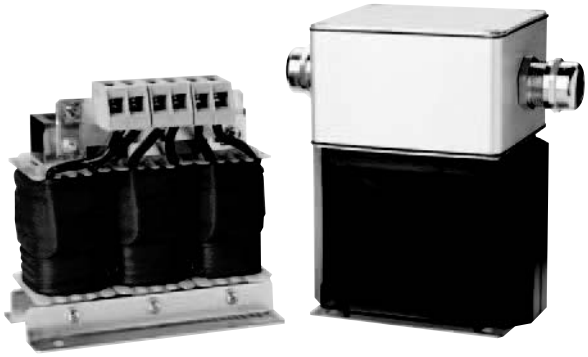
Type	Part number	MOVITRAC® LTE-B Size	Nominal voltage V	Phase	Nominal current A	Inductance / leg mH
ND LT 010 290 21[1)]	1820 1644	1	< 230	1	16	1.8
ND LT 025 110 21[1)]	1820 1652	2	< 230	1	25	1.1
ND LT 006 480 53[1)]	1820 1660	1	< 500	3	6	4.8
ND LT 010 290 53[1)]	1820 1679	2	< 500	3	10	2.9
ND LT 036 081 53[1)]	1820 1687	3	< 500	3	36	0.81

1) No UL approval

Type	L		B		H		N1		N2		D		Weight	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb
ND LT 010 290 21	66	2.60	80	3.15	70	2.76	50	1.97	51	2.00	5 × 8	0.2× 0.31	1.1	2.43
ND LT 025 110 21	85	3.35	95	3.74	95	3.74	64	2.52	59	2.32	5 × 8	0.2× 0.31	1.8	3.97
ND LT 006 480 53	95	3.74	56	2.20	107	4.21	56	2.20	43	1.69	5 × 9	0.2 × 0.35	1.3	2.87
ND LT 010 290 53	125	4.92	71	2.80	127	5.00	100	3.94	55	2.17	5 × 8	0.2 × 0.31	2.5	5.51
ND LT 036 081 53	155	6.10	77	3.03	185	7.28	130	5.12	72	2.83	8 × 12	0.3 × 0.47	7.2	15.87

4.4 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 technical data tables.



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Just like most inverters, MOVITRAC® LTE-B also has unfiltered outputs. This provides satisfactory results for most applications.

SEW-EURODRIVE recommends using output chokes in applications with the following features:

- Long motor cables up to 300 m (the nominal length can be doubled when using an output choke)
- High-capacitive motor cables (i.e. "pyro" wire for fire prevention)
- 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® LTE-B:

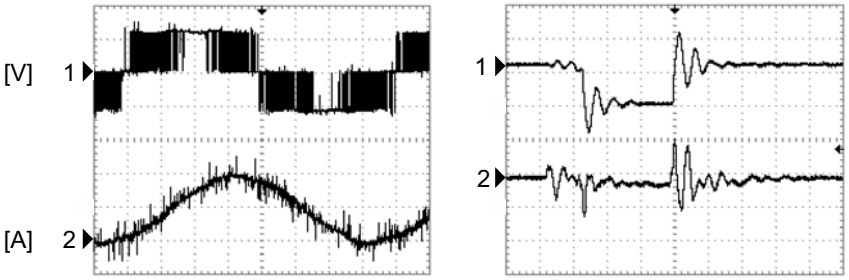
- Limiting the output voltage drop, usually < 200 V/µs
- Limiting transient overvoltages at the motor terminals, usually < 1000 V
- Suppressing line-related interference in low frequency ranges
- Compensating capacitive load currents
- Reducing HF interference emission of the motor cable
- Reducing motor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

4.4.1 Technical data

Type	Part number	IP protection	Size	Phase	Nominal voltage V	Nominal current A	Inductance / leg mH
HD LT 008 200 53	1820 1695	IP20	1	3	480	8	2
HD LT 012 130 53	1820 1709		2		480	12	1.2
HD LT 030 050 53	1820 1717		3		480	30	0.5
HD LT 008 200 63 55	1821 6757	IP66	1		480 – 600	8	2
HD LT 012 120 63 55	1821 6765		2		480 – 600	12	1.2
HD LT 018 090 63 55	1821 6773		3		480 – 600	18	0.9

Comparison of output voltage and output current features

Without choke



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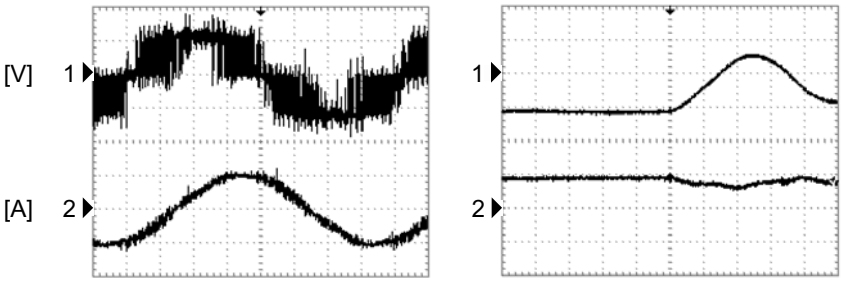
With choke

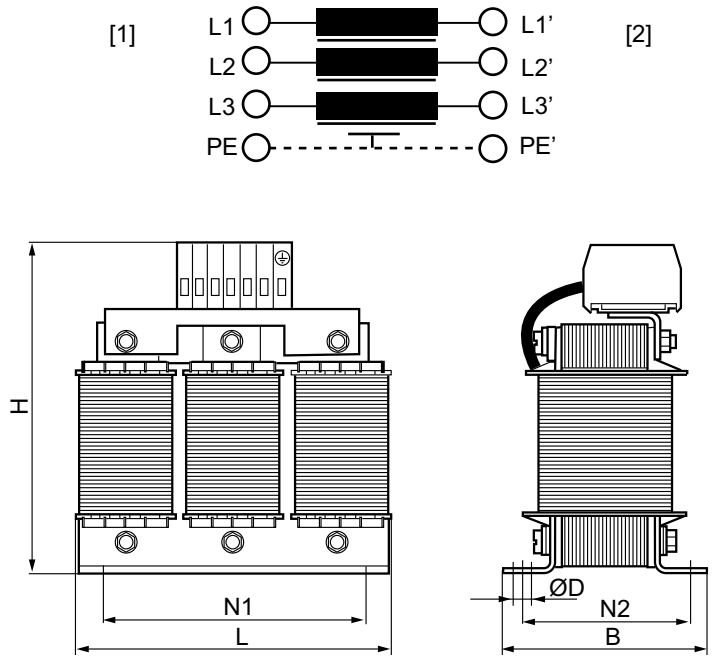


5738539019

INFORMATION

An adjusted filter lets the switching pulse rise more slowly and with smaller amplitude.

4.4.2 Dimensions



5738543371

Type	L mm	B mm	H mm	N1 mm	N2 mm	Ø D mm	Weight kg
HD LT 008 200 53	100	90	75	60	48	4	1.5
HD LT 012 130 53	125	115	85	100	55	5	2.8
HD LT 030 050 53	155	160	105	130	57	8	4.2
HD LT 008 200 63 55	115	74	85	80	60	5.5 × 7	1.7
HD LT 012 120 63 55	140	87	110	100	70	5.5 × 7	3.2
HD LT 018 090 63 55	140	87	110	100	70	5.5 × 7	3.2

5 Motor Selection

5.1 Project planning flowchart

Specify
- Technical data and environmental conditions
- Peripheral conditions
- System interfaces

↓

Calculation of the relevant application data
- Static, dynamic and regenerative power
- Speed

↓

Gear unit selection
- Definition of gear unit size, gear unit reduction ratio and gear unit type
- Check for gear unit utilization ($M_{a\ max} \geq M_{a\ (t)}$)

↓

Motor selection
- Torque and speed reduced to the motor shaft
- Determining the motor

↓

Checking
- Max. torque demand $<1.5 \times M_N$
- Required motor speed $< n_N$
- Thermal load taking into account range and duty cycle

↓

Selecting the MOVITRAC® LTP-B frequency inverter
- Assignment of motor and inverter
- Continuous power, peak power
- Installation conditions

↓

Accessories / options
- EMC measures (NF, ND, HD)

↓

Make sure that all requirements have been met.

5.2 Combination for inverter and motor

For suitable motors for the inverters, refer to the "AC Motors" catalog.

6 Address List

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
Service Competence Center	**Central**	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 1 D-76676 Graben-Neudorf	Tel. +49 7251 75-1710 Fax +49 7251 75-1711 sc-mitte@sew-eurodrive.de
	North	SEW-EURODRIVE GmbH & Co KG Alte Ricklinger Straße 40-42 D-30823 Garbsen (near Hannover)	Tel. +49 5137 8798-30 Fax +49 5137 8798-55 sc-nord@sew-eurodrive.de
	East	SEW-EURODRIVE GmbH & Co KG Dänkritzer Weg 1 D-08393 Meerane (near Zwickau)	Tel. +49 3764 7606-0 Fax +49 3764 7606-30 sc-ost@sew-eurodrive.de
	South	SEW-EURODRIVE GmbH & Co KG Domagkstraße 5 D-85551 Kirchheim (near München)	Tel. +49 89 909552-10 Fax +49 89 909552-50 sc-sued@sew-eurodrive.de
	West	SEW-EURODRIVE GmbH & Co KG Siemensstraße 1 D-40764 Langenfeld (near Düsseldorf)	Tel. +49 2173 8507-30 Fax +49 2173 8507-55 sc-west@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 sc-elektronik@sew-eurodrive.de
	Drive Service Hotline / 24 Hour Service		+49 180 5 SEWHELP +49 180 5 7394357 14 euro cents/min on the German landline network. Max 42 euro cents/min from a German mobile network. Prices for mobile and international calls may differ.
	Additional addresses for service in Germany provided on request!		

France			
Production **Sales** **Service**	**Haguenau**	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
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 Parc d'affaires Roosevelt Rue Jacques Tati F-69120 Vaulx en Velin	Tel. +33 4 72 15 37 00 Fax +33 4 72 15 37 15

France			
	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'Etang	Tel. +33 1 64 42 40 80 Fax +33 1 64 42 40 88
	Additional addresses for service in France provided on request!		

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

Argentina			
Assembly **Sales**	**Buenos Aires**	SEW EURODRIVE ARGENTINA S.A. Centro Industrial Garin, Lote 35 Ruta Panamericana Km 37,5 1619 Garin	Tel. +54 3327 4572-84 Fax +54 3327 4572-21 sewar@sew-eurodrive.com.ar http://www.sew-eurodrive.com.ar

Australia			
Assembly **Sales** **Service**	**Melbourne**	SEW-EURODRIVE PTY. LTD. 27 Beverage Drive Tullamarine, Victoria 3043	Tel. +61 3 9933-1000 Fax +61 3 9933-1003 http://www.sew-eurodrive.com.au enquires@sew-eurodrive.com.au
	Sydney	SEW-EURODRIVE PTY. LTD. 9, Sleigh Place, Wetherill Park New South Wales, 2164	Tel. +61 2 9725-9900 Fax +61 2 9725-9905 enquires@sew-eurodrive.com.au

Austria			
Assembly **Sales** **Service**	**Wien**	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

Belarus			
Sales	**Minsk**	SEW-EURODRIVE BY 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

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. Avenida Amâncio Gaiolli, 152 - Rodovia Presidente Dutra Km 208 Guarulhos - 07251-250 - SP SAT - SEW ATENDE - 0800 7700496	Tel. +55 11 2489-9133 Fax +55 11 2480-3328 http://www.sew-eurodrive.com.br sew@sew.com.br

Brazil			
Assembly **Sales** **Service**	**Rio Claro**	SEW-EURODRIVE Brasil Ltda. Rodovia Washington Luiz, Km 172 Condomínio Industrial Conparq 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
	Indaiatuba	SEW-EURODRIVE Brasil Ltda. Estrada Municipal Jose Rubim, 205 Rodovia Santos Dumont Km 49 13347-510 - Indaiatuba / SP	Tel. +55 19 3835-8000 sew@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

Cameroon			
Sales	**Douala**	Electro-Services Rue Drouot Akwa B.P. 2024 Douala	Tel. +237 33 431137 Fax +237 33 431137 electrojemba@yahoo.fr

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
	Additional addresses for service in Canada provided on request!		

Chile			
Assembly **Sales** **Service**	**Santiago**	SEW-EURODRIVE CHILE LTDA. Las Encinas 1295 Parque Industrial Valle Grande LAMPA RCH-Santiago de Chile P.O. Box Casilla 23 Correo Quilicura - Santiago - Chile	Tel. +56 2 75770-00 Fax +56 2 75770-01 http://www.sew-eurodrive.cl ventas@sew-eurodrive.cl

China			
Production **Assembly** **Sales** **Service**	**Tianjin**	SEW-EURODRIVE (Tianjin) Co., Ltd. No. 46, 7th Avenue, TEDA Tianjin 300457	Tel. +86 22 25322612 Fax +86 22 25323273 info@sew-eurodrive.cn http://www.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

China			
	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
	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
	Additional addresses for service in China provided on request!		

Colombia			
Assembly **Sales** **Service**	**Bogotá**	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 sewcol@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			
Sales **Assembly** **Service**	**Prague**	SEW-EURODRIVE CZ s.r.o. Lužná 591 16000 Praha 6 - Vokovice	Tel. +420 255 709 601 Fax +420 220 121 237 http://www.sew-eurodrive.cz sew@sew-eurodrive.cz
	Drive Service Hotline / 24 Hour Service	HOT-LINE +420 800 739 739 (800 SEW SEW)	**Servis:** Tel. +420 255 709 632 Fax +420 235 358 218 servis@sew-eurodrive.cz

Denmark			
Assembly **Sales** **Service**	**Copenhagen**	SEW-EURODRIVEA/S Geminivej 28-30 DK-2670 Greve	Tel. +45 43 9585-00 Fax +45 43 9585-09 http://www.sew-eurodrive.dk sew@sew-eurodrive.dk

Egypt			
Sales **Service**	**Cairo**	Copam Egypt for Engineering & Agencies 33 EI Hegaz ST, Heliopolis, Cairo	Tel. +20 2 22566-299 +1 23143088 Fax +20 2 22594-757 http://www.copam-egypt.com/ copam@datum.com.eg

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

Finland			
Assembly **Sales** **Service**	**Lahti**	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
Production **Assembly**	**Karkkila**	SEW Industrial Gears Oy Valurinkatu 6, PL 8 FI-03600 Karkkila, 03601 Karkkila	Tel. +358 201 589-300 Fax +358 201 589-310 sew@sew.fi http://www.sew-eurodrive.fi

Gabon			
Sales	**Libreville**	ESG Electro Services Gabun Feu Rouge Lalala 1889 Libreville Gabun	Tel. +241 741059 Fax +241 741059 esg_services@yahoo.fr

Great Britain			
Assembly **Sales** **Service**	**Normanton**	SEW-EURODRIVE Ltd. Beckbridge Industrial Estate Normanton West Yorkshire WF6 1QR	Tel. +44 1924 893-855 Fax +44 1924 893-702 http://www.sew-eurodrive.co.uk info@sew-eurodrive.co.uk
	Drive Service Hotline / 24 Hour Service		Tel. 01924 896911

Greece			
Sales	**Athens**	Christ. Boznos & Son S.A. 12, K. Mavromichali Street P.O. Box 80136 GR-18545 Piraeus	Tel. +30 2 1042 251-34 Fax +30 2 1042 251-59 http://www.boznos.gr info@boznos.gr

Hong Kong			
Assembly **Sales** **Service**	**Hong Kong**	SEW-EURODRIVE LTD. Unit No. 801-806, 8th Floor Hong Leong Industrial Complex No. 4, Wang Kwong Road Kowloon, Hong Kong	Tel. +852 36902200 Fax +852 36902211 contact@sew-eurodrive.hk

Hungary			
Sales **Service**	**Budapest**	SEW-EURODRIVE Kft. H-1037 Budapest Kunigunda u. 18	Tel. +36 1 437 06-58 Fax +36 1 437 06-50 http://www.sew-eurodrive.hu office@sew-eurodrive.hu

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, +91 265 2831086 Fax +91 265 3045300, +91 265 2831087 http://www.seweurodriveindia.com salesvadodara@seweurodrivein-dia.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

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

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

Italy			
Assembly **Sales** **Service**	**Solaro**	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Via Bernini,14 I-20020 Solaro (Milano)	Tel. +39 02 96 9801 Fax +39 02 96 799781 http://www.sew-eurodrive.it sewit@sew-eurodrive.it

Ivory Coast			
Sales	**Abidjan**	SICA Société Industrielle & Commerciale pour l'Afrique 165, Boulevard de Marseille 26 BP 1173 Abidjan 26	Tel. +225 21 25 79 44 Fax +225 21 25 88 28 sicamot@aviso.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 373855 http://www.sew-eurodrive.co.jp sewjapan@sew-eurodrive.co.jp

Kazakhstan			
Sales	**Almaty**	ТОО "СЕВ-ЕВРОДРАЙВ" пр.Райымбека, 348 050061 г. Алматы Республика Казахстан	Тел. +7 (727) 334 1880 Факс +7 (727) 334 1881 http://www.sew-eurodrive.kz sew@sew-eurodrive.kz

Kenya			
Sales	**Nairobi**	Barico Maintenances Ltd Kamutaga Place Commercial Street Industrial Area P.O.BOX 52217 - 00200 Nairobi	Tel. +254 20 6537094/5 Fax +254 20 6537096 info@barico.co.ke

Latvia			
Sales	**Riga**	SIA Alas-Kuul Katlakalna 11C LV-1073 Riga	Tel. +371 6 7139253 Fax +371 6 7139386 http://www.alas-kuul.com 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
		After Sales Service	service@medrives.com

Lebanon			
Sales Jordan / Kuwait / Saudi Arabia / Syria	**Beirut**	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 info@medrives.com http://www.medrives.com
		After Sales Service	service@medrives.com

Lithuania			
Sales	**Alytus**	UAB Irseva Statybininku 106C LT-63431 Alytus	Tel. +370 315 79204 Fax +370 315 56175 irmantas@irseva.lt http://www.sew-eurodrive.lt

Luxembourg			
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.lu info@sew-eurodrive.be

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

Mexico			
Assembly **Sales** **Service**	**Quéretaro**	SEW-EURODRIVE MEXICO SA DE CV SEM-981118-M93 Tequisquiapan No. 102 Parque Industrial Quéretaro C.P. 76220 Quéretaro, México	Tel. +52 442 1030-300 Fax +52 442 1030-301 http://www.sew-eurodrive.com.mx scmexico@seweurodrive.com.mx

Morocco			
Sales **Service**	**Mohammedia**	SEW EURODRIVE SARL Z.I. Sud Ouest - Lot 28 2ème étage Mohammedia 28810	Tel. +212 523 32 27 80/81 Fax +212 523 32 27 89 sew@sew-eurodrive.ma http://www.sew-eurodrive.ma

Namibia			
Sales	**Swakopmund**	DB Mining & Industrial Services Einstein Street Strauss Industrial Park Unit1 Swakopmund	Tel. +264 64 462 738 Fax +264 64 462 734 sales@dbmining.in.na

Netherlands			
Assembly **Sales** **Service**	**Rotterdam**	SEW-EURODRIVE B.V. Industrieweg 175 NL-3044 AS Rotterdam Postbus 10085 NL-3004 AB Rotterdam	Tel. +31 10 4463-700 Fax +31 10 4155-552 Service: 0800-SEWHELP http://www.sew-eurodrive.nl info@sew-eurodrive.nl

New Zealand			
Assembly **Sales** **Service**	**Auckland**	SEW-EURODRIVE NEW ZEALAND LTD. P.O. Box 58-428 82 Greenmount drive East Tamaki Auckland	Tel. +64 9 2745627 Fax +64 9 2740165 http://www.sew-eurodrive.co.nz sales@sew-eurodrive.co.nz
	Christchurch	SEW-EURODRIVE NEW ZEALAND LTD. 10 Settlers Crescent, Ferrymead Christchurch	Tel. +64 3 384-6251 Fax +64 3 384-6455 sales@sew-eurodrive.co.nz

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

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

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

Poland			
Assembly **Sales** **Service**	**Lodz**	SEW-EURODRIVE Polska Sp.z.o.o. ul. Techniczna 5 PL-92-518 Łódź	Tel. +48 42 676 53 00 Fax +48 42 676 53 49 http://www.sew-eurodrive.pl sew@sew-eurodrive.pl
	Service	Tel. +48 42 6765332 / 42 6765343 Fax +48 42 6765346	Linia serwisowa Hotline 24H Tel. +48 602 739 739 (+48 602 SEW SEW) serwis@sew-eurodrive.pl

Portugal			
Assembly **Sales** **Service**	**Coimbra**	SEW-EURODRIVE, LDA. Apartado 15 P-3050-901 Mealhada	Tel. +351 231 20 9670 Fax +351 231 20 3685 http://www.sew-eurodrive.pt infosew@sew-eurodrive.pt

Romania			
Sales **Service**	**Bucharest**	Sialco Trading SRL str. Madrid nr.4 011785 Bucuresti	Tel. +40 21 230-1328 Fax +40 21 230-7170 sialco@sialco.ro

Russia			
Assembly **Sales** **Service**	**St. Petersburg**	ZAO SEW-EURODRIVE P.O. Box 36 RUS-195220 St. Petersburg	Tel. +7 812 3332522 +7 812 5357142 Fax +7 812 3332523 http://www.sew-eurodrive.ru sew@sew-eurodrive.ru

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

Serbia			
Sales	**Beograd**	DIPAR d.o.o. Ustanicka 128a PC Košum, IV sprat SRB-11000 Beograd	Tel. +381 11 347 3244 / +381 11 288 0393 Fax +381 11 347 1337 office@dipar.rs

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

Slovakia			
Sales	**Bratislava**	SEW-Eurodrive SK s.r.o. Rybničná 40 SK-831 06 Bratislava	Tel. +421 2 33595 202 Fax +421 2 33595 200 sew@sew-eurodrive.sk http://www.sew-eurodrive.sk
	Žilina	SEW-Eurodrive SK s.r.o. Industry Park - PChZ ulica M.R.Štefánika 71 SK-010 01 Žilina	Tel. +421 41 700 2513 Fax +421 41 700 2514 sew@sew-eurodrive.sk
	Banská Bystrica	SEW-Eurodrive SK s.r.o. Rudlovská cesta 85 SK-974 11 Banská Bystrica	Tel. +421 48 414 6564 Fax +421 48 414 6566 sew@sew-eurodrive.sk
	Košice	SEW-Eurodrive SK s.r.o. Slovenská ulica 26 SK-040 01 Košice	Tel. +421 55 671 2245 Fax +421 55 671 2254 sew@sew-eurodrive.sk

Slovenia			
Sales **Service**	**Celje**	Pakman - Pogonska Tehnika d.o.o. UI. XIV. divizije 14 SLO - 3000 Celje	Tel. +386 3 490 83-20 Fax +386 3 490 83-21 pakman@siol.net

South Africa			
Assembly **Sales** **Service**	**Johannesburg**	SEW-EURODRIVE (PROPRIETARY) LIMITED Eurodrive House Cnr. Adcock Ingram and Aerodrome Roads Aeroton Ext. 2 Johannesburg 2013 P.O.Box 90004 Bertsham 2013	Tel. +27 11 248-7000 Fax +27 11 494-3104 http://www.sew.co.za info@sew.co.za
	Cape Town	SEW-EURODRIVE (PROPRIETARY) LIMITED Rainbow Park Cnr. Racecourse & Omuramba Road Montague Gardens Cape Town P.O.Box 36556 Chempet 7442 Cape Town	Tel. +27 21 552-9820 Fax +27 21 552-9830 Telex 576 062 cfoster@sew.co.za
	Durban	SEW-EURODRIVE (PROPRIETARY) LIMITED 2 Monaco Place Pinetown Durban P.O. Box 10433, Ashwood 3605	Tel. +27 31 700-3451 Fax +27 31 700-3847 cdejager@sew.co.za
	Nelspruit	SEW-EURODRIVE (PTY) LTD. 7 Christie Crescent Vintonia P.O.Box 1942 Nelspruit 1200	Tel. +27 13 752-8007 Fax +27 13 752-8008 robermeyer@sew.co.za

South Korea			
Assembly **Sales** **Service**	**Ansan**	SEW-EURODRIVE KOREA CO., LTD. B 601-4, Banweol Industrial Estate #1048-4, Shingil-Dong, Danwon-Gu, Ansan-City, Kyunggi-Do Zip 425-839	Tel. +82 31 492-8051 Fax +82 31 492-8056 http://www.sew-korea.co.kr master.korea@sew-eurodrive.com
	Busan	SEW-EURODRIVE KOREA Co., Ltd. No. 1720 - 11, Songjeong - dong Gangseo-ku Busan 618-270	Tel. +82 51 832-0204 Fax +82 51 832-0230 master@sew-korea.co.kr

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

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

Sweden			
Assembly **Sales** **Service**	**Jönköping**	SEW-EURODRIVE AB Gnejsvägen 6-8 S-55303 Jönköping Box 3100 S-55003 Jönköping	Tel. +46 36 3442 00 Fax +46 36 3442 80 http://www.sew-eurodrive.se jonkoping@sew.se

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

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

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

Turkey			
Assembly **Sales** **Service**	**Istanbul**	SEW-EURODRIVE Hareket Sistemleri Sanayi Ticaret Limited Şirketi Gebze Organize Sanayi Bölgesi 400.Sokak No:401 TR-41480 Gebze KOCAELİ	Tel. +90-262-9991000-04 Fax +90-262-9991009 http://www.sew-eurodrive.com.tr sew@sew-eurodrive.com.tr

Ukraine			
Assembly **Sales** **Service**	**Dnipropetrovsk**	SEW-EURODRIVE Str. Rabochaja 23-B, Office 409 49008 Dnepropetrovsk	Tel. +380 56 370 3211 Fax +380 56 372 2078 http://www.sew-eurodrive.ua sew@sew-eurodrive.ua

United Arab Emirates			
Sales **Service**	**Sharjah**	Copam Middle East (FZC) Sharjah Airport International Free Zone P.O. Box 120709 Sharjah	Tel. +971 6 5578-488 Fax +971 6 5578-499 copam_me@eim.ae

USA			
Production **Assembly** **Sales** **Service**	**Southeast Region**	SEW-EURODRIVE INC. 1295 Old Spartanburg Highway P.O. Box 518 Lyman, S.C. 29365	Tel. +1 864 439-7537 Fax Sales +1 864 439-7830 Fax Manufacturing +1 864 439-9948 Fax Assembly +1 864 439-0566 Fax Confidential/HR +1 864 949-5557 http://www.seweurodrive.com cslyman@seweurodrive.com
Assembly **Sales** **Service**	**Northeast Region**	SEW-EURODRIVE INC. Pureland Ind. Complex 2107 High Hill Road, P.O. Box 481 Bridgeport, New Jersey 08014	Tel. +1 856 467-2277 Fax +1 856 845-3179 csbridgeport@seweurodrive.com
	Midwest Region	SEW-EURODRIVE INC. 2001 West Main Street Troy, Ohio 45373	Tel. +1 937 335-0036 Fax +1 937 332-0038 cstroy@seweurodrive.com
	Southwest Region	SEW-EURODRIVE INC. 3950 Platinum Way Dallas, Texas 75237	Tel. +1 214 330-4824 Fax +1 214 330-4724 csdallas@seweurodrive.com
	Western Region	SEW-EURODRIVE INC. 30599 San Antonio St. Hayward, CA 94544	Tel. +1 510 487-3560 Fax +1 510 487-6433 cshayward@seweurodrive.com
	Additional addresses for service in the USA provided on request!		

Venezuela			
Assembly **Sales** **Service**	**Valencia**	SEW-EURODRIVE Venezuela S.A. Av. Norte Sur No. 3, Galpon 84-319 Zona Industrial Municipal Norte Valencia, Estado Carabobo	Tel. +58 241 832-9804 Fax +58 241 838-6275 http://www.sew-eurodrive.com.ve ventas@sew-eurodrive.com.ve sewfinanzas@cantv.net

Vietnam			
Sales	**Ho Chi Minh City**	**All sectors except for ports, mining and offshore:** Nam Trung Co., Ltd 250 Binh Duong Avenue, Thu Dau Mot Town, Binh Duong Province HCM office: 91 Tran Minh Quyen Street District 10, Ho Chi Minh City	Tel. +84 8 8301026 Fax +84 8 8392223 namtrungco@hcm.vnn.vn truongtantam@namtrung.com.vn khanh-nguyen@namtrung.com.vn
		Ports, mining and offshore: DUC VIET INT LTD Industrial Trading and Engineering Services A75/6B/12 Bach Dang Street, Ward 02, Tan Binh District, 70000 Ho Chi Minh City	Tel. +84 8 62969 609 Fax +84 8 62938 842 totien@ducvietint.com
	Hanoi	Nam Trung Co., Ltd R.205B Tung Duc Building 22 Lang ha Street Dong Da District, Hanoi City	Tel. +84 4 37730342 Fax +84 4 37762445 namtrunghn@hn.vnn.vn

Zambia			
Sales	**Kitwe**	EC Mining Limited Plots No. 5293 & 5294,Tangaanyika Road, Off Mutentemuko Road, Heavy Industrial Park, P.O.BOX 2337 Kitwe	Tel. +260 212 210 642 Fax +260 212 210 645 sales@ecmining.com http://www.ecmining.com

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