SEW EURODRIVE

MOVITRAC® LTE-B

Edition 02/2009
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Catalog

SEW
EURODRIVE

1 Important Notes

1.1 Structure of the safety notes

The safety notes in these operating instructions are structured as follows:

Symbol	SIGNAL WORD
	Nature and source of hazard. Possible consequence(s) if disregarded. • Measure(s) to avoid the hazard.

Symbol	Signal Word	Meaning	Consequences if disregarded
Example:  General hazard  Specific hazard, e.g. electric shock	**HAZARD**	Imminent hazard	Severe or fatal injuries
	WARNING	Possible hazardous situation	Severe or fatal injuries
	CAUTION	Possible hazardous situation	Minor injuries
	**STOP**	Possible damage to property	Damage to the drive system or its environment
	**NOTE**	Useful information or tip Simplifies drive system handling	

Unless the information in the operating instructions is adhered to, it will be impossible to ensure:

- Trouble-free operation
- Fulfillment of any rights to claim under guarantee

Consequently, read the operating instructions before you start working with the unit!

The operating instructions contain important information about servicing. Therefore, keep the operating instructions close to the unit.

1.2 Application environment

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

- Use in explosion-proof areas
- Use in environments with harmful substances:
  - Oils
  - Acids
  - Gases
  - Vapors
  - Dust
  - Radiated interference
  - Other harmful environments
- Use subject to mechanical vibration and shock loads in excess of the requirements in EN 50178
- If the inverter performs safety functions which have to guarantee the protection of machinery and people

1.3 Waste disposal

Please follow the current instructions: dispose in accordance with the regulations in force:

- Electronics scrap (printed-circuit boards)
- Plastic (housing)
- Sheet metal
- Copper

2 Safety Notes

MOVITRAC® LTE-B drive inverters may not perform safety functions without higher-level safety systems.

Do not use MOVITRAC® LTE-B drive inverters for any safety functions in conjunction with hoist applications.

2.1 Installation and startup

- **Never install damaged products or take them into operation.** Please submit a complaint to the transport company immediately in the event of damage.
- **Installation, startup and service work** on the unit only by **trained personnel**. The personnel must be trained in the relevant aspects of accident prevention and must comply with the regulations in force (e.g. EN 60204, VBG 4, DIN-VDE 0100/0113/0160).
- Follow the **specific instructions** during **installation** and **startup** of the motor and the brake!
- Make sure that **preventive measures** and **protection devices** correspond to the **applicable regulations** (e.g. EN 60204 or EN 50178).

  Grounding the unit is a necessary protective measure.

  Overcurrent protection devices are a necessary protective measure.
- **The unit meets all requirements for reliable isolation** of power and electronics connections in accordance with UL508. **All connected circuits** must also **satisfy the requirements for reliable isolation** so as to guarantee reliable isolation.
- Take **suitable measures** to ensure that the connected **motor does not start up automatically when the** inverter **is switched on**. To do this, you can connect binary inputs DI01 through DI03 to GND.

2.2 Operation and servicing

⚠ WARNING

Danger of electrical shock. High voltages are present in the terminals and in within the drive for up to 10 minutes after the electrical supply has been disconnected.

Severe or fatal injuries.

- Disconnect and isolate the MOVITRAC® LTE-B from the electrical supply at least 10 minutes before commencing any work on it.

- **Dangerous voltages** are present in the **output terminals** and the **cables and motor terminals connected to them when the unit is switched on**. Dangerous voltages may also be present when the unit is inhibited and the motor at a standstill.
- The unit is **not** necessarily **deenergized** when the **LEDs and the 7-segment display are off**.
- **Safety functions inside the unit** or a **mechanical blockage** may cause the **motor to stop**. The **removal of the source of the malfunction** or a **reset** can result in an **automatic restart of the drive**. If, for safety reasons, this is **not permissible** for the driven machine, **disconnect the unit from the supply system** before correcting the fault.

3 Product overview

3.1 Technology

The MOVITRAC® LTE-B range consists of a series of products in 3 physical sizes designed to provide cost-effective, easy-to-use drives for 3-phase induction motors in the power range 0.37 kW to 7.5 kW (0.5 hp to 10 hp).

The MOVITRAC® LTE-B employs open loop voltage and frequency control to regulate the speed of the motor. Digital control is combined with the latest IGBT power semiconductor technology to give a compact, robust solution for general purpose drive applications. The product is designed for ease of use and ease of installation, together with simple programming and commissioning thereby minimising the overall applied cost of a drive solution.

3.2 Mains supply compatibility

The MOVITRAC® LTE-B is designed for direct on-line connection to world wide supplies. The single-phase 115 V output voltage doubler operates on 115 V mains. The 220 V single phase unit operates on 220 – 240 V 1 or 3-phase mains, whereas the 380 V 3-phase unit operates on 380 – 480 V 3-phase mains.

3.3 Markets and applications

The MOVITRAC® LTE-B product range is aimed at a broad market where general motor speed control is required. Real benefits are offered to both high volume end users and to OEM customers, where the ease of use and the innovative mechanical design significantly reduce commissioning time.

The simple but powerful features make the MOVITRAC® LTE-B, in combination with the available accessories, suitable for a wide range of applications.

Typical applications are:

- Pumps in the water supply industry, paper industry and sewage systems
- Fan controllers in air conditioning systems, energy saving applications and refrigeration systems
- Compressors in refrigeration systems and compressed air supply systems
- Conveyor belts

3.4 Accessories available

- External EMC filter
- Line choke to reduce supply harmonic distortion and offer additional protection to the drive
- Output choke to improve quality of output waveform and for long motor cables
- PI controller for simple feedback control systems
- Second analog input to switch between 2 references
- Second relay output for a second programmable relay output
- Remote keypad
- Gateway DFx
- Braking resistors

	NOTE
	See chapter 5 for futher information on the accessories available.

4 General specifications

4.1 Input voltage ranges

Depending on model and power rating the drives are designed for direct connection to the following supplies:

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

115 V ± 10 %, 1-phase, 50 – 60 Hz ± 5 %

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

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

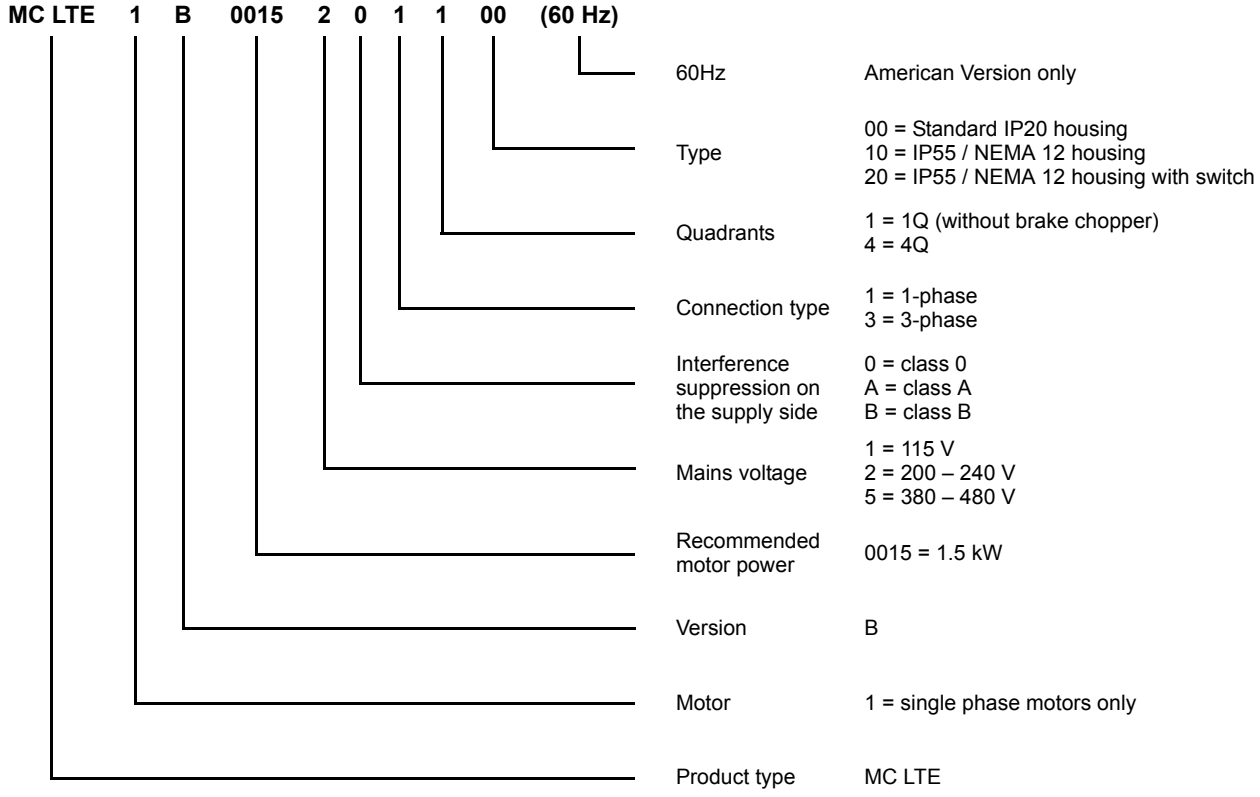
	NOTE
	*It is also possible to connect 1-phase MOVITRAC® LTE-B units to 2-phases of a 200 – 240 V, 3-phase mains.

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

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

Products used with a 3-phase supply are designed for a maximum supply imbalance of 3 % between phases. For input supplies which have a supply imbalance greater than 3 % (typically the Indian subcontinent and parts of Asia Pacific including China) we recommend that input chokes are used.

4.2 Product designation



4.3 Output power and current ratings

4.3.1 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		0829 6839	0829 6847	0829 6855
IP55 / NEMA 12 housing	Type	MC LTE B...	0004-101-1-10	0008-101-1-10	0011-101-4-10
	Part number		0829 7754	0829 7762	0829 7770
IP55 / NEMA 12 housing with switch	Type	MC LTE B...	0004-101-1-20	0008-101-1-20	0011-101-4-20
	Part number		0829 7290	0829 7304	0829 7312
INPUT					
Supply voltage		V_{mains}	1 × AC 115 V ± 10 %		
Supply frequency		f_{mains}	50 / 60 Hz ± 5 %		
Supply fuse rating		[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
		[hp]	0.5	1.0	1.5
Output voltage		V_{motor}	3 × 20 – 250 V (voltage doubler)		
Output current		[A]	2.3	4.3	5.8
Motor cable size Cu 75C		[mm^2]	1.5		
		[AWG]	16		
Max. motor cable length	Shielded	[m]	25		100
	Unshielded		40		150
GENERAL					
Size			1		2
Heat loss at nominal output power		[W]	11	22	33
Min. braking resistor value		[Ω]	–		47

1) Recommended value for UL compliance

4.3.2 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
	Part number		0829 6863	0829 6871	0829 6898	0829 6901	0829 6928
IP20 Standard with filter[2]	Type	MC LTE B...	0004-2B1-1-00	0008-2B1-1-00	0015-2B1-1-00	0015-2B1-4-00	0022-2B1-4-00
	Part number		0829 7061	0829 7088	0829 7096	0829 7118	0829 7126
IP55 / NEMA 12 housing[1]	Type	MC LTE B...	0004-201-1-10	0008-201-1-10	0015-201-1-10	0015-201-4-10	0022-201-4-10
	Part number		0829 7789	0829 7797	0829 7800	0829 7819	0829 7827
IP55 / NEMA 12 housing with filter[2]	Type	MC LTE B...	0004-2B1-1-10	0008-2B1-1-10	0015-2B1-1-10	0015-2B1-4-10	0022-2B1-4-10
	Part number		0829 7975	0829 7983	0829 7991	0829 8009	0829 8017
IP55 / NEMA 12 with switch[1]	Type	MC LTE B...	0004-201-1-20	0008-201-1-20	0015-201-1-20	0015-201-4-20	0022-201-4-20
	Part number		0829 7320	0829 7339	0829 7347	0829 7355	0829 7363
IP55 / NEMA 12 with switch and filter[2]	Type	MC LTE B...	0004-2B1-1-20	0008-2B1-1-20	0015-2B1-1-20	0015-2B1-4-20	0022-2B1-4-20
	Part number		0829 7525	0829 7533	0829 7541	0829 7568	0829 7576
INPUT							
Supply voltage		V_{mains}	1 × AC 200 – 240 V ± 10 %				
Supply frequency		f_{mains}	50 / 60 Hz ± 5 %				
Supply fuse rating		[A]	10	16	20		32 (35)[3]
Nominal input current		[A]	6.7	12.5	19.3	19.3	28.8
OUTPUT							
Recommended motor power		[kW]	0.37	0.75	1.5	1.5	2.2
		[hp]	0.5	1	2	2	3
Output voltage		V_{motor}	3 × 20 – 250 V				
Output current		[A]	2.3	4.3	7	7	10.5
Motor cable size Cu 75C		[mm^2]	1.5				
		[AWG]	16				
Max. motor cable length	Shielded	[m]	25			100	
	Unshielded		40			150	
GENERAL							
Size			1			2	
Heat loss at nominal output power		[W]	11	22	45	45	66
Min. braking resistor value		[Ω]	–			47	

1) Unit for America, Asia & Africa

2) Unit for Europe, Australia & New Zealand

3) Recommended value for UL compliance

4.3.3 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		0829 6936	0829 6944	0829 6952	0829 6960	0829 6979	0829 6987
IP20 Standard with filter[2]	Type	MC LTE B...	–	–	–	0015-2A3-4-00	0022-2A3-4-00	0040-2A3-4-00
	Part number		–	–	–	0829 7134	0829 7142	0829 7150
IP55 / NEMA 12 housing[1]	Type	MC LTE B...	0004-203-1-10	0008-203-1-10	0015-203-1-10	0015-203-4-10	0022-203-4-10	0040-203-4-10
	Part number		0829 7835	0829 7843	0829 7851	0829 7878	0829 7886	0829 7894
IP55 / NEMA 12 housing with filter[2]	Type	MC LTE B...	–	–	–	0015-2A3-4-10	0022-2A3-4-10	0040-2A3-4-10
	Part number		–	–	–	0829 8025	0829 8033	0829 8041
IP55 / NEMA 12 with switch[1]	Type	MC LTE B...	0004-203-1-20	0008-203-1-20	0015-203-1-20	0015-203-4-20	0022-203-4-20	0040-203-4-20
	Part number		0829 7371	0829 7398	0829 7401	0829 7428	0829 7436	0829 7444
IP55 / NEMA 12 with switch and filter[2]	Type	MC LTE B...	–	–	–	0015-2A3-4-20	0022-2A3-4-20	0040-2A3-4-20
	Part number		–	–	–	0829 7584	0829 7592	00829 7606
INPUT								
Supply voltage		V_{mains}	3 × AC 200 – 240 V ± 10 %					
Supply frequency		f_{mains}	50 / 60 Hz ± 5 %					
Supply fuse rating		[A]	6	10	16 (15)[3]		20	32 (35)[3]
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
		[hp]	0.5	1	2	2	3	5
Output voltage		[V_{motor}]	3 × 20 – 250 V					
Output current		[A]	2.3	4.3	7	7	10.5	18
Motor cable size Cu 75C		[mm^2]	1.5					2.5
		[AWG]	16					12
Max. motor cable length	Shielded	[m]	25			100		
	Unshielded		40			150		
GENERAL								
Size			1			2		3s
Heat loss at nominal output power		[W]	11	22	45		66	120
Min. braking resistor value		[Ω]	–			47		

1) Unit for America, Asia & Africa

2) Unit for Europe, Australia & New Zealand

3) Recommended value for UL compliance

4.3.4 3-phase system AC 400 V for 3-phase AC 400 V motors

Sizes 1 & 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		0829 6995	0829 7002	0829 7010	0829 7029	0829 7037
IP20 Standard with filter[2]	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		0829 7169	0829 7177	0829 7185	0829 7193	0829 7207
IP55 / NEMA 12 housing[1]	Type	MC LTE B...	0008-503-1-10	0015-503-1-10	0015-503-4-10	0022-503-4-10	0040-503-4-10
	Part number		0829 7908	0829 7916	0829 7924	0829 7932	0829 7940
IP55 / NEMA 12 housing with filter[2]	Type	MC LTE B...	0008-5A3-1-10	0015-5A3-1-10	0015-5A3-4-10	0022-5A3-4-10	0040-5A3-4-10
	Part number		0829 8068	0829 8076	0829 8084	0829 8092	0829 8106
IP55 / NEMA 12 with switch[1]	Type	MC LTE B...	0008-503-1-20	0015-503-1-20	0015-503-4-20	0022-503-4-20	0040-503-4-20
	Part number		0829 7452	0829 7460	0829 7479	0829 7487	0829 7495
IP55 / NEMA 12 with switch and filter[2]	Type	MC LTE B...	0008-5A3-1-20	0015-5A3-1-20	0015-5A3-4-20	0022-5A3-4-20	0040-5A3-4-20
	Part number		0829 7614	0829 7622	0829 7630	0829 7649	0829 7657
INPUT							
Supply voltage		V_{mains}	3 × AC 380 – 480 V ± 10 %				
Supply frequency		f_{mains}	50 / 60 Hz ± 5 %				
Supply fuse rating		[A]	5	10			16 (15)[3]
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
		[hp]	1	2	2	3	5
Output voltage		[V_{motor}]	3 × 20 – 480 V				
Output current		[A]	2.2	4.1	4.1	5.8	9.5
Motor cable size Cu 75C		[mm^2]	1.5				
		[AWG]	16				
Max. motor cable length	Shielded	[m]	25		50		
	Unshielded		40		75		
GENERAL							
Size			1		2		
Heat loss at nominal output power		[W]	22	45		66	120
Min. braking resistor value		[Ω]	–		100		

1) Unit for America, Asia & Africa

2) Unit for Europe, Australia & New Zealand

3) Recommended value 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		0829 7045	0829 7053	0829 9218
IP20 Standard with filter[2]	Type	MC LTE B...	0055-5A3-4-00	0075-5A3-4-00	0110-5A3-4-00
	Part number		0829 7215	0829 7223	0829 9196
IP55 / NEMA 12 housing[1]	Type	MC LTE B...	0055-503-4-10	0075-503-4-10	–
	Part number		0829 7959	0829 7967	–
IP55 / NEMA 12 housing with filter[2]	Type	MC LTE B...	0055-5A3-4-10	0075-5A3-4-10	–
	Part number		0829 8114	0829 8122	–
IP55 / NEMA 12 with switch[1]	Type	MC LTE B...	0055-503-4-20	0075-503-4-20	–
	Part number		0829 7509	0829 7517	–
IP55 / NEMA 12 with switch and filter[2]	Type	MC LTE B...	0055-5A3-4-20	0075-5A3-4-20	–
	Part number		0829 7665	0829 7673	–
INPUT					
Supply voltage		V_{mains}	3 × AC 380 – 480 V ± 10 %		
Supply frequency		f_{mains}	50 / 60 Hz ± 5 %		
Supply fuse rating		[A]	20	25	32 (35)[3]
Nominal input current		[A]	17.6	22.1	28.2
OUTPUT					
Recommended motor power		[kW]	5.5	7.5	11
		[hp]	7.5	10	15
Output voltage		[V_{motor}]	3 × 20 – 480 V		
Output current		[A]	14	18	24
Motor cable size Cu 75C		[mm^2]	2.5		4
		[AWG]	12		10
Max. motor cable length	Shielded	[m]	100		
	Unshielded		150		
GENERAL					
Size			3s		
Heat loss at nominal output power		[W]	165	225	330
Min. braking resistor value		[Ω]	22		

1) Unit for America, Asia & Africa

2) Unit for Europe, Australia & New Zealand

3) Recommended value for UL compliance

4.4 Overload capability

All MOVITRAC® LTE-B units have a possible overload of:

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

The overload is reduced to 150 % for 7.5 seconds if the output frequency is below 10 Hz.

For motor overload adjustment see parameter P-08 in chapter "Standard parameters" (page 24).

4.5 Protection features

- Output short-circuit, phase-to-phase, phase-to-ground
- Output over-current
- Overload protection
  - Drive delivers 150 % of rated motor current for 60 seconds.
- Over-voltage trip
  - Set at 123 % of drive maximum rated supply voltage.
- Under-voltage trip
- Over temperature trip
- Under temperature trip
  - Drive will trip if enabled below –10 °C
- Supply phase loss
  - A running drive will trip if one phase of a 3-phase supply is lost for more than 15 seconds.

4.6 Conformance

All products conform to the following international standards:

- CE marked for low voltage directive
- EN 61800-5-1 Adjustable speed safety requirements
- UL 508C Power conversion equipment
- EN 61800-3 Adjustable Speed electrical power drive systems - Part 3
- EN 55011
- Generic immunity/ Emission standards (EMC)
- Enclosure protection level according to NEMA 250, EN 60529
- Flammability rating according to UL 94
- C-Tick
- cUL

4.7 Electromagnetic compatibility

The MOVITRAC® LTE-B EMC emission levels comply with the limit classifications defined in EN 61800-3 and EN 55014, allowing it to be used in both industrial and domestic (light industrial) applications.

To obtain the best EMC performance the drives should be installed in accordance with the wiring guidlines in the Operating Instructions, thereby ensuring good earth connections for the drive system. Screened motor cable must be used to achieve compliance with the radiated emissions levels.

The following table defines the conditions for the use of MOVITRAC® LTE-B in drive applications:

Drive type / rating	Cat C1 (class B)	Cat C2 (class A)	Cat C3
230 V, 1-phase ratings LTEB xxxx 2B1-x-xx	No additional filtering required Use screened motor cable		
230 V / 400 V, 3-phase ratings LTEB xxxx 2A3-x-xx LTEB xxxx 5A3-x-xx	Use external filter type NF LT 5B3 0xx	No additional filtering required	
	Use screened motor cable		

In order for drives without internal filter to achieve compliance, an external filter and screened motor cable must be used:

Drive type / rating	Cat C1 (class B)	Cat C2 (class A)	Cat C3
230 V, 1-phase ratings LTEB xxxx 201-x-xx	Use external filter type NF LT 2B1 0xx Use screened motor cable		
230 V, 3-phase ratings LTEB xxxx 203-x-xx 400 V, 3-phase ratings LTEB xxxx 503-x-xx	Use external filter type NF LT 5B3 0xx Use screened motor cable		

4.8 Environmental information

Ambient temperature range operational	0 – 50 °C for default PWM frequency
Ambient temperature range storage	–40 °C – +60 °C
Max. altitude for rated operation	1000 m
Derating above 1000 m	1 % / 100 m to 2000 m max.
Relative humidity	<95 % (non condensing)
Protection rating cabinet drive	IP20, NEMA 1
Protection rating high enclosure drive	IP55, NEMA 12 k

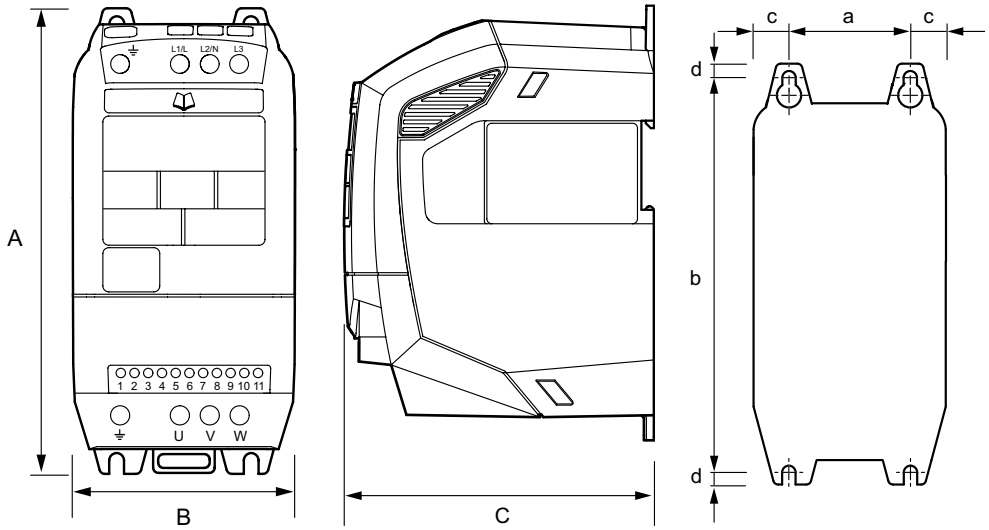
4.9 Dimensions

MOVITRAC® LTE-B is available in 2 housing versions:

- Standard IP20 housing for use in switch cabinets
- IP55 / NEMA 12 K

The IP55 / NEMA 12 K housing is protected against moisture and dust. Therefore, the drives can be operated indoors under harsh conditions. Electronically, the drives are identical and the only differences are the dimensions of the housing and the weight.

4.9.1 Dimensions of the IP20 housing



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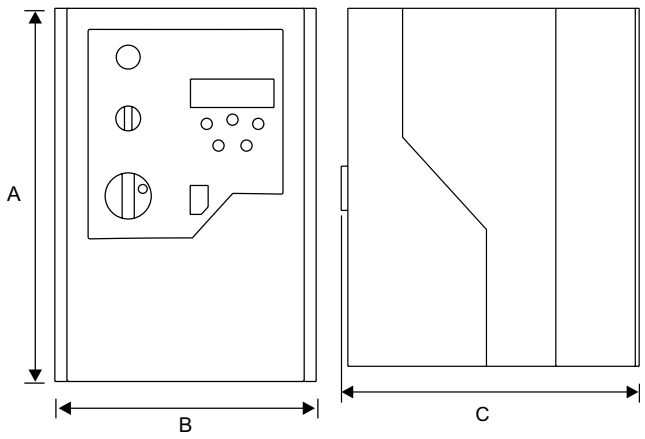
Dimension		Size 1	Size 2	Size 3
A (Height)	[mm]	174	220	261
	[in]	6.85	8.66	10.28
B (Width)	[mm]	79	104	126
	[in]	3.11	4.10	4.96
C (Depth)	[mm]	122.6	150	178
	[in]	4.83	5.90	7.01
Weight	[kg]	1.1	2.0	4.5
	[lb]	2.43	4.40	10.0
a	[mm]	50.0	63.0	80.0
	[in]	1.97	2.48	3.15
b	[mm]	162	209.0	247
	[in]	6.38	8.23	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
Power terminal torque settings	[Nm]	1.0	1.0	1.0
	[lb.in]	8.85	8.85	8.85
Recommended screw size		4 × M4	4 × M4	4 × M4

4.9.2 Dimensions of the IP55 / NEMA 12 housing (LTE xxx –10 and –20)



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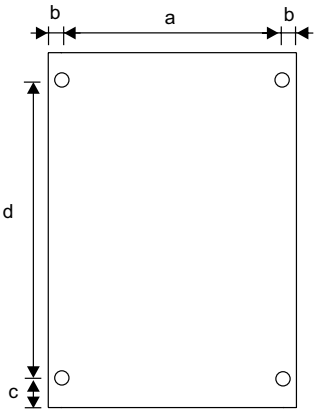

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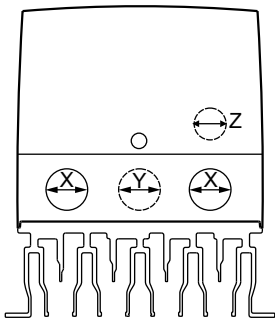

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Dimension		Size 1	Size 2	Size 3
Height (A)	[mm]	200	310	310
	[in]	7.9	12.2	12.2
Width (B)	[mm]	140	165	211
	[in]	5.5	6.5	8.31
Depth (C)	[mm]	165	176	240
	[in]	6.5	6.9	9.45
Weight	[kg]	2.3	4.5	5.6
	[lb]	5.1	9.9	12.4
a	[mm]	128	153	196
	[in]	5	6	7.72
b	[mm]	6	6	7
	[in]	0.23	0.23	0.28
c	[mm]	25	25	25
	[in]	0.98	0.98	0.98
d	[mm]	142	252	251
	[in]	5.6	9.9	9.88
X	[mm]	22	25	25
	[in]	0.87	0.98	0.98
Y[1)]	[mm]	22	22	22
	[in]	0.87	0.87	0.87
Z[1)]	[mm]	17	17	17
	[in]	0.67	0.67	0.67
Power terminal torque settings	[Nm]	1	1	1
	[lb.in]	8.85	8.85	8.85
Control terminal torque settings	[Nm]	0.5	0.5	0.5
	[lb.in]	4.43	4.43	4.43
Recommended screw size		2 × M4	4 × M4	4 × M4

1) Glands Y and Z are flip out glands.

4.10 IP20 housing: mounting and dimensions of switch cabinet

For applications that require a higher IP rating than the IP20 offered by the standard housing, the drive must be mounted in a switch cabinet. The following guidelines should be observed for these applications:

- The switch cabinet should be made from a thermally conductive material, unless forced ventilation is used.
- When a vented switch cabinet is used, there should be venting above and below the drive to ensure good air circulation. Air should be drawn in below the drive and expelled above the drive.
- If the external environment contains contamination particles (e.g. dust), a suitable particle filter should be fitted to the vents and forced ventilation implemented. The filter must be serviced and cleaned as and when necessary.
- Environments with a high moisture, salt or chemical content should use a suitably sealed (non-vented) switch cabinet.

4.10.1 Dimensions of non-vented metal switch cabinet

Drive power rating		Sealed switch 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

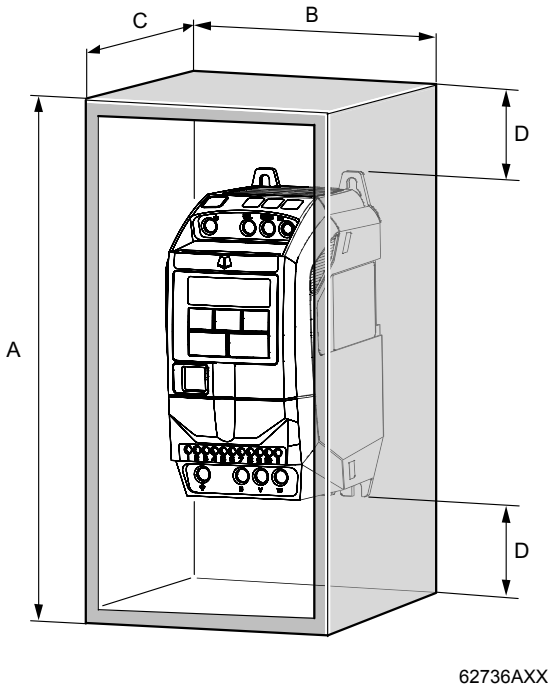


Figure 1: Switch cabinet

4.10.2 Dimensions of vented switch cabinet

Drive power rating		Vented switch cabinet							
		A		B		C		D	
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]
Size 1	All ratings	400	15.75	300	11.81	150	5.91	75	2.95
Size 2	All ratings	600	23.62	400	15.75	250	9.84	100	3.94
Size 3	All ratings	800	31.5	600	23.62	300	11.81	150	5.91

4.10.3 Dimensions of force vented switch cabinet

Drive power rating		Force vented switch cabinet (with fan)								
		A		B		C		D		
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	Air Flow
Size 1	All ratings	300	11.81	200	7.87	150	5.91	75	2.95	>15 m^3/h
Size 2	All ratings	400	15.75	300	11.81	250	9.84	100	3.94	>45 m^3/h
Size 3	All ratings	600	23.62	400	15.75	250	9.84	150	5.91	>80 m^3/h

4.11 User interface

Keypad

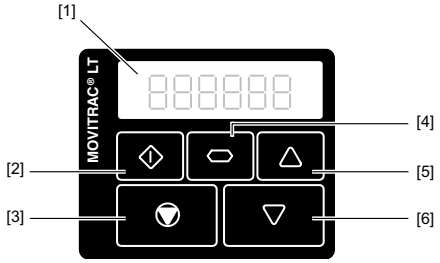
Each MOVITRAC® LTE-B has an integrated keypad as standard, allowing drive operation and setup without any additional equipment.

The keypad consists of 5 keys with the following functions:

Start / Run	• Enables running of motor • Reverses direction of rotation if bi-directional keypad mode is enabled
Stop / Reset	• Stops motor • Resets a tripped drive
Navigate	• Displays real time information • Press and hold to enter / exit parameter exit mode • Stores parameter changes
Up	• Increases speed in real time mode • Increases parameter values in parameter edit mode
Down	• Decreases speed in real time mode • Decreases parameter values in parameter edit mode

The Start / Stop buttons on the keypad are disabled when the parameters have their factory default settings. To enable the operation of the Start / Stop buttons on the keypad, set P-12 to 1 or 2. See chapter "Standard parameters" (page 24).

The Navigate key alone is used to gain access to the parameter edit menu. Pressing and holding this key (>1 sec) allows the user to toggle between the parameter edit menu and the real time display (where the drive operating status / running speed is displayed). By pressing this key (<1 sec) the user is able to toggle between the operating speed and operating current during drive operation.



62354AXX

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

NOTE

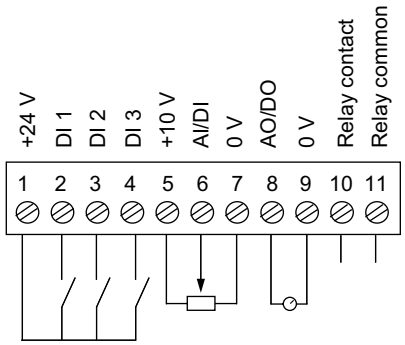
To reset to factory default settings, press the Up, Down, and Stop buttons simultaneously for >2 s. The display then shows "P-deF". Press the Stop button to acknowledge the change and to reset the drive.

Display

A standard 6-digit, 7-segment display is integrated into each drive to allow drive operation to be monitored and parameters to be set.

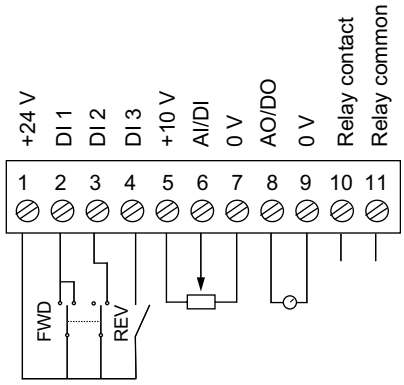
4.12 Signal terminals overview

IP20 and IP55



64485AEN

IP55 with switch option



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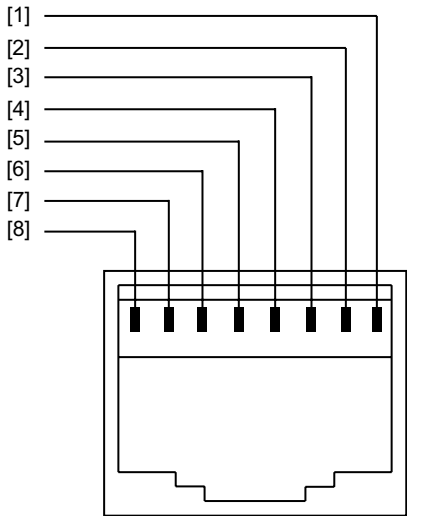
The signal terminal block has the following signal connections:

Terminal no.	Signal	Connection	Description
1	+24 V ref out	+24 V ref out	Ref. to activate DI1 – DI3 (100 mA max.)
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 when 0 V is connected.
3	DI 2	Digital input 2	
4	DI 3	Digital input 3 / thermistor contact	
5	+10 V	+10 V ref out	10 V ref for analog input (pot supply +, 10 mA max., 1 K Ω min.)
6	AI / DI	Analog input (12 bit) Digital 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 common	0 V ref for analog input (pot supply –)
8	AO / DO	Analog output (10 bit) Digital output	0 – 10 V, 20 mA analog 24 V, 20 mA digital
9	0 V	0 V common	0 V ref for analog output
10	Relay contact	Relay contact	N.O. relay contact (AC 250 V / DC 30 V @ 5 A)
11	Relay common	Relay common	

All digital inputs activated by input voltage in range +8 V – 30 V, i.e. +24 V compatible.

STOP	**STOP!**
	Voltages greater than 30 V applied to the control terminals may result in damage to the controller. Only apply voltages up to 30 V to the control terminals.

4.13 RJ45 Communication Socket

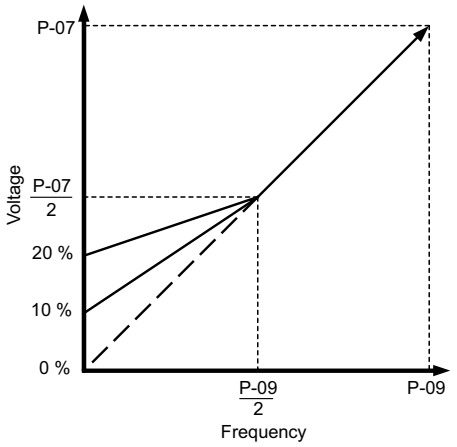


62701AXX

[1] No connection
[2] No connection
[3] +24 V
[4] RS-485+ / internal bus[1)]
[5] RS-485– / internal bus[1)]
[6] 0 V
[7] SBus+[2)]
[8] SBus–[2)]

1) The bit format is fixed as: 1 start bit, 8 data bits, 1 stop bit, no parity
2) P-12 must be set to 3 or 4 for SBus communication

4.14 Standard parameters

Parameter	Description	Range		Default	Explanation
P-01	Max. speed limit (Hz or rpm)	*P-02* to 5 × *P-09* (max. 500 Hz)		50.0 Hz[1)]	Maximum speed limit - Hz or rpm (see *P-10*)
P-02	Min. speed limit (Hz or rpm)	0 – *P-01* (max. 500 Hz)		0.0 Hz	Minimum speed limit - Hz or rpm (see *P-10*)
P-03	Acceleration ramp time (s)	0.0 – 600 s		5.0 s	Acceleration ramp time from 0 to 50 Hz (fixed) in seconds.
P-04	Deceleration ramp time (s)	0.0 – 600 s		5.0 s	Deceleration ramp time from 50 Hz (fixed) to standstill in seconds. If set to 0, then the fastest possible ramp time without trip is activated.
P-05	Stop mode select	0	Ramp to stop	0	If the supply is lost and *P-05* = 0, then the drive will try to continue running by reducing the speed of the load using the load as a generator. If *P-05* = 2, then the drive will ramp to stop using the *P-24* deceleration ramp when mains supply is lost. Also activates constant power braking mode for normal braking.
		1	Coast to stop		
		2	Ramp to stop (fast stop)		
P-06	Energy optimizer	0	Disabled	0	When enabled, automatically reduces applied motor voltage on light load. Minimum value is 50 % of nominal.
		1	Enabled		
P-07	Motor rated voltage	0, 20 – 250 V		230 V	Rated (nameplate) voltage of the motor in volts. The value is limited to 250 V for low voltage drives. Setting to 0 disables voltage compensation.
		0, 20 – 500 V		400 V[2)]	
P-08	Motor rated current	25 – 100 % of drive current rating		DR-Motor rating	Rated (nameplate) current of the motor in amps.
P-09	Motor rated frequency	25 – 500 Hz		50 Hz[1)]	Rated (nameplate) frequency of the motor.
P-10	Motor rated speed	0 – 30000 rpm		0	When not set to 0 all speed-related parameters are displayed in rpm.
P-11	Voltage boost	0 – 20 % of max output voltage. Resolution 0.1 %		Motor power dependent	Applies an adjustable boost to the MOVITRAC® voltage output at low speed to assist with starting 'sticky' loads. For continuous applications at low speed use a force ventilated motor. 

Parameter	Description	Range		Default	Explanation
P-12	Terminal / keypad / SBus control	0	Terminal control	0 (Terminal control)	See chapter "Easy startup" in the Operating Instructions.
		1	Keypad control (fwd only)		
		2	Keypad control (fwd / rev to toggle between fwd and rev using start button)		
		3	SBus network control with internal acceleration / deceleration ramps		
		4	SBus network control with accelaration / deceleration ramp adjustment via bus		
P-13	Trip log	Last 4 trips stored		No fault	Most recent 4 trips stored in order of occurrence, i.e. on entry, displays shows most recent first. Press the up and down buttons to view stored trips. (See chapter "Fault codes" in the Operating Instructions.)
P-14	Extended menu access code	0 – 9999		0	Set to "101" (default) for extended menu access. Change code in *P-37* to prevent unauthorized access to the extended parameter set.

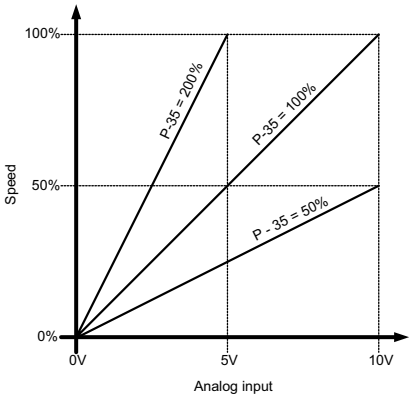
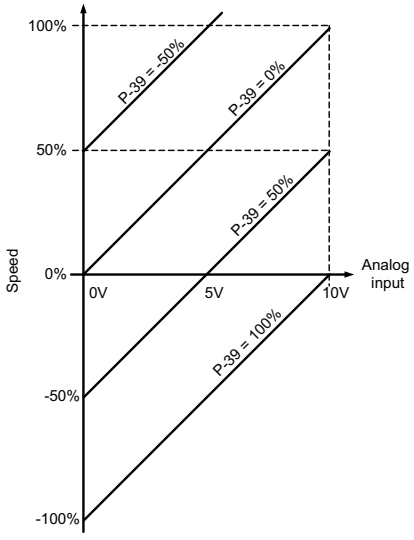
1) 60 Hz (USA & Canada only)

2) 460 V (USA & Canada only)

4.15 Extended parameters

Parameter	Description	Range		Default	Explanation
P-15	Digital input function set	0 – 12		0	Defines the function of the digital inputs. (See chapter "P-15 Digital inputs function select" on page 28.)
P-16	Analog input V / mA	0 – 10 V, b 0 – 10 V, 0 – 20 mA t 4 – 20 mA, r 4 – 20 mA t 20 – 4 mA, r 20 – 4 mA		0 – 10 V	Configures the analog input format. 0 – 10 V: unipolar mode (voltage input) b0 – 10 V: bipolar mode (voltage input) • Can be used for bipolar input signals • 50 % offset can be applied to *P-39* • 200 % scaling in *P-35* gives ± *P-01* 0 – 20 mA: unipolar mode (current input) 4 – 20 mA: unipolar mode (current input) 20 – 4 mA: reverse unipolar current mode "t" indicates the drive will trip if the signal is removed whilst the drive is enabled. "r" indicates the drive will ramp to preset speed 1 if the signal is removed whilst the drive is enabled.
P-17	Output switching frequency	2 – 16 kHz		4 / 8 kHz	Sets maximum output switching frequency X1: Higher switching frequency means less noise development on the motor but higher losses in the output stage.
P-18	User relay output select	0	Drive enabled	1 (Drive healthy)	User relay settings. Digital output limit defined by value in *P-19*. Disabled: contacts open Enabled: contacts closed
		1	Drive healthy (not tripped)		
		2	Motor at target speed		
		3	Drive tripped		
		4	Motor speed ≥ limit		
		5	Motor current ≥ limit		
		6	Motor speed < limit		
		7	Motor current < limit		
P-19	User relay output limit	0 – 100 %		100.0 %	Sets the limit for *P-18*.

Parameter	Description	Range		Default	Explanation
P-20	Preset speed 1	–*P-01* (min.) – *P-01* (max.)		0.0 Hz	Defines preset / jog speed 1
P-21	Preset speed 2	–*P-01* (min.) – *P-01* (max.)		0.0 Hz	Defines preset / jog speed 2
P-22	Preset speed 3	–*P-01* (min.) – *P-01* (max.)		0.0 Hz	Defines preset / jog speed 3
P-23	Preset speed 4	–*P-01* (min.) – *P-01* (max.)		0.0 Hz	Defines preset / jog speed 4
P-24	Deceleration ramp time 2	0 – 25 s		0	Selected via digital inputs or on mains loss as set in *P-05*.
P-25	Analog output function select	0	Drive enabled (digital)	8	**Digital output mode** • Options 0 – 7: select a digital voltage output signal – Disabled: 0 V – Enabled: +24 V, (20 mA limit) • Options 4 – 7: digital output is enabled using the level set in *P-19*. **Analog output mode** • Option 8: Motor speed signal range 0 – 10 V = 0 – 100% of *P-01* • Option 9: Motor current signal range 0 – 10 V = 0 – 200% of *P-08*
		1	Drive healthy (digital)		
		2	Motor at target speed (digital)		
		3	Drive tripped (digital)		
		4	Motor speed ≥ limit (digital)		
		5	Motor current ≥ limit (digital)		
		6	Motor speed < limit (digital)		
		7	Motor current < limit (digital)		
		8	Motor speed (analog)		
		9	Motor current (analog)		
P-26	Skip frequency hysteris band	0 – *P-01*		0.0 Hz	Speed reference held at upper or lower skip frequency limit until input reaches opposite skip frequency limit. Speed ramps through the skip frequency band at a rate set in *P-03* and *P-04*.
P-27	Skip frequency	*P-02* (min.) – *P-01* (max.)		0 Hz	Skip frequency centre point.
P-28	V/F characteristic adjustment voltage	0 – *P-07*		0 V	Adjusts the applied motor voltage to this value at the frequency set in *P-29*.
P-29	V/F characteristic adjustment frequency	0 – *P-09*		0 Hz	Sets the frequency at which the V/F adjustment voltage set in *P-28* is applied.
P-30	Terminal mode restart function	Edge-r, Auto-0 – Auto-5		Auto-0	Number of automatic resets.
P-31	Keypad mode restart function	0	Minimum speed	1	When set to 0 or 1, the start button also has to be used. When set to 2 or 3, the drive enables when the drive hardware enable signal is present. The speed can then be varied on the keypad.
		1	Previous speed		
		2	Minimum speed (Auto-run)		
		3	Previous speed (Auto-run)		
P-32	DC injection enable / duration	0 – 25 s		0.0 s	When >0, DC injection braking is activated when speed reaches zero with stop signal applied. Only applied on disable (Stop), not on enable. Uses the level set in *P-11*.
P-33	Spin start[1)]	0	Disabled	0	When enabled, the drive starts from the detected rotor speed. Short stay delay is possible if the rotor is stationary. For size 1 drives, *P-33 = 1* enables DC injection braking on enable. The duration and levels are set by *P-32* and *P-11* respectively.
		1	Enabled		
P-34	Brake chopper enable	0	Disabled	0	All braking resistors must be protected by external protection devices.
		1	Enabled with s/w protection for BWLT 050 002 only		
		2	Enabled for other BWxxxx with external protection		

Parameter	Description	Range	Default	Explanation
P-35	Analog input scaling factor	0 % – 500 %	100.0 %	Analog input scaling, resolution 0.1 %. 
P-36	Comms address	Adr: 0 disable, 1 – 63	1	Adr: Unique drive address for comms networks. Setting a baudrate enables SBus at that baudrate. The time before a trip in the event of a communication loss can be set in milliseconds. Setting "0" disables the comms trip. "t" indicates the drive will trip if time is exceeded. "r" indicates the drive will ramp to stop if time is exceeded
	SBus enable / baudrate select	125 – 1000 kBaud	500 kBaud	
	Trip enable / delay	0 (no trip), t 30, 100, 1000, 3000 (ms) r 30, 100, 1000, 3000 (ms)	100 ms	
P-37	Access code definition	0 – 9999	101	Defines *Extended Parameter Set* access code *P-14*.
P-38	Parameter access lock	0 All parameters can be changed and are auto-saved on power down.	0 (Write access and auto-save enabled)	Controls user access to parameters. If *P-38* = 0, all parameters can be changed. These changes will be stored automatically. If *P-38* = 1, parameters are locked and cannot be changed.
		1 Read-only. No changes allowed.		
P-39	Analog input offset	–500 – 500 %	0.0 %	Analog input offset, resolution 0.1 %. 
P-40	Display speed scaling factor	0 – 6	0.000	Scales speed by this factor. If *P-10* = 0, speed in Hz scaled by this factor. If *P-10* >0, speed in rpm scaled. Displayed as real-time variable on the drive display.

1) Sizes 2 and 3 only. Size 1 works with DC voltage.

4.16 P-15 Digital inputs function select

The functionality of the digital inputs within the MOVITRAC® LTE-B is user programmable, allowing the user to select the functions required for the application.

The following tables define the functions of the digital inputs depending on the value of parameter P-12 (Terminal / keypad / SBus control) and P-15 (Digital input function select).

4.16.1 Terminal mode

If P-12 = 0 (terminal mode) then use the following table.

P-15	Digital input 1	Digital input 2	Digital input 3	Analog input	Comments
0	Open : Stop (Disable) Closed : Run (Enable)	Open : Forward run Closed : Reverse run	Open : Analog speed ref Closed : Preset speed 1	Analog input reference	–
1	Open : Stop (Disable) Closed : Run (Enable)	Open : Analog speed ref Closed : Preset speed 1 / 2	Open : Preset speed 1 Closed : Preset speed 2	Analog input reference	–
2	Open : Stop (Disable) Closed : Run (Enable)	Open	Open	Open : Preset speed 1 – 4 Closed : Max. speed (P-01)	Preset speed 1
		Open	Closed		Preset speed 2
		Closed	Open		Preset speed 3
		Closed	Closed		Preset speed 4
3	Open : Stop (Disable) Closed : Run (Enable)	Open : Analog speed ref Closed : Preset speed 1	External trip input: Open : Trip Closed : Run	Analog input reference	Connect external PTC thermistor or similar to digital input 3.
4	Open : Stop (Disable) Closed : Run (Enable)	Open : Forward run Closed : Reverse run	Open : Analog speed ref Closed : Preset speed 1	Analog input reference	–
5	Open : Forward stop Closed : Forward run	Open : Reverse Stop Closed : Reverse Run	Open : Analog speed ref Closed : Preset speed 1	Analog input reference	Closing digital inputs 1 and 2 together carries out a fast stop.
6	Open : Stop (Disable) Closed : Run (Enable)	Open : Forward run Closed : Reverse run	External trip input: Open : Trip Closed : Run	Analog input reference	Connect external PTC thermistor or similar to digital input 3.
7	Open : Forward stop Closed : Forward run	Open : Reverse Stop Closed : Reverse Run	External trip input: Open : Trip Closed : Run	Analog input reference	Closing digital inputs 1 and 2 together stops the drive with deceleration ramp 2 (P-24).
8	Open : Stop (Disable) Closed : Run (Enable)	Open : Forward run Closed : Reverse run	Open	Open	Preset speed 1
			Open	Closed	Preset speed 2
			Closed	Open	Preset speed 3
			Closed	Closed	Preset speed 4
9	Open : Forward stop Closed : Forward run	Open : Reverse Stop Closed : Reverse Run	Open	Open	Preset speed 1
			Open	Closed	Preset speed 2
			Closed	Open	Preset speed 3
			Closed	Closed	Preset speed 4
10	Normally Open (N.O.) Momentarily close to run	Normally Closed (N.C.) Momentarily open to stop	Open : Analog speed ref Closed : Preset speed 1	Analog input reference	–

P-15	Digital input 1	Digital input 2	Digital input 3	Analog input	Comments
11	Normally Open (N.O.) Momentarily close to run forward	Normally Closed (N.C.) Momentarily open to stop	Normally Open (N.O.) Momentarily close to run reverse	Analog input reference	Closing digital inputs 1 and 3 together stops the drive with decelera-tion ramp 2 (P-24).
12	Open : Stop (Disable) Closed : Run (Enable)	Closed to run Open to activate decelera-tion ramp 2	Open : Analog speed ref Closed : Preset speed 1	Analog input reference	–

4.16.2 Keypad mode

If *P-12* = 1 or 2 (keypad mode) then use the following table.

P-15	Digital input 1	Digital input 2	Digital input 3	Analog input	Comments
0, 1, 5, 8 – 12	Open : Stop (Disable) Closed : Run (Enable)	Closed : Remote UP pushbutton	Closed : Remote DOWN pushbutton	Open : Forward +24 V: Reverse	–
2	Open : Stop (Disable) Closed : Run (Enable)	Closed : Remote UP pushbutton	Closed : Remote DOWN pushbutton	Open : Keypad speed ref +24 V: Preset speed 1	–
3	Open : Stop (Disable) Closed : Run (Enable)	Closed : Remote UP pushbutton	External trip input: Open : Trip Closed : Run	Closed : Remote DOWN pushbutton	Connect external PTC ther-mistor or similar to digital input 3.
4	Open : Stop (Disable) Closed : Run (Enable)	Closed : Remote UP	Open : Keypad speed ref Closed : Analog input	Analog input ref	–
6	Open : Stop (Disable) Closed : Run (Enable)	Open : Forward run Closed : Reverse run	External trip input: Open : Trip Closed : Run	Open : Keypad speed ref +24 V: Preset speed 1	Connect external PTC ther-mistor or similar to digital input 3.
7	Open : Forward stop Closed : Forward run	Open : Reverse stop Closed : Reverse run	External trip input: Open : Trip Closed : Run	Open : Keypad speed ref +24 V: Preset speed 1	Closing digital inputs 1 and 2 together stops the drive with deceleration ramp 2 (P-24).

4.16.3 SBus control mode

If *P-12* = 3 or 4 (SBus control mode) then use the following table.

P-15	Digital input 1	Digital input 2	Digital input 3	Analog input	Comments
0, 1, 2, 4, 5, 8 – 12	Open : Stop (Disable) Closed : Run (Enable)	No effect	No effect	No effect	Digital input 1 must be closed for the drive to run. Start and stop commands are given via the gateway.
3	Open : Stop (Disable) Closed : Run (Enable)	Open : Master speed ref Closed : Preset speed 1	External trip input: Open : Trip Closed : Run	No effect	Connect external PTC ther-mistor or similar to digital input 3.
6	Open : Stop (Disable) Closed : Run (Enable)	Open : Master speed ref Closed : Analog input	External trip input: Open : Trip Closed : Run	Analog input reference	When digital input 2 is open, start and stop are controlled via gateway. When digital input 2 is closed, drive auto runs if digital input 1 is closed.
7	Open : Stop (Disable) Closed : Run (Enable)	Open : Master speed ref Closed : Keypad speed ref	External trip input: Open : Trip Closed : Run	No effect	When digital input 2 is open, start and stop are controlled via gateway. When digital input 2 is closed, drive auto runs if digital input 1 is closed, depending on *P-31*.

5 Accessories

5.1 Braking resistors

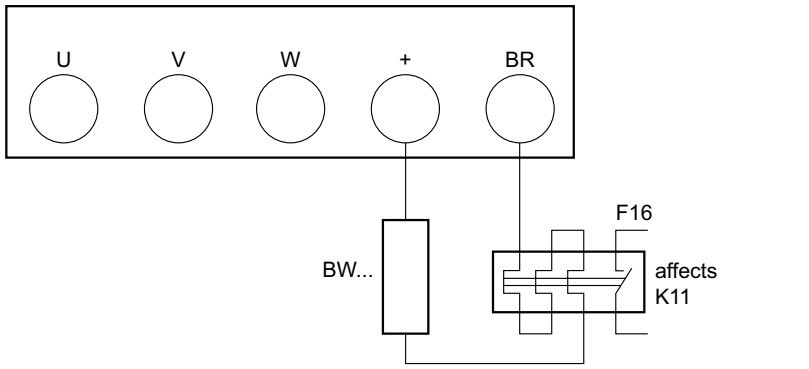
5.1.1 Braking resistor circuit

MOVITRAC® LTE- B units sizes 2 and 3s have a built in braking transistor which can be used with an external braking resistor to convert re-generated energy from the motor into thermal energy. This braking circuit is generally needed for applications with a fast deceleration ramp or with a high inertia load.

SEW also recommends protecting wire and grid resistors against overload using a bimetallic relay as shown below. The relay output must open up the supply voltage to the MOVITRAC® LTE-B unit. It **must not** open up the connection from the braking resistor to the MOVITRAC® LTE-B unit.

With the braking resistors BW LT 050 002, SEW-EURODRIVE flat-type braking resistors and any other overload protected braking resistors, the bimetallic relay is not required.

The illustration below shows the wiring diagram for the braking resistor connection.



5.1.2 Minimum braking resistor values

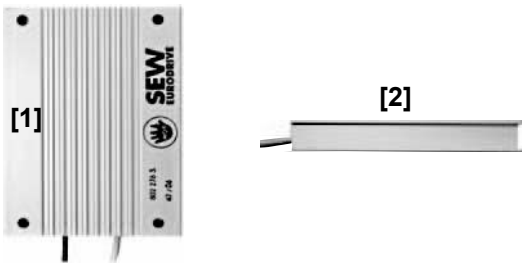
MOVITRAC® LTE-B	1.5 kW	2.2 kW	4.0 kW	5.5 kW	7.5 kW	11 kW
115 / 230 V	47 Ω	47 Ω	47 Ω	–	–	–
400 V	100 Ω	100 Ω	100 Ω	22 Ω	22 Ω	22 Ω

5.1.3 Flat design braking resistors

The flat-design resistors have degree of protection IP54 and are equipped with internal thermal overload protection (cannot be replaced). Depending on their type, you can install the resistors as follows:

- With support rail mounting FHS or submounting FKB under the heat sink. The braking resistors in the submounting do not achieve the specified CDF power. The FHS and FKB options are only suitable for the BW027-003 and BW072-003 braking resistors.
- Attach to a mounting rail using a BS touch guard.

Caution: The load capacity applies for a horizontal mounting position [2]. Values are reduced by 10 % for a vertical mounting position [1].



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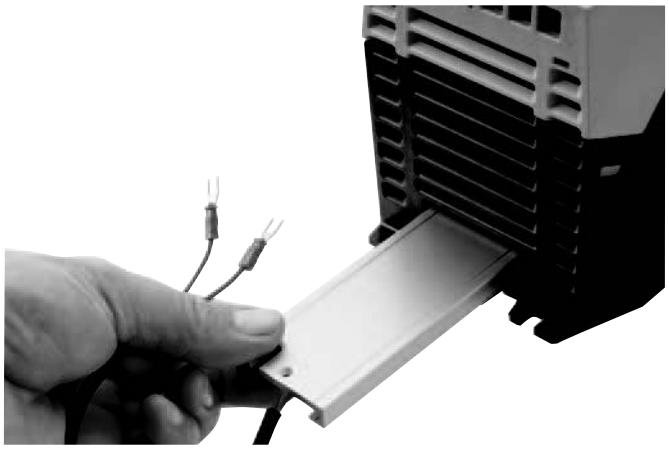
Braking resistor type	BW027-003	BW027-005	BW047-003	BW047-005	BW072-003	BW072-005	BW100-005
Part number	826 949 1	826 950 5	826 265 9	826 268 3	826 058 3	826 060 5	826 269 1
100 % CDF 50 % CDF 25 % CDF 12 % CDF 6 % CDF	230 W 310 W 410 W 550 W 980 W	450 W 610 W 840 W 1200 W 2360 W	250 W 330 W 430 W 580 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 J_A	–20 °C – +45 °C						

5.1.4 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 (AWG 12)				
Tightening torque	0.5 Nm / 4 lb in				

5.1.5 Flat pack resistor



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A special flat pack resistor is available for MOVITRAC® LTE-B:

- Can be mounted easily onto the side of the heatsink.
- No additional space is required.
- Suitable for all MOVITRAC® LTE-B units with low inertia applications.

Braking resistor type	IP20 Resistor[1)] BW LT 050 002	IP55 Resistor[1)] BW LT 050 002 55
Part number	1820 1911	1821 8342
Load capacity at: • continuous duty • 0.125 s	 200 W 12 kW	 200 W 12 kW
Resistance value	100	50 R
For MOVITRAC® LTE-B . . .	Sizes 2 & 3	Size 2

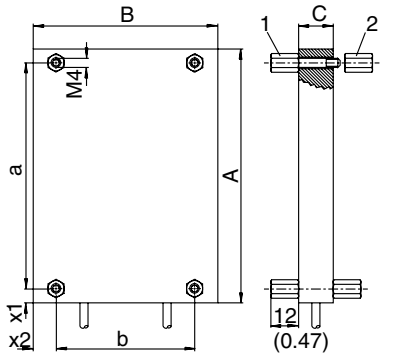
1) Not UL approved

5.1.6 Dimensions of BW braking resistors

Flat-Design The connecting lead is 500 mm (19.69 in) long.

Scope of delivery:

- 4 × M4 threaded bushes, type 1
- 4 × M4 threaded bushes, type 2



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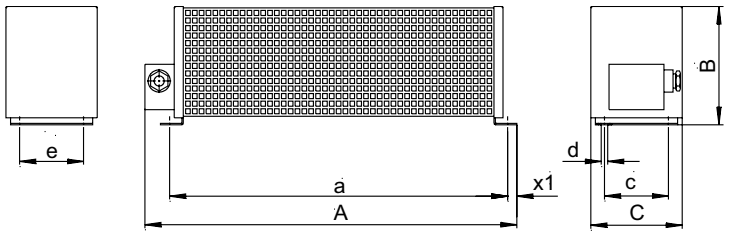
Type	Main dimensions [mm (in)]			Fastening parts [mm (in)]				Weight [kg (lb)]
	A	B	C	a	b	x1	x2	
BW027-003 BW047-003 BW072-003	110 (4.33)	80 (3.1)	15 (0.59)	98 (3.9)	60 (2.4)	6 (0.2)	10 (0.39)	0.3 (0.7)
BW027-005 BW047-005 BW072-005 BW100-005	216 (8.50)	80 (3.1)	15 (0.59)	204 (8.03)	60 (2.4)	6 (0.2)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

Wire resistors



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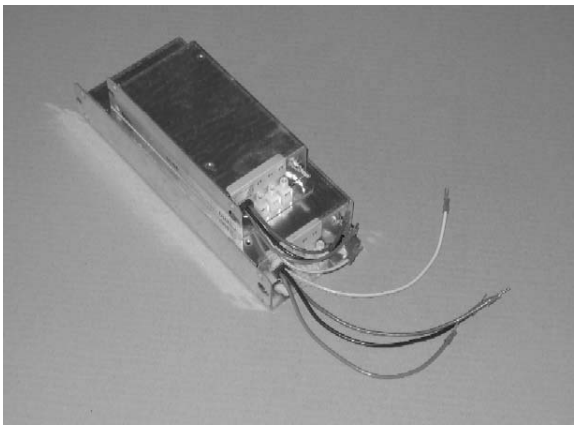
Type	Main dimensions [mm (in)]			Fastening parts [mm (in)]				Weight [kg (lb)]
	A	B	C	a	c/e	x1	d	
BW027-006	486 (19.1)	120 (4.72)	92 (3.6)	426 (16.8)	64 (2.5)	10 (0.39)	5.8 (0.23)	2.2 (4.9)
BW027-012	486 (19.1)	120 (4.72)	185 (7.28)	426 (16.8)	150 (5.91)	10 (0.39)	5.8 (0.23)	4.3 (9.5)
BW100-006	486 (19.1)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

5.2 Input filter



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The MOVITRAC® LTE-B is also available without an internal EMC filter for the USA. The filter option is used where it is required to meet conducted emission standard EN61000-6-3/4. Please note that all MOVITRAC® LTE-B units inherently comply with the EMC radiated emission standards (EN 55011) when good wiring practice is employed.

The internal EMC filters are specified as follows:

- Single phase MOVITRAC® LTE-B units with internal filter meet EN 55011 Domestic (Class B / C1)
- 3-phase MOVITRAC® LTE-B units with internal filter meet EN 55011 Industrial (Class A / C2)

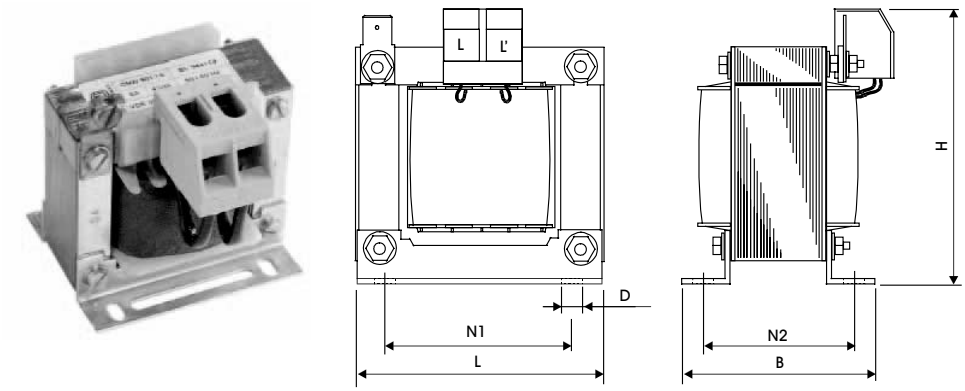
The external EMC filters can be used for more demanding applications where, for example, the 480 V drive is required to meet domestic radiated emission requirements. They are specified as follows:

MOVITRAC® LTE-B size	1	1	2	2	3s
Input filter model	NF LT 2B1 010[1)]	NF LT 5B3 006[1)]	NF LT 2B1 016[1)]	NF LT 5B3 016[1)]	NF LT 5B3 030[1)]
Part number	1820 1571	1820 1601	1820 1598	1820 1628	1820 1636
Supply 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) Not UL approved

5.3 Line chokes

Line chokes reduce supply harmonic distortion and protect MOVITRAC® LTE-B units against harmful supply disturbances. They are also used to reduce the effects of the MOVITRAC® LTE-B upon supply harmonic distortion.



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Line chokes are also used to protect the power input circuits of the MOVITRAC® LTE-B against voltage spikes which might originate from lightning strikes or other equipment on the same supply.

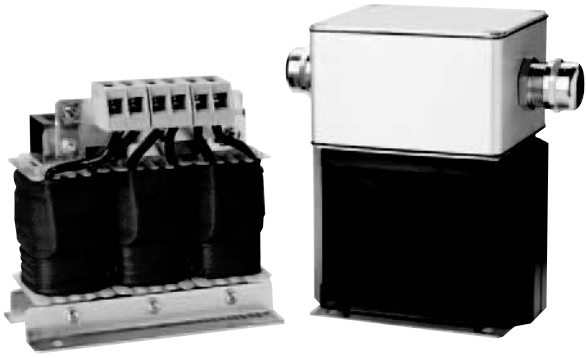
Type	Part number	MOVITRAC® LTE-B Size	Rated voltage [V]	Phase	Rated current [A]	Inductance / limb [mH]
ND LT 010 290 21[1)]	1820 1644	1	<230	1	10	2.9
ND LT 025 110 21[1)]	1820 1652	2	<230	1	25	1.1
ND LT 006 480 53[1)]	1820 1660	1	<500	3	6	4.8
ND LT 010 290 53[1)]	1820 1679	2	<500	3	10	2.9
ND LT 036 081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

1) Not UL approved

Type	L		B		H		N1		N2		D		Mass	
	[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	0.8	1.76
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

5.4 Output chokes

Output chokes improve the quality of the output waveform. Therefore the maximum cable length stated in the rating table can be doubled when using an output choke.



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MOVITRAC® LTE-B units, like the majority of other inverter drives, have unfiltered outputs. In the majority of applications this will give satisfactory performance, however, in a small number of applications output filtering is strongly recommended to improve system functionality, reliability and longevity. These applications include:

- Long motor cables, up to 300 m (the rated cable length can be doubled if an output choke is used)
- High capacitance motor cables (i.e. typical "pyro" wire, used for fire protection)
- Multiple motors connected in parallel
- Motors without inverter grade insulation (typically older motors)

A range of high quality output chokes are available for MOVITRAC® LTE-B with the following key features:

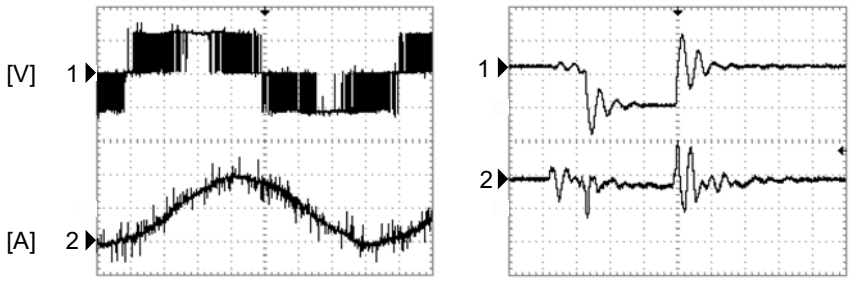
- Limits output voltage gradient, typically <200 V/µs
- Limits transient over voltages at the motor terminals, typically <1000 V
- Suppression of mains conducted interference in lower frequency ranges
- Compensation of capacitive load currents
- Reduction of RFI emissions from the motor cable
- Reduction of motor losses and audible noise caused by ripple

5.4.1 Technical Data

Type	Part number	IP-protection	Size	Phase	Rated voltage [V]	Rated current [A]	Inductance / Limb [mH]
HD LT 008 200 53	1820 1695	IP00	1	3	480	8	2
HD LT 012 130 53	1820 1709		2		480	12	1.3
HD LT 030 050 53	1820 1717		3		480	18	0.5
HD LT 008 200 63 55	1821 6757	IP55	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 current characteristics

Without choke



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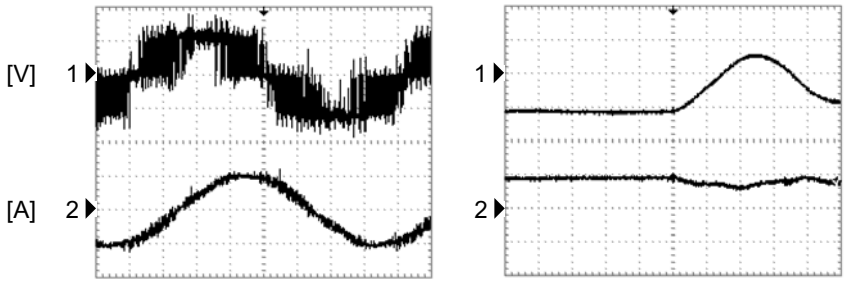
With choke



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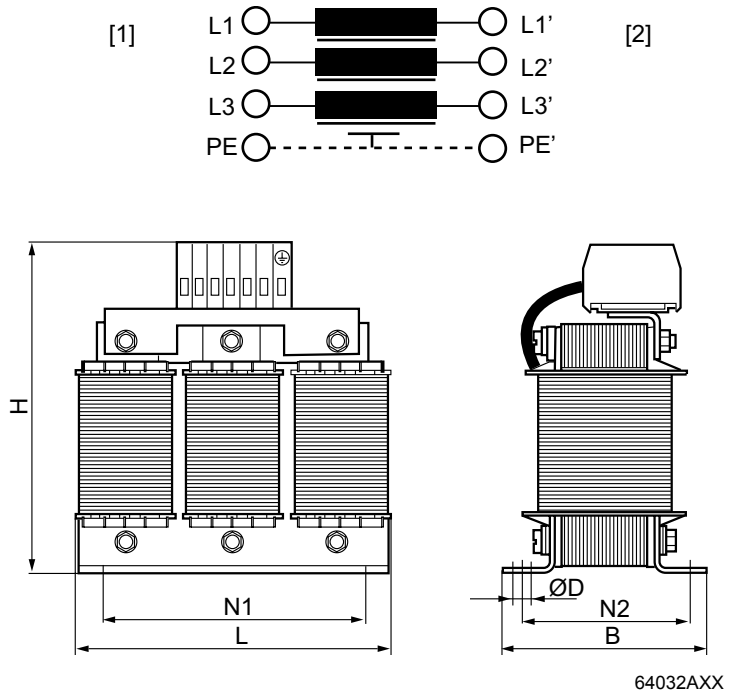
	NOTE
	With a filter fitted the switching pulse rises slower and to a lower amplitude.

5.4.2 Dimensions



Type	L [mm]	B [mm]	H [mm]	N1 [mm]	N2 [mm]	∅ 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	3
HD LT 030 050 53	155	160	105	130	57	8	4.5
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

5.5 Remote keypad option LT BG-B

Part number: 1821 8202

The basic version of the MOVITRAC® LTE-B has an integrated keypad for some applications, however it is necessary to have an additional keypad in a remote area. The keypad option comes with a self-adhesive seal and a 3 m long cable to be plugged into the RJ45 connector on the MOVITRAC® LTE-B unit. The maximum cable length between the keypad and the drive is 25 m for unshielded cable and 100 m for shielded cable.

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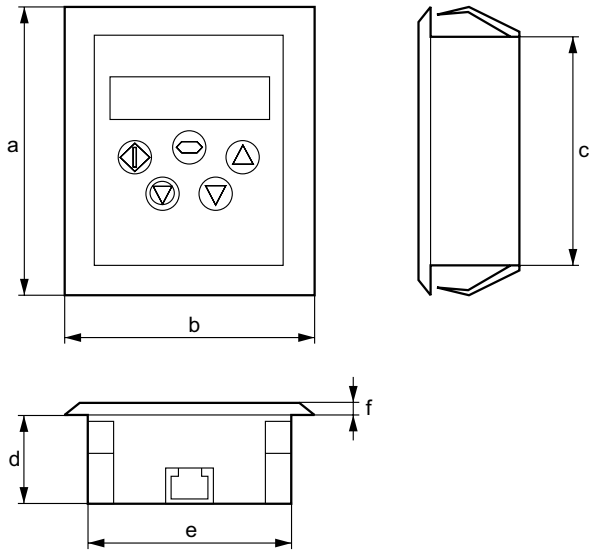
5.5.1 Installation in switch cabinet door or control panel

To install LT BG-B in the door of a switch cabinet or in a control panel the metal work has to be cut according to the drawing below. By using the included self-adhesive seal the installed keypad meets the IP54 / NEMA 13 standard.



Dimension Drawing

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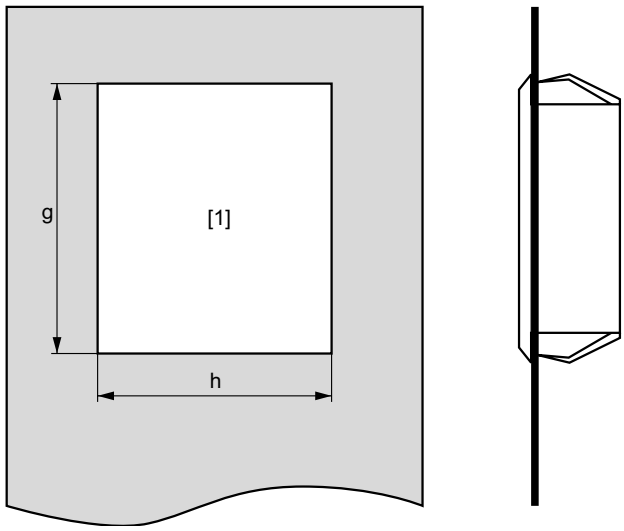

Switch cabinet mounting cut out

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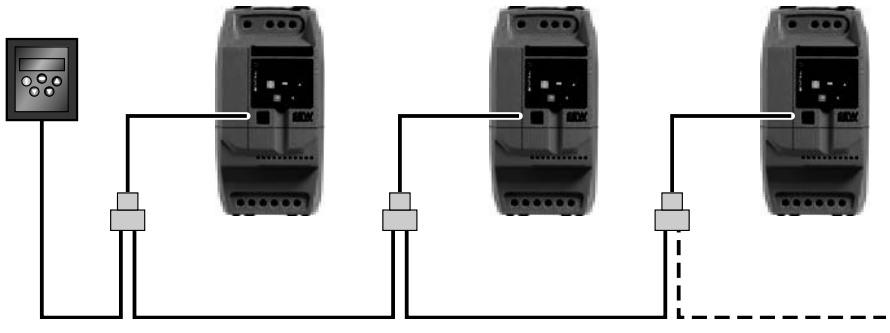
[a] 81 mm
[b] 55 mm
[c] 65 mm
[d] 21 mm
[e] 55 mm
[f] 3 mm
[g] 70 mm
[h] 55 mm
[1] Cut out



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One keypad can be installed and control up to 63 drives in a drive network. The overall cable length in the network must not exceed 25 m for unshielded cable or 100 m for shielded cable.

5.6 Cable Splitter: 1 in and 2 out

Type	Part number
LT-RJ-CS-21-B	1821 8253

63457AXX

The RJ45 data cable splitter is required when the RJ45 communications port from a MOVITRAC® LTE-B unit is connected to ≥1 other drive.

Typical applications are where communication is required from any of the following sources to multiple drives forming a network:

- Remote keypad LT BG-B
- Drive networks to MOVI-PLC® via SBus
- Fieldbus communication via UOH / DFx gateway

5.7 SBus Terminating Connector

Type	Part number
LT-CS-TR-B	1821 8261

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The SBus terminating connector is required if MOVITRAC® LTE-B is used in conjunction with MOVI-PLC® or the SEW Gateway DFx. In this case the last MOVITRAC® LTE-B in the network must be connected via this terminating connector.

5.8 Prefabricated cables with RJ45 connectors on both ends

The prefabricated cables are available in 3 different lengths. Each cable is equipped with an 8-pin RJ45 connector on each end.

Cable length	Type	Part number
0.3 m unshielded	LT K-RJ-003-B	1821 8210
1.0 m unshielded	LT K-RJ-010-B	1821 8229
3.0 m unshielded	LT K-RJ-030-B	1821 8237

5.9 Prefabricated cables with RJ45 connector on one end

Each cable is equipped with an 8-pin RJ45 connector on one end. These cables are used to connect the MOVITRAC® LTE-B unit to the SEW-Gateway DFx.

Cable length	Type	Part number
0.5 m unshielded	LT K-RJ0E-005-B	1821 8245

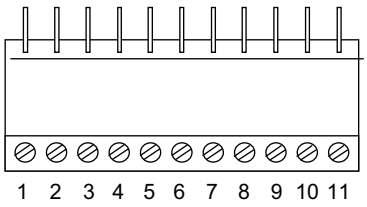
5.10 Second relay output

Type	Part number
OB LT 2ROUT	1822 3168

The 2nd relay output module can be used in applications where the analog output from the drive is converted to a relay output.

Typical applications are where 2 relay outputs are required. The functions of the relays are programmable in the drive and can be any of the following:

- Drive enabled
- Drive healthy
- Drive at set speed
- Drive at zero speed
- Drive at maximum speed
- Motor in overload



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Terminal no.	Signal	Connection	Description
1	+24 V	+24 V ref out	Ref. to activate DI1 – DI3 (100 mA max.)
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 when 0 V is connected.
3	DI 2	Digital input 2	
4	DI 3	Digital input 3 / thermistor contact	
5	+10 V	+10 V ref out	10 V ref for analog input (pot supply +, 10 mA max., 1 K Ω min.)
6	AI / DI	Analog input (12 bit) Digital 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 common	0 V ref for analog input (pot supply –)
8	Relay 2 contact	Relay contact	N.O. relay contact (AC 250 V / DC 30 V @ 5 A)
9	Relay 2 common	Relay common	
10	Relay 1 contact	Relay contact	N.O. relay contact (AC 250 V / DC 30 V @ 5 A)
11	Relay 1 common	Relay common	

	NOTE
	Once this option board has been installed and fully wired into an IP55 / NEMA 12 drive, the board must be bent slightly in a downwards direction to enable the front cover to be closed. This does not affect the function of the option board.

Specification

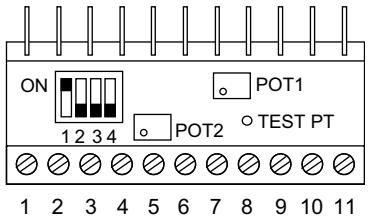
Max. relay switching voltage		AC 250 V / DC 220 V
Max. relay switching current		1 A
Conformity		IP00, UL94V-0
Environmental		–10 – +50 °C
Dimensions	[mm]	56 × 24 (not pins) × 14
	[in]	2.20 × 0.98 (not pins) × 0.56

5.11 PI Controller

Type	Part number
OB LT PICON-B	1821 8172

Key benefits:

- Small physical size
- Potted for robustness and environmental protection
- Minimal setup for quick and easy commissioning
  - integral gain set by 2 switches
  - proportional gain set by potentiometer
- Built in reference potentiometer for convenient setup for feedback reference point.



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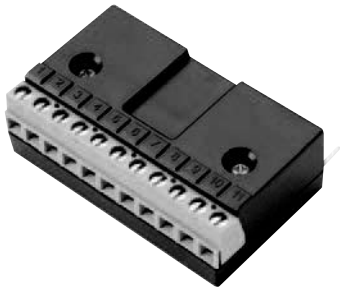

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Terminal no.	Signal	Connection	Description
1	+24 V	+24 V ref out	Ref. to activate DI1 – DI3 (100 mA max.)
2	DI 1	Digital input 1	Positive logic "Logic 1" input voltage range: DC 8 – 30 V "Logic 0" input voltage range: DC 0 – 2 V Compatible with PLC requirement when 0 V is connected.
3	DI 2	Digital input 2	
4	DI 3	Digital input 3 / thermistor contact	
5	+10 V	+10 V ref out	10 V ref for analog input
6	AI1	Analog input (12 bit)	0 – 10 V, 0 – 20 mA, 4 – 20 mA
7	AF	Analog feedback in	Feedback input for PI reference
8	AO / DO	Analog output (10 bit) Digital output	0 – 10 V, 20 mA analog 24 V / 20 mA digital
9	0 V	0 V common	
10	Relay contact	Relay contact	N.O. relay contact (AC 250 V / DC 30 V @ 5 A)
11	Relay common	Relay common	

	NOTE
	Once this option board has been installed and fully wired into an IP55 / NEMA 12 drive, the board must be bent slightly in a downwards direction to enable the front cover to be closed. This does not affect the function of the option board.

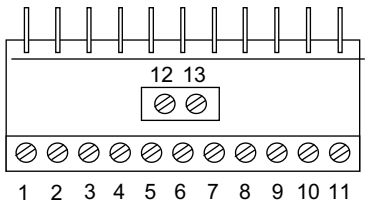
Specification

Rated reference input		± 10 V or 4 – 20 mA
Proportional gain range		0.2 – 30
Rated feedback input		± 10 V or 4 – 20 mA
Conformity		IP00, UL90V-0
Environmental		–10 – +50 °C
Dimensions	[mm]	56 × 33 (not pins) × 16
	[in]	2.20 × 1.31 × 0.64

5.12 Two indicator relay

Type	Part number
OB LT HVAC-B	1821 8180

The HVAC relay option module can be used in applications where 2 indicators are required showing "drive running" and "drive tripped".



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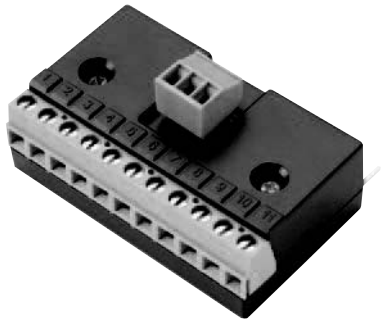

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Terminal no.	Signal	Connection	Description
1	+24 V	+24 V ref out	Ref. to activate DI1 – DI3 (100 mA max.)
2	DI 1	Digital input 1	Positive logic "Logic 1" input voltage range: DC 8 – 30 V "Logic 0" input voltage range: DC 0 – 2 V Compatible with PLC requirement when 0 V is connected.
3	DI 2	Digital input 2	
4	DI 3	Digital input 3 / thermistor contact	
5	+10 V	+10 V ref out	10 V ref for analog input (pot supply +, 10 mA max., 1 K Ω min.)
6	AI / DI	Analog input (12 bit) Digital 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 common	0 V ref for analog input (pot supply –)
8	AO / DO	Analog output (10 bit) Digital output	0 – 10 V, 20 mA analog 24 V / 20 mA digital
9	0 V	0 V common	0 V ref for analog output
10	Relay 1 contact	Relay contact	N.O. relay contact (AC 250 V / DC 30 V @ 5 A)
11	Relay 1 common	Relay common	
12	Relay 2 contact	Relay contact	N.O. relay contact (AC 250 V / DC 30 V @ 5 A)
13	Relay 2 common	Relay common	

NOTE

Once this option board has been installed and fully wired into an IP55 / NEMA 12 drive, the board must be bent slightly in a downwards direction to enable the front cover to be closed. This does not affect the function of the option board.

Specification

Max. relay switching voltage		AC 250 V / DC 220 V
Max. relay switching current		1 A
Conformity		IP00, UL94V-0
Environmental		–10 – +50 °C
Dimensions	[mm]	56 × 24 (not pins) × 14
	[in]	2.20 × 0.98 (not pins) × 0.56

5.13 Converter card

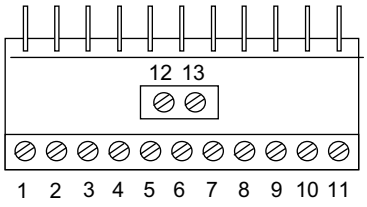
Type	Part number	Description
OB LT VCON A	1821 7672	110 V / 24 V converter
OB LT VCON B	1822 1947	240 V / 24 V converter

The converter card allows the digital inputs of the drive to be controlled directly from a 110 V or 240 V control supply without the need for interfacing relays.

NOTE

The existing analog input can still be used by connecting the analog signal input on terminal 6. All other inputs and outputs to the drive are not affected.

The digital input terminals are optically isolated from the remaining terminals and the drive terminals.



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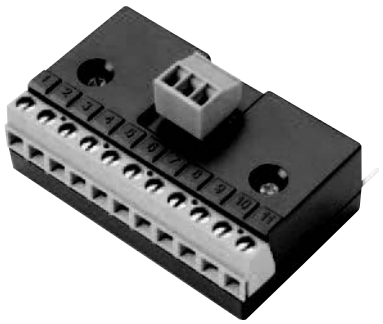

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Terminal no.	Signal	Connection	Description
1	Neutral	Neutral	Must not be connected to 0 V
2	DI 1	Digital input 1	AC 80 – 250 V, 68 k impedance
3	DI 2	Digital input 2	
4	DI 3	Digital input 3	
5	+10 V	+10 V ref out	10 V ref for analog input (pot supply +, 10 mA max., 1 K Ω min.)
6	AI / DI	Analog input (12 bit) Digital 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 common	0 V ref for analog input (pot supply –)
8	AO / DO	Analog output (10 bit) Digital output	0 – 10 V, 20 mA analog 24 V / 20 mA digital
9	0 V	0 V common	0 V ref for analog output
10	Relay 1 contact	Relay contact	N.O. relay contact (AC 250 V / DC 30 V @ 5 A)
11	Relay 1 common	Relay common	
12	Neutral	Neutral	Must not be connected to 0 V
13	DI4	Digital input 4	AC 80 – 250 V, 68 k impedance

	NOTE
	Once this option board has been installed and fully wired into an IP55 / NEMA 12 drive, the board must be bent slightly in a downwards direction to enable the front cover to be closed. This does not affect the function of the option board.

Specification

Max. relay switching voltage		AC 250 V / DC 220 V
Max. relay switching current		1 A
Conformity		IP00, UL94V-0
Environmental		–10 – +50 °C
Dimensions	[mm]	56 × 24 (not pins) × 14
	[in]	2.20 × 0.98 (not pins) × 0.56

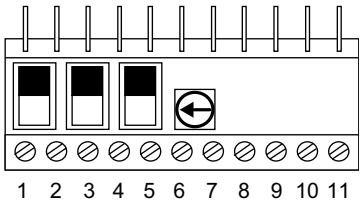
5.14 Local switchboard

Type	Part number
OB LT LOCMO	1820 5607

The local switchboard is an auxiliary way to enable and control the speed of the drive via the input terminal block. The board has switches which are directly connected to the digital inputs. The potentiometer is connected to the analog input.

NOTE

This option should only be used for test purposes. For field application it is required to use a hard wire connection to control the drive.



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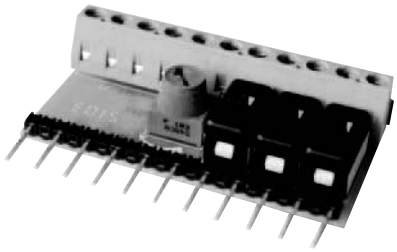

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NOTE

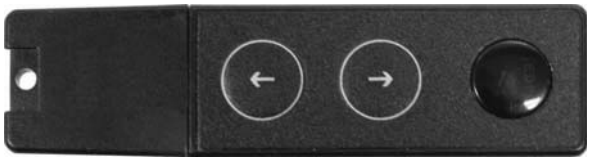
The terminal connections on the local switchboard are the same as those on the MOVITRAC® LTE-B unit.

Specification

Conformity		IP00, UL90V-0
Environmental		–10 – +50 °C
Dimensions	[mm]	56 × 33 (not pins) × 16
	[in]	2.20 × 1.31 (not pins) × 0.64

5.15 Parameter module

Type	Part number
LTBP-B	1821 8199



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- Functionality
  - Storing data from the inverter in the parameter module
  - Loading data back from the parameter module into the inverter
  - Providing an infrared interface for communication between Windows PDA Smartphone and MOVITRAC® LTE-B.
- Supported unit types
  - MOVITRAC® LTE-B.

5.16 Fieldbus connection

5.16.1 Fieldbus gateways

The fieldbus gateways convert standard fieldbuses into the SEW SBus. This means that up to 8 inverters can be triggered using one gateway.

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

In general, you can also connect and operate other SEW-EURODRIVE units, such as MOVIDRIVE® drive inverters, using the SBus.

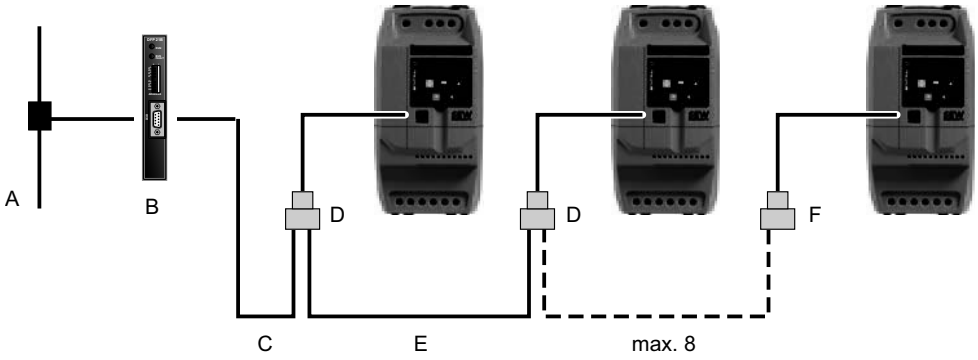
Available gateways

Gateways are available for the following bus systems for connection to fieldbuses:

Bus	Separate housing
PROFIBUS	DFP21B / UOH11B
EtherCAT	DFE24 / UOH11B
DeviceNet	DFD11 / UOH11B
PROFINET	DFE32 / UOH11B
ETHERNET / IP	DFE33B / UOH11B
INTERBUS	UFI11A (823 898 7)

Operating principle

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



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[A] Bus connection
[B] Gateway (e.g. DFx / UOH-Gateway)
[C] Cable to wire
[D] Splitter
[E] Selection cable
[F] Terminating resistor

6 Select a motor

6.1 Project planning flowchart

Specify
– Technical data and environmental conditions
– Peripheral conditions
– System interfacing

↓

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® LTE-B frequency inverter
– Assignment of motor and inverter
– Continuous power, peak power
– Installation conditions

↓

Accessories / Options
– EMC measures (NF, ND, HD)
– PI controller, 2ANIN, 2ROUT
– DIN rail mounting

↓

Make sure that all requirements have been met.

6.2 Inverter → motor combinations

The tables below are an extract from the SEW-EURODRIVE catalogs for gearmotors.

6.2.1 Motors for 200 V – 240 V, 50 / 60 Hz connection (DT / DV)

SEW-EURODRIVE Motor type	Motorpower		Motor rated speed	Inverter type MC LTE B ..... -101-x0 MC LTE B ..... -201-x0 MC LTE B ..... -2B1-x0
	[kW]	[hp]		
DT71D4	0.37	(0.5)	1380	0004
DT71D4 NEMA	0.37	(0.5)	1700	0004
DT80K4	0.55	(0.75)	1360	0008
DT80K4 NEMA	0.55	(0.75)	1700	0008
DT80N4	0.75	(1.0)	1380	0008
DT80N4 NEMA	0.75	(1.0)	1700	0008
DT90S4	1.1	(1.5)	1400	0015
DT90S4 NEMA	1.1	(1.5)	1740	0015
DT90L4	1.5	(2.0)	1410	0015
DT90L4 NEMA	1.5	(2.0)	1720	0015
DV100M4	2.2	(3.0)	1410	0022
DT100LS4 NEMA	2.2	(3.0)	1720	0022
DV100L4	3.0	(4.0)	1400	0040
DV100L4 NEMA	3.7	(5.0)	1680	0040
DV112M4	4.0	(5.4)	1420	0040
DV112M4 NEMA	4.0	(5.4)	1730	0040

6.2.2 Motors for 200 V – 240 V, 50 / 60 Hz connection (DR)

SEW-EURODRIVE Motor type	Motorpower		Motor rated speed	Inverter type MC LTE B ..... -101-x0 MC LTE B ..... -201-x0 MC LTE B ..... -2B1-x0
	[kW]	[hp]		
DRS71S4	0.37	(0.5)	1380	0004
DRS71S4 (60 Hz)	0.37	(0.5)	1700	0004
DRS71M4	0.55	(0.75)	1360	0008
DRS71M4 (60 Hz)	0.55	(0.75)	1700	0008
DRS80S4	0.75	(1.0)	1380	0008
DRS80S4 (60 Hz)	0.75	(1.0)	1700	0008
DRS80M4	1.1	(1.5)	1400	0015
DRS80M4 (60 Hz)	1.1	(1.5)	1740	0015
DRS90M4	1.5	(2.0)	1410	0015
DRS90M4 (60 Hz)	1.5	(2.0)	1720	0015
DRS90L4	2.2	(3.0)	1410	0022
DRS90L4 (60 Hz)	2.2	(3.0)	1720	0022
DRS100M4	3.0	(4.0)	1400	0040
DRS100M4 (60 Hz)	3.7	(5.0)	1680	0040
DRS100LC4	4.0	(5.4)	1420	0040
DRS100LC4 (60 Hz)	4.0	(5.4)	1730	0040

6.2.3 Motors for 380 V – 480 V, 50 / 60 Hz connection (DT / DV)

SEW-EURODRIVE Motor type	Motorpower		Motor rated speed	Inverter type MC LTE B ..... -501-x0 MC LTE B ..... -5A1-x0
	[kW]	[hp]		
DT80K4	0.55	(0.75)	1360	0008
DT80K4 NEMA	0.55	(0.75)	1700	0008
DT80N4	0.75	(1.0)	1380	0008
DT80N4 NEMA	0.75	(1.0)	1700	0008
DT90S4	1.1	(1.5)	1400	0015
DT90S4 NEMA	1.1	(1.5)	1740	0015
DT90L4	1.5	(2.0)	1410	0015
DT90L4 NEMA	1.5	(2.0)	1720	0015
DV100M4	2.2	(3.0)	1410	0022
DV100LS4 NEMA	2.2	(3.0)	1720	0022
DV100L4	3.0	(4.0)	1400	0040
DV100L4 NEMA	3.7	(5.0)	1680	0040
DV112M4	4.0	(5.4)	1420	0040
DV112M4 NEMA	4.0	(5.4)	1730	0040
DV132S4	5.5	(7.5)	1430	0055
DV132S4 NEMA	5.5	(7.5)	1720	0055
DV132M4	7.5	(10.0)	1430	0075
DV132M4 NEMA	7.5	(10.0)	1740	0075
DV160M4	11	(15.0)	1440	0110

6.2.4 Motors for 200 V – 240 V, 50 / 60 Hz connection (DR)

SEW-EURODRIVE Motor type	Motorpower		Motor rated speed	Inverter type MC LTE B ..... -101-x0 MC LTE B ..... -201-x0 MC LTE B ..... -2B1-x0
	[kW]	[hp]		
DRS71M4	0.55	(0.75)	1360	0008
DRS71M4 (60 Hz)	0.55	(0.75)	1700	0008
DRS80S4	0.75	(1.0)	1380	0008
DRS80S4 (60 Hz)	0.75	(1.0)	1700	0008
DRS80M4	1.1	(1.5)	1400	0015
DRS80M4 (60 Hz)	1.1	(1.5)	1740	0015
DRS90M4	1.5	(2.0)	1410	0015
DRS90M4 (60 Hz)	1.5	(2.0)	1720	0015
DRS90L4	2.2	(3.0)	1410	0022
DRS90L4 (60 Hz)	2.2	(3.0)	1720	0022
DRS100M4	3.0	(4.0)	1400	0040
DRS100M4 (60 Hz)	3.0	(40)	1740	0040
DRS100LC4	4.0	(5.4)	1420	0040
DRS100LC4 (60 Hz)	4.0	(5.4)	1730	0040
DRS132S4	5.5	(7.5)	1430	0040
DRS132S4 (60 Hz)	5.5	(7.5)	1720	0055
DRS132M4	7.5	(10)	1430	0075
DRS132M4 (60 Hz)	7.5	(10)	1740	0075
DRS160M4	11	(15)	1460	0110
DRS160M4 (60 Hz)	11	(15)	1760	0110

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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
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
	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-EUROCOME 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
	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	**Alger**	Réducom 16, rue des Frères Zaghnoun Bellevue El-Harrach 16200 Alger	Tel. +213 21 8222-84 Fax +213 21 8222-84 reducom_sew@yahoo.fr

Argentina			
Assembly **Sales** **Service**	**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://sew-eurodrive.at sew@sew-eurodrive.at

Belarus			
Sales	**Minsk**	SEW-EURODRIVE BY RybalkoStr. 26 BY-220033 Minsk	Tel.+375 (17) 298 38 50 Fax +375 (17) 29838 50 sales@sew.by

Belgium			
Assembly **Sales** **Service**	**Brüssel**	**SEW Caron-Vector** Avenue Eiffel 5 B-1300 Wavre	Tel. +32 10 231-311 Fax +32 10 231-336 http://www.sew-eurodrive.be info@caron-vector.be
Service Competence Center	**Industrial Gears**	**SEW Caron-Vector** 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
	Antwerp	**SEW Caron-Vector** Glasstraat, 19 BE-2170 Merksem	Tel. +32 3 64 19 333 Fax +32 3 64 19 336 http://www.sew-eurodrive.be service-antwerpen@sew-eurodrive.be

Brazil			
Production **Sales** **Service**	**Sao 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
	Additional addresses for service in Brazil provided on request!		

Bulgaria			
Sales	**Sofia**	BEVER-DRIVE GmbH Bogdanovetz Str.1 BG-1606 Sofia	Tel. +359 2 9151160 Fax +359 2 9151166 bever@fastbg.net

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

Canada			
Assembly **Sales** **Service**	**Toronto**	SEW-EURODRIVE CO. OF CANADA LTD. 210 Walker Drive Bramalea, Ontario L6T3W1	Tel. +1 905 791-1553 Fax +1 905 791-2999 http://www.sew-eurodrive.ca marketing@sew-eurodrive.ca
	Vancouver	SEW-EURODRIVE CO. OF CANADA LTD. 7188 Honeyman Street Delta. B.C. V4G 1 E2	Tel. +1 604 946-5535 Fax +1 604 946-2513 marketing@sew-eurodrive.ca
	Montreal	SEW-EURODRIVE CO. OF CANADA LTD. 2555 Rue Leger LaSalle, Quebec H8N 2V9	Tel. +1 514 367-1124 Fax +1 514 367-3677 marketing@sew-eurodrive.ca
	Additional addresses for service in Canada provided on request!		

Chile			
Assembly **Sales** **Service**	**Santiago de Chile**	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 25322611 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
	Guangzhou	SEW-EURODRIVE (Guangzhou) Co., Ltd. No. 9, JunDa Road East Section of GETDD Guangzhou 510530	Tel. +86 20 82267890 Fax +86 20 82267891 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 84478398 Fax +86 27 84478388
	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. PIT Erdödy 4 II HR 10 000 Zagreb	Tel. +385 1 4613-158 Fax +385 1 4613-158 kompeks@inet.hr

Czech Republic			
Sales	**Praha**	SEW-EURODRIVE CZ S.R.O. Business Centrum Praha Lužná 591 CZ-16000 Praha 6 - Vokovice	Tel. +420 255 709 601 Fax +420 220 121 237 http://www.sew-eurodrive.cz sew@sew-eurodrive.cz

Denmark			
Assembly **Sales** **Service**	**Kopenhagen**	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 El 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 sew@sew.fi http://www.sew-eurodrive.fi
Production **Assembly** **Service**	**Karkkila**	SEW Industrial Gears Oy Valurinkatu 6, PL 8 FI-03600 Kakkila, 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

Great Britain			
Assembly **Sales** **Service**	**Normanton**	SEW-EURODRIVE Ltd. Beckbridge Industrial Estate P.O. Box No.1 GB-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

Greece			
Sales **Service**	**Athen**	Christ. Boznos & Son S.A. 12, 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 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 2831086 Fax +91 265 2831087 http://www.seweurodriveindia.com sales@seweurodriveindia.com subodh.ladwa@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 c.v.shivkumar@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**	**Milano**	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 Ste industrielle et commerciale pour l'Afrique 165, Bld de Marseille B.P. 2323, Abidjan 08	Tel. +225 2579-44 Fax +225 2584-36

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

Korea			
Assembly **Sales** **Service**	**Ansan-City**	SEW-EURODRIVE KOREA CO., LTD. B 601-4, Banweol Industrial Estate 1048-4, Shingil-Dong Ansan 425-120	Tel. +82 31 492-8051 Fax +82 31 492-8056 http://www.sew-korea.co.kr master@sew-korea.co.kr

Korea			
	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

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

Lebanon			
Sales	**Beirut**	Gabriel Acar & Fils sarl B. P. 80484 Bourj Hammoud, Beirut	Tel. +961 1 4947-86 +961 1 4982-72 +961 3 2745-39 Fax +961 1 4949-71 ssacar@inco.com.lb

Lithuania			
Sales	**Alytus**	UAB Irseva Naujoji 19 LT-62175 Alytus	Tel. +370 315 79204 Fax +370 315 56175 info@irseva.lt http://www.sew-eurodrive.lt

Luxembourg			
Assembly **Sales** **Service**	**Brüssel**	CARON-VECTOR S.A. Avenue Eiffel 5 B-1300 Wavre	Tel. +32 10 231-311 Fax +32 10 231-336 http://www.sew-eurodrive.lu info@caron-vector.be

Malaysia			
Assembly **Sales** **Service**	**Johore**	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	**Casablanca**	Afit 5, rue Emir Abdelkader MA 20300 Casablanca	Tel. +212 22618372 Fax +212 22618351 ali.alami@premium.net.ma

Netherlands			
Assembly **Sales** **Service**	**Rotterdam**	VECTOR Aandrijftechniek B.V. Industrieweg 175 NL-3044 AS Rotterdam Postbus 10085 NL-3004 AB Rotterdam	Tel. +31 10 4463-700 Fax +31 10 4155-552 http://www.vector.nu info@vector.nu

New Zealand			
Assembly **Sales** **Service**	**Auckland**	SEW-EURODRIVE NEW ZEALAND LTD. P.O. Box 58-428 82 Greenmount drive East Tamaki Auckland	Tel. +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

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 45 http://www.sew-eurodrive.pl sew@sew-eurodrive.pl
		24 Hour Service	Tel. +48 602 739 739 (+48 602 SEW SEW) sewis@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**	**Bucureşti**	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 195220 St. Petersburg Russia	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

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

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

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

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 71 4340-64 + 71 4320-29 Fax +216 71 4329-76 tms@tms.com.tn

Turkey			
Assembly **Sales** **Service**	**Istanbul**	SEW-EURODRIVE Hareket Sistemleri San. ve Tic. Ltd. Sti. Bagdat Cad. Koruma Cikmazi No. 3 TR-34846 Maltepe ISTANBUL	Tel. +90 216 4419164, 3838014, 3738015 Fax +90 216 3055867 http://www.sew-eurodrive.com.tr sew@sew-eurodrive.com.tr

Ukraine			
Sales **Service**	**Dnepropetrovsk**	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

USA			
Production **Assembly** **Sales** **Service** **Corporate Offices**	**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 +1 937 440-3799 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

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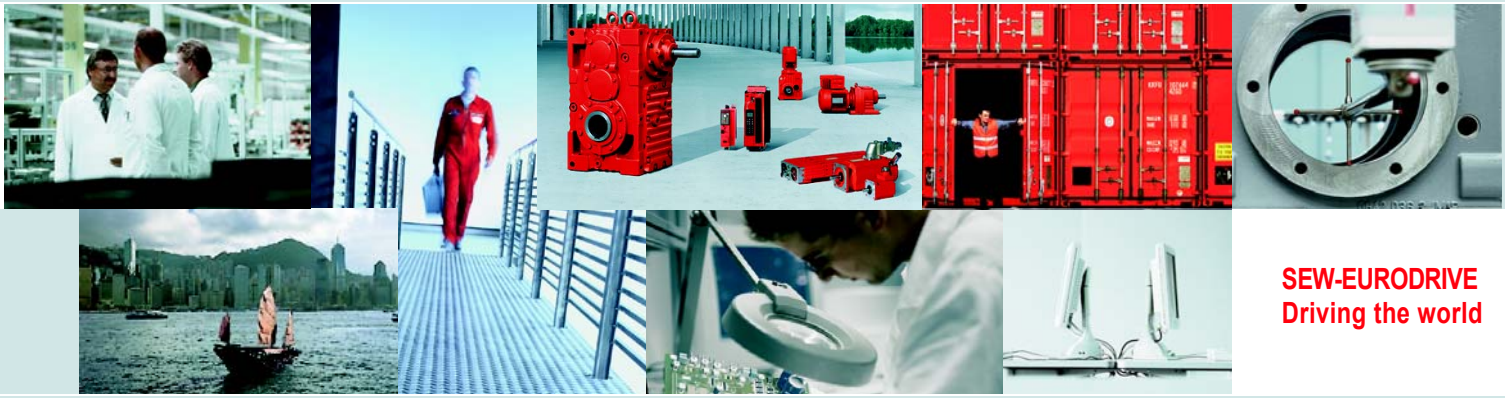

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