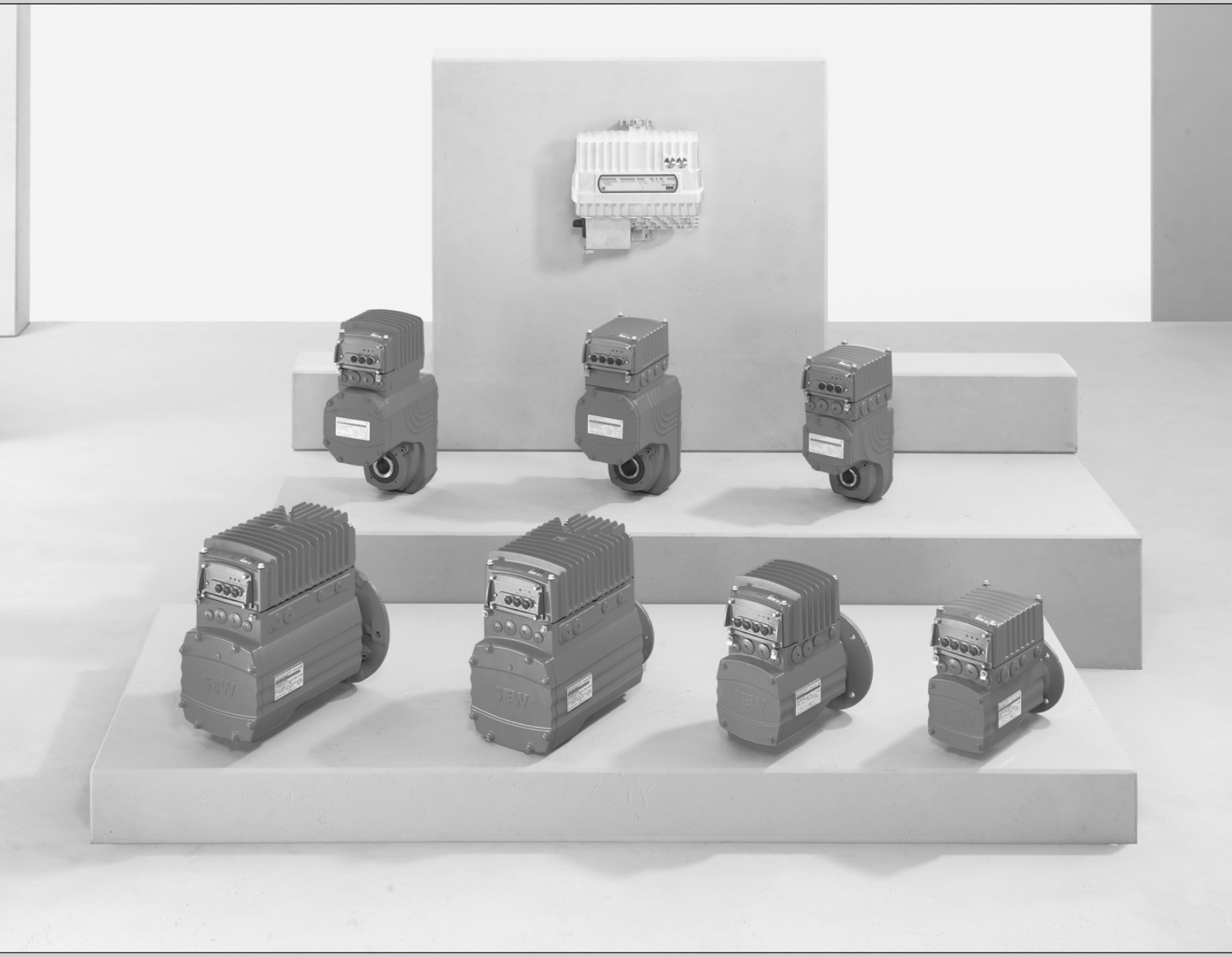
SEW EURODRIVE

# Addendum to the Operating Instructions



Keypad

**GBG10..A..**

Edition 07/2017

23569654/EN

# Table of contents



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# 1 General information

## 1.1 About this documentation

**The current version of the documentation is the original.**

This documentation is an integral part of the product. The documentation is written for all employees who assemble, install, start up, and service this product.

Make sure this documentation is accessible and legible. Ensure that persons responsible for the machinery and its operation as well as persons who work on the product independently have read through the documentation carefully and understood it. If you are unclear about any of the information in this documentation or require further information, contact SEW-EURODRIVE.

## 1.2 Structure of the safety notes

### 1.2.1 Meaning of signal words

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

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

### 1.2.2 Structure of section-related safety notes

Section-related safety notes do not apply to a specific action but to several actions pertaining to one subject. The hazard symbols used either indicate a general hazard or a specific hazard.

This is the formal structure of a safety note for a specific section:

**SIGNAL WORD**

Type and source of hazard.

Possible consequence(s) if disregarded.

- Measure(s) to prevent the hazard.

**Meaning of the hazard symbols**

The hazard symbols in the safety notes have the following meaning:

| Hazard symbol | Meaning |
|---|---|
|  | General hazard |

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| Hazard symbol | Meaning |
|---|---|
|  | Warning of dangerous electrical voltage |
|  | Warning of hot surfaces |
|  | Warning of risk of crushing |
|  | Warning of suspended load |
|  | Warning of automatic restart |

### 1.2.3 Structure of embedded safety notes

Embedded safety notes are directly integrated into the instructions just before the description of the dangerous action.

This is the formal structure of an embedded safety note:

⚠ **SIGNAL WORD** Type and source of hazard. Possible consequence(s) if disregarded. Measure(s) to prevent the hazard.

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## 1.3 Rights to claim under limited warranty

Read the information in this documentation. This is essential for fault-free operation and fulfillment of any rights to claim under limited warranty. Read the documentation before you start working with the product.

## 1.4 Exclusion of liability

Read the information in this documentation, otherwise safe operation is impossible. You must comply with the information contained in this documentation to achieve the specified product characteristics and performance features. SEW-EURODRIVE assumes no liability for injury to persons or damage to equipment or property resulting from non-observance of these operating instructions. In such cases, SEW-EURODRIVE assumes no liability for defects.

## 1.5 Product names and trademarks

The brands and product names in this documentation are trademarks or registered trademarks of their respective titleholders.

## 1.6 Copyright notice



## 1.7 Other applicable documentation

Also observe the following documents:

- Operating instructions of the connected MOVIGEAR® and/or DRC.. drive units, such as:

  "MOVIGEAR® DAC" operating instructions

  "MOVIGEAR® DSC" operating instructions

  "MOVIGEAR® SNI" operating instructions

  "DRC.-...-DAC" operating instructions

  "DRC.-...-DSC" operating instructions

  "DRC.-...-SNI" operating instructions

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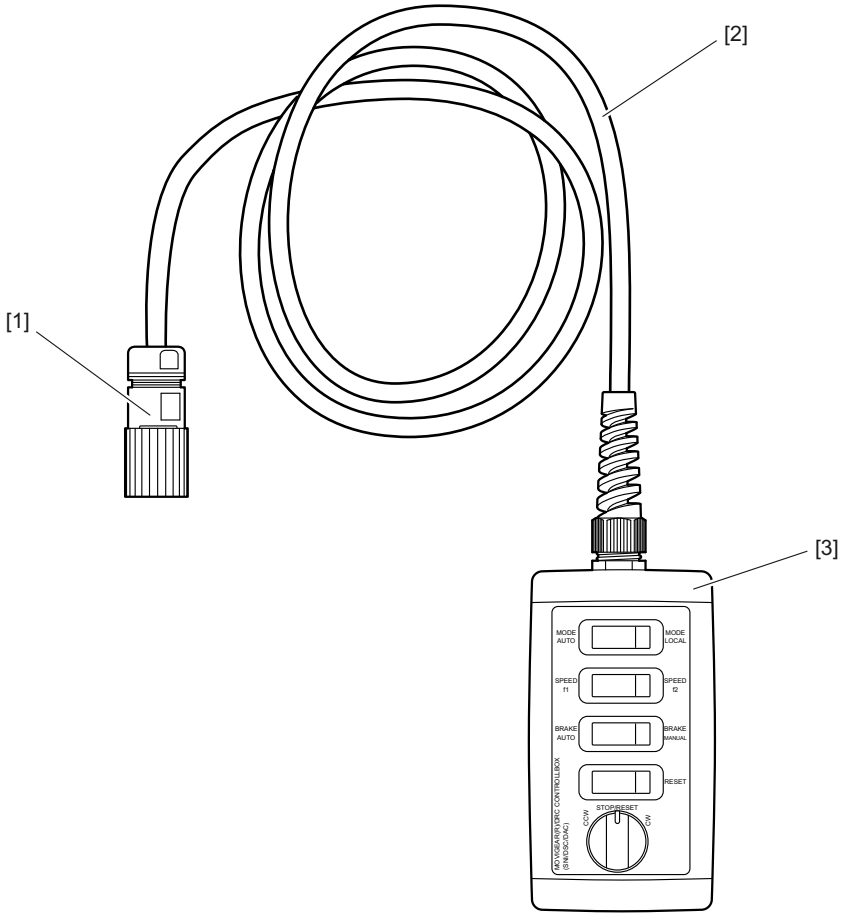
# 2 Device structure

## 2.1 GBG10..A keypad

The GBG10..A keypad is intended for manual binary control of the connected MOVIGEAR® or DRC.. drive unit in local operation.

Following an example of keypad GBG10-11A-00:

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[1] M23 plug connector
[2] Connection cable 1 m
[3] Plastic housing with switches and reset button

Binary control via terminals is implemented in the firmware of the drive unit and allows for specifying speeds in both directions of rotation with 2 speed setpoints.

### 2.1.1 Functions of the GBG10..A keypad

The GBG10..A keypad has the following functions:

- Changeover between automatic mode (bus control) and local mode
- Enable CW
- Enable CCW
- Stop (no enable)
- Changeover between speed setpoint f1/f2
- Reset of drive faults
- Brake release or DynaStop® deactivation without drive enable

### 2.1.2 Requirements

For connecting the keypad to the drive unit, the drive unit must be equipped with the following plug connector:

- X5131 (SNI or DSC designs)
- X5132 (DAC designs)

To operate the drive unit in local mode with a controller of SEW-EURODRIVE (e. g. MOVIFIT® FDC), the following application software must be installed on the controller:

- *ApplicationConfigurator* (CCU) from version 170.100

  or

- *MultiMotion* (freely programmable) from version.170.100

### 2.1.3 Design

The GBG10..A keypad is available in the following designs:

| Device | Type designation | Part number |
|---|---|---|
| Keypad with connection cable (1 m) | GBG10-11A-00 | 13575848 |

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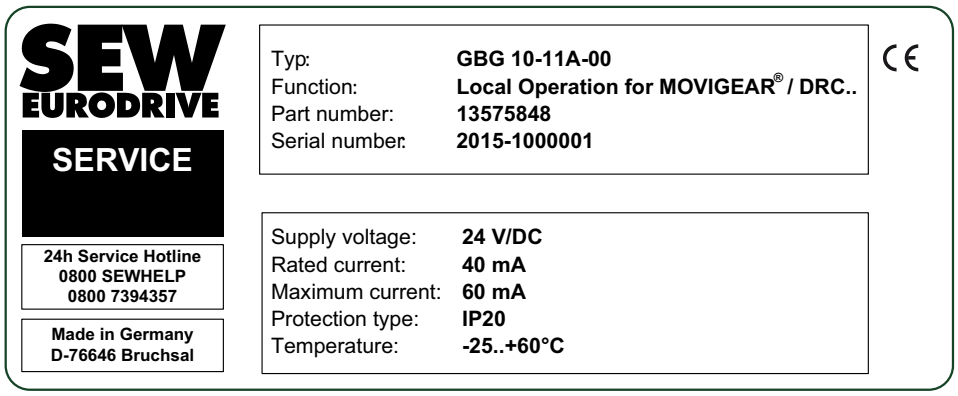
## 2.2 Type designation

### 2.2.1 Nameplate

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### 2.2.2 Type designation

The following table shows the type designation of the **GBG10-11A-00** keypad:

| | | | |
|---|---|---|---|
| **G** | **Device family** | G = | MOVIGEAR®/DRC accessories |
| **Size** | **Device type** | GB = | Keypad |
| **1** | **Communication** | 1 = | Binary control (terminals) |
| **0** | **Housing variant** | 0 = | Hand-held housing |
| **—** | | | |
| **11** | **Series** | 11 = | Standard |
| **A** | **Version A** | | |
| **—** | | | |
| **0** | **Design** | 0 = | Series |
| **0** | **Language** | 0 = | English |

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# 3 Electrical installation

## 3.1 Connecting the GBG10..A keypad

### ⚠ WARNING

Risk of crushing if the drive unit starts up unexpectedly when connecting the CBG10..A keypad with switch position "CW" or "CCW".

Severe or fatal injuries.

- Before connecting the keypad to the drive unit, set the "MODE" switch to "AUTO" position and the rotary switch to "STOP" position.

### NOTICE

Damage due to permanent connection of keypad and drive unit. The GBG10..A keypad is not designed for permanent connection within a system.

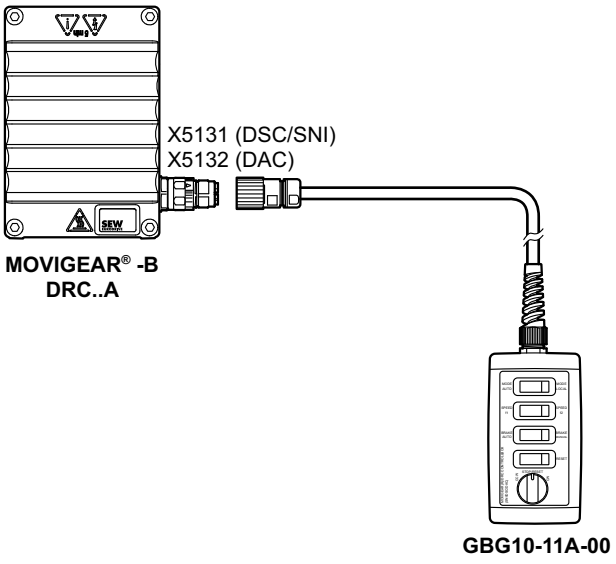
Damage to the device.

- Disconnect the keypad from the drive unit after use and remove it from the system.

Plug the plug connector of the GBG10..A keypad into the following plug connector of the drive unit:

- X5131 (SNI or DSC designs)
- X5132 (DAC designs)

The following figure shows an example of a connection between GBG10..A keypad and MOVIGEAR®/DRC.. drive unit:

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# 4 Startup

## 4.1 Startup notes

**⚠ WARNING**

Electric shock due to dangerous voltages in the drive unit.

Severe or fatal injuries.

- Disconnect the drive unit from the power supply. Observe the minimum switch-off time after disconnection from the supply system:
  - **5 minutes**

**⚠ WARNING**

Risk of crushing due to unexpected startup of the drive unit.

Severe or fatal injuries.

- Secure the output shaft against rotation.

**⚠ WARNING**

Risk of crushing due to possible restart after re-establishment of the power supply or presence of the signals at the STO inputs.

Severe or fatal injuries.

- In emergency situations, switch the "MODE" switch to "AUTO" position and the rotary switch to "STOP".

**⚠ WARNING**

Risk of burns due to hot surfaces of the drive unit (e.g. heat sink).

Serious injuries.

- Do not touch the drive unit until it has cooled down sufficiently.

**NOTICE**

Loss of the guaranteed degree of protection.

Damage to the drive unit.

- When the electronics cover is removed from the connection box, you have to protect it from humidity, dust or foreign particles.
- Make sure that the electronics cover is mounted properly.

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## 4.2 Activating local mode with DSC and SNI units

Local mode with the CBG10..A keypad is only possible if you activate local mode using DIP switch S2/3 of the drive unit.

To activate local mode, set DIP switch S2/3 of the drive unit to "ON" position as shown in the following figure:


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- When DIP switch **S2/3** is set to **"OFF"**, the drive unit uses the motion control inputs only for evaluating external sensors.

  Local mode is not possible with this setting.
- When DIP switch **S2/3** is set to **"ON"**, you can control the drive unit in automatic mode (bus control) or local mode depending on the position of the "MODE" switch.

### 4.2.1 Requirements for local mode

The following requirements must be met for operating and switching the unit to local mode:

Requirements on the drive unit

| Firmware for command PCB | | Drive status[1] |
|---|---|---|
| **MOVIGEAR® DSC/SNI** | **DRC.. DSC/SNI** | |
| From version .11 | From version .10 | Inhibited |

1) Required drive status for switching to local mode

Requirements on the controller

| Application software on the controller[1] | |
|---|---|
| *ApplicationConfigurator* | *MultiMotion* |
| (CCU parameterizable) | (freely programmable) |
| From version 170.100 | From version 170.100 |

1) e.g. MOVIFIT® FDC

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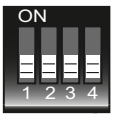
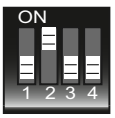
## 4.3 Activating local mode using DAC units

When using DAC drive units, you need not activate local mode with the CBG10..A keypad.

### 4.3.1 Requirements for local mode

The following requirements must be met for operating and switching the unit to local mode:

Requirements on the drive unit

| Firmware for command PCB | | Setting | Drive status[1] |
|---|---|---|---|
| MOVIGEAR® DAC-B | DRC.. DAC | DIP switch S2/2 | |
| Versions .11 to .15 | Versions .10 to .13 | "OFF"   | Inhibited |
| From version .16 | From version .14 | "OFF"   | Inhibited |
| | | "ON"   | Enabled or inhibited |

1) Required drive status for switching to local mode

## 4.4 Setting the speed setpoints

Set the speed setpoints at the following speed setpoint sources:

| Drive unit type | Startup mode | Speed setpoint source | |
|---|---|---|---|
| | | n_f1 | n_f2 |
| DAC | Easy | Setpoint potentiometer f1<br>Factory setting: 2000 $min^{-1}$ | Setpoint potentiometer f2<br>Factory setting: 0 (200 $min^{-1}$) |
| | Expert[1] | Parameter index 10096.35<br>Factory setting: 1500 $min^{-1}$ | Parameter index 10096.36<br>Factory setting: 0 (200 $min^{-1}$) |
| DSC | — | | |
| SNI | — | | |

1) Control elements f1/f2 are disabled.

For more information refer to the chapter "Startup" in the respective "MOVIGEAR®.." or "DRC.." operating instructions.

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# 5 Operation

## 5.1 Operating notes

**⚠ WARNING**

Risk of crushing due to possible restart after re-establishment of the power supply or presence of the signals at the STO inputs.

Severe or fatal injuries.

- In emergency situations, set the "MODE" switch to "AUTO" position and the rotary switch to "STOP".

**⚠ WARNING**

Risk of crushing due to unexpected startup of the drive unit.

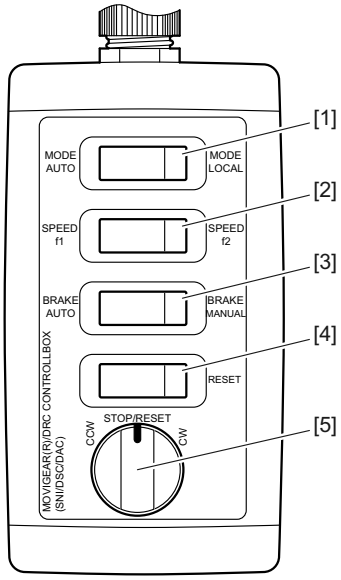
Severe or fatal injuries.

- Before deactivating local mode, take measures to prevent the drive unit from starting up unintentionally, e.g. by activating "STO".

Observe the requirements for local mode in chapter "Startup".

## 5.2 Control elements

The following figure shows the control elements of the CBG10..A keypad:

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| | | |
|---|---|---|
| [1] | "MODE" switch | Changeover between automatic mode and local mode |
| [2] | "SPEED" switch | For selecting speed setpoint f1/f2 |
| [3] | "BRAKE" switch | For deactivating brake release or DynaStop® without drive enable |
| [4] | "RESET" button | Fault reset |
| [5] | Rotary switch | For CCW enable/stop/CW enable |

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## 5.3 Local mode depending on switch position

The following table provides an overview of drive unit operation depending on the switch position of the CBG10..A keypad:

| Button position | | | | | Drive unit operation | Brake/DynaStop® control |
|---|---|---|---|---|---|---|
| "MODE" | Rotary switch | "SPEED" | "BRAKE" | "RESET" | | |
| AUTO | X | | | | Automatic mode<br>Control via bus, ... | by drive unit |
| LOCAL | STOP | X | AUTO | 0 | Local mode<br>Stop, no enable | by drive unit |
| LOCAL | CCW | f1 | AUTO | 0 | Local mode<br>CCW rotation with f1 | by drive unit |
| LOCAL | CCW | f2 | AUTO | 0 | Local mode<br>CCW rotation with f2 | by drive unit |
| LOCAL | CW | f1 | AUTO | 0 | Local mode<br>CW rotation with f1 | by drive unit |
| LOCAL | CW | f2 | AUTO | 0 | Local mode<br>CW rotation with f2 | by drive unit |
| LOCAL | STOP | X | MANUAL | 0 | Local mode<br>Stop, no enable | Manual |
| X | | | | | Drive fault[1)] | Brake applied.<br>DynaStop® is active. |
| LOCAL | STOP | X | | 0 → 1[2)] | Fault reset<br>after drive fault | by drive unit |

1) Fault on the drive unit.

2) Fault reset by pressing the "RESET" button.

X = any switch position

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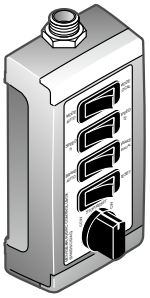
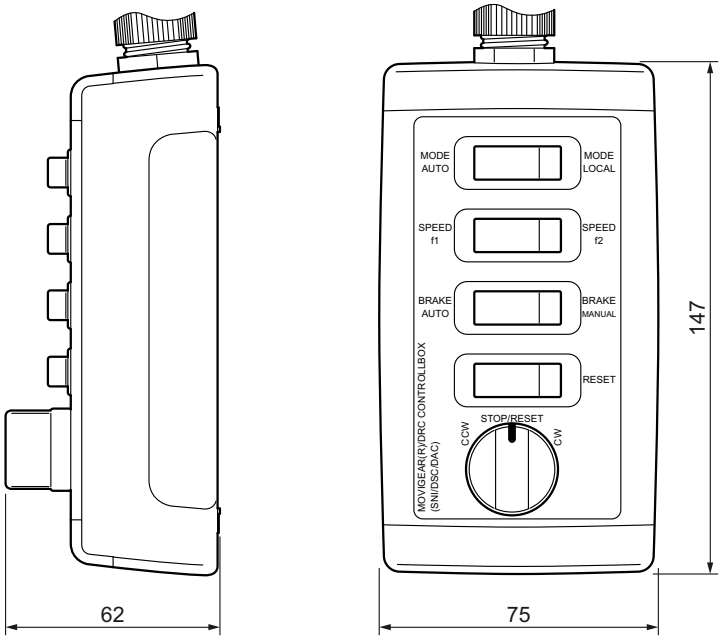
# 6 Technical data

## 6.1 GBG10..A



| Keypad | | GBG10-11A-00 |
|---|---|---|
| **Part number** | | 13575848 |
| **Function** | | Keypad for MOVIGEAR® or DRC.. |
| **Nominal voltage** | $V_N$ | DC 24 V |
| **Nominal current** | $I_N$ | 40 mA |
| **Maximum current** | $I_{Max}$ | 60 mA |
| **Connection** | | M23 round connector, P insert, SpeedTec-capable, company: Intercontec, male, 0° coded |
| **Cable length** | | 1 m |
| **Interference immunity** | | Meets EN 61800-3, 2. Environment |
| **Interference emission** | | Meets category C1 according to EN 61800-3 |
| **Ambient temperature** | $\vartheta_U$ | -25 – +60 °C (no moisture condensation) |
| **Climate class** | | EN 60721-3-3, climate class 3K3 |
| **Vibration resistance** | | According to EN 60721-3-3 |
| **Degree of protection** | | IP20 according to EN 60529 |
| **Installation altitude** | | $h_{max.}$ = 4000 m |

## 6.2 Dimension drawing for GBG10..A

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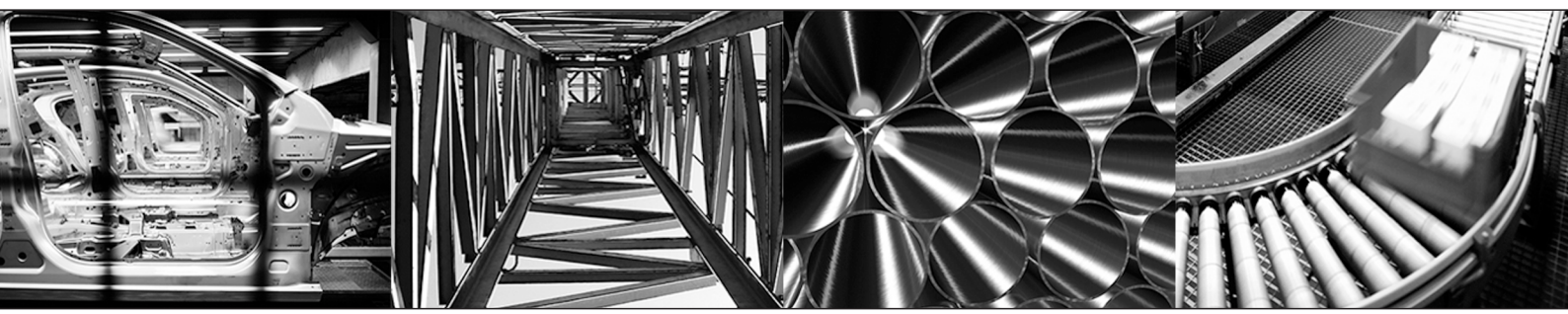

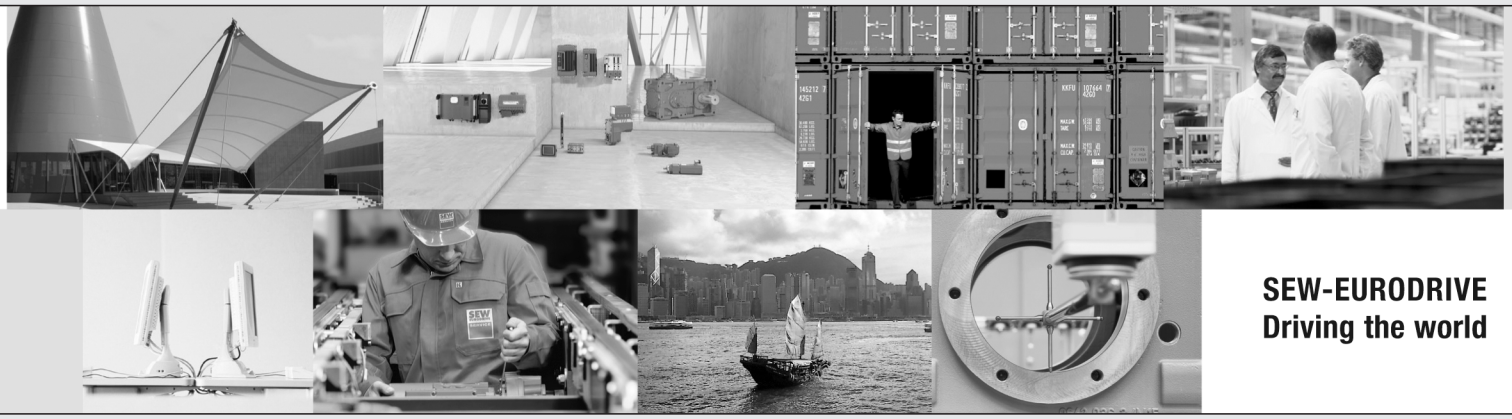

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