

# **HGT 835**

## **Handheld Control Panel**

### **Instruction Manual**

**Publisher: SIGMATEK GmbH & Co KG**  
**A-5112 Lamprechtshausen**  
**Tel.: +43/6274/4321**  
**Fax: +43/6274/4321-18**  
**Email: [office@sigmatek.at](mailto:office@sigmatek.at)**  
**[WWW.SIGMATEK-AUTOMATION.COM](http://WWW.SIGMATEK-AUTOMATION.COM)**

Copyright © 2014  
SIGMATEK GmbH & Co KG

## **Translation of the Original Instruction**

All rights reserved. No part of this work may be reproduced, edited using an electronic system, duplicated or distributed in any form (print, photocopy, microfilm or in any other process) without the express permission.

We reserve the right to make changes in the content without notice. The SIGMATEK GmbH & Co KG is not responsible for technical or printing errors in the handbook and assumes no responsibility for damages that occur through use of this handbook.

## 8.4" Handheld Control Panel

## HGT 835

The HGT 835 Control Panel is an intelligent handheld control panel used for programming and visualization of automated processes. Process diagnosis, operating and monitoring functions are thereby simplified.

A touch screen serves as the input medium for process data and parameters. The output is shown on an 8.4" SVGA TFT color display.

With the LSE mask editor, graphics can be created on the PC, then stored and displayed on the handheld control panel.

The available interfaces can be used to exchange process data or configure the handheld control panel. On the Flash card, the operating system, application and application data are stored.



# Contents

- 1 Essential Components ..... 5**
- 2 Introduction..... 6**
  - 2.1 Target Group/Purpose of this Operating Manual ..... 6
  - 2.2 Important Reference Documentation ..... 6
  - 2.3 Contents of Delivery ..... 6
- 3 Basic Safety Guidelines ..... 7**
  - 3.1 Symbols Used ..... 7
  - 3.2 Disclaimer ..... 9
  - 3.3 General Safety Directives ..... 10
  - 3.4 Designated Use ..... 13
  - 3.5 Software/Training ..... 14
- 4 Standards and Directives.....15**
  - 4.1 Residual Risks ..... 15
  - 4.2 Safety of the Machine or Equipment ..... 15
  - 4.3 Regular Technical Inspection of Safety-Related Switches .... 16
  - 4.4 Directives..... 16
    - 4.4.1 Functional Safety Standards ..... 17
    - 4.4.2 EU Conformity Declaration ..... 17
  - 4.5 Safety-relevant Parameters ..... 17
- 5 Type Plate.....18**

|           |                                         |           |
|-----------|-----------------------------------------|-----------|
| <b>6</b>  | <b>Technical Data.....</b>              | <b>19</b> |
| 6.1       | Performance Data .....                  | 19        |
| 6.2       | Electrical Requirements.....            | 20        |
| 6.3       | Terminal .....                          | 21        |
| 6.4       | Environmental Conditions .....          | 21        |
| 6.5       | Display .....                           | 22        |
| 6.6       | Terminal Requirements .....             | 22        |
| 6.7       | Miscellaneous .....                     | 22        |
| <b>7</b>  | <b>Mechanical Dimensions.....</b>       | <b>23</b> |
| 7.1       | Wall Mounting .....                     | 23        |
| <b>8</b>  | <b>Interfaces .....</b>                 | <b>24</b> |
| 8.1       | Rear Connectors .....                   | 24        |
| 8.2       | Key Switch.....                         | 26        |
| 8.3       | Confirmation Switch.....                | 27        |
| 8.4       | Emergency Stop.....                     | 28        |
| <b>9</b>  | <b>Assembly/Installation .....</b>      | <b>29</b> |
| 9.1       | Check Contents of Delivery .....        | 29        |
| <b>10</b> | <b>Wiring .....</b>                     | <b>29</b> |
| 10.1      | ESD Protection.....                     | 29        |
| 10.2      | USB Interface .....                     | 29        |
| <b>11</b> | <b>Recommended Cable Shielding.....</b> | <b>30</b> |

|      |                                                      |    |
|------|------------------------------------------------------|----|
| 11.1 | Connection from the Control Cabinet to the HGT ..... | 30 |
| 12   | Transport/Storage .....                              | 31 |
| 13   | Storage .....                                        | 31 |
| 14   | Maintenance .....                                    | 32 |
| 14.1 | Cleaning and Disinfecting the Touch Screen .....     | 32 |
| 14.2 | Service .....                                        | 33 |
| 14.3 | Repair .....                                         | 33 |
| 15   | Storage Media .....                                  | 34 |
| 16   | Accessory Wall-Mount .....                           | 35 |
| 17   | Disposal .....                                       | 36 |

## 1 Essential Components

- 8.4" SVGA TFT color display with background lighting
- 8.4" Touch screen
- Confirmation switch (mounted on the rear side), 2-channel configuration
- Key switch (mounted top-center), two channel wiring.
- Emergency Stop switch (mounted top center), 2-channel
- USB socket with cover
- M16 connector with special cable (swivels 90°)
- Applicable Safety controls:
  - SCP XXX

## 2 Introduction

### 2.1 Target Group/Purpose of this Operating Manual

This operating manual contains all information required for the operation of the product.

This operating manual is intended for:

- Project planners
- Technicians
- Commissioning engineers
- Machine operators
- Maintenance/test technicians

General knowledge of automation technology is required.

Further help and training information, as well as the appropriate accessories can be found on our website [www.sigmatek-automation.com](http://www.sigmatek-automation.com).

Our support team is happily available to answer your questions.  
Please see our website for our hotline number and business hours.

### 2.2 Important Reference Documentation

- Safety System Handbook
- Connection cables for operating devices

This and additional documents can be downloaded from our website or obtained through support.

### 2.3 Contents of Delivery

1x HGT 835

## 3 Basic Safety Guidelines

### 3.1 Symbols Used

The following symbols are used in the operator documentation for warning and danger messages, as well as informational notes:

#### DANGER



**Danger** indicates that death or serious injury **will occur**, if the specified measures are not taken.

⇒ To avoid death or serious injuries, observe all guidelines.

**Danger** indique une situation dangereuse qui, faute de prendre les mesures adéquates, **entraînera** des blessures graves, voire mortelles.

⇒ Respectez toutes les consignes pour éviter des blessures graves, voire mortelles.

#### WARNING



**Warning** indicates that death or serious injury **can** occur, if the specified measures are not taken.

⇒ To avoid death or serious injuries, observe all guidelines.

**Avertissement** d'une situation dangereuse qui, faute de prendre les mesures adéquates, **entraînera** des blessures graves, voire mortelles.

⇒ Respectez toutes les consignes pour éviter des blessures graves, voire mortelles.

#### CAUTION



**Caution** indicates that moderate to slight injury **can** occur, if the specified measures are not taken.

⇒ To avoid moderate to slight injuries, observe all guidelines.

**Attention** indique une situation dangereuse qui, faute de prendre les mesures adéquates, **peut** entraîner des blessures assez graves ou légères.

⇒ Respectez toutes les consignes pour éviter des blessures graves, voire mortelles.



#### INFORMATION

Provides important information on the product, handling or relevant sections of the documentation, which require attention.



Danger for ESD-sensitive components.

Les signes de danger pour les composants sensibles aux décharges électrostatiques.

## 3.2 Disclaimer



The contents of this operating manual were prepared with the greatest care. However, deviations cannot be ruled out. This operating manual is regularly checked and required corrections are included in the subsequent versions. The machine manufacturer is responsible for the proper assembly, as well as device configuration. The machine operator is responsible for safe handling, as well as proper operation.

The current operating manual can be found on our website. If necessary, contact our support.

Subject to technical changes, which improve the performance of the devices. The following operating manual is purely a product description. It does not guarantee properties under the warranty.

Please thoroughly read the corresponding documents and this operating manual before handling a product.

**SIGMATEK GmbH & Co KG is not liable for damages caused through, non-compliance with these instructions or applicable regulations.**

### 3.3 General Safety Directives

The Safety Directives in the other sections of this operating manual must be observed. These instructions are visually emphasized by symbols.



According to EU Directives, the operating manual is a component of a product.

This operating manual must therefore be accessible in the vicinity of the machine since it contains important instructions.

This operating manual should be included in the sale, rental or transfer of the product, or its online availability indicated.

Maintain this operating manual in readable condition and keep it accessible for reference.

Regarding the requirements for Safety and health connected to the use of machines, the manufacturer must perform a risk assessment in accordance with machine directives 2006/42/EG before introducing a machine to the market.

Before commissioning this product, check that conformance with the provisions of the 2006/42/EG directives is correct. As long as the machine with which the product should be used does not comply with the directive, operating this product is prohibited.

Operate the unit with devices and accessories approved by SIGMATEK only.

**CAUTION**

Handle the device with care and do not drop or let fall.

Prevent foreign bodies and fluids from entering the device.

The device must not be opened, otherwise it could be damaged!

Manipulez l'appareil avec précaution et ne le laissez pas tomber.

Empêchez les corps étrangers et les liquides de pénétrer dans l'appareil.

L'appareil ne doit pas être ouvert, sinon il risque d'être endommagé!

If the device does not function as intended or has damage that could pose a danger, it cannot be used!

En cas de fonctionnement non conforme ou de dommages pouvant entraîner des risques, l'appareil ne doit plus être utilisé!

Regularly check the housing for mechanical damage.

Vérifier régulièrement l'absence de dommages mécaniques sur le boîtier.

The handheld operating panel may only be used within the visible area for the application to control. The system integrator must perform a risk assessment.

Le pupitre de commande manuel ne doit être utilisé que dans la zone visible pour l'application à commander. Une évaluation des risques doit être effectuée par l'intégrateur du système

The module complies with EN 61131-2.

In combination with a machine, the machine builder must comply with EN 60204-1 standards.

For your own safety and that of others, compliance with the environmental conditions is essential.

The control cabinet must be connected to ground correctly!

To perform maintenance or repairs, disconnect the system from the power supply.

Le module est conforme à la norme EN 61131-2.

En combinaison avec une machine, le constructeur de la machine doit respecter la norme EN 60204-1.

Pour votre propre sécurité et celle des autres, le respect des conditions environnementales est essentiel.

L'armoire de commande doit être raccordée correctement à la terre.

Pour l'entretien et les réparations, débranchez le système de l'alimentation.

### 3.4 Designated Use

The Safety functions implemented in the product are designed for use with safety applications in a PLC control and meet the required conditions for safe operation according to SIL 3, HFT 1 in compliance with EN IEC 62061 and according to PL e, Kat. 4 in compliance with EN ISO 13849-1.

#### CAUTION



The instructions contained in this operating manual must be followed.

For error-free operation, proper transport and storage are essential.

Installation, mounting, programming, initial start-up, operation, maintenance and decommissioning can only be performed by qualified personnel.

Qualified personnel in this context are people, who have completed training or have trained under supervision of qualified personnel and have been authorized to operate and maintain safety-related equipment, systems and facilities in compliance with the strict directives and standards of safety technology (Functional Safety).

Les instructions contenues dans ce manuel technique doivent être suivies.

Pour un fonctionnement sans erreur, le transport et le stockage appropriés sont essentiels.

L'installation, le montage, la programmation, la mise en service initiale, l'exploitation, la maintenance et la mise hors service ne peuvent être effectués que par une personne qualifiée.

Dans ce contexte, on entend par personnel qualifié les personnes qui ont suivi une formation ou qui ont été formées sous la supervision d'un personnel qualifié et qui ont été autorisées à utiliser et à entretenir l'équipement, les systèmes et les installations de sécurité conformément aux directives et aux normes strictes de la technique de sécurité (Sécurité fonctionnelle).

For your own safety and that of others, the product should be used for their designated purpose only.

Correct EMC installation is also included under designated use.

Pour votre propre sécurité et celle des autres, le produit ne doivent être utilisés qu'à des fins prévues.

Une installation CEM correcte est également incluse dans l'utilisation prévue.

Non-designated use consists of:

- any changes made to the module or the use of damaged modules.
- use of the module inconsistent with the technical margins described in this operating manual or the specifications defined in the technical data.

L'utilisation non désignée consiste en:

- toute modification apportée au module ou l'utilisation des modules endommagés.
- utilisation du module non conforme aux marges techniques décrites dans ce manuel ou aux spécifications définies dans les données techniques.

As required by EN ISO 13850, section 4.1 and EN 60204-1, section 10.7.1, confusion between a functioning and non-functioning handheld operating panel is possible must be prevented.

Conformément à la norme EN ISO 13850, section 4.1 et EN 60204-1, section 10.7.1, la confusion entre un panneau de commande portatif fonctionnel et non fonctionnel doit être évitée.

### 3.5 Software/Training

The application is created with the software LASAL CLASS 2 and LASAL SCREEN Editor, the Safety application is created using the SAFETYDesigner. Basic information on Safety (Functional Safety) can be found in the Safety System Handbook.

Training for the LASAL development environment, with which the product can be configured, is provided. Information on our training schedule can be found on our website.

## 4 Standards and Directives

### 4.1 Residual Risks

#### CAUTION



The following residual risks for the product must be included in the system integrator's risk assessment:

- Release of non-environmentally safe substances, emissions and unusual temperatures
- Hazardous contact voltages
- Effects of operational electrical, magnetic and electromagnetic fields
- Possible effects of information technology devices

Les risques résiduels suivants pour le produit doivent être inclus dans l'évaluation des risques de l'intégrateur de système:

- Libération de substances non respectueuses de l'environnement, émissions et températures inhabituelles
- Tensions de contact dangereuses
- Effets des champs électriques, magnétiques et électromagnétiques opérationnels
- Effets possibles des dispositifs de technologie de l'information

### 4.2 Safety of the Machine or Equipment



Observe all on-site rules and regulations for accident prevention and occupational safety.

### 4.3 Regular Technical Inspection of Safety-Related Switches

**CAUTION**

According to the Machinery Directive, mechanical and electromechanical safety-relevant components (e.g. relays, switches, etc.) must be regularly tested for correct functioning.

Emergency stop switch: at least 1x/month

Key switch: at least 1x/year

Confirmation switch: at least 1x/year

Please observe this requirement for your machine. There may be regionally deviating requirements due to type C standards or other regulations. .

### 4.4 Directives

The product was constructed in compliance with the following European Union directives and tested for conformity.

4.4.1    Functional Safety Standards

|                |                                                                                                       |
|----------------|-------------------------------------------------------------------------------------------------------|
| EN IEC 62061   | Safety of machinery - Functional safety of safety-related control systems                             |
| EN ISO 13849-1 | Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design |
| EN ISO 13849-2 | Safety of machinery - Safety-related parts of control systems - Part 2: Validation                    |
| EN ISO 13850   | Safety of machinery - Emergency stop function - Principles for design                                 |

4.4.2    EU Conformity Declaration



EU Declaration of Conformity

The product HGT 835 conforms to the following European directives:

- **2006/42/EG** Machine Directive
- **2014/30/EU** Electromagnetic Compatibility (EMC Directive)
- **2011/65/EU** “Restricted use of certain hazardous substances in electrical and electronic equipment” (RoHS Directive)

The EU Conformity Declarations are provided on the SIGMATEK website. They can be found in the download area of the respective product.

4.5      Safety-relevant Parameters

The use of the specified parameters requires a risk analysis of the end application.

| Input module                           | Safety parameters (SIL 3, HFT 1, PL e / Kat. 4) <sup>1)</sup>                  |
|----------------------------------------|--------------------------------------------------------------------------------|
| HGT 835<br>included Safe CPU (SCP XXX) | PFH = 1.1E-11 (1/h)<br><br>SFF = 99 %<br><br>MTTF = 306 years<br><br>DC = 99 % |

|                       |                            |
|-----------------------|----------------------------|
| Confirmation switch   | B <sub>10D</sub> = 100,000 |
| Key switch            | B <sub>10D</sub> = 10,000  |
| Emergency stop switch | B <sub>10D</sub> = 325,000 |

<sup>1)</sup> Depending on the application, the probability of failure must be determined for the included electromechanical components based on the B<sub>10D</sub> values listed here and included in the calculation for the entire system.

5 Type Plate



HW: X.XX

SW: XX.XX.XXX

Safety Version: SXX.XX.XX

Serial No.

SIGMATEK GMBH & CO KG

Sigmathekstrasse 1 A-5112 LAMPRECHTSHAUSEN

Article Number

Product Name

Short Name

Exemplary nameplate (symbol image)



HW: 1.00

SW: 01.00.000

Safety Version: S01.00.00

12345678

SIGMATEK GMBH & CO KG

Sigmathekstrasse 1 A-5112 LAMPRECHTSHAUSEN

12-246-133-3

Handbediengerät Wireless HGW 1033-3

HW: Hardware version  
SW: Software version

# 6 Technical Data

## 6.1 Performance Data

|                                             |                                                                                                                                                                        |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor                                   | EDGE2 Technology                                                                                                                                                       |
| Processor core                              | 2 <sup>1)</sup>                                                                                                                                                        |
| Internal cache                              | 32-kbyte L1 Instruction Cache<br>32-kbyte L1 Data Cache<br>512-kbyte L2 Cache                                                                                          |
| Internal program and data memory (DDR3 RAM) | 256-Mbyte                                                                                                                                                              |
| Internal remnant data memory                | 128-kbyte MRAM                                                                                                                                                         |
| Internal storage device                     | 4-Gbyte microSD card (3D-TLC pSLC technology) <sup>2)</sup>                                                                                                            |
| Internal I/O                                | no                                                                                                                                                                     |
| Interfaces                                  | 1x Ethernet<br>1x USB 2.0 Type A<br>1x Safety Interface <sup>3)</sup><br>1x VARAN                                                                                      |
| Internal interface connections and devices  | 1x TFT LCD color display<br>1x touch                                                                                                                                   |
| Control panel                               | touch screen (analog resistive, 4-wire)<br>confirmation switch (2 normally open, 3-stage)<br>key switch (2 normally open)<br>emergency stop switch (2 normally closed) |
| Display                                     | 8.4" TFT color display                                                                                                                                                 |
| Resolution                                  | 800 x 600 Pixel                                                                                                                                                        |
| Signal generator                            | no                                                                                                                                                                     |
| Real-time clock                             | yes (buffering approximately 10 days)                                                                                                                                  |
| Cooling                                     | passive (fanless)                                                                                                                                                      |

<sup>1)</sup> Attention: When programming (with LASAL) on multicore CPUs, particular focus must be placed on thread security!

<sup>2)</sup> The 4 Gbyte microSD card is formatted to 1 Gbyte in order to achieve the lifetime of a standard SLC card. A format change to the full 4 Gbyte is not allowed and will result in a massive reduction of the microSD card's lifetime.

<sup>3)</sup> The Safety Interface must be used exclusively with the SIGMATEK SCP XXX!  
The status of the safety-related inputs (confirmation switch, key switch, emergency stop switch) is sent to the SCP XXX. The function of the key switch, confirmation switch and emergency stop switch must be tested at least once per month.

6.2 Electrical Requirements

|                                           |                                                            |                                                       |
|-------------------------------------------|------------------------------------------------------------|-------------------------------------------------------|
| Supply voltage                            | typically +24 V DC (PELV)                                  |                                                       |
|                                           | minimum +24 V DC (PELV)                                    | maximum +30 V DC (PELV)                               |
| Supply voltage (UL)                       | +24-30 V DC (NEC Class 2 or LVLC)                          |                                                       |
| Protection class                          | III                                                        |                                                       |
| Current consumption<br>Power supply +24 V | typically 0.35 A<br>(without externally connected devices) | typically 0.45 A<br>(with external devices connected) |
| Inrush current                            | maximum 10 A for < 50 µs                                   |                                                       |
| USB current load                          | maximum 0.5 A                                              |                                                       |



For USA and Canada:

The supply must be limited to:

- a) max. 5 A at voltages from 0-20 V (0-28.3 Vp) or
- b) 100 VA at voltages from 20-30 V (28.3-42.4 Vp)

The limiting component (e.g. transformer, power supply or fuse) must be certified by an NRTL (Nationally Recognized Testing Laboratory).

Pour les États-Unis et le Canada:

L'alimentation doit être limitée à :

- a) max. 5 A pour des tensions de 0-20 V (0-28,3 Vp), ou
- b) 100 VA pour des tensions de 20-30 V (28,3-42,4 Vp)

Le composant imposant la limite (par exemple, transformateur, alimentation électrique ou fusible) doit être certifié par un NRTL (National Recognized Testing Laboratory, par exemple, UL).

### 6.3 Terminal

|            |                                                                                   |
|------------|-----------------------------------------------------------------------------------|
| Dimensions | 217.4 x 187.7 X 72 mm (W x H x D)<br>(without Emergency Stop switch / key switch) |
| Material   | housing: PC/ASA<br>color: RAL7024                                                 |
| Weight     | typically, circa 0.95 kg without connector cable                                  |

### 6.4 Environmental Conditions

|                                  |                                                                                      |                                                |
|----------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------|
| Storage temperature              | -10 ... +60 °C                                                                       |                                                |
| Environmental temperature        | 0 ... +50 °C                                                                         |                                                |
| Operating conditions             | pollution degree 2<br>altitude up to 2000 m                                          |                                                |
| Noise emissions                  | ≤ 70 dB                                                                              |                                                |
| Humidity                         | 10-95 %, non-condensing                                                              |                                                |
| EMC stability                    | EN 61000-6-2 (industrial area)<br>(increased requirements according to EN IEC 62061) |                                                |
| Shock resistance                 | EN 60068-2-27                                                                        | 150 m/s <sup>2</sup>                           |
| Vibration tolerance              | 10 m/s <sup>2</sup>                                                                  |                                                |
| Protection Type                  | EN 60529                                                                             | IP54<br>(only with all protective caps fitted) |
| Free fall<br>(without packaging) | DIN EN 60068-2-32                                                                    | 500 mm                                         |

## 6.5 Display

|                |                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------|
| Type           | 8.4" TFT LCD color display                                                                                     |
| Resolution     | SVGA 800 x 600 Pixel                                                                                           |
| Color depth    | 18-bit RGB (262K colors)                                                                                       |
| LCD mode       | TN / normal white                                                                                              |
| LCD Polarizer  | transmissive                                                                                                   |
| Pixel size     | 0.213 x 0.213 mm                                                                                               |
| Active surface | 170.40 x 127.80 mm                                                                                             |
| Backlighting   | LED                                                                                                            |
| Contrast       | typically 600: 1                                                                                               |
| Brightness     | Until HW 2.50: typically 250 cd/m <sup>2</sup><br>Since HW 2.60: typically 400 cd/m <sup>2</sup>               |
| Angle CR ≥ 10  | Until HW 2.50: left and right 75°, above 70° and below 60°<br>Since HW 2.60: left, right, above° and below 80° |

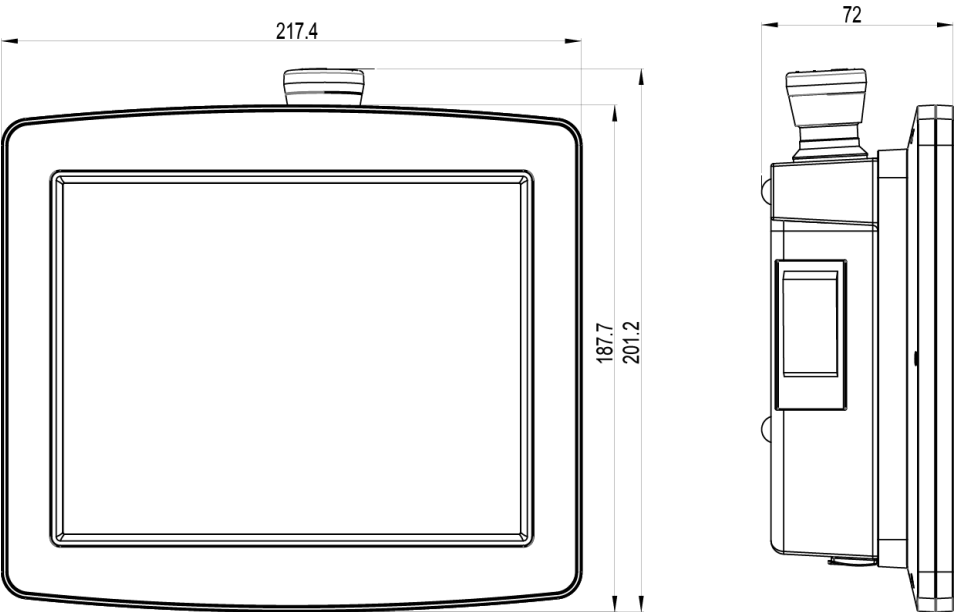
## 6.6 Terminal Requirements

|                       |                                                        |
|-----------------------|--------------------------------------------------------|
| Connection technology | M16 plug (see X2 on page 25)                           |
|                       | special connector cable<br>minimum bend radius: 147 mm |

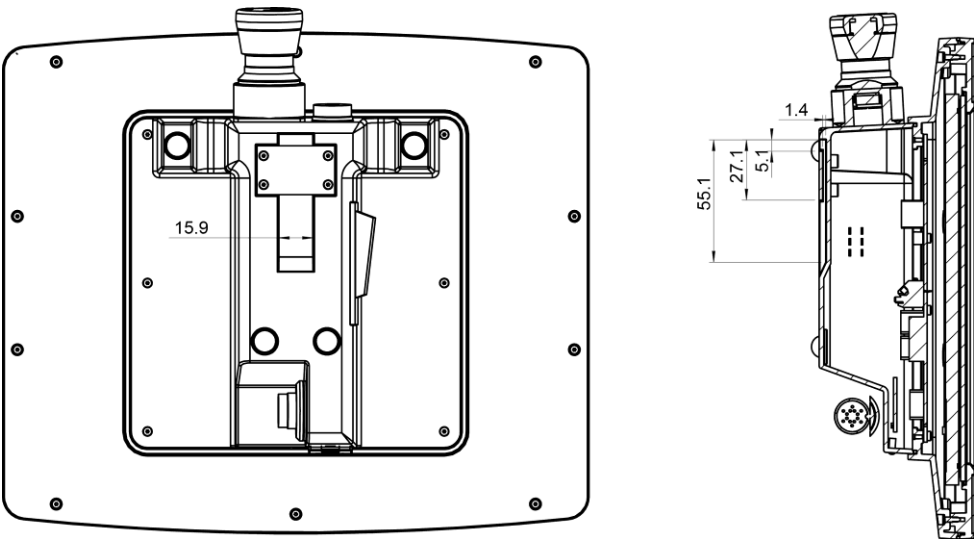
## 6.7 Miscellaneous

|                 |                                                                                                   |
|-----------------|---------------------------------------------------------------------------------------------------|
| Article number  | 01-245-835                                                                                        |
| Connector cable | optionally available (see documentation <a href="#">Connection Cables for Operating Devices</a> ) |
| Standard        | UL 508 (E247993)                                                                                  |
| Approvals       | CE, TÜV EC type tested, cULus                                                                     |
| Mission time    | 20 years                                                                                          |

7 Mechanical Dimensions



7.1 Wall Mounting

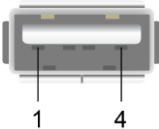


# 8 Interfaces

## 8.1 Rear Connectors



**X1: USB Interface 2.0 Type A**

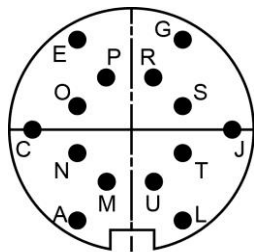


| Pin | Function |
|-----|----------|
| 1   | +5 V     |
| 2   | D-       |
| 3   | D+       |
| 4   | GND      |



It should be noted that many of the USB devices on the market do not comply with USB specifications; this can lead to device malfunctions. It is also possible that these devices will not be detected at the USB port or function correctly. Therefore, it is recommended that every USB stick be tested before actual use.

X2: M16 Cable Connector



| Pin | Wire color | Function                |
|-----|------------|-------------------------|
| L   | Yellow     | Safety Interface-H      |
| J   | Green      | Safety Interface-L      |
| G   | Black      | Safety Interface shield |
| E   | Red        | +24 V DC                |
| C   | Black      | GND                     |
| A   | Shield     | ETH shield              |
| U   | White      | ETH TX+                 |
| T   | Red        | VAR_RX+                 |
| S   | Blue       | VAR_RX-                 |
| R   | Pink       | VAR_TX+                 |
| P   | Gray       | VAR_TX-                 |
| O   | Yellow     | ETH_RX-                 |
| N   | Green      | ETH_RX+                 |
| M   | Brown      | ETH_TX-                 |



The appropriate connector cables are optionally available.  
See documentation [Connection Cables for Operating Devices](#).

LED

| LED status       | Meaning |
|------------------|---------|
| LED lights green | DC OK   |

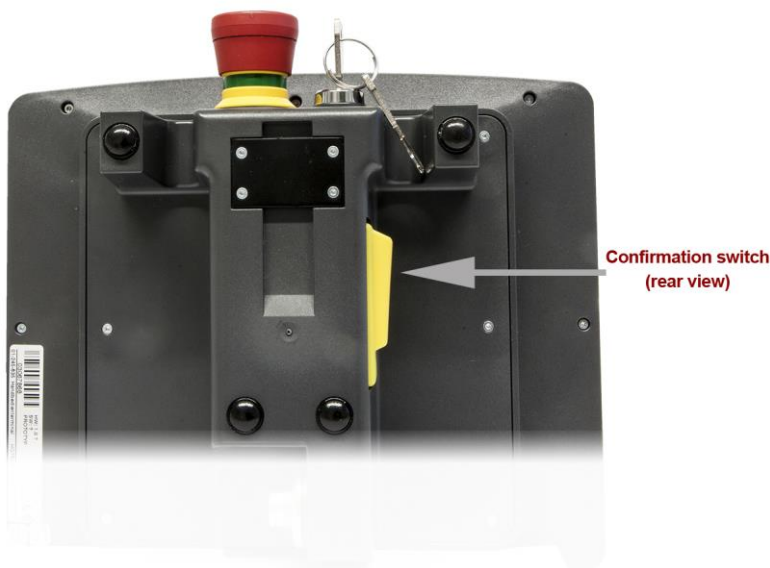
## 8.2 Key Switch

The key switch is two-stage and read via the SCP XXX connected to the Safety Interface. In the SCP XXX the "HBG0811\_K" module is used; inputs 5 and 6 are assigned to the key switch.



### 8.3 Confirmation Switch

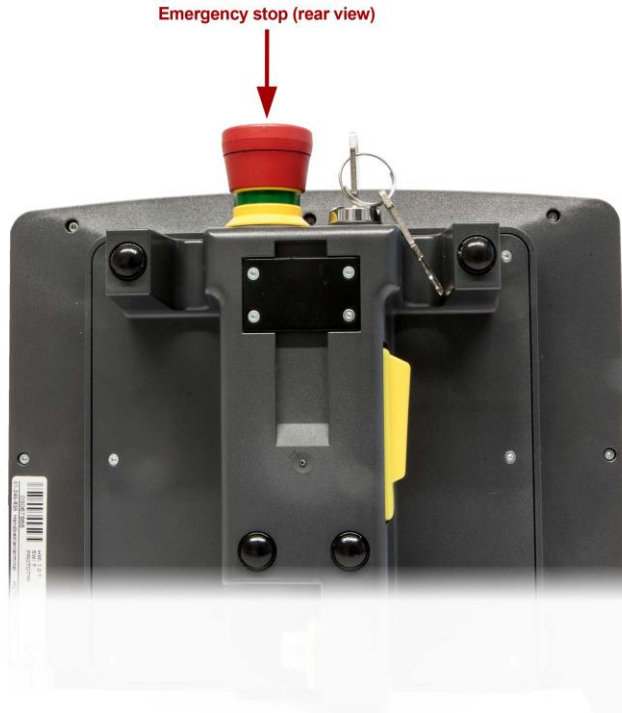
The confirmation switch is three-stage. If the switch is not pressed or pressed only partially, it is inactive. The switch is active when simply pressed (middle stage). In the SCP XXX the "HBG0811\_K" module is used; inputs 1 and 2 are assigned to the confirmation switch.



With the "HGT0835" hardware class, it is possible among other things, to evaluate the Safety number of the connected SCP XXX.

## 8.4 Emergency Stop

The Emergency Stop is two-stage. In the SCP XXX the "HBG0811\_K" module is with the inputs 3 and 4.



## 9 Assembly/Installation

### 9.1 Check Contents of Delivery

Ensure that the contents of the delivery are complete and intact. See chapter Contents of Delivery.



On receipt and before initial use, check the device for damage. If the device is damaged, contact our customer service and do not install the device in your system.

Damaged components can disrupt or damage the system.

## 10 Wiring

### 10.1 ESD Protection



The operator must ensure that no interference from ESD affects the product.

### 10.2 USB Interface

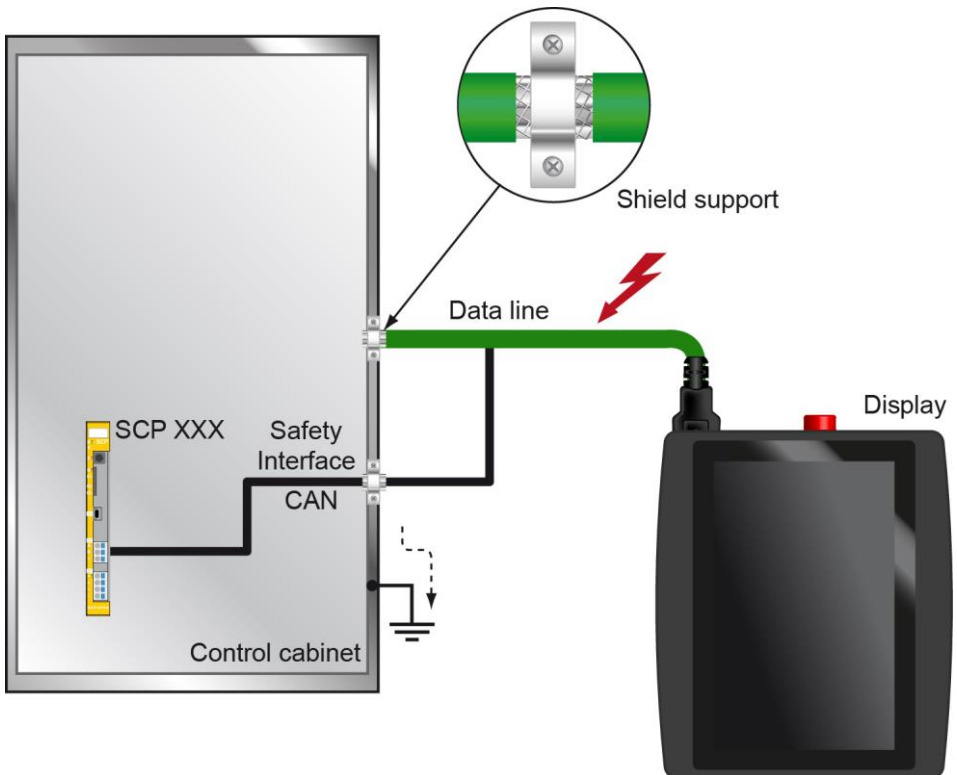
The handheld terminal has a USB interface. This interface can be used for a wide variety of USB devices (keyboard, mouse, storage media, hubs,...).

## 11 Recommended Cable Shielding

For applications in which the bus is operated outside the control cabinet, the correct shielding is required. Especially when for structural reasons, the bus line must be placed next to sources of strong electromagnetic interference. It is recommended that wiring the connector cable in parallel with power cables be avoided whenever possible.

### 11.1 Connection from the Control Cabinet to the HGT

It is recommended that the shielding be mounted at the entry point of the control cabinet housing. Noise can then be deflected from the electronic components before reaching the module.



12 Transport/Storage



|                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| This device contains sensitive electronics. During transport and storage, high mechanical stress must therefore be avoided.                                                                                                                          |
| For storage and transport, the same values for humidity and vibration as for operation must be maintained!                                                                                                                                           |
| Temperature and humidity fluctuations may occur during transport. Ensure that no moisture condenses in or on the device, by allowing the device to acclimate to the room temperature while turned off.                                               |
| When sent, the device should be transported in the original packaging if possible. Otherwise, packaging should be selected that sufficiently protects the product from external mechanical influences. Such as cardboard filled with air cushioning. |

13 Storage



|                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| When not in use, store the device according to the storage conditions. See chapter Transport/Storage.                                                       |
| During storage, ensure that all protective covers (if available) are placed correctly, so that no contamination, foreign bodies or fluids enter the device. |

## 14 Maintenance



During maintenance as well as servicing, observe the safety instructions from chapter 3.

### 14.1 Cleaning and Disinfecting the Touch Screen

#### CAUTION



Before cleaning and disinfecting the touch screen, it must first be deactivated; either by turning off the terminal or by disabling the touch screen via the application to avoid unintentionally activating functions or commands!

Avant de nettoyer et de désinfecter l'écran tactile, il faut d'abord le désactiver; soit en éteignant le terminal, soit en désactivant l'écran tactile via l'application pour éviter d'activer involontairement des fonctions ou des commandes!

The touch screen can only be cleaned with a soft, damp cloth. To dampen the cloth, a mild cleaning solution such as antistatic foam cleaner is recommended. To avoid fluids/cleaning solutions from getting into the housing, the device must not be sprayed directly. To clean, no erosive cleaning solutions, chemicals, abrasive cleansers or hard objects that can scratch or damage the touch screen may be used. The use of steam jets or compressed air is prohibited.

For disinfection, surface disinfectants on alcohol basis, which do not contain re-fattening agents, can be used. The disinfectant used must not leave any residues on the touch screen to ensure proper functioning of the touch screen.

#### WARNING



If the device is contaminated with toxic or erosive chemicals, it must be carefully cleaned as quickly as possible to prevent personal injury and machine damage!

Si l'appareil est contaminé par des produits chimiques toxiques ou érosifs, il doit être soigneusement nettoyé le plus rapidement possible afin d'éviter des dommages corporels et matériels!



To ensure the optimal function of the device, the touch screen should be cleaned at regular intervals!

In order to avoid damaging the touchscreen as much as possible, we generally recommend operating the device with your fingers or a touch pen..

## 14.2 Service

This product was constructed for low-maintenance operation.

## 14.3 Repair



In the event of a defect/repair, send the device with a detailed error description to the address listed at the beginning of this document.

For transport conditions, see chapter Transport/Storage.

---

## 15 Storage Media



It is recommended to use only the storage media approved by SIGMATEK (CompactFlash cards, microSD cards, etc.).

The number of read and write accesses have a significant influence on the service life of the storage media.

The microSD card is not intended as a removable medium and should therefore only be removed from the card holder for maintenance purposes.

## 16 Accessory Wall-Mount



The corresponding wall-mount is available from SIGMATEK under the article number 01-245-835-Z5.

# 17 Disposal



Should you need to dispose of the device, the national regulations for disposal must be followed.

The device appliance must not be disposed of as household waste.



## Documentation Changes

| Change date | Affected page(s)  | Chapter                                                                                                                    | Note                                                                                                                          |
|-------------|-------------------|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 29.09.2014  | 12<br>14          | 3.2 Electrical Requirements<br>3.7 Miscellaneous                                                                           | Added Supply Voltage (UL) and notice in grey box<br>Added Standard                                                            |
| 29.12.2014  | 15                | 4.1 Wall Mounting                                                                                                          | Added Wall Mounting                                                                                                           |
| 09.03.2015  | 23                | 9 Accessory Wall-Mount                                                                                                     | Added Accessory Wall-Mount                                                                                                    |
| 12.03.2015  | 12<br>5           | 3.2 Electrical Requirements<br>2.1 Symbols Used                                                                            | Changed Supply voltage (UL)<br>Safety Guidelines format                                                                       |
| 24.03.2015  | 19-20<br>15<br>15 | 5.2 Connector Cable Layout<br>3.6 Terminal Requirements<br>3.7 Miscellaneous                                               | Added Connector Cable Layout<br>Added special connector cable<br>Added connector cable                                        |
| 07.09.2015  |                   |                                                                                                                            | Changed SCP to general SCP                                                                                                    |
| 29.09.2015  | 13                | 3.2 Electrical Requirements                                                                                                | Added LVLC at Supply voltage (UL) line of the table                                                                           |
| 05.10.2015  | 15                | 3.7 Miscellaneous                                                                                                          | UL, cUL, CE added                                                                                                             |
| 19.04.2016  | 1                 | 3.1 Performance Data                                                                                                       | Table updated                                                                                                                 |
| 27.06.2016  |                   |                                                                                                                            | CAN -> Safety Interface                                                                                                       |
| 15.09.2016  | 24                | 6 Storage Media                                                                                                            | Note microSD added                                                                                                            |
| 08.02.2017  | 19                | 5.2 Connector Cable Layout                                                                                                 | Graphic article number                                                                                                        |
| 26.09.2017  | 15<br><br>19      | 3.5 Terminal Requirements<br>3.6 Miscellaneous<br>5.2 Connector Cable Layout                                               | Added cable specifications<br>Added article numbers<br>Length detail removed, replaced picture                                |
| 08.03.2018  | 11<br>15          | Document<br>2.8 Safety-relevant Parameters<br>3.6 Terminal Requirements<br>3.7 Miscellaneous<br>5.2 Connector Cable Layout | Changes due to safety recertification<br>Emergency Stop switch changed<br>Connection technology<br>Connector cable<br>deleted |
| 16.08.2018  | 14                | 3.1 Performance Data                                                                                                       | Note corrected                                                                                                                |
| 17.12.2019  |                   | 11.1 Connection from the Control Cabinet                                                                                   | Graphics extended                                                                                                             |

|            |    |                                |                                                                  |
|------------|----|--------------------------------|------------------------------------------------------------------|
| 08.09.2020 | 15 | 3.2 Electrical Requirements    | Protection class added                                           |
|            | 16 | 3.4 Environmental Conditions   | Added for Protection Type (only with all protective caps fitted) |
| 30.09.2020 | 25 | 9 Accessory Wall-Mount         | Article number changed                                           |
| 18.11.2020 | 14 | 3.1 Performance Data           | Footnote cores (programming) added                               |
| 26.02.2021 | 13 | 2.8 Safety-relevant Parameters | PFH and DC values changed                                        |
| 07.06.2023 | 22 | 6.5 Display                    | Display values adjusted to HW 2.60                               |
| 07.06.2024 | 7  | 3 Basic Safety Guidelines      | Norms specified                                                  |
|            | 19 | 6.1 Performance Data           | microSD card updated                                             |
|            | 22 | 6.6 Miscellaneous              | Mission time added                                               |
|            | 33 | 13.2 Service                   | Chapter added                                                    |
|            |    | Document                       | Documentation expanded<br>Wording of standards corrected         |