

These operating instructions are valid only in connection with the data sheet of the relevant hand-held pendant station and with the operating instructions of the relevant handwheel!

Safety precautions


EUCHNER handwheels HBL5 meet the EMC protection requirements according to EN 61000-6-2 and EN 61000-6-4.


Hand-held pendant stations HBL5 must not be used for residential applications, in business or commercial areas or in small businesses.


The operator of the overall higher-level system is responsible for conformity with the national and international safety and accident prevention regulations applicable to the special application.


When designing machines and using handwheels, the national and international safety and accident prevention regulations specific to the application must be observed, e.g.:


- ▶ EN 60204, electrical equipment of machines
- ▶ EN 12100, safety of machines, general design principles
- ▶ EN ISO 13849-1, safety-related parts of control systems

 Voltage applied to hand-held pendant stations must not exceed 30 V.

 Appropriate safety measures must be taken to prevent a malfunction of the handwheel which could cause danger to human beings or damage to operating equipment.

 **No commands that may lead to potentially hazardous conditions** may be initiated by enabling switches alone. In such case, a second, deliberate start command is required.

 Every person present in the danger area must carry his/her own enabling switch on his/her person.

 **Risk of injury** is present when handling the hand-held pendant station due to the strong attraction of the mounting.

Keep heart pacemakers, magnetic data carriers (data loss) and electrical and electronic devices at a suitable distance.

Correct use

Machine installations in manual mode can be operated with hand-held pendant stations.

Handwheels are used as part of an overall higher-level control system.

Their use, installation and operation are permissible only in conformity with these operating instructions.

Incorrect use

Hand-held pendant stations **on their own** must not be used as safety components for avoiding hazardous states in a machine installation.

General function

Hand-held pendant stations make it possible to operate a machine installation, for instance, in manual mode.

Function of individual components

The hand-held pendant station may consist of the following components:

- ▶ Handwheel
- ▶ EMERGENCY-STOP device
- ▶ Enabling switches
- ▶ Selector switches
- ▶ Key switches
- ▶ Pushbuttons
- ▶ Display

Handwheel

The electronic handwheel is a universal pulse generator for manual shaft positioning.

An output of 100 or 25 square-wave pulses per revolution is available. A second phase-shifted output allows the connected controller to detect the direction of movement.

The pulses are evaluated in the controller.

For technical data, see the Handwheel HKD operating instructions.

EMERGENCY-STOP device

The EMERGENCY-STOP device is designed to be manipulation-proof in accordance with IEC 60947-5-1/ EN ISO 13850.

Enabling switches, selector switches, key switches, pushbuttons

These components are used to transfer additional information to the higher-level machine controller.

Display

The display is operated in text mode. Control-related information can be shown on the display.

Assembly

Hand-held pendant stations are not used exclusively at a single site. The stations can be stored using a mounting magnet on the rear of the device or a holder.




Do not open hand-held pendant stations!



Do not throw or drop the hand-held pendant stations!

Electrical connection


 Electrical connection may only be performed by authorised personnel trained in EMC with the machine switched off and in a de-energised state.

The machine must be safeguarded against reactivation.

Incorrect connection may cause damage to the components of the hand-held pendant station!

Observe electrical characteristics and the pin assignments!

The pin assignment can be found in the data sheet.

 In the case of devices with an RS232 interface, the lead length must not exceed 30 m.

- ▶ Always shield connecting leads.
- ▶ Make sure that the lead's connection is EMC-compatible.
- ▶ Ground the shield at the end of the lead at a central grounding point, e.g. in the distribution board or in the control cabinet, over a large surface, with low resistance and with low inductance.
- ▶ Original connecting leads must not be shortened.
- ▶ Given an extension or other modification to the connection cable, the operator must ensure that the valid EMC protection requirements are observed.
- ▶ Do not install connecting leads in the immediate vicinity of interference sources.

Authorization according to:



Operation with UL-class 2 power supply only.

Connection leads of hand-held pendant stations installed at the application site must be separated from all movable and permanently installed leads and non-insulated active parts of other installation parts which operate with a voltage of over 150 V, in such a way that a constant clearance of 50.8 mm is observed. This does not apply if the movable leads are equipped with suitable insulation materials which possess an identical voltage stability to the other relevant installation parts or higher.

Service and inspection

EUCHNER handwheels require no maintenance.

Handwheels may only be repaired by the manufacturer.

To clean the handwheels, only use solvent-free cleaning agents and a soft cloth.

Disclaimer of liability

The company is unable to accept liability in the following cases:

- ▶ if instructions are not followed
- ▶ if the safety instructions are not followed
- ▶ if the units are electrically connected by unauthorised personnel
- ▶ if any external intervention occurs

Technical data, general

Parameters	Value
Housing material	Polyamide
Colour	Blue-grey RAL 7031
Operating temperature	0 °C to +55 °C
Storage temperature	-20 °C to +55 °C
Humidity, max.	80 %
Condensation not permissible	
Degree of protection according to EN 60529 / IEC 529	IP 65
NEMA	250-12
Weight	1.7 to 3.2 kg
Resistance to vibration	
Vibrations (3 axes)	DIN/IEC 68-2-6
Shock (3 axes)	DIN/IEC 68-2-27
EMC protection requirements in accordance with CE	EN 61000-6-2 EN 61000-6-4
Power supply	
Operating voltage U_B DC	24 V \pm 20%
Operating current, max.	200 mA
Output, max.	4.8 VA
Communications interface	
Type RS422A or RS232 (lead length max. 30 m)	See manual

Technical data of components

EMERGENCY STOP	Value
Norm	EN ISO 13850
Switching elements	Max. 2 NC contacts
Utilization category according to IEC 60947-5-1	DC-13 $U_e=24\text{ V} / I_e = 3\text{ A}$
Enabling switches ZSG	
Switching element	Max. 2 NO contacts
Utilization category according to IEC 60947-5-1	DC-13 $U_e=24\text{ V} / I_e = 3\text{ A}$
Other components	
See EUCHNER catalogue for hand-held pendant stations or www.euchner.de	

Technical data, handwheel

See relevant operating instructions for HKD handwheel.

Accessories

See EUCHNER catalogue for hand-held pendant stations or www.euchner.de