Operating instructions for hand-held pendant stations HBM

EUCHNER

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

⚠ Safety precautions ⚠

EUCHNER hand-held pendant stations HBM meet the EMC protection requirements according to EN 61000-6-2 and EN 61000-6-4.

Hand-held pendant stations HBM 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
- Pushbuttons

HKB handwheel

The electronic HKB 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 details, please see the *Electronic HKB handwheel* 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, pushbuttons

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

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.

- Always shield connecting leads.
- Ground the shield at the open 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.
- In the case of leads with plug connectors, ensure that the connection type is EMC-compliant.
- 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.

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	PBT-PC
Colour	anthracite grey
Weight	depending on version
Operating temperature	0 °C ... +50 °C
Storage temperature	-20 °C ... +50 °C
Humidity, max.	80 % (condensation not permissible)
Degree of protection to the front	
In accordance with EN60529 / IEC529	IP 65
In accordance with NEMA	250-12
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

Technical data of components

EMERGENCY STOP	Value
Norm	EN ISO 13850
Switching elements	depending on version
Utilization category according to IEC 60947-5-1	DC-13 U_e=24 V / I_e = 3 A

Enabling switches	Value
Switching element	depending on version
Resistive load	AC 30 V / 0.4 A DC 30 V / 0.1 A

Pushbuttons	Value
Switching element	depending on version
Switching voltage, max.	30 V DC
Switching current, max.	0.1 A
Switching capacity, max.	1 VA

Selector switches	Value
Switching code	1 of X, grey, hex see wiring diagram
Switching voltage, max.	25 V
Switching capacity, max.	0,2 VA

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

Technical data, handwheel

See relevant operating instructions for HKB handwheel.

Accessories

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

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