

Product Overview

ManMachine



EUCHNER

More than safety.

ManMachine at a glance



	RS232 serial RS422	USB	ETHERNET	PROFI BUS
Approval				
Features/specific advantages		FSA	FSA	FSA
Version	compact	compact	compact	compact
Housing material	plastic (PA 6 GF30 gray)	plastic (PA 6 GF30 gray)	plastic (PA 6 GF30 gray)	plastic (PA 6 GF30 gray)
Ambient temperature at U _b =DC24V	0 to +55 °C	0 to +55 °C	0 to +55 °C	0 to +55 °C
Mounting cut-out acc. to DIN43700	33x68 mm	33x68 mm	33x68 mm	33x68 mm
Operating voltage U _b (regulated, residual ripple < 5%)	20 to 28 V DC	–	20 to 28 V DC	20 to 28 V DC
Current consumption, max.	100 mA	100 mA	150 mA	150 mA
Degree of protection acc. to IEC60529	IP65, IP67 installed	IP65, IP67 installed	IP65, IP67 installed	IP65, IP67 installed
Interface to the PC or to the control system	serial, RS232/RS422	USB Full Speed	Ethernet IEEE802.3	RS485
Transfer protocol	3964R ActiveX®-Modul as protocol driver	3964R ActiveX®-Modul as protocol driver	TCP/IP ActiveX®-Modul as protocol driver	PROFIBUS DP acc. to IEC 61158 IEC 61784-1
Data transfer rate	9.6 kBaud	9.6 kBaud	10/100 MBit/s	9.6 to 500 kBit/s 1.5 to 12 MBit/s
Connection type for power supply	miniature plug connector, 3-pole	Via USB	miniature plug connector, 3-pole	miniature plug connector, 3-pole
Interface connection type	Sub-D 9-pole	USB type B	RJ45	Sub-D 9-pole
Cable length, max.	RS232 5 m/RS422 1000 m	3 m	100 m	100 to 1200 m
LED indicator	green: »ready« yellow: »Electronic-Key active«	green: »ready« yellow: »Electronic-Key active«	green: »ready« yellow: »Electronic-Key active« red: »error«	green: »ready« yellow: »Electronic-Key active« red: »error«

System overview

The Electronic-Key-System EKS is used for electronic access management. It makes it possible to also log product parameters and operator entries (e. g. in accordance with FDA standard 21 CFR part 11). The Electronic-Key, in the form of a robust tag, contains a data carrier and an antenna (transponder). The data carrier has a combined read/write and fixed-code memory (see table Electronic-Key memory structure). In operation the Electronic-Key placed inserted into the Electronic-Key adapter. The data are transferred between the Electronic-Key adapter and the Electronic-Key without using any contacts. The Electronic-Keys are available in different colors. The colors can be used, for example, to indicate the different levels of access rights.

Electronic-Key memory structure								
	E ² PROM (programmable)					ROM (serial number)		
Byte no. [dec]	0	1	...	114	115	116	...	123
Byte no. [hex]	00	01	...	72	73	74	...	7B
	Quantity: 116 bytes					Quantity: 8 bytes		

Version FSA

As an alternative the Electronic-Key adapters with USB, Ethernet TCP/IP, PROFIBUS, PROFINET interface and EKS *Light* are available in the FSA (For Safety Applications) version. These devices have a second channel, which is available as an additional semiconductor switching contact. This switching contact is used in connection with functionally safe applications. The evaluable function in terms of safety engineering involves reliable recognition that no Electronic-Key has been placed.

Key management using the Electronic-Key-Manager EKM





With the Electronic-Key-Manager EKM EUCHNER also provides a flexible PC software package for programming and managing Electronic-Keys. The freely programmable memory on the Electronic-Key can be structured exactly as required using EKM. The full version of EKM is based on a client/server architecture with central database.

ManMachine at a glance



PROFINET

Light

			
FSA	FSA	FSA	FSA
compact	modular	compact	modular
plastic (PA 6 GF30 gray)	plastic (PVDF GF30 grey)/(PA6.6)	plastic (PA 6 GF30 gray)	plastic (PVDF GF30 gray)/(PA6.6)
0 to +55 °C	-20 to +100 °C/ 0 to +55 °C	-20 to +70 °C	-20 to +100 °C/ -20 to +70 °C
33x68 mm	Hole Ø 22,5/ DIN rail 35 mm	33x68 mm	Hole Ø 22,5/ DIN rail 35 mm
20 to 28 V DC	20 to 28 V DC	9 to 28 V DC	9 to 28 V DC
150 mA	150 mA	70 mA (without load)	70 mA (without load)
IP65, IP67 installed	IP65, IP67, IP69K installed	IP65, IP67 installed	IP65, IP67, IP69K installed
IEEE802.3	Ethernet IEEE802.3	4-bit parallel/plus Strobe	4-bit parallel/plus Strobe
PROFINET IO acc. to IEC 61158 IEC 61784-1 and -2	PROFINET IO acc. to IEC 61158 IEC 61784-1 and -2	binary coded via high/low level	binary coded via high/low level
10/100 MBit/s	10/100 MBits/s	-	-
miniature plug connector, 3-pole	miniature plug connector, 4-pole	miniature plug connector, 2-/4-pole	miniature plug connector, 4-pole
RJ45	RJ45	miniature plug connector, 5-pole	miniature plug connector, 4-pole
100 m	15 m / 100 m	50 m	15 m / 50 m
green: »ready« yellow: »Electronic-Key active« red: »error«	green: »ready« yellow: »Electronic-Key active« red: »error«	green: »ready« yellow: »Electronic-Key active« red: »error«	green: »ready« yellow: »Electronic-Key active« red: »error«

Series EKS Light – Access the easy way...

EKS Light is characterized by simple integration into the control system environment. After the Electronic-Key is placed, the Electronic-Key's data are evaluated within the device as the first step, which permits automatic Electronic-Key recognition without the aid of the control system. Once the internal check of the data integrity is complete, an access level is issued at the data outputs.

The EKS Light is a read-only system with integrated evaluation electronics and interface. The access level is output via a 4-bit parallel interface. The parallel interface offers the advantage of transparent depiction of the data and therefore simple connection directly to the inputs of a control system or a switching device.

Compact and modular design

The EKS with PROFINET interface and the EKS Light are available in compact and modular design. In the compact version, the Electronic-Key adapter and the electronics form a unit. The Electronic-Key latches into the Electronic-Key adapter and is retained there. In the modular version, by contrast, the Electronic-Key adapter is mounted spatially separate from the electronics. The modular Electronic-Key adapter allows the Electronic-Key to be placed by hooking on the front side. Thanks to the shallow installation depth, installation is possible even in tight spaces. The design was realized with a view to applications in hygienically sensitive areas.

Environment	Approval
	Housing material
	Switching lever material
	Weight
	Mechanical life, min.
	Ambient temperature with spring return switch
	Ambient temperature with stayput switch
	Mounting
	Degree of protection to IEC 529 on actuating side with/without bellows
	Switching elements, max.
Connection	Connection
	Contact elements
	Switching principle
	Rated insulation voltage U_i
	Rated impulse withstand voltage U_{imp}
	Utilization category AC 15
	Utilization category DC 13
	Switching current, min. at 24V
	Switching voltage, min.
	Contact material
Short circuit protection (control circuit fuse)	
Number of actuating directions, max.	
All-round actuation R (spring return switch only)	
Switching positions per direction	
Pushbutton D	

● available ○ available on request

All given data refer to the respective minimum

Joysticks



Joystick
WK



Joystick
WE



Joystick
KB



Joystick
KF



Joystick
KE



Joystick
KC



reinforced thermoplastic/ aluminium	reinforced thermoplastic/ aluminium	reinforced thermoplastic/ aluminium	reinforced thermoplastic/ aluminium	duroplast	reinforced thermoplastic/ aluminium
stainless steel	galvanized steel	stainless steel	stainless steel	stainless steel	galvanized steel
approx. 0.17 kg	approx. 0.65 kg	approx. 0.2 kg	approx. 0.2 kg	approx. 0.1 kg	approx. 0.75 kg
1 x 10 ⁶	1 x 10 ⁶	1 x 10 ⁶	1 x 10 ⁶	1 x 10 ⁶	1 x 10 ⁶
-5 to +65 °C	-5 to +65 °C	-5 to +65 °C	-5 to +65 °C	-25 to +65 °C	-5 to +65 °C
-25 to +65 °C	-25 to +65 °C	-25 to +65 °C	-25 to +65 °C	-25 to +65 °C	-25 to +65 °C
IEC 947-5-1 D30	Front panel installation	IEC 947-5-1 D30	IEC 947-5-1 D22	IEC 947-5-1 D22	front panel installation
IP 65/IP 54	IP65/IP54	IP65	IP65	IP65	IP65/IP50
8	8	4	4	4	3 per direction
tab connector	screw terminal	tab connector/ screw terminal	screw terminal	tab connector/ screw terminal	tab connector/ screw terminal
changeover contact C IEC 947-5-1	changeover contact C IEC 947-5-1	changeover contact C IEC 947-5-1	changeover contact C IEC 947-5-1	changeover contact C IEC 947-5-1	changeover contact C IEC 947-5-1
snap-action contact element	snap-action contact element	snap-action contact element	snap-action contact element	snap-action contact element	snap-action contact element
250V	250V	250V	250V	250V	250V
2.5 kV	2.5 kV	2.5 kV	2.5 kV	2.5 kV	2.5 kV
230V/4A	230V/10A	230V/5A	230V/5A	230V/4A	230V/4A
24V/2A	24V/4A	24V/3A	24V/3A	24V/2A	24V/2A
12 mA	50 mA	10 mA	10 mA	12 mA	12 mA
10V	24V	12V	12V	10V	10V
silver alloy	silver alloy	silver alloy	silver alloy	silver alloy	silver alloy
T6/F10	T16/F25	T10/F20	T10/F20	T10/F20	T6/F10
8	8	8	8	8	8
○	○	○	–	○	○
1	1	1	1	1	1
○	○	–	–	–	○

– not available

Further information is available at www.euchner.com

or maximum values for the entire series.

ManMachine at a glance

Hand-Held Pendant Stations



Hand-held pendant station
HBA



Hand-held pendant station
HBAS



Hand-held pendant station
HBL



Hand-held pendant station
HBS



Hand-held pendant station
HBM

Kit available

●

–

●

–

●

Approvals



Housing material

plastic

plastic

plastic

plastic

plastic

Color

gray RAL 7040

gray RAL 7040

gray RAL 7031

gray RAL 7031

anthracite

Weight

approx. 0.8kg

approx. 0.85kg

approx. 2.1 kg

approx. 2.2 kg

approx. 1.1 kg

Operating temperature

0 to +50 °C

0 to +50 °C

0 to +50 °C

0 to +50 °C

0 to +50 °C

Storage temperature

-20 to +50 °C

-20 to +50 °C

-20 to +55 °C

-20 to +55 °C

-20 to +55 °C

Degree of protection
acc. to EN 60529/NEMA

IP65/250-12

IP65/250-12

IP65/250-12

IP65/250-12

IP65/250-12

Connection

spiral cable 3.5 m,
plug connector

spiral cable 3.5 m,
plug connector

cable 3.5 m straight,
plug connector

cable 3.5 m straight,
plug connector

cable 3.5 m straight,
plug connector

Selector switches

2 x 6
positions

–

3 x 12
positions

2 x 12
positions

2 x 6
positions

Membrane keypad

3

20

–

12

–

Enabling switches

2/3-stage

2/3-stage

2/3-stage

2-stage

2-/3-stage

EMERGENCY STOP device
acc. to EN 13820

●

●

●

●

●

Handwheel 100 pulses

●

–

●

●

●

Buttons

–

–

3

–

6

Key-operated switch

–

–

●

–

–

Interface

RS422A
(handwheel)

serial, RS422A
3964R protocol

RS422A
(handwheel)

serial, RS422A
3964R protocol

RS422A
(handwheel)

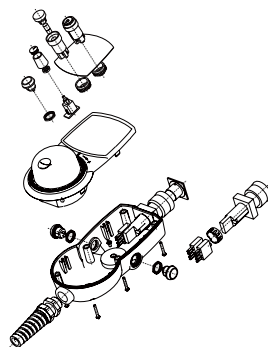
Kits for hand-held pendant stations

To enable you to use ergonomically designed housings even for small quantities, e. g. prototypes or special versions, EUCHNER provides kits for hand-held pendant stations. As a result you can assemble a hand-held pendant station in a user-friendly housing to suit your requirements.

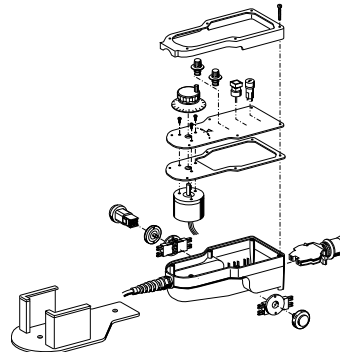
Custom hand-held pendant stations

Customized hand-held pendant stations based on the standard devices can also be produced in small quantities. EUCHNER offers the option of customized solutions so these ergonomically designed housings can be used for various requirements.

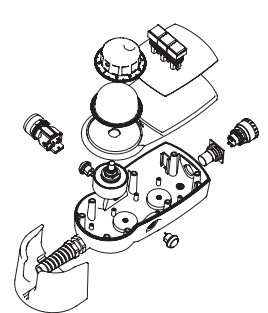
Kit HBA



Kit HBL



Kit HBM



● available ○ available on request – not available

All given data refer to the respective minimum or maximum values for the entire series.

ManMachine at a glance

Electronic Handwheels



Handwheel
HKB



Handwheel
HKC



Handwheel
HKD



Handwheel
HWA



Handwheel
HWB

Approval



Housing material

aluminium

aluminium

aluminium

plastic/metal

plastic/metal

Weight

0.095 kg

0.25 kg

0.5 kg

0.1 kg

0.125 kg

Mechanical life, min.

5 x 10⁶

5 x 10⁶

20 x 10⁶

1 x 10⁶

1 x 10⁶

Operating temperature

0 to +50 °C

0 to +50 °C

0 to +70 °C

0 to +50 °C

0 to +50 °C

Storage temperature

-20 to +50 °C

-20 to +50 °C

-25 to +85 °C

-20 to +50 °C

-20 to +50 °C

Atmospheric humidity, max.

80 %

80 %

80 %

80 %

80 %

Front degree of protection,
EN 60529/IEC 529

IP65

IP65

IP65

IP65

IP65

Front degree of protection, NEMA

250-12

250-12

250-12

250-12

250-12

Pulses per revolution

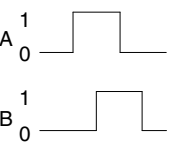
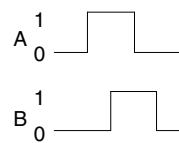
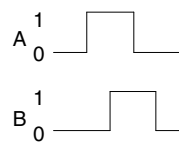
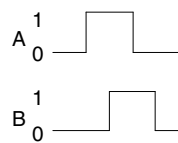
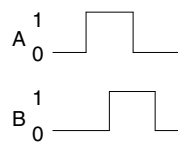
25 or 100, 2 signals
each (A/B), 90° offset

25 or 100, 2 signals
each (A/B), 90° offset

25 or 100, 2 signals
each (A/B), 90° offset

25 or 100, 2 signals
each (A/B), 90° offset

25 or 100, 2 signals
each (A/B), 90° offset



Detent mechanism

magnetic

magnetic

magnetic

mechanical

mechanical

Detent positions

100

100

100

100

100

Shaft loading, axial, max.

25 N

25 N

25 N

25 N

25 N

Shaft loading, radial, max.

40 N

40 N

40 N

40 N

40 N

Resistance to vibration

Vibration (3 axes)

DIN/IEC 68-2-6

DIN/IEC 68-2-6

DIN/IEC 68-2-6

-

-

Shock (3 axes)

DIN/IEC 68-2-7

DIN/IEC 68-2-7

DIN/IEC 68-2-7

-

-

EMC protection requirement acc. to CE

EN 61000-6-2
EN 61000-6-4

EN 61000-6-2
EN 61000-6-4

EN 61000-6-2
EN 61000-6-4

-

-

Output circuit

RS422
or push-pull

RS422
or push-pull

RS422
or push-pull

RS422
or push-pull

RS422
or push-pull

Connection

screw terminal S

screw terminal S

ribbon cable V,
screw terminal S

screw terminal T

screw terminal T

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