MECHAN CONTROLS

Installation Instruction for

MK-Safe MKX Modular Key Exchange Box

Operating Instructions: MK-Safe MKX Modular Key Exchange Box

Description	MKX-Range
MK-Safe is the easy-to-configure trapped key interlocking system. It is suitable for various industrial safety applications. The casing of MK-Safe is stainless steel 316 which is designed and built to withstand harsh operating environments. The coding system has 15,000+ different key codes available. The master coding system can be provided as an option. MKX modular key exchange box is a mechanical interlock device which is designed to achieve intermediate key transfer function. One or more keys are inserted in the MKX unit to release one or more keys with different coding.	

Group ‘A’ keys to exchange group ‘B’ keys:
1. Insert group ’A’ keys into the MKX key exchange box and turn to the trapped position.
2. Any of the group ’B’ keys can be released.
3. Once any of the group ‘B’ keys are released from the MKX unit, all the group ‘A’ keys are trapped.

Group ‘B’ keys to exchange group ‘A’ keys:
1. Insert group ’B’ keys into the MKX key exchange box and turn to the trapped position.
2. Any of the group ’A’ keys can be released.
3. Once any of the group ‘A’ keys are released from the MKX unit, all the group ‘B’ keys are trapped.

The information is designed to help suitably qualified personnel install and operate Mechan Controls safety equipment. Before using this product, read this guide thoroughly along with any relevant European and/or National Standards E.g. Machinery Directive 2006/42/EC and its Amendments, Provision and Use of Work Equipment Regulations. Further information can be obtained from Mechan Controls Ltd.

Mechan Controls Ltd accepts no responsibility for managing key codes for the customers. It is the customer’s responsibility to implement a proper key code management system and prevent unintentional duplication of key codes. If an organization decides to keep spare or master keys then they shall be under management control and this shall be taken into account in the risk assessment. For further information, please refer to ISO/TS 19837.

Technical Specification: MKX Modular Key Exchange Box

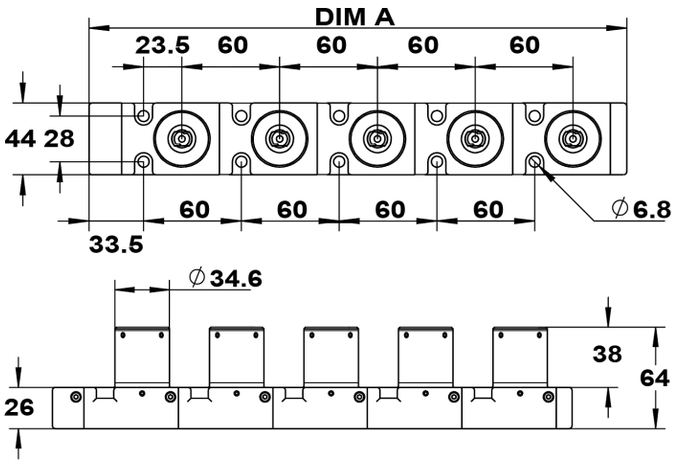
Housing Material	316 Stainless Steel
Internal Component Material	Full Stainless Steel
Operating Temperature	0ºC - 80ºC
Mechanical Lifetime	400,000 Operations

Safety Standards	
Standards	EN ISO 14119:2013 EN ISO 13849-1:2015 EN ISO 13849-2:2012 EN IEC 62061:2021
Certifications	CE marked for all applicable directives

Safety Related Data	
B10d	2,000,000
SIL up to	SIL 3 acc. to EN 62061
Performance Level (PL) up to	PL-e acc. to EN ISO 13849-1
Safety Category up to	CAT4 acc. to EN ISO 13849-1
Coding	Type 2 acc. to EN ISO 14119

Note: The trapped key interlocking product is part of the machine safety control system. To achieve the desired safety performance, the correct system structure shall be implemented. The proper safety controller shall be used to provide the correct monitoring function and diagnostic coverage.

Dimensions



MKXn n=3-8	DIM A (mm)
MKX3	210
MKX4	270
MKX5	330
MKX6	390
MKX7	450
MKX8	510

***All dimensions are in MM**

Product Selection

MK-MKX-3-STC-N

Product Type	
MK-Safe	Mechan Key Exchange

Range	
MKX	Modular Key Exchange Box

Lock Number	
3	Number of Modules
4	Number of Modules
5	Number of Modules
6	Number of Modules
7	Number of Modules
8	Number of Modules

Code	
STC	Standard Code System
MAC	Master Code System

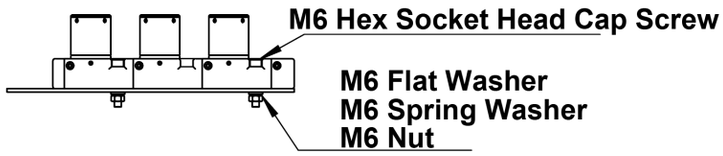
Dust Cover	
N	No Dust Cover
DC	With Dust Cover

Mounting of the MKX Modular Key Exchange Box

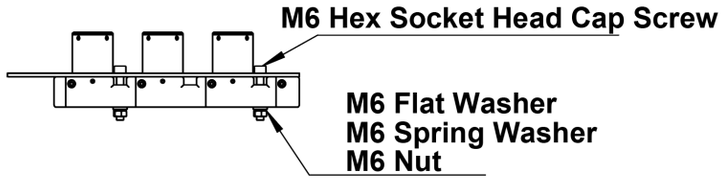
1. The unit should be mounted in its correct assembly condition.
2. The user must comply with the relevant safety standards.
3. After mounting the unit, it must be commissioned and tested by a qualified person to ensure the correct operation and safety function of the unit.

The unit should be mounted in a position with no vibration. Otherwise, anti-vibration mounting measurements should be used to ensure the correct operation of the unit.

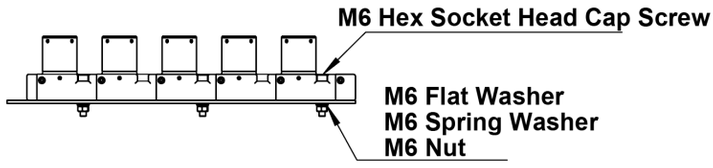
Recommended Fixing Required:
For MKX3, and MKX4 front of board mounting, use the fixing holes of the first and the last module:
4 x M6 Hex socket head cap screws / minimum screw length = 32mm + panel thickness
4 x M6 Spring washer, 4 x M6 Flat washer,
4 x M6 Nut.



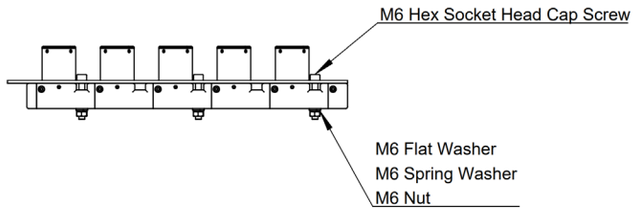
For MKX3, and MKX4 back of board mounting, use the fixing holes of the first and the last module:
4 x M6 Hex socket head cap screws / minimum screw length = 37mm + panel thickness
4 x M6 Spring washer, 4 x M6 Flat washer,
4 x M6 Nut.



For MKX5, MKX6, MKX7 and MKX8 front of board mounting, use the fixing holes of the first and the last module and one of the middle modules:
6 x M6 Hex socket head cap screws / minimum screw length = 32mm + panel thickness
6 x M6 Spring washer, 6 x M6 Flat washer,
6 x M6 Nut.



For MKX5, MKX6, MKX7 and MKX8 back of board mounting, use the fixing holes of the first and the last module:
6 x M6 Hex socket head cap screws / minimum screw length = 37mm + panel thickness
6 x M6 Spring washer, 6 x M6 Flat washer,
6 x M6 Nut.



The recommended torque to tighten the fixings is 8 to 10Nm. Ensure that all the fixing screws can not be removed due to the vibration. The temper-proof security screws are recommended so that the personnel on site can not remove the unit using standard tools. All required fixing positions must be used.
The user should consider the heavy weight of the MKX unit which require the proper support of the unit. The user should ensure the MKX unit is mounted securely.
Mount the unit to a flat steel plate. The minimum thickness should be 3.0mm

Safety Specification

Safety Assessment

A risk assessment should take place to establish that the specifications of the MK-Safe product are suitable for the application required. See Technical Specifications below or contact Mechan Controls for further information.

The products may only be installed, commissioned, operated, and maintained by competent persons.
A competent person is a qualified and knowledgeable person who, because of their training, experience and current professional activity, has the specialist knowledge required. An understanding of European and International laws, directives and standards is recommended.

Maintenance

It is recommended to check the unit every week regarding the following aspects:
1. the correct safety function of the unit
2. the correct operation of the unit
3. Look for signs of damage or excessive wear

Damaged units should be replaced or returned to the manufacturer for repair where practical. For lubrication or cleaning, use WD40. The unit should be lubricated at a reasonable frequency depending on the operating environment.

Disclaimer

In the interest of product development specifications are subject to change without notice. It is the responsibility of the user to ensure compliance with any acts or by-laws in place. All information regarding Mechan equipment is believed to be accurate at the time of printing. Responsibility cannot be accepted for errors or omissions.

Warranty

Warranty will be void if the following points are true:

- The product was not used for it's intended purpose
- Damaged was caused by usuage not stated in the manual
- Modifications have been made to the products (e.g exchanging components)
- Operating personnel are not suitably qualified

Warning!

The MK-Safe trapped key system should not be manipulated or overriden. Removing the actuator from the guard may lead to loss of safety resulting in serious injury or death.

MECHAN CONTROLS

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