



Gates
Hatches

2NC + 1NO (actuator in)

4 actuating positions

Actuator holding force 12 or 40N

Up to PL e Cat.4

Plastic, Plastic with stainless steel head or stainless steel



MKey5 Interlock switches are designed to provide position interlock detection for moving guards. They are designed to fit the leading edge of sliding, hinged or lift off machine guards. The actuator is fitted to the moving part (frame) of the guard and is aligned to the switch entry aperture.

The head can be rotated to provide four given actuator entry positions. When the actuator is inserted into the switch the safety contacts close and allow the machine start circuit to be enabled. MKey5 has two versions regarding holding force, 12N and 40N. MKey5 has several types of actuators as an option. A standard actuator key is always delivered with interlock switches.

Depending on the environment where the switch will be used, different material can be chosen on the MKey5. The basic version is in a full plastic body (polyester) and in cases where the demands are higher on the interlock switch head, there is a version with a plastic body and with a stainless steel head. Both these types give the MKey5 interlock switch a rating of IP67.

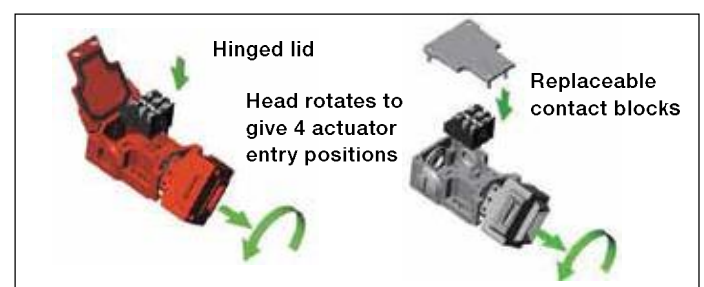
In harsh applications as for food processing and chemical industry there is a MKey5 Interlock switch with a total rugged stainless steel 316 body. This version has IP69K enclosure protection (maintained by a double seal lid gasket) and can be high pressure hosed with detergent at high temperature.

A positive forced contact provides a forced disconnect of the safety contacts at the withdrawal of the actuator. The design of the MKey5 ensures that the contacts will not fail

or be held in a normally closed position, due to failure of the spring mechanism or that welding/sticking of the contacts can occur.

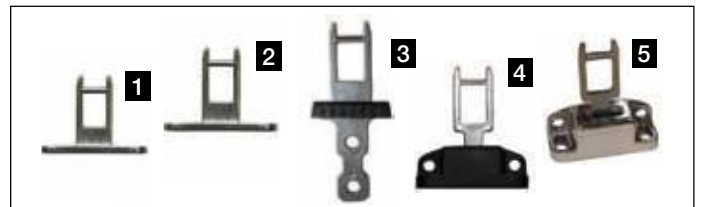
The positive forced disconnect contacts gives a high safety level and the interlock switch has an anti-tamper mechanism. By combining the MKey5 with one of our suitable safety control module, for example a safety relay from the RT-series, Pluto safety-PLC or Vital module, the requirements for both hatch and gate switch supervision can be fulfilled. To obtain the highest level of safety, two switches per gate are required.

The MKey5 is designed and approved in accordance to relevant standards. Examples of relevant standards are EN1088, IEC/EN60947-5-1, EN60204-1, EN ISO13849-1, EN62061 and UL508.



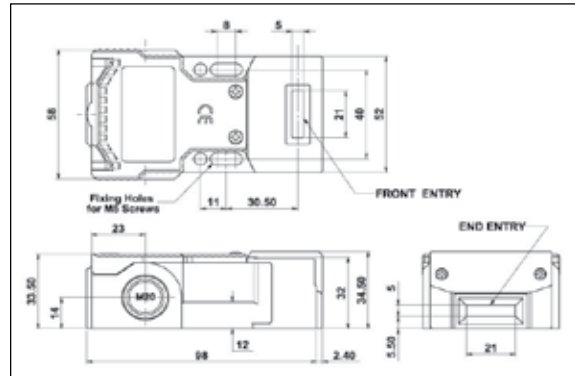
The switch should not be used as an end stop!

| Technical data – MKey5 series | |
|---|---|
| Supplier | ABB AB Jokab Safety, Sweden |
| Article number/ Ordering data Standard | |
| MKey5 - 12N | 2TLA050003R0100 |
| MKey5+ - 40N | 2TLA050003R0101 |
| Stainless steel head | |
| MKey5 - 12N | 2TLA050003R0110 |
| MKey5+ - 40N | 2TLA050003R0111 |
| Full stainless steel | |
| MKey5Z - 12N | 2TLA050003R0120 |
| MKey5+Z - 40N | 2TLA050003R0121 |
| Mechanical reliability B_{10d} | 2.5 x 10 ⁶ operations at 100mA load |
| EN ISO13849-1 | Up to PL e, Cat. 4 depending upon system architecture |
| EN62061 | Up to SIL3 depending upon system architecture |
| Safety data - annual usage | 8 cycles per hour/24 hours per day/365 days |
| PFH_D | 3.44 x 10 ⁻⁸ |
| Proof test interval (life) | 35 years |
| MTTF_d | 356 years |
| Utilisation category | AC15 A300 3A |
| Force/travel for positive opening | 8 mm |
| Acuator entry mini. radius | 175 mm standard actuator 100 mm heavy duty actuator |
| Max. approached/ withdrawal speed | 600 mm/s |
| Actuator | Stainless steel |
| Mechanical life | 1 million switch operations |
| Rated insulation/ withstand voltage | 500VAC / 2500VAC |
| Vibration resistance | IEC 68-2-6, 10-55Hz+1Hz, excursion: 0.35 mm, 1 octave/min |
| Contacts (actuator key inserted) | 2NC + 1NO (NC are direct opening action) |
| Thermal current (I_{th}) | 5A |
| Enclosure protection | |
| MKey5 | IP67 |
| MKey5Z | IP69K, IP67 |
| Operating temperature | -25°C to +80°C |
| Conduit entries | 3 x M20 |
| Material | |
| MKey5 | Polyester or/and stainless steel 316 |
| MKey5Z | Stainless steel 316 |
| Colour | Red or stainless steel |
| Mounting position | Any |
| Mounting bolts | Body 2 x M5, actuator 2 x M5 |

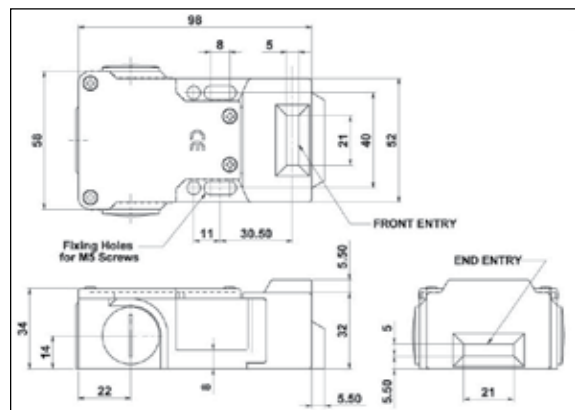


Actuator

1. Standard plastic head 2TLA050040R0201 2. Standard SS head 2TLA050040R0202 3. Flat 2TLA050040R0220 4. Heavy flexible 2TLA050040R0203 5. Hygienic flexible 2TLA050040R0204

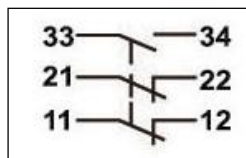


Dimension MKey5



Dimension MKey5Z

For all MKey the normally closed (NC) circuits are closed when the guard is closed (actuators inserted).



| 2 NC 1 NC | | 7.8 | 7.0 | 0 mm |
|-----------|------|-----|------|------|
| 11/12 | Open | | | |
| 21/22 | Open | | | |
| 33/44 | | | Open | |

Contact block configuration 2NC, 1NO

Contacts at withdrawal of actuator

- Cable gland
- Tina 2A with M20 connection
- Tina 2B with cable connection
- Tina 3A with M12 and M20 connections