Overview

The MZM100 is a combination of a magnetic locking interlock and the Schmersal patent Pulse-Echo electronic technology.

Pulse Echo is non-contact microprocessor-based with integral self-monitoring of redundant NPN semiconductor safety rated outputs. This technology satisfies requirements of PLe to EN ISO 13849-1 and SIL 3 to IEC 61508. The MZM100 is a true safety rated magnetic guard locking device as defined by ISO 14119. This is due to the monitoring of both presence of the actuator and constant monitoring of the magnetic locking force.

Features for the MZM100 include options for conventional PNP diagnostics and serial diagnostics which can transmit detailed device information over various network protocols. Device status can also quickly and easily be identified via the LED’s located on either side of the unit, including various errors, misalignment and door open/closed. Mounting through holes on all four sides of the MZM100 allows for numerous mounting capabilities. The shock absorber on the actuator adds increased durability as the device can also be used as an end-stop.

Latching options include a set 30N electronic force or an adjustable 30N to 100N electronic force. An integrated 15N permanent magnet can also be ordered to further increase the latching force.

The MZM can be ordered for guard locking applications to protect operators or for process locking applications (B variant) to protect materials and equipment during cycles.

The MZM100 can be wired in series with other Electronic Safety Devices without detriment to the safety rating:

Unauthorized Opening

ISO 14119 has adapted the monitoring functions of the MZM100 into the safety requirements for magnetic locking devices. Unlike conventional keyed locking devices, a magnet actuator can be forcefully detached from the switch under a locked state without damage to the unit. In order to deter against such manipulation of the device, the MZM100 with guard lock monitoring will go into a set 10 minute reset procedure if it detects an unauthorized/violent separation during a locked state.

Applications

- Material handling systems
- Packaging machinery
- Chemical processing equipment
- Robot cells
- Folding or brake presses
- Filter presses
- Punching machines
- Printing machines
- Injection molding
- Palletizers
- Textile machines
- Stamping machines
- Metal working equipment
- Wood working

Available Literature

Electronic Safety Sensors and Solenoid Interlocks Catalog