

Electromechanical and Solenoid Locking Devices



Features



B25 door handle assembly with integrated actuator for the AZ17 or AZM170



STS30 door handle assembly with integrated actuator for the AZ16, AZ3350, AZ415, AZM161, or AZM415



Individually coded key options to meet High Level coding to ISO 14119



TFA/TFI door alignment aids and door stops



6 point lockout tag for AZ16, AZ3350 and AZM161

Overview

The electromechanical safety switches with separate actuator (AZ) as well as the electromechanical solenoid interlocks (AZM) are designed for use with movable guards which must be closed for operator safety. The AZ and AZM devices are used in all areas of production and in almost all types of machine tools. The design offers advantages particularly where routine access to the hazard area is necessary for purposes of machine actuation, fault clearance or set-up.

The AZM solenoid interlocks have been designed to prevent sliding, hinged and removable safety guards from being opened before hazardous conditions (e.g. run-on movements from rollers, chains, shafts etc.) have been eliminated.

Redundant mechanically linked Positive-Break contacts of the AZ and AZM allows these devices to be used in even the highest safety classifications as called out by ISO 13849 and IEC 61508. The AZi and AZMi variants also offer unique actuator coding to fulfill High level coding requirements per ISO 14119.

Safe Signals to Unlock a Guard locking Device

The monitoring for a safe state of a machine which will trigger the unlock signal to a locking device can be achieved by a variety of different practices. Some of the more common methods include the monitoring of a rotating part. Zero speed is established once the revolutions have been reduced to a pre-determined nonhazardous frequency. Another method is monitoring the back electromagnetic force (EMF) directly off of a motor. An EMF reading in the low millivolt range from the line voltage will represent a safe state for opening a guard. If the time it takes for the residual hazards of the machine to abate is constant, a fail-to-safe timer can also be utilized.



FWS: Impulse frequency monitor



DN3PS2: Back EMF Monitor



AZS 2305 Safe Standstill Timer

Applications

- Material handling systems
- Packaging machinery
- Chemical processing equipment
- Folding or brake presses
- Filter presses
- Punching machines
- Printing machines
- Injection molding
- Palletizers

Locking (AZM):

- Robot cells
- Textile machines
- Stamping machines
- Metal working equipment
- Wood working
- Packaging machines

Available Literature



GK-1 Full Product Catalog Section 1

Various Models

Keyed Interlocks

AZ 17

- Small body profile
- 2 contacts
- IDC, Pre-wired or Quick Disconnect
- AZ17i for individual coding

AZ 16

- 4 actuating plane options
- Up to 3 contacts
- Screw terminals or QD
- AZ16i for individual coding

AZ 3350

- Metal housing
- 3 contacts
- Rotatable head
- AZ17i for individual coding

AZ 415

- Robust die-cast aluminum housing
- Up to 6 contacts
- Options for dual door monitoring
- Adjustable holding up to 400N

Solenoid Locking Interlocks

AZM 170

- Compact profile
- Up to 4 contacts
- IDC or QD
- AZM170i for individual coding

AZM 161

- 4 actuating plane options
- 6 contacts
- Screw terminals or QD
- AZM161i for individual coding

AZM 190

- Slim profile
- 3 contacts
- Rotatable head

AZM 415

- Robust die-cast aluminum housing
- Up to 6 contacts
- Options for dual door monitoring
- Adjustable holding up to 400N

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