

SCHMERSAL Tech Briefs:

AZM201 Solenoid Interlock with RFID



Overview

The AZM201 is a combination of solenoid interlock and electronic safety sensors, with a door handle actuator. It is an update of our AZM200 solenoid lock, using an RFID sensor for actuator detection, which has all the same non-contact advantages but can offer High level coding to ISO 14119.

The AZM201 offers the option of individual coding: The basic version of the RFID sensor responds to any AZM201 target actuator; The "I1" version only accepts the coded ID number of the specific target actuator which is taught in during the first start-up; The "I2" version allows the teach-in process to be repeated, allowing replacement of a lost or damaged actuator.

The AZM201 Series is designed for machine/work cells where access to a hazardous work area must be controlled until safe conditions exist. The solenoid lock provides 506 pounds of force to secure the machine guard until dangerous conditions, which may exist immediately after removal of power, have abated. The solenoid lock may be controlled by a time delay, motion detector, position sensor or other suitable component.

One unique design feature of the AZM201 is the door handle actuator. When the guard is opened, the actuator is retracted into the handle housing, protecting the actuator and the operator against damage and injury. The door handle actuator is available with an optional inside emergency release which meets ANSI/RIA R15.06 requirements. This one-hand operated handle mechanically overrides the solenoid lock from inside the hazardous area, allowing operators to leave quickly and safely - even during a power failure.

The AZM201 also features an integrated electronic safety sensor to detect guard door closure independently of the solenoid lock, using pulse-echo technology. This patented non-contact operating principle limits wear on components and tolerates misalignments. Dual microprocessors provide continuous internal function tests and monitors the safety outputs, meeting PLe to ISO13849-1 and SIL 3 to IEC61508, even when using one switch per guard or wiring them in series.

Three enhanced color LEDs on the sensor indicate status, various errors, and misalignment. For more advanced indication the AZM201 is also available with serial diagnostics to connect to commercial field bus systems. The slim housing of the switch was designed to match the aluminum profiles used in many machine guard doors.

Features



- Door handle actuator options
1. Standard handle (G1)
 2. Rotary knob (G2)



- Optional inside emergency releases
1. Standard handle (P1)
 2. Inset rotary (P25)
 3. Heavy duty metal assembly (P20)



Optional integrated lockout device on door handle is one of three methods for lockout. Actuator retracts into door handle housing when opened (handle is horizontal)

Solenoid controls

The BDF200 series control stations are designed to offer various machine or process controls conveniently located at the guard door in a housing that matches the AZM201. Each BDF200 control station can include operators in up to 4 positions which can be configured to user-defined application needs, including a readily accessible integrated Emergency Stop palm button meeting RIA 15.06 requirements.



Applications

- Robot cells
- Food processing machinery
- Pharmaceutical machinery
- Medical applications
- Material handling systems
- Packaging machinery
- Chemical processing equipment
- Folding or brake presses
- Filter presses
- Punching machines
- Printing machines
- Injection molding
- Palletizers
- Packaging equipment

Available Literature



GK-1 Safety Products Catalog

Ordering Details

Solenoid switch/sensor

AZM201①-②-③-T-④-⑤

- ① Monitoring
 - Z Guard locking monitored
 - B Actuator monitored
- ② Actuator Coding
 - Blank Standard version (no coding)
 - I1 Individual coding (single)
 - I2 Individual coding (multiple)
- ③ Connection
 - SK Screw terminals
 - CC Cage clamps
 - ST2 M12, 8 pole connector
- ④ Outputs
 - 1P2PW Closed & locked output
 - SD2P Serial Diagnostic
- ⑤ Locking
 - Blank Power to unlock
 - A Power to lock

Door handle actuator

AZ/AZM201-B30-①TA②③-④

- ① Direction
 - L Left hinged door
 - R Right hinged door
- ② Handle Types (outside)
 - G1 Handle
 - G2 Rotating knob
- ③ Emergency Exit (inside)
 - blank Without
 - P1 Red Door handle
 - P20 Red metal handle
 - P25 Inset rotary knob
 - P30 3 point locking bar
 - P31 3 point with exit handle
- ④ Integrated Lockout Device
 - Blank Without
 - SZ With lockout (3 lock)

Accessories

- SZ200** Lockout device
- SZ200-1** Lockout device
- MP-AZ/AZM200** Mounting plate
- MP-AZ/AZM200-B30** Mounting plate
- MP-AZ/AZM200-P1** Mounting plate
- MP-BDF200** Mounting plate

Compatible Safety Controllers

- SRB-E-201LC** **SRB-E-322ST**
- SRB-E-201ST** **SRB-E-402ST**
- SRB-E-301ST** **SRB-E-301MC**
- SRB-E-212ST**

Bold part numbers are regularly stocked

Contact

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- 3 color LEDs for signaling:
- Green = Power;
 - Yellow = Status
 - Red = (Flashing) Diagnostic error