

SCHMERSAL Tech Briefs:

AZM400 Motorized Safety Bolt Lock



Overview

The AZM400 is a safety rated motorized bolt lock with an integrated radio frequency identification (RFID) based electronic safety sensor.

Operating Principle

The Aluminum die-cast body contains the RFID sensor and a motor-driven locking bolt, which fits into the hole of the actuator block with the matching RFID target. Once locked, the solenoid bolt provides a locking force of 10,000 N. The motorized AZM400 is a bi-stable system, thus in the event of a power failure the switch maintains the last locked status of the interlock.

In addition, the AZM400 uses RFID to detect the actuator and indicate a closed guard. This non-contact operating principle limits wear on components, tolerates misalignment, and offers the option of individual coding.

Intelligent locking

The AZM400 can detect if the locking bolt has been blocked from reaching a "locked" state. Before reporting a fault the switch will make a second autonomous attempt at locking, therefore reducing the number of error messages and protecting the device and machine against damage.

Safety Classification

The AZM400 series is compliant with North American and International standards such as cULus and CE. It's two-channel input signal meets PLe/Category4 (ISO 13849) or SIL3 (IEC 61508) for both its interlock and guard locking function. It is a Type 4 interlock per ISO 14119, with a high coding level with the individual coding option (I1 or I2).

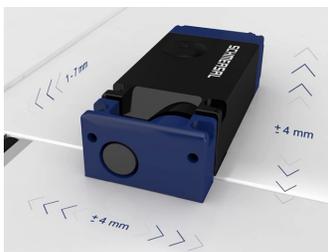
Available Features and Options

- Visual diagnostics via 3 LEDs
- 1 or 2 auxiliary outputs for enhanced diagnostics
- M12 connector
- Manual override or emergency release knob for bolt retraction
- Electronic release via auxiliary power supply
- Individual coding options
 - I1: one time teaching process
 - I2: Re-teaching possible, 10 minute delay

Features



Motor driven locking bolt extends and retracts in switch



Actuator alignment tolerances:
Hole dia. is 8 mm wider than bolt
1 mm - 7 mm offset from switch



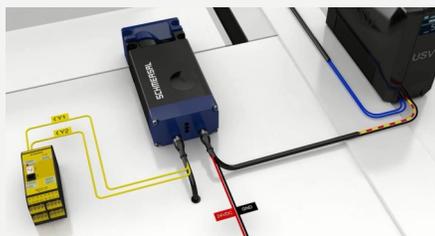
Emergency release knob (T) manually retracts bolt



3 Color LED Display
Green: Power, not actuated
Yellow: Actuation
Red: (Flashing) Diagnostic error

Electric Manual Release (ST2...E)

The AZM400 is power-to-lock and power-to-unlock. It is available with an optional electric manual release making it possible to release the device in the event of a power failure or if the main supply is switched off. This version has an additional diagnostic output and is fitted with an additional 5-pole M12 connector to allow for connection to an auxiliary voltage supply.



Applications

- Machine Tools
- Packaging machinery
- Robot cells
- Printing machines
- Injection molding
- CNC Machines
- Assembly Equipment

Available Literature



AZM400 Brochure, 10 pages

Ordering Details

AZM400Z-ST-①-1P2P-②
AZM400Z-ST2-①-2P2P-②-E

- ① Actuator Coding
 - blank Standard version (no coding)
 - I1 Individual coding (single)
 - I2 Individual coding (repeatable)
- ② Manual release
 - blank Manual release
 - T Emergency release knob

Regularly stocked models:

AZM400Z-ST-1P2P
AZM400Z-ST-1P2P-T

AZM400Z-ST2-2P2P-E
AZM400Z-ST2-2P2P-T-E

AZM400Z-ST-I2-1P2P
AZM400Z-ST-I2-1P2P-T

AZM400Z-ST2-I2-2P2P-E

Accessories

Actuators

AZM400-B1 Standard Actuator

Mounting bracket

MS-AZM400 Metal spacers

Manual override key

AZM KEY Triangle key (M5)

Connector cables

Main cable (M12, 8 pole)
103007358 5 m length
103007359 10 m length

Second cable for ST2 (M12, 5 pole)
103010816 5 m length
103010818 10 m length

Compatible Safety Controllers

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

Bold part numbers are regularly stocked

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