More than just a solenoid interlock

AZM300



SCHMERSAL

Safe solutions for your industry



AZM300

The one for all

- Symmetrical mounting for right- and left-hinged doors
- Only one version for hinged and sliding doors
- Compact design
- Can be used as end stop
- 3 actuating directions
- High tolerance to door misalignment
- Holding force 1.000 N
- Switchable latching force (25 N / 50 N)
- PL e / SIL 3
- Series-wiring without reduction of the safety level
- More than 30,000 different codings
- Serial diagnostic
- Low power consumption

mounting situations

- Power to lock or power to unlock
- Actuator or solenoid interlock monitoring
- Hygiene-compliant design:
  resistant to many cleaning agents
- Protection class IP69K
- Manual release
- Easily mounted to standard
  extrusion guards





Protection against hazardous inertial movements

One of the unique features of the AZM300 is the innovative patented operating principle with rotating shaft and star handle. This operating principle offers the advantage that the safety guard is pulled into its end position upon closing the guard door and it is held shut. The solenoid interlock can be used as an end stop, which eliminates the use of a separate door stop. The integrated latching ensures that the closed condition of the door is maintained after the unlocking of the solenoid interlock and that the door cannot autonomously open itself. The latching force can be easily increased by turning the star handle by 180° from 25 N to 50 N.

For safe identification of the actuator an RFID sensor is used, featuring three different coding levels thus providing protection against defeat.

Fields of application

- Packaging machinery
- Wood-processing machinery
- Printing machines and presses
- Handling and assembly technology
- Special-purpose and customised machine construction
- Food-processing industry
- Pharmaceutical industry



Printing machines and presses

Identical mounting for left and right hinged doors





Protecting humans and machines

The safety outputs of the AZM300Z solenoid interlock (solenoid interlock monitoring) are enabled, when the safety guard is closed and the solenoid interlock is locked.

For applications, where process protection is required, the AZM300B version (actuator monitoring) can be used. The safety outputs of this model are enabled when the safety guard is closed. With this device locking is not required for operation.

Three actuating directions



Acutation from the rearside



Actuation from the slim side



Actuation from front





Automatic teaching after the operating voltage is switched on



10-minutes restart inhibit following the teaching procedure of a replacement actuator

Protection against defeating through individual coding

If interlocking devices are defeated, the machine is not operated under the conditions foreseen by the manufacturer. The result could be a significantly increased residual risk for the operator, possibly much higher than acceptable.

If the defeating incentive cannot be eliminated completely by modified or additional modes of operation, then the designer has only one element left. This is to make the defeating of interlocking devices more difficult or even impossible. (Excerpt from prEN ISO 14119).

The basic version of the AZM300 accepts any suitable target. A second version only accepts the actuator that has been taught upon the first activation. And finally, a third variant is available; here, the teaching process can be repeated an arbitrary number of times. In this way, the user can choose the most suitable coding variant for the intended application as well as the desired degree of protection against defeating. This is enabled by integration of the RFID technology into the safety sensor technology.

Teaching actuators without additonal tools

The AZM300-I1 and AZM300-I2 versions with individual coding, no tool whatsoever is required for the actuator teaching procedure.

The teaching process starts automatically as soon as the device is switched on. The user must connect the solenoid interlock to the operating voltage and bring the actuator into the detection range. After approx. 10 seconds, a brief cyclic flash of the AZM300 LED indicates to remove the operating voltage. Next the operating voltage is switched back on and the actuator must be placed in the detection range once again to activate the actuator code.

For ordering suffix -I1, once the actuator coding process has been completed it is irreversible. For ordering suffix -I2, the teaching procedure for a new actuator can be repeated an unlimited number of times. A restart inhibit period of 10 minutes prevents the last-minute change of an actuator, thus increasing the protection against tampering.



Serial diagnostic

Similar to all electronic safety sensors and solenoid interlocks from Schmersal, the AZM300 is also available with serial diagnostic. Solenoid interlocks with serial diagnostic feature have a serial input and output cable instead of the conventional diagnostic output. When solenoid interlocks are wired in series, the serial diagnostic cables are wired in series, in addition to the safety channels. The thus created "common diagnostic line" is wired to a serial Diagnosic Gateway for evaluation. Up to 31 different Schmersal electronic safety devices can be wired in series.

For the evaluation of the serial diagnostics line either the PROFIBUS-Gateway SD-I-DP-V0-2 or the Universal-Gateway SD-I-U-… are used. This serial diagnostic interface is integrated as a slave in an existing field bus system. In this way, the diagnostic signals can be evaluated by means of a PLC. In addition to the comprehensive diagnostic and status information, the solenoid interlock is locked or unlocked through the diagnostic cable. The device can be wired either directly to the machine through a special Y-adapter or in the control cabinet by means of terminal blocks. Because of the use of serial diagnostics, an input (diagnostic) and an output (locking signal) can be saved for each device in the PLC.



Hygiene-sensitive applications



Packaging machinery



The AZM300 in detail

Legend

① High degree of protection against tampering because of the coded RFID sensor (also available with individual coding)
② Dampener for door stop - saves costs: no additional mounting parts required
③ Star handle - adjustable latching force - 25 N or 50 N
④ Mounting hole for M6 screws
⑤ Connector plug M12, 8-pole
⑥ Manual release
⑦ LED display

Features



Large actuator tolerances

- Actuator tolerance in longitudinal direction ± 3.5 mm, lateral direction ± 2.0 mm



Easy latching force adjustment

- The latching force can be increased from 25 N to 50 N simply by turning the star handle 180°.
- Position I: approx. 25 N, Position II: approx. 50 N



LED display

- Smart diagnostic by means of 3-colour LEDs
- LED green: Power
  LED yellow: Status
  LED red: Fault

Technical data

Technical data	
Holding force:	1,000 N
Latching force:	25 N / 50 N
Mechanical life:	> 1,000,000 operations
Protection class:	IP66, IP67, IP69K
Dimensions:	100 x 85 x 35 mm
Supply voltage:	24 VDC –15% / +10%
Electrical connection:	Connector plug M12, 8-pole
Outputs:	2 p-type safety outputs, 1 p-type diagnostic output or serial diagnostic
Diagnostic and status display:	3 LEDs
Classification:	PL e / SIL 3
Approvals:	

Ordering details

Solenoid monitored	Actuator monitored	Power to unlock	Power to lock	Universal coding	Individual coding	Diagnostic output	Serial diagnostic	Ordering details	Ordering code
■		■		■		■		AZM300Z-ST-1P2P	103001435
■			■	■		■		AZM300Z-ST-1P2P-A	103001450
■		■			■	■		AZM300Z-I2-ST-1P2P	103001439
■			■		■	■		AZM300Z-I2-ST-1P2P-A	103001454
■		■		■			■	AZM300Z-ST-SD2P	103001436
■			■	■			■	AZM300Z-ST-SD2P-A	103001451
■		■			■		■	AZM300Z-I2-ST-SD2P	103001440
■			■		■		■	AZM300Z-I2-ST-SD2P-A	103001455
	■	■		■		■		AZM300B-ST-1P2P	103001411
	■		■	■		■		AZM300B-ST-1P2P-A	103001423
	■	■			■	■		AZM300B-I2-ST-1P2P	103001415
	■		■		■	■		AZM300B-I2-ST-1P2P-A	103001427
	■	■		■			■	AZM300B-ST-SD2P	103001412
	■		■	■			■	AZM300B-ST-SD2P-A	103001424
	■	■			■		■	AZM300B-I2-ST-SD2P	103001416
	■		■		■		■	AZM300B-I2-ST-SD2P-A	103001428

Version I1 with individual coding upon request

Actuator	AZ/AZM300-B1	101218025
Mounting plate AZM300	MP-AZ/AZM300-1	103003172
Mounting set actuator	MS-AZ/AZM300-B1	103002891
Connector M12, 8-pole,IP67, 2,5 m	A-K8P-M12-S-G-2,5M-BK-1-X-A-2	101209963
Connector M12, 8-pole,IP67, 5 m	A-K8P-M12-S-G-5M-BK-1-X-A-2	101209964
Connector M12, 8-pole,IP69K, 5 m	A-K8P-M12-S-G-5M-BK-1-X-A-4-69	101210560
Connector M12, 8-pole,IP69K, 10 m	A-K8P-M12-S-G-10M-BK-1-X-A-4-69	103001389



The Schmersal Group

For many years the privately owned Schmersal Group has been developing and manufacturing products to enhance occupational safety. What started out with the development and manufacture of a very wide variety of mechanical and non-contact switchgear has now become the world's largest range of safety systems and solutions for the protection of man and machine. Over 1,400 employees in more than 50 countries around the world are developing safety technology solutions in close cooperation with our customers, thus contributing to a safer world.

Motivated by the vision of a safe working environment, the Schmersal Group's engineers are constantly working on the development of new devices and systems for every imaginable application and requirement of the different industries. New safety concepts require new solutions and it is necessary to integrate new detection principles and to discover new paths for the transmission and evaluation of the information provided by these principles. Furthermore, the set of ever more complex standards, regulations and directives relating to machinery safety also requires a change in thinking from the manufacturers and users of machines.

These are the challenges which the Schmersal Group, in partnership with machinery manufacturers, is tackling and will continue to tackle in the future.

Product ranges



Safe switching and monitoring
- Guard door monitoring safety switches
- Command devices with safety function
- Tactile safety devices
- Optoelectronic safety devices

Safe signal processing
- Safety monitoring modules
- Safety controllers
- Safety bus systems

Automation
- Position detection
- Command and signalling devices

Industries



- Elevators and escalators
- Packaging
- Food
- Machine tools
- Heavy industry

Services



- Application advice
- CE conformity assessment
- Risk assessment in accordance with the Machinery Directive
- Stop time measurements
- Training courses

Competences



- Machine safety
- Automation
- Explosion protection
- Hygienic design

All data mentioned in this flyer have been carefully checked.
Technical modifications and errors excepted.

www.schmersal.com

SCHMERSAL
Safe solutions for your industry

x.000 / L+W / 03.2013 / Teile-Nr. 103002024 / Ausgabe 02