

Safety in System
Protection for man and machine

AZM201 THE VERSATILE SOLENOID INTERLOCK





- High holding force
 $F_{zh} = 2,000 \text{ N}$, $F_{max} = 2,600 \text{ N}$
- Latching force approx. 30 N
- Individually coded version with coding level "High" according to ISO 14119
- Suitable for applications up to Cat. 4 / PL e / SIL 3
- Compatible with 40 mm profiles
- For hinged and sliding guards
- Series-wiring without reduction of the safety level

AZM201

THE VERSATILE SOLENOID INTERLOCK



Door handle actuator

The door handle actuator enables intuitive operation



Actuator with rotating knob



Actuator with emergency exit

Door handles inside and outside of the hazardous area

The AZM201 solenoid interlock is versatile in use and configuration.

It has been optimised for attachment to 40 mm profiles and can be complemented by a wide range of actuators.

The range includes compact actuators for sliding doors and actuators for rotating doors with handles, with or without three-point locking.

The actuators can be optionally assembled with emergency exit or lockout tag.

THE AZM201 PRODUCT FAMILY

SYSTEM OVERVIEW

1. Switchgear



AZM201Z or AZM201B
Solenoid interlock
Solenoid interlock or actuator monitoring



AZM201D
Safety switch with interlocking function
Solenoid interlock and actuator monitoring

2. Actuator

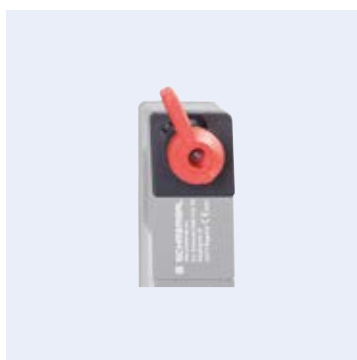


B1
For sliding doors



B30
For hinged guards

3. Accessories



RF-AZM200
Retrofit kit for manual release or
emergency exit



Various mounting plates



AZM201 AS-i
Solenoid with AS interface
Interlock or actuator monitoring
Interlock and actuator monitoring



AZM201-...-2965
Solenoid interlock
with freely assignable pushbutton
and LED



AZ201 or AZ201 AS-i
Safety switch without interlocking function
Standard or with AS interface



B30 with locking rod
For rotating doors with three-point locking



B40
For rotating doors with overlapping folds



Lockout tags
For the switchgear



RF-AZ/AZM200-B30-SZ
Retrofit kit for lockout tag at actuator



BDF200
Control panel

THE AZM201 PRODUCT FAMILY

THE VERSATILE SOLENOID INTERLOCK AZM201

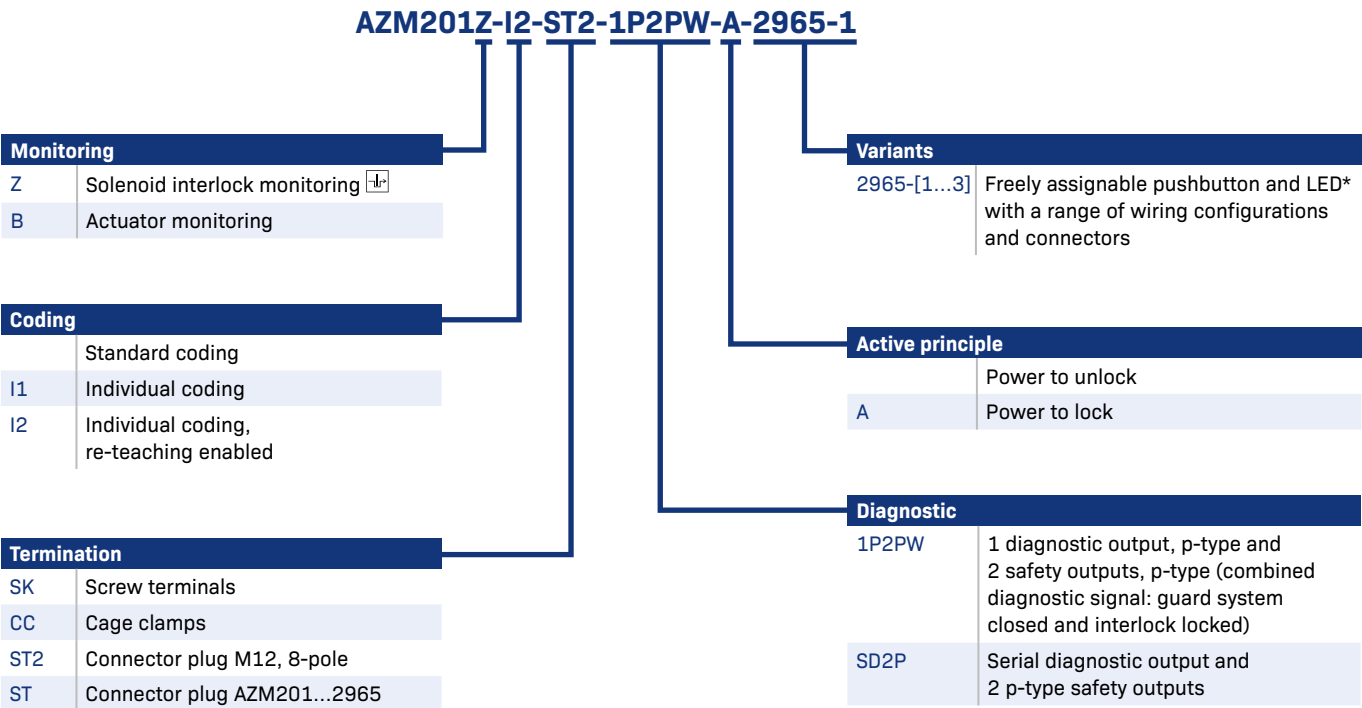
SOLENOID INTERLOCK AZM201

- Interlock or actuator monitoring
- Individually coded version with coding level "High" according to ISO 14119
- Suitable for applications up to Cat. 4 / PL e / SIL 3
- Optionally equipped with a freely assignable pushbutton and signal LED



AZM201 AZM201....-2965

ORDERING CODE



* with connector only

SAFETY SWITCH AZM201D WITH DUAL SAFETY FUNCTION

- Two safety functions into one module
- Safety guard monitoring:
two safety outputs signal a closed door or door left ajar
- Interlock monitoring:
two additional safety outputs signal the locked status
- Optionally equipped with a freely assignable pushbutton and signal LED



AZM201D



AZM201D-...-2965

ORDERING CODE

AZM201D-I2-ST2-1P2P2P-A-2965-1

Monitoring

D	Actuator and interlock monitoring
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Coding

	Standard coding
I1	Individual coding
I2	Individual coding, re-teaching enabled

Termination

ST2	Connector plug M12, 8-pole
ST	Connector plug AZM201...2965

Variants

2965-[1...3]	Freely assignable pushbutton and LED* with a range of wiring configurations and connectors
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Active principle

A	Power to lock
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Diagnostic

1P2P2P	1 p-type diagnostic output and 2x2 p-type safety outputs
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* with connector only

THE AZM201 PRODUCT FAMILY

THE VERSATILE

SOLENOID INTERLOCK AZM201

SOLENOID INTERLOCK AZM201-AS

- Integrated AS-Interface
- Interlock or actuator monitoring, interlock and actuator monitoring
- Suitable for applications up to Cat. 4 / PL e / SIL 3



AZM201-AS

ORDERING CODE

AZM201Z-I2-ST-T-AS-A-P

Monitoring	
Z	Solenoid interlock monitoring
B	Actuator monitoring
BZ	Combined actuator/solenoid interlock monitoring
Coding	
	Standard coding
I1	Individual coding
I2	Individual coding, re-teaching enabled

Variants	
P	Magnet supply from 24 VDC (U_{AUX})
Variants	
	Power to unlock
A	Power to lock

SAFETY SWITCH WITHOUT INTERLOCKING FUNCTION AZ201 OR AZ201 AS-INTERFACE

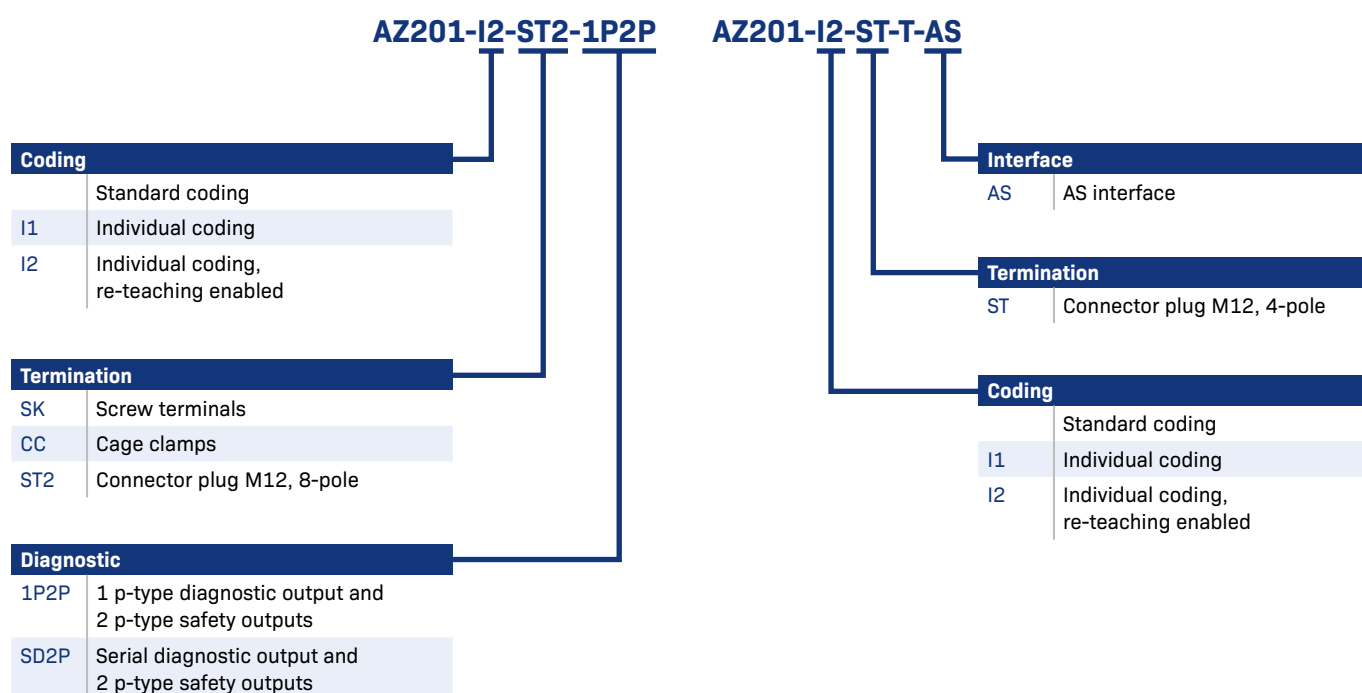
- The same design enables use with AZM201 solenoid interlocks on the same machine with a uniform appearance
- RFID technology for needs-based protection against tampering
- Optional AS-Interface



AZ201

AZ201-AS

ORDERING CODE



THE AZM201 PRODUCT FAMILY ACTUATOR

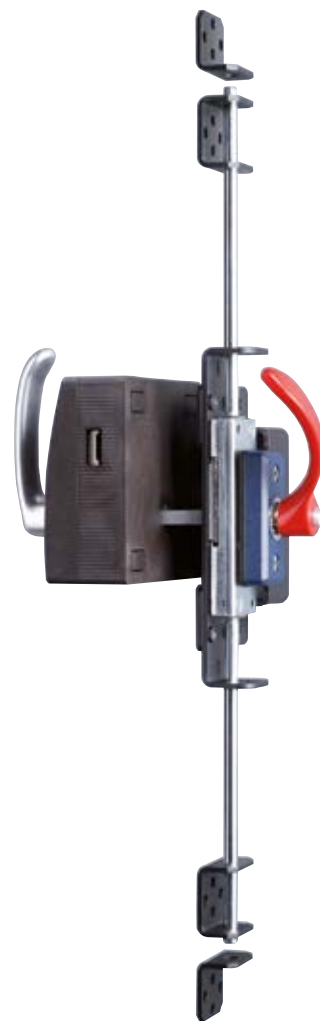
ACTUATOR B30

The B30 door handle actuator is available with a traditional door handle or rotary button for easy and intuitive operation. It also means that an otherwise additional door handle can be dispensed with.

Another advantage is that when opening, the actuator tongue moves into the actuator housing, minimising the risk of injury on the protruding actuator. All actuators are available for both left and right hinged doors.

There is also an actuator type with additional locking rods for larger doors and double doors.

The rod retracts or extends when the door handle is actuated and engages at the top and bottom of the safety guard frame. This ensures reliable three-point locking.



With door handle



With rotating knob

With locking rod

ACCESSIBLE HAZARDOUS AREAS

The hazardous areas of machinery and systems can be so large that people are able to access them in full.

The Machinery Directive stipulates that in such cases, it must be impossible for people to become trapped in the hazardous area.

To prevent this from happening, the interlocks can be equipped with an emergency exit function. These allow people to exit the hazardous area without the need to use tools.

LOCKOUT TAG AND EMERGENCY EXIT

The door handle actuator can be configured with a lockout tag and/or emergency exit in the hazardous area.



With lockout tag



Emergency exit with door handle made from plastic



Emergency exit with door handle made from metal



Emergency exit with inset handle

ORDERING CODE

AZ/AZM201-B30-LTAG1P1-SZ

Actuating direction	
L	Door hinge on left-hand side
R	Door hinge on right-hand side

Mounting location	
A	For mounting outside
I	mounting inside

Door handle type	
G1	with door handle
G2	with rotating knob

Lockout tag	
	without lockout tag
SZ	with lockout tag *

Emergency exit	
	without emergency exit
P1	with emergency exit
P20	with emergency exit metal *
P25	with emergency exit inset handle *
P30	with locking rod *
P31	with locking rod and emergency exit *

* Only for mounting outside

THE AZM201 PRODUCT FAMILY

ACTUATOR

ACTUATOR B1

Compact actuators are available for sliding doors. All actuators are available for both left and right hinged doors.

The P0 variant allows a sliding door to be opened in an emergency by pulling on a release cord attached to the eyelet on the actuator tongue.



Actuator B1



Actuator B1 with emergency exit

ORDERING CODE

AZ/AZM201-B1-LTP0

Actuating direction		Emergency exit	
L	Left-hand side actuating direction		Without emergency exit
R	Right-hand side actuating direction	P0	With emergency exit

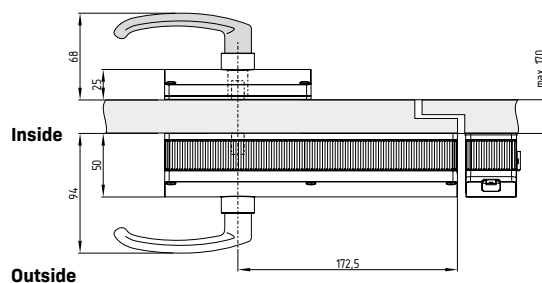
ACTUATOR B40

Its special shape means that the B40 actuator can be mounted to hinged doors with overlapping folds.

The safety guard can be opened and closed from outside by turning the door-handle.



B40 actuator – shown here with door handle



Door with overlapping folds



Emergency exit
with door handle made from plastic



Emergency exit
with door handle made from metal



Emergency exit
with inset handle

ORDERING CODE

AZ/AZM201-B40-LTAG1P1

Actuating direction

L	Door hinge on left-hand side
R	Door hinge on right-hand side

Mounting location

A	For mounting outside
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Emergency exit

	Without emergency exit
P1	With emergency exit
P20	With emergency exit metal
P25	With emergency exit inset handle

Door handle type

G1	With door handle
G2	With rotating knob

THE AZM201 PRODUCT FAMILY

PROTECTING HUMANS AND MACHINES

PROTECTING HUMANS AND MACHINES

Different versions of the AZM201 solenoid interlock are available according to requirements, as well as a simple AZ201 safety switch without interlock function.

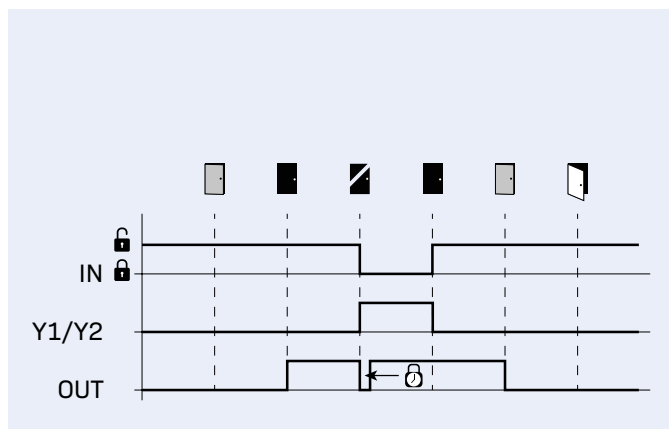
The safety switch that you choose will depend on the results of the risk assessment.

AZM201Z SOLENOID INTERLOCK MONITORING

The safety outputs of the AZM201Z solenoid interlock are enabled only when the safety guard is closed and the interlock is locked. This variant is primarily for personal safety.

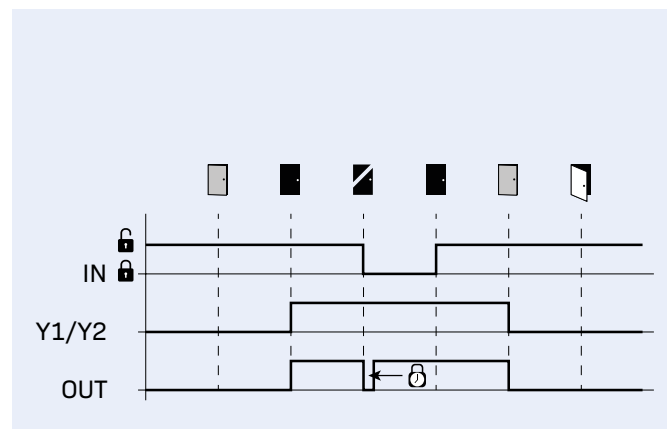
AZM201B ACTUATOR MONITORING

The AZM201B version (actuator monitoring) can be used for applications where process protection is required. The safety outputs of this variant are already enabled when the safety guard is closed. With this device, the solenoid interlock must not be imperatively locked.



Key

IN Solenoid control (closed current version)
Y1/Y2 Interlock monitoring
OUT Diagnostic output



Key

IN Solenoid control (closed current version)
Y1/Y2 Safety guard monitoring
OUT Diagnostic output

Door ajar, actuator not inserted

Door closed, actuator inserted
Door not locked

Safety guard locked

Safety guard open

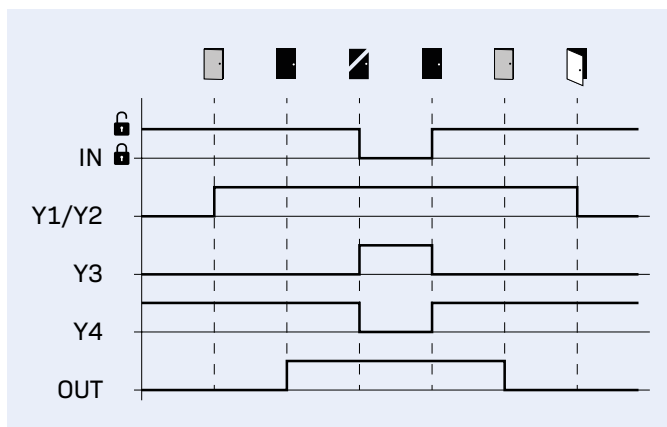
Locking time:
150 ... 250 ms,
typically 200 ms

Lock


Unlock

AZM201D SOLENOID INTERLOCK AND ACTUATOR MONITORING

With the AZM201D safety switch with interlock function, both the position of the safety guard and the interlock are monitored.

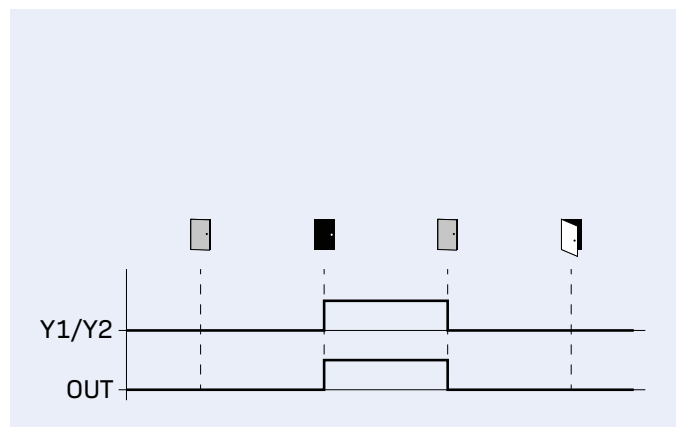


Key

IN Solenoid control (closed current version)
Y1/Y2 Safety guard monitoring
Y3/Y4 Interlock monitoring 
OUT Diagnostic output

AZ201 WITHOUT LOCKING FUNCTION

With the AZ201 safety switch, only the position of the safety guard is monitored. There is no integrated guard locking function.



Key

Y1/Y2 Safety guard monitoring
OUT Diagnostic output

THE AZM201 PRODUCT FAMILY

AZM201 WITH CONVENTIONAL DIAGNOSTICS

AZM201 WITH CONVENTIONAL DIAGNOSTICS

The microprocessor technology in the solenoid interlock enables comprehensive diagnostics of the respective operating status. The AZM201 solenoid interlock with conventional diagnostics function has a short-circuit proof diagnostic output that can be used for central visualisation or control functions, e.g. in a PLC.

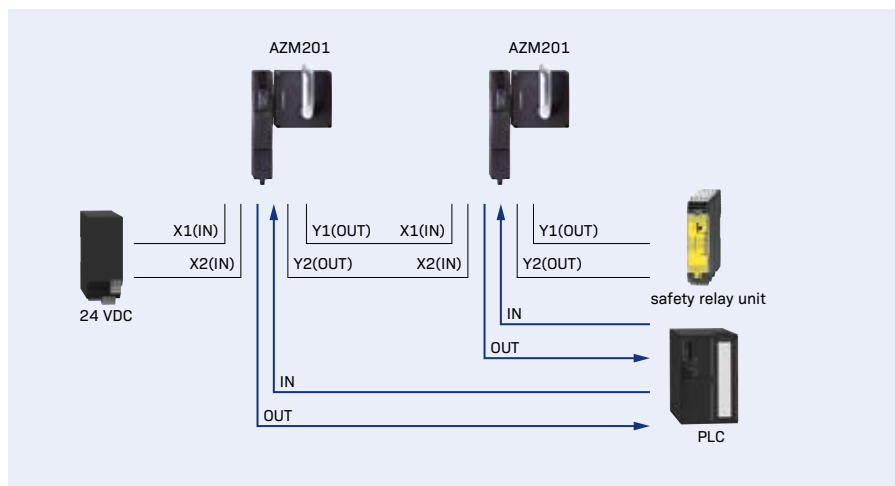
The current system status can be derived from a combination of signals from the solenoid interlock control, the safety outputs and the diagnostic output.

ERROR


Errors, which no longer guarantee the function of the safety switchgear (internal errors) cause the safety outputs to be disabled. Any error that does not immediately affect the safe functionality of a solenoid interlock will lead to a delayed shutdown. The error is indicated by flashing codes from the red LED on the device.

ERROR WARNING

In the event of an error warning, the safety outputs remain enabled until delayed shutdown. The diagnostic output is disabled. This signal combination can be used to stop the machine in a controlled manner. In this way, the process can be shut down in a controlled manner. This prevents the breakage of tools and workpieces and increases the availability of the machine.



Key

- IN Solenoid control
- Y1/Y2 Interlock monitoring 
- OUT Conventional diagnostic output

THE AZM201 PRODUCT FAMILY

AZM201 WITH SERIAL DIAGNOSTICS

AZM201 WITH SERIAL DIAGNOSTICS

Electronic safety sensors and interlocks with SD interface are capable of transmitting comprehensive status and diagnostics data to a superior machine control system. The data from series-connected safety switchgear are sent to a SD gateway via the SD bus and transmitted to industrial field bus protocols.

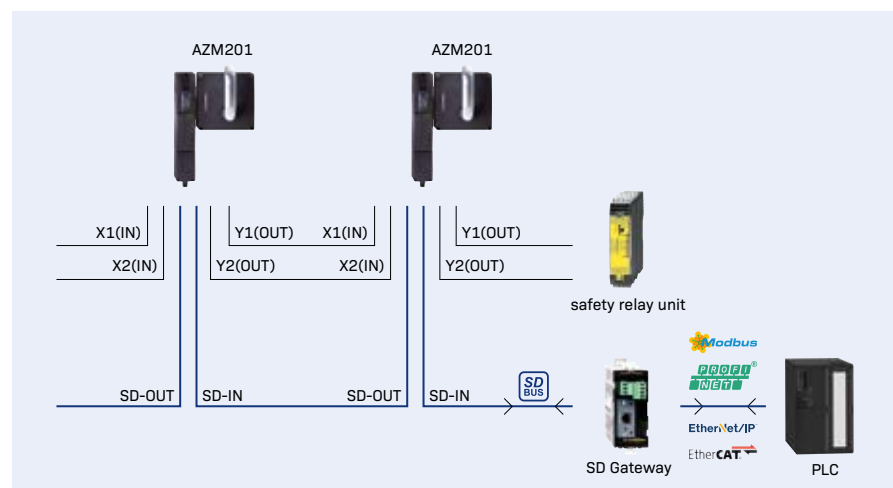
The SD interface also allows safety interlocks to be locked and unlocked individually, as well as configured. Consequently, on the AZM201, for example, information can be output as to whether a door was ajar, the actuator retracted and ultimately locked. Up to 31 devices can be connected to one SD bus in series.

SD GATEWAYS AND SAFETY CONTROLLERS

The diagnostic signal can be fed to the superior control via different SD gateways.

INSTALLATION AIDS

Various installation aids are available for easy and fail-safe installation.



Key

- Y1/Y2 Interlock monitoring
- SD-IN/OUT Solenoid control and serial diagnostic input/output

TECHNICAL DATA

AZM201 AND AZ201

TECHNICAL DATA

■ AZM201	■ AZM201D	■ AZM201 AS	■ AZ201	■ AZ201 AS
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Technical features

Electrical characteristics					
Holding force F_{zh}/F_{max}	2 000 N / 2 600 N	2 000 N / 2 600 N	2 000 N / 2 600 N	–	–
Operating voltage	24 VDC	24 VDC	26.5 ... 31.6 VDC	24 VDC	26.5 ... 31.6 VDC
Mechanical data					
Dimensions (W x H x D)	40 x 220 x 50 mm	40 x 220 x 50 mm	40 x 220 x 50 mm	40 x 220 x 50 mm	40 x 220 x 50 mm
Ambient conditions					
Ambient temperature	–25 °C ... +60 °C	–25 °C ... +60 °C	–25 °C ... +60 °C	–25 °C ... +70 °C	–25 °C ... +65 °C
Degree of protection	IP66, IP67	IP66, IP67	IP66, IP67	IP66, IP67	IP66, IP67

Safety classification of the interlocking function

Standards	ISO 13849-1, IEC 61508	ISO 13849-1, IEC 61508	ISO 13849-1, IEC 61508	ISO 13849-1, IEC 61508	ISO 13849-1, IEC 61508
PL	e	e ¹⁾	d ²⁾	e	e
Control category	4	4 ¹⁾	3 ²⁾	4	4
PFH	$1.9 \times 10^{-9} / h$	$5.7 \times 10^{-10} / h$ ¹⁾	$2.4 \times 10^{-9} / h$ ²⁾	$1.81 \times 10^{-9} / h$	$1.81 \times 10^{-9} / h$
SIL	3	3 ¹⁾	2 ²⁾	3	3

Safety classification of the interlock function

Standards	ISO 13849-1, IEC 61508	–	ISO 13849-1, IEC 61508	–	–
PL	d ³⁾	–	d ⁴⁾	–	–
Control category	2 ³⁾	–	d ⁴⁾	–	–
PFH	$1.0 \times 10^{-8} / h$ ³⁾	–	d ⁴⁾	–	–
SIL	2 ³⁾	–	d ⁴⁾	–	–

Certificates

Certificates					
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¹⁾ Safety guard monitoring Y1 and Y2

²⁾ Interlock monitoring Y3 and Y4

³⁾ Values for variant Z (interlock monitoring) and with conventional diagnostics

⁴⁾ The safety level of the release function is determined exclusively by the external safety power shutdown.

PRODUCT SELECTION

ACTUATOR

ACTUATOR

Series	Door hinge		Emergency exit P0	Type	Material number
	Left	Right			
AZ/AZM 201-B1	■			AZ/AZM201-B1-LT	103013493
			■	AZ/AZM201-B1-LTP0	103013496
		■		AZ/AZM201-B1-RT	103013494
			■	AZ/AZM201-B1-RTP0	103013495


Series	Door hinge		Mounted		Door handle G1	Ro- tating knob G2	Emergency exit				Locking rod P30/P31	Lock- out tag	Type	Material number
	Left	Right	In- side	Out- side			with- out P1	Included in standard version P1	Metal film P20	Metal film P25				
AZ/AZM 201-B30			■					■					AZ/AZM201-B30-LTIG1P1	103025197
							■						AZ/AZM201-B30-LTAG1	103013501
								■					AZ/AZM201-B30-LTAG1P1	103013498
								■				■	AZ/AZM201-B30-LTAG1P1-SZ	103013500
					■				■				AZ/AZM201-B30-LTAG1P20	103027215
	■			■					■			■	AZ/AZM201-B30-LTAG1P20-SZ	103026322
										■			AZ/AZM201-B30-LTAG1P25	103028172
											■		AZ/AZM201-B30-LTAG1P30	103015820
											■		AZ/AZM201-B30-LTAG1P31	103015821
											■	■	AZ/AZM201-B30-LTAG1P31-SZ	103015822
						■	■						AZ/AZM201-B30-LTAG2	103030662
								■					AZ/AZM201-B30-LTAG2P1	103025248
			■					■					AZ/AZM201-B30-RTIG1P1	103025195
							■						AZ/AZM201-B30-RTAG1	103013502
								■					AZ/AZM201-B30-RTAG1P1	103013497
								■				■	AZ/AZM201-B30-RTAG1P1-SZ	103013499
		■		■	■				■			■	AZ/AZM201-B30-RTAG1P20-SZ	103026321
										■			AZ/AZM201-B30-RTAG1P25	103028173
											■		AZ/AZM201-B30-RTAG1P30	103015823
											■		AZ/AZM201-B30-RTAG1P31	103015824
											■	■	AZ/AZM201-B30-RTAG1P31-SZ	103015825
						■		■					AZ/AZM201-B30-RTAG2P1	103025247
AZ/AZM 201-B40	■			■	■			■					AZ/AZM201-B40-LTAG1P1	103016806
									■				AZ/AZM201-B40-LTAG1P20	103016808
		■		■	■			■					AZ/AZM201-B40-RTAG1P1	103016807
									■				AZ/AZM201-B40-RTAG1P20	103016809

The actuators are not included with the solenoid interlocks/safety switches. Further actuator versions are available on request.


PRODUCT SELECTION

SOLENOID INTERLOCK AZM201

SOLENOID INTERLOCK AZM201

Range	Coding	Termination	Latching force	Diagnostic and safety outputs
AZM201 	Standard coding	Screw terminals	30 N	1 diagnostic output and 2 safety outputs, all p-type, combined diagnostic signal
				Serial diagnostic output and 2 safety outputs, all p-type
		M23 connector		
		M12 connector		1 diagnostic output and 2 safety outputs, all p-type, combined diagnostic signal
				Serial diagnostic output and 2 safety outputs, all p-type
	Individual coding	Cage clamps		
		Screw terminals		1 diagnostic output and 2 safety outputs, all p-type, combined diagnostic signal
		M12 connector		
	Individual coding, re-teaching enabled	Cage clamps		Serial diagnostic output and 2 safety outputs, all p-type
		Screw terminals		1 diagnostic output and 2 safety outputs, all p-type, combined diagnostic signal
		M12 connector		
				Serial diagnostic output and 2 safety outputs, all p-type

SOLENOID INTERLOCK AZM201 AS INTERFACE

Range	Coding	Termination	Latching force	Supply Interlocking solenoid	Special features
<div><div>AZM201 AS</div></div>	Standard coding	Connector M12, 4-pole	30 N	AUX Power	Manual release
					Manual release
					Manual release
	Individual coding				Manual release
	Manual release				
	Manual release				

1) Other versions with different wiring configurations are available on request


	Special features	Guard locking monitored	Actuator monitoring	Power to lock	Power to unlock	Type designation	Material number
	Manual release	■		■		AZM201Z-SK-T-1P2PW-A	103016752
			■		■	AZM201B-SK-T-1P2PW	103013910
				■		AZM201B-SK-T-1P2PW-A	103013911
					■	AZM201Z-SK-T-1P2PW	103013908
					■	AZM201Z-SK-T-SD2P	103032241
	Freely assignable pushbutton and LED ¹⁾	■			■	AZM201Z-ST-T-1P2PW-2965-1	103025499
				■		AZM201Z-ST-T-1P2PW-A-2965-1	103025498
	Manual release		■		■	AZM201B-ST2-T-1P2PW	103032935
				■		AZM201B-ST2-T-1P2PW-A	103031956
		■			■	AZM201Z-ST2-T-1P2PW	103013909
				■		AZM201Z-ST2-T-1P2PW-A	103016753
					■	AZM201Z-ST2-T-SD2P	103032731
				■		AZM201Z-ST2-T-SD2P-A	103032732
					■	AZM201Z-CC-T-1P2PW	103013912
				■		AZM201Z-CC-T-1P2PW-A	103017023
					■	AZM201Z-I1-SK-T-1P2PW	103013483
					■	AZM201Z-I1-ST2-T-1P2PW	103013485
			■		■	AZM201B-I2-CC-T-1P2PW	103013488
		■			■	AZM201Z-I2-CC-T-1P2PW	103013487
				■		AZM201Z-I2-CC-T-1P2PW-A	103017027
					■	AZM201Z-I2-CC-T-SD2P	103032138
			■		■	AZM201B-I2-SK-T-1P2PW	103013490
				■		AZM201B-I2-SK-T-1P2PW-A	103013491
		■			■	AZM201Z-I2-SK-T-1P2PW	103013484
				■		AZM201Z-I2-SK-T-1P2PW-A	103016780
					■	AZM201Z-I2-ST2-T-1P2PW	103013486
				■		AZM201Z-I2-ST2-T-1P2PW-A	103013489
			■	■		AZM201B-I2-ST2-T-1P2PW-A	103025461
		■			■	AZM201Z-I2-ST2-T-SD2P	103013492

	Guard locking monitored	Actuator monitored	Power to lock	Power to unlock	Type designation	Material number
		■	■		AZM 201B-ST-T-AS-A-P	103025301
	■			■	AZM 201Z-ST-T-AS-P	103025866
	■	■		■	AZM 201BZ-ST-T-AS-P	103025873
		■	■		AZM 201B-I2-ST-T-AS-A-P	103025857
	■			■	AZM 201Z-I2-ST-T-AS-P	103025868
	■	■		■	AZM 201BZ-I2-ST-T-AS-P	103025874


PRODUCT SELECTION

SAFETY SWITCHES AZM201 AND AZ201


SAFETY SWITCH AZM201D WITH DUAL SAFETY FUNCTION

Range	Coding	Termination	Latching force	Diagnostic and safety outputs	Type	Material number
AZM201D 	Standard coding	Connector	30 N	1 diagnostic output, 2 safety outputs, safety guard monitoring, 2 safety outputs, interlock monitoring, p-type, closed-circuit version	AZM201D-ST2-T-1P2P2P	103026879
	Individual coding, re-teaching enabled				AZM201D-I2-ST2-T-1P2P2P	103026877

SAFETY SWITCH AZ201 WITHOUT SOLENOID INTERLOCK

Range	Coding	Termination	Latching force	Diagnostic and safety outputs	Type	Material number
AZ201 	Standard coding	Cage clamps	30 N	Diagnostic output and 2 safety outputs, all p-type	AZ201CC-T-1P2P	103015814
		Screw terminals			AZ201SK-T-1P2P	103015815
		Connector			AZ201ST2-T-1P2P	103015816
	Individual coding, re-teaching enabled	Cage clamps			AZ201-I2-CC-T-1P2P	103015817
		Screw terminals			AZ201-I2-SK-T-1P2P	103015818
		Connector			AZ201-I2-ST2-T-1P2P	103015819

SAFETY SWITCH AZ201 WITHOUT SOLENOID INTERLOCK WITH AS INTERFACE

Range	Coding	Termination	Latching force	Diagnostic and safety outputs	Type	Material number
AZ201 AS 	Standard coding	Connector M12, 4-pole	30 N	Diagnostic output and 2 safety outputs, all p-type	AZ201-ST-T-AS	103027843
	Individual coding, re-teaching enabled				AZ201-I2-ST-T-AS	103027849

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The greenhouse gas emissions released during the production of this catalogue have been offset through investment in the „LAYA energy-efficient wood stoves“ project in India.



WIDE RANGE OF ACCESSORIES

FOR THE AZM201 AND AZ201 PRODUCT FAMILY

ACCESSORIES

Designation		Description	Type	Material number
MP AZ/AZM200		■ Mounting plate for AZM201	MP AZ/AZM200	101188600
MP AZ/AZM200-B30		■ Mounting plate for AZ/AZM201-B30-G1/G2	MP AZ/AZM200-B30	101194218
MP AZ/AZM200-P1		■ Mounting plate for AZ/AZM201-B30-P1	MP AZ/AZM200-P1	101194224
MP-AZ/AZM200-P20		■ Mounting plates for AZ/AZM201-B30-P20	MP-AZ/AZM200-P20	101185694
MP BDF 200		■ Mounting plates for AZ/AZM201-B30-G1/G2 AZM201 + BDF200	MP BDF 200	101214126
Emergency release		■ Retrofit kit for emergency release	RF-AZM200-N	103003543
Emergency exit		■ Retrofit kit for emergency exit	RF-AZM200-T	103004966
Lockout tag		■ Lockout tag with 5 holes for complex systems prevents actuation of the switch. Suitable for mounting inside and outside of the hazardous area to protect against accidental closure, e.g. during assembly work.	SZ 200	101194438
Lockout tag		■ Lockout tag with 6 holes for complex systems prevents actuation of the switch. Suitable for mounting inside and outside of the hazardous area to protect against accidental closure, e.g. during assembly work.	SZ 200-1	101196397
Lockout tag		■ Retrofit kit for lockout tag at actuator B30	RF-AZ/AZM 200-B30-SZ	103001074
Centering device		■ Centering device for pre-positioning	Mounting outside: TFA-020	101172607
			Mounting inside: TFI-020	101172609

THE SCHMERSAL GROUP

PROTECTION FOR MAN AND MACHINE

In the demanding field of machine safety, the owner-managed Schmersal Group is one of the international market leaders. The company, which was founded in 1945, has a workforce of about 2000 people and seven manufacturing sites on three continents along with its own companies and sales partners in more than 60 countries.

Customers of the Schmersal Group include global players from the area of mechanical engineering and plant manufacturing as well as operators of machinery. They profit from the company's extensive expertise as a provider of systems and solutions for machine safety. Furthermore, Schmersal specialises in various areas including food & beverage, packaging, machine tools, lift switchgear, heavy industry and automotive.

A major contribution to the systems and solutions offered by the Schmersal Group is made by tec.nicum with its comprehensive range of services: certified Functional Safety Engineers advise machinery manufacturers and machinery operators in all aspects relating to machinery and occupational safety – and do so with product and manufacturer neutrality. Furthermore, they design and realise complex solutions for safety around the world in close collaboration with the clients.



SAFETY PRODUCTS

- Safety switches and sensors, solenoid interlocks
- Safety controllers and safety relay modules, safety bus systems
- Optoelectronic and tactile safety devices
- Automation technology: position switches, proximity switches

SAFETY SYSTEMS

- Complete solutions for safeguarding hazard areas
- Individual parametrisation and programming of safety controllers
- Tailor-made safety technology – be it for individual machines or a complex production line
- Industry-specific safety solutions

SAFETY SERVICES

- tec.nicum academy – Seminars and training
- tec.nicum consulting – Consultancy services
- tec.nicum engineering – Design and technical planning
- tec.nicum integration – Execution and installation



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SCHMERSAL
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The details and data referred to have been carefully checked.
Subject to technical amendments and errors.

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