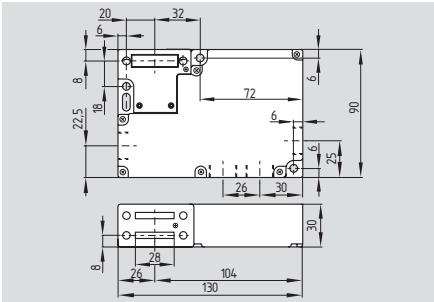


Solenoid interlocks

AZM 161



- Interlock with protection against incorrect locking
- Thermoplastic enclosure
- 6 contacts
- Manual release, emergency exit or emergency release
- Long life
- Double insulated \square
- High holding force 2,000 N
- Large wiring compartment
- Power to unlock/power to lock principle
- Screw terminals or cage clamps or connector
- 4 cable entries M16
- EX version available
- AS-Interface Safety at Work available

Approvals



Ordering details

AZM 161 ①-②③④⑤-⑥

No.	Option	Description
①	CC	Cage clamp
	SK	Screw terminals
	ST	Connector M12
②	11/03 *	1NO/4NC with connector
	11/12 *	2NO/3NC with connector
	12/03 *	1NO/5NC
	12/11 *	2NO/3NC with connector
③	12/12	2NO/4NC
	R	Latching force 5 N
④	R	Latching force 30 N
	A	Power to unlock Power to lock

Technical data

Standards: IEC/EN 60947-5-1;
EN ISO 13849-1;
EN 1088; BG-GS-ET-19

Enclosure: glass fiber reinforced
thermoplastic,
self-extinguishing

Actuator and locking bolt: stainless steel 1.4301

Protection class: IP67 to EN 60529

Contact material: silver

Contact type: change-over contact with
double break, type Zb, with
galvanically separated
contact bridges

Switching principle: \ominus IEC 60947-5-1
slow action, NC contacts
with positive break

Connection: screw terminals
or cage clamps
or connector

Cable type: flexible

Cable section: min. 0.25 mm²
max. 1.5 mm²
(incl. conductor ferrules)

Cable entry: 4 x M16

U_{imp} :
- screw terminals or cage clamps: 4 kV
- connector, 4-pole: 2.5 kV
- connector, 8-pole: 0.8 kV

U_i :
- screw terminals or cage
clamps, connector, 4-pole: 250 V
- connector, 8-pole: 60 V

I_{the} :
- screw terminals or cage clamps: 6 A
- connector, 4-pole: 4 A
- connector, 8-pole: 2 A

Utilization category: AC-15, DC-13

I_e/U_e :
- connector, 4-pole: 4 A / 230 VAC
2.5 A / 24 VDC
- connector, 8-pole: 2 A / 60 VDC

Max. fuse rating: 6 A gG D-fuse

Positive break travel: 10 mm

Positive break force: 10 N for each
NC contact fitted

U_s : 24 VAC/DC,

Technical data

110/230 VAC, 50/60Hz

Magnet: 100% ED

Power consumption: max. 10 W

Ambient temperature: -25 °C ... +60 °C

Mechanical life: > 1 million operations

F_{max} : 2,000 N

Latching force: 30 N for ordering
suffix R

Classification:

Standards: EN ISO 13849-1

B_{10d} (NC): 2,000,000

Mission time: 20 years

$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$ $n_{op} = \frac{d_{op} \times h_{op} \times 3600 \text{ s/h}}{t_{cycle}}$

Ordering details

AZM 161 ①-②③④⑤-⑥

No.	Option	Description
⑤	ED	Manual release lateral on cover-side
	EU	at the rear
	T	Emergency exit lateral on cover-side
	TU	at the rear
	N	Emergency release
⑥	024	U_s 24 VAC/DC
	110/230	U_s 110/230 VAC

* only available in 24V AC/DC models

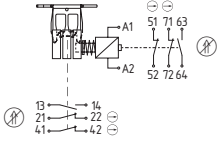
Actuators ordered separately
(refer to page 1-39)

Note: 24V AC/DC models available with inte-
grated LED. Add suffix G

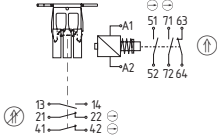
Solenoid interlocks

Contact variants

Power to unlock



Power to lock

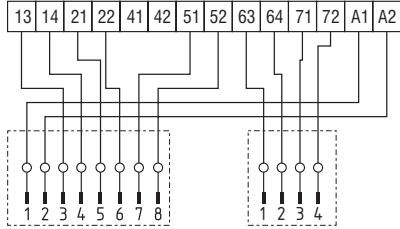


2 NO / 4 NC (12/12)

13	14	21	22	41	42	51	52	63	64	71	72	A1	A2
----	----	----	----	----	----	----	----	----	----	----	----	----	----

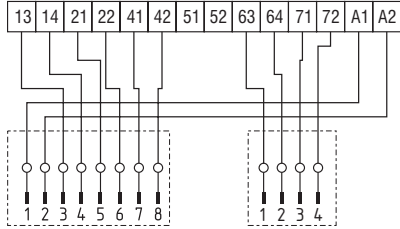
Connector

2 NO / 3 NC (12/11)



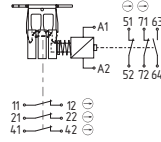
Connector

2 NO / 3 NC (11/12)

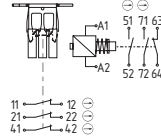


Contact variants

Power to unlock



Power to lock

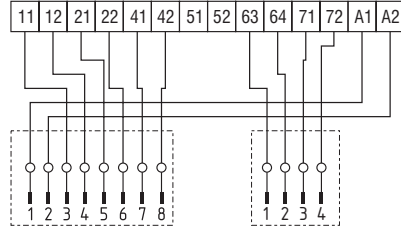


1 NO / 5 NC (12/03)

11	12	21	22	41	42	51	52	63	64	71	72	A1	A2
----	----	----	----	----	----	----	----	----	----	----	----	----	----

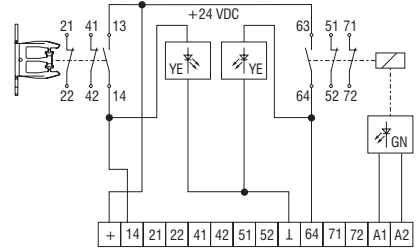
Connector

1 NO / 4 NC (11/03)



Contact variants with LED

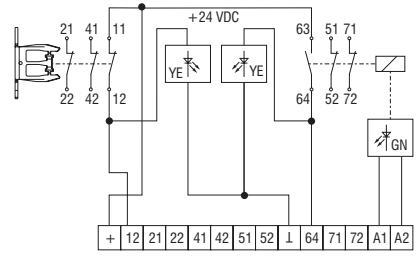
2 NO / 4 NC (12/12)



Legend

- 14 safety guard open / LED on
- + +24 VDC
- ⊥ 0 VDC
- 64 unlocked / LED on

1 NO / 5 NC (12/03)



Legend

- 12 safety guard closed / LED on
- + +24 VDC
- ⊥ 0 VDC
- 64 unlocked / LED on

Note

At least one magnetic contact with positive break ⊖ must be integrated in the safety circuit.

Contact variants show de-energized condition with actuator inserted.

Note

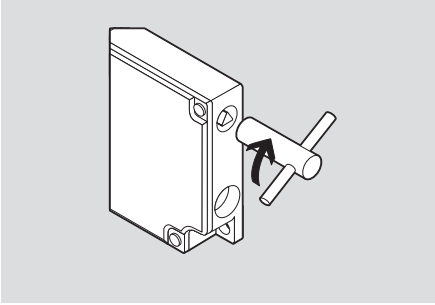
Interlocks with power to lock principle may only be used in special cases after a thorough evaluation of the accident risk, since the guarding device can immediately be opened on failure of the electrical power supply or when the main switch is opened.

Note

The contacts with LED are shown in closed and locked condition.

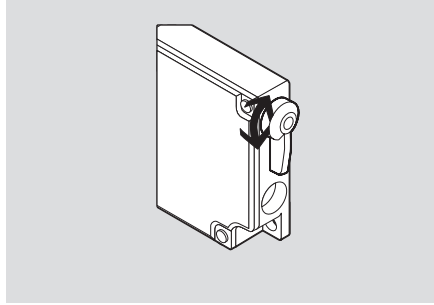
Solenoid interlocks

AZM 161..-12/12...



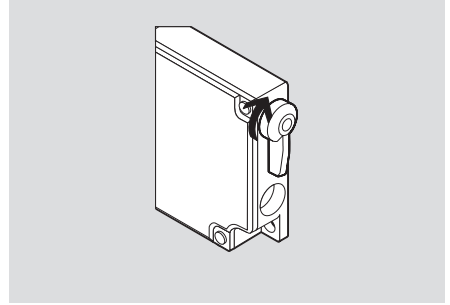
- **Manual release**
- For manual release using M5 triangular key, available as accessory
- For maintenance, setting-up, etc.

AZM 161..-12/12...T



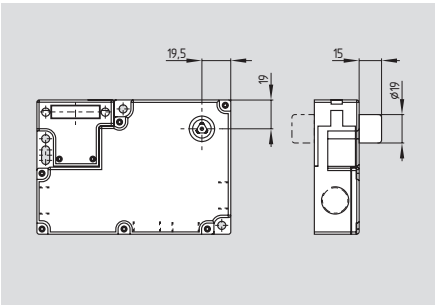
- **Emergency exit**
- For cases of danger
- Actuation from within the hazardous area

AZM 161..-12/12...N



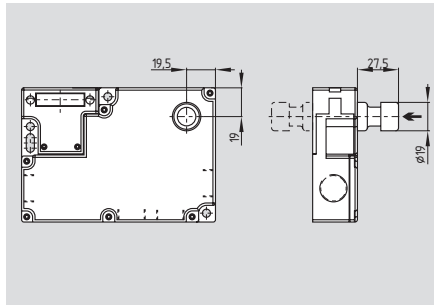
- **Emergency release**
- For cases of danger
- Mounting only outside the guarded area

AZM 161..-12/12...E.



- **Manual release**
- For manual release using M5 triangular key, available as accessory
- For maintenance, setting-up, etc.
- Cover-side fitting (ordering suffix **ED**) or rear fitting (ordering suffix **EU**) enabled

AZM 161..-12/12...T.



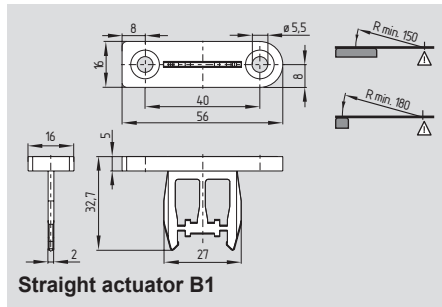
- **Emergency exit**
- The emergency exit is used if an already locked dangerous area needs to be evacuated
- Emergency exit by pressing the red push-button
- Reset by pulling on the red push-button
- Cover-side fitting (ordering suffix **TD**) or rear fitting (ordering suffix **TU**) enabled

Note

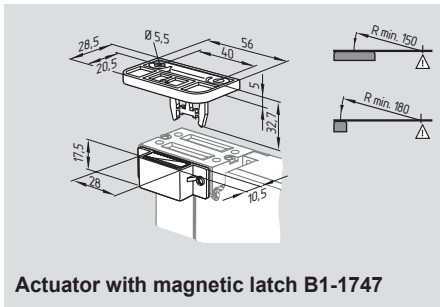
Combining the manual release and the emergency exit in different mounting directions is only possible with the following combination:
ED/TU and TD/EU

Solenoid interlocks

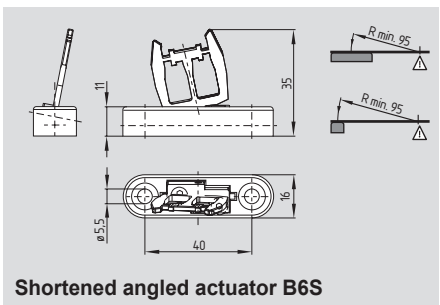
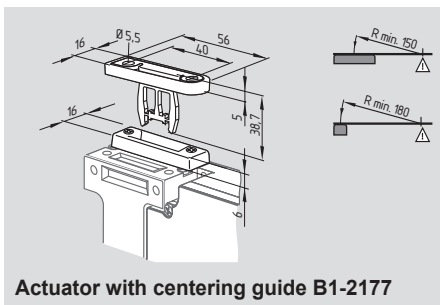
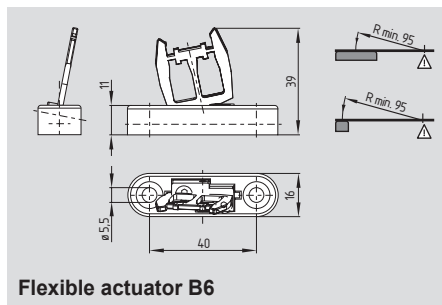
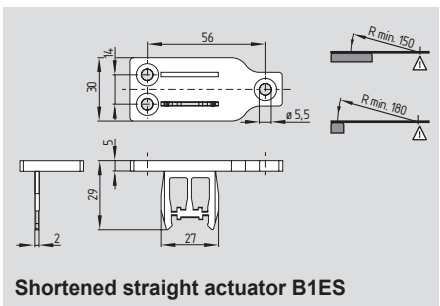
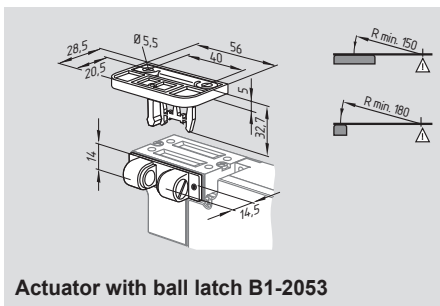
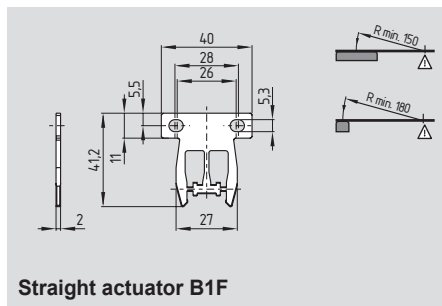
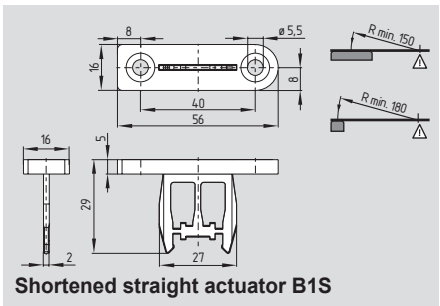
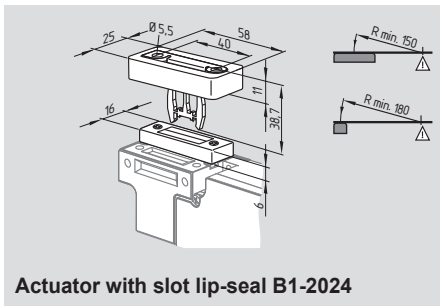
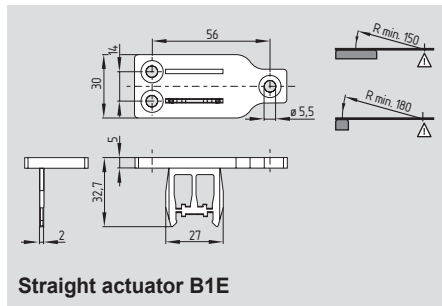
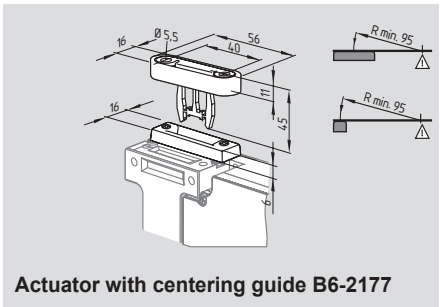
System components



System components



System components



Ordering details

Straight actuator **AZM 161-B1**
 Straight actuator **AZM 161-B1E**
 Straight actuator **AZM 161-B1F**
 Flexible actuator **AZM 161-B6**

Ordering details

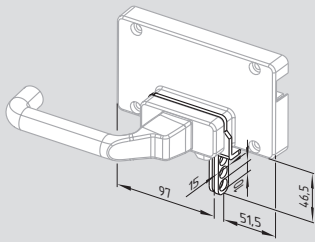
Straight actuator with magnetic latch **AZM 161-B1-1747**
 Straight actuator with slot lip-seal **AZM 161-B1-2024**
 Straight actuator with ball latch **AZM 161-B1-2053**
 Straight actuator with centering guide **AZM 161-B1-2177**

Ordering details

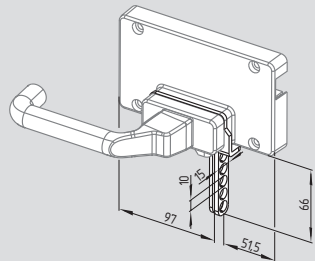
Flexible actuator with centering guide **AZM 161-B6-2177**
 Shortened straight actuator **AZM 161-B1S**
 Shortened straight actuator **AZM 161-B1ES**
 Shortened angled actuator **AZM 161-B6S**

Solenoid interlocks

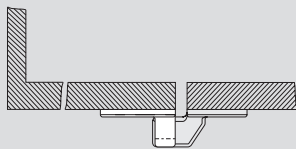
System components



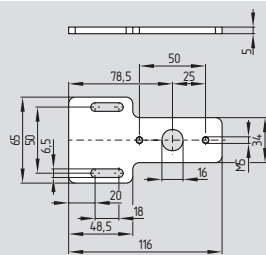
Lockout tag SZ 415-1/-2



Lockout tag SZ 415-1/-2 -2477

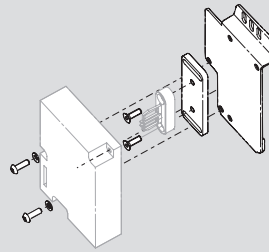


Centering device TF.

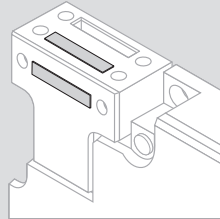


Mounting plate MP TG-01

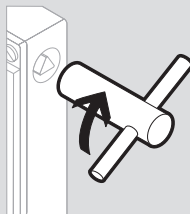
System components



Mounting set MS AZM 161



Slot sealing plug AZM 161



Triangular key AZM KEY



Connector plug

Ordering details

Lockout tag

for ...STS30-01/-03/-06/-08

SZ 415-1

for ...STS30-02/-04/-05/-07

SZ 415-2

Lockout tag with 5 circular holes

for ...STS30-01/-03/-06/-08

SZ 415-1-2477

for ...STS30-02/-04/-05/-07

SZ 415-2-2477

Centering device only for AZ 16-STS30... and AZM 161-STS30...:

Mounting outside

TFA-020

Mounting inside

TFI-020

(Product information see page 1-52)

Mounting plate

MP TG-01

Ordering details

Mounting sets

MS AZM 161 P

MS AZM 161 R/P

Slot sealing plug AZM 161

101145379

Triangular key M5

AZM KEY

Connector

plugs on request

(with 8-pole connector only
24 VAC/DC variant possible!)

Tamperproof screws with
unidirectional slots (without drawing)

M5 x 12

101135338

M5 x 16

101135339

M5 x 20

101135340

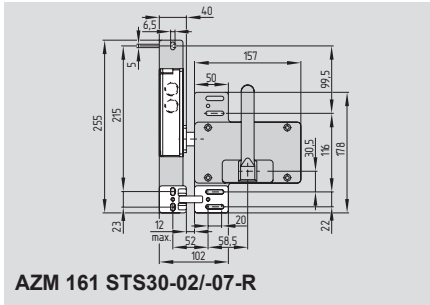
(Quantity 2 pcs)

Solenoid interlocks

AZM 161-STS30-...

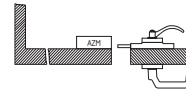


Mounting right-angled

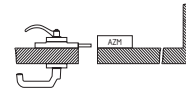


System variants

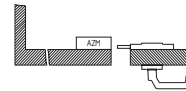
AZM 161-STS30-01



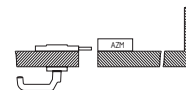
AZM 161-STS30-02



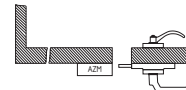
AZM 161-STS30-03



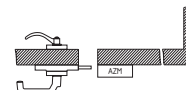
AZM 161-STS30-04



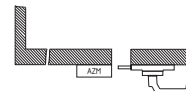
AZM 161-STS30-05*



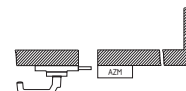
AZM 161-STS30-06*



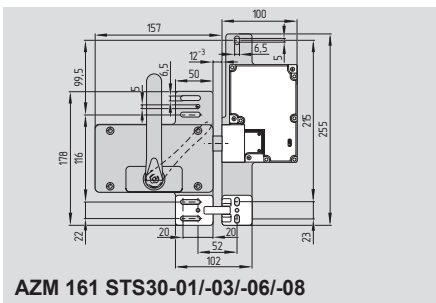
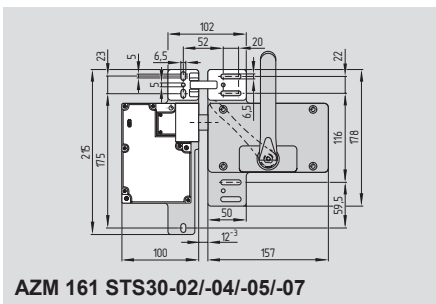
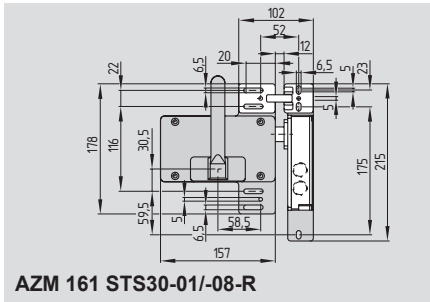
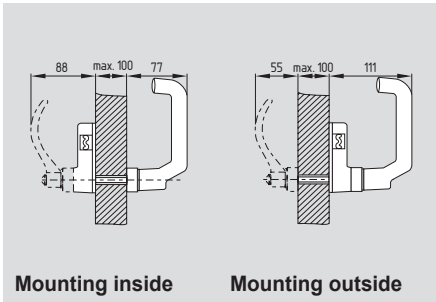
AZM 161-STS30-07



AZM 161-STS30-08



The drawings are always shown with a view to the switch.



Note

Included in delivery

- Mounting plate for safety switch
- Actuator incl. mounting plate
- Emergency handle (for variant -05 and -06 incl. mounting plate)

Ordering example

To order, first choose the desired safety switch and then the door handle system:
for example AZM SK-12/12RK-T-024 and
AZM 161-STS30-01

Ordering details

Mounting right-angled
to safety guard
(only STS30-01, -02, -07, 08)

Ordering suffix -R

Ordering details

Mounting inside

with emergency handle

door hinge right

AZM 161-STS30-01

door hinge left

AZM 161-STS30-02

without emergency handle

door hinge right

AZM 161-STS30-03

door hinge left

AZM 161-STS30-04

Mounting outside

with emergency handle

door hinge right

AZM 161-STS30-05*

door hinge left

AZM 161-STS30-06*

(* only for power to lock)

without emergency handle

door hinge right

AZM 161-STS30-07

door hinge left

AZM 161-STS30-08