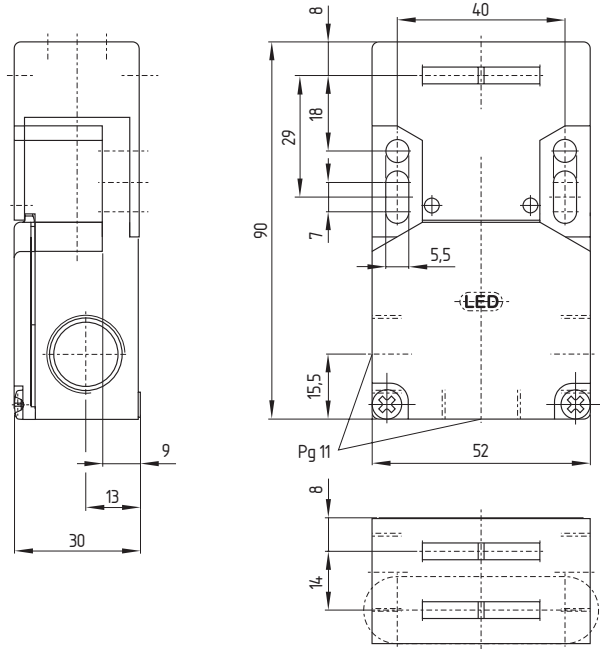


1. Safety switches with separate actuator / Class 2

1.2 AZ 16 range



Features

- Thermoplastic enclosure
- Multiple coding
- Long life
- Double insulated
- 3 cable entries
- Large wiring compartment
- High level of contact reliability with low voltages and currents
- Not sensitive to dirty conditions by virtue of patented roller system
- Available with LED
- Covered switch contacts
- Slotted holes for adjustment, circular holes for location
- EEx version see chapter 14.1.1.1

Contacts/ Switch travel	1 NO		2 NC		1 NO 2 NC		3 NC	
	1 NC							

Ejection force Latching force 30 N	AZ 16zv		AZ 16-02zv		AZ 16-12zv		AZ 16-03zv	
	AZ 16zvr		AZ 16-02zvr		AZ 16-12zvr		AZ 16-03zvr	

Notes

Inserted position of actuator = 0 in switch travel diagrams.
 Actuators must be ordered separately.
 A selection of suitable actuators can be found in 1.4.

1. Safety switches with separate actuator / Class 2

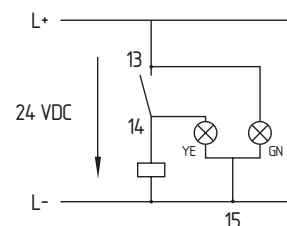
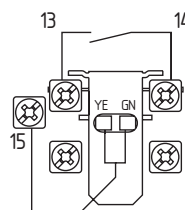
1.2 AZ 16 range



LED version

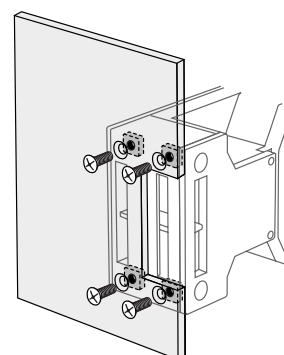
Protected against incorrect polarity and voltage spikes, ordering suffix G24

- only available for version with one NO and one NC contact



Version with M5 nuts

- For front fixing of safety switch, e.g. on sheet-steel covers
- Suitable for use with actuators AZ 15/16-B1, -B2, -B3 and -B6
- Nuts cannot be retrofitted
- Ordering suffix -1762



Ordering details

To order, select the part number of the desired switch from the table "Contacts/Switch travel", e.g. safety switch AZ 16 with one NO and one NC contact, with ejection force and LED insert: AZ 16zvkg24

Actuators and accessories are ordered separately, e.g. straight actuator with centering facility: AZ 15/16-B1-2177

The applicable ordering suffix is added at the end of the part number of the safety switch. Further variants not shown here are available on enquiry.

Info

- With cable entry M 16 x 1.5, ordering suffix -M16
- Available with 5 N latching force, ordering suffix -2254
- With gold-plated contacts (0.3 µm), ordering suffix -1637
- Alignment kit to simplify fitting, part number: Alignment kit AZ 15/16

To safeguard up to Control Category 3 to EN 954-1, the Safety System Package No. 5 can be used. This comprises an AES 1235 guard door monitor, an AZ 16-12zvrk, an AZ 15/16-B1 actuator, a Pg cable gland and tamperproof screws.

To safeguard up to Control Category 4 to EN 954-1, the Safety System Package No. 15 can be used. This comprises an AZR 31 R2 guard door monitor, two AZ 16-12zvrk, two AZ 15/16-B1 actuators, a Pg cable gland and tamperproof screws.

Approvals



1.
1.4

Safety switches with separate actuator / Class 2
Actuators

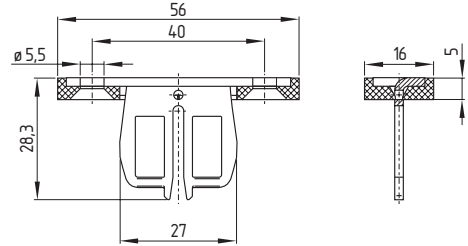


Straight actuator AZ 15/16-B1

- Particularly suitable for sliding doors
- Minimum actuating radius on hinged guards 150 mm

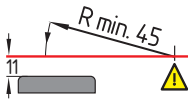


- The axis of the hinge should be 5 mm above the top edge of the safety switch and in the same plane

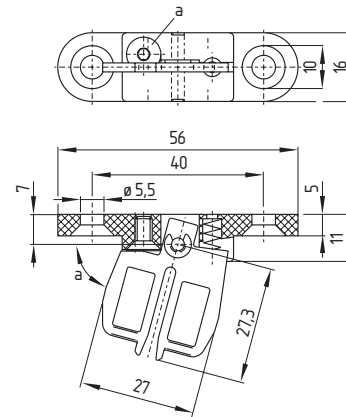


Adjustable actuator AZ 15/16-B2

- For very small actuating radii in line with the plane of the actuator
- Actuating radius adjustable, minimum 45 mm, using an hexagonal key wrench 2.5 mm A/F (a)

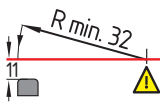


- The axis of the hinge should be 11 mm above the top edge of the safety switch and in the same plane

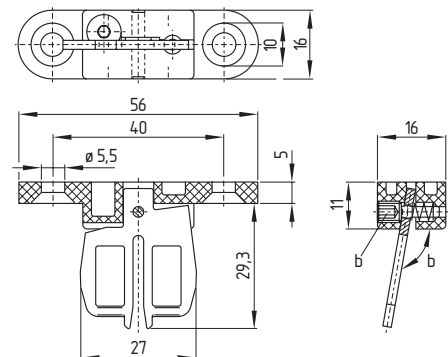


Adjustable actuator AZ 15/16-B3

- For very small actuating radii at 90° to the plane of the actuator
- Actuating radius adjustable, minimum 32 mm, using an hexagonal key wrench 2.5 mm A/F (b)



- The axis of the hinge should be 11 mm above the top edge of the safety switch and in the same plane



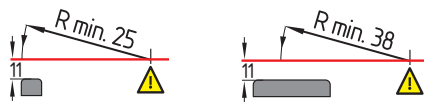
1. Safety switches with separate actuator / Class 2

1.4 Actuators

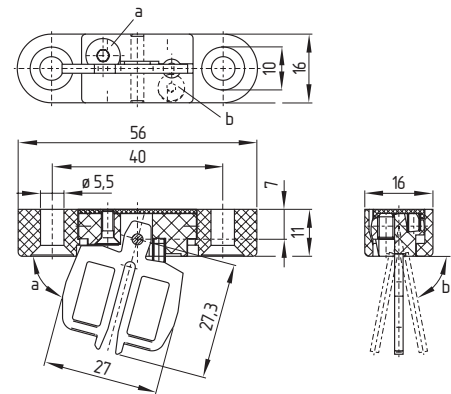


Adjustable actuator AZ 15/16-B6

- For very small actuating radii in line with or at 90° to the plane of the actuator
- Actuating radius adjustable using an hexagonal key wrench 2.5 mm A/F (a and b), minimum 25 mm at 90° to the plane of the actuator and minimum 38 mm in line with the plane of the actuator

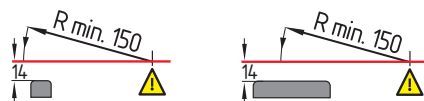


- The axis of the hinge should be 11 mm above the top edge of the safety switch and in the same plane

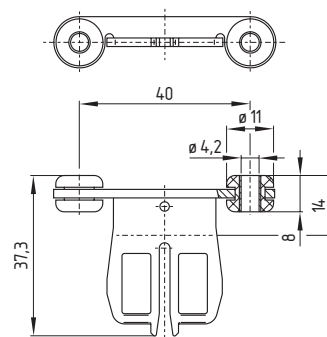


Straight actuator with rubber mountings AZ 15/16-B1-2245

- Particularly suitable for sliding doors
- Minimum actuating radius on hinged guards 150 mm
- Damps vibration on guard devices



- The axis of the hinge should be 14 mm above the top edge of the safety switch and in the same plane
- Max. 200 Ncm tightening torque for fixing the actuator



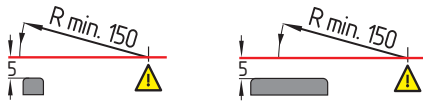
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Safety switches with separate actuator / Class 2
Actuators

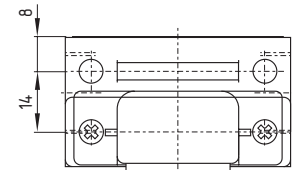
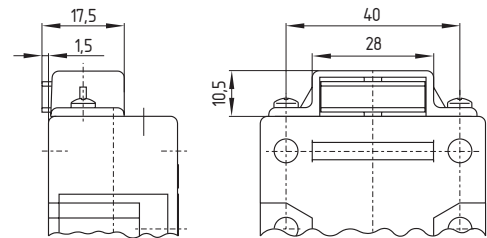
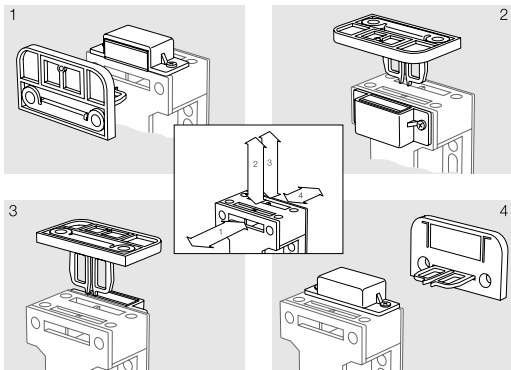
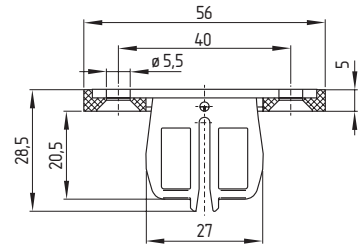
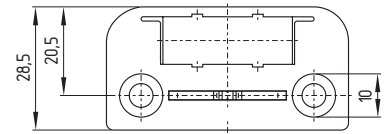


Straight actuator with magnetic latch AZ 15/16-B1-1747

- For play-free interlocking of light guards
- Latching force 30 N
- The magnetic latch can be easily fitted in any actuating plane
- Suitable for retrofitting
- Particularly suitable for sliding doors
- Minimum actuating radius on hinged guards 150 mm



- The axis of the hinge should be 5 mm above the top edge of the safety switch and in the same plane



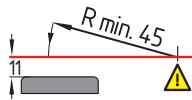
1. Safety switches with separate actuator / Class 2

1.4 Actuators

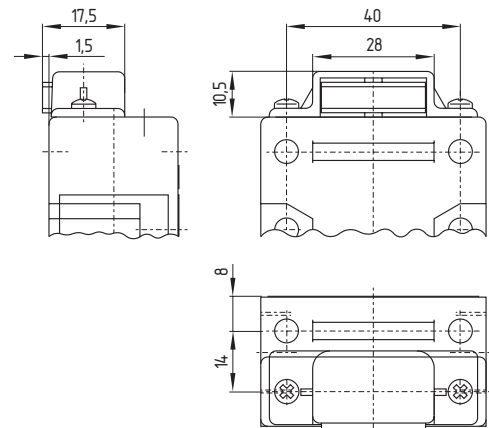
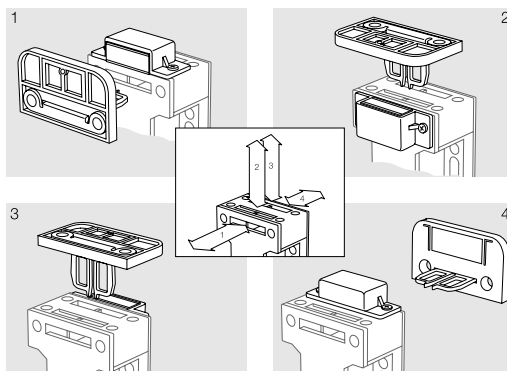
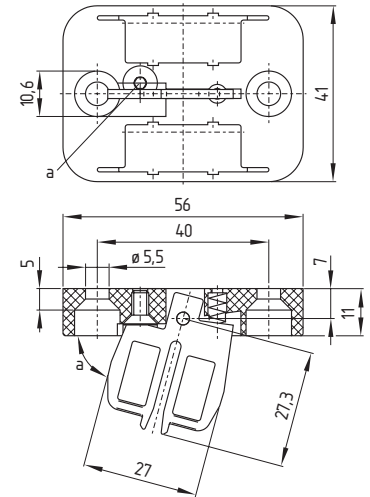


Adjustable actuator with magnetic latch AZ 15/16-B2-1747

- For play-free interlocking of light guards
- Latching force 30 N
- The magnetic latch can be easily fitted in any actuating plane
- Suitable for retrofitting
- For very small actuating radii in line with the plane of the actuator
- Actuating radius adjustable, minimum 45 mm, using an hexagonal key wrench 2.5 mm A/F (a)



- The axis of the hinge should be 11 mm above the top edge of the safety switch and in the same plane



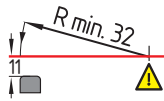
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Safety switches with separate actuator / Class 2
Actuators

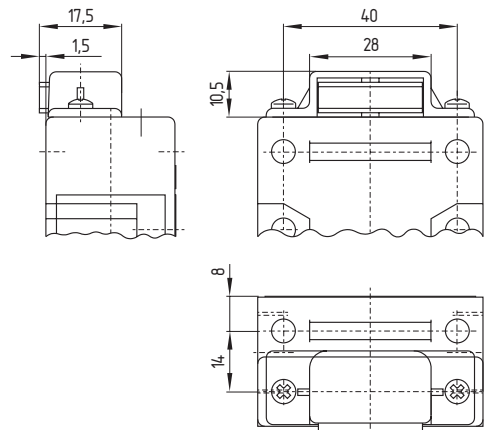
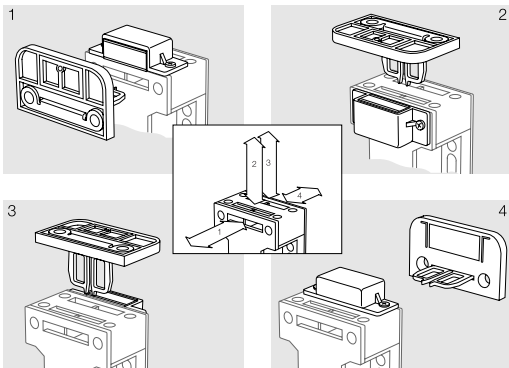
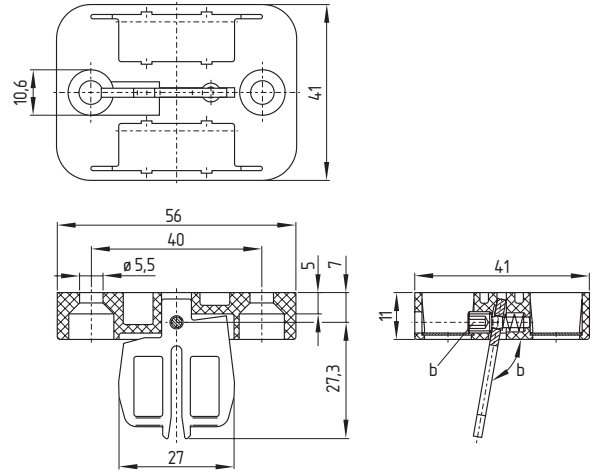


Adjustable actuator with magnetic latch AZ 15/16-B3-1747

- For play-free interlocking of light guards
- Latching force 30 N
- The magnetic latch can be easily fitted in any actuating plane
- Suitable for retrofitting
- For very small actuating radii at 90° to the plane of the actuator
- Actuating radius adjustable, minimum 32 mm, using an hexagonal key wrench 2.5 mm A/F (b)



- The axis of the hinge should be 11 mm above the top edge of the safety switch and in the same plane



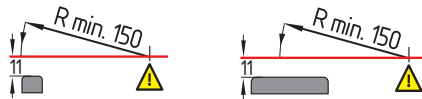
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**Safety switches with separate actuator / Class 2
Actuators**

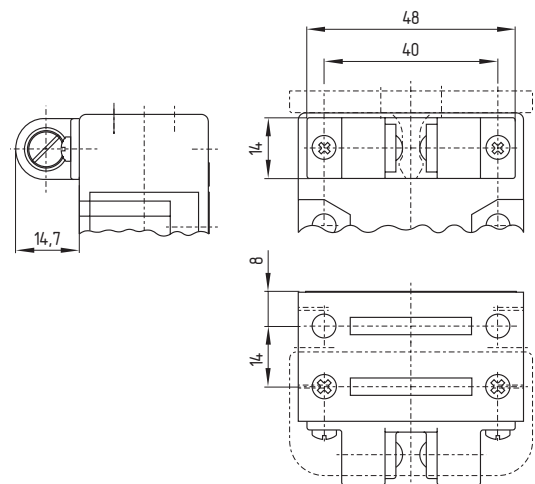
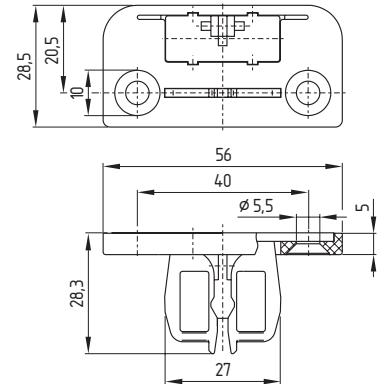
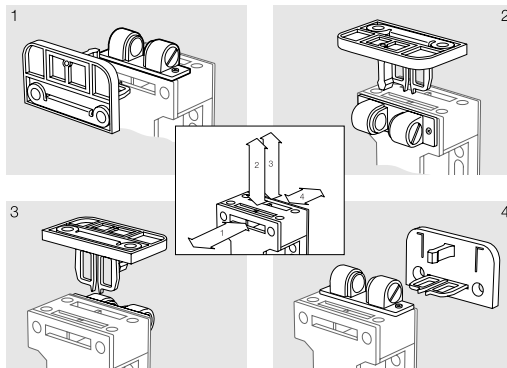


Straight actuator with ball latch AZ 15/16-B1-2053

- For interlocking of light to medium-weight guards
- Latching force adjustable up to 100 N
- Particularly suitable for sliding doors
- Minimum actuating radius on hinged guards 150 mm



- The axis of the hinge should be 11 mm above the top edge of the safety switch and in the same plane



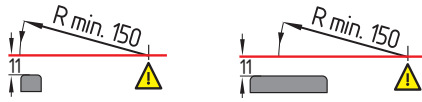
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Safety switches with separate actuator / Class 2
Actuators

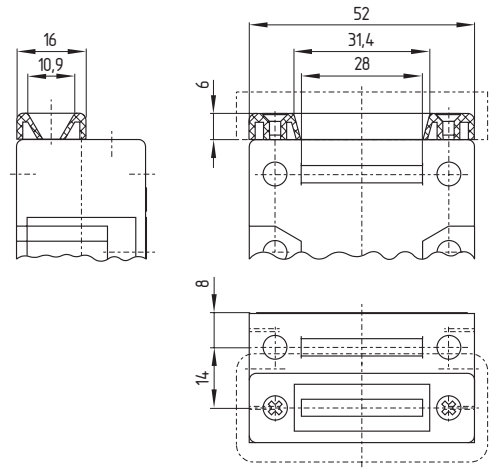
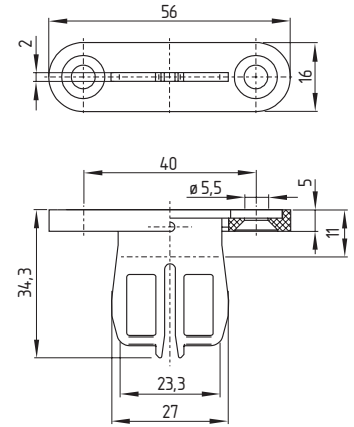
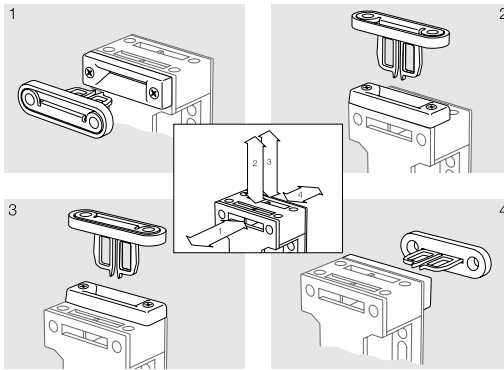


Straight actuator with centering guide AZ 15/16-B1-2177

- For interlocking of light, unguided guards
- Particularly suitable for sliding doors
- Minimum actuating radius on hinged guards 150 mm



- The axis of the hinge should be 11 mm above the top edge of the safety switch and in the same plane



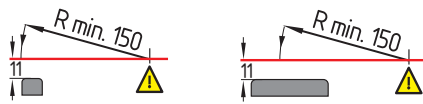
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Safety switches with separate actuator / Class 2 Actuators

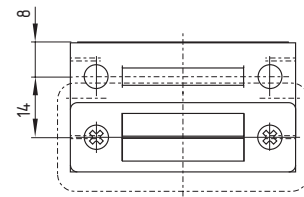
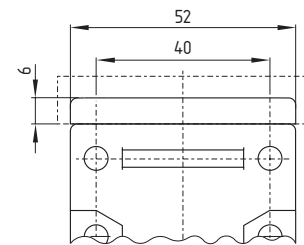
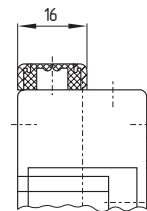
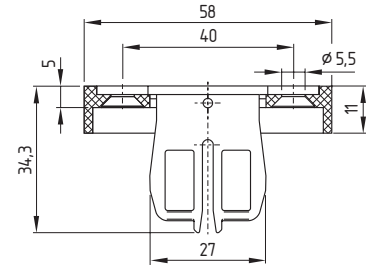
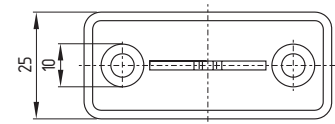
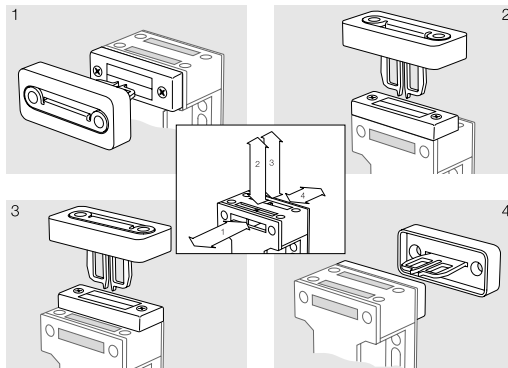


Straight actuator with slot lip-seal AZ 15/16-B1-2024

- For protection against the ingress of coarse dirt
- Particularly suitable for sliding doors
- Minimum actuating radius on hinged guards 150 mm



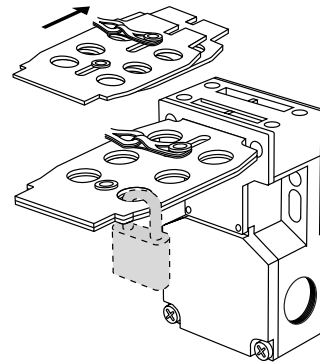
- The axis of the hinge should be 11 mm above the top edge of the safety switch and in the same plane





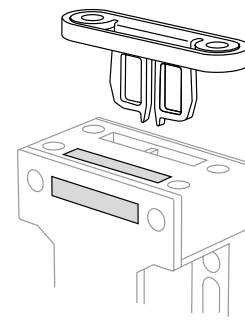
Lockout tag SZ 16/335

- To prevent inadvertent closing, e.g. during maintenance
- For complex plant
- Prevents actuation of the switch
- Up to 6 padlocks can be fitted
- The lockout tag can be fixed on a chain near to the safety switch



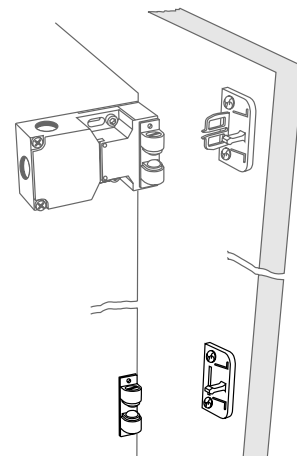
Slot sealing plug AZ 15/16-1476

- For protection against the ingress of coarse dirt
- To cover unused actuator slots
- Simple clip-in fitting
- Quantity required: 3 per switch



Ball latch 2053-2

- Additional ball latch for stable latching of light to medium-weight guards
- For separate mounting on the guard
- Latching force adjustable up to 100 N





Tamperproof screws



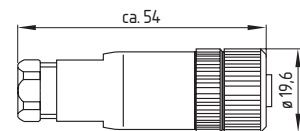
Screw lengths

Countersunk-head screws
 M 5 x 12, Id. No.: 402 530 3000
 M 5 x 16, Id. No.: 402 530 3001
 M 5 x 20, Id. No.: 402 530 3002

Supplied in sets of 2 screws

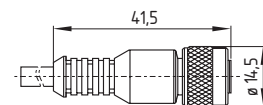
- To mount the actuator
- Higher protection against tampering with interlock
- Protects against unauthorised removal of actuator
- Available in various lengths

Connector plug M 12 x 1 for AZ 16-ST with connector



- Straight connector plug
- Unwired
- A-coding: part number Series 713

Connector plug M 12 x 1 for AZ 16-ST with connector



- Straight connector plug with pre-wired cable
- Cable 5 m long
- Conductors: 4 x 0.75 mm²
- A-coding: part number Series 763

1. Safety switches with separate actuator / Class 2

1.5 Accessories



Mounting set MS AZ 15/16

- For simple mounting on profile systems
- Mounting of the safety switch parallel or right-angled to the safety guard

Hinweis

- The mounting sets can only be used in conjunction with actuator AZ 15/16-B6.
- Safety switch and actuator are **not included** in delivery.

Legend

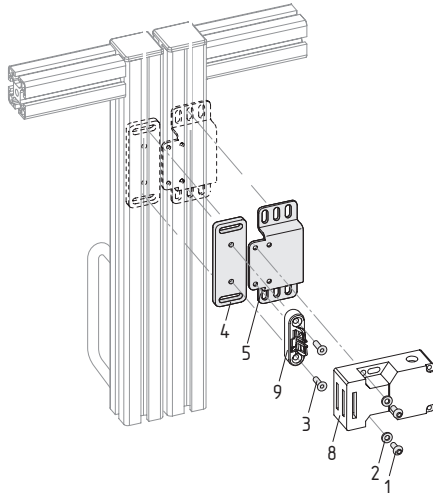
- 1 Roundhead screw M5 x 16 per ISO 7380
- 2 Washer per DIN 125-5,3
- 3 Counter sunk screw M5 x 16 per DIN 7991
- 4 Mounting plate AZ 16/AZM 161
- 5 U-profile AZ 16
- 6 Mounting angle AZ 16
- 7 Roundhead screw M5 x 10 per ISO 7380

Not provided:

- 8 Safety switch AZ 15/16
- 9 Actuator AZ 15/16-B6

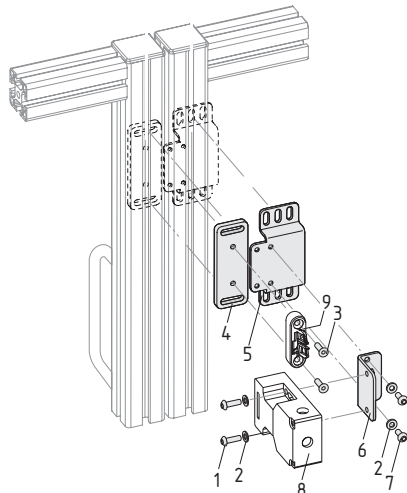
MS AZ 15/16 P

Mounting parallel to safety guard

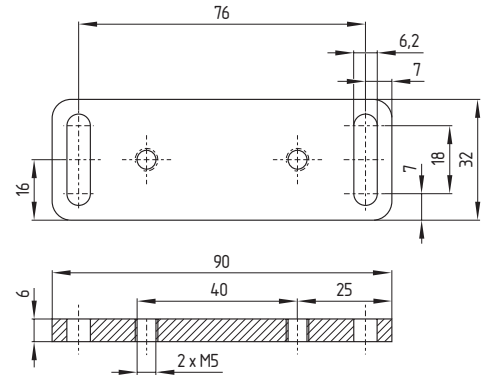


MS AZ 15/16 R/P

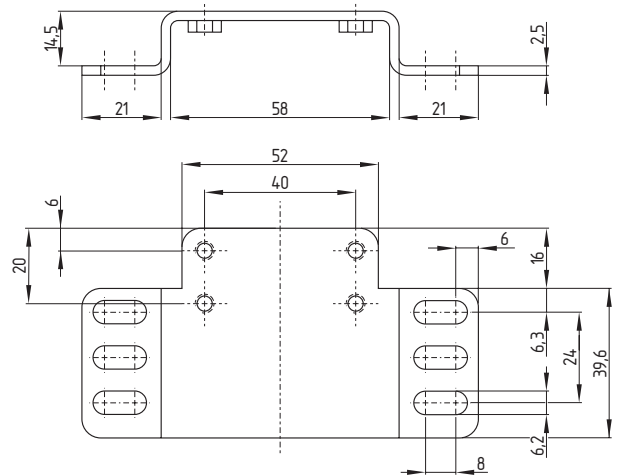
Mounting right-angled to safety guard



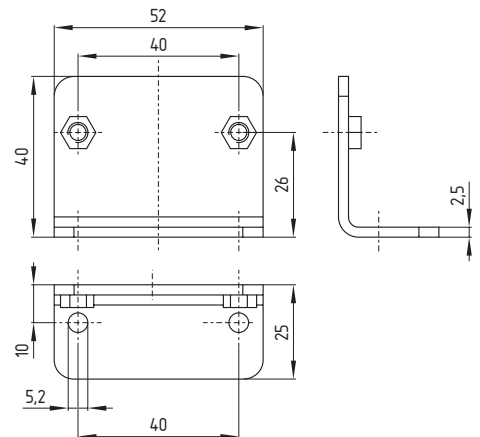
Mounting plate AZ 16/AZM 161



U-profile AZ 16



Mounting angle AZ 16



1. Safety switches with separate actuator / Class 2
1.29 Technical data



	AZ 15 / AZ 16 AZ 16zi	AZ 16-ST AZ 16zi-ST	AZ 17 AZ 17zi
Standards:	IEC/EN 60947-5-1; EN 1088; BG-GS-ET-15		
Enclosure material:	Glass-fibre reinforced thermoplastic, self-extinguishing		
Actuator:	Stainless steel 1.4301		
Protection class:	IP 67 to IEC/EN 60529		
Contact material:	Silver		
Contact type:	Change-over with double break Zb or 2 NC or 3 NC contacts, with galvanically separated contact bridges		Change-over with double break Zb or 2 NC contacts, with galvanically separated contact bridges
Switching system:	⊖ IEC 60947-5-1; ⊕ BG-GS-ET-15; slow action, NC contact with positive break		
Termination:	Screw terminals for max. 2.5 mm ² cables (including conductor ferrules)	Connector M 12 x 1, four pole	Cut clamp (IDC) method 0.75 to 1.0 mm ² , flexible
Rated impulse withstand voltage U _{imp} :	6 kV		4 kV
Rated insulation voltage U _i :	500 V		250 V
Thermal test current I _{th} :	10 A		
Utilisation category:	AC-15; DC-13		AC-15
Rated operating current/voltage I _g /U _g :	4 A/230 VAC; 4 A/24 VDC		4 A/230 V
Max. fuse rating:	6 A gL/gG D-fuse		4 A (slow blow)
Positive break travel:	8 mm		11 mm
Positive break force:	10 N for each NC contact fitted		17 N for each NC contact fitted
Ambient temperature:	- 30 °C ... + 80 °C		
Mechanical life:	> 1 million operations		

