

Safety switches  
with separate actuator  
Class 2

1





## Application

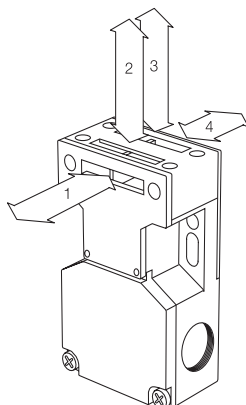
AZ and ST Range safety switches are suitable for sliding, hinged and particularly removable safety guards, which need to be closed to ensure the necessary operational security. They are also suitable for fitting on profile sections and existing equipment.

In combination with AES and AZR range safety control modules (see 10.1 and 10.2), all safety switches with class 2 shown in this chapter achieve Control Category 3 or 4 to EN 954-1.

### Design and mode of operation

On the safety switches with class 2, the switching element is not physically connected to the actuator but functionally brought together or separated for switching. When the guarding device is opened, the actuator is separated from the base unit. In the process, NC contacts are positively opened and NO contacts closed.

A wide range of accessories is available for these safety switches, including various coded actuators, individually coded actuators, also suitable for small radii, lockout tags and various latching devices such as magnets and ball latches. Enclosure rating of all the safety switches is IP 67. The safety switches can be fitted in any desired mounting position.



# 1. Safety switches with separate actuator / Class 2



## Features AZ 15

- 1 contact
- Thermoplastic enclosure
- 4 actuating planes
- With ejection force
- With latching force 30 N or 5 N

## AZ 16

- Up to 3 contacts
- Thermoplastic enclosure
- 4 actuating planes
- With ejection force
- Latching force 30 N or 5 N
- Individual coding possible
- EEx version available

## AZ 17

- 2 contacts
- Thermoplastic enclosure, compact design
- 8 actuating planes
- Latching force 30 N or 5 N
- Cut clamp termination
- Individual coding possible
- Mounting dimensions to EN 50047

## AZ 335

## AZ 355

- Up to 3 contacts
- Metal enclosure
- 8 actuating planes
- Mounting dimensions to EN 50041

## AZ 415

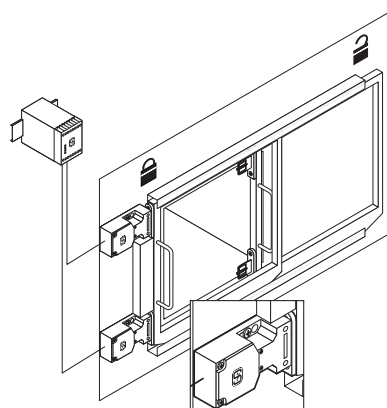
- Up to 6 contacts,
- Up to 3 switch inserts per enclosure
- Metal enclosure
- Robust design
- Adjustable ball latch 0 to 500 N

## ST 14

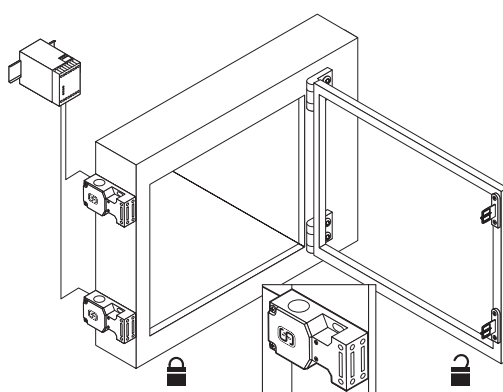
- 2 contacts
- Thermoplastic enclosure
- 4 actuating planes
- For applications with restricted space
- With moulded-in cable
- EEx version available

## Application

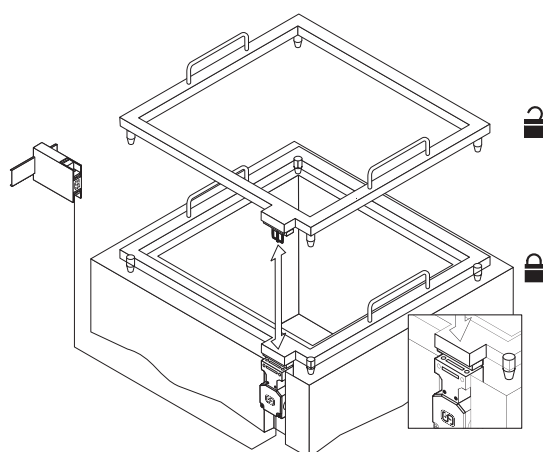
On sliding doors



On hinged doors

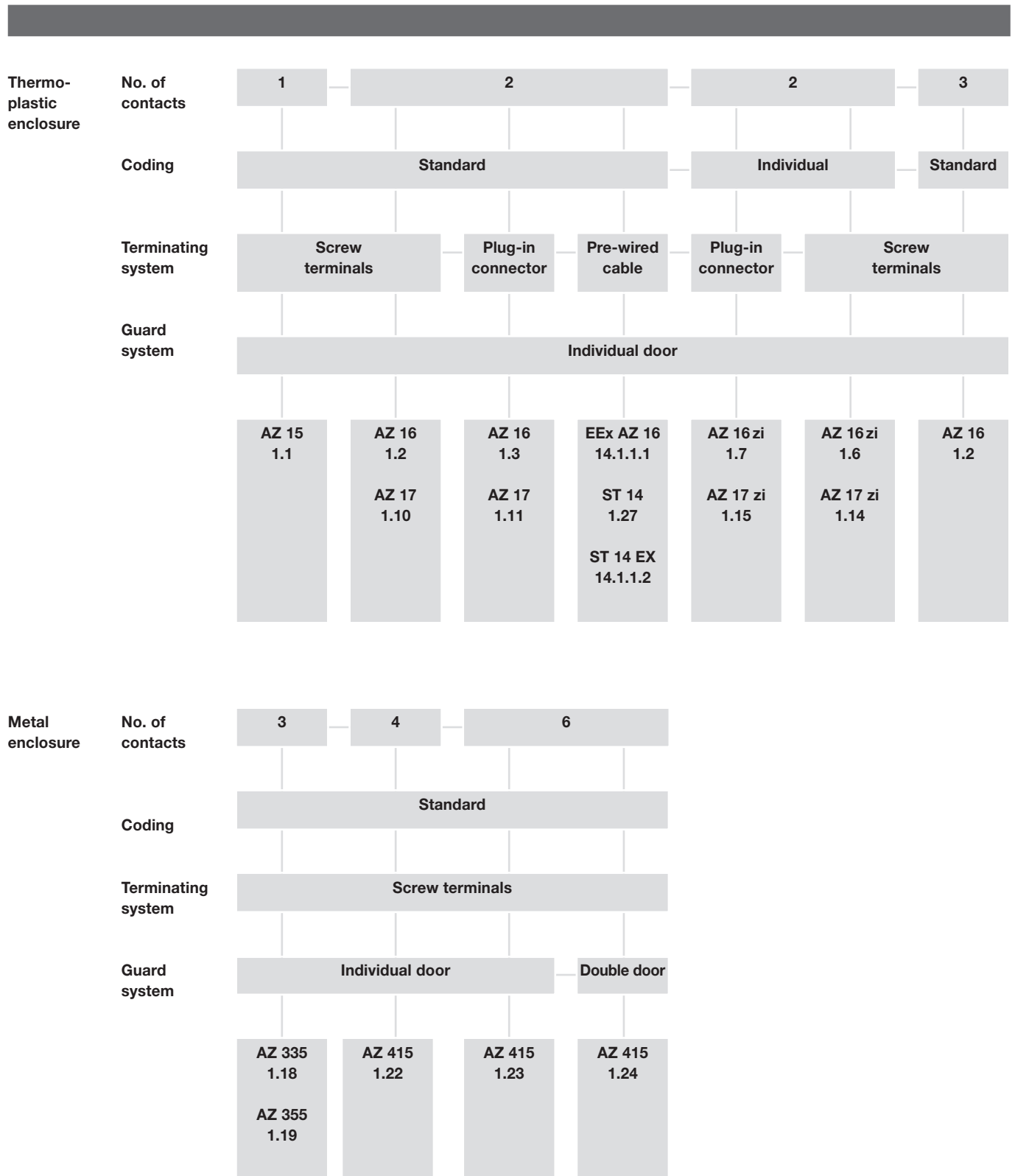


On removable covers



## Note

Technical data for the safety switches listed above are shown in tabular form in 1.29.



# 1. Safety switches with separate actuator / Class 2

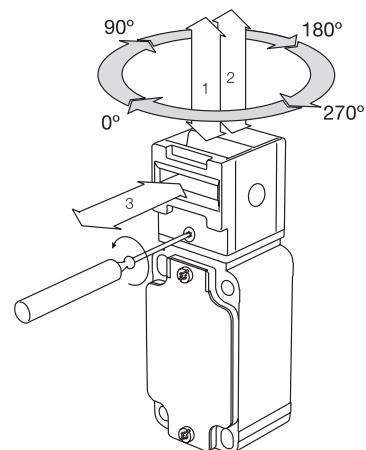
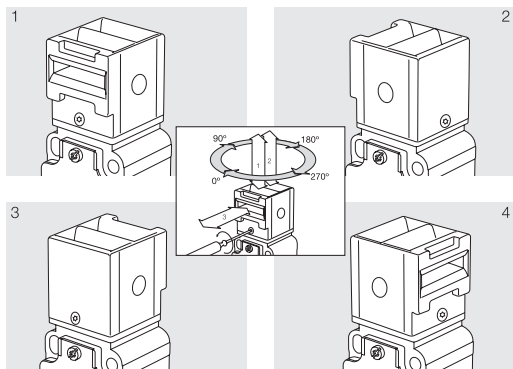
## 1.18 AZ 335 range



### Actuating head

By turning the head in 90° steps, 8 actuating planes are possible. A Torx T10 screwdriver is needed for this purpose.

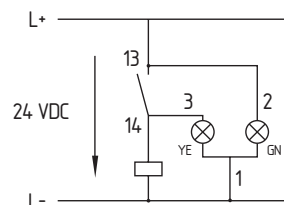
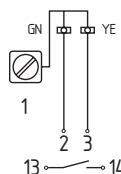
Even when the screw is removed, the head is self-retaining. The switch can thus not be tampered with.



### LED version

Protected against incorrect polarity and voltage spikes, ordering suffix G24

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



### Ordering details

To order, select the part number of the desired switch from the table "Contacts/Switch travel", e.g. safety switch with one NO and one NC contact, overlapping contacts:  
AZ 335-11zük

Actuators and accessories are ordered separately, e.g. straight actuator with rubber mountings: AZ 335/355-B1-2245

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

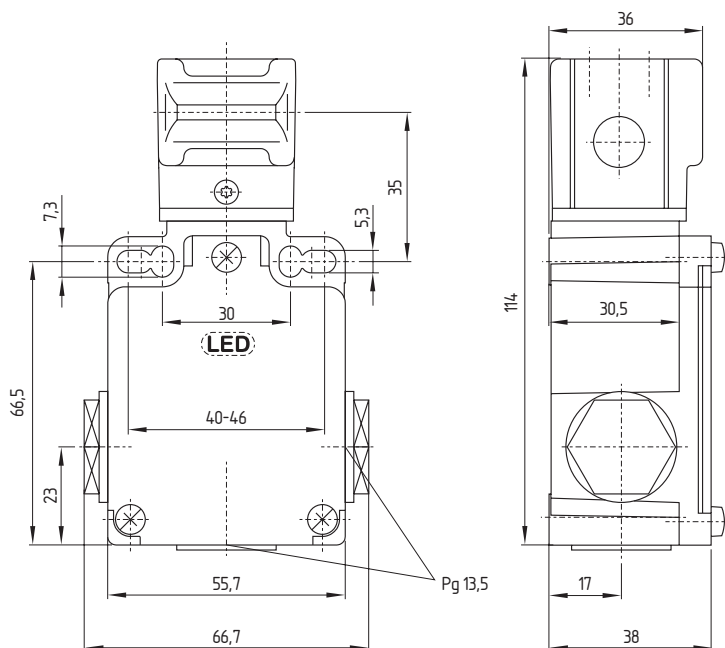
- With M 20 x 1.5 cable entry, ordering suffix -M20
- Available with 1/2" NPT cable entry, ordering suffix -NPT
- Available with M 12 connector with A-Coding, ordering suffix -ST
- With gold-plated contacts (0.3 µm), ordering suffix -1637

### Approvals



# 1. Safety switches with separate actuator / Class 2

## 1.19 AZ 355 range

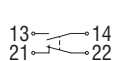


### Features

- Metal enclosure
- Multiple coding
- Long life
- High level of contact reliability with low voltages and currents
- Fixing details to EN 50041
- Three Pg cable entries
- Actuating head can be fitted in 4 positions in 90° steps
- Can be mounted on a flat surface
- Slotted holes in two directions
- Available with LED

### Contacts/ Switch travel

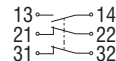
**1 NO**  
**1 NC**



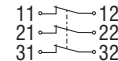
**2 NC**



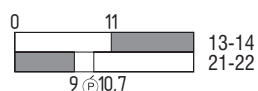
**1 NO**  
**2 NC**



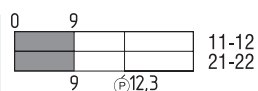
**3 NC**



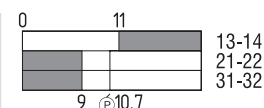
Standard  
version  
Latching  
force 30 N



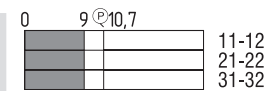
**AZ 355-11zk**



**AZ 355-02zk**

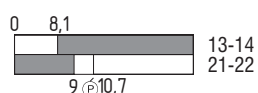


**AZ 355-12zk**  
**AZ 355-12zrk**

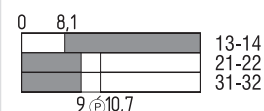


**AZ 355-03zk**  
**AZ 355-03zrk**

With overlap-  
ping contacts



**AZ 355-11zük**



**AZ 355-12zük**

### Notes

Inserted position of actuator = 0 in switch travel diagrams.  
Actuators must be ordered separately.  
A selection of suitable actuators can be found in 1.20.

# 1. 1.19

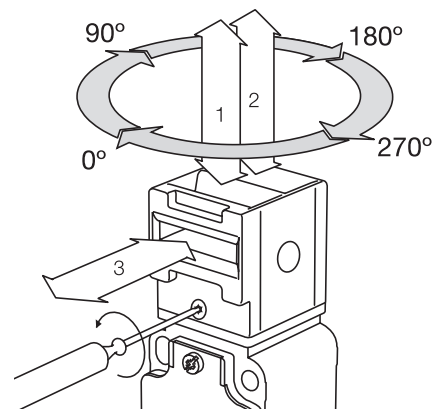
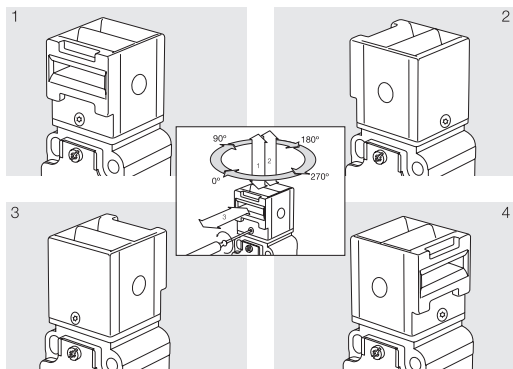
## Safety switches with separate actuator / Class 2 AZ 355 range



### Actuating head

By turning the head in 90° steps, 8 actuating planes are possible. A Torx T10 screwdriver is needed for this purpose.

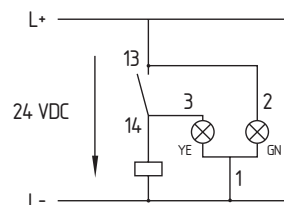
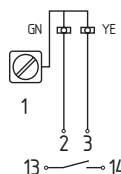
Even when the screw is removed, the head is self-retaining. The switch can thus not be tampered with.



### LED version

Protected against incorrect polarity and voltage spikes, ordering suffix G24

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



### Ordering details

To order, select the part number of the desired switch from the table "Contacts/Switch travel", e.g. safety switch with one NO and one NC contact and LED:  
AZ 355-11zkG24

Actuators and accessories are ordered separately, e.g. straight actuator: AZ 335/355-B1

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 M 20 x 1.5 cable entry, ordering suffix -M20
- Available with 1/2" NPT cable entry, ordering suffix -NPT
- Available with M 12 connector with A-Coding, ordering suffix -ST
- With gold-plated contacts (0.3 µm), ordering suffix -1637

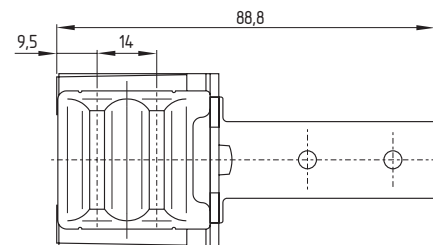
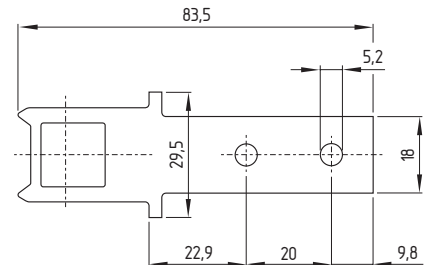
### Approvals





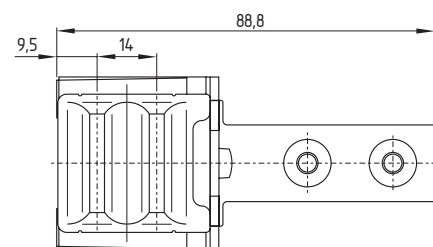
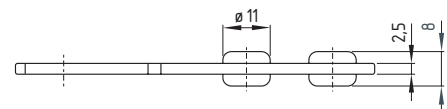
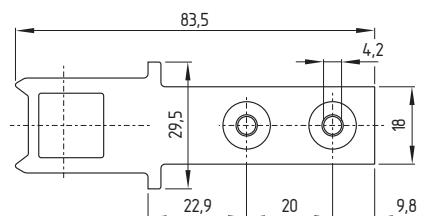
### Straight actuator AZ 335/355-B1

- Particularly suitable for sliding doors



### Straight actuator with rubber mountings AZ 335/355-B1-2245

- Particularly suitable for sliding doors
- Max. 200 Ncm tightening torque for mounting the actuator

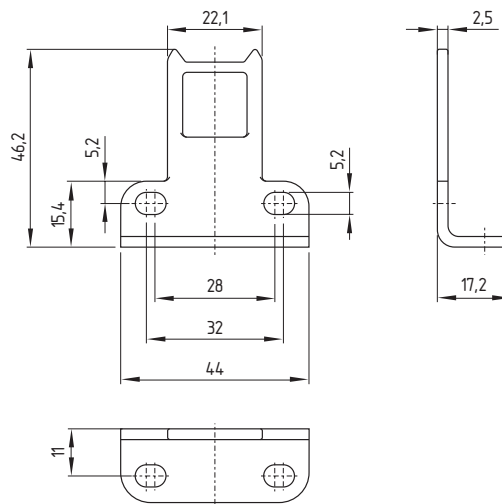






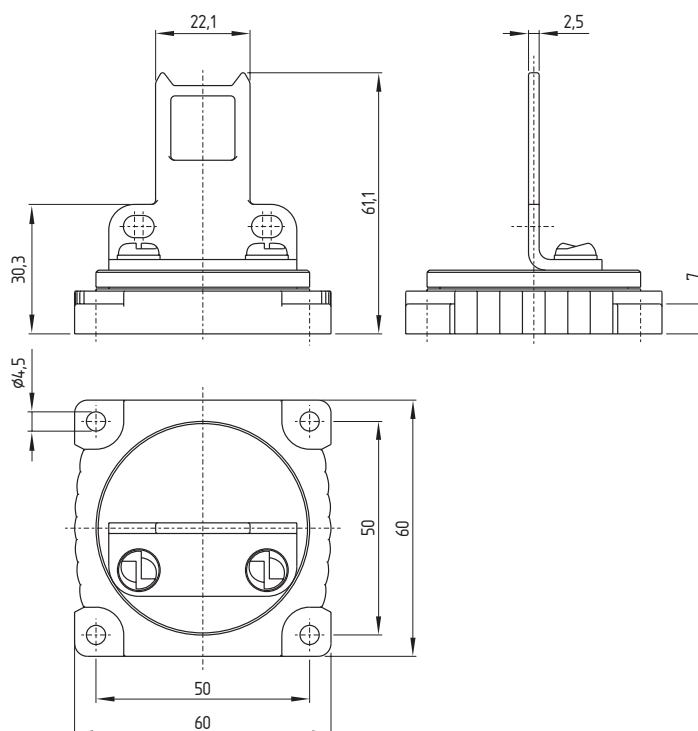
### Angled actuator AZ 335/355-B5

- Particularly suitable for sliding doors



### Angled actuator AZ 335/355-B5-Flex

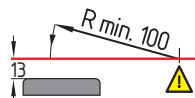
- For sliding and removable doors
- Compensates play of  $\pm 5$  mm in two axes



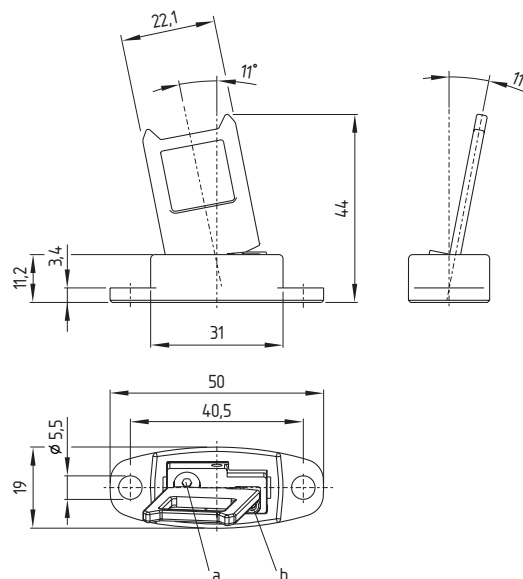


### Adjustable actuator AZ 335/355-B6

- Particularly suitable for hinged doors
- For very small actuating radii
- Actuating radius adjustable, min. 100 mm, using an hexagonal key wrench 2 mm A/F (a or b)

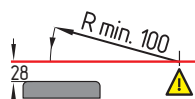


- The axis of the hinge should be 13 mm above the top edge of the safety switch and in the same plane

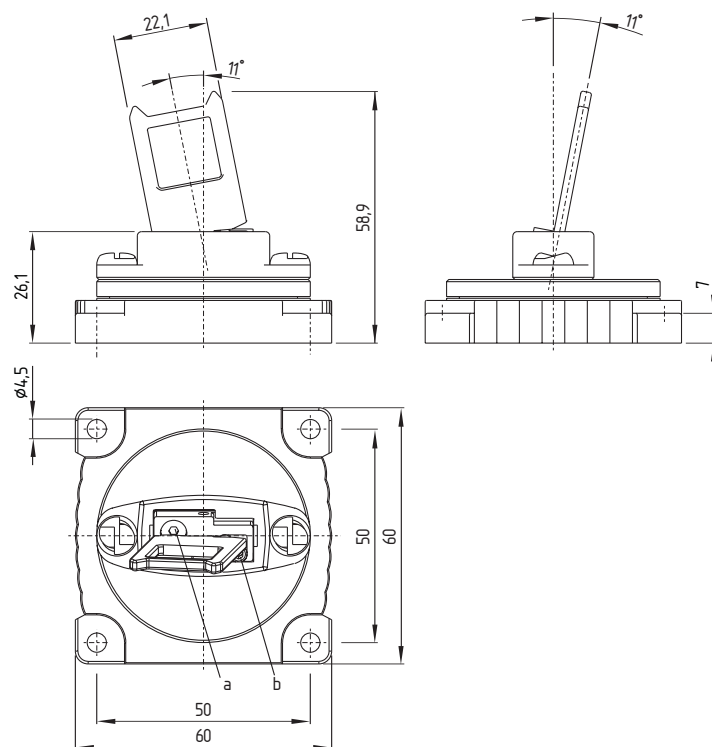


### Adjustable actuator AZ 335/355-B6-Flex

- Particularly suitable for hinged doors
- For very small actuating radii
- Compensates play of  $\pm 5$  mm in two axes
- Actuating radius adjustable, min. 100 mm, using an hexagonal key wrench 2 mm A/F (a or b)



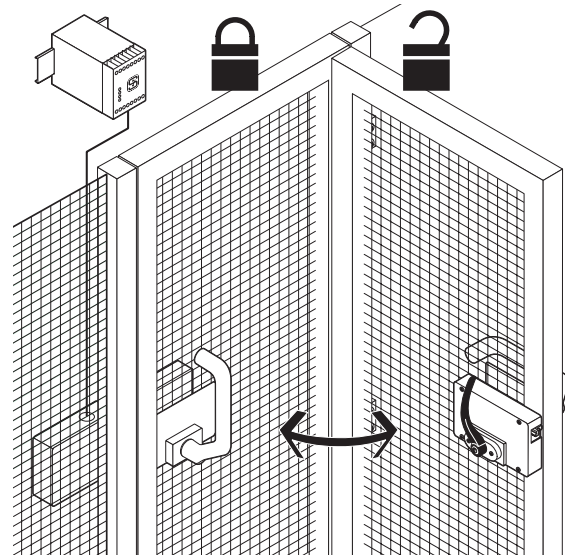
- The axis of the hinge should be 28 mm above the top edge of the safety switch and in the same plane





### Actuator AZ 335/355-B30 with or without emergency handle

- Suitable for all guard types
- No other handle or lever needed on the guard
- Hinge radius not critical
- Latching actuating handle
- Emergency handle to open the guard from within the guarded area

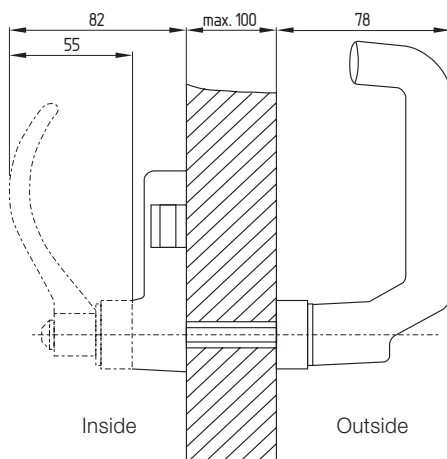


### Actuator AZ 335/355-B30 with or without emergency handle

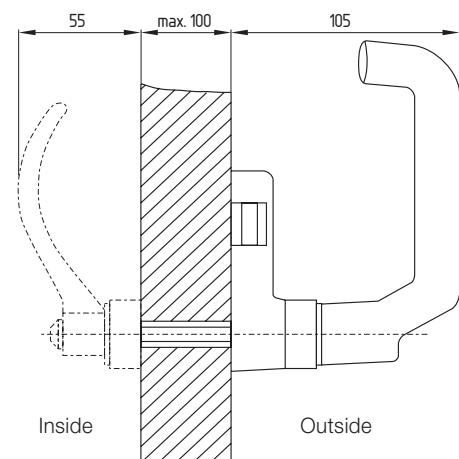
#### Mounting details

- SZ 415 lockout tag to prevent unintentional closing, see 1.26
- Shearing force 25,000 N
- Mounting plates to simplify mounting, see 1.21

#### Actuator mounted inside



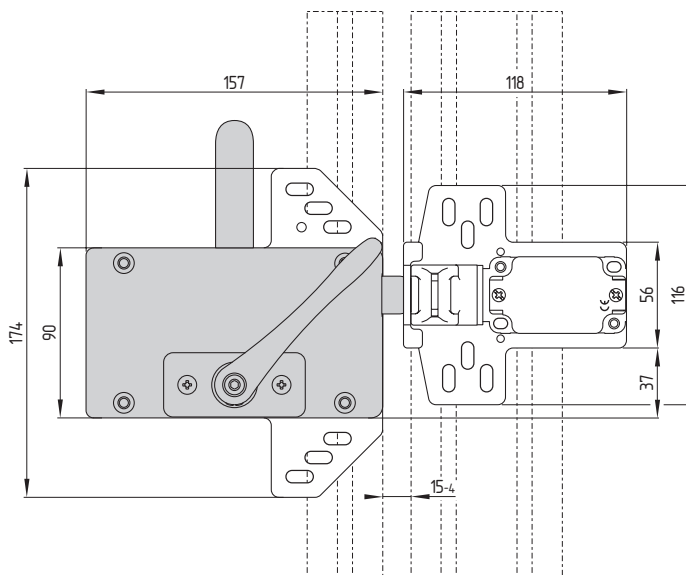
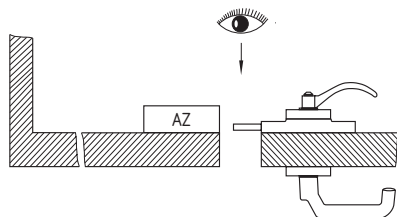
#### Actuator mounted outside





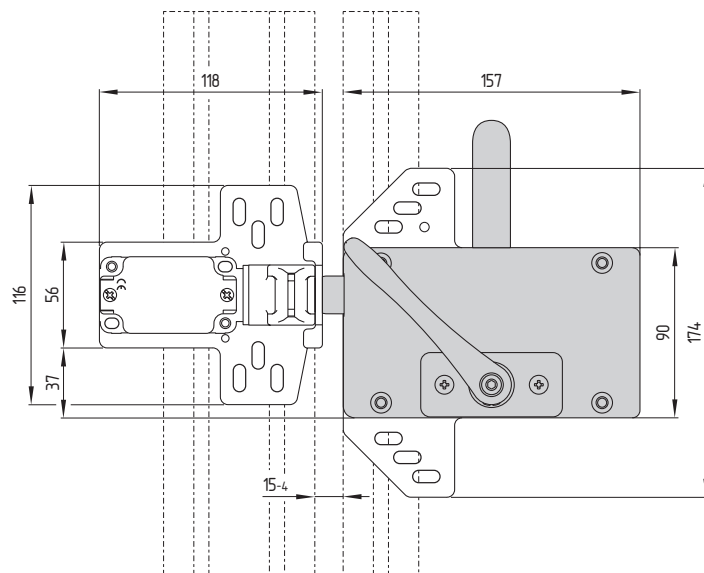
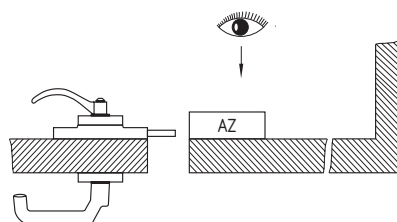
### Actuators with emergency handles AZ 335/355-B30-01

- Actuator mounted inside
- AZ 335/355-B30-01:  
Door hinge on right-hand side
- For door thickness max. 100 mm
- Outline drawing together with AZ 335
- Latching handle



### Actuators with emergency handles AZ 335/355-B30-02

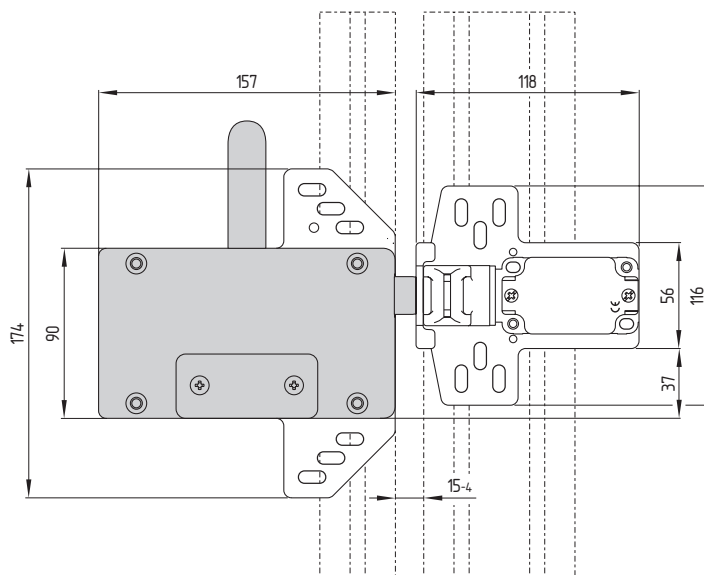
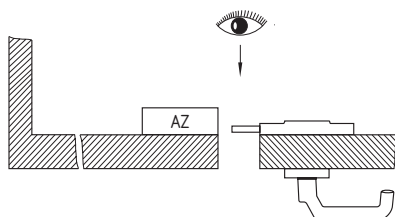
- Actuator mounted inside
- AZ 335/355-B30-02:  
Door hinge on left-hand side
- For door thickness max. 100 mm
- Outline drawing together with AZ 335
- Latching handle





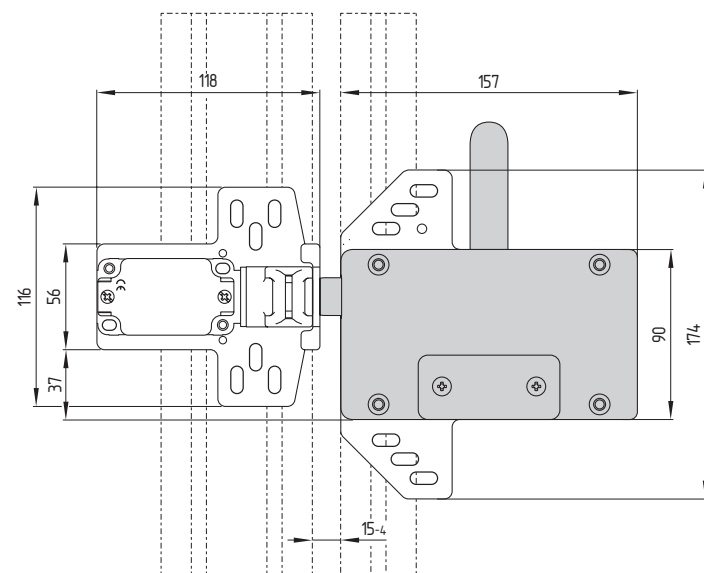
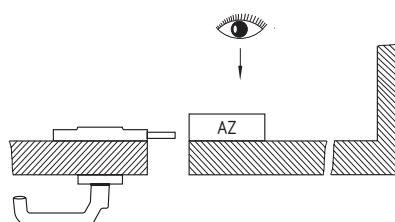
### Actuators without emergency handles AZ 335/355-B30-03

- Actuator mounted inside
- AZ 335/355-B30-03:  
Door hinge on right-hand side
- For door thickness max. 100 mm
- Outline drawing together with AZ 335
- Latching handle



### Actuators without emergency handles AZ 335/355-B30-04

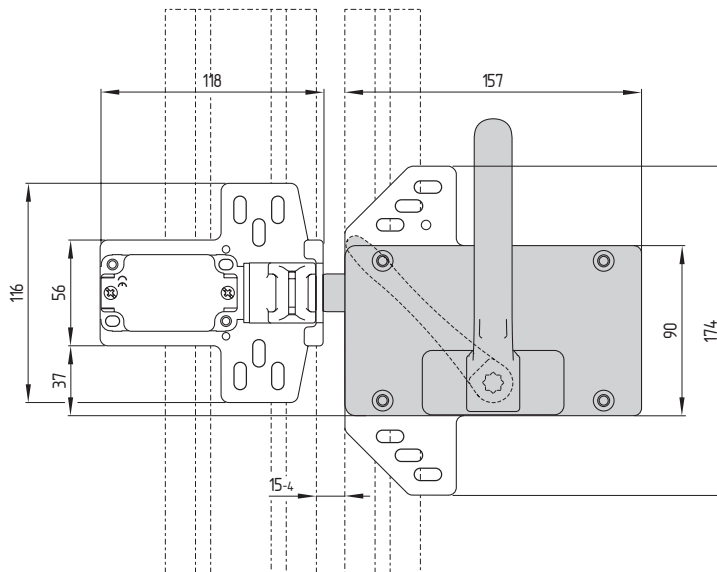
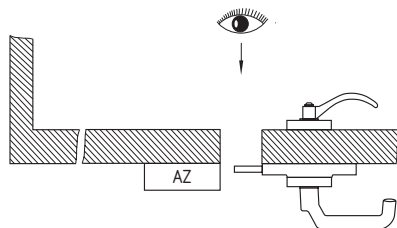
- Actuator mounted inside
- AZ 335/355-B30-04:  
Door hinge on left-hand side
- For door thickness max. 100 mm
- Outline drawing together with AZ 335
- Latching handle





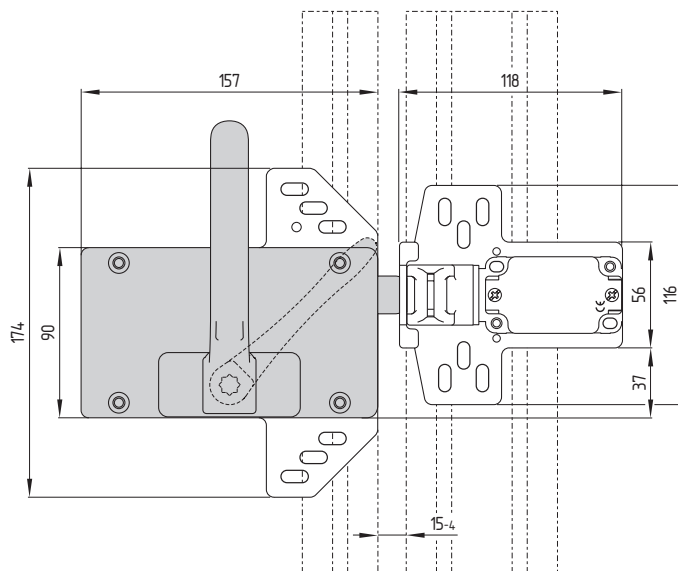
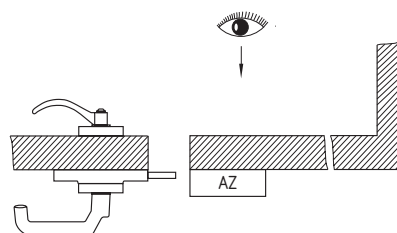
### Actuators with emergency handles AZ 335/355-B30-05

- Actuator mounted outside
- AZ 335/355-B30-05:  
Door hinge on right-hand side
- For door thickness max. 100 mm
- Outline drawing together with AZ 335
- Latching handle



### Actuators with emergency handles AZ 335/355-B30-06

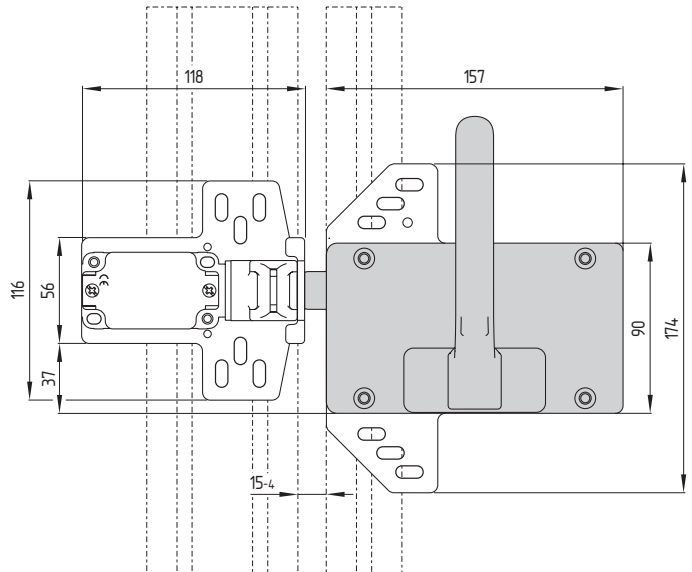
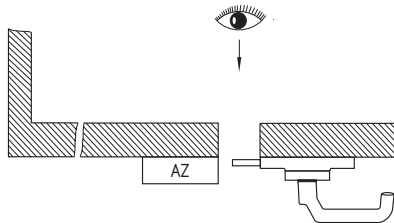
- Actuator mounted outside
- AZ 335/355-B30-06:  
Door hinge on left-hand side
- For door thickness max. 100 mm
- Outline drawing together with AZ 335
- Latching handle





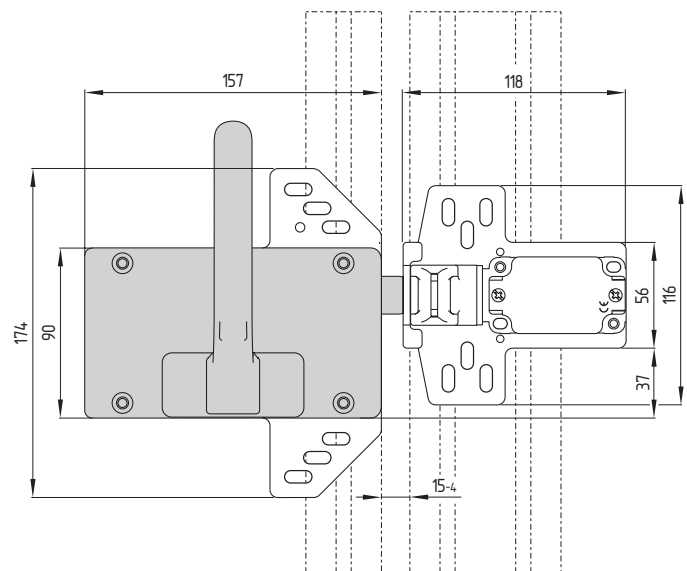
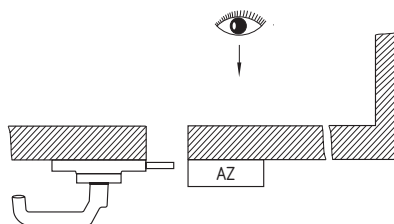
### Actuators without emergency handles AZ 335/355-B30-07

- Actuator mounted outside
- AZ 335/355-B30-07:  
Door hinge on right-hand side
- For door thickness max. 100 mm
- Outline drawing together with AZ 335
- Latching handle



### Actuators without emergency handles AZ 335/355-B30-08

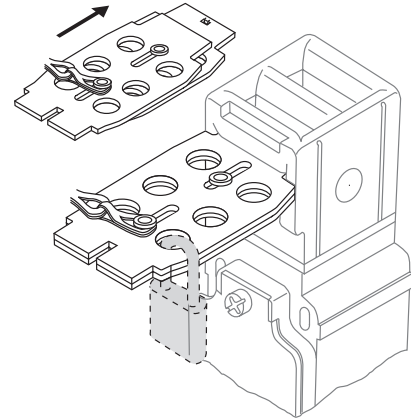
- Actuator mounted outside
- AZ 335/355-B30-08:  
Door hinge on left-hand side
- For door thickness max. 100 mm
- Outline drawing together with AZ 335
- Latching handle





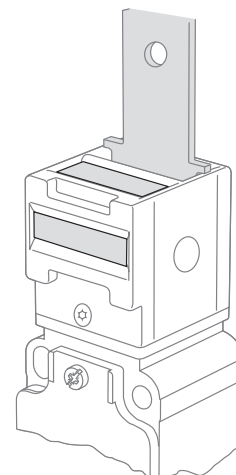
### Lockout tag SZ 16/335

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



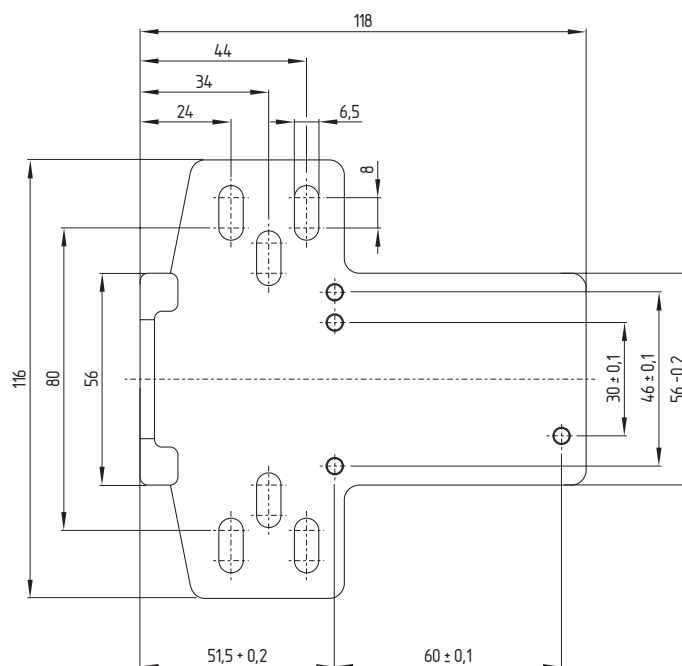
### Slot sealing plug AZ 335/355-1990

- To cover unused actuator slots
- For protection against the ingress of coarse dirt
- Simple clip-in mounting
- Quantity required: 2 per switch





- For simple mounting of AZ 335/355 on profile systems
- Thickness of plate 5 mm



- For simple mounting of a door handle of the AZ/AZM 415-B30 on profile systems, e.g. 40, 60 or 80 mm wide
- Thickness of plate 5 mm

