

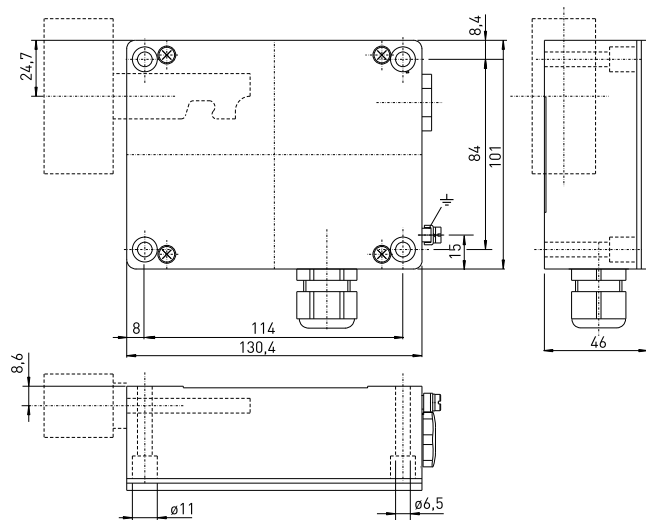
## Ex solenoid interlocks

### // Series EEx AZM 415

#### // EEX AZM 415



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#### Features/Options

- Ex zone 1 and 2, as well as 21 and 22
- Two Ex switch inserts in one enclosure
- Spring-to-lock or power-to-lock principle
- Problem-free opening of stressed doors by means of bell-crank system
- High holding force 3.500 N
- Ball catch
- Special version only for equipment category 3D, available for dust Ex zone 22
- Inmetro approval for Brazil to be ordered separately

#### Technical data

Standards	IEC/EN 60947-5-1; EN 1088; EN 50014; EN 50018; EN 50019; EN 50281-1-1; EN 500081-1-1
Enclosure	aluminium die casting, enamelled
Cover	steel, enamelled
Actuator/locking bolt	metal zinc/aluminium
Switch insert	Ex 95
Protection class	IP 67 according to EN 60529
Contact material	silver
Switching system	slow action, positive break NC contact ⊖
Switching elements	change-over contact with double break Zb, galvanically separated contact bridges
Termination	M3 screw clamps
Cable section	max. 2.5 mm <sup>2</sup> (incl. conductor ferrules)
Cable entries	2 x M20 x 1.5 for cable section 5 ... 9 mm
Cable length	-
U <sub>imp</sub>	4 kV
U <sub>i</sub>	250 V
I <sub>the</sub>	6 A
I <sub>e</sub> /U <sub>e</sub>	6 A/250 VAC; 40 mA/24 VDC
Utilisation category	AC-15
Max. fuse rating	6 A gL/gG D-fuse
U <sub>s</sub>	24 VDC
Magnet	100 % ED
Unlocking	100 % ED
Power consumption	max. 12 W
Ambient temperature	-20 °C ... +55 °C
Mechanical life	> 1 million operations
Holding force F	max. 3500 N
Holding force of integrated ball catch	120 - 400 N, adjustable
Ex certification	⊕ II 2G EEx dem IIC T6, II 2D IP67 T80°C

#### Approvals

DMT 02 ATEX E 255 X



#### Contact variants: switch travel/contacts

	Spring-to-lock principle	Power-to-lock principle
2 NC/2 NO contact	<p>EEx AZM 415 2Ö/2S-R</p>	<p>EEx AZM 415 2Ö/2S-A</p>

#### Ordering details

EEx AZM 415 1Ö/1S-R-3D

Equipment Categ. 3D, dust Ex zone 22  
R Spring-to-lock principle, (A Power-to-lock principle)  
Contact type 2 NC/2 NO contacts  
Series  
Solenoid interlock  
Ex certified component

# Ex solenoid interlocks

## // Series EEx AZM 415, variants

### Features/Options

#### EEx AZM 415-FE

- With auxiliary unlocking for service, maintenance, etc.
- Unlocking with M5 triangular key

#### EEx AZM 415-TE

- With emergency release, actuation in case of emergency
- Unlocking by pressing a push-button
- Mounting of the device inside a hazardous area

#### EEx AZM 415-TE-FE

- With emergency release and auxiliary unlocking
- Emergency release by pressing a push-button
- Auxiliary unlocking with M5 triangular key

### Features/Options

- Mounting of the device inside a hazardous area

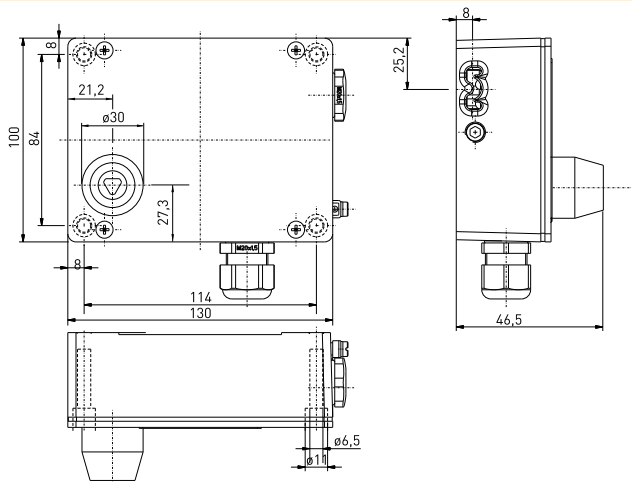
#### EEx AZM 415-TEI

- With emergency release, actuation in case of emergency
- Unlocking by pressing a push-button
- Mounting of the device outside a hazardous area

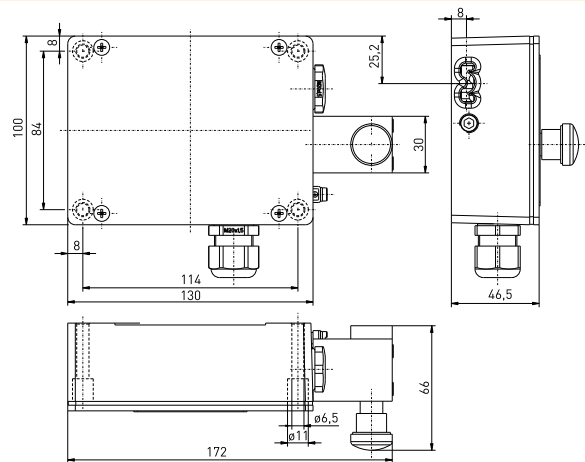
#### EEx AZM 415-TEI-FE

- With emergency release and auxiliary unlocking
- Unlocking by pressing a push-button
- Auxiliary unlocking with M5 triangular key
- Mounting of the device outside a hazardous area

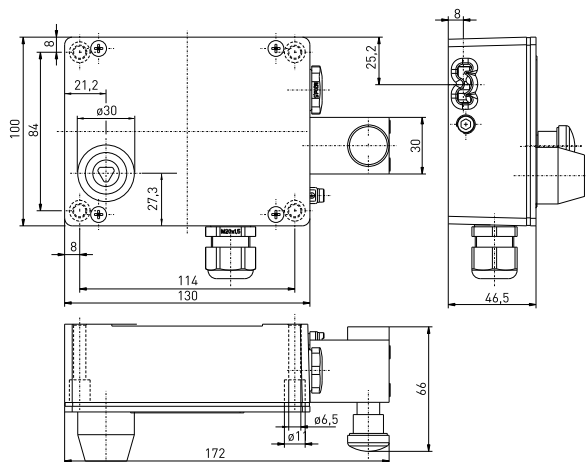
## // EEx AZM 415-FE



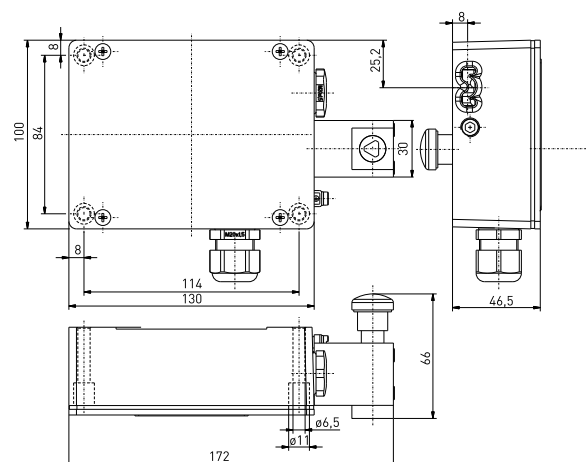
## // EEx AZM 415-TE



## // EEx AZM 415-TE-FE



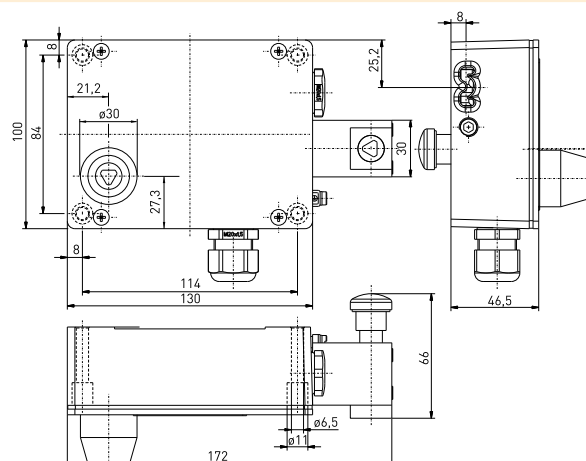
## // EEx AZM 415-TEI



## // EEx AZM 415-TEI-FE



## // EEx AZM 415-TEI-FE



# Ex solenoid interlocks

## // Series EEx AZP 415

### Features/Options

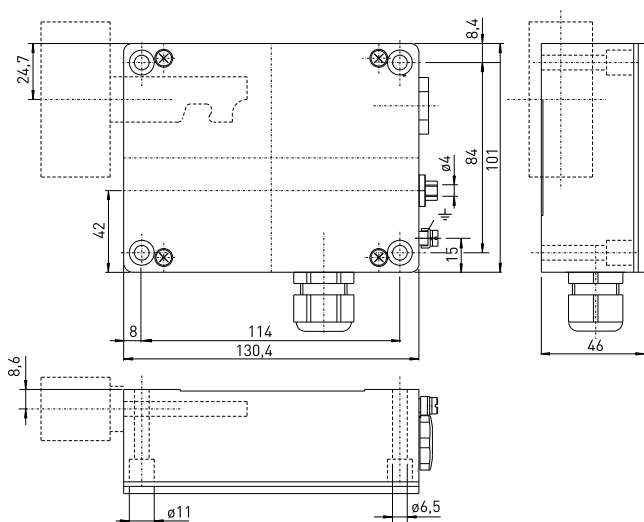
- Ex zone 1 and 2, as well as 21 and 22
- Two Ex switch inserts in one enclosure
- Release by means of pneumatic cylinder
- Problem-free opening of stressed doors by means of bell-crank system
- High holding force 3,500 N
- Ball catch
- Special version only for equipment category 3D, available for dust Ex zone 22
- Inmetro approval for Brazil to be ordered separately

### // EEX AZP 415



### Technical data

Standards	IEC/EN 60947-5-1; EN 1088; EN 50014; EN 50018; EN 50019; EN 50281-1-1; EN 500081-1-1
Enclosure	aluminium die casting, enamelled
Cover	steel, enamelled
Actuator/locking bolt	metal zinc/aluminium
Switch insert	Ex 95
Protection class	IP 67 according to EN 60529
Contact material	silver
Switching system	slow action, positive break NC contact ⊖
Switching elements	change-over contact with double break Zb, galvanically separated contact bridges
Termination	M3 screw clamps
Cable section	max. 2.5 mm <sup>2</sup> (incl. conductor ferrules)
Cable entries	2 x M20 x 1.5 for cable section 5 ... 9 mm
Cable length	-
U <sub>imp</sub>	4 kV
U <sub>i</sub>	250 V
I <sub>the</sub>	6 A
I <sub>e</sub> /U <sub>e</sub>	6 A/250 VAC; 40 mA/24 VDC
Utilisation category	AC-15
Max. fuse rating	6 A gL/gG D-fuse
U <sub>s</sub>	-
Magnet	-
Unlocking	Pneumatic cylinder, max. 3 - 7 bar permitted
Power consumption	-
Ambient temperature	-20 °C ... +65 °C
Mechanical life	> 1 million operations
Holding force F	max. 3500 N
Holding force of integrated ball catch	120 - 400 N, adjustable
Ex certification	⊕ II 2G EEx de IIC T6, II 2D IP67 T80°C
Approvals	DMT 02 ATEX E 255 X



### Contact variants: switch travel/contacts

	Actuation with air supply off
2 NC/2 NO contact	<p>EEx AZP 415 2Ö/2S</p>

### Ordering details

EEx AZP 415 1Ö/1S-3D
Equipment Categ. 3D, dust Ex zone 22
Contact type 2 NC/2 NO contacts
Series
Solenoid interlock
Ex certified component

## Ex solenoid interlocks

### // Series EEx AZM/AZP 415, actuators

#### Features/Options

##### AZM 415-B1

- For sliding guards
- Actuator with return spring
- Tolerates up to max. 6 mm overtravel

##### AZM 415-B2

- Especially suitable for sliding and hinged guards
- Actuating radius on hinged guards  
b = 250 mm, axial misalignment x = 36 mm

##### AZM 415-B3

- Especially suitable for sliding and hinged guards

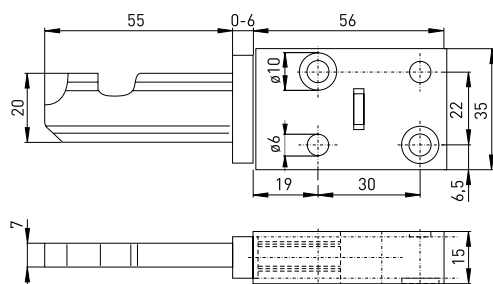
#### Features/Options

- Actuating radius on hinged guards  
a = 250 mm, axial misalignment x = 36 mm

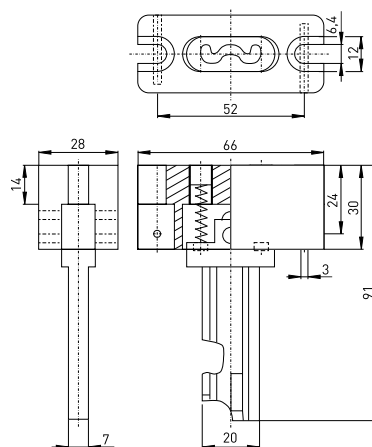
#### Note

- The actuators are not included with the switches.
- Removal of the actuator can be prevented by fitting dowel pins in the holes provided.
- The distance between the flange of the actuator and the switch enclosure must be less than 3 mm when the actuator is inserted.

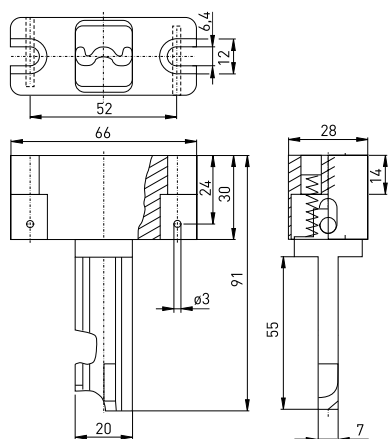
### // Straight actuator AZM 415-B1



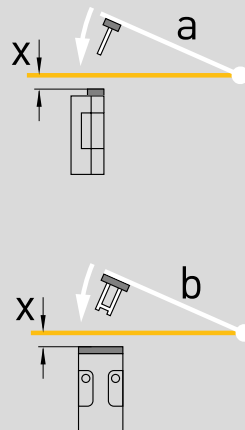
### // Flexible actuator AZM 415-B2



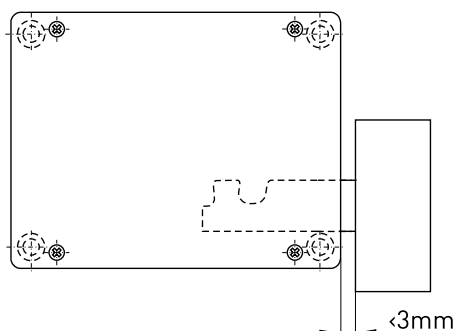
### // Flexible actuator AZM 415-B3



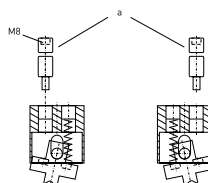
### // Actuating radius



### // Distance between actuator/enclosure



- The axis of the hinge should be x mm above the top edge of the safety switch and in the same plane
- a Actuating radius to the plane of the actuator
- b Actuating radius in line with the plane of the actuator
- x Axial misalignment



## Ex solenoid interlocks

### // Series EEx AZM/AZP 415, actuators

#### Features/Options

##### AZM 415-B4pS

- Suitable for all types of guards, no further handles required
- Hinge radius not to be observed
- Shearing force 25,000 N
- Mounting plate to simplify mounting, see accessories
- Lockout tag SZ 415-B4pS to prevent unintentional closing, see accessories

##### AZM 415-B30

- Suitable for all guard types
- Hinge radius not to be observed
- No further handles/levers required on the guard

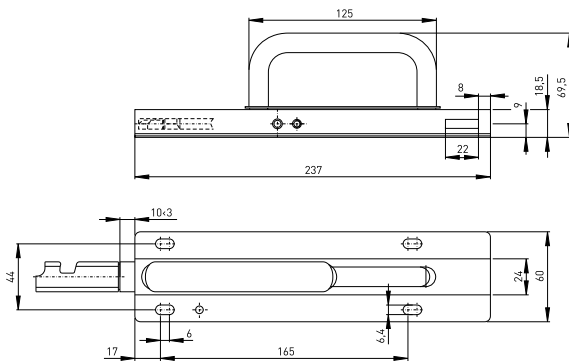
#### Features/Options

- Latching actuating handle
- Emergency handle to open guard from within the guarded area:
  1. Press push-button, 2. Turn emergency handle
- Shearing force 25,000 N
- Lockout tag SZ 415-1 or SZ 415-2 to prevent unintentional closing
- For door thickness max. 100 mm

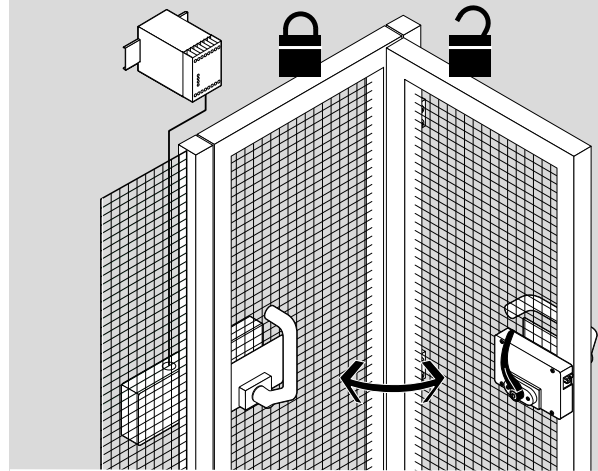
##### AZM 415-B30-01

- With emergency handle, door hinge on right-hand side
- Actuator mounted inside, see yellow marking in drawing
- Only to be used in combination with EEx AZM 415-20/25-TEI

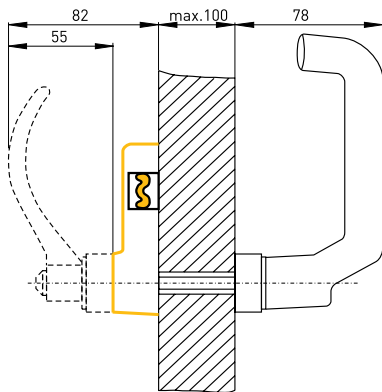
### // Actuator AZM 415-B4pS with grip



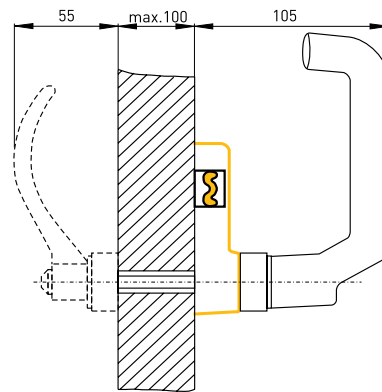
### // Actuator AZM 415-B30



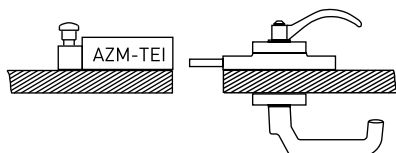
### // Actuator mounted inside



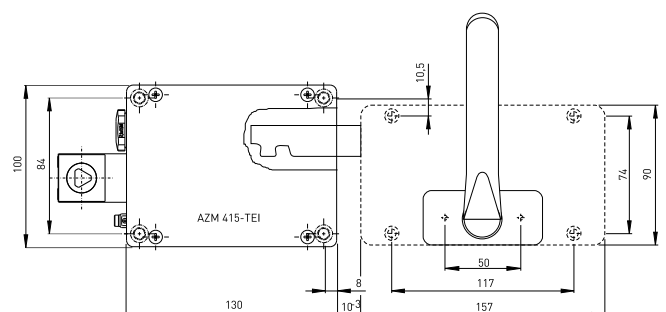
### // Actuator mounted outside



### // Mounting AZM 415-B30-01



### // Actuator AZM 415-B30-01



## Ex solenoid interlocks

### // Series EEx AZM/AZP 415, actuators

#### Features/Options

##### AZM 415-B30-02

- Actuator mounted inside, see yellow marking in drawing page 44
- With emergency handle, door hinge on left-hand side
- Only to be used in combination with EEx AZM 415-2Ö/2S-TEI

##### AZM 415-B30-03

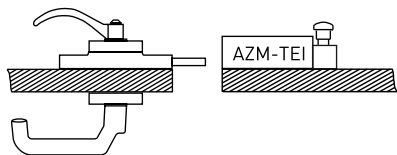
- Actuator mounted inside, see yellow marking in drawing page 44
- Door hinge on right-hand side

#### Features/Options

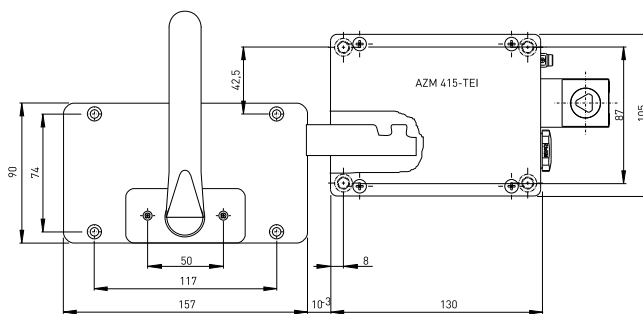
##### AZM 415-B30-04

- Actuator mounted inside, see yellow marking in drawing page 44
- Door hinge on left-hand side

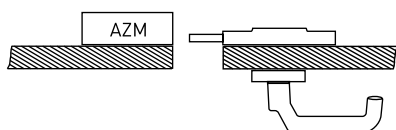
### // Mounting AZM 415-B30-02



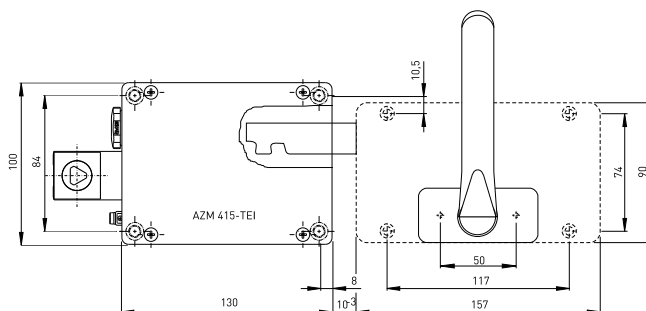
### // Actuator AZM 415-B30-02



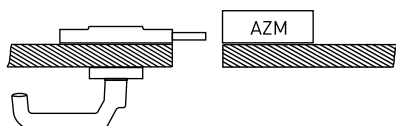
### // Mounting AZM 415-B30-03



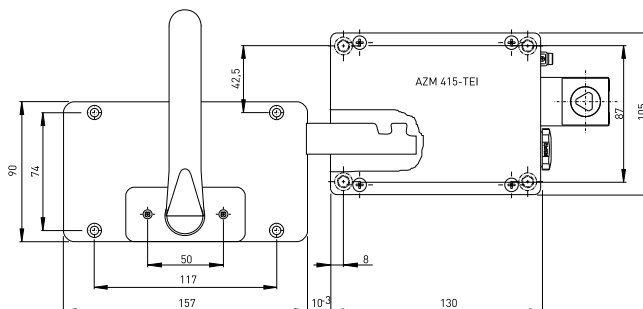
### // Actuator AZM 415-B30-03



### // Mounting AZM 415-B30-04



### // Actuator AZM 415-B30-04



## Ex solenoid interlocks

### // Series EEx AZM/AZP 415, actuators

#### Features/Options

##### AZM 415-B30-05

- Actuator mounted outside, see yellow marking in drawing page 44
- Only to be used in combination with EEx AZM 415-2Ö/2S-TE
- Door hinge on right-hand side

##### AZM 415-B30-06

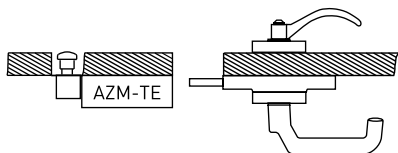
- Only to be used in combination with EEx AZM 415-2Ö/2S-TE
- Actuator mounted outside, see yellow marking in drawing page 44
- Door hinge on left-hand side

#### Features/Options

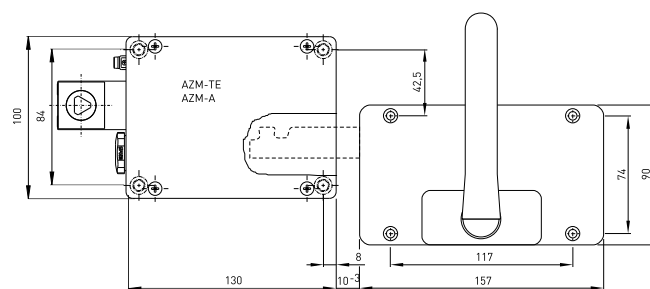
##### AZM 415-B30-07

- Actuator mounted outside, see yellow marking in drawing page 44
- Door hinge on right-hand side

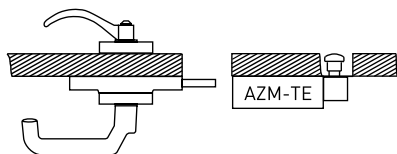
### // Mounting AZM 415-B30-05



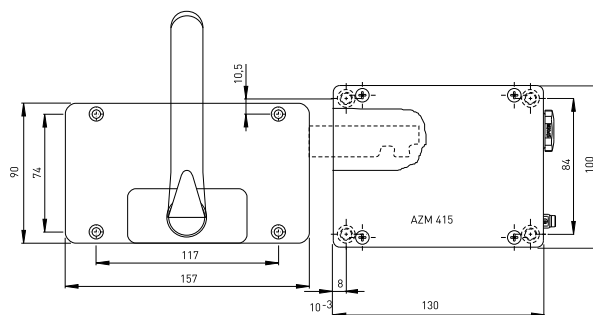
### // Actuator AZM 415-B30-05



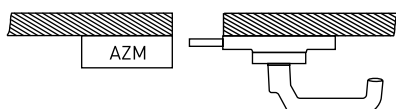
### // Mounting AZM 415-B30-06



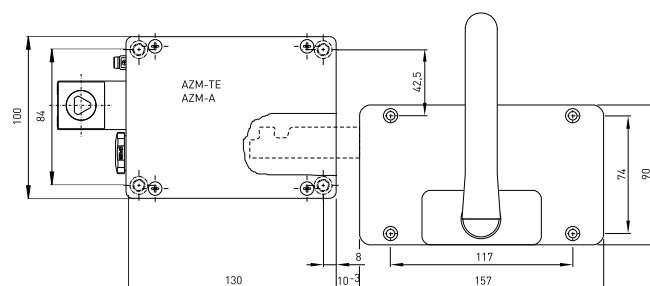
### // Actuator AZM 415-B30-06



### // Mounting AZM 415-B30-07



### // Actuator AZM 415-B30-07



# Ex solenoid interlocks

## // Series EEx AZM/AZP 415, actuators and accessories

### Features/Options

#### AZM 415-B30-08

- Actuator mounted outside, see yellow marking in drawing page 44
- Door hinge on left-hand side

#### Lockout tag SZ 415-1/-2

- To prevent inadvertent closing, e.g. during maintenance, by preventing actuating of the switch
- Suitable for mounting inside and outside the hazardous area
- SZ 415-1 for versions: AZM 415-B30-01, -03, -06 and -08
- SZ 415-2 for versions: AZM 415-B30-02, -04, -05 and -07
- Shown version SZ 415-1, version SZ 415-2 mirror-image

### Features/Options

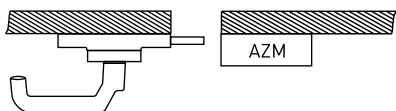
#### Lockout tag SZ 415-B4pS

- For actuator AZM 415-B4pS
- To prevent inadvertent closing, e.g. during maintenance, by preventing actuating of the switch
- With chain to fix on actuator, length of chain 500 mm

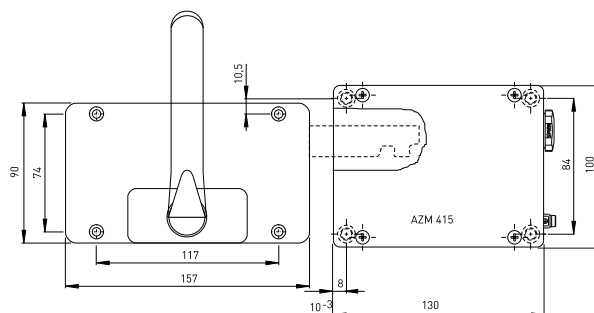
#### Mounting plate MP

- For simple mounting on profile systems, e.g. 40, 60 or 80 mm wide
- Thickness of plate 5 mm
- MP AZM 415-22: Mounting of AZM 415 or AZP 415
- MP AZM 415-B30: Mounting of a door or an emergency handle

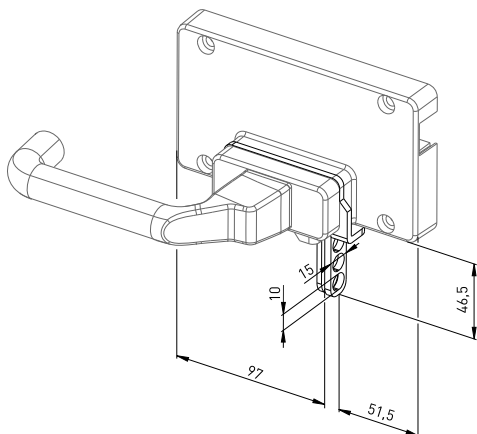
## // Mounting AZM 415-B30-08



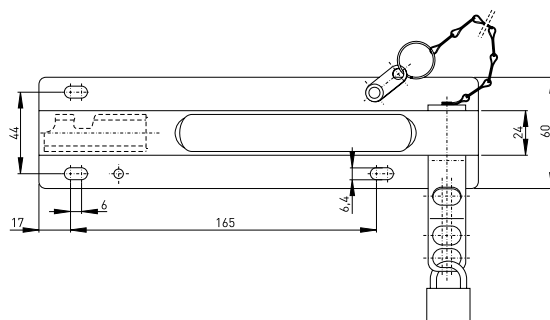
## // Actuator AZM 415-B30-08



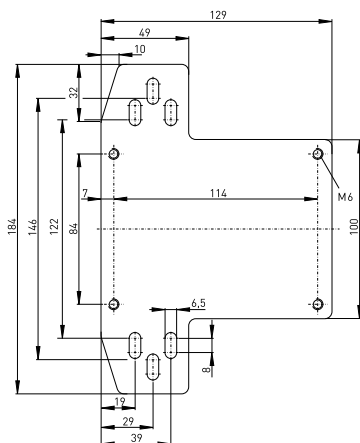
## // Lockout tag SZ 415-1/-2



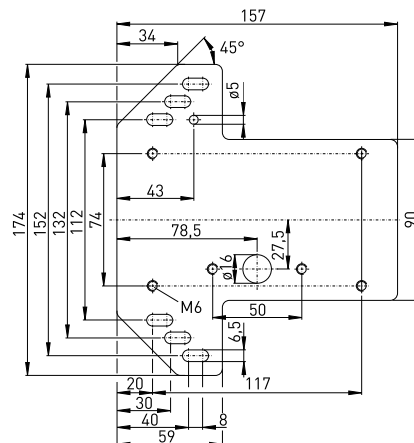
## // Lockout tag SZ 415-B4pS



## // Mounting plate MP AZM 415-22



## // Mounting plate MP AZM 415-B30





## Ex solenoid interlocks

### // Series EEx AZM/AZP 415, accessories

#### Features/Options

##### Mounting plate MP

- For simple mounting on profile systems, e.g. 40, 60 or 80 mm wide
- Thickness of plate 5 mm
- Mounting plate MP AZM 415-B4pS: Mounting of AZM 415-B4pS

### // Mounting plate MP AZM 415-B4pS

