

## Safety switchgear



SAFE SWITCHGEAR FOR DEMANDING AND  
CRITICAL APPLICATIONS

// Control Technology / Explosion Protection





#### 4 The Company

#### PRODUCTS



9 Safety switches with separate actuator



13 Safety sensors



17 Solenoid interlocks



21 Safety switches for hinged guards



25 Position switches with safety function



33 Command devices



35 Emergency pull-wire switches



43 Safety foot switches

STEUTE SCHALTGERÄTE IN LÖHNE  
SAFE SWITCHGEAR FOR DEMANDING AND CRITICAL APPLICATIONS





Our location: A good place to live and to work. Löhne, Westphalia, Germany. Embedded between the »Wiehengebirge« and the »Teutoburger Wald«. This is the location of steute Schaltgeräte GmbH & Co. KG. Here, switchgear is designed and produced for explosion protection, medical equipment and control technology.

The industrial culture of Westphalia is mostly characterised by middle size companies; the region is also the home of many hidden champions and world-market leaders, specialist machine and system manufacturers, as well as electronic and connecting technology.

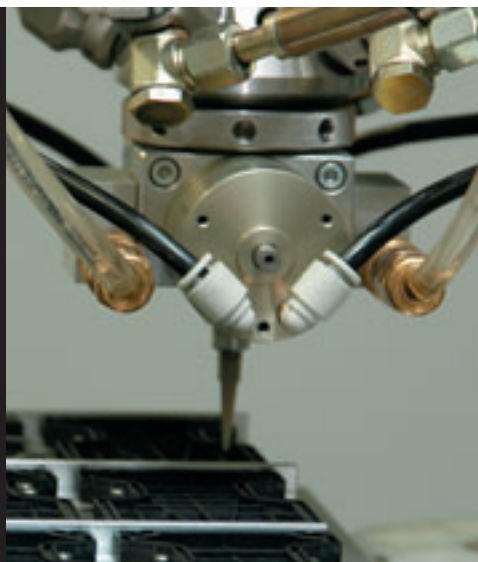
This means we have many important suppliers, customers and partners practically »on our doorstep«. Even so, our employees travel a great deal all over the world.

This is because renowned companies in all industrial markets use switchgear by steute when the focus is on high quality and availability. When they appreciate cooperating with suppliers who can adapt flexibly to their requests.

Historians know our region as the area where the Battle of Varus took place in the year 9 AD. About 1700 years later, the Treaty of Westphalia marked the end of the Thirty Years' War. Gourmets love Westphalian sausage, walkers the beautiful landscape. Briefly: it's a good place to live. It's also a good place to work.



## STEUTE SWITCHGEAR MEETS THE HIGHEST QUALITY REQUIREMENTS



Today, the company offers a homogenous product range, drawing on its wide know-how and characterised by a high degree of technological synergy.

180 employees attentively develop and manufacture electrical and electronic components for high-standard and explosive safety applications. These applications comply with established international directives, standards and regulations. In this context, key significance is attributed to a close cooperation with technical certification institutions.

With its high standards and specific orientation, steute lives and breathes the following three QM systems:

- DIN EN ISO 9001: 2000
- DIN EN ISO 13485: 2003
- Certificate of Quality Assurance acknowledgement in accordance with the 94/9/EC Directive (ATEX)

On the following pages you will find an overview of our comprehensive range of safety switchgear for industrial and hazardous areas for zones 1 and 2, as well as 21 and 22. Each of which can be modified in accordance with customer-specific requirements.

Talk to us. Let us help you find what you are looking for.

**The steute team.**



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## Safety switchgear with separate actuator

Thermoplastic enclosure

// Series ST 14 / EEx ST 14  
from page 10

// Series ES 95 AZ / EEx 95 AZ  
from page 10

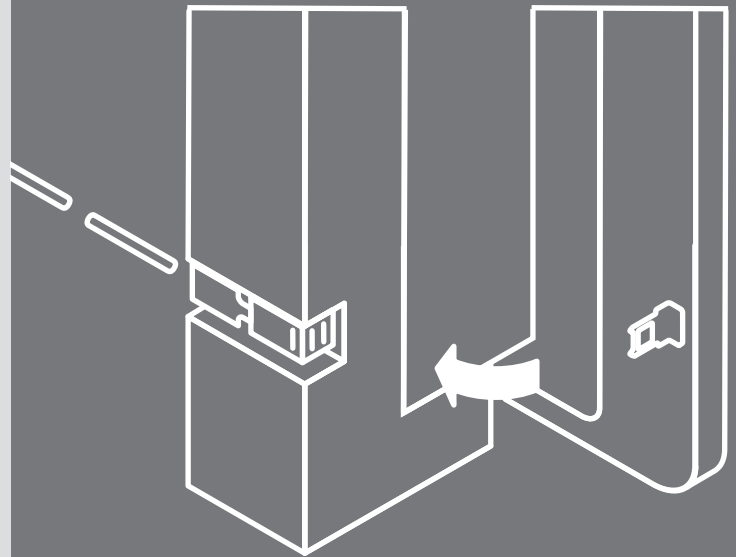
// Series EEx AZ 16  
from page 11

Metal enclosure

// Series ST 61 / EEx ST 61  
from page 11

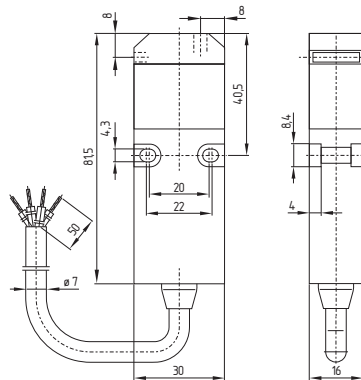
// Series EEx 335 AZ  
from page 12

// Series EEx 355 AZ  
from page 12

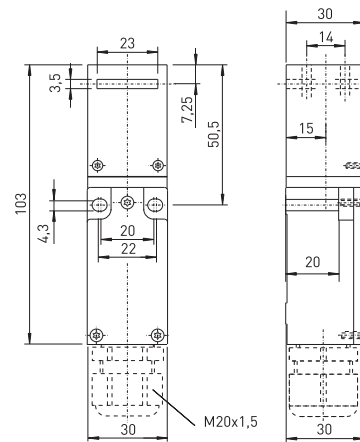


# Safety switchgear with separate actuator



// ST 14 / EEx ST 14




// ES 95 AZ / EEx 95 AZ



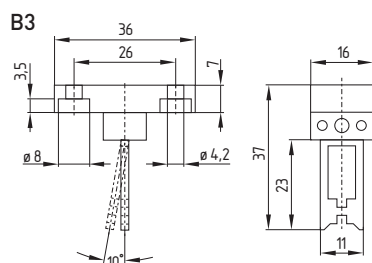
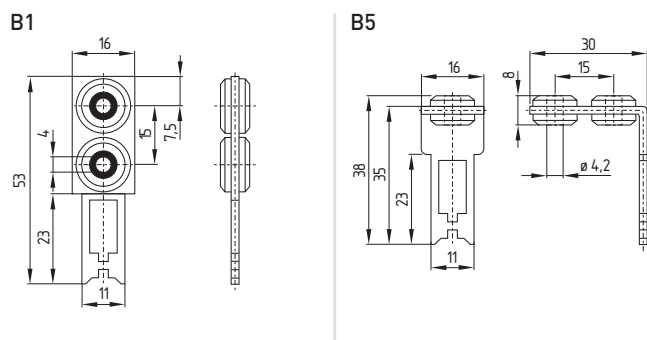
## Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; EN 1088; Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	thermoplastic, self-extinguishing UL 94-V0
<b>Actuator</b>	stainless steel 1.4301
<b>Protection class</b>	IP 67, Ex: IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb, 2 NC contacts or 2 NC/1 NO contacts, galvanically separated contact bridges
<b>Termination</b>	cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 4 A/24 VDC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-20 °C ... +80 °C
<b>Ex marking</b>	Ⓢ II 2G EEx d IIC T6/T5, II 2D IP65 T80°C/T95°C Ex d IIC T6/T5, Ex tD A21 IP 65 T80°C/T95°C
<b>Approval</b>	 ST 14: 

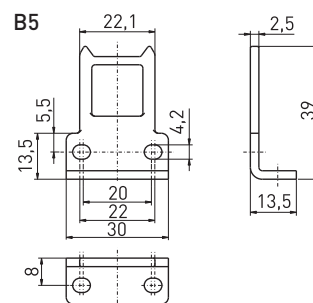
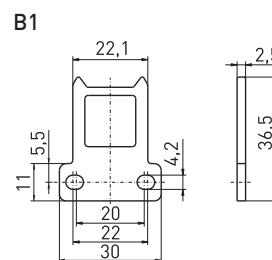
## Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; EN 1088; Ex: IEC/EN 60079-0, -1, -7; IEC/EN 61241-0, -1
<b>Enclosure</b>	thermoplastic, self-extinguishing UL 94-V0
<b>Actuator</b>	stainless steel 1.4301
<b>Protection class</b>	IP 67 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-20 °C ... +60 °C
<b>Ex marking</b>	Ⓢ II 2G Ex de IIC T6 II 2D Ex tD A21 IP67 T80°C
<b>Approval</b>	ES 95 AZ: 

## Actuators ST 14 / EEx ST 14 / Variants

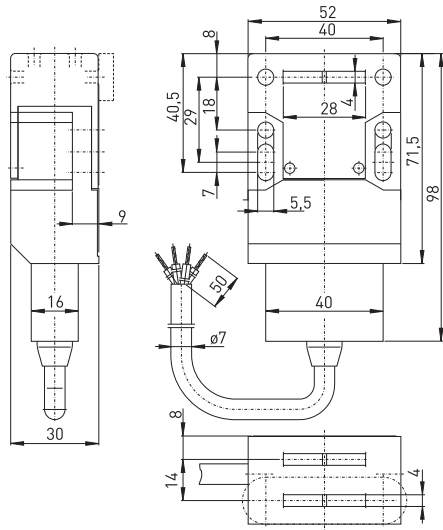


## Actuators ES 95 AZ / EEx 95 AZ / Variants



# Safety switchgear with separate actuator

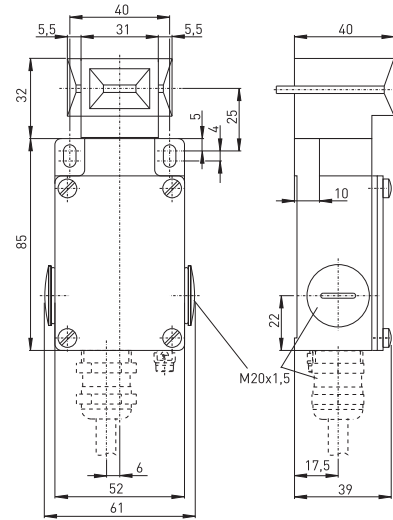
## // EEx AZ 16



### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; EN 1088; Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	thermoplastic, self-extinguishing UL 94-V0
<b>Actuator</b>	stainless steel 1.4301
<b>Protection class</b>	IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb, galvanically separated contact bridges
<b>Termination</b>	cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 4 A/24 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-20 °C ... +65 °C
<b>Ex marking</b>	Ⓜ II 2G EEx d IIC T6, II 2D IP65 T80°C Ex d IIC T6/T5, Ex tD A21 IP65 T80°C/T95°C
<b>Approval</b>	

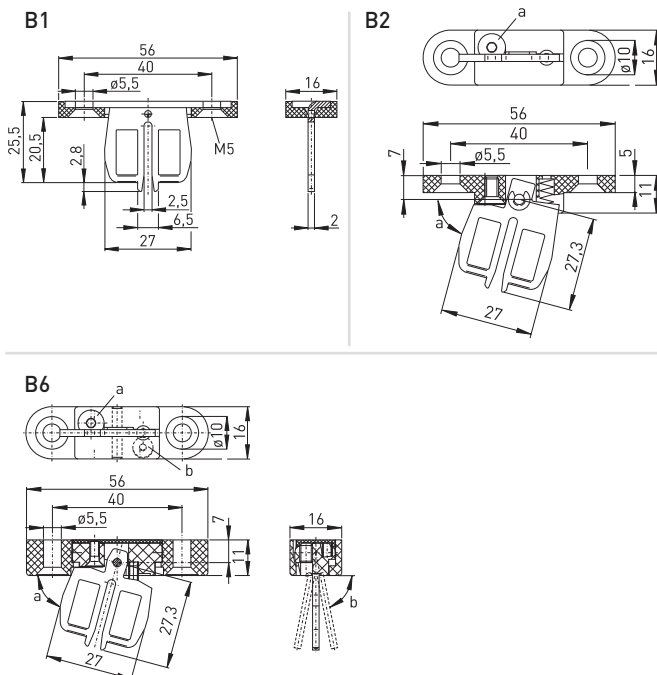
## // ST 61 / EEx ST 61



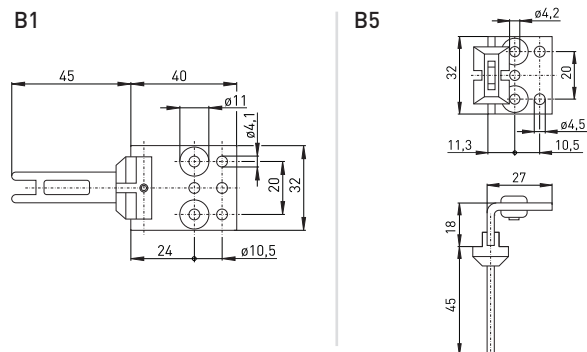
### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; EN 1088; Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Actuator</b>	stainless steel 1.4301
<b>Protection class</b>	IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb, galvanically separated contact bridges
<b>Termination</b>	screw terminals M3.5; Ex: cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-20 °C ... +65 °C
<b>Ex marking</b>	Ⓜ II 2G EEx d IIC T6/T5 II 2D IP65 T80°C/T95°C
<b>Approval</b>	-

### Actuators EEx AZ 16 / Variants

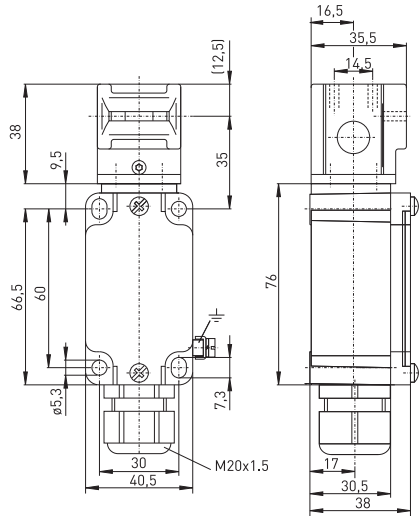


### Actuators ST 61 / EEx ST 61 / Variants

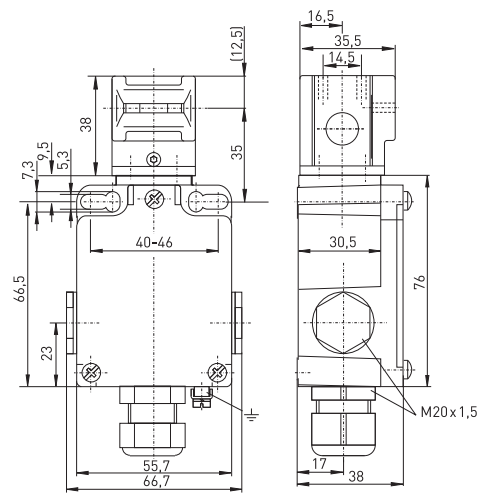


# Safety switchgear with separate actuator

## // EEx 335 AZ



## // EEx 355 AZ



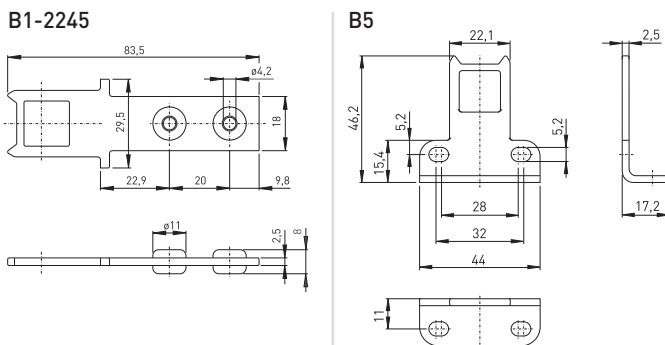
### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; EN 1088; Ex: IEC/EN 60079-0, -1, -7; IEC/EN 61241-0, -1
<b>Enclosure</b>	zinc diecast, enamelled
<b>Actuator</b>	stainless steel 1.4301
<b>Protection class</b>	IP 65 to IEC/EN 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 4 A/24 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-20 °C ... +65 °C
<b>Ex marking</b>	⊕ II 2G EEx de IIC T6, II 2D IP65 T80°C Ex de IIC T6/T5, Ex tD A21 IP65 T80°C/T95°C
<b>Approval</b>	

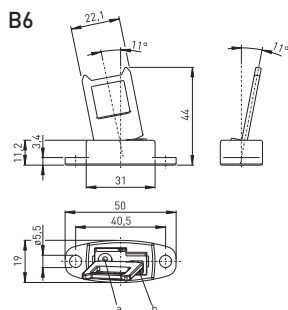
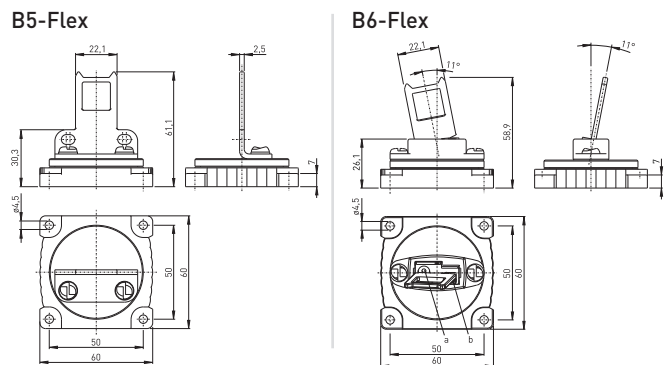
### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; EN 1088; Ex: IEC/EN 60079-0, -1, -7; IEC/EN 61241-0, -1
<b>Enclosure</b>	zinc diecast, enamelled
<b>Actuator</b>	stainless steel 1.4301
<b>Protection class</b>	IP 67 to IEC/EN 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 4 A/24 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-20 °C ... +65 °C
<b>Ex marking</b>	⊕ II 2G EEx de IIC T6, II 2D IP67 T80°C Ex de IIC T6/T5, Ex tD A21 IP67 T80°C/T95°C
<b>Approval</b>	

### Actuators EEx 335/355 AZ / Variants



### Actuators EEx 335/355 AZ / Variants



## Safety sensors

Thermoplastic enclosure

// Series BZ 16  
from page 14

// Series HS Si 4 / EEx HS Si 4  
from page 14

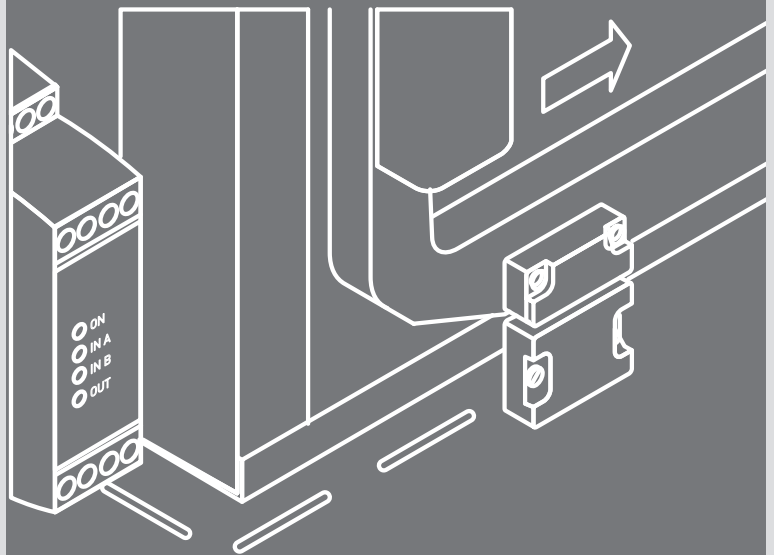
// Series RC Si 56 / EEx RC Si 56  
from page 15

Metal enclosure

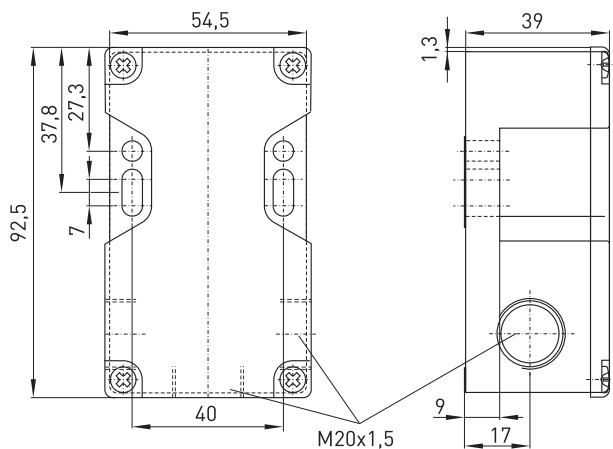
// Series RC Si M30 /  
EEx RC Si M30 from page 15

Safety relay module

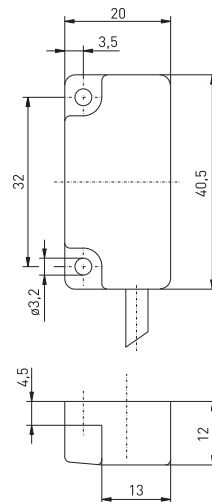
// Series SRM 21 RT2  
from page 16



## // BZ 16



## // HS Si 4 / EEx HS Si 4



### Technical data

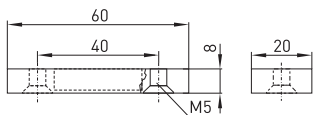
<b>Standards</b>	IEC 60947-5-3; EN 954-1; EN 1088
<b>Enclosure</b>	thermoplastic, self-extinguishing
<b>Protection class</b>	IP 67 or IP 69K to IEC 60529
<b>Switching system</b>	Hall sensor, 1 NC/1 NO contacts or 2 NC contacts
<b>Termination</b>	wiring compartment, self-lifting clamps
<b>Ie/Ue</b>	2,5 A/250 VAC, 2,5 A/24 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Switching voltage</b>	max. 250 VAC
<b>Switching current</b>	max. 4 A
<b>Switching capacity</b>	max. 1000 VA
<b>Ambient - temperature</b>	-0 °C ... +55 °C
<b>Ex marking</b>	-
<b>Approval</b>	

### Technical data

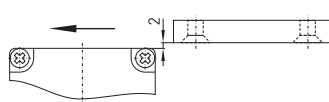
<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-3; EN 954-1; Ex: EN 60079-0; EN 60079-18; EN 61241-0, -18
<b>Enclosure</b>	ultramid A3XZG5, self-extinguishing
<b>Protection class</b>	IP 67 to IEC/EN 60529
<b>Switching system</b>	Hall sensor, 2 channels galvanically separated, 1 NC/1 NO contacts or 2 NC contacts
<b>Termination</b>	6 x AWG 26
<b>B10d (100% Load)</b>	500.000
<b>M</b>	10 years
<b>MTTF<sub>d</sub></b>	>100 years
<b>Outputs</b>	PNP semiconductor
<b>Switching voltage</b>	10 ... 30 VDC
<b>Switching current</b>	max. 40 mA per channel
<b>Switching capacity</b>	max. 1,2 W
<b>Ambient temperature</b>	-20 °C ... +70 °C
<b>Ex marking</b>	Ⓔ II 2G Ex mb II T6, II 2D Ex mbD 21 T80°C
<b>Approval</b>	

### Actuators BZ 16 / Variants

B1

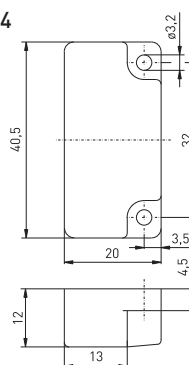


Distance for actuation from side

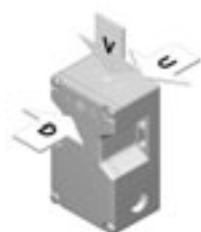


### Actuators HS Si 4 / EEx HS Si 4 / Variants

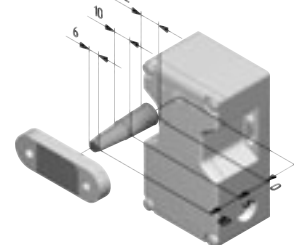
MC 4



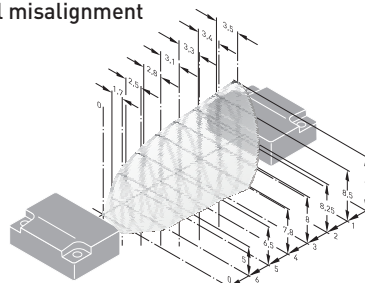
Actuator variants



Axial misalignment

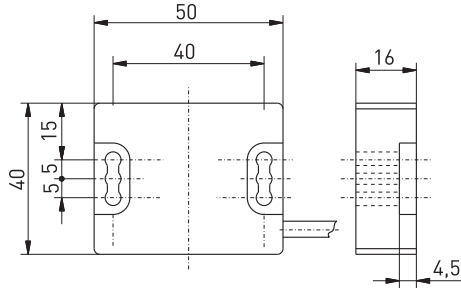


Axial misalignment

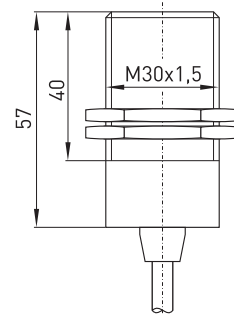


# Safety sensors

## // RC Si 56 / EEx RC Si 56



## // RC Si M30 / EEx RC Si M30



### Technical data

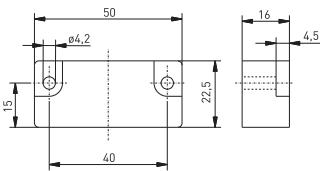
<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-3; EN 954-1; EN 50014; EN 60079-18; EN 50281-1-1
<b>Enclosure</b>	glass-fibre reinforced thermoplastic
<b>Protection class</b>	IP 67 or IP 69K to IEC 60529
<b>Switching system</b>	reed contact, 1 NC/1 NO contacts or 2 NC contacts
<b>Termination</b>	cable AWG 24
<b>B<sub>10d</sub> (100% Load)</b>	500.000
<b>M</b>	10 years
<b>MTTF<sub>d</sub></b>	>100 years
<b>Switching voltage</b>	max. 30 VDC
<b>Switching current</b>	max. 125 mA, with LED: 20 mA
<b>Switching capacity</b>	s <sub>ao</sub> 7 mm, s <sub>ar</sub> 23 mm
<b>Ambient temperature</b>	-20 °C ... +70 °C
<b>Ex marking</b>	⊕ II 2G Ex mb II T6/T5, II 2D Ex tD A21 IP67 T80°C/T95°
<b>Approval</b>	-

### Technical data

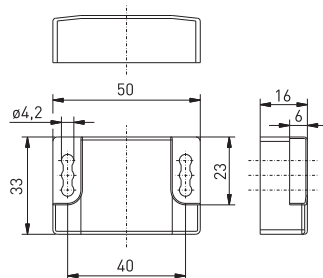
<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-3; EN 954-1; EN 50014; EN 60079-18; EN 50281-1-1
<b>Enclosure</b>	aluminium brass, nickered or stainless steel
<b>Protection class</b>	IP 67 or IP 69K to IEC 60529
<b>Switching system</b>	reed contact, 1 NC/1 NO contacts or 2 NC contacts
<b>Termination</b>	cable H05 VV-F 5G
<b>B<sub>10d</sub> (100% Load)</b>	500.000
<b>M</b>	10 years
<b>MTTF<sub>d</sub></b>	>100 years
<b>Switching voltage</b>	max. 30 VDC
<b>Switching current</b>	max. 125 mA, with LED: 20 mA
<b>Switching capacity</b>	s <sub>ao</sub> 8 mm, s <sub>ar</sub> 24 mm
<b>Ambient temperature</b>	-20 °C ... +70 °C
<b>Ex marking</b>	⊕ II 2G EEx mb II T6, II 2D IP67 T80°C
<b>Approval</b>	

### Actuators RC Si 56 / EEx RC Si 56 / Variants

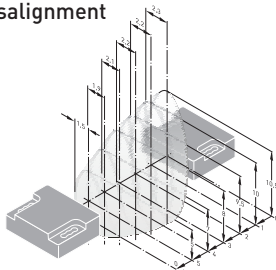
#### MC 56 / EEx MC 56



#### MC 56-3 / EEx MC 56-3

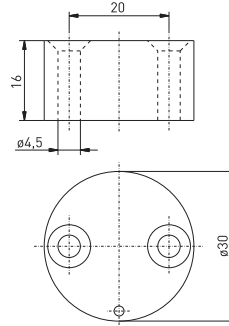


#### Axial misalignment

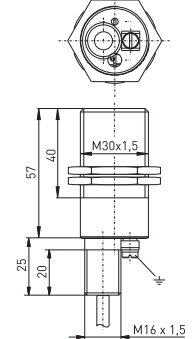


### Actuators RC Si M30 / EEx RC Si M30 / Variants

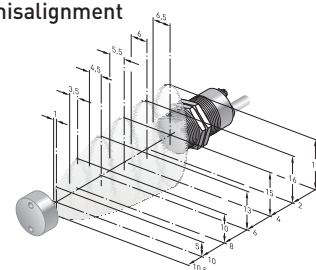
#### MC 30 / EEx MC 30



#### EEx RC M30-B

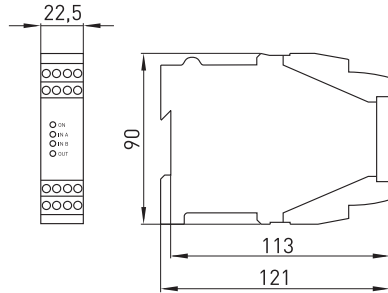


#### Axial misalignment

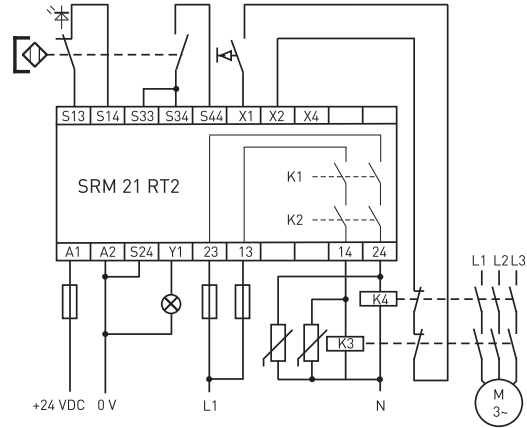


# Safety relay module

## // SRM 21 RT2



## // Wiring example



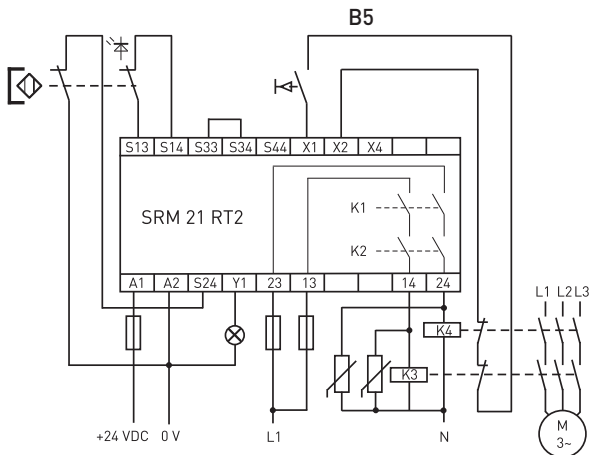
### Technical data

<b>Standards</b>	IEC/EN 60204 -1, EN 60947-5-1, EN 954-1, BG-GS-ET 20
<b>Enclosure</b>	polycarbonate
<b>Protection class</b>	enclosure IP 40, terminals IP 20 to IEC 60529
<b>Inputs</b>	1 NC/1 NO or 2 NC contacts 1 feedback input, 1 reset input
<b>Outputs</b>	2 enabling paths: positive-guided contacts, 1 transistor output as signalling contact
<b>Termination</b>	screw clamps with crosshead screws
$U_e$	24 VDC $\pm 15\%$
$I_e/U_e$ enabling paths	3 A/230 V; 2 A/24 V
<b>Ambient - temperature</b>	0 °C ... +55 °C
<b>Approval</b>	

- 2-channel: monitoring of one magnetic safety sensor with 1 NC and 1 NO contact
- Feedback circuit
- Without cross-wire detection
- With manual reset/start
- Y1 high upon authorisation
- Control Category 4

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### Wiring example SRM 21 RT2 / Variants



- 2-channel: monitoring of one magnetic safety sensor with 2 NC contacts
- Feedback circuit
- Cross-wire detection
- With manual reset/start
- Y1 high upon authorisation
- Control Category 4



## Solenoid interlocks

Thermoplastic enclosure

// Series STM 295 /  
EEx STM 295 from page 18

// Series STM 295 FE /  
EEx STM 295 FE from page 18

Metal enclosure

// Series EEx AZM 415  
from page 19

// Series EEx AZM 415 TE  
from page 19

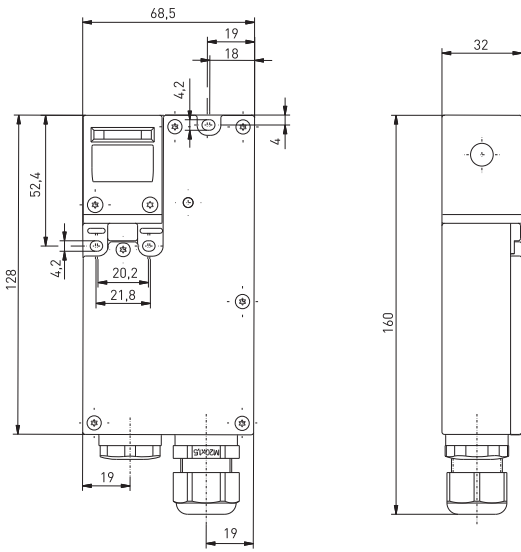
// Series EEx AZM 415 FE  
from page 20

// Series EEx AZP 415  
from page 20

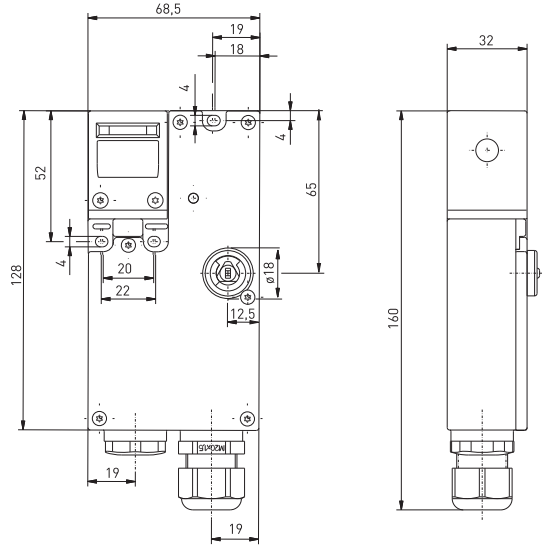


# Solenoid interlocks

## // STM 295 / EEx STM 295



## // STM 295 FE / EEx STM 295 FE



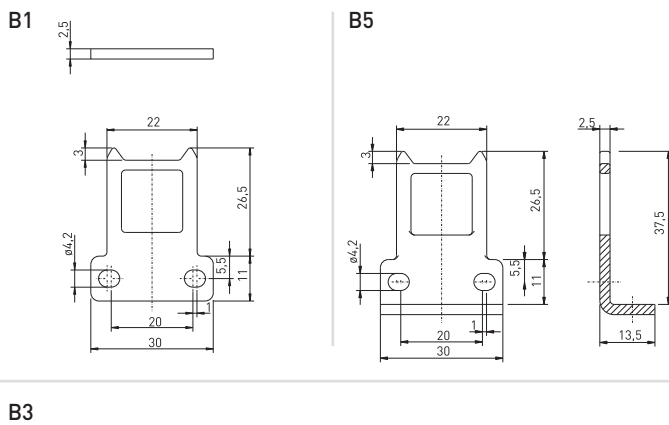
### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; EN 1088; EN 50014; Ex: EN 50018; EN 50281-1-1
<b>Enclosure</b>	thermoplastic, self-extinguishing UL 94-V0
<b>Protection class</b>	IP 67 to IEC 60529
<b>Switching system</b>	2 NC and 2 NO contacts with double break Zb, galv. separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>Ie/Ue</b>	4 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Holding force F</b>	max. 1000 N
<b>U<sub>s</sub></b>	24 VDC
<b>Ambient temperature</b>	-20 °C ... +55 °C
<b>Ex marking</b>	⊕ II 3G Ex nR IIC T4, II 3D Ex tD A22 IP67 T100°C
<b>Approval</b>	-

### Technical data

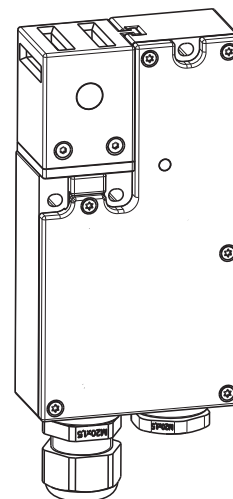
<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; EN 1088; EN 50014; Ex: EN 50018; EN 50281-1-1
<b>Enclosure</b>	thermoplastic, self-extinguishing UL 94-V0
<b>Protection class</b>	IP 67 to IEC 60529
<b>Switching system</b>	2 NC and 2 NO contacts with double break Zb, galv. separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>Ie/Ue</b>	4 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Holding force F</b>	max. 1000 N
<b>U<sub>s</sub></b>	24 VDC
<b>Ambient temperature</b>	-20 °C ... +55 °C
<b>Ex marking</b>	⊕ II 3G Ex nR IIC T4, II 3D Ex tD A22 IP67 T100°C
<b>Approval</b>	-

### Actuators STM 295 / EEx STM 295 / Variants



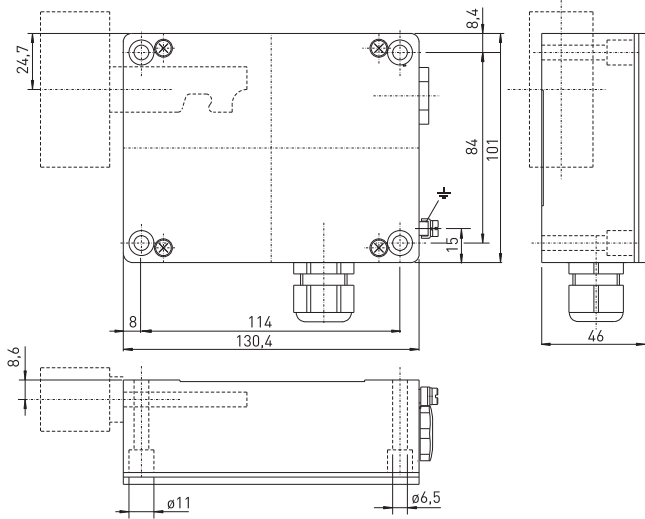
### Actuators STM 295 / EEx STM 295 / Variants

#### STM 295-90° / EEx STM 295-90°

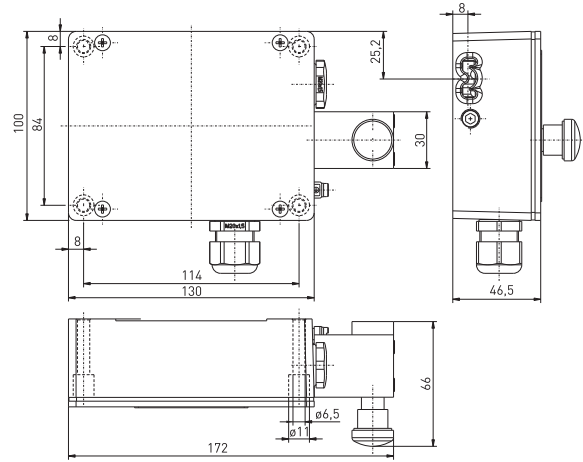


# Solenoid interlocks

## // EEx AZM 415



## // EEx AZM 415 TE



### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; EN 1088; Ex: IEC/EN 60079-0, -1, -7, -18; IEC/EN 61241-0, -1
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Protection class</b>	IP 67 to IEC 60529
<b>Switching system</b>	2 NC and 2 NO contacts with double break Zb, galvanically separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>Ie/Ue</b>	6 A/250 VAC; 40 mA/24 VDC
<b>Utilisation category</b>	AC-15
<b>Holding force F</b>	max. 3500 N
<b>U<sub>s</sub></b>	24 VDC
<b>Ambient temperature</b>	-20 °C ... +55 °C
<b>Ex marking</b>	⊕ II 2G EEx dem IIC T6, II 2D IP67 T80°C Ex demb IIC T6/T5, Ex tD A21 IP67/IP64 T80°C/T95°C

### Approval



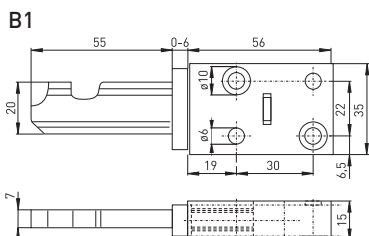
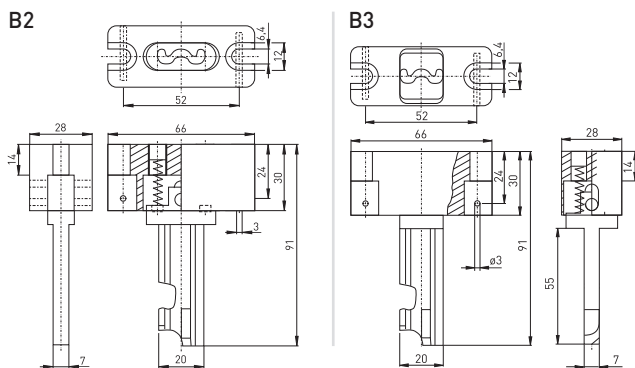
### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; EN 1088; Ex: IEC/EN 60079-0, -1, -7, -18; IEC/EN 61241-0, -1
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Protection class</b>	IP 64 to IEC 60529
<b>Switching system</b>	2 NC and 2 NO contacts with double break Zb, galvanically separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>Ie/Ue</b>	6 A/250 VAC; 40 mA/24 VDC
<b>Utilisation category</b>	AC-15
<b>Holding force F</b>	max. 3500 N
<b>U<sub>s</sub></b>	24 VDC
<b>Ambient temperature</b>	-20 °C ... +55 °C
<b>Ex marking</b>	⊕ II 2G EEx dem IIC T6, II 2D IP67 T80°C Ex demb IIC T6/T5, Ex tD A21 IP67/IP64 T80°C/T95°C

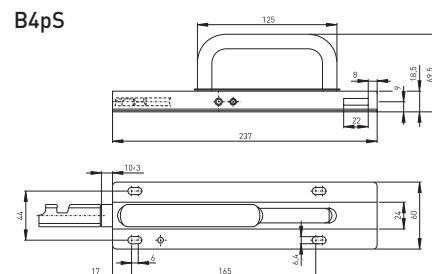
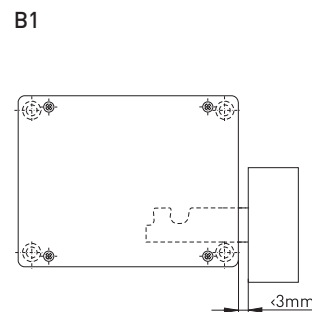
### Approval



### Actuators EEx AZM 415 / Variants

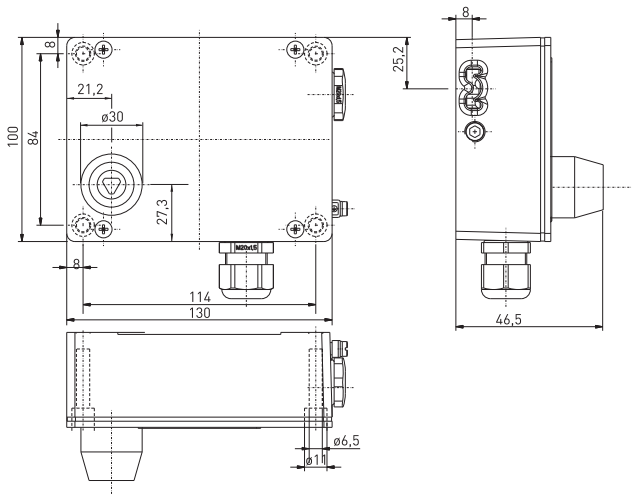


### Actuators EEx AZM 415-TE / Variants

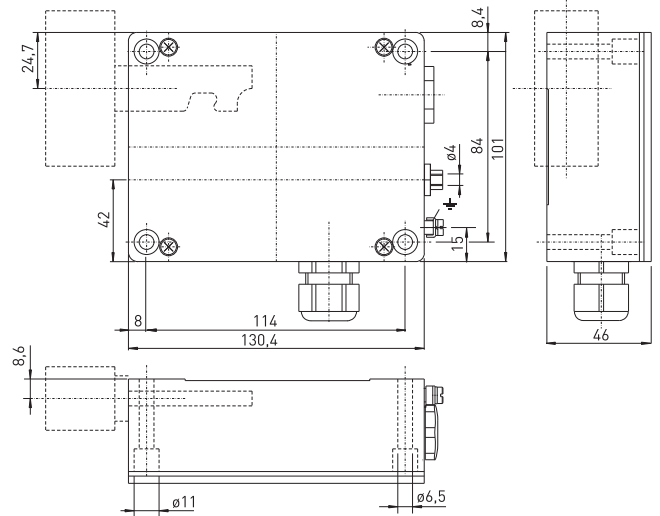


# Solenoid interlocks

## // EEx AZM 415 FE



## // EEx AZP 415



### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; EN 1088; Ex: IEC/EN 60079-0, -1, -7, -18; IEC/EN 61241-0, -1
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Protection class</b>	IP 64 to IEC 60529
<b>Switching system</b>	2 NC and 2 NO contacts with double break Zb, galv. separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>Ie/Ue</b>	6 A/250 VAC; 40 mA/24 VDC
<b>Utilisation category</b>	AC-15
<b>Holding force F</b>	max. 3500 N
<b>U<sub>s</sub></b>	24 VDC
<b>Ambient temperature</b>	-20 °C ... +55 °C
<b>Ex marking</b>	⊕ II 2G EEx dem IIC T6, II 2D IP67 T80°C Ex demb IIC T6/T5, Ex tD A21 IP67/IP64 T80°C/T95°C

### Approval



### Technical data

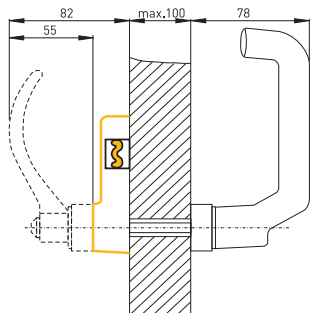
<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; EN 1088; Ex: IEC/EN 60079-0, -1, -7, -18; IEC/EN 61241-0, -1
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Protection class</b>	IP 67 to IEC 60529
<b>Switching system</b>	2 NC and 2 NO contacts with double break Zb, galv. separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>Ie/Ue</b>	6 A/250 VAC; 40 mA/24 VDC
<b>Utilisation category</b>	AC-15
<b>Holding force F</b>	max. 3500 N
<b>Unlocking</b>	Pneumatic cylinder, max. 3 - 7 bar
<b>Ambient temperature</b>	-20 °C ... +55 °C
<b>Ex marking</b>	⊕ II 2G EEx dem IIC T6, II 2D IP67 T80°C Ex demb IIC T6/T5, Ex tD A21 IP67/IP64 T80°C/T95°C

### Approval

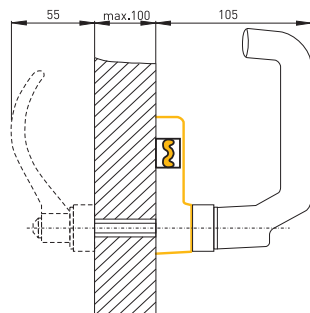


### Actuators EEx AZM 415-FE / Variants

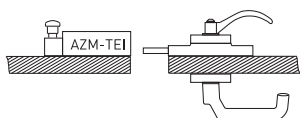
#### B30 Mounting inside



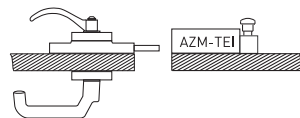
#### B30 Mounting outside



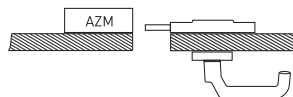
#### B30-01



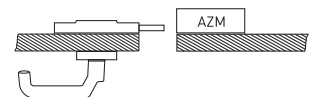
#### B30-02



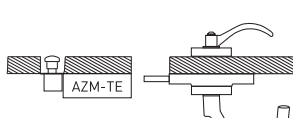
#### B30-03



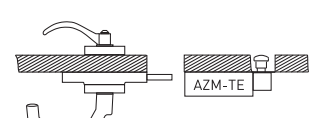
#### B30-04



#### B30-05



#### B30-06



Thermoplastic enclosure

// Series ES 13 SB / EEx 13 SB  
from page 22

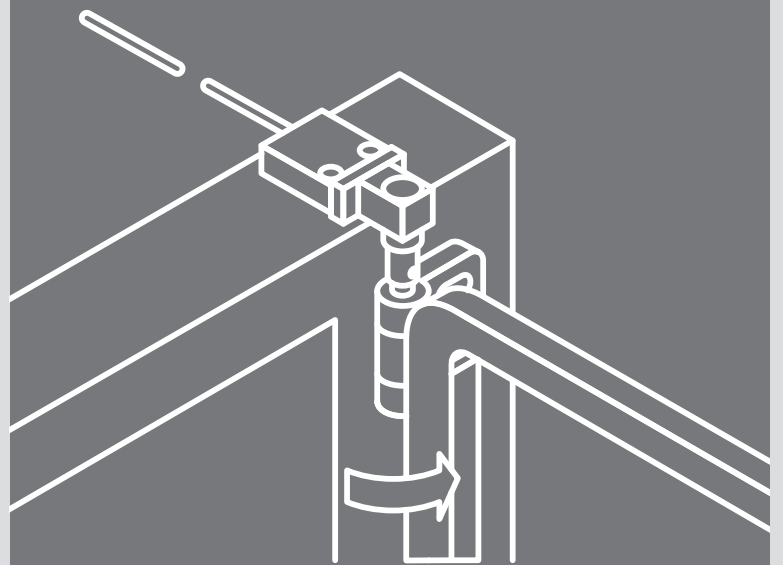
// Series ES 95 SB / EEx 95 SB  
from page 22

// Series ES 95 T.C / EEx 95 T.C  
from page 23

Metal enclosure

// Series EEx 335 V.S  
from page 23

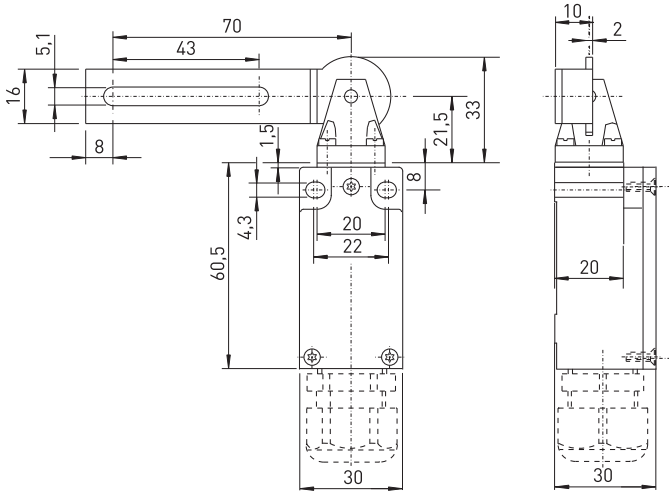
// Series EEx 355 V.S  
from page 24



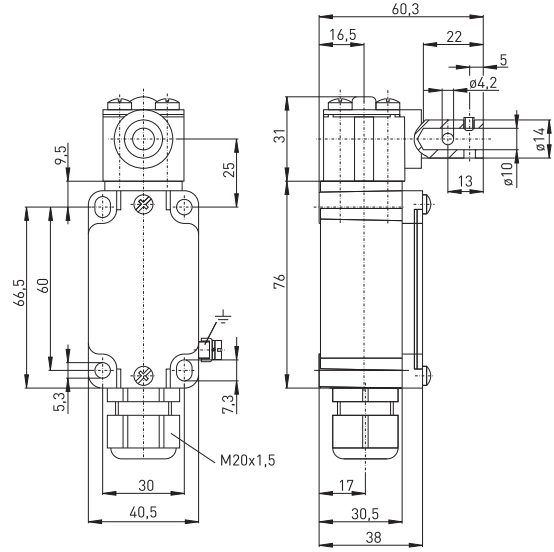


# Safety switches for hinged guards


// ES 95 T.C / EEx 95 T.C




// EEx 335 V.S



## Technical data

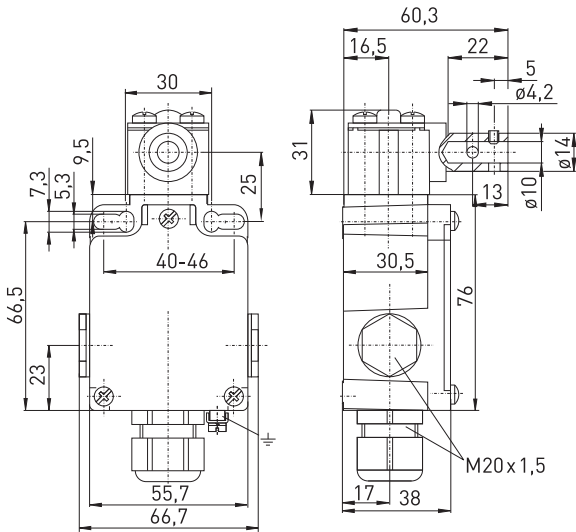
<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; Ex: IEC/EN 60079-0, -1, -7; IEC/EN 61241-0, -1
<b>Enclosure</b>	thermoplastic, self-extinguishing UL 94-V0
<b>Protection class</b>	IP 67 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient - temperature</b>	-20 °C ... +60 °C
<b>Ex marking</b>	⊕ II 2G Ex de IIC T6 II 2D Ex tD A21 IP67 T80°C
<b>Approval</b>	ES 95 T.C: 

## Technical data

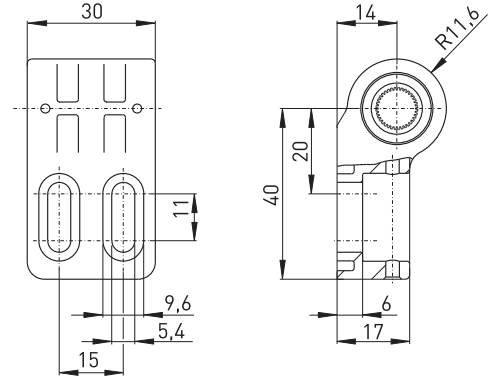
<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; Ex: IEC/EN 60079-0, -1, -7; IEC/EN 61241-0, -1
<b>Enclosure</b>	zinc diecast, enamelled
<b>Protection class</b>	IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-20 °C ... +60 °C
<b>Ex marking</b>	⊕ II 2G EEx de IIC T6, II 2D IP65 T80°C Ex de IIC T6/T5, Ex tD A21 IP65 T80°C/T95°C
<b>Approval</b>	

# Safety switches for hinged guards

## // EEx 335 V.S



## // Fixed hinge F



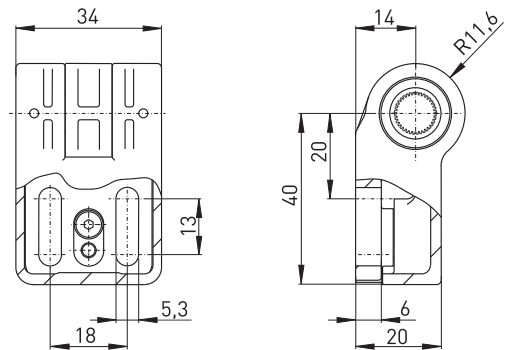
### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; Ex: IEC/EN 60079-0, -1, -7; IEC/EN 61241-0, -1
<b>Enclosure</b>	zinc diecast, enamelled
<b>Protection class</b>	IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-20 °C ... +60 °C
<b>Ex marking</b>	⊕ II 2G EEx de IIC T6, II 2D IP67 T80°C Ex de IIC T6/T5, Ex tD A21 IP67 T80°C/T95°C

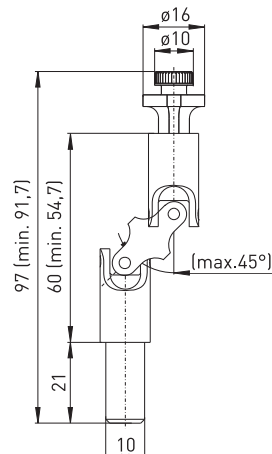
Approval



## // Adjustable hinge L



## // Universal joint K2





Thermoplastic enclosure

// Series ES 13 / EEx 13  
from page 26

// Series ES 14 / EEx 14  
from page 26

// Series ES/EM 95 / EEx 95  
from page 27

// Series EEx T 356  
from page 27

Metal enclosure

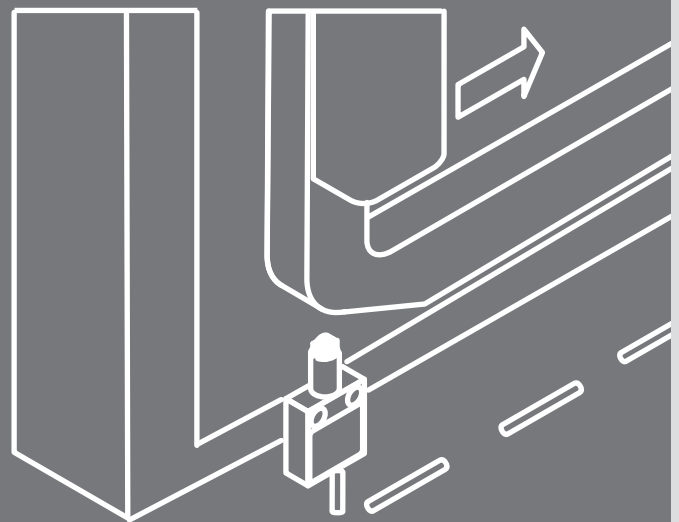
// Series ES 51  
from page 28

// Series ES 41  
from page 28

// Series ES 61 / EEx 61  
from page 29

// Series EEx 335  
from page 29

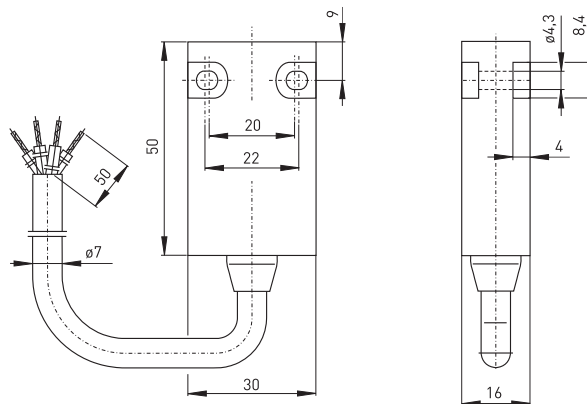
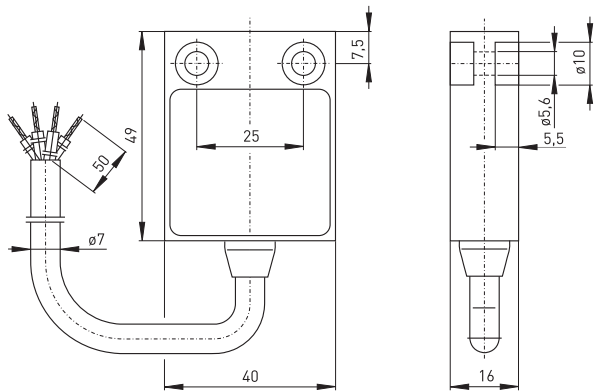
// Series EEx 355  
from page 30



# Position switches with safety function

// ES 13 / EEx 13

// ES 14 / EEx 14



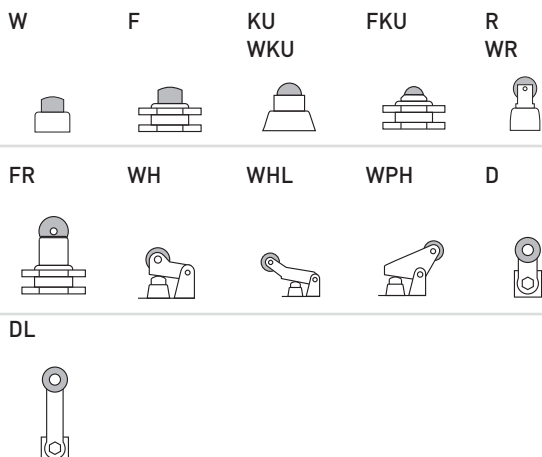
## Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	thermoplastic, self-extinguishing UL 94-V0
<b>Protection class</b>	IP 67, Ex: IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-20 °C ... +65 °C
<b>Ex marking</b>	⊕ II 2G EEx d IIC T6, II 2D IP65 T80°C Ex d IIC T6/T5, Ex tD A21 IP65 T80°C/T95°C
<b>Approval</b>	

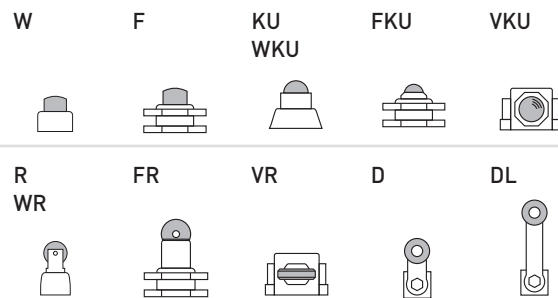
## Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; EN 1088; Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	thermoplastic, self-extinguishing UL 94-V0
<b>Protection class</b>	IP 67, Ex: IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-20 °C ... +65 °C
<b>Ex marking</b>	⊕ II 2G EEx d IIC T6/T5, II 2D IP65 T80°C/T95°C Ex d IIC T6/T5, Ex tD A21 IP 65 T80°C/T95°C
<b>Approval</b>	ES 14:

## Actuator selection ES 13 / EEx 13

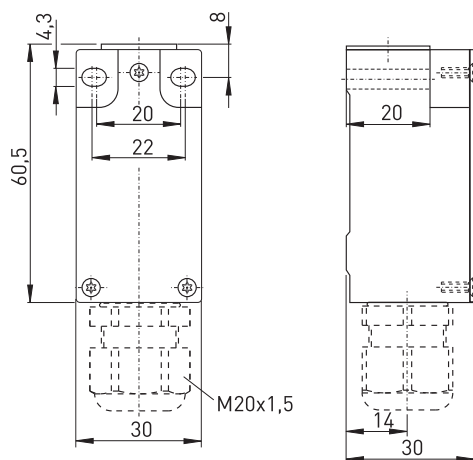


## Actuator selection ES 14 / EEx 14

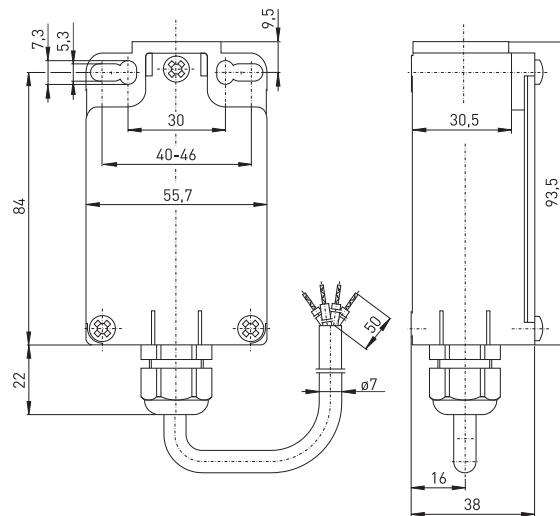


# Position switches with safety function

## // ES/EM 95 / EEx 95



## // EEx T 356



### Technical data

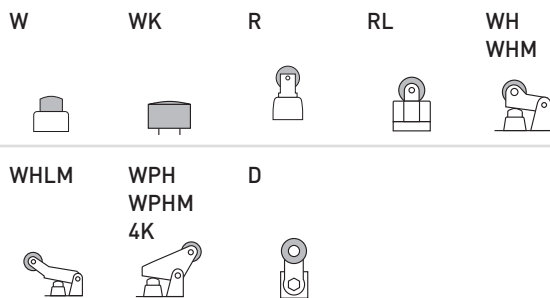
<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; Ex: IEC/EN 60079-0, -1, -7; IEC/EN 61241-0, -1
<b>Enclosure</b>	thermoplastic, self-extinguishing UL 94-V0
<b>Protection class</b>	IP 67 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-20 °C ... +60 °C
<b>Ex marking</b>	⊕ II 2G Ex de IIC T6 II 2D Ex tD A21 IP67 T80°C
<b>Approval</b>	ES/EM 95:

### Technical data

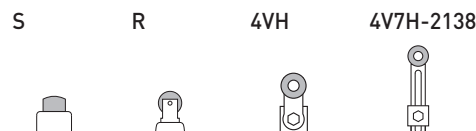
<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; EN 1088; Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	thermoplastic, self-extinguishing UL 94-V0
<b>Cover</b>	steel enamelled
<b>Protection class</b>	IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient - temperature</b>	-20 °C ... +65 °C
<b>Ex marking</b>	⊕ II 2G EEx d IIC T6, II 2D IP65 T80°C Ex d IIC T6/T5, Ex tD A21 IP65 T80°C/T95°C
<b>Approval</b>	

27

### Actuator selection ES/EM 95 / EEx 95

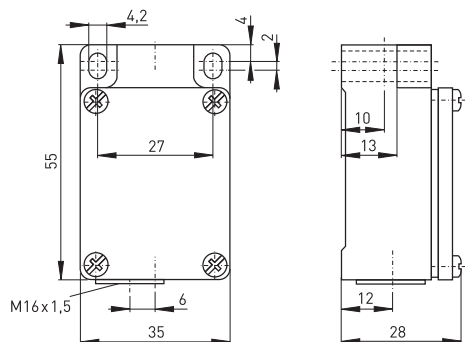


### Actuator selection EEx T 356

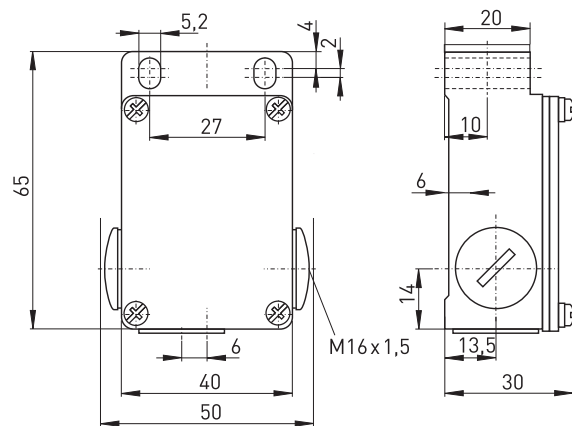


# Position switches with safety function

// ES 51



// ES 41



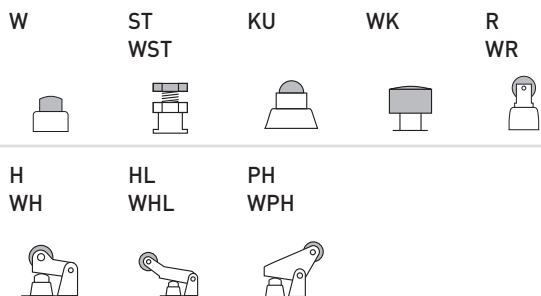
## Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Protection class</b>	IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	screw terminals M3
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	4 A/400 VAC
<b>Utilisation category</b>	AC-15
<b>Ambient - temperature</b>	-20 °C ... +80 °C
<b>Approval</b>	-

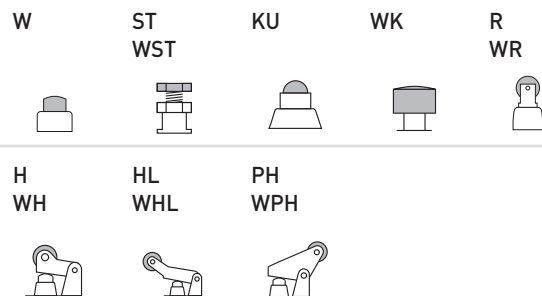
## Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Protection class</b>	IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	screw terminals M3.5
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/400 VAC
<b>Utilisation category</b>	AC-15
<b>Ambient - temperature</b>	-20 °C ... +80 °C
<b>Approval</b>	-

## Actuator selection ES 51

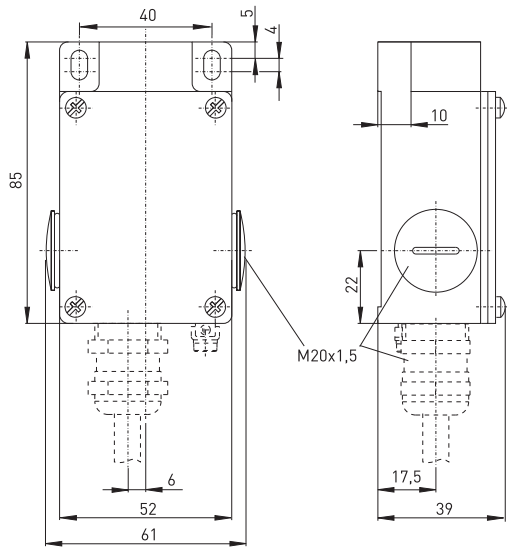


## Actuator selection ES 41



# Position switches with safety function

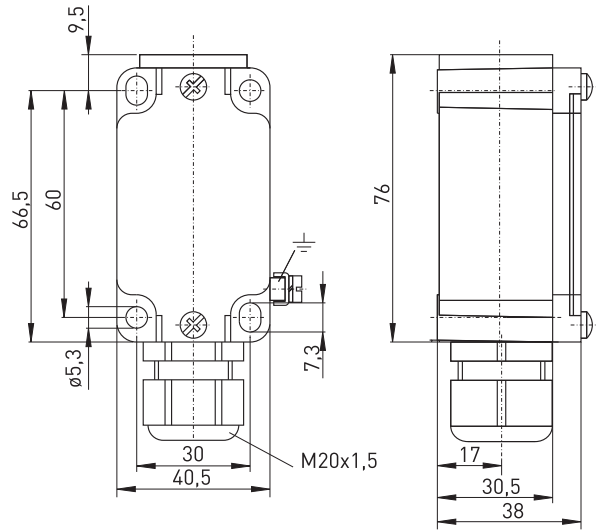
## // ES 61 / EEx 61



### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; Ex: IEC/EN 60079-0, -1, -7; IEC/EN 61241-0, -1
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Protection class</b>	IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	screw terminals M3.5; Ex: cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	16 A/400 VAC, ES 61 2Ö: 6 A/400 VAC; Ex: 6 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15; DC-13
<b>Ambient temperature</b>	-20 °C ... +80 °C; Ex: -20 °C ... +65 °C
<b>Ex marking</b>	⊕ II 2G EEx d IIC T6/T5 II 2D IP65 T80°C/T95°C
<b>Approval</b>	-

## // EEx 335

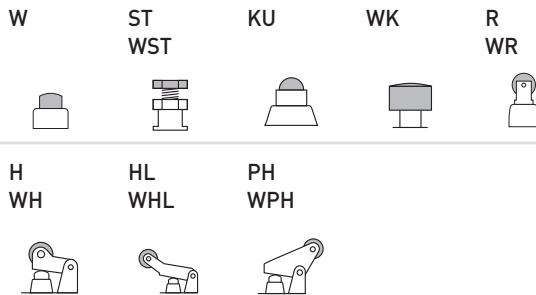


### Technical data

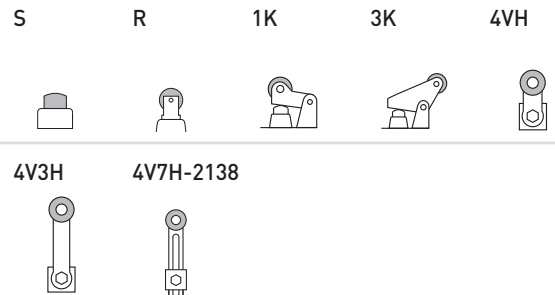
<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; Ex: IEC/EN 60079-0, -1, -7; IEC/EN 61241-0, -1
<b>Enclosure</b>	zinc diecast, enamelled
<b>Protection class</b>	IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-20 °C ... +60 °C
<b>Ex marking</b>	⊕ II 2G EEx de IIC T6, II 2D IP65 T80°C Ex de IIC T6/T5, Ex tD A21 IP65 T80°C/T95°C
<b>Approval</b>	

29

### Actuator selection ES 61 / EEx 61

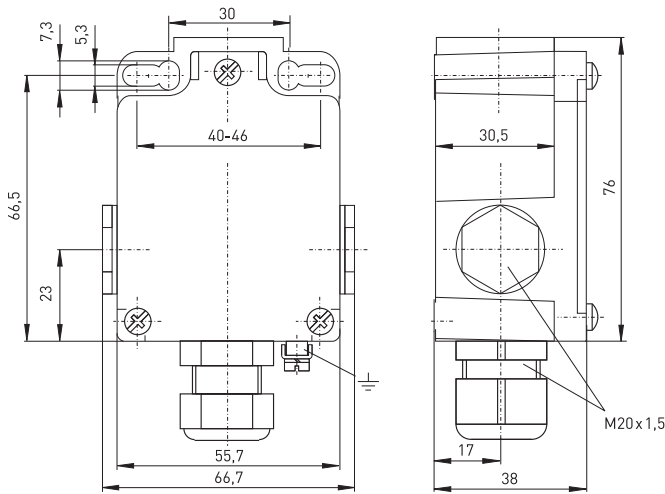


### Actuator selection EEx 335



# Position switches with safety function

## // EEx 355



### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; Ex: IEC/EN 60079-0, -1, -7; IEC/EN 61241-0, -1
<b>Enclosure</b>	zinc diecast, enamelled
<b>Protection class</b>	IP 67 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	M3 screw clamps
<b>B<sub>10d</sub> (10% Load)</b>	2 million
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-20 °C ... +60 °C
<b>Ex marking</b>	⊕ II 2G EEx de IIC T6, II 2D IP67 T80°C Ex de IIC T6/T5, Ex tD A21 IP67 T80°C/T95°C

Approval

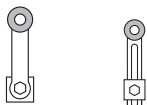


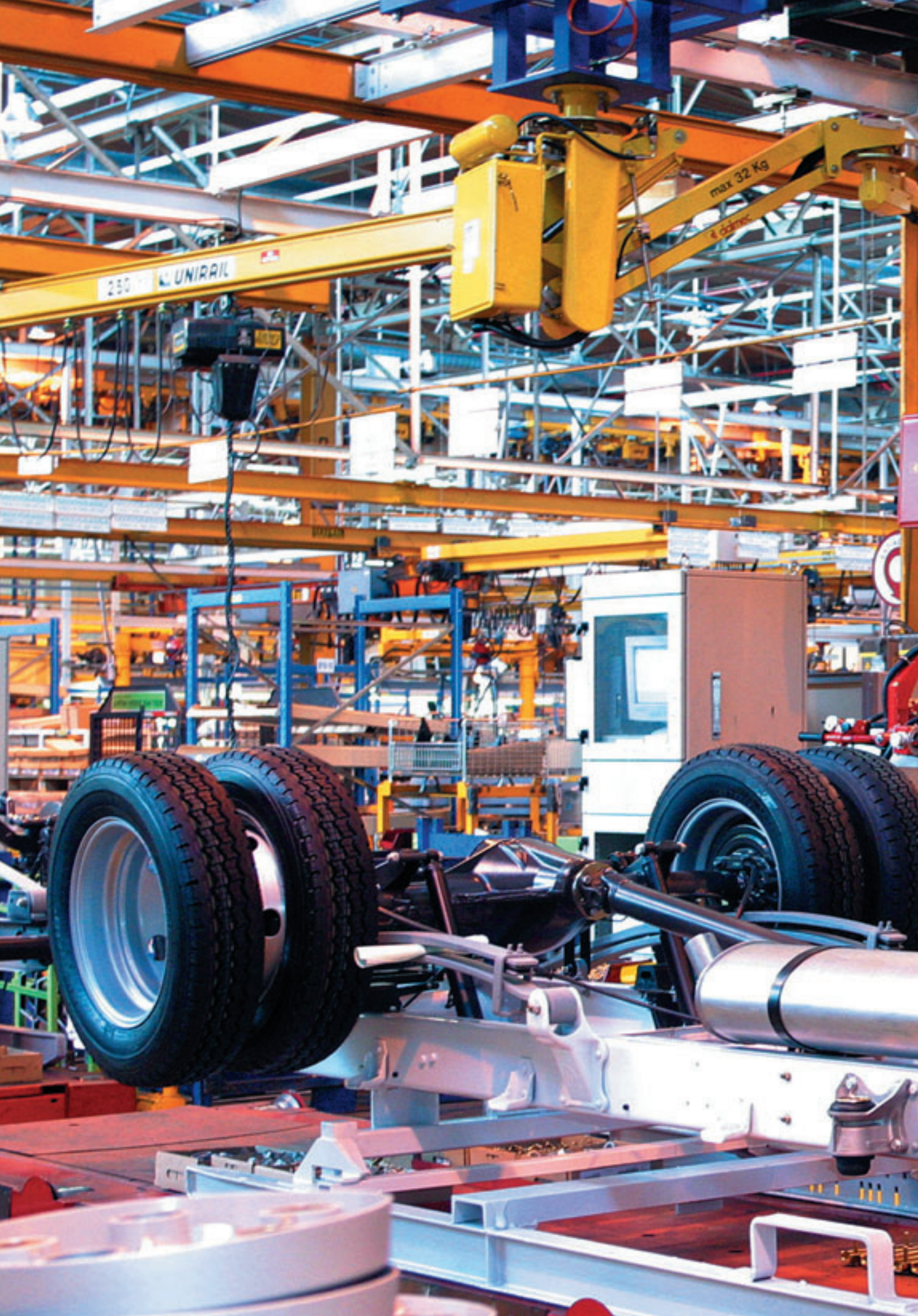
### Actuator selection EEx 355

S      R      1K      3K      4VH



4V3H      4V7H-2138



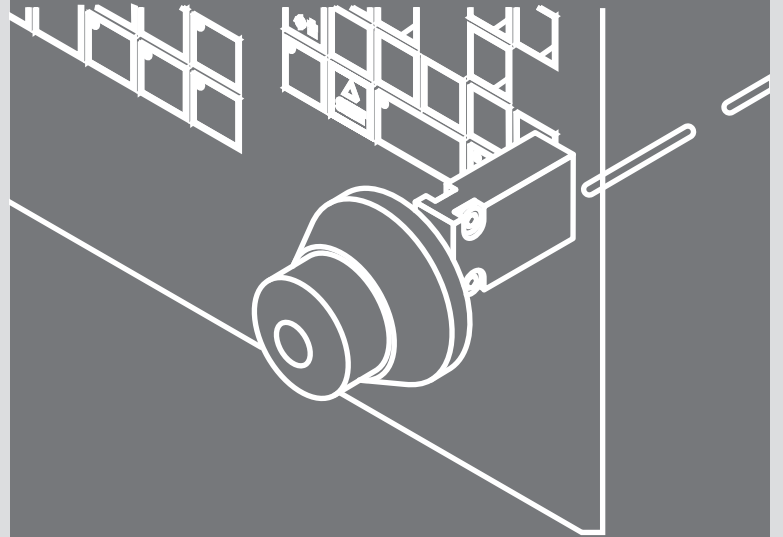






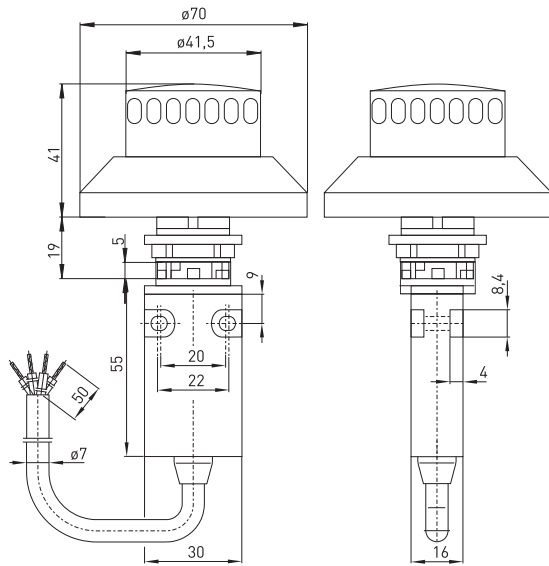
Thermoplastic enclosure

// Series ES 14 RUV /  
EEx 14 RUV from page 34





# Command devices

## // ES 14 RUV / EEx 14 RUV



### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	thermoplastic, self-extinguishing UL 94-V0
<b>Protection class</b>	IP 67, Ex: IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	-
<b>M</b>	-
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC; 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-20 °C ... +65 °C
<b>Ex marking</b>	⊕ II 2G EEx d IIC T6/T5, II 2D IP65 T80°C/T95°C Ex d IIC T6/T5, Ex tD A21 IP 65 T80°C/T95°C
<b>Approval</b>	 

Thermoplastic enclosure

// Series ZS 70  
from page 36

// Series ZS 90 S / EEx ZS 90 S  
from page 36

Metal enclosure

// Series ZS 71 / EEx ZS 71  
from page 37

// Series ZS 73 / EEx ZS 73  
from page 37

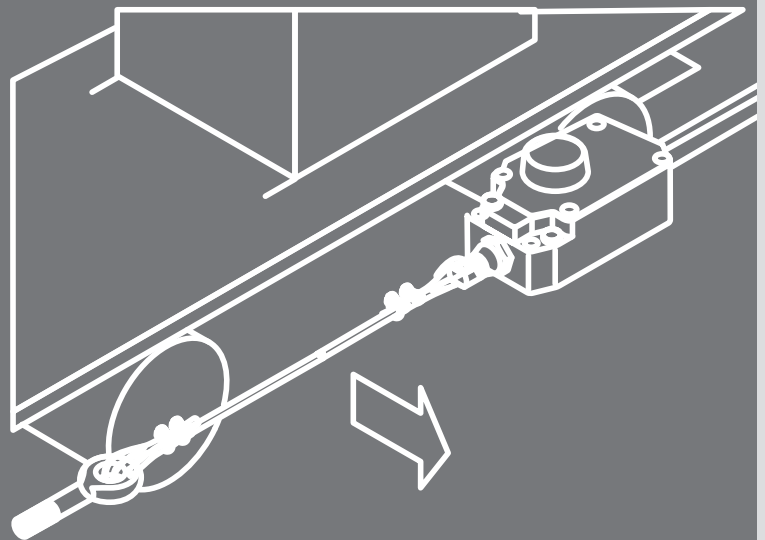
// Series ZS 73 S / EEx ZS 73 S  
from page 38

// Series ZS 75 / EEx ZS 75  
from page 38

// Series ZS 75 S / EEx ZS 75 S  
from page 39

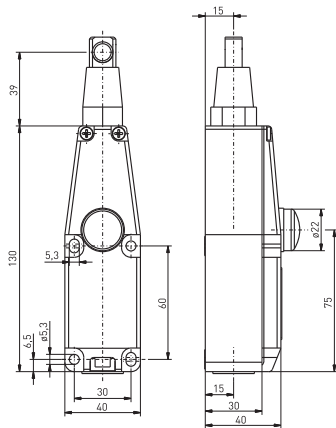
// Series ZS 80 / EEx ZS 80  
from page 39

// Series ZS 441  
from page 40

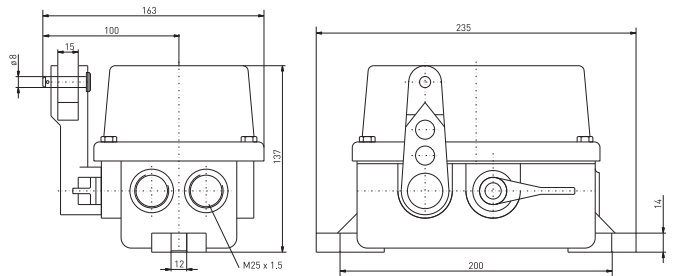


# Emergency pull-wire switches


## // ZS 70

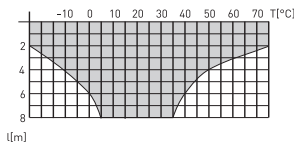


## // ZS 90 S / EEx ZS 90 S



### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1, IEC 60947-5-5, EN 418
<b>Enclosure</b>	thermoplastic, self-extinguishing ultramid
<b>Protection class</b>	IP 67 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	screw terminals
<b>B<sub>10d</sub> (10% Load)</b>	100.000
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/400 VAC
<b>Utilisation category</b>	AC-15
<b>Ambient - temperature</b>	-25 °C ... +70 °C
<b>Approval</b>	
<b>Max. wire length</b>	8 m
<b>Recommended wire length</b>	

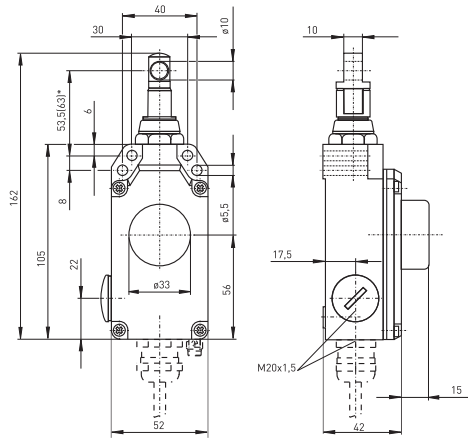


### Technical data

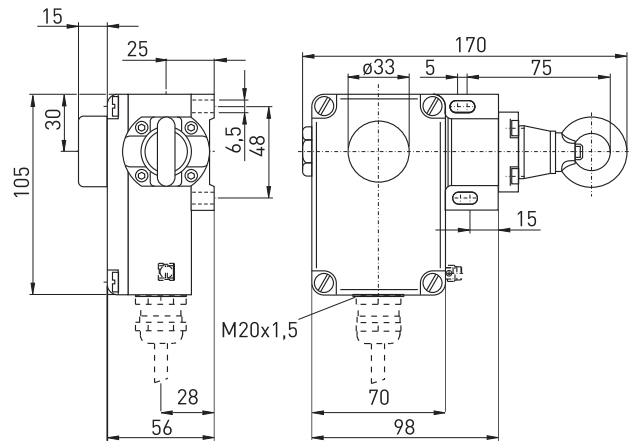
<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1, IEC 60947-5-5, EN 418; Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	Duroplast
<b>Protection class</b>	IP 65 to IEC 60529
<b>Switching system</b>	2 NC and 2 NO contacts with double break Zb, galvanically separated contact bridges
<b>Termination</b>	screw terminals Ex: cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	6.050
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	1 A/230 VAC
<b>Utilisation category</b>	AC-15
<b>Ambient temperature</b>	-40 °C ... +85 °C
<b>Ex marking</b>	⊕ II 2G EEx d IIC T6/T5 II 2D IP65 T80°C/T95°C
<b>Max. wire length</b>	2 x 50 m

# Emergency pull-wire switches

## // ZS 71 / EEx ZS 71



## // ZS 73 / EEx ZS 73



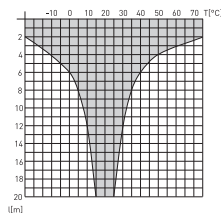
### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1, IEC 60947-5-5, EN 418; Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Cover</b>	thermoplastic, self-extinguishing ultramid
<b>Protection class</b>	IP 67; EEx ZS ... VD, EEx ZS ... WVD: IP 65; EEx ZS ... VS and EEx ZS ... WVS: IP 54 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	screw terminals; Ex: cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	100.000
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC, 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-25 °C ... +70 °C; Ex: -20 °C ... +65 °C, T5: +75 °C
<b>Ex marking</b>	⊕ II 2G EEx d IIC T6/T5 II 2D IP65 T80°C/T95°C

Approval  
Max. wire length  
Recommended wire length



20 m



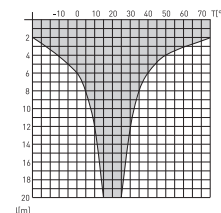
### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1, IEC 60947-5-5, EN 418; Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Cover</b>	thermoplastic, self-extinguishing ultramid
<b>Protection class</b>	IP 67; EEx ZS ... VD, EEx ZS ... WVD: IP 65; EEx ZS ... VS and EEx ZS ... WVS: IP 54 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	screw terminals; Ex: cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	100.000
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC, 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-25 °C ... +70 °C; Ex: -20 °C ... +65 °C, T5: +75 °C
<b>Ex marking</b>	⊕ II 2G EEx d IIC T6/T5 II 2D IP65 T80°C/T95°C

Approval  
Max. wire length  
Recommended wire length

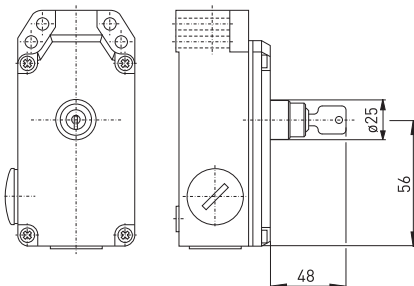


50 m



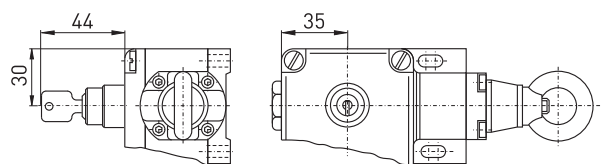
### Variants ZS 71 / EEx ZS 71

VS



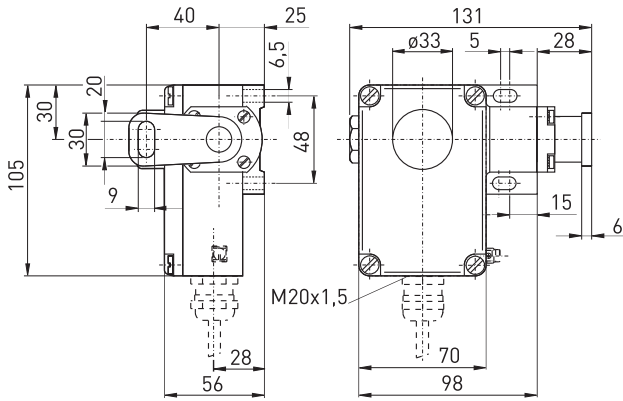
### Variants ZS 73 / EEx ZS 73

VS

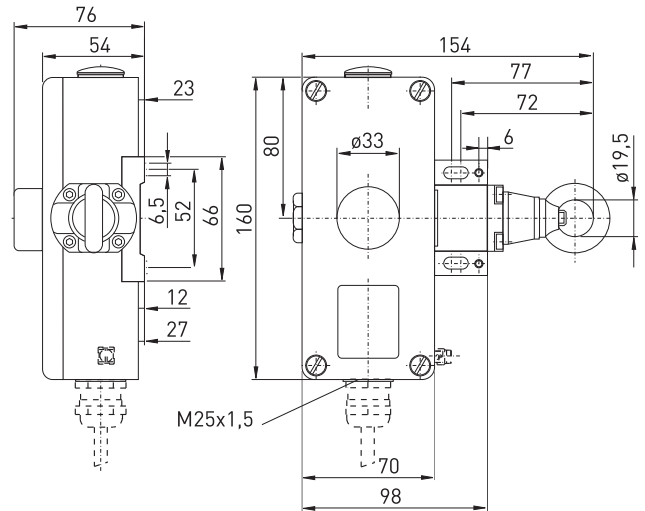


# Emergency pull-wire switches




## // ZS 73 S / EEx ZS 73 S






## // ZS 75 / EEx ZS 75

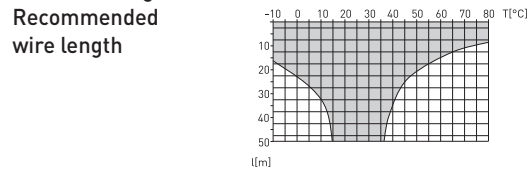


### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1, IEC 60947-5-5, EN 418; Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Cover</b>	thermoplastic, self-extinguishing ultramid
<b>Protection class</b>	IP 67; EEx ZS ... VD, EEx ZS ... WVD: IP 65; EEx ZS ... VS and EEx ZS ... WVS: IP 54 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	screw terminals; Ex: cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	100.000
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC, 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-25 °C ... +70 °C; Ex: -20 °C ... +65 °C, T5: +75 °C
<b>Ex marking</b>	⊕ II 2G EEx d IIC T6/T5 II 2D IP65 T80°C/T95°C
<b>Approval</b>	  ZS 73 S: 
<b>Max. wire length</b>	2 x 50 m

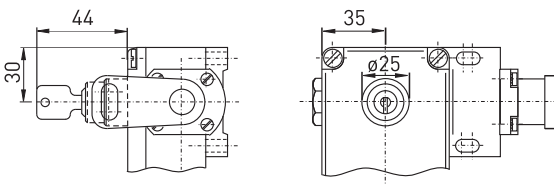
### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1, IEC 60947-5-5, EN 418; Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Cover</b>	aluminium diecast, enamelled
<b>Protection class</b>	IP 67; EEx ZS ... VD, EEx ZS ... WVD: IP 65; EEx ZS ... VS and EEx ZS ... WVS: IP 54 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	screw terminals; Ex: cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	100.000
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC, 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-25 °C ... +70 °C; Ex: -20 °C ... +65 °C, T5: +75 °C
<b>Ex marking</b>	⊕ II 2G EEx d IIC T6/T5 II 2D IP65 T80°C/T95°C
<b>Approval</b>	  ZS 75: 
<b>Max. wire length</b>	50 m



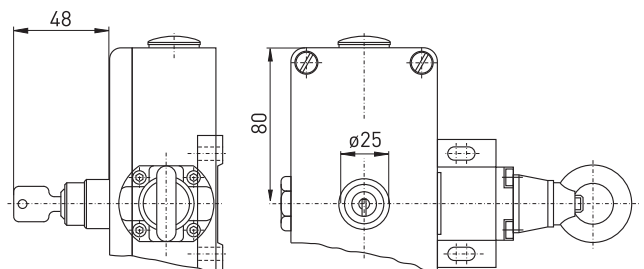
### Variants ZS 73 S / EEx ZS 73 S

VS



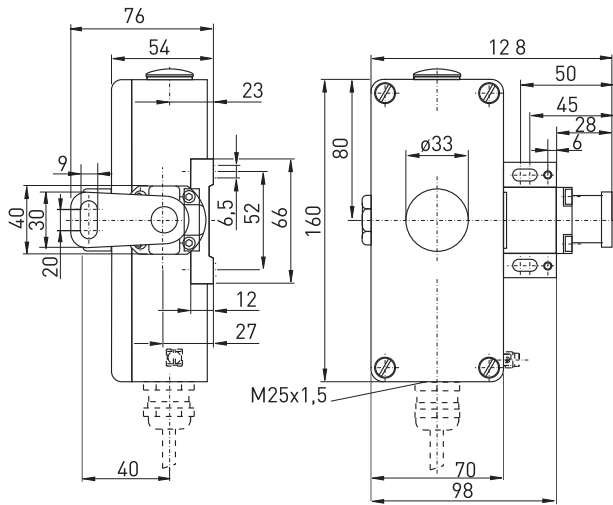
### Variants ZS 75 / EEx ZS 75

VS



# Emergency pull-wire switches

## // ZS 75 S / EEx ZS 75 S

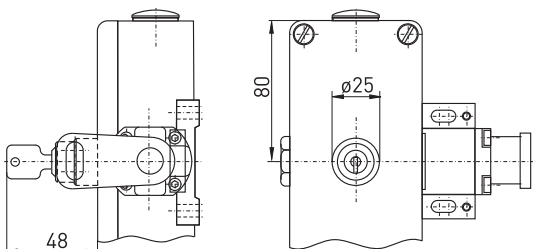


### Technical data

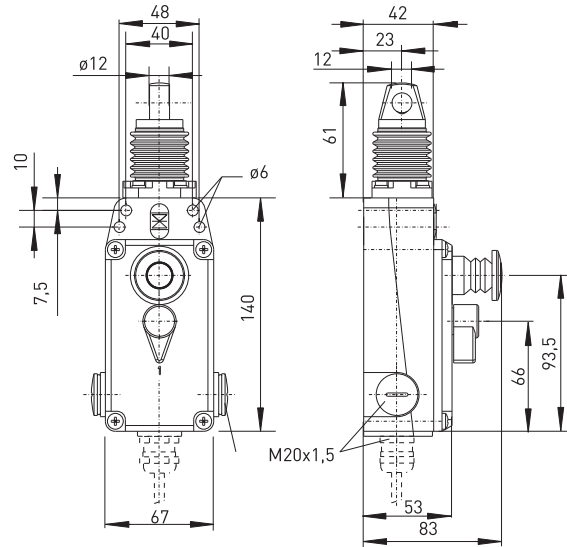
<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1, IEC 60947-5-5, EN 418; Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Cover</b>	aluminium diecast, enamelled
<b>Protection class</b>	IP 67; EEx ZS ... VD, EEx ZS ... WVD: IP 65; EEx ZS ... VS and EEx ZS ... WVS: IP 54 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	screw terminals; Ex: cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	100.000
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/250 VAC, 0,25 A/230 VDC
<b>Utilisation category</b>	AC-15, DC-13
<b>Ambient temperature</b>	-25 °C ... +70 °C; Ex: -20 °C ... +65 °C, T5: +75 °C
<b>Ex marking</b>	⊕ II 2G EEx d IIC T6/T5 II 2D IP65 T80°C/T95°C
<b>Approval</b>	ZS 75 S:
<b>Max. wire length</b>	2 x 50 m

### Variants ZS 75 S / EEx ZS 75 S

VS

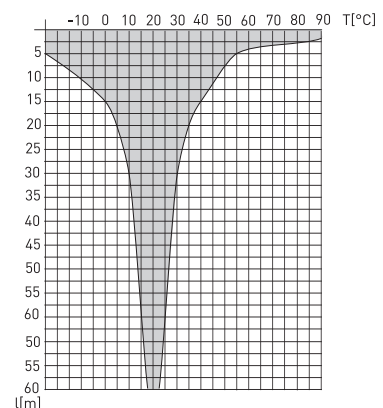


## // ZS 80 / EEx ZS 80



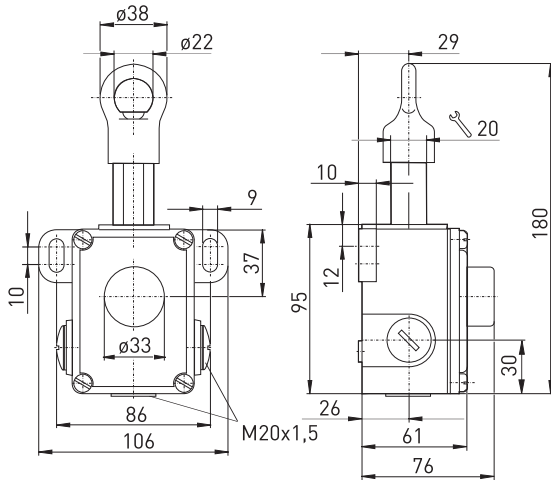
### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1, IEC 60947-5-5, EN 418; Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Cover</b>	thermoplastic, self-extinguishing ultramid
<b>Protection class</b>	IP 67 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	screw terminals; Ex: cable H05VV-F 4 x 0.75 mm <sup>2</sup>
<b>B<sub>10d</sub> (10% Load)</b>	100.000
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	2 A/250 VAC
<b>Utilisation category</b>	AC-15
<b>Ambient temperature</b>	-20 °C ... +70 °C; Ex: -20 °C ... +65 °C, T5: +75 °C
<b>Ex marking</b>	⊕ II 2G EEx d IIC T6/T5 II 2D IP65 T80°C/T95°C
<b>Approval</b>	ZS 80:
<b>Max. wire length</b>	75 m
<b>Recommended wire length</b>	



# Emergency pull-wire switches

## // ZS 441



## // Wire thimble 3B



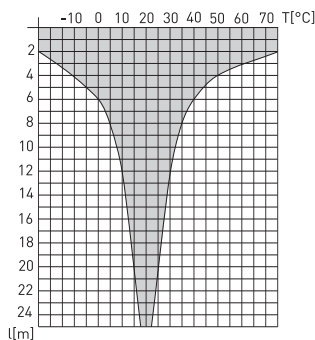
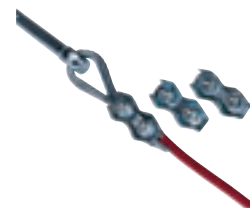
### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1, IEC 60947-5-5, EN 418;
<b>Enclosure</b>	aluminium diecast, enamelled
<b>Cover</b>	aluminium diecast, enamelled
<b>Protection class</b>	ZS ... VD: IP 65; ZS ... VS: IP 54 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Termination</b>	screw terminals
<b>B<sub>10d</sub> (10% Load)</b>	100.000
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/400 VAC
<b>Utilisation category</b>	AC-15
<b>Ambient temperature</b>	-25 °C ... +70 °C
<b>Approval</b>	c  US
<b>Max. wire length</b>	25 m
<b>Recommended wire length</b>	

## // Wire clamp

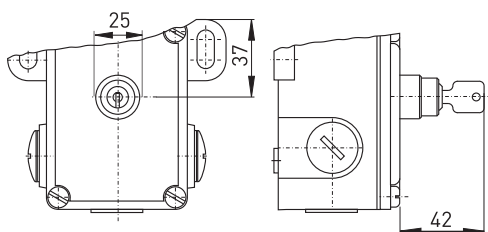


## // Duplex wire clamp



### Variants ZS 441

#### VS





# Emergency pull-wire switches

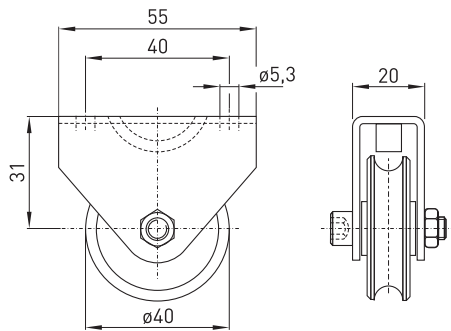
// Complete pull-wire set



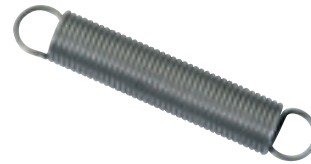
// Compensation spring RZ 130 K



// Pulley



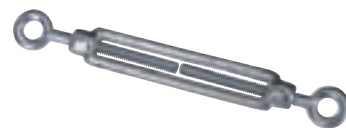
// Tension spring RZ-156I



// Eye bolt



// Tensioner

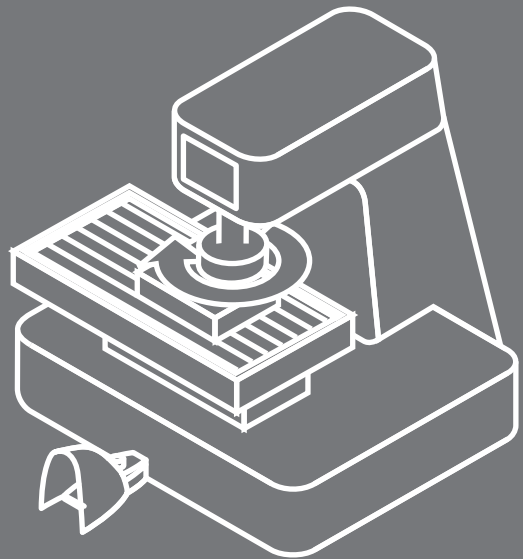




Metal enclosure

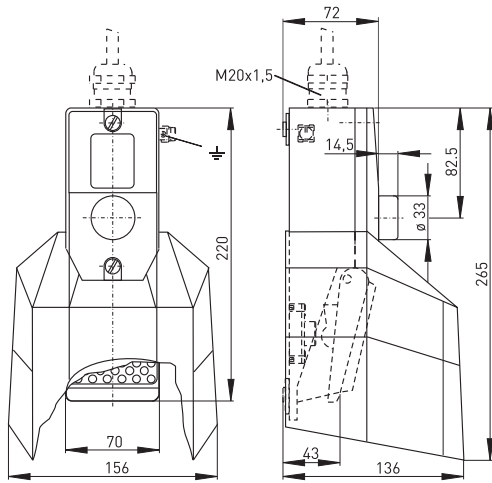
// Series GFS VD / EEx GFS VD  
from page 44

// Series GFSI VD / EEx GFSI VD  
from page 44

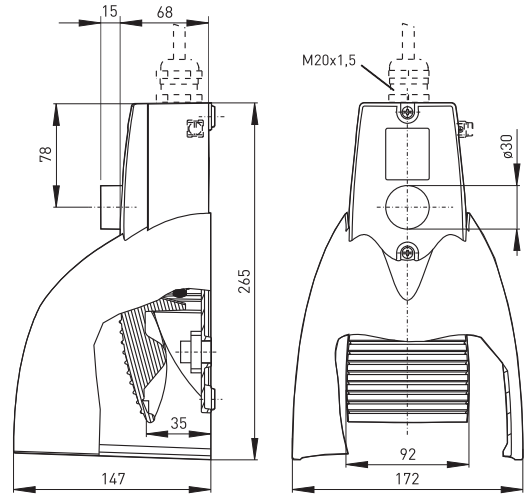


# Safety foot switches

## // GFS VD / EEx GFS VD



## // GFSI VD / EEx GFSI VD



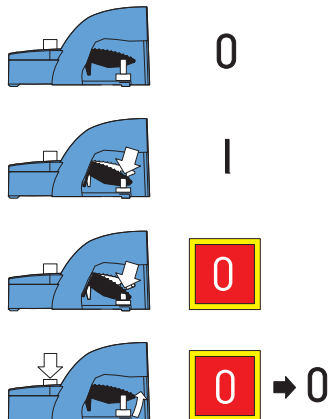
### Technical data

<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; BG-GS-ET-15 Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	aluminium diecast, enamelled, RAL 5011
<b>Pedal</b>	glass-fibre reinforced thermoplastic
<b>Protective shield</b>	aluminium diecast, enamelled, RAL 5011
<b>Protection class</b>	IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb, NC contact with positive break ⊖
<b>Contacts</b>	GFS VD: 1 NO/1 NC contact or 2 NO/2 NC contacts, EEx GFS VD: 1 NO/1 NC contact GFS IK VD: 1 NO/1 NC contact or 2 NO/2 NC contacts
<b>Termination</b>	screw clamps, max. 2.5 mm <sup>2</sup> (incl. conductor ferrules); EEx: cable
<b>B<sub>10d</sub> (10% Load)</b>	100.000
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	GFS VD: 16 A/400 VAC, GFS IK VD: 6 A/400 VAC
<b>Utilisation category</b>	AC-15
<b>Ambient - temperature</b>	-25 °C ... +80 °C
<b>Ex marking</b>	⊕ II 2G EEx d IIC T6/T5 II 2D IP65 T80°C/T95°C
<b>Approval</b>	GFS VD:

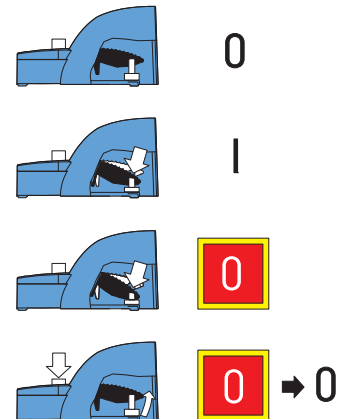
### Technical data

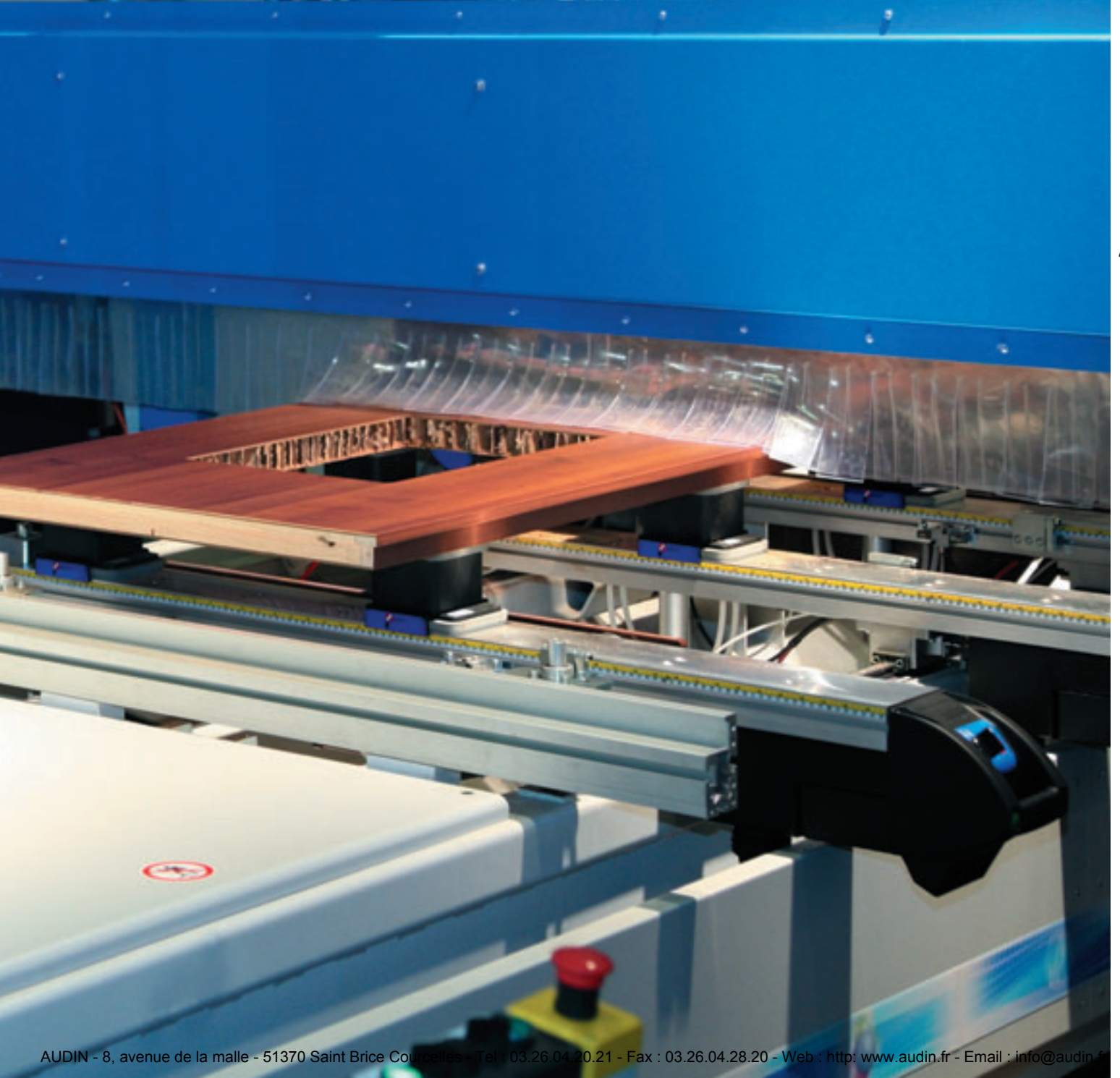
<b>Standards</b>	IEC 13849-1-2; IEC 60947-5-1; BG-GS-ET-15 Ex: IEC/EN 60079-0, -1; IEC/EN 61241-0, -1
<b>Enclosure</b>	aluminium diecast, enamelled, RAL 5011
<b>Pedal</b>	aluminium diecast, enamelled, RAL 5011
<b>Protective shield</b>	aluminium diecast, enamelled, RAL 2004
<b>Protection class</b>	IP 65 to IEC 60529
<b>Switching system</b>	change-over contact with double break Zb, NC contact with positive break ⊖
<b>Contacts</b>	GFSI VD: 1 NO/1 NC contact or 2 NO/2 NC contacts EEx GFSI VD: 1 NO/1 NC contact GFSI IK VD: 1 NO/1 NC contact or 2 NO/2 NC contacts
<b>Termination</b>	screw clamps, max. 2.5 mm <sup>2</sup> (incl. conductor ferrules); EEx: cable
<b>B<sub>10d</sub> (10% Load)</b>	100.000
<b>M</b>	10 years
<b>I<sub>e</sub>/U<sub>e</sub></b>	GFSI VD: 16 A/400 VAC, GFSI IK VD: 6 A/400 VAC
<b>Utilisation category</b>	AC-15
<b>Ambient - temperature</b>	-25 °C ... +80 °C
<b>Ex marking</b>	⊕ II 2G EEx d IIC T6/T5 II 2D IP65 T80°C/T95°C
<b>Approval</b>	GFSI VD:

### Function principle



### Function principle









In addition to safety switches and solenoid interlocks, emergency pull-wire, as well as safety foot switches and command devices steute designs and produces for industrial applications and explosion protection, a. o. foot, pull-wire and door handle switches, as well as industrial switchgear with

radio technology. Furthermore steute boasts a wide program of control devices for complex and critical applications of medical equipment.

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