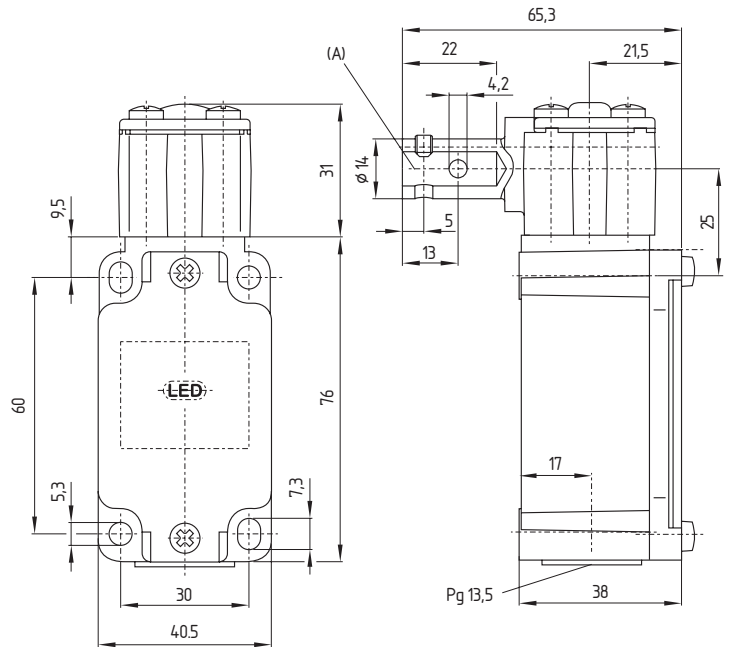


**4. Safety switches for hinged safety guards**  
**4.2 Hinge safety switches**  
**4.2.2 TV.S 335 range**



**Features**

- Metal enclosure
- Good resistance to oil and petroleum spirit
- Actuator heads can be turned in steps 4 x 90° using Torx T 20 screwdriver and pin
- Actuating shaft can be turned 360°
- 1 cable entry
- LED version available

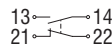
**Shaft bore A**

**Hinge pin fixing**

TV8S 335:  $\phi$  8 mm  
 TV10S 335:  $\phi$  10 mm

**Contacts/  
Switch travel**

**1 NO  
1 NC**

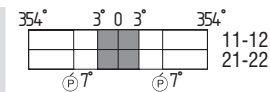
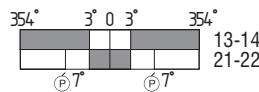


**2 NC**



Slow action

**TV8S 335-11z  
TV10S 335-11z**



**TV8S 335-02z  
TV10S 335-02z**

**Notes**

Closed guard device = 0° in contact switch travel diagrams.  
 This is the rest position of the switch.

**Approvals**



# 4. Safety switches for hinged safety guards

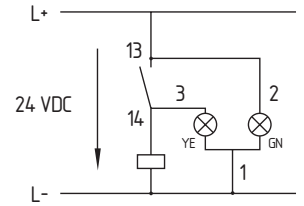
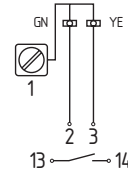
## 4.2 Hinge safety switches

### 4.2.2 TV.S 335 range

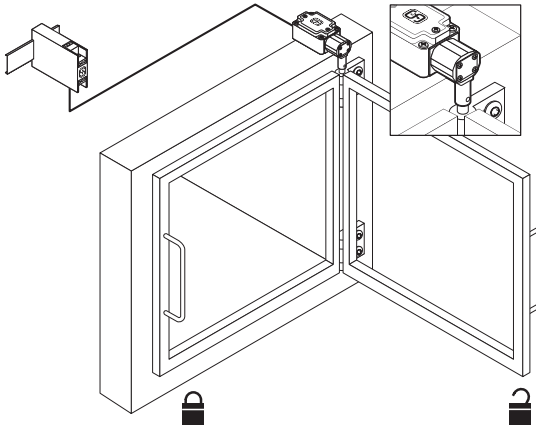


**LED version** Protected against incorrect polarity and voltage spikes, ordering suffix G24

- Only possible on versions with 1 NO and 1 NC contact



#### Application



#### Info

- Universal joint available to compensate for axial displacement, see chapter 4.2.7
- Cable entry 1/2" NPT, ordering suffix -NPT
- Cable entry M 20 x 1.5, ordering suffix -M20
- M 12 plug (A-coding), ordering suffix -ST
- M 12 plug (B-coding), ordering suffix -2310
- Setting assistance:  
Grub screw for location, shaft pre-drilled for pin

To safeguard up to Control Category 3 to EN 954-1, the Safety System Kit No. 7 can be used.

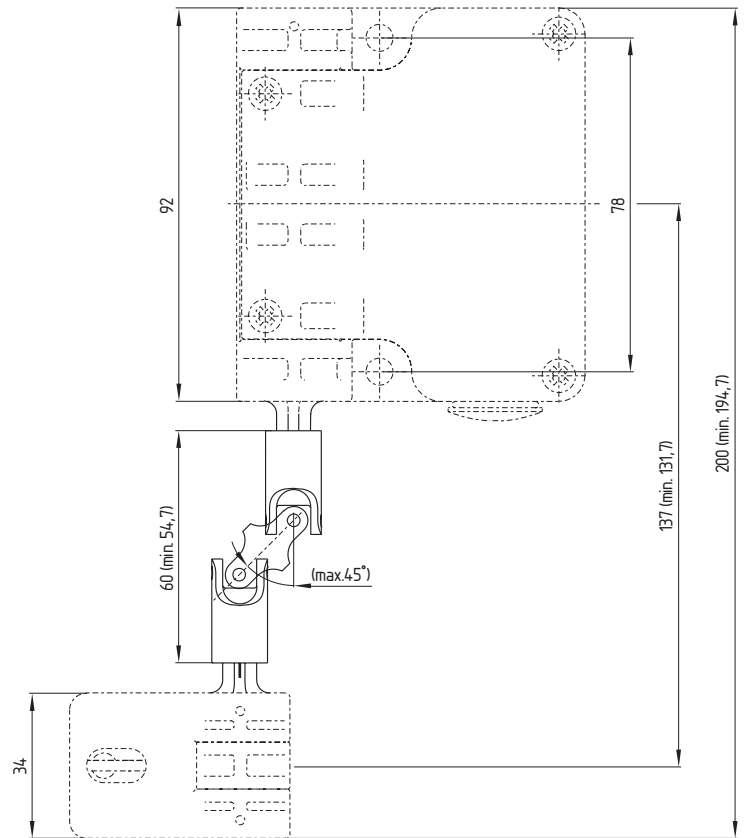
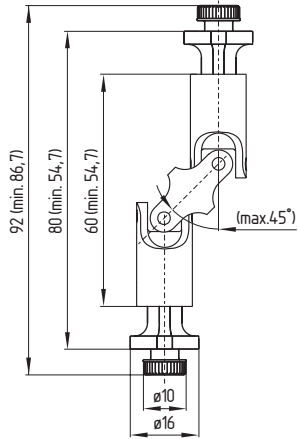
This comprises an AES 1235 guard door monitor, a TV10S 335-11z, a Pg cable gland and tamperproof screws

**4. Safety switches for hinged safety guards**  
**4.2 Hinge safety switches**  
**4.2.7 Accessories**



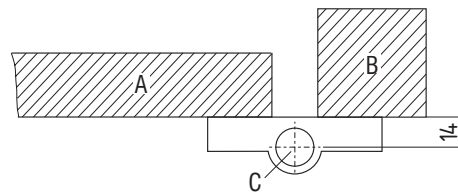
**Universal joint K1**

- Complete with pins mounted
- Only suitable for TV8S 521



**Mounting details**

- A = Guard door
- B = Door post
- C = Door hinge
- D = Distance from axis of hinge

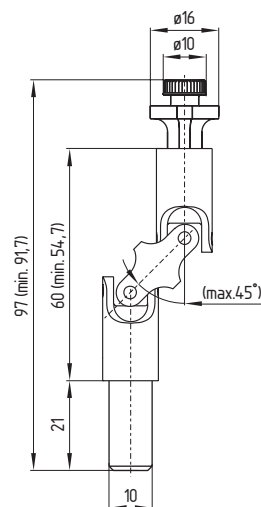


**4. Safety switches for hinged safety guards**  
**4.2 Hinge safety switches**  
**4.2.7 Accessories**



### Universal joint K2

- Factory-mounted pins
- Suitable for ES 95 SB-10mm, EEx 95 SB-10mm, TV10S 335 and TV10S 355
- Suitable only in connection with hinges F and L



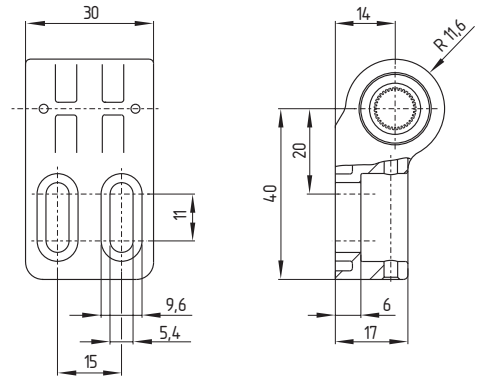
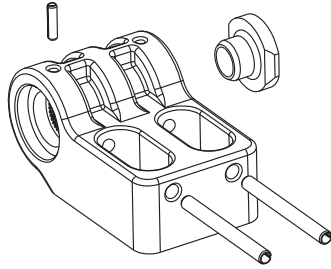
**4. Safety switches for hinged safety guards**  
**4.2 Hinge safety switches**  
**4.2.7 Accessories**



**Fixed hinge F**

**Included in delivery**

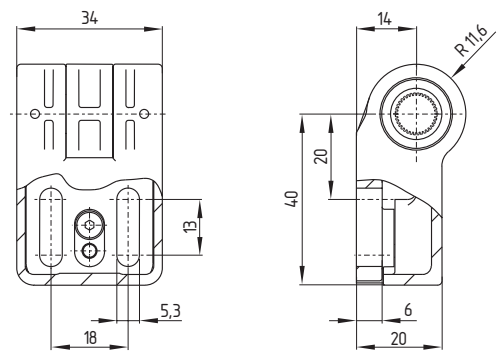
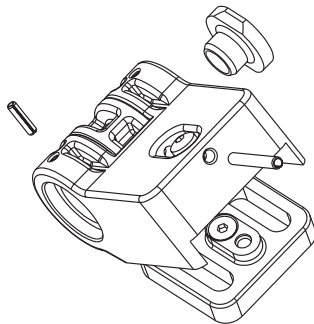
- Locating pins
- One blanking plug
- Two M 5 x 20 screws to ISO 7380



**Adjustable hinge L**

**Included in delivery**

- Locating pins
- One blanking plug
- Two M 5 x 20 screws to ISO 7380



## 4. Safety switches for hinged safety guards

### 4.3 Technical data

	TV.S 335/355	T.V10S 500	TVS 400	TV8S 521
Standards:	IEC/EN 60947-5-1; EN 1088; BG-GS-ET-15			
Design:	Mounting dimensions to EN 50047			
Enclosure material:	Light-alloy diecasting, enamelled	Light-alloy, enamelled	Glass-fibre reinforced thermoplastic, self-extinguishing	Light-alloy diecasting, enamelled
Protection class:	IP 67		IP 65	IP 67
	to IEC/EN 60529			
Contact material:	Silver			
Contact type:	Change-over with double break Zb or 1 NC or 2 NC, with galvanically separated contact bridges	2 or 3 change-over contacts with double break Zb	Change-over with double break Zb or 3 NC	2 change-over contacts with double break Zb, with galvanically separated contact bridges
Switching system:	⊖ IEC 60947-5-1; ⊕ BG-GS-ET-15; slow action, NC contacts with positive break			
Termination:	Screw terminals for max. 2.5 mm <sup>2</sup> cables (incl. conductor ferrules)	Screw terminals for max. 1.5 mm <sup>2</sup> cables (incl. conductor ferrules)		
Rated impulse withstand voltage U <sub>imp</sub> :	6 kV	4 kV	2.5 kV	4 kV
Rated insulation voltage U <sub>i</sub> :	500 V	250 V		
Thermal test current I <sub>th</sub> :	10 A		2.5 A	6 A
Utilisation category:	AC-15; DC-13			
Rated operating current/voltage I <sub>e</sub> /U <sub>e</sub> :	4 A/230 VAC; 2.5 A/400 VAC; 1 A/500 VAC; 1 A/24 VDC		2.5 A/230 VAC; 2 A/250 VAC; 1 A/24 VDC	4 A/230 VAC; 2.5 A/400 VAC; 1 A/500 VAC; 1 A/24 VDC
Max. fuse rating:	6 A (slow blow)		2 A (slow blow)	6 A (slow blow)
Ambient temperature:	- 25 °C ... + 70 °C	- 25 °C ... + 80 °C	- 25 °C ... + 65 °C	- 25 °C ... + 70 °C
Mechanical life:	> 1 million operations	3 million operations	> 1 million operations	
Switching frequency:	Max. 1,000 / h		Max. 1,200 / h	Max. 1,000 / h
Shaft bore:	Ø 8 or 10 mm	Ø 10 mm	-	Inner toothing
Positive break angle:	7°	10°	5°	14°
Positive break torque:	0.23 Nm	1.5 Nm	1 Nm	0.8 Nm

