

# Position switches with safety function

## // Series ES/EM 95

### Features/Options

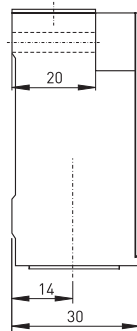
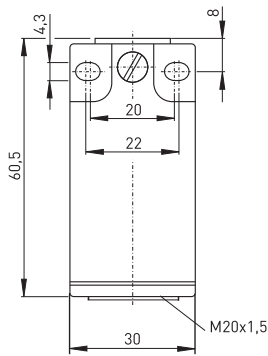
- Thermoplastic enclosure
- Transversely slotted mounting holes
- Double insulated
- Slow action with overlapping contacts available
- Wide range of alternative actuators
- Actuator heads can be repositioned in 4 x 90° steps
- Angle of offset roller lever can be adjusted in 10° steps
- 1 cable entry M20 x 1.5
- Good resistance to oil and petroleum spirit

## // ES/EM 95



### Technical data

<b>Standards</b>	IEC/EN 60947-5-1; EN 1088; BG-GS-ET-15
<b>Class</b>	DIN EN 50 047
<b>Enclosure</b>	glass-fibre reinforced, shock-proof thermoplastic, self-extinguishing UL 94-V0
<b>Protection class</b>	IP 67 to IEC/EN 60529
<b>Contact material</b>	silver
<b>Switching elements</b>	change-over contact with double break Zb or 2 NC contacts, galvanically separated contact bridges
<b>Switching system</b>	⊖ IEC 60947-5-1 slow or snap action, positive break NC contacts
<b>Termination</b>	plug-in connector
<b>Cable section</b>	max. 2.5 mm <sup>2</sup> (incl. conductor ferrules)
<b>Cable entry</b>	M 20 x 1.5
<b>U<sub>imp</sub></b>	4 kV
<b>U<sub>i</sub></b>	400 V
<b>I<sub>the</sub></b>	6 A
<b>Utilisation category</b>	AC-15; DC-13
<b>I<sub>e</sub>/U<sub>e</sub></b>	6 A/400 VAC; 0.25 A/230 VDC
<b>Max. fuse rating</b>	6 A gL/gG D-fuse
<b>Mechanical life</b>	> 1 million operations
<b>Switching frequency</b>	1800/h
<b>Ambient temperature</b>	- 20 °C ... + 80 °C
<b>Contact opening</b>	2 x 3.5 mm
<b>Approvals</b>	



### Ordering details

ES 95 WH 1Ö/1S-V-LL

- █ Longitudinal slotted holes
- █ Locking
- █ Contact type 1NC/1NO, (2Ö, 2S, UE)
- █ Actuator H (R, D, DS, etc. ...)
- █ Watertight collar
- █ Series
- █ S Slow action (M Snap action)

# Position switches with safety function // Series ES 95/EM 95, actuators

## Features/Options

- Mechanical locking: release by means of push button
- Mechanical locking V only possible with slow action
- With gold-plated contacts available on request

## Features/Options

- Actuator type B to DIN EN 50 047
- Actuator with watertight collar

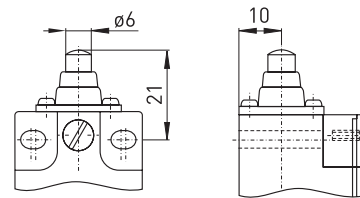
### // Mechanical locking



### // Connector M12 x 1, 4-pole



### // Plunger W



#### Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC / 1 NO contact	<b>EM 95 W 10/1S</b> 	<b>ES 95 W 10/1S</b> 
1 NC / 1 NO contact with overlapping		<b>ES 95 W UE</b> 
2 NC contacts		<b>ES 95 W 20</b> 



# Position switches with safety function

## // Series ES/EM 95, actuators

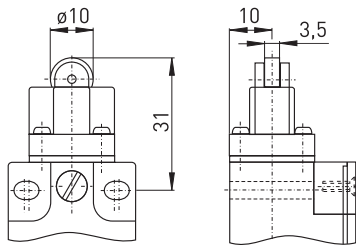
### Features/Options

- Actuator type C to DIN EN 50 047
- Wear-resistant thermoplastic roller
- Metal roller available on request
- Actuator heads can be repositioned in 4 x 90° steps

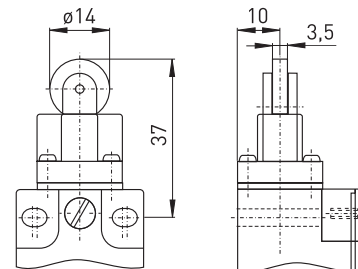
### Features/Options

- Wear-resistant thermoplastic roller
- Metal roller available on request
- Actuator heads can be repositioned in 4 x 90° steps

## // Roller plunger R



## // Long roller plunger RL



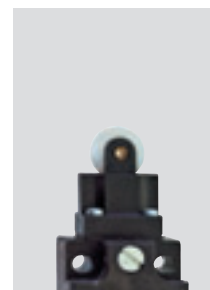
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### Contact variants: switch travel/contacts

### Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC / 1 NO contact	<b>EM 95 R 10/1S</b> 	<b>ES 95 R 10/1S</b> 
1 NC / 1 NO contact with overlapping		<b>ES 95 R UE</b> 
2 NC contacts		<b>ES 95 R 20</b> 

	Snap action	Slow action
1 NC / 1 NO contact	<b>EM 95 RL 10/1S</b> 	<b>ES 95 RL 10/1S</b> 
1 NC / 1 NO contact with overlapping		<b>ES 95 RL UE</b> 
2 NC contacts		<b>ES 95 RL 20</b> 



**Features/Options**

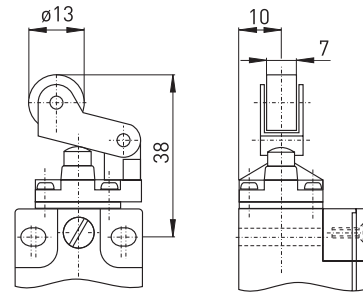
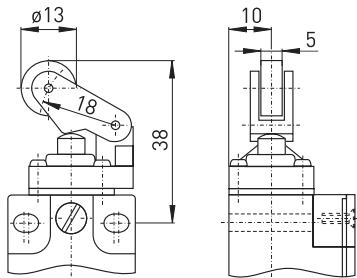
- Actuating speed 0.5 m/s with an actuating angle of  $\alpha = 40^\circ$  and  $\beta = 25^\circ$
- Actuator type E to DIN EN 50 047
- Actuator with watertight collar
- Wear-resistant thermoplastic roller
- Actuator heads can be repositioned in 4 x 90° steps
- Metal roller available on request

**Features/Options**

- Actuating speed 0.5 m/s with an actuating angle of  $\alpha = 40^\circ$  and  $\beta = 25^\circ$
- Actuator with watertight collar
- Wear-resistant thermoplastic roller
- Actuator heads can be repositioned in 4 x 90° steps
- Metal roller available on request

// Roller lever WH

// Metal roller lever WHM

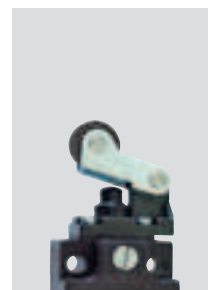


Contact variants: switch travel/contacts

Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC / 1 NO contact	<b>EM 95 WH 10/1S</b> 	<b>ES 95 WH 10/1S</b> 
1 NC / 1 NO contact with overlapping		<b>ES 95 WH UE</b> 
2 NC contacts		<b>ES 95 WH 20</b> 

	Snap action	Slow action
1 NC / 1 NO contact	<b>EM 95 WHM 10/1S</b> 	<b>ES 95 WHM 10/1S</b> 
1 NC / 1 NO contact with overlapping		<b>ES 95 WHM UE</b> 
2 NC contacts		<b>ES 95 WHM 20</b> 



# Position switches with safety function

## // Series ES/EM 95, actuators

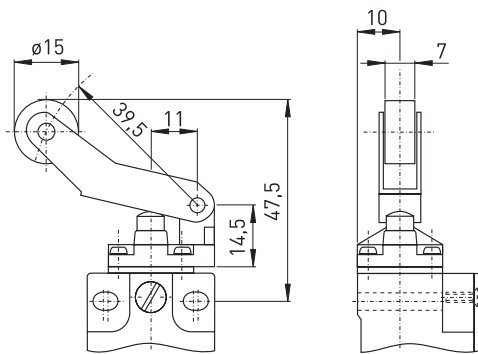
### Features/Options

- Actuating speed 0.5 m/s with an actuating angle of  $\alpha = 40^\circ$
- Actuator with watertight collar
- Wear-resistant thermoplastic roller
- Actuator heads can be repositioned in 4 x 90° steps
- Metal roller available on request

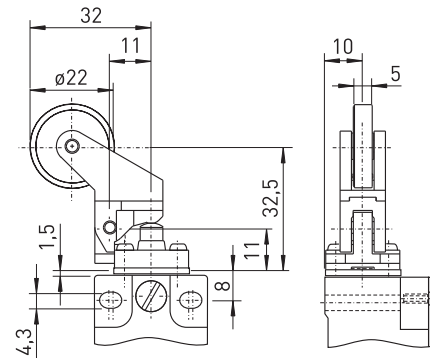
### Features/Options

- Actuating speed 0.5 m/s with an actuating angle of  $\alpha = 40^\circ$
- Wear-resistant thermoplastic roller
- Actuator heads can be repositioned in 4 x 90° steps
- Metal roller available on request

### // Long metal roller lever WHLM



### // Plastic roller lever 4K



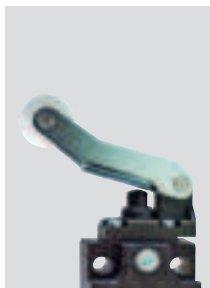
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#### Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC / 1 NO contact	<b>EM 95 WHLM 10/1S</b> 	<b>ES 95 WHLM 10/1S</b> 
1 NC / 1 NO contact with overlapping		<b>ES 95 WHLM UE</b> 
2 NC contacts		<b>ES 95 WHLM 20</b> 

#### Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC / 1 NO contact	<b>EM 95 4K 10/1S</b> 	<b>ES 95 4K 10/1S</b> 
1 NC / 1 NO contact with overlapping		<b>ES 95 4K UE</b> 
2 NC contacts		<b>ES 95 4K 20</b> 



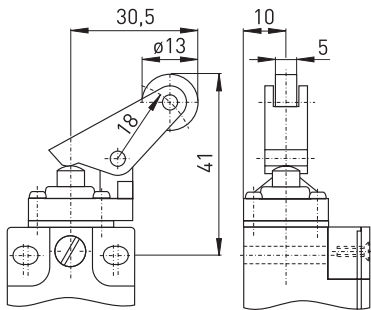
**Features/Options**

- Actuating speed 0.5 m/s with an actuating angle of  $\alpha = 30^\circ$
- Actuator with watertight collar
- Wear-resistant thermoplastic roller
- Actuator heads can be repositioned in 4 x 90° steps
- Actuation parallel to axis of switch from below
- Metal roller available on request

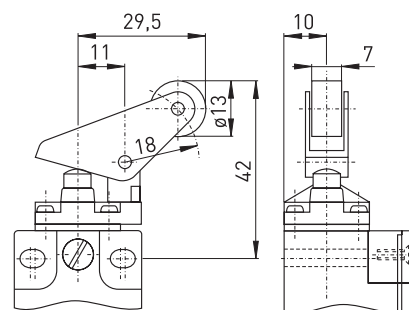
**Features/Options**

- Actuating speed 0.5 m/s with an actuating angle of  $\alpha = 30^\circ$
- Actuator with watertight collar
- Wear-resistant thermoplastic roller
- Actuator heads can be repositioned in 4 x 90° steps
- Actuation parallel to axis of switch from below
- Metal roller available on request

// Parallel roller lever WPH



// Parallel metal roller lever WPHM



Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC / 1 NO contact	EM 95 WPH 10/1S 	ES 95 WPH 10/1S 
1 NC / 1 NO contact with overlapping		ES 95 WPH UE 
2 NC contacts		ES 95 WPH 2Ö 

Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC / 1 NO contact	EM 95 WPHM 10/1S 	ES 95 WPHM 10/1S 
1 NC / 1 NO contact with overlapping		ES 95 WPHM UE 
2 NC contacts		ES 95 WPHM 2Ö 



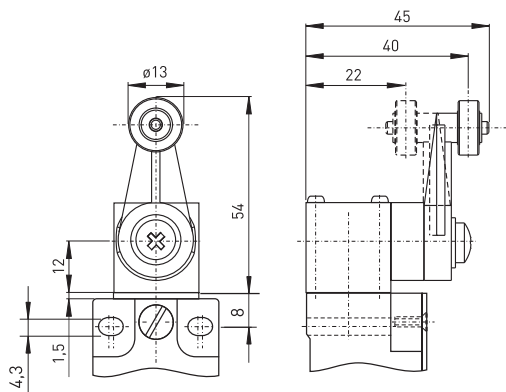
# Position switches with safety function

## // Series ES/EM 95, actuators

### Features/Options

- Lever angle adjustable in 10° steps
- Wear-resistant thermoplastic roller
- Actuator heads can be repositioned in 4 x 90° steps
- Metal roller available on request

## // Roller lever D



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### Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC / 1 NO contact	<b>EM 95 D 10/1S</b> 	<b>ES 95 D 10/1S</b> 
1 NC / 1 NO contact with overlapping		<b>ES 95 D UE</b> 
2 NC contacts		<b>ES 95 D 20</b> 

