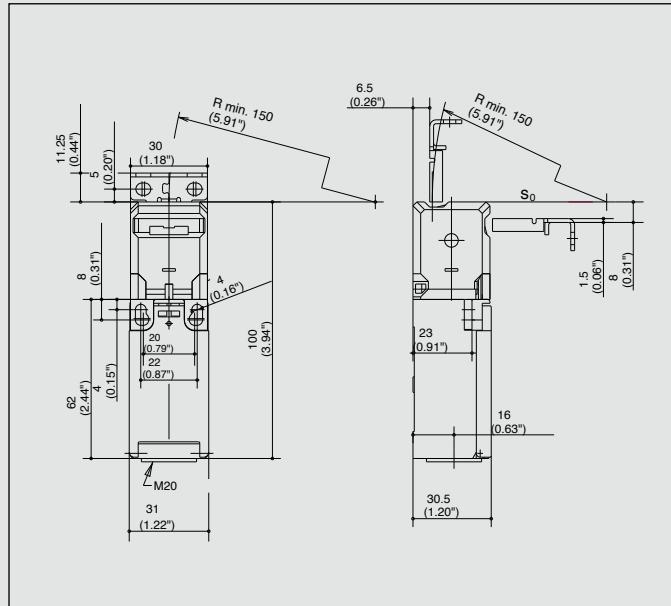




## SKI



The SKI is the slimline version of a safety switch with separate actuator. It is based on the BERNSTEIN I88 family. Its dimensions, not including the actuating head, correspond to EN 50047.

The actuating head is rotary mounted and has two actuator openings. The SKI safety switch is predestined for installation on section structures and in applications with confined installation conditions. Compared to the SKT, it offers more connection space for the wiring and variants with up to three switching contacts are available.

Other advantages of this series include:

**● Integrated eject function (FE):**

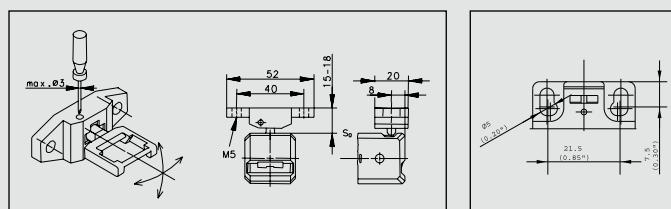
The actuator is ejected if the door is not locked securely. Consequently, the safety contact is opened, thus preventing the machine from starting up. In addition, this function makes it apparent that the door still needs to be locked.

**● Actuating force (up to 50 N):**

The standard actuating force is 10 N. Depending on the switch variant, an actuating force of 50 N can also be selected. In many applications, hatches and doors need to be secured to prevent them being opened unintentionally. This is achieved by means of bolts, fasteners or other latching mechanisms. The SKI safety switch should be selected for applications requiring increased actuating force.

**● Universal radius actuator (MRU):**

The MRU actuator is ideally suited for applications where the installation conditions severely restrict the actuating travel or radius. It has an adjustable actuating radius in the horizontal and vertical plane.



$R_{min}$  in setting directions 50 mm  
Actuating forces FE to FI50

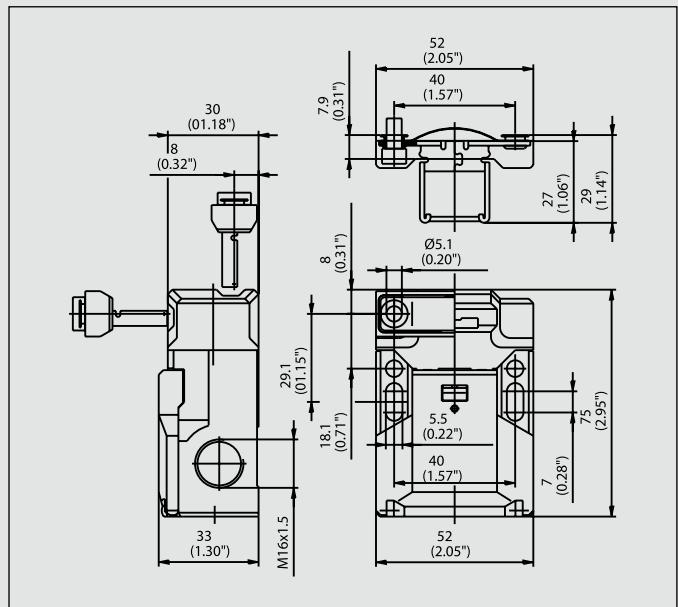
**Technical data**

Electrical data		
Rated insulation voltage	$U_i$ max.	250 V AC
Rated operating voltage	$U_e$ max.	240 V
Conventional thermal current (up to) <sup>①</sup>	$I_{the}$	10 A
Utilization category (up to) <sup>①</sup>	AC-15, $U_e$ / $I_e$ 240 V / 3 A	
Mechanical data		
Switching frequency	$\leq 30$ /min.	
Mechanical service life Standard	$1 \times 10^6$ switching cycles	
Mechanical service life increased actuator holding force B10d (up to) <sup>①</sup>	$1 \times 10^5$ switching cycles	
Short-circuit protection	2 Mill.	
Protection class	Fuse 6 A gL/gG	
Ambient temperature	II, Insulated	
Protection class	-30 °C to +80 °C	
Type of connection	IP65 conforming to IEC/EN 60529	
Conductor cross sections	Screw connections	
Enclosure	Single-wire 0.5 - 1.5 mm <sup>2</sup> or Stranded wire with ferrule 0.5 - 1.5 mm <sup>2</sup>	
Cable entry	Thermoplastic, glass fibre-reinforced (UL94-V0)	
Standards		
VDE 0660 T100, DIN EN 60947-1, IEC 60947-1		
VDE 0660 T200, DIN EN 60947-5-1, IEC 60947-5-1		

<sup>①</sup> Depending on switching system. See Table on Pages 76-79.

# Safety Switches with Separate Actuator

## SKC



In terms of lengths, the SKC safety position switch is the 15 mm shorter variant of the SK. This makes it the right choice for confined installation conditions.

The SKC otherwise offers the same advantages as the SK: Industrial standard with particular emphasis on safety, personal protection, variable actuator head with two actuator openings.

Other decisive advantages include:

### ● Different actuating forces:

Corresponding to your specific application, in addition to the standard 10 N, you can also choose an actuating force of 5, 20, 30 or 50 N.

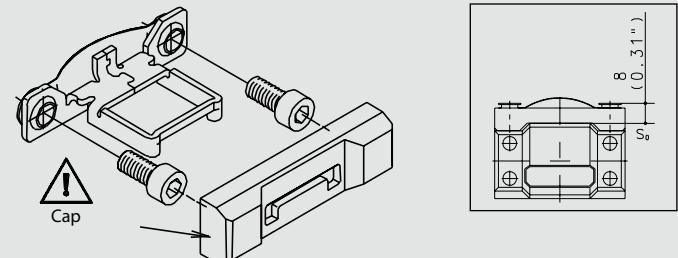
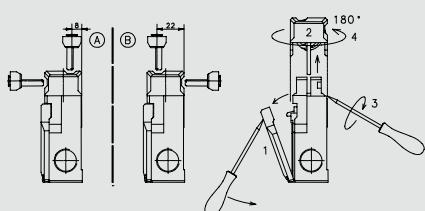
Actuating forces from 30 to 100 N can be realised with the aid of additional components that are mounted on the outside of the switch.

### ● Anti-tamper facility:

The switching system is protected by multiple coding to ensure enhanced safety of your application.

### ● Outstanding handling:

With the two slots you can easily adjust the SKC safety switch and lock it in position by means of the two holes accessible from the top or the two holes accessible from the front. The switch can be wired from three different sides. A transparent cover prevents foreign particles from entering the contact space while connecting the power supply cable.



$R_{min}$  150 mm (5.9")  
Actuator: Metal

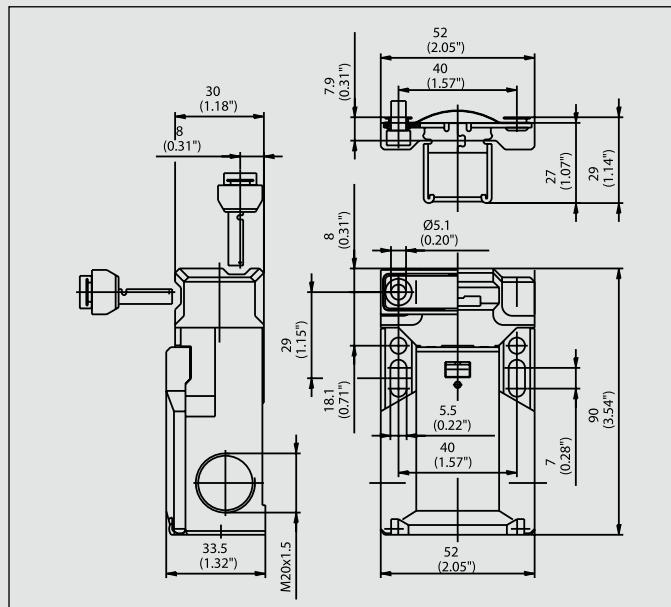
### Technical data

Electrical data				
Rated insulation voltage	$U_i$ max.	250 V AC		
Rated operating voltage	$U_e$ max.	240 V		
Conventional thermal current	$I_{the}$	5 A		
Utilization category	AC-15, $U_e$ 240 V / 1.5 A			
Mechanical data				
Switching frequency	$\leq 30$ /min.			
Mechanical service life	$1 \times 10^6$ switching cycles			
B10d (up to) <sup>①</sup>	2 Mill.			
Short-circuit protection	Fuse 6 A gL/gG			
Protection class	II, Insulated			
Ambient temperature	-30 °C ... +80 °C			
Protection class	IP65 conforming to IEC/EN 60529			
Type of connection	Screw connections			
Conductor cross sections	Single-wire 0.5 - 1.5 mm <sup>2</sup> or Stranded wire with ferrule 0.5 - 1.5 mm <sup>2</sup>			
Enclosure	Thermoplastic, glass fibre-reinforced (UL94-V0)			
Cable entry	3 x M16 x 1.5			
Standards				
VDE 0660 T100, DIN EN 60947-1, IEC 60947-1 VDE 0660 T200, DIN EN 60947-5-1, IEC 60947-5-1				

<sup>①</sup> Depending on switching system. See Table on Pages 76-79.



## SK



The SK safety position switch is an industry standard and can be used in virtually any application.

Thanks to design safety features conforming to VDE 0660 T200, IEC 60947-5-1 and the test regulations GS-ET 15, the SK is particularly suitable for personal protection applications. Its versatility is enhanced by the variable actuator head and two actuator openings.

Other decisive advantages include:

**● Different actuating forces:**

Corresponding to your specific application, in addition to the standard 10 N, you can also choose an actuating force of 5, 20 or 30 N.

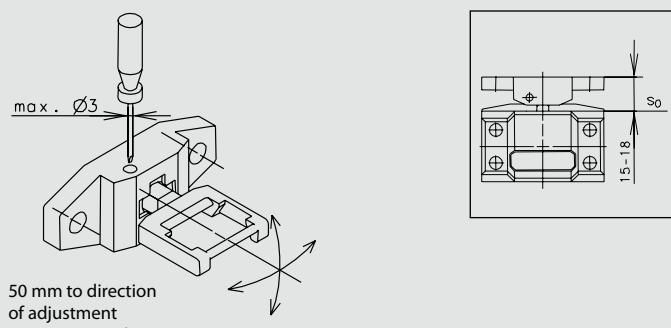
Actuating forces from 30 to 100 N can be realised with the aid of additional components that are mounted on the outside of the switch.

**● Anti-tamper facility:**

The switching system is protected by multiple coding to ensure enhanced safety of your application.

**● Outstanding handling:**

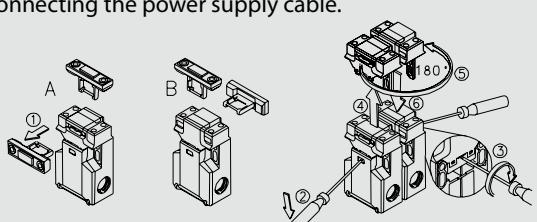
With the two slots you can easily adjust the SK safety switch and lock it in position by means of the two holes accessible from the top or the two holes accessible from the front. The switch can be wired from three different sides. A transparent cover prevents foreign particles from entering the contact space while connecting the power supply cable.



**Technical data**

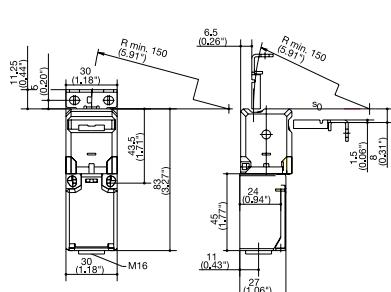
Electrical data				
Rated insulation voltage (up to) <sup>①</sup>	U <sub>i</sub> max.	400 V AC		
Rated operating voltage	U <sub>e</sub> max.	240 V		
Conventional thermal current (up to) <sup>①</sup>	I <sub>the</sub>	10 A		
Utilization category		AC-15, U <sub>e</sub> / I <sub>e</sub> 240 V / 1.5 A		
Mechanical data				
Switching frequency	$\leq 30/\text{min}$			
Mechanical service life	$1 \times 10^6$ switching cycles			
B10d (bis zu) <sup>①</sup>	2 Mill.			
Short-circuit protection (up to) <sup>①</sup>	Fuse 10 A gL/gG			
Protection class	II, Insulated			
Ambient temperature	-30 °C ... +80 °C			
Protection class	IP65 conforming to IEC/EN 60529			
Type of connection	Screw connections			
Conductor cross sections	Single-wire 0.5 - 1.5 mm <sup>2</sup> or Stranded wire with ferrule 0.5 - 1.5 mm <sup>2</sup>			
Enclosure	Thermoplastic, glass fibre-reinforced (UL94-V0)			
Cable entry	3 x M20 x 1.5			
Standards				
VDE 0660 T100, DIN EN 60947-1, IEC 60947-1 VDE 0660 T200, DIN EN 60947-5-1, IEC 60947-5-1				

<sup>①</sup> Depending on switching system. See Table on Pages 76-79.

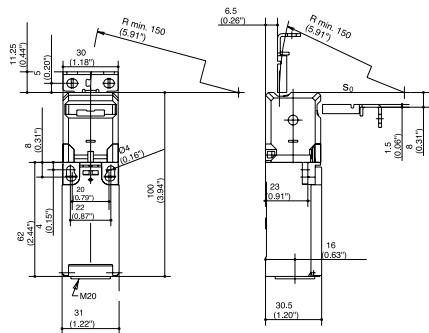


# Safety Switches with Separate Actuator

SKT



SKI



## Switching operation

**1 NC / 1 NO contact**

### Standard

### High actuating force

### Radius actuation

### Standard

### High actuating force

### Radius actuation

**1 NC contacts**

**6016419059**

SKT-U1Z M3

**6016819052**

SKI-U1Z M3

**6016819139**

SKI-U1Z FI50 M3

**6016819123**

SKI-U1Z MRU

**2 NC contacts**

**6016469066**

SKT-A2Z M3

**6016869056**

SKI-A2Z M3

**6016869122**

SKI-A2Z MRU

**1 NC / 1 NO contact  
Overlapping**

**6016869058**

SKI-UV15Z M3

**6016869145**

SKI-UV15Z FI50 M3

**6016869131**

SKI-UV15Z MRU

## Approvals



## Special features/variants (on request)

- Replacement actuator for:  
**3112850340**

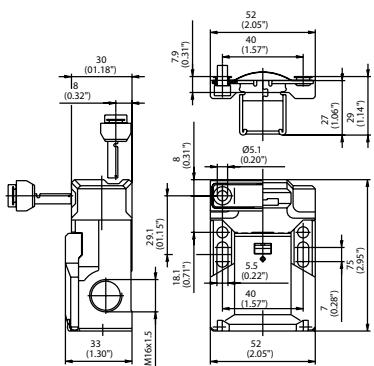
## Special features/variants (on request)

- Replacement actuator for:  
Standard **3112850340**  
High actuating force **3112850340**  
Radius actuation **3911452058**

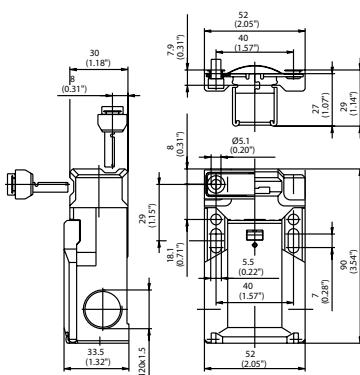


**BERNSTEIN**

**SKC**



**SK**



**Standard**    **High actuating force**    **Radius actuation**

**Standard**    **High actuating force**    **Radius actuation**

**6016119016**    **6116119109**    **6016119084**  
SK-U1Z M            SK-U1Z F30 M            SK-U1Z MRU

**6016169039**    **6116169016**    **6016169087**  
SKC-A1Z M            SKC-A1Z F30 M            SKC-A1Z MRU

**6016169036**    **6016169053**    **6016169085**  
SK-A2Z M            SK-A2Z F30 M            SK-A2Z MRU

**6016169026**    **6016169061**    **6016169086**  
SK-UV15Z M            SK-UV15Z F30 M            SK-UV15Z MRU



#### Special features/variants (on request)

- 50 N and 100 N actuating force on request
- Replacement actuator for:
 

Standard	<b>3911452116</b>
High actuating force	<b>3911451914</b>
Radius actuation	<b>3911452058</b>

#### Special features/variants (on request)

- 100 N actuating force on request
- Replacement actuator for:
 

Standard	<b>3911452116</b>
High actuating force	<b>3911451914</b>
Radius actuation	<b>3911452058</b>

# Safety Switches with Separate Actuator

## Switch with VTW, VTU, VT actuator



ENM-VTW



ENK-VTU

These position switches of the tried-and-tested switch families I88, ENK, ENM2 and GC correspond to Type 2.

This means that you can use Type 1 and Type 2 position switches corresponding to your applications while using one family of switches.

This results in many advantages:

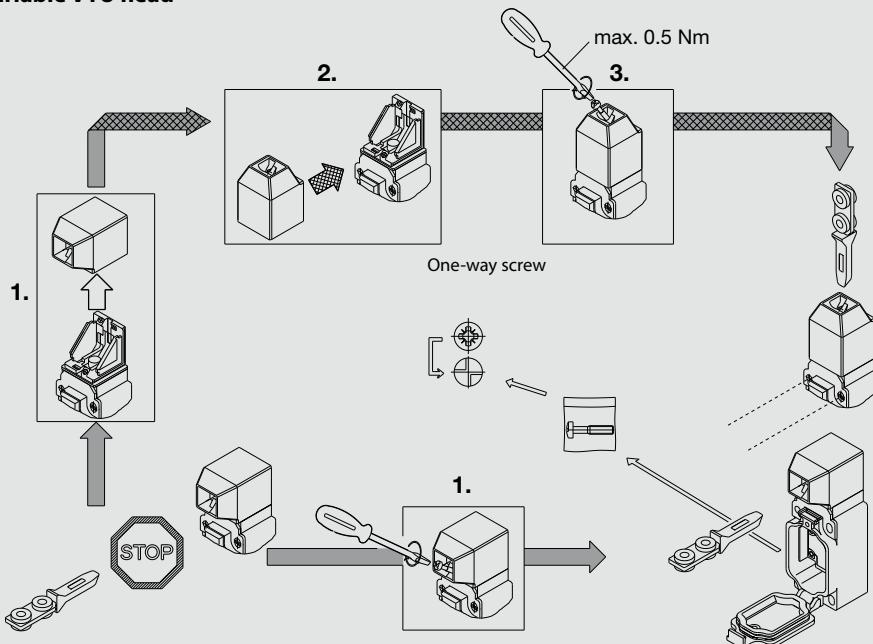
- **Standardisation:**

Switches of one family have the same mounting dimensions and the same electrical properties.

- **Reduced costs:**

I88, ENK, ENM2 and GC are used in large quantities. This not only reflects the quality of the products but also means lower prices compared to special designs used in small quantities.

### Variable VTU head



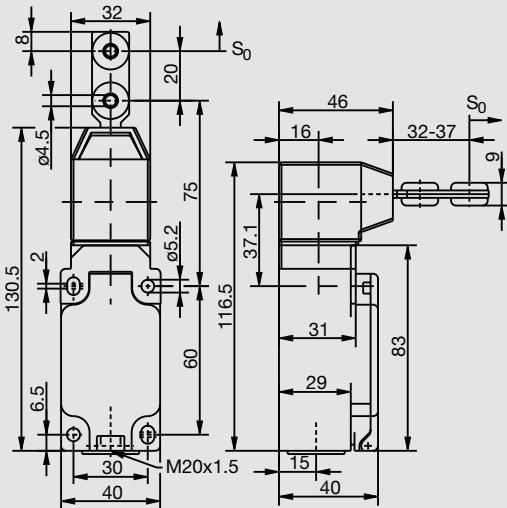
Repositioning the actuator head either in horizontal or vertical direction results in 8 approach actuator directions.



BERNSTEIN



GC-VT

**Technical data**

	I88	ENK	ENM2	GC
<b>Electrical data</b>				
Rated insulation voltage	U <sub>i</sub> 250 V AC	400 V AC	400 V AC	400 V AC
Conventional thermal current (up to) <sup>①</sup>	I <sub>the</sub> 10 A	10 A	10 A	10 A
Rated operating voltage	U <sub>e</sub> 240 V	240 V	240 V	240 V
Utilization category (up to) <sup>①</sup>	AC-15, U <sub>e</sub> / I <sub>e</sub> 240 V / 3 A conforming to IEC/EN 60947-5-1, Addendum K	AC-15, U <sub>e</sub> / I <sub>e</sub> 240 V / 3 A conforming to IEC/EN 60947-5-1, Addendum K	AC-15, U <sub>e</sub> / I <sub>e</sub> 240 V / 3 A conforming to IEC/EN 60947-5-1, Addendum K	AC-15, U <sub>e</sub> / I <sub>e</sub> 240 V / 3 A conforming to IEC/EN 60947-5-1, Addendum K
Forced disconnection	⊕			
Short-circuit protection (up to) <sup>①</sup>	Fuse 10 A gL/gG			
Protection class	II, Insulated	II, Insulated	I	I
<b>Mechanical data</b>				
Enclosure	Thermoplastic, glass fibre-reinforced (UL 94-V0)	Thermoplastic, glass fibre-reinforced	Aluminium pressure die-casting	Aluminium pressure die-casting
Cover	Thermoplastic, glass fibre-reinforced (UL 94-V0)	Thermoplastic, glass fibre-reinforced	Sheet aluminium	Sheet aluminium
Actuation	Separate actuator, Thermoplastic	Separate actuator, (St/PA), Actuator (PA6 GV/Zn-GD)	Separate actuator,(St / PA)	Separate actuator
Ambient temperature	-30°C to +80°C	-30°C to +80°C	-30°C to +80°C	-30°C to +80°C
Mechanical service life	1 x 10 <sup>6</sup> switching cycles			
B10d	2 mill.	2 mill.	2 mill.	2 mill.
Switching frequency	≤ 50/min.	max. 30/min.	≤ 50/min.	≤ 10/min.
Mounting	2 x M4	4 x M5	4 x M5	2 x M4
Type of connection	Screw connections	Screw connections	Screw connections	Screw connections
Conductor cross sections	Single-wire 0.5 - 1.5 mm <sup>2</sup> or Stranded wire with ferrule 0.5 - 1.5 mm <sup>2</sup>	Single-wire 0.5 - 1.5 mm <sup>2</sup> or Stranded wire with ferrule 0.5 - 1.5 mm <sup>2</sup>	Single-wire 0.5 - 1.5 mm <sup>2</sup> or Stranded wire with ferrule 0.5 - 1.5 mm <sup>2</sup>	Single-wire 0.5 - 1.5 mm <sup>2</sup> or Stranded wire with ferrule 0.5 - 1.5 mm <sup>2</sup>
Cable entry	1 x M20 x 1.5			
Weight	≈ 0.09 kg	≈ 0.23 kg	≈ 0.33 kg	≈ 0.32 kg
Installation position	Any	Any	Any	Any
Protection class	IP65 conforming to EN 60529			

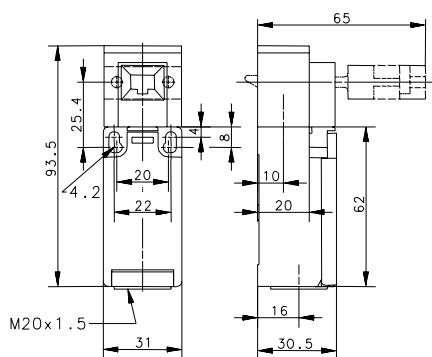
**Standards**

VDE 0660 T100, DIN EN 60947-1, IEC 60947-1  
VDE 0660 T200, DIN EN 60947-5-1, IEC 60947-5-1

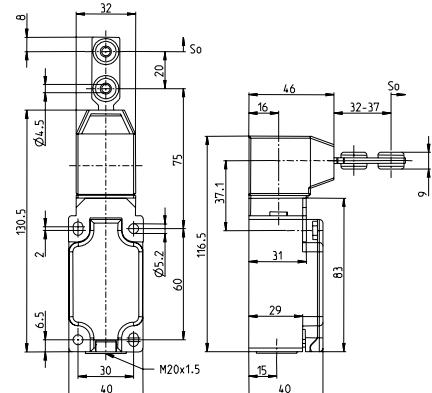
<sup>①</sup> Depending on switching system. See Table on Pages 76-79.

# Safety Switches with Separate Actuator

I88 VTW



ENK VTU



## Switching operation

1 NC / 1 NO contact

Standard

High actuating force

Radius actuation

Standard

High actuating force

Radius actuation

6016819018

I88-U1Z VTW

6016619132

ENK-U1Z VTU

2 NC contacts

6016669133

ENK-A2Z VTU

1 NC / 1 NO contact  
Overlapping

6016669154

ENK-UV15Z VTU

## Approvals



Replacement actuator: 3911702100

Replacement actuator: 3911702100

**Special features/variants**  
(on request)

- All actuators specified under „Safety Switches with Separate Actuator and Latching Device (SLK/SLM)“ can be used for these switches

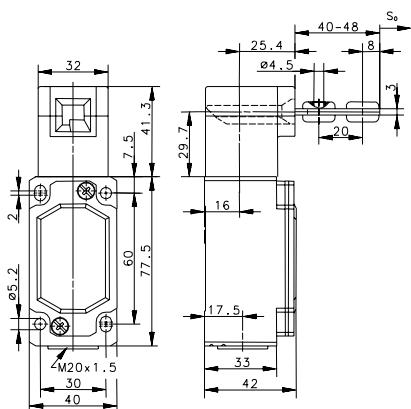
**Special features/variants**  
(on request)

- All actuators specified under „Safety Switches with Separate Actuator and Latching Device (SLK/SLM)“ can be used for these switches

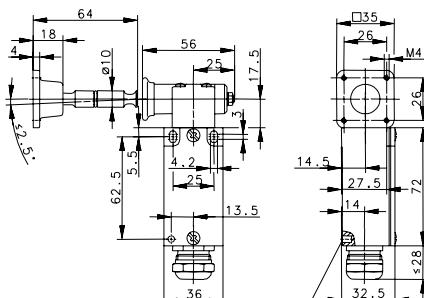


**BERNSTEIN**

**ENM2 VTW**



**GC VT**



Blind hole for fitted pin  
Ø4; 5.5 deep

**Standard**   **High actuating force**   **Radius actuation**

**6016219100**  
ENM2-U1Z VTW

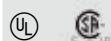
**Standard**   **High actuating force**

**6121100555**  
GC-U1Z VT 90GR

**6016269105**  
ENM2-A2Z VTW

**6116769064**  
GC-A2Z VT 90GR

**6016269104**  
ENM2-UV15Z VTW



**Replacement actuator: 3911702100**

**Replacement actuator: 3912001275**

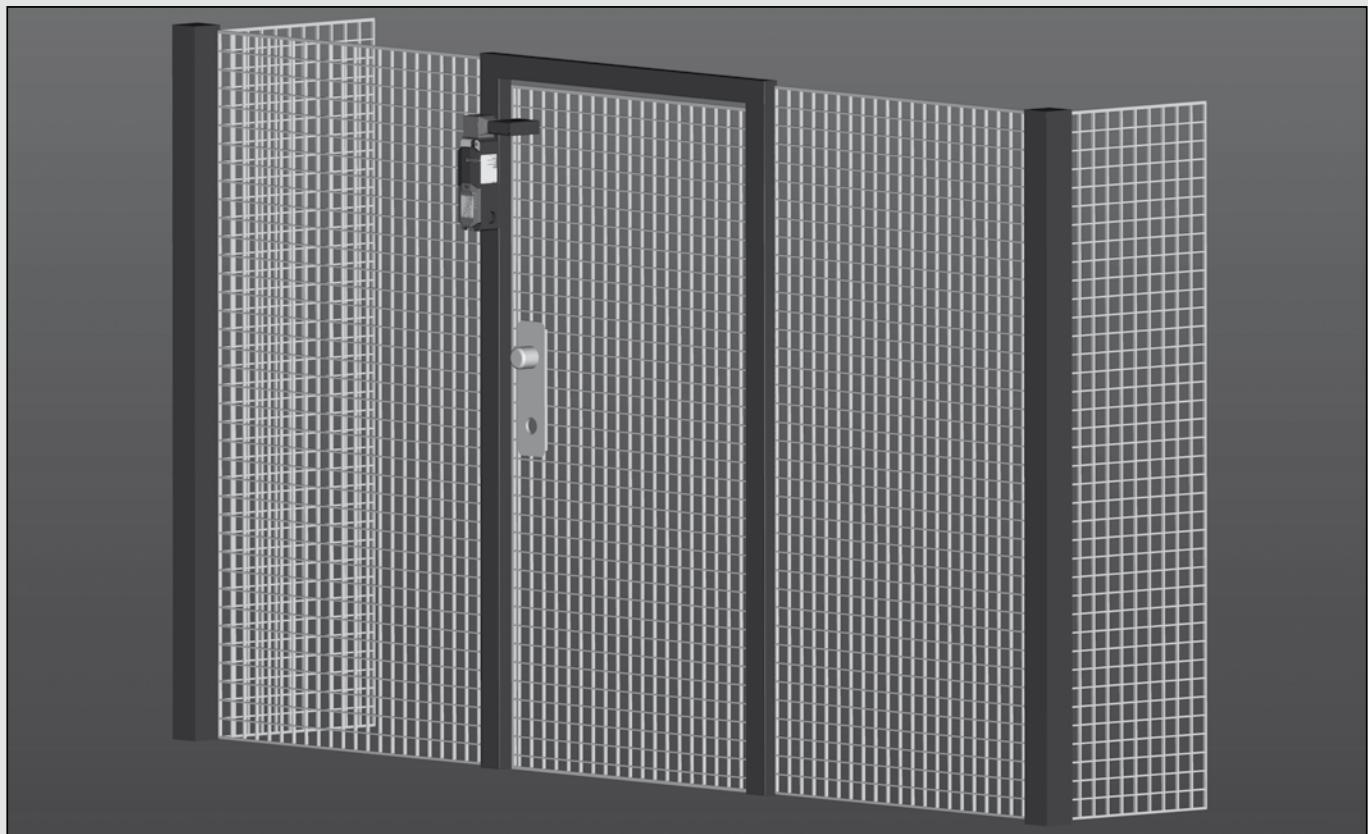
**Special features/variants**  
(on request)

- All actuators specified under „Safety Switches with Separate Actuator and Latching Device (SLK/SLM)“ can be used for these switches

**Special features/variants**  
(on request)

# Safety Switches with Separate Actuator and Interlock

## SLK



Machines that continue running after being switched off are often part of automated production processes. Safety guards prevent operator access and must therefore be kept closed until the hazards posed by machine movement have ceased.

Safety position switches with interlock function ensure that safety gates, safety doors and other protective guards remain closed for as long as a hazardous situation exists.

In production processes safety position switches have three main tasks:

- Enabling the machine/process when the safety guard is closed and interlocked
- Disabling the machine/process when the safety guard is opened
- Position monitoring of the safety guard and interlock

The SLK/SLM safety position switches with separate actuators and interlock enable the user to realise locking systems conforming to EN 1088, EN ISO 12100-1, 12100-2 and since 29.12.2009 to the compulsory Machinery Directive 2006/42/EC.

### System description

SLK/SLM safety position switches with interlock function are available in versions with spring force locking action and magnetic force locking action. The separate actuator is connected form-fit with the safety guard. It transfers the locking force to the safety guard and monitors its position. Thanks to its triple coding, the separate actuator ensures a high degree of anti-tamper security. The interlock facility in association with the SLK/SLM safety position switches is integrated in the switch enclosure. To lock the actuator in connection with a switching mechanism, the required interlock is achieved by means of a spring mechanism in the spring-force locked version and by an electromagnet in the magnetic-force locked version.

### Locking principle

#### Spring force (closed-circuit current)

The safety guard is locked automatically when the actuator is inserted to its end position. It is unlocked by energising the electromagnet, allowing the safety guard to be opened.

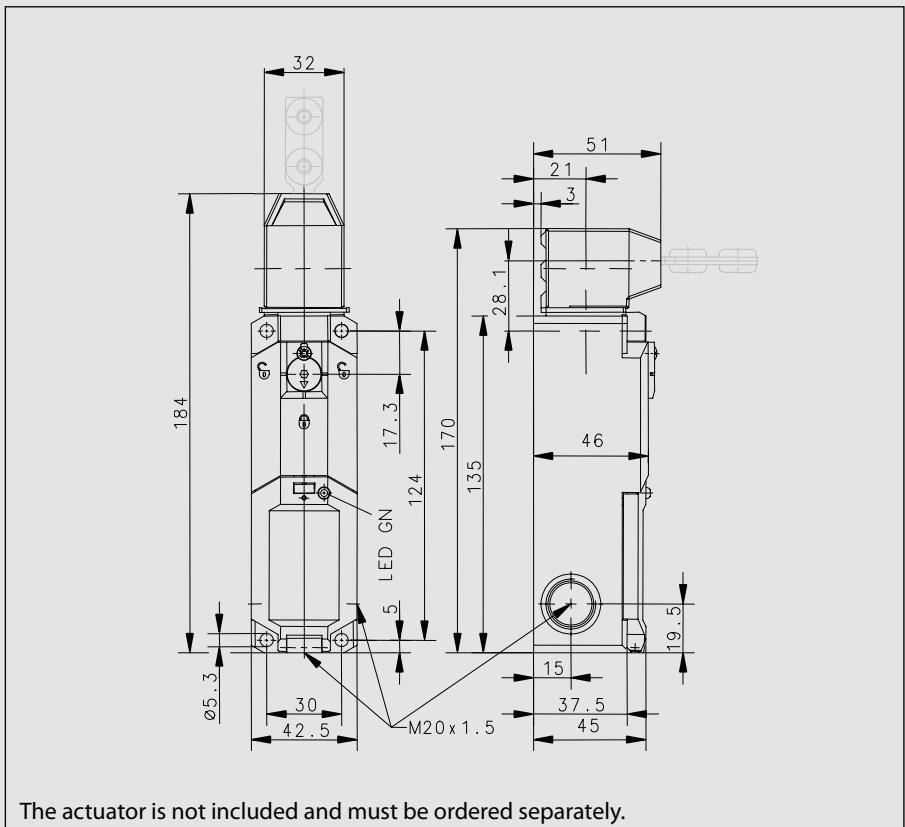
#### Magnetic force (working current)

The lock (interlock) is deactivated when the electromagnet is de-energised, in the event of fault in actuation or power failure. The safety guard can be opened.



## Product advantages

- Two independent safety circuits ensure reliable integration
  - With two contacts, circuit 1 monitors the actuator
  - With two contacts, circuit 2 monitors the interlockThe contact configuration is variable and may deviate from the selection table if required.
- Two different operating voltages for universal integration:
  - 24 V AC / DC
  - 110 V / 230 V AC
- Rotary actuating head (4x 90°) as well as horizontal and vertical actuation ensure complete flexibility in use
- Compact design with short overall size of only 170 mm
- Innovative installation with spring-loaded terminals
- Function conforming to GS ET 19, EN 60 204-1, EN 60 947-1 and EN 60 947-5-1



## Safe operation

The stainless steel actuator ensures safe and reliable operation. Its coding prevents tampering and bypassing the system „in an easier way“. The radius actuator is ideal for monitoring smaller safety gates. It can be preset horizontally or vertically and is also made from stainless steel.

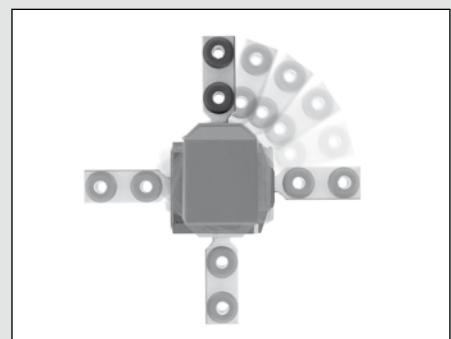


## Innovative installation

The SLK is electrically connected safely and reliably by means of terminals. Spring-loaded terminals are used, into which the wires with ferrules can be inserted without the need for tools. The fact that the connection compartment is separate from the functional parts contributes to ensuring secure and reliable connection. The connection compartment conforms to protection class IP67.

## Flexible in use

The SLK safety switch can be actuated in horizontal and vertical direction. Prior to installation it is preset by simply repositioning the head section. This flexibility in installation is achieved by positioning the actuator head in steps of 4 x 90°.



**IMPORTANT: The actuator for the SLK must be ordered separately. You will find a corresponding overview on Pages 96-97.**

# Safety Switches with Separate Actuator and Interlock

## SLK

### Product selection

Article number	Designation	Locking action	Contacts	Supply voltage	Additional function
			Actuator	Interlock	
6018119045	SLK-F-UC-55-R1-A0-L0-0	Spring	1NC / 1NO	1NC / 1NO	24 Volt AC / DC
6018119066	SLK-F-UC-55-R1-A0-L1-0	Spring	1NC / 1NO	1NC / 1NO	24 Volt AC / DC
6018169054	SLK-F-UC-22-R1-A0-L0-0	Spring	2 NC	2 NC	24 Volt AC / DC
6018169050	SLK-F-UC-25-R1-A0-L0-0	Spring	2 NC	1NC / 1NO	24 Volt AC / DC
6018169068	SLK-F-UC-25-R1-A0-L1-0	Spring	2 NC	1NC / 1NO	24 Volt AC / DC
6018119061	SLK-F-UC-55-R2-A0-L0-0	Spring	1NC / 1NO	1NC / 1NO	24 Volt AC / DC
6018169055	SLK-F-NC-22-R1-A0-L0-0	Spring	2 NC	2 NC	110 / 230 AC
6018119046	SLK-F-NC-55-R1-A0-L0-0	Spring	1NC / 1NO	1NC / 1NO	110 / 230 AC
6018119067	SLK-F-NC-55-R1-A0-L1-0	Spring	1NC / 1NO	1NC / 1NO	110 / 230 AC
6018169051	SLK-F-NC-25-R1-A0-L0-0	Spring	2 NC	1NC / 1NO	110 / 230 AC
6018169069	SLK-F-NC-25-R1-A0-L1-0	Spring	2 NC	1NC / 1NO	110 / 230 AC
6018119047	SLK-M-UC-55-R0-A0-L0-0	Magnet	1NC / 1NO	1NC / 1NO	24 Volt AC / DC
6018169052	SLK-M-UC-25-R0-A0-L0-0	Magnet	2 NC	1NC / 1NO	24 Volt AC / DC
6018169056	SLK-M-UC-22-R0-A0-L0-0	Magnet	2 NC	2 NC	24 Volt AC / DC
6018119048	SLK-M-NC-55-R0-A0-L0-0	Magnet	1NC / 1NO	1NC / 1NO	110 / 230 AC
6018169053	SLK-M-NC-25-R0-A0-L0-0	Magnet	2 NC	1NC / 1NO	110 / 230 AC
6018169057	SLK-M-NC-22-R0-A0-L0-0	Magnet	2 NC	2 NC	110 / 230 AC

Technical data		Spring 24 Volt AC / DC	Spring 110 / 230 AC	Magnet 24 Volt AC / DC	Magnet 110 / 230 AC
<b>Electrical data</b>					
Rated insulation voltage	U <sub>i</sub>	250 V	250 V	250 V	250 V
Utilization category		AC-15, U <sub>e</sub> / I <sub>e</sub> 230 V / 2.5 A	AC-15, U <sub>e</sub> / I <sub>e</sub> 230 V / 2.5 A	AC-15, U <sub>e</sub> / I <sub>e</sub> 230 V / 2.5 A	AC-15, U <sub>e</sub> / I <sub>e</sub> 230 V / 2.5 A
Conventional thermal current I <sub>the</sub>		5 A	5 A	5 A	5 A
Short-circuit protection		4 A gL	4 A gL	4 A gL	4 A gL
Protection class		II, Insulated	II, Insulated	II, Insulated	II, Insulated
<b>Electromagnet</b>					
Duty factor		100 % ED (an E1; E2)			
Thermal class		F (155 °C)	F (155 °C)	F (155 °C)	F (155 °C)
Switch-on power		12 VA (0.2 s)	65 VA (0.1 s)	12 VA (0.2 s)	12 VA (0.2 s)
Continuous power		4.4 VA	8 VA	4.4 VA	4.4 VA
<b>Mechanical data</b>					
Enclosure		Thermoplastic GV (UL94-V0)	Thermoplastic GV (UL94-V0)	Thermoplastic GV (UL94-V0)	Thermoplastic GV (UL94-V0)
Cover		Thermoplastic GV (UL94-V0)	Thermoplastic GV (UL94-V0)	Thermoplastic GV (UL94-V0)	Thermoplastic GV (UL94-V0)
Actuator		Thermoplastic GV / Zn-GD			
Ambient temperature		-25 °C to +70 °C			
Switching function		2 NC contacts, 2 NO contacts	2 NC contacts, 2 NO contacts	4 NC contacts	2 NC contacts, 2 NO contacts
Switching principle		4 Slow-action contacts	4 Slow-action contacts	4 Slow-action contacts	4 Slow-action contacts
Mechanical service life		1 x 10 <sup>6</sup> switching cycles (max. 600 switching cycles / h)	1 x 10 <sup>6</sup> switching cycles (max. 600 switching cycles / h)	1 x 10 <sup>6</sup> switching cycles (max. 600 switching cycles / h)	1 x 10 <sup>6</sup> switching cycles (max. 600 switching cycles / h)
B10d		2 mill.	2 mill.	2 mill.	2 mill.
Minimum actuating radius R <sub>min</sub>		See datasheet, actuator	See datasheet, actuator	See datasheet, actuator	See datasheet, actuator
Approach speed V <sub>max</sub>		0.5 m/s	0.5 m/s	0.5 m/s	0.5 m/s
Mounting		4 x M5	4 x M5	4 x M5	4 x M5
Cross sections		0.5 - 1.5 mm <sup>2</sup>			
Type of connection		Cage clamp terminal	Cage clamp terminal	Cage clamp terminal	Cage clamp terminal
Cable entry		3 x M20 x 1.5			
Weight		≈ 0.34 kg	≈ 0.30 kg	≈ 0.30 kg	≈ 0.35 kg
Protection class		IP67 conforming to IEC/EN 60529			
Installation position		Any	Any	Any	Any
Locking principle		Spring force	Spring force	Magnetic force	Magnetic force
Latching force	FZh	≤ 1500 N to GS-ET-19			