



## Industrial Safety Systems



**ES21**  
Emergency Stop Pushbutton



**SICK**  
Sensor Intelligence.



- Emergency stop pushbutton in accordance with EN ISO 13850 (EN 418) and EN 60947-5-5
- Visible indication of switching position
- With panel type mounting, safe contacts monitor the correct assembly of the pushbutton with the contact block
- Optional special types with LED illumination or protective collar



## Overview of technical specifications

Number of positive action N/C contacts (depending on type)	1 / 2
Number of N/O contacts (depending on type)	0 / 1
Housing material	Plastic
Enclosure rating	IP 65
Connection type (contacts)	Screw connection
Mounting diameter	22 mm

## Product description

Emergency stop pushbuttons are a must for automated machines and plant. In an emergency, anyone pressing the button immediately puts a machine or plant in a safe state by stopping the hazardous movement.

- Versions for panel and surface mounting available
- Release either by turning or by key
- Various switching elements with N/C and N/O combinations

## In-system added value

### Safety relays

Safety relays allow simple integration of safety components into machinery or plant.

### Safety controllers

Safety controllers are utilised when the safety function (e.g. switching off a dangerous movement) is to be accomplished in a flexible way by logical combination of safety relevant signals. Operation of machinery becomes more flexible as well as generation of machine variants becomes more easy.

### Network solutions

Network solutions are utilised in plants and machinery of larger scale. This is saving cabling and enables modular design of the safety automation. Potential errors or faults can be easily localised and quickly trouble-shooted thanks to comprehensive diagnostics functions. That significantly reduces machine downtimes. SICK offers solutions for the open automation standards: AS-i Safety at Work, DeviceNet Safety and PROFIsafe.

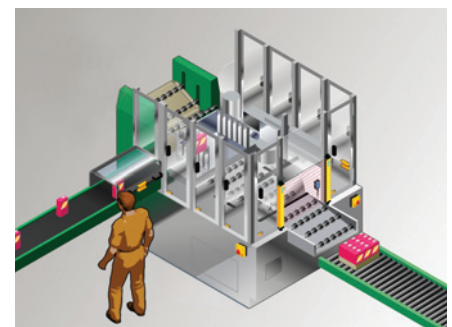
## Applications

→ You can find more applications using the application finder at [www.mysick.com](http://www.mysick.com)

- Packaging machines
- Processing centres
- Conveyor systems



Panel mount version for integration in a machine control panel



Surface mount version for direct mounting on a machine

→ For detailed information about safetyPLUS® refer to [www.sick-safetyplus.com](http://www.sick-safetyplus.com)



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## Ordering information

### Ordering options emergency stop pushbuttons ES21

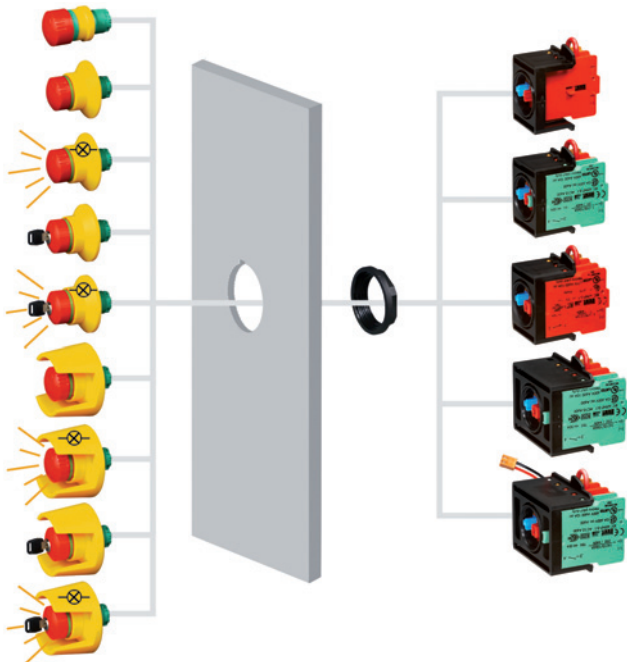
#### Panel mount versions:

- Pushbuttons and switching elements: individual combinations possible or
- Complete device (pushbutton with switching element)

Note: Pushbuttons with illumination should be used with switching elements that have illumination connection.

#### Surface mount versions:

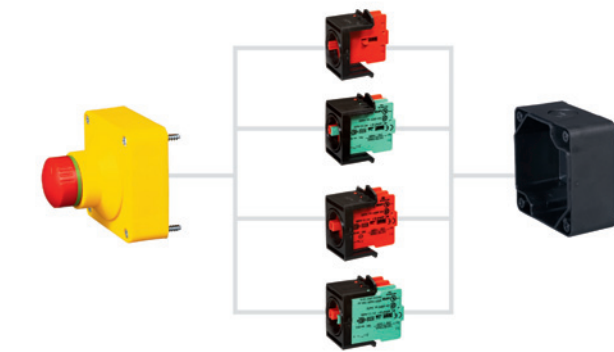
- Complete devices, pre-assembled. Can be delivered with different switching elements



Panel mount versions (pushbuttons and switching elements)



Panel mount version (complete device)



Surface mount version (complete device)

## Pushbuttons

Obstruction protection <sup>1)</sup>	Release type	Illumination	Protective collar <sup>2)</sup>	Type	Part number
-	Rotary release	-	-	ES21-AT1110	5321156
✓	Rotary release	-	-	ES21-AT1120	5321157
		✓	-	ES21-AT1130	5321158
	Key release	-	-	ES21-AK1120	5321163
		✓	-	ES21-AK1130	5321164
	Rotary release	-	✓	ES21-AT1140	5321165
		✓	✓	ES21-AT1150	5321166
	Key release	-	✓	ES21-AK1140	5321167
		✓	✓	ES21-AK1150	5321168

<sup>1)</sup> Prevention against obstruction of the emergency stop pushbutton.

<sup>2)</sup> Prevention against unintentional activation of the emergency stop pushbutton.

## Switching elements

Mounting version	Number of positive opening N/C contacts	Number of N/O contacts	Contact module for panel mount version <sup>1)</sup>	Illumination connection	Type	Part number
Panel mount version	1	0	✓	-	ES21-CG1001	6036139
		1	✓	-	ES21-CG1101	6036141
	2	0	✓	-	ES21-CG2001	6036140
		1	-	-	ES21-CH2101	6036144
			✓	ES21-CH2111	6036143	

<sup>1)</sup> Additional contact (N/O) monitors the correct assembly of the pushbutton with the switching element.

## Complete devices

- Protective collar: No
- Obstruction protection: Yes
- Illumination: No
- Release type: Rotary release

Mounting version	Number of positive opening N/C contacts	Number of N/O contacts	Contact module for panel mount version <sup>1)</sup>	Type	Part number
Panel mount version	2	1	✓	ES21-SB10G1	6036492
Surface mount version	1	0	-	ES21-SA10C1	6036145
		1	-	ES21-SA10D1	6036146
	2	0	-	ES21-SA10E1	6036147
		1	-	ES21-SA10F1	6036148

<sup>1)</sup> Additional contact (N/O) monitors the correct assembly of the pushbutton with the switching element.

## Detailed technical specifications

→ You can find more detailed data in the operating instructions. Download at [www.mysick.com](http://www.mysick.com)

### Pushbuttons

Illumination	-	✓
Housing material	Plastic	
Enclosure rating	IP 65	
Mechanical life	50.000 switching cycles	
Ambient operating temperature from ... to	-30 °C ... +70 °C	-30 °C ... +55 °C
Mounting diameter	22 mm	

### Switching elements

Illumination connection	-	✓
Protection class	II	
B <sub>10d</sub> parameter	4.75 x 10 <sup>6</sup> switching cycles	
Mechanical life	1 x 10 <sup>6</sup> switching cycles	
Electrical life (dependent on the load)	1 x 10 <sup>6</sup> switching cycles	
Ambient operating temperature from ... to	-30 °C ... +85 °C	
Switching principle	Slow-action-switch	
Number of positive opening N/C contacts (depending on type)	1 / 2	2
Number of N/O contacts (depending on type)	0 / 1	1
Contact module for panel mount version	✓	
Usage category in compliance with IEC 947-5-1	AC-15/DC-13	
Rated operating current (voltage)	3 A (250 V AC), 2 A (24 V DC)	
Rated current (voltage) according to EN 61058-1	16 A (10 A) 250 V AC 10 A (6 A) 440 V AC	
Rated insulation voltage U <sub>i</sub>	600 V	
Minimum switching voltage	5 V DC	
Minimum switching current	1 mA	
Connection type (contacts)	Screw connection	
Maximum connection cable cross-section	2.5 mm <sup>2</sup>	
LED		
Supply voltage	-	24 V DC (12 V DC ... 30 V DC)
Operating current	-	8 mA ... 44 mA
Life time	-	70.000 h <sup>2)</sup> , 100.000 h <sup>2)</sup>

<sup>1)</sup> At 55 °C, 20 mA

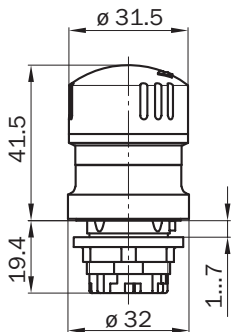
<sup>2)</sup> At 25 °C, 20 mA

Complete devices

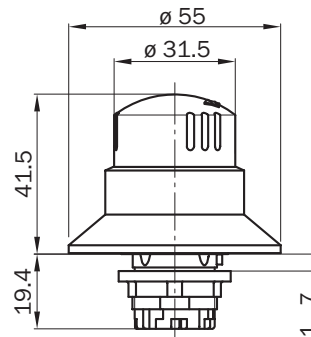
Mounting version	Panel mount version	Surface mount version
Housing material	Plastic	
Enclosure rating	IP 65	
Protection class	II	
B <sub>10d</sub> parameter	250.000 switching cycles	
Mechanical life	50.000 switching cycles	
Electrical life (dependent on the load)	1 x 10 <sup>6</sup> switching cycles	
Ambient operating temperature from ... to	-30 °C ... +70 °C	-25 °C ... +60 °C
Switching principle	Slow-action-switch	
Number of positive opening N/C contacts (depending on type)	2	1 / 2
Number of N/O contacts (depending on type)	1	0 / 1
Contact module for panel mount version	✓	-
Usage category in compliance with IEC 947-5-1	AC-15/DC-13	
Rated operating current (voltage)	3 A (250 V AC), 2 A (24 V DC)	
Rated current (voltage) according to EN 61058-1	16 A (10 A) 250 V AC 10 A (6 A) 440 V AC	
Rated insulation voltage U <sub>i</sub>	600 V	
Minimum switching voltage	5 V DC	
Minimum switching current	1 mA	
Connection type	-	Cable gland
Number of cable glands x size of the screwed joint	-	2 x M20
Connection type (contacts)	Screw connection	
Maximum connection cable cross-section	2.5 mm <sup>2</sup>	

Dimensional drawings

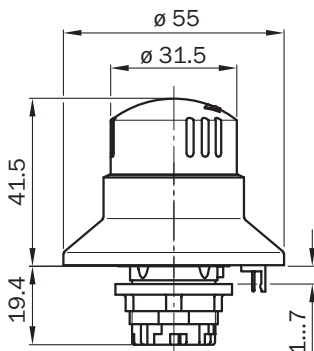
Pushbutton, ES21-AT1110



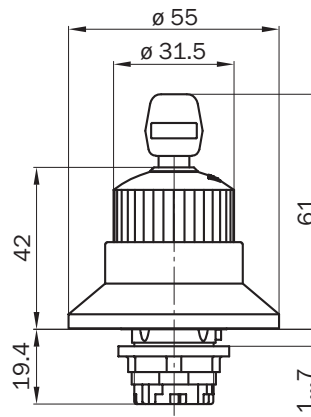
Pushbutton, ES21-AT1120



Pushbutton, ES21-AT1130

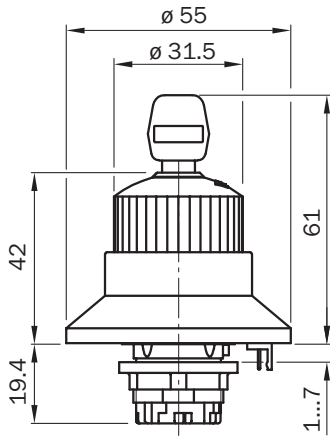


Pushbutton, ES21-AK1120

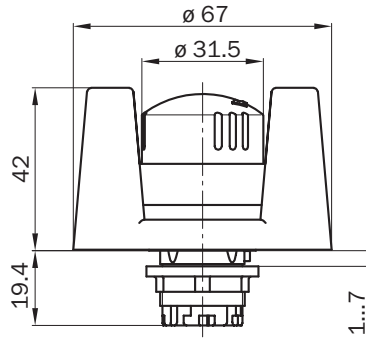


Dimensions in mm

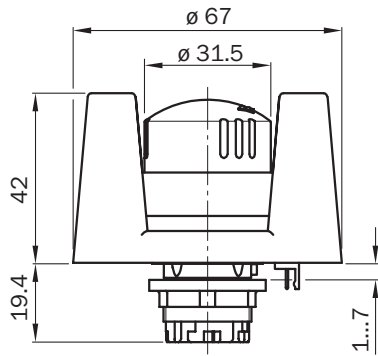
**Pushbutton, ES21-AK1130**



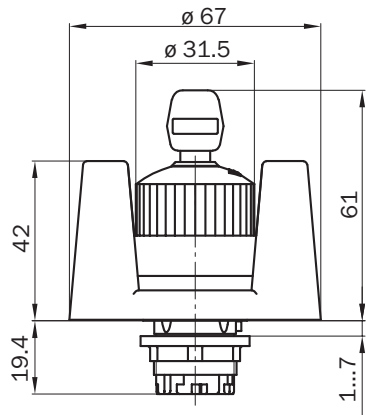
**Pushbutton, ES21-AT1140**



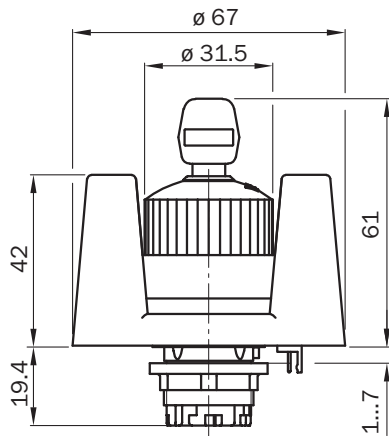
**Pushbutton, ES21-AT1150**



**Pushbutton, ES21-AK1140**

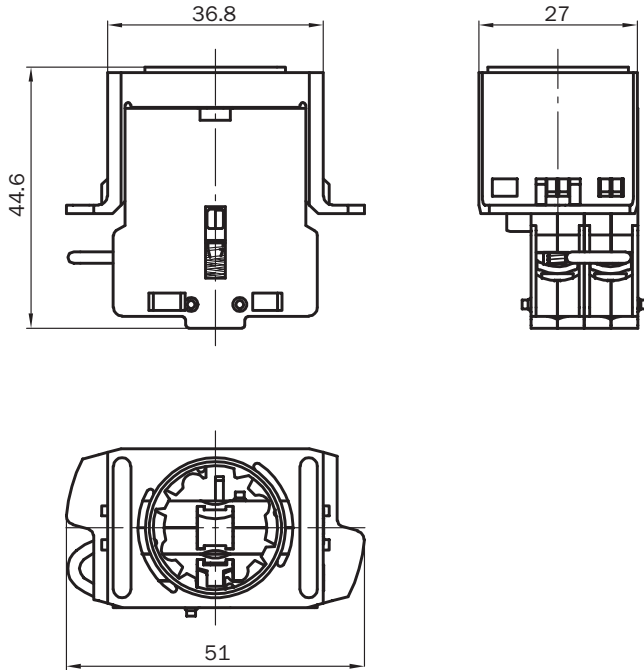


**Pushbutton, ES21-AK1150**

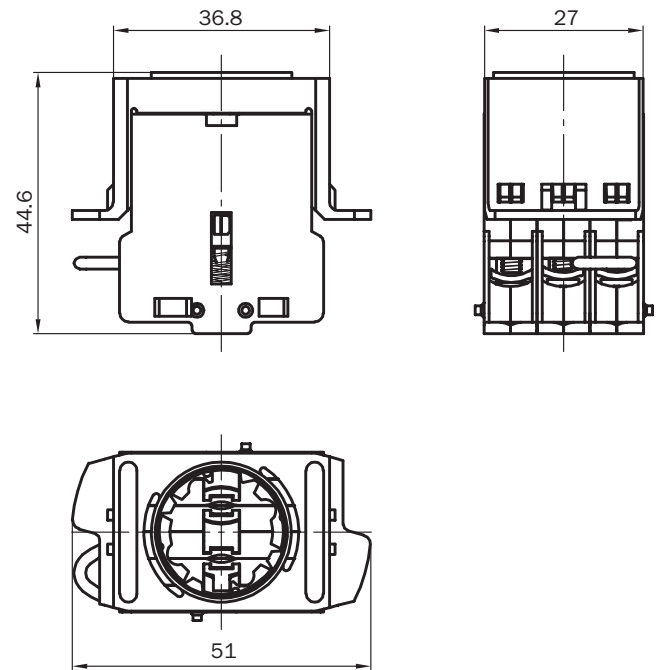


Dimensions in mm

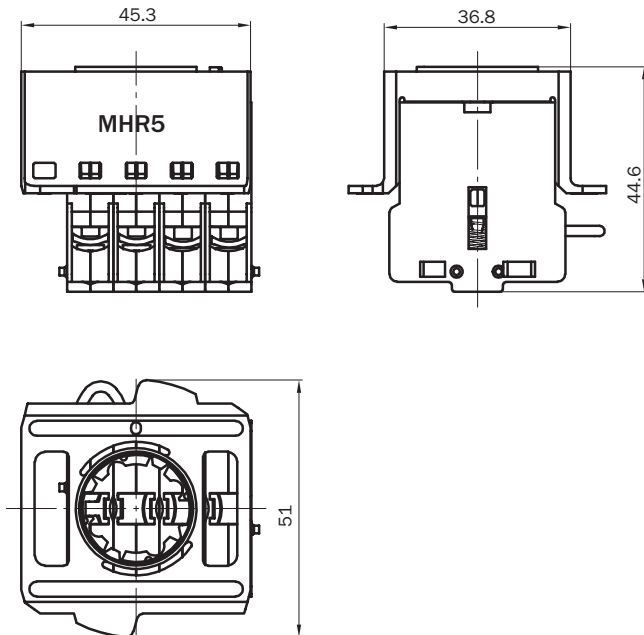
Switching element, ES21-CG1001



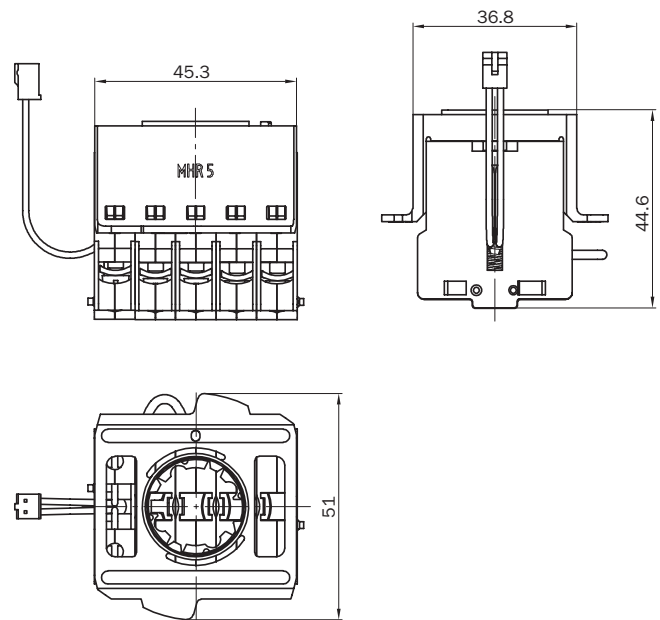
Switching element ES21-CG1101, ES21-CG2001



Switching element, ES21-CH2101



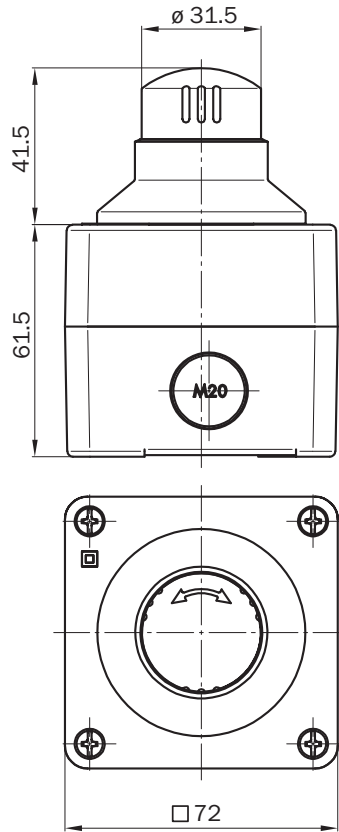
Switching element, ES21-CH2111



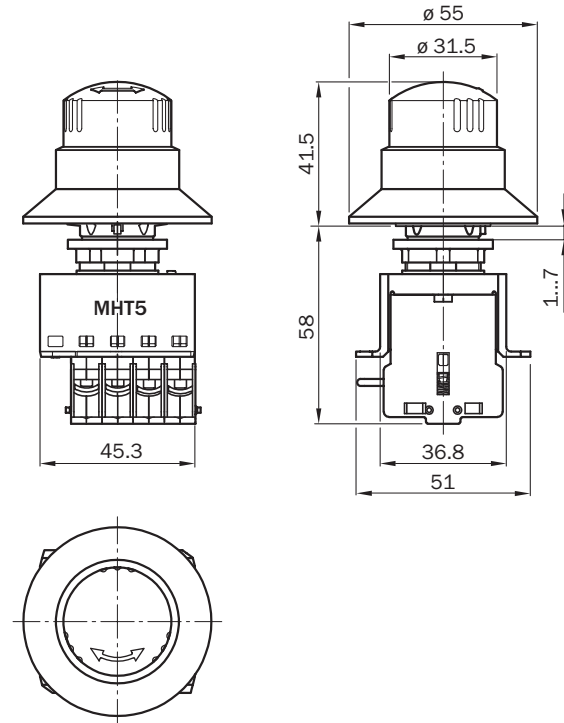
Dimensions in mm



Complete device, surface mount version




Complete device, panel mount version



Dimensions in mm

## Accessories



### Safety switch accessories, miscellaneous

Figure	Usage	Type	Part number
	Assembly key for pushbuttons	ES21-XA100	5321538

### Cable gland

Type	Part number
Cable gland M20	5309164

### Miscellaneous

Figure	Designation	Type	Part number
	Empty housing without illumination	ES21-XA001	5321175
	Replacement key for pushbuttons with key release	ES21-XA200	5321539

# SICK Industrial Safety Systems



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