



Industrial Safety Systems



ES21
Emergency Stop Pushbutton





- 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.

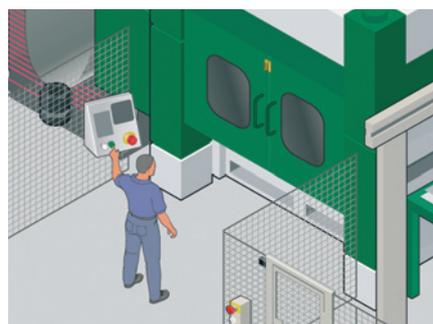
Network solutions

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.

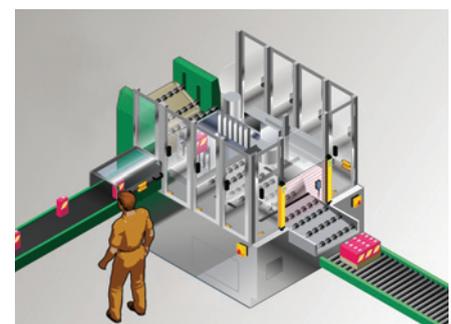
Applications

→ You can find more applications using the application finder at www.mysick.com

- 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

Further information	Page
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→ For detailed information about safetyPLUS® refer to www.sick-safetyplus.com



Ordering information

Ordering options emergency stop pushbuttons ES21

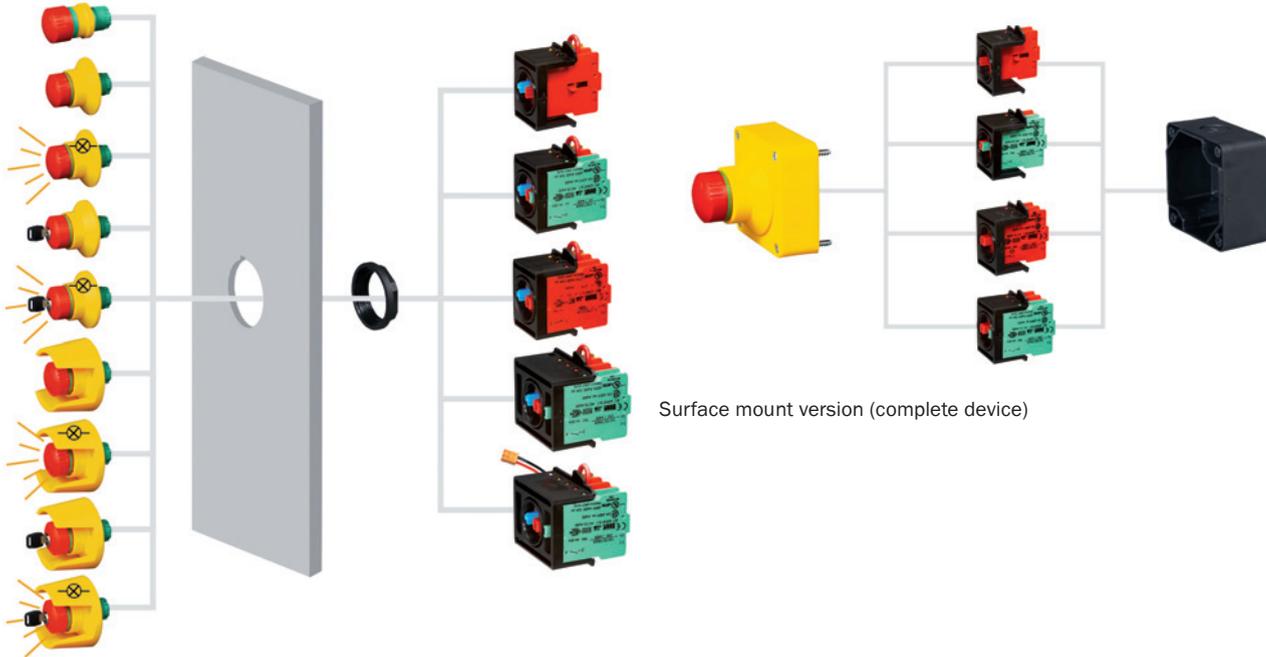
Panel mount versions:

- 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 ¹⁾	Release type	Illumination	Protective collar ²⁾	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

¹⁾ Prevention against obstruction of the emergency stop pushbutton.

²⁾ 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 ¹⁾	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	

¹⁾ 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 ¹⁾	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

¹⁾ 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

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 _{10d} parameter	4.75 x 10 ⁶ switching cycles	
Mechanical life	1 x 10 ⁶ switching cycles	
Electrical life (dependent on the load)	1 x 10 ⁶ 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 _i	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 ²	
LED		
Supply voltage	-	24 V DC (12 V DC ... 30 V DC)
Operating current	-	8 mA ... 44 mA
Life time	-	70.000 h ²⁾ , 100.000 h ²⁾

¹⁾ At 55 °C, 20 mA

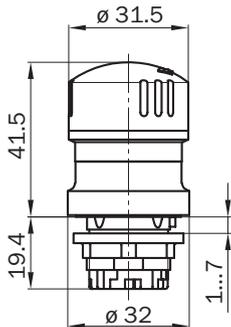
²⁾ At 25 °C, 20 mA

Complete devices

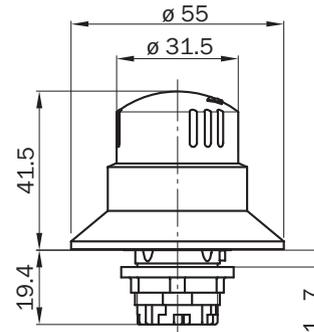
Mounting version	Panel mount version	Surface mount version
Housing material	Plastic	
Enclosure rating	IP 65	
Protection class	II	
B _{10d} parameter	250.000 switching cycles	
Mechanical life	50.000 switching cycles	
Electrical life (dependent on the load)	1 x 10 ⁶ switching cycles	
Ambient operating 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 _i	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 ²	

Dimensional drawings

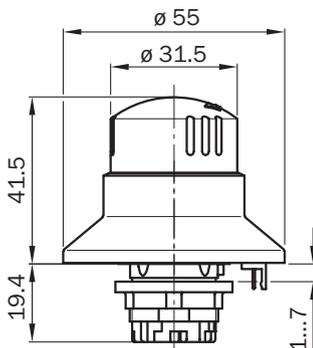
Pushbutton, ES21-AT1110



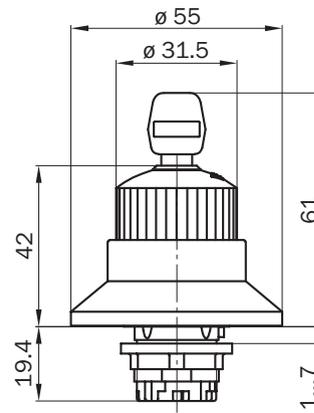
Pushbutton, ES21-AT1120



Pushbutton, ES21-AT1130

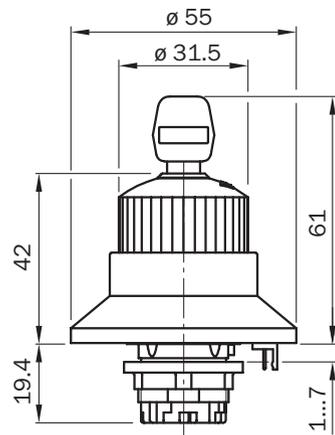


Pushbutton, ES21-AK1120

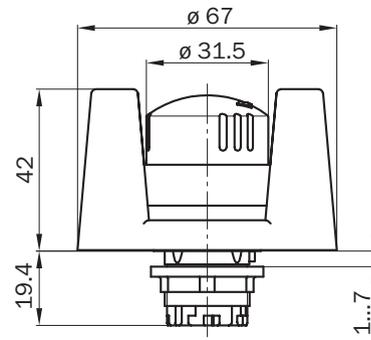


Dimensions in mm

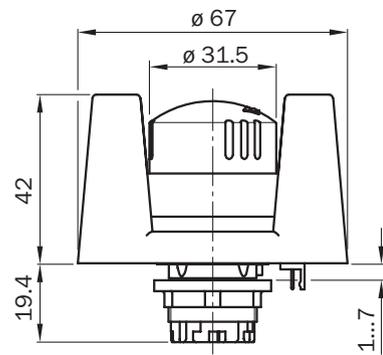
Pushbutton, ES21-AK1130



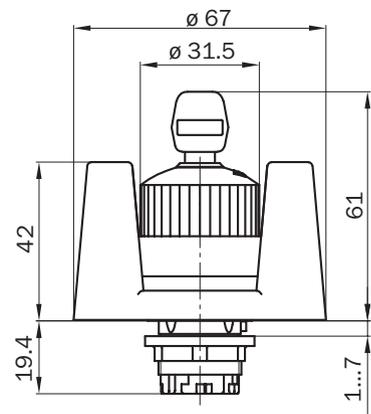
Pushbutton, ES21-AT1140



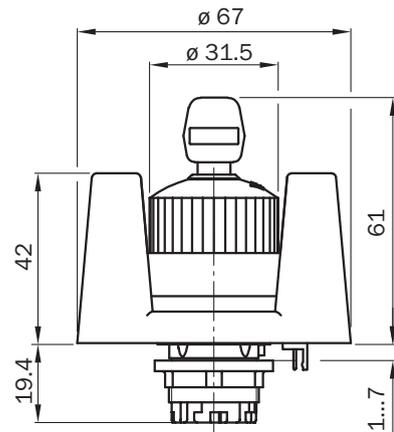
Pushbutton, ES21-AT1150



Pushbutton, ES21-AK1140

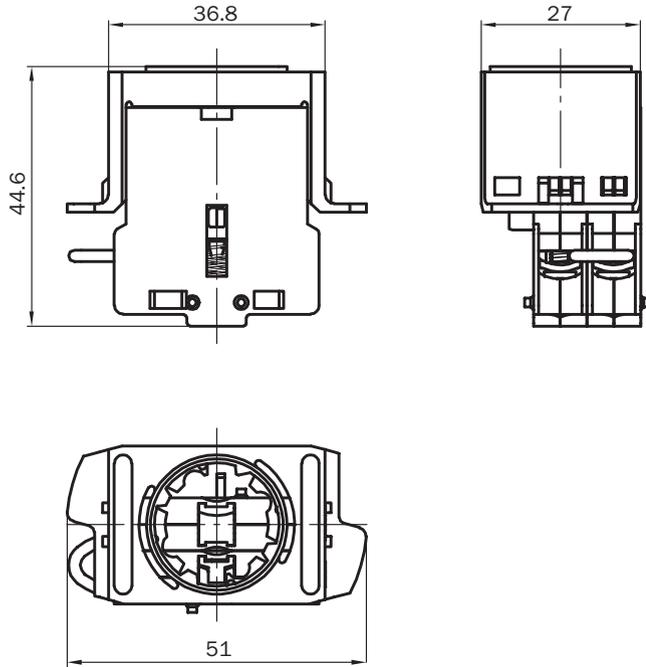


Pushbutton, ES21-AK1150

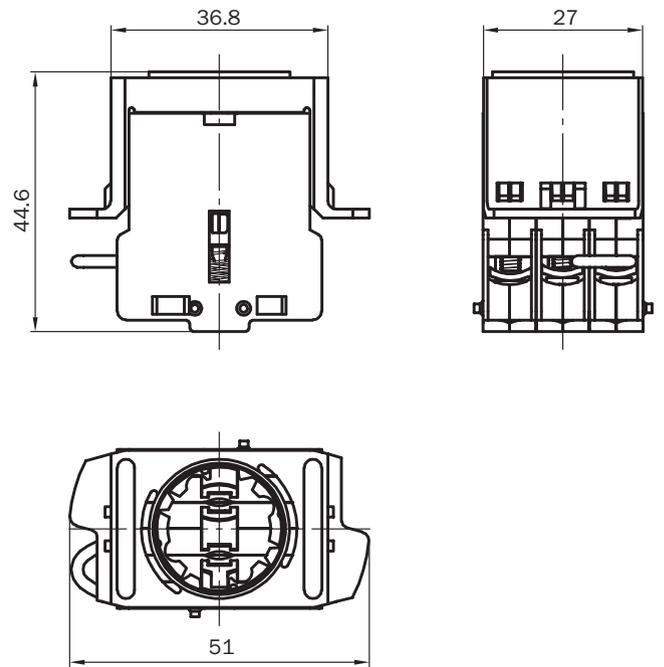


Dimensions in mm

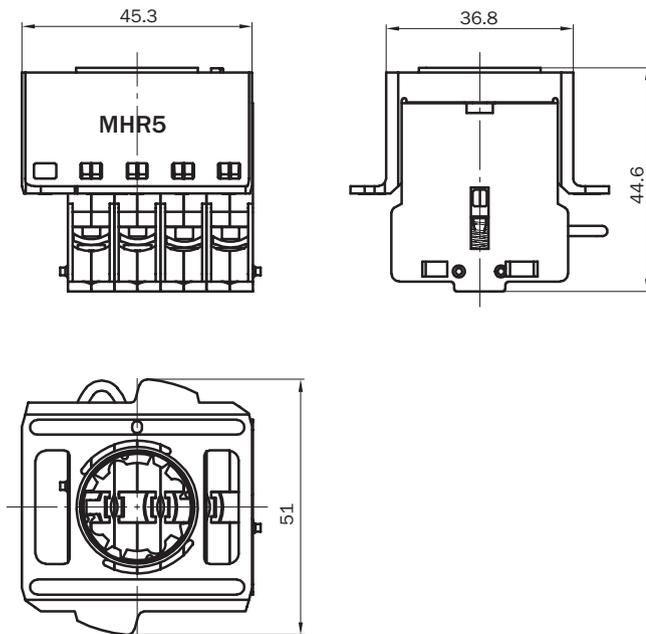
Switching element, ES21-CG1001



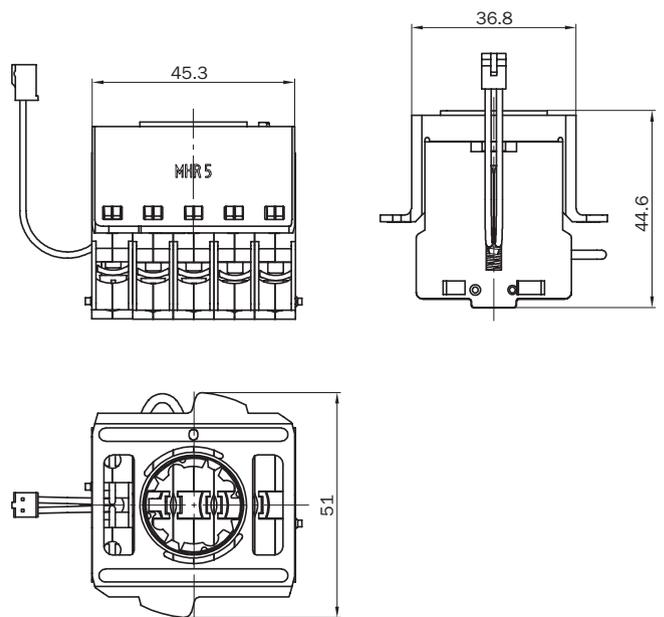
Switching element ES21-CG1101, ES21-CG2001



Switching element, ES21-CH2101

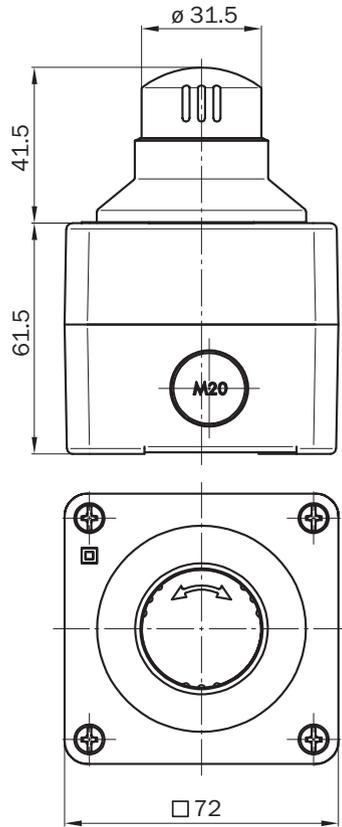


Switching element, ES21-CH2111

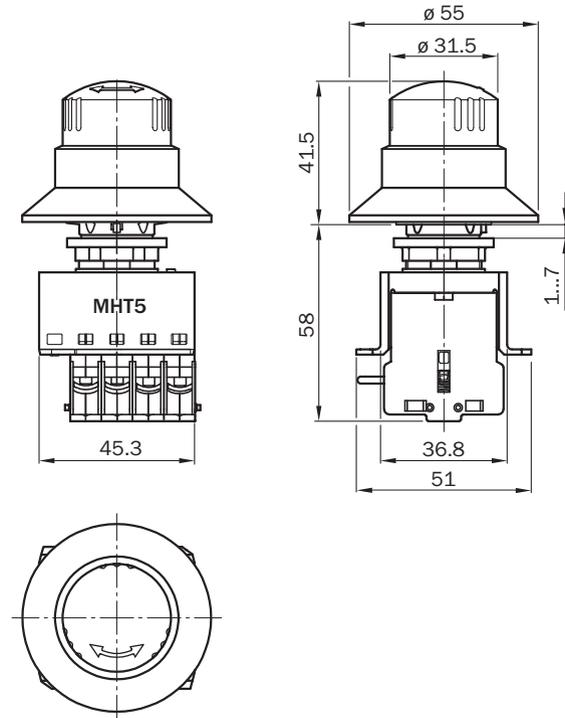


Dimensions in mm

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

Safety laser scanners and laser scanners

- S3000
- S300
- S200
- S100

Safety camera systems

- V4000 Press Brake
- V200 Work Station
- V300 Work Station

Safety light curtains

- C4000 Micro
- C4000 Basic Plus, Basic, Eco
- C4000 Standard/Advanced
- C4000 Entry/Exit
- C4000 Palletizer
- M4000 Advanced Curtain
- C2000
- LGT

Multiple light beam safety devices

- M4000 Standard
- M4000 Advanced
- M4000 Area
- M2000

Single-beam photoelectric safety switches

- L4000 System
- L4000: L41
- WSU/WEU26/2
- L2000: L21, L27, L28

Safety switches

- Electro-mechanical safety switches
- Non-contact safety switches
- Safety command devices

Network solutions

- UE4120, UE4150, UE4155, UE4140, UE1140
- UE4212, UE4215, UE4231, UE4232, UE4233, UE4234
- UE4420, UE4421, UE4450, UE4470
- UE4140, UE1140



Safety controllers

- UE410 Flexi
- UE440, UE470
- UE4427, UE4457
- UE4470

Safety relays

- UE10 to UE49

Software

- Safexpert

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Australia

Phone +61 3 9497 4100
1800 33 48 02 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 3215-4900
E-Mail sac@sick.com.br

Ceská Republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +852-2763 6966
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-260
E-Mail info@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-4033 8333
E-Mail info@sick-india.com

Israel

Phone +972-4-999-0590
E-Mail info@sick-sensors.com

Italia

Phone +39 02 27 43 41
E-Mail info@sick.it

Japan

Phone +81 (0)3 3358 1341
E-Mail support@sick.jp

Nederlands

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail austefjord@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

Republic of Korea

Phone +82-2 786 6321/4
E-Mail kang@sickkorea.net

Republika Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

România

Phone +40 356 171 120
E-Mail office@sick.ro

Russia

Phone +7 495 775 05 34
E-Mail info@sick-automation.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail admin@sicksgp.com.sg

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886 2 2375-6288
E-Mail sickgrc@ms6.hinet.net

Türkiye

Phone +90 216 587 74 00
E-Mail info@sick.com.tr

USA/Canada/México

Phone +1(952) 941-6780
1 800-325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
in all major industrial nations at
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