

ER 12

Reset pushbutton



Described product

ER 12

Manufacturer

SICK AG
Erwin-Sick-Str. 1
79183 Waldkirch
Germany

Legal information

This work is protected by copyright. Any rights derived from the copyright shall be reserved for SICK AG. Reproduction of this document or parts of this document is only permissible within the limits of the legal determination of Copyright Law. Any modification, abridgment or translation of this document is prohibited without the express written permission of SICK AG.

The trademarks stated in this document are the property of their respective owner.

© SICK AG. All rights reserved.

Original document

This document is an original document of SICK AG.



Contents

1	About this document.....	4
2	On safety.....	5
2.1	Application.....	5
3	Product description.....	6
3.1	Items supplied.....	6
3.2	Function.....	6
4	Mounting.....	7
5	Connection.....	8
6	Tests before the initial commissioning.....	9
7	Periodic technical inspections.....	10
8	What to do in case of a malfunction.....	11
9	Uninstalling.....	12
10	Disposal.....	13
11	Conformities and certificates.....	14
11.1	EU declaration of conformity.....	14
11.2	UK declaration of conformity.....	14
12	Technical data.....	15
12.1	Data sheet.....	15
12.2	Dimensional drawings.....	15
13	Ordering information.....	16

1 About this document

These operating instructions are original operating instructions.

2 On safety

Read these operating instructions carefully and keep them in a safe place.

The operating instructions are to be provided to the person who is installing the reset pushbutton.



DANGER

- ▶ Always note and follow the warnings below!
 - Before starting the installation, electrically isolate system and device!
 - Reset pushbuttons provide a personnel protection function. Incorrect installation or manipulation can result in serious injuries!
 - Reset pushbuttons are not allowed to be bypassed, removed or rendered ineffective in any other manner!
 - Incorrect installation or tampering can result in damage to the machine and workpiece!
 - The reset and override functions are not allowed to be used as a replacement for protective measures or other safety functions, instead they should be designed as additional protective measures.
 - The reset and override functions are not allowed to degrade the effectiveness of protective devices or other devices with safety functions.
 - Based on a risk analysis, the designer must ensure that the reset pushbutton achieves the required level of safety (SIL, SILCL or PL) in combination with control system.

2.1 Application

The national/international rules and regulations apply to the installation, commissioning, use and periodic technical inspections of the reset pushbutton, in particular:

- EMC directive
- safety regulations
- work safety regulations and safety rules

Manufacturers and operators of the machine on which the protective devices are used are responsible for obtaining and observing all applicable safety regulations and rules.

Correct use includes observance of the applicable requirements on installation and operation, in particular:

- EN 60947-5-1
- EN ISO 138491

Correct use also includes the regular monitoring of the reset pushbutton by specialist personnel.

The product may be used in safety functions.

3 Product description


Reset prevents the unexpected starting of the machine, above all in applications in which there are persons in the hazardous area but their presence in the hazardous area is not detected by the protective device.

Override is a manual triggering of muting after an error in the muting conditions. By briefly pressing the override pushbutton the protective device (muting) is overridden, the system moved clear or the error-free state established.

The reset pushbutton has a compact housing and a plug connector M12. The reset pushbutton is illuminable.

3.1 Items supplied

- reset pushbutton
- retaining clip
- blue "RESET" cover
- Nur bei ER12-SB3C5:
ER12-SB3C5 only: blue "RESET/OVERRIDE" cover

 **NOTE** | Only press on cover after mounting!

Other mounting material (screws, dowels, sliding nut) not included.

3.2 Function

Press and release of the reset pushbutton.

4 Mounting



DANGER

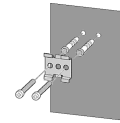
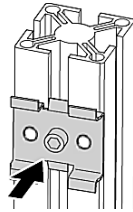
Select a suitable installation location:

- ▶ Mount the reset pushbutton such that it can be reached easily!
- ▶ Mount the reset pushbutton in such a way that the hazardous area is completely visible when the reset pushbutton is used.

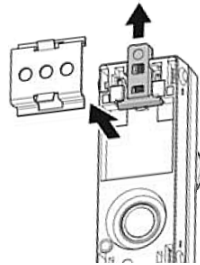
In practice it is recommended to mount the reset pushbutton vertically (connecting cable downward).

How to mount the reset pushbutton:

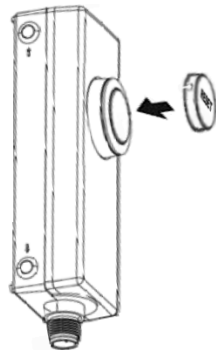
1. Mounting on profile rail: Insert sliding nut in profile (sliding nut not included).
Or:
Wall mounting: Drill two mounting holes in the mounting plate.



2. Fasten retaining clip.



3. Fit housing to the side of the retaining spring, pull against spring pressure and press on. The reset pushbutton engages.
4. Press "RESET" or "RESET/OVERRIDE" cover (depending on intended purpose) onto the reset pushbutton, with label correctly positioned so it is legible, until it engages.



5. Connect connecting cable to the connection plug. Pay attention to the permissible electrical and mechanical data (see ["Technical data"](#), page 15).

5 Connection

Table 1: Pin assignment ER12-SB3C4

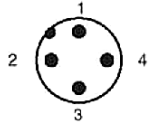
ER12SB3C4	Pin	Assignment
	1/2	Normally open contact
	3	LED+
	4	LED-

Table 2: Pin assignment ER12-SB3C4S01

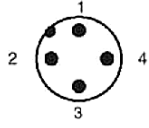
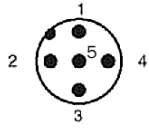
ER12SB3C4S01	Pin	Assignment
	1/4	Normally open contact
	2	LED+
	3	LED-

Table 3: Pin assignment ER12-SB3C5

ER12SB3C5	Pin	Assignment
	1/4	Normally open contact
	2	Not connected
	3	LED-
	5	LED+

6 Tests before the initial commissioning

Mechanical functional check

- Are there any signs of damage to the exterior of the reset pushbutton?
- Is the reset pushbutton's housing securely engaged on the retaining clip?
- Is the connecting cable securely fastened?

Electrical functional check:

1. Stop machine.
2. Ensure there is no person in the hazardous area.
3. Actuate reset pushbutton.
4. Check whether the protective device has been reset.



WARNING

It must only be possible to restart the machine after actuating the reset pushbutton!

7 Periodic technical inspections

Make regular checks to ensure correct, long-term function. The inspection interval is to be defined by the machine designer based on the risk assessment. However, it is recommended the responsible safety officer triggers the reset pushbutton at least once a year for test purposes and to check for correct function:

- mechanical and electrical function check as per chapter 6
- no tampering or damage apparent
- no loose connections

8 What to do in case of a malfunction

**DANGER**

In case of mechanical overload or the action of external forces, the reset pushbutton may be damaged and its function degraded.

- ▶ Remove the cause.
 - ▶ In this case undertake a function check as per chapter 6.
 - ▶ Replace the reset pushbutton, if necessary.
-

9 Uninstalling



WARNING

Electrically isolate the system and device prior to uninstalling!

- ▶ Disconnect connecting cable from the plug connector.
- ▶ Using a screwdriver pull up the slide (Mounting, Step 2).
- ▶ Release housing from retaining clip.

10 Disposal

Approach

- ▶ Always dispose of unusable devices in accordance with national waste disposal regulations.



Complementary information

SICK will be glad to help you dispose of these devices on request.

11 Conformities and certificates

You can obtain declarations of conformity, certificates, and the current operating instructions for the product at www.sick.com. To do so, enter the product part number in the search field (part number: see the entry in the “P/N” or “Ident. no.” field on the type label).

11.1 EU declaration of conformity

Excerpt

The undersigned, representing the manufacturer, herewith declares that the product is in conformity with the provisions of the following EU directive(s) (including all applicable amendments), and that the standards and/or technical specifications stated in the EU declaration of conformity have been used as a basis for this.

- ROHS DIRECTIVE 2011/65/EU
- LV DIRECTIVE 2014/35/EU

11.2 UK declaration of conformity

Excerpt

The undersigned, representing the following manufacturer herewith declares that this declaration of conformity is issued under the sole responsibility of the manufacturer. The product of this declaration is in conformity with the provisions of the following relevant UK Statutory Instruments (including all applicable amendments), and the respective standards and/or technical specifications have been used as a basis.

- Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
- Electrical Equipment (Safety) Regulations 2016

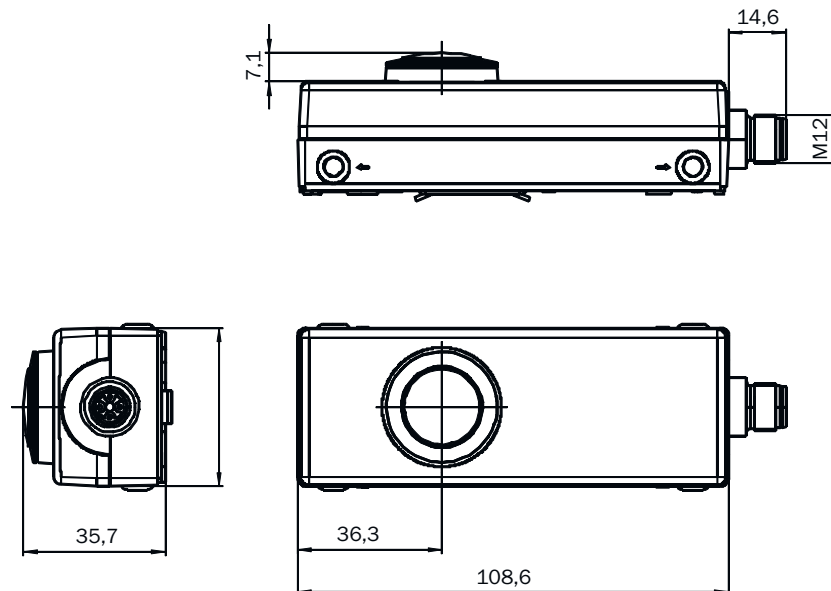
12 Technical data

12.1 Data sheet

Table 4: Data sheet ER12

Enclosure rating	IP65 (EN 60529)
Protection class	III (EN 61 140)
Ambient operating temperature	-25 ... +70 °C
Storage temperature	-25 ... +80 °C
Switching elements	1 normally open contact (EN 6094751)
B _{10D} value	1 × 10 ⁶ switching operations (EN ISO 138491)
MTTF _D (Mean time to failure)	27.945 (at switching frequency C = 1/d, EN ISO 13849-1)
Electrical/mechanical service life (at +20 °C)	1 × 10 ⁶ switching operations
Max. bounce time	10 ms
Usage category	DC13 (EN 6094751)
Rated current I _e	2 A
Rated voltage U _e	24 V DC
Housing material	PBT (polybutylene terephthalate)
Contact material	AgNi
Reset pushbutton illumination connection	
Supply voltage	30 V AC/DC
Power consumption	14 mA (at 24 V)

12.2 Dimensional drawings



13 Ordering information

Table 5: Part numbers and type codes ER12

Part	Part No. (type code)
Reset pushbutton incl. removable retaining clip	
Reset pushbutton, compatible with Flexi Loop in conjunction with Flexi Loop Y-adapter 2074733 or 2074734	6051330 (ER12-SB3C4)
Reset pushbutton for muting applications (UE403)	6034585 (ER12-SB3C4S01)
Reset pushbutton for RESET/OVERRIDE function	6045316 (ER12-SB3C5)
Spare parts	
Retaining clip	5326274

Australia

Phone +61 (3) 9457 0600
1800 33 48 02 – tollfree
E-Mail sales@sick.com.au

Austria

Phone +43 (0) 2236 62288-0
E-Mail office@sick.at

Belgium/Luxembourg

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

Brazil

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

Canada

Phone +1 905.771.1444
E-Mail cs.canada@sick.com

Czech Republic

Phone +420 234 719 500
E-Mail sick@sick.cz

Chile

Phone +56 (2) 2274 7430
E-Mail chile@sick.com

China

Phone +86 20 2882 3600
E-Mail info.china@sick.net.cn

Denmark

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

Finland

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

France

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

Germany

Phone +49 (0) 2 11 53 010
E-Mail info@sick.de

Greece

Phone +30 210 6825100
E-Mail office@sick.com.gr

Hong Kong

Phone +852 2153 6300
E-Mail ghk@sick.com.hk

Hungary

Phone +36 1 371 2680
E-Mail ertekesites@sick.hu

India

Phone +91-22-6119 8900
E-Mail info@sick-india.com

Israel

Phone +972 97110 11
E-Mail info@sick-sensors.com

Italy

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

Japan

Phone +81 3 5309 2112
E-Mail support@sick.jp

Malaysia

Phone +603-8080 7425
E-Mail enquiry.my@sick.com

Mexico

Phone +52 (472) 748 9451
E-Mail mexico@sick.com

Netherlands

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

New Zealand

Phone +64 9 415 0459
0800 222 278 – tollfree
E-Mail sales@sick.co.nz

Norway

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

Poland

Phone +48 22 539 41 00
E-Mail info@sick.pl

Romania

Phone +40 356-17 11 20
E-Mail office@sick.ro

Russia

Phone +7 495 283 09 90
E-Mail info@sick.ru

Singapore

Phone +65 6744 3732
E-Mail sales.gsg@sick.com

Slovakia

Phone +421 482 901 201
E-Mail mail@sick-sk.sk

Slovenia

Phone +386 591 78849
E-Mail office@sick.si

South Africa

Phone +27 10 060 0550
E-Mail info@sickautomation.co.za

South Korea

Phone +82 2 786 6321/4
E-Mail infokorea@sick.com

Spain

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

Sweden

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

Switzerland

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

Taiwan

Phone +886-2-2375-6288
E-Mail sales@sick.com.tw

Thailand

Phone +66 2 645 0009
E-Mail marcom.th@sick.com

Turkey

Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates

Phone +971 (0) 4 88 65 878
E-Mail contact@sick.ae

United Kingdom

Phone +44 (0)17278 31121
E-Mail info@sick.co.uk

USA

Phone +1 800.325.7425
E-Mail info@sick.com

Vietnam

Phone +65 6744 3732
E-Mail sales.gsg@sick.com

Detailed addresses and further locations at www.sick.com