

S-Line



S-Line – Miniature Safety Edge System



BIRCHER REGLOMAT

S-Line – Miniature Safety Edge System

Application

Safety edges are used to protect dangerous closing edges at automatic doors and gates, shutters, vehicle doors or in the machinery industry. Depending on the force and speed of the moving part a suitable rubber

profile has to be selected. Bircher Reglomat safety components are developed and certified to meet today's European Safety Standards.

Description

S-Line consists of various components that together build a safety edge system.

- ① Contact strip
- ② Rubber profiles
- ③ Aluminium rail
- ④ End pieces
- ⑤ Switching units
- ⑥ Tools and accessories

The contact strip is made with two conducting elements made of conductive silicon. They are placed with a defined distance. The strip can be terminated with different end pieces, depending on the application. Inserted into the rubber profile and connected to a switching unit, all components make the complete system.

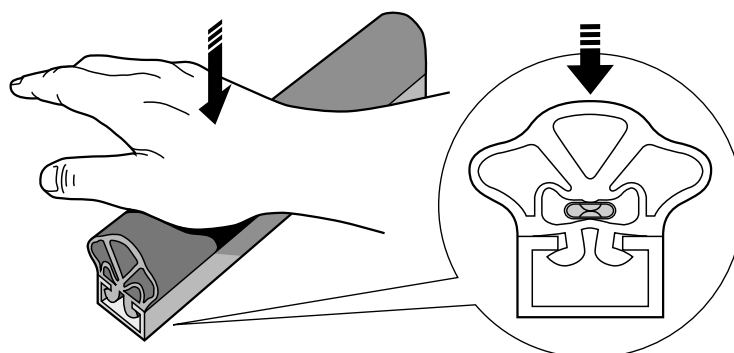
The safety edges can easily and quickly be assembled by the user. This provides enormous flexibility with regard to the production of different types in various lengths.



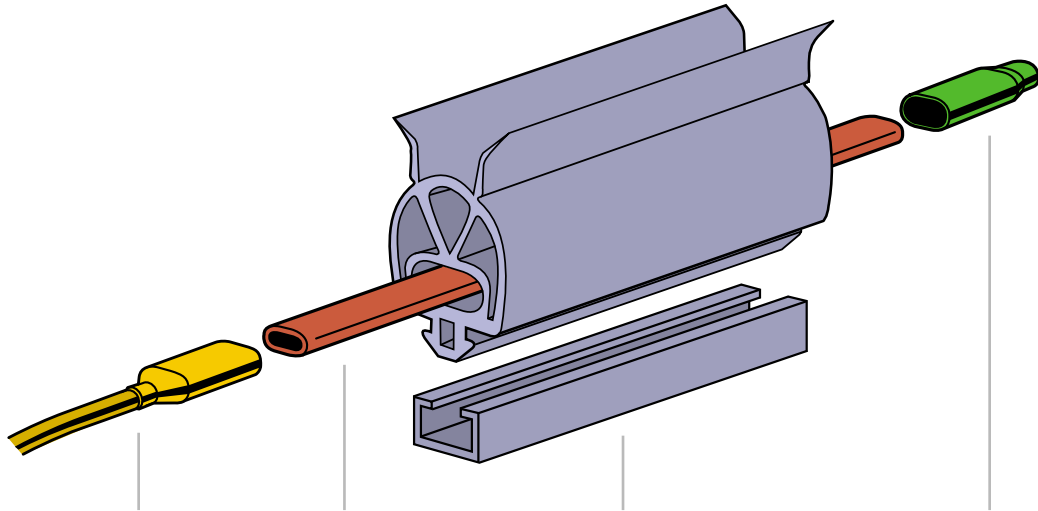
Function

Vertical force onto the safety edge causes a contact of the conductive elements inside the contact strip. This results in a change of the resistance and the current, which can be analysed by the control unit. If assem-

bled correctly, the safety edges are water tight. It works properly even at damage, as long as the contact strip is not destroyed.



Order Information Components



End pieces with cable	Contact strip	Rubber Profiles / Alu-Rail	End pieces without cable
ENES-K05 End piece with cable 0.5 m	ENT-S/50 Reel with 50 m	EPT 011/008A0W1 Adhesive profile 11 x 8 mm, no lips, TPE	ENES-0 End piece without termination resistor
ENES-K2 End piece with cable 2 m	ENT-S/100 Reel with 100 m	EPE 016/012A0V1 Click profile 16 x 12 mm no lips, EPDM	ENES-8 End piece with 8.2 kOhm termination resistor
ENES-K4 End piece with cable 4 m		EPE 016/020J2V1 Click profile 16 x 20 mm no lips, EPDM	
ENES-K7 End piece with cable 7 m		AP-S Aluminum rail	
ENES-K10 End piece with cable 10 m			

Order Information Safety edges / Contact Strip assembled

Type	End piece / Alu-Rail	Length of edge	Length of cable
ELT011/008A0W1	1 End piece 1: with cable End piece 2: 8.2 kOhm Safety edge with alu-rail	Length of safety edge in mm	Length of cable in full meters
ELE016/012A0V1	2 End piece 1: with cable End piece 2: with cable Safety edge with alu-rail		
ELE016/020J2V1	3 End piece 1: with cable End piece 2: without termination resistor (open) Safety edge with alu-rail		
ENT-S (Contact strip only)	4 End piece 1: with cable End piece 2: 8.2 kOhm Safety edge without alu-rail		
	5 End piece 1: with cable End piece 2: with cable Safety edge without alu-rail		
	6 End piece 1: with cable End piece 2: without termination resistor (open) Safety edge without alu-rail		

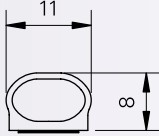
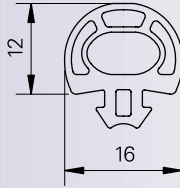
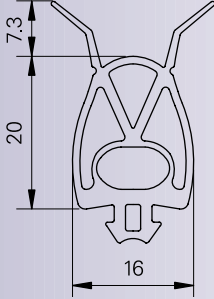
Further specifications (optional):

- Position of cable outlet
(standard is to the side)
- Application specific data
divergent to standard

S-Line – Miniature Safety Edge System

Technical Data

Rubber Profiles / Safety Edges

Rubber Profiles	Type	EPT 011/008A0W1	EPE 016/012A0V1	EPE 016/020J2V1
	Foot	adhesive ¹⁾	click	click
	Lips	none	none	double ²⁾
	Material	TPE	EPDM	EPDM
	Alu-Rail	none	AP-S	AP-S
	Dimensions (in mm)			
Packaging	Reel with 50 m	Box with 50 m	Box with 50 m	
Safety Edges <small>(complete assembled)</small>	Type	ELT 011/008A0W1	ELE 016/012A0V1	ELE 016/020J2V1
	Temperature Range	-20° C to +55° C	-20° C to +55° C	-20° C to +55° C ⁴⁾
	Activating Distance ³⁾	2 mm	5 mm	5 mm
	Activating Force ³⁾	< 150 N	< 150 N	80 N
	Over run distance ³⁾			
	250 N	0 mm	1 mm	5 mm
	400 N	0 mm	2 mm	6 mm
	Switching angle	2 x 10°	2 x 20°	2 x 45°
	min. Bending Radius			
	Longitudinal axis	750 mm	750 mm	750 mm
	Lateral axis	150 mm	150 mm	150 mm
	max. Length	10 m	10 m	10 m
	max. Force	500 N	500 N	500 N
	Protection Class	IP65	IP65	IP65
Dead Zone	35 mm	35 mm	20 mm ³⁾	
Inactive Range	35 mm	35 mm	35 mm	
Conformity with standard	–	–	EN 12978, EN 1760-2	

¹⁾ Sticks best on plane metal and plastic surfaces. Surface must be free from dust and grease. Suitability must be tested prior to use for any material.

²⁾ If required, lips can be torn-off

³⁾ Values at 23° C, with test piece Ø 80 mm, measuring point C3 per EN 1760-2

⁴⁾ EN 1760-2, -5° C to +55° C

Characteristics of Rubber Profiles

	EPDM	NBR	TPE
Chemical names	Ethylen-Propylen-Caoutchouc	Nitril-Caoutchouc	Polyoletin-Caoutchouc (Santoprene)
Rebound elasticity at 20° C	good	satisfactory	good
Resistance against lasting deformation	good	good	good
General weatherproofness	excellent	good	excellent
Ozone resistance	excellent	satisfactory	excellent
Oil resistance	low	excellent	satisfactory
Fuel resistance	low	good	low to satisfactory
Solvent resistance	low to satisfactory	partially good	low
General resistance against acids	good	satisfactory	good
Temperature range	-30° C to +140° C	-30° C to +120° C	-30° C to +110° C

The above mentioned list should be used as guideline. Critical applications must be verified.

Technical Data

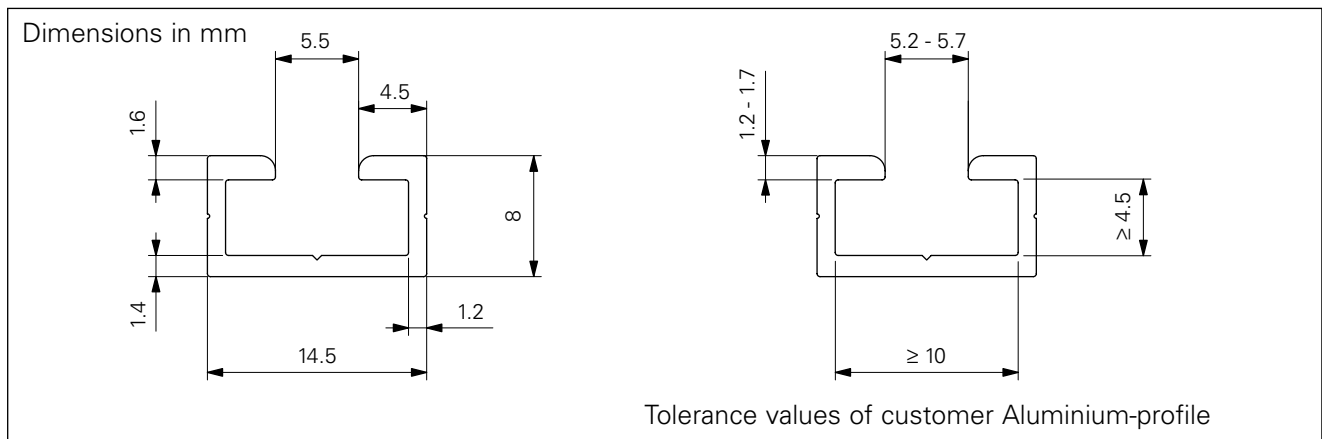
Contact Strip ENT-S

Material	Silicon Rubber
Dimensions	approx. 4 x 7 mm
Actuating Force max.	5 N
Actuating Distance	1 mm
Number of switching cycles	> 10'000, according to EN 1760-2
Switching voltage max.	30 V ACDC
Switching current max.	10 mA
Contact resistance max.	typ. < 150 Ohm, max. 800 Ohm
Transition Resistance max.	800 Ohm (not switched)
Temperature Range	-40° C to +80° C
min. Bending Radius	
Longitudinal axis	750 mm
Lateral axis	75 mm
Insulating Strength	1500 DV, 1000 AC



Aluminium-Rail AP-S

Type	Description	Packaging
AP-S	Aluminium-profile	Rail 6 m



End pieces

Type	Description	Packaging
End pieces with cable		
ENES-K05	End piece with cable 0.5 m	Bag with 10 pcs.
ENES-K2	End piece with cable 2 m	Bag with 10 pcs.
ENES-K4	End piece with cable 4 m	Bag with 10 pcs.
ENES-K7	End piece with cable 7 m	Bag with 10 pcs.
ENES-K10	End piece with cable 10 m	Bag with 10 pcs.

Connecting cable: Ø 3.9 mm, bending radius 10 mm, 2 strands with 0.25 mm² each







End pieces without cable		
ENES-0	End piece without termination resistor	Bag with 10 pcs.
ENES-8	End piece with resistor 8.2 kOhm	Bag with 10 pcs.

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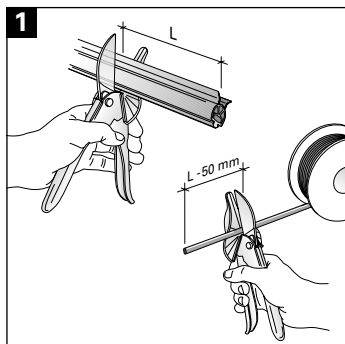
Accessories

Type	Description	Packaging	
Sealing Components			
ENA-10	Sealing tape for rubber profiles	Roll with 10 m	
ENS-DL	Sealing plug with hole for cable outlet	Bag with 10 pcs.	
ENS-DS	Sealing plug without hole	Bag with 10 pcs.	
ENSC	Sealing piece for rubber profiles	Bag with 10 pcs.	
ES-BD	Sealing compound	Box with 84 strips (sufficient for at least 100 edges)	
ES-KLEBER	Adhesive glue for plugs and ENA	Tube with 20 g	
Tools			
ESS-PRESS	Crimping tool for end pieces To crimp end pieces onto the contact strip	Box with 1 pce.	
ESS-INSERT	Insert for crimping tool As exchange or replacement onto existing press tool	Box with 1 pair	
GUMMISCHERE	Rubber cutter To cut rubber profiles to length	Box with 1 pce.	
Mounting accessories			
ENS-A12	Stopper piece for profile EPE016/012 Stops the gate at the end position and prevents from unintentional edge switching	Bag with 10 pcs.	
ENS-A20	Stopper piece for profile EPE016/020 Stops the gate at the end position and prevents from unintentional edge switching	Bag with 10 pcs.	
SPK-APD	Junction box To connect the safety edge cable with a helix cable	Box with 1 pce.	
SPK-3	Spiral cable Cable diameter: 6 mm max. length: 3 m 4 strands with 0.5 mm ²	1 pce.	

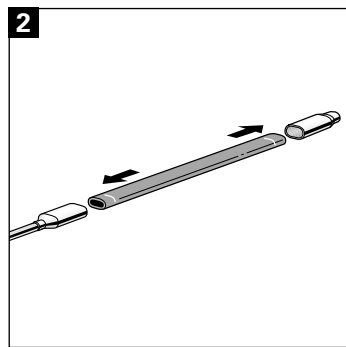
Accessories

Type	Description	
Switching units		
ESR11-230AC	2 channels for 2 sensors 8.2 kOhm, 1 output, Safety category 1 according EN 954-1, Power supply 230 V AC, built in version with 11-pin plug, Dimensions 36 x 74 x 85 mm	
ESR11-24ACDC	2 channels for 2 sensors 8.2 kOhm, 1 output, Safety category 1 according EN 954-1, Power supply 24 V ACDC, built in version with 11-pin plug, Dimensions 36 x 74 x 85 mm	
ESR12-230AC	2 channels for 2 sensors 8.2 kOhm, 2 outputs, Safety category 1 according EN 954-1, Power supply 230 V AC, built in version with 11-pin plug, Dimensions 36 x 74 x 85 mm	
ESR12-24ACDC	2 channels for 2 sensors 8.2 kOhm, 2 outputs, Safety category 1 according EN 954-1, Power supply 24 V ACDC, built in version with 11-pin plug, Dimensions 36 x 74 x 85 mm	
ESA25-230AC	1 channel for 1 sensor 8.2 kOhm, 1 output, Safety category 2 according EN 954-1, Power supply 230 V AC, surface version, IP65, Dimensions 110 x 80 x 65 mm	
ESA25-24ACDC	1 channel for 1 sensor 8.2 kOhm, 1 output, Safety category 2 according EN 954-1, Power supply 24 V ACDC, surface version, IP65, Dimensions 110 x 80 x 65 mm	
ESR25-24ACDC	1 channel for 1 sensor 8.2 kOhm, 1 output, Safety category 2 according EN 954-1, Power supply 24 V ACDC, built in version with 11-pin plug, Dimensions 36 x 74 x 85 mm	
ESR26-24ACDC	2 channels for 2 sensors 8.2 kOhm, 2 outputs, Safety category 2 according EN 954-1, Power supply 24 V ACDC, built in version with 11-pin plug, Dimensions 36 x 74 x 85 mm	
ESP 25-230AC	1 channel for 1 sensor 8.2 kOhm, 1 output, Safety category 2 according EN 954-1, Power supply 230 V AC, printed circuit version, Dimensions 94 x 70 x 32 mm	
ESP 25-24ADC	1 channel for 1 sensor 8.2 kOhm, 1 output, Safety category 2 according EN 954-1, Power supply 24 V ACDC, printed circuit version, Dimensions 94 x 70 x 32 mm	

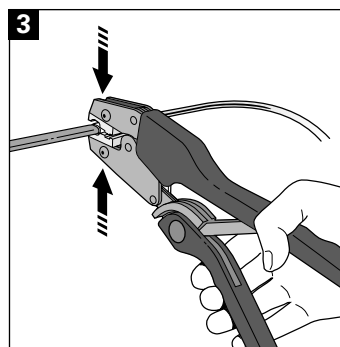
Assembly Process



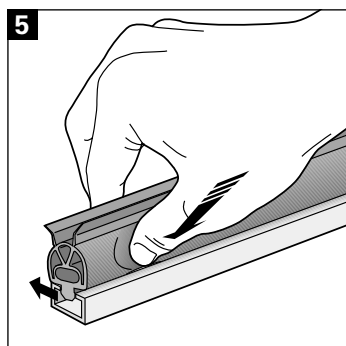
Cut rubber profile and strip ENT-S to length



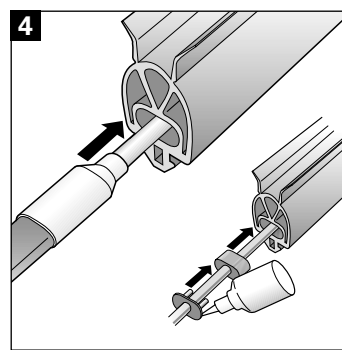
Place end pieces



Press



Click profile into aluminium-rail



Insert contact strip and seal profile

Your contact

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