

More than safety.

The right solution for every application

For decades, everything at EUCHNER has revolved around your safety. Safety to protect people, machines and products. If mechanical limit values specified for production are exceeded, EUCHNER safety switches all over the world can be relied on to stop machinery and equipment quickly.

Today, our products range from electromechanical and electronic components to intelligent safety solutions. Not only does EUCHNER look after greater safety, it also stands for a permanently compassionate and productive working environment.

With this wide range of products we can provide the necessary technologies to offer the right solution for special requirements. Quality, reliability and precision are always at the centre of our attention. They represent concepts and values to which we feel totally committed. In this way, we develop high-quality product solutions ideally tailored to our customers' individual needs and the ultimate requirements of practical operations. This is precisely why new products are frequently developed not simply on behalf of but in collaboration with long-term customers. It is not without reason that we currently hold a leading international position in the field of safety systems.



Safety Engineering at a Glance

Metal Housing

Position Switches with Safety Function

Safety

Without guard locking



Position switches
NZ



Single limit switches
NB01



Single limit switches
N1A



Safety switches
NZ.VZ



Safety switches
NX

Approvals



According to EN50041

Compact design,
chisel and roller
plungers

Slim design, according
to DIN 43693



Basic housing according
to EN 50041



Slim design, large
insertion opening
for actuator

AS-Interface Safety at Work

○

–

–

●

○

Slow-action contact elements

Positively driven NC contacts

1 2 2 3 4

1

1

1 2 2 3 4

2 3 4

NO

1 0 2 1 0

–

–

1 0 2 1 0

2 1 0

NC

– – – – –

–

–

– – – – –

– – –

Snap-action contact elements

Positively driven NC contacts

1

–

1

1

–

NO

1

–

1

1

–

Conventional thermal current

4 A

6 A

6 A

4 A

4 A

Switching current, min. (at 24V)

1 mA

1 mA

5 mA

1 mA

1 mA

Mechanical life, min.

30 x 10⁶

10 x 10⁶

30 x 10⁶ ²⁾

2 x 10⁶

2 x 10⁶

Housing material

Anodized die-cast alloy

Anodized die-cast alloy

Anodized die-cast alloy

Anodized die-cast alloy

Cathodically dipped
die-cast alloy

Housing dimensions, min. (HxWxD)

100 x 40 x 42 mm

58 x 40 x 20 mm

60 x 76 x 28 mm

115 x 40 x 42 mm

160 x 42 x 52 mm

Ambient temperature

-25 to +80 °C

-5 to +60 °C

-25 to +80 °C

-25 to +80 °C

-20 to +80 °C

Deg. of protection, max., acc. to IEC 60529

IP 67

IP 67

IP 67

IP 67

IP 67

LED display

●

–

●

●

●

Approach/actuating directions



Approach speed, max.

300 m/min.

50 m/min.

80 m/min.

20 m/min.

20 m/min.

Solenoid operating voltage

Power consumption

Locking force, locked

Cable entry

M 20 x 1,5¹⁾

M 12 x 1,5

2 x M 16 x 1,5¹⁾

M 20 x 1,5¹⁾

3 x M 20 x 1,5¹⁾

Connecting cable

○

○

○

○

○

Plug connector

●

○

●

●

○

Actuator straight/straight rubber-cushioned

Roller lever arm, chisel, roller and dome plungers, long roller plunger

●/–

–/●

Hinged actuator



●

–

Door radius, min.

165 mm

300 mm

Bolts for safety guards

●

●

Detailed information in catalog

Safety Switches
NZ/TZ/ZS

Safety Switches
NZ/TZ/ZS
Safety Products with
Integrated Bus Interface

Safety Switches
NX/TX

● available ○ available on request – not available

All given data refer to the respective minimal or maximal values for the entire series.

Switches with Separate Actuator																																						
With guard locking	With guard locking and guard locking monitoring																																					
Safety switches NZ.VZ.VS	Safety switches TZ	Safety switches TX																																				
Basic housing according to EN 50041, manual or electrical release	Auxiliary, emergency or escape release	Slim design, auxiliary, key, emergency or escape release																																				
-	●	●																																				
2 contact elements ³⁾																																						
<table border="1"><tr><td>1</td><td>2</td><td>2</td><td>3</td></tr><tr><td>1</td><td>0</td><td>2</td><td>1</td></tr><tr><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>	1	2	2	3	1	0	2	1	-	-	-	-	<table border="1"><tr><td>1</td><td>2</td><td>2</td><td>3</td><td>4</td></tr><tr><td>1</td><td>0</td><td>2</td><td>1</td><td>0</td></tr><tr><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>	1	2	2	3	4	1	0	2	1	0	-	-	-	-	-	<table border="1"><tr><td>1</td><td>2</td><td>2</td></tr><tr><td>2</td><td>1</td><td>2</td></tr><tr><td>1</td><td>1</td><td>0</td></tr></table>	1	2	2	2	1	2	1	1	0
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4A	4A	4A																																				
1 mA	1 mA	1 mA																																				
2 x 10 ⁶	2 x 10 ⁶	1 x 10 ⁶																																				
Anodized die-cast alloy	Anodized die-cast alloy	Cathodically dipped die-cast alloy																																				
115 x 40 x 42 mm	110 x 110 x 40 mm	240 x 42 x 59 mm																																				
-25 to +80 °C	-25 to +80 °C	-20 to +80 °C																																				
IP 67	IP 67	IP 67																																				
●	●	●																																				
20 m/min.	20 m/min.	20 m/min.																																				
24/115/230V	24/115/230V	24/115/230V																																				
10W	7W	7W																																				
1000N	1000N	1500N																																				
M 20 x 1,5 ¹⁾	M 20 x 1,5 ¹⁾	3 x M 20 x 1,5 ¹⁾																																				
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●/-	●/-	-/●																																				
●	●	-																																				
165 mm	165 mm	300 mm																																				
●	●	●																																				

Plastic Housing																																																																																																									
Position Switches with Safety Function			Safety Switches																																																																																																						
Without guard locking																																																																																																									
Position switches NM	Safety switches NM.VZA	Safety switches NP	Safety switches NP	Safety switches NP	Safety switches NP	Safety switches GP																																																																																																			
Small design, various lever/plunger forms and hinged actuators	Small design, small approach radii	Small design, ideal for profile assembly	Identical mounting dimensions to safety switch TP																																																																																																						
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6A	6A	4A	4A	4A	4A	4A																																																																																																			
10 mA	10 mA	30 mA	30 mA	30 mA	30 mA	1 mA																																																																																																			
30 x 10 ⁶	1 x 10 ⁶	1 x 10 ⁶	1 x 10 ⁶	1 x 10 ⁶	1 x 10 ⁶	2 x 10 ⁶																																																																																																			
Reinforced thermoplastic	Reinforced thermoplastic	Reinforced thermoplastic	Reinforced thermoplastic	Reinforced thermoplastic	Reinforced thermoplastic	Reinforced thermoplastic																																																																																																			
77,5 x 25 x 32 mm	82 x 25 x 32 mm	98 x 35 x 36 mm	98 x 35 x 36 mm	98 x 35 x 36 mm	98 x 35 x 36 mm	125 x 40 x 42 mm																																																																																																			
-20 to +80 °C	-20 to +80 °C	-20 to +80 °C	-20 to +80 °C	-20 to +80 °C	-20 to +80 °C	-20 to +80 °C																																																																																																			
IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67																																																																																																			
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60 m/min.	20 m/min.	20 m/min.	20 m/min.	20 m/min.	20 m/min.	20 m/min.																																																																																																			
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Safety Switches NZ/TZ/ZS	Safety Switches NZ/TZ/ZS Safety Products with Integrated Bus Interface	Safety Switches NX/TX Safety Products with Integrated Bus Interface	Safety Switches NM	Safety Switches NP/GP/TP Safety Products with Integrated Bus Interface
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1) Further versions upon request

2) Snap-action contact element 1 x 10⁶

3) One separate switching-element for magnet and door position

4) Approval pending

with Separate Actuator

With guard locking and guard locking monitoring



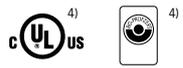
Safety switches
STM



Safety switches
TP



Safety switches
STP



Actuating head made of metal, auxiliary release

Auxiliary, key auxiliary, emergency or escape release, ideal for profile assembly

Actuating head made of metal, high locking force

○

●

○

2 contact elements ³⁾

1	2	3
-	1	-
-	-	-

1	1	2	2	2	4
1	0	0	2	1	0
0	1	0	0	1	0

2	2
2	1
0	1

-

-

-

-

-

-

4 A

4 A

4 A

1 mA

1 mA

1 mA

1 x 10⁶

1 x 10⁶

1 x 10⁶

Reinforced thermoplastic

Reinforced thermoplastic

Reinforced thermoplastic

Plastic

Plastic

Plastic

Reinforced thermoplastic

96 x 79 x 38 mm

192 x 40 x 42 mm

196 x 40 x 42 mm

104 x Ø 40 mm

132 x Ø 64 mm

200 x 115 x 100 mm

256 x 42 x 88 mm

-20 to +55 °C

-20 to +55 °C

-20 to +55 °C

-5 to +60 °C

-5 to +60 °C

-5 to +60 °C

-25 to +70 °C

IP 67

IP 67

IP 67

-

●

-

-



20 m/min.

20 m/min.

20 m/min.

24 V

24/110/230 V

24 V

6,5 W

8 W

8 W

1000 N

1200 N

2500 N

●

3 x M 20 x 1,5

3 x M 20 x 1,5

Blade terminal/
soldered connection

Ø 4-8 mm

3 x M 20 x 1,5

○

○

○

-

●

●

-

○

●

○

-

●

●

○

-/●

●/●

-/●

-

●

-

300 mm

90 mm

300 mm

○

●

○

Enabling Switches

Rope Pull Switch



Enabling switches
ZSE



Enabling switches
ZSA



Enabling switches
ZSB



Rope pull switch
RPS



Three-stage built-in version, single- or dual-channel

Three-stage, single- or dual-channel, kit available

Three-stage, single- or dual-channel with additional devices

Fast-action clamping and tensioning device with visualization, integrated emergency stop function

-

●

○

-

1	1	2	2
1	2	1	2
1	0	1	0

1	1	2	2
1	2	1	2
1	0	1	0

1	2
2	2
-	-

2
2
-

-

2 buttons optional

Button/key switch/
emergency stop optional

-

-

-

4 A

4 A

4 A

10 A

1 mA

1 mA

1 mA

10 mA

1 x 10⁵

1 x 10⁵

1 x 10⁵

Plastic

Plastic

Plastic

Reinforced thermoplastic

104 x Ø 40 mm

132 x Ø 64 mm

200 x 115 x 100 mm

256 x 42 x 88 mm

-5 to +60 °C

-5 to +60 °C

-5 to +60 °C

-25 to +70 °C

-

●

-

-



20 m/min.

20 m/min.

20 m/min.

24 V

24/110/230 V

24 V

6,5 W

8 W

8 W

1000 N

1200 N

2500 N

●

3 x M 20 x 1,5

3 x M 20 x 1,5

Blade terminal/
soldered connection

Ø 4-8 mm

3 x M 20 x 1,5

○

○

○

-

●

●

-

○

●

○

-

●

●

○

-/●

●/●

-/●

-

●

-

300 mm

90 mm

300 mm

○

●

○

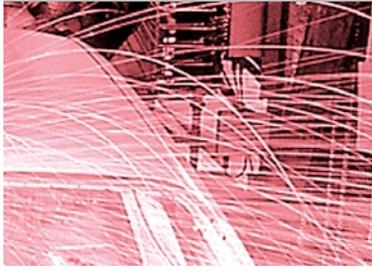
Safety Switches
STM

Safety Switches
NP/GP/TP
Safety Products with
Integrated Bus Interface

Safety Switches
STP

Safety Switches
NZ/TZ/ZS
Safety Products with Integrated Bus Interface

Rope Pull Switch
RPS



Safety Relays

Basic safety relays

Safety 2-hand control relays

Safety expansions



Safety relays
ESM-BL

Safety relays
ESM-BA



Safety relays
ESM-2H2



Safety relays
ESM-ES3



Safety relays
ESM-TE3

Approvals



Features/ specific advantages

Single-/dual-channel control,
compact design

Dual-channel control,
compact design

Control via basic relays,
compact design

STOP category, acc. to EN60204

0

0

0

0

1

Safety category, acc. to EN954-1

3

4

4, IIIC (EN 574)

3

3

Monitored start

–

●

●

●

●

Automatic/manual start

●

●

●

●

●

Earth fault monitoring

–

●

●

●

●

Short-circuit monitoring

–

●

●

Safety contacts

2

3

2

3

–

Delayed safety contacts

–

–

–

–

3

Auxiliary contacts

–

1

–

1

1

Switching current AC, max.

6A

8A

6A

6A

Switching voltage AC, max.

250V

250V

250V

Operating voltage

24V AC/DC, 115/230VAC

24V AC/DC

24V AC/DC, 115/230V AC

Mechanical life, max.

1 x 10⁷ operating cycles

1 x 10⁷ operating cycles

1 x 10⁷ operating cycles

Type of connection

Screw terminals

Screw terminals

Screw terminals

Housing material

Plastic

Plastic

Plastic

Mounting

DIN rail

DIN rail

DIN rail

Dimensions (HxWxD)

114 x 99 x 22,5 mm

114 x 99 x 22,5 mm

114 x 99 x 22,5 mm

Ambient temperature (with U₀ = 24 V)

-15 to +60 °C

-15 to +60 °C

-15 to +60 °C

Deg. of protection, acc. to IEC/EN 60529

IP 20

IP 20

IP 20

LEDs

●

●

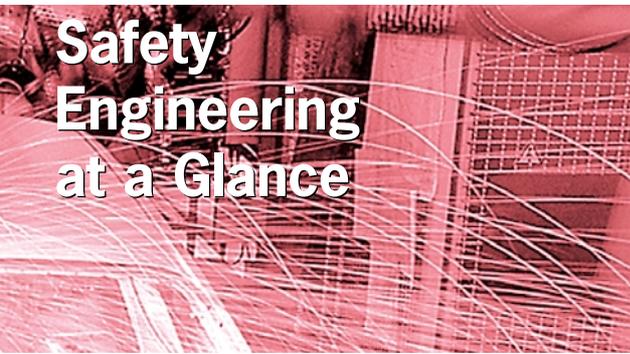
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Detailed information in catalog

Safety Relays
ESM

Further information is available at www.euchner.com

Safety Engineering at a Glance



					Non-Contact Safety Switches				
					Transponder Coding			Magnetic Coding	
					CES-A-C5	CES-A-A		CEM	CMS
Approvals									
Features/specific advantages					Unique actuator, integrated evaluation electronics	Unique actuator, separate evaluation electronics		Integrated electronic mounting magnet for process protection	Up to 30 read heads
Safety category, acc. to EN 954-1					4	4		4	3
AS-Interface Safety at Work					-	●		●	-
Read heads					1	1 to 4		1 to 4	1 to 30
Relay safety outputs					-	2 2 2		2 2 2	1 (redundant)
Semiconductor safety outputs					2	-		-	-
Monitoring outputs (semiconductor)					1	2 3 5		2 3 5	1 (relay)
Monitoring/Connection feedback loop					-	- 1 1		- 1 1	1
Monitoring/Connection start button					-	- 1 1		- 1 1	-
Switching current per safety output					400 mA	6 A		6 A	4 A
Mechanical life, min.						10 x 10 ⁶		10 x 10 ⁶	10 x 10 ⁶
Evaluation unit					Integrated in read head				
Mounting					Decentralized	DIN rail		DIN rail	DIN rail
Dimensions, min. (HxWxD)					117 x 40 x 40 mm	114 x 99 x 22,5 mm		114 x 99 x 22,5 mm	89 x 80 x 25 mm
Ambient temperature					0 to +55 °C	0 to +55 °C		0 to +55 °C	0 to +50 °C
Degree of protection, max., acc. to IEC 60529					IP 67	IP 20		IP 20	IP 20
LEDs					●	●		●	●
Read head/actuator					Actuator				
Ambient temperature					-25 to +70 °C	-25 to +70 °C		-25 to +50 °C	-20 to +60 °C
Degree of protection, max., acc. to IEC 60529					IP 67	IP 67		IP 67	IP 67
Operating range, max.					20 mm	16 mm		2 mm	18 mm
Approach directions									
Guard locking								24 VDC	
Power consumption, max.								10 W	
Adhesive force, max.								900 N	
Connection					Plug connector M12	Plug-in terminals		Plug-in terminals	Plug-in terminals
Read head cable/plug connector						●/●		●/●	●/○
Accessories					Actuator rectangular/cylindrical	●/-		●/●	●/●
Bolts for safety guards					●	●		-	○
Detailed information in catalog					Non-Contact Safety Switches CES/CEM				Non-Contact Safety Switches CMS
					Safety Products with Integrated Bus Interface				

● available ○ available on request - not available

All given data refer to the respective minimal or maximal values for the entire series.

Please send a fax for contact

(copy, fill in and send by fax)

Company _____

First Name/Last Name _____

Department _____

Street, No./P.O. Box _____

Post Code/City _____

Phone/Fax _____

Email _____

Please contact me for detailed information.

Please send me the following catalogs:



Safety

- | | | | | | | | |
|--|-----------------------------------|--------------------------------|-----------------------------|-----------------------------------|------------------------------|------------------------------|--|
| Non-Contact Safety Switches | <input type="checkbox"/> CES/CEM | <input type="checkbox"/> CMS | | | | | |
| Safety Switch | <input type="checkbox"/> NZ/TZ/ZS | <input type="checkbox"/> NX/TX | <input type="checkbox"/> NM | <input type="checkbox"/> NP/GP/TP | <input type="checkbox"/> STP | <input type="checkbox"/> STM | |
| Rope Pull Switch | <input type="checkbox"/> RPS | | | | | | |
| Safety Relays | <input type="checkbox"/> ESM | | | | | | |
| Safety Products with
Integrated Bus Interface | <input type="checkbox"/> | | | | | | |
| Bolts for Safety Guards | <input type="checkbox"/> | | | | | | |

Further catalogs of our product lines Automation and ManMachine can be requested:



Automation

- | | | | |
|--------------------------|--------------------------|-----------------------------------|--------------------------|
| Precision Limit Switches | <input type="checkbox"/> | Precision Multiple Limit Switches | <input type="checkbox"/> |
| Position Switches | <input type="checkbox"/> | Inductive Single Limit Switches | <input type="checkbox"/> |
| Trip Dogs/Trip Rails | <input type="checkbox"/> | Round Connectors | <input type="checkbox"/> |
| Inductive Ident Systems | <input type="checkbox"/> | | |



ManMachine

- | | | | |
|----------------------|--------------------------|----------------------------|--------------------------|
| Joysticks | <input type="checkbox"/> | Hand-Held Pendant Stations | <input type="checkbox"/> |
| Electronic Handweels | <input type="checkbox"/> | Electronic-Key-System | <input type="checkbox"/> |

For further information visit www.euchner.com

More than safety.

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