



# Safety Switches with Separate Actuator, Plastic Housing **EUCHNER**



## Safety switch NM..VZ

- ▶ Cable entry M16 x 1.5
- ▶ M12 plug connector optional



### Approach direction



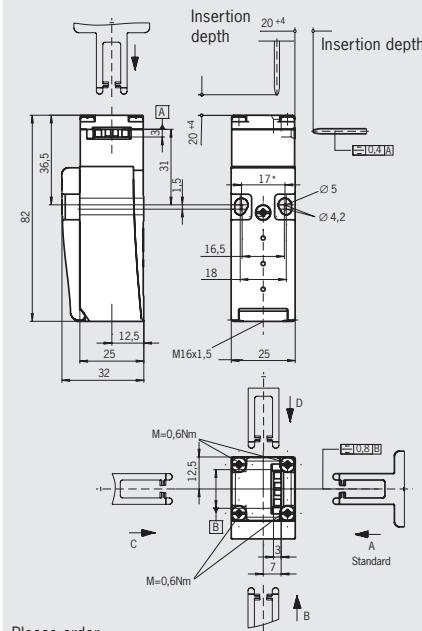
Horizontal and vertical  
Can be adjusted in 90° steps

### Switching elements

- ▶ **ES01** Slow-action switching element  
1 NC ⊖
- ▶ **ES11** Slow-action switching element  
1 NC ⊖ + 1 NO
- ▶ **ES02** Slow-action switching element  
2 NC ⊖
- ▶ **ES12** Slow-action switching element  
2 NC ⊖ + 1 NO
- ▶ **ES03** Slow-action switching element  
3 NC ⊖

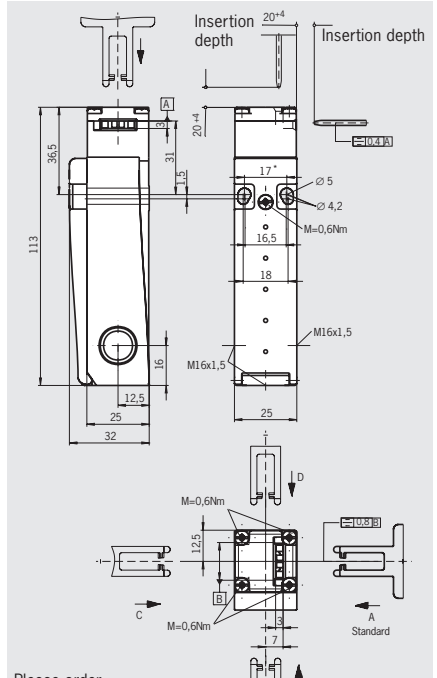
### Cable entry M16 x 1.5 Short housing

#### Dimension drawing



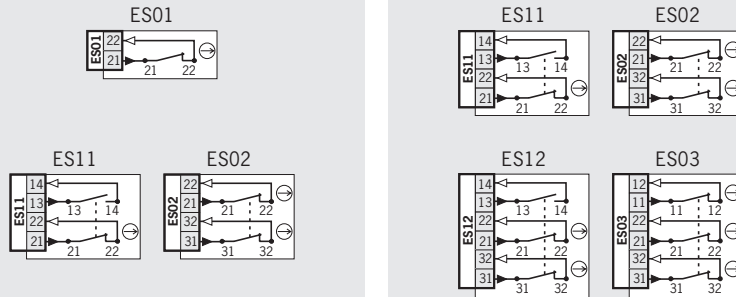
Please order actuator separately (see pages 88-89) For cable glands see page 104

### Cable entry M16 x 1.5 Long housing



Please order actuator separately (see pages 88-89) For cable glands see page 104

### Wiring diagrams Actuator inserted

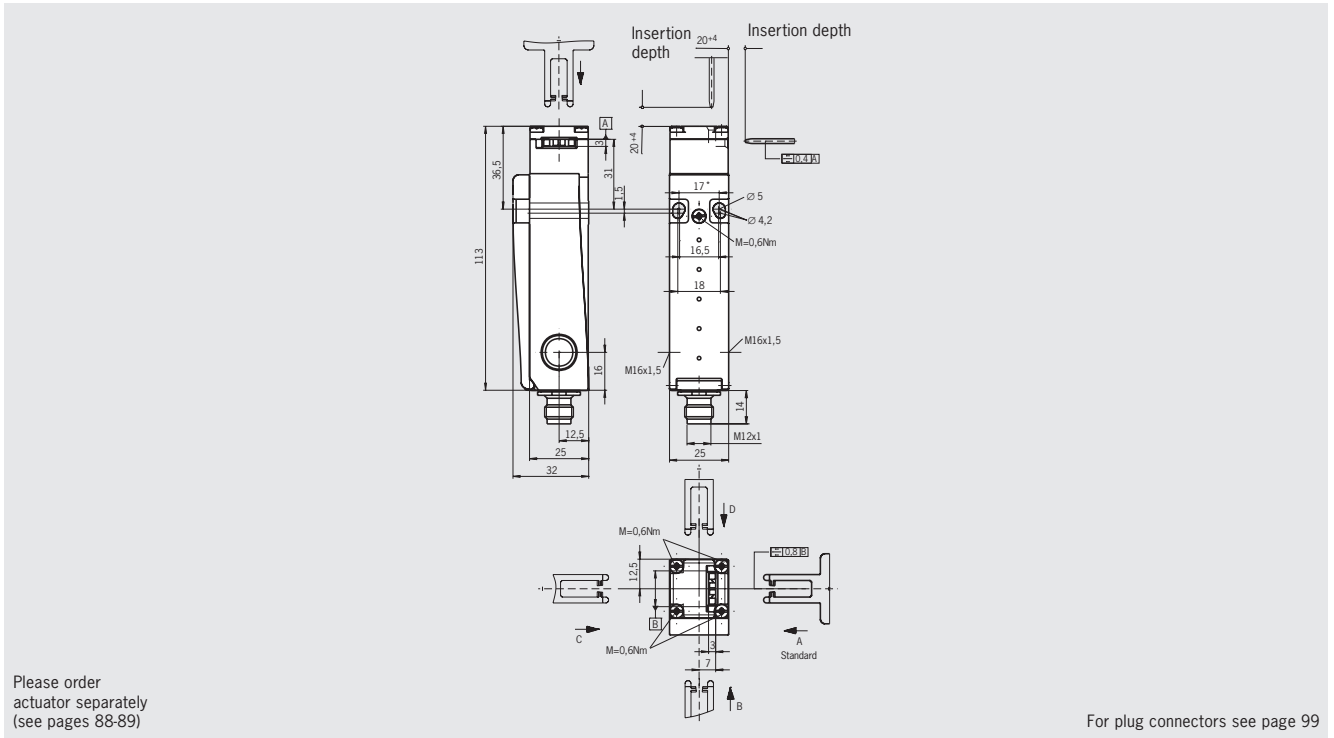


### Ordering table

Series	Actuator	Connection	Housing	Switching element	Order No. / Item
NM	VZ Separate actuator	Cable entry <b>1 x M16 x 1.5</b>	<b>Short</b> 	<b>01</b> 1 NC ⊖	<b>084451</b> NM01VZA-M
				<b>11</b> 1 NC ⊖ + 1 NO	<b>094471</b> NM11VZA-MC2069
				<b>02</b> 2 NC ⊖	<b>094470</b> NM02VZA-MC2069
				<b>11</b> 1 NC ⊖ + 1 NO	<b>084452</b> NM11VZA-M
		Cable entry <b>3 x M16 x 1.5</b>	<b>Long</b> 	<b>02</b> 2 NC ⊖	<b>084453</b> NM02VZA-M
				<b>12</b> 2 NC ⊖ + 1 NO	<b>084454</b> NM12VZA-M
				<b>03</b> 3 NC ⊖	<b>084455</b> NM03VZA-M



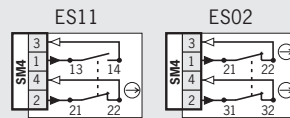
## Plug connector M12 4-pin, long housing




Please order actuator separately (see pages 88-89)

For plug connectors see page 99

## Wiring diagrams Actuator inserted



## Ordering table

Series	Actuator	Connection	Housing	Switching element	Order No. / Item
NM	VZ Separate actuator	Plug connector M12	Long 	11 1 NC $\ominus$ + 1 NO	085626 NM11VZA-SM4
				02 2 $\bar{O}$ $\ominus$	084564 NM02VZA-SM4

For safety precautions see page 160  
For technical data see page 117



## Safety switch NM..VZ



The technical data on switches and switching elements apply to all connections. Further technical data are given for the connection selected.

### Reliability values acc. to EN ISO 13849-1

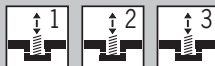
Parameter	Value	Unit
B <sub>10d</sub>	4 x 10 <sup>6</sup> operating cycles	

### Switch



Parameter	Value	Unit
Housing material	Reinforced thermoplastic	
Mechanical life	10 <sup>6</sup> operating cycles	
Weight	approx. 0.1	kg
Max. approach speed	20	m/min
Actuating force	10	N
Extraction force	10	N
Retention force	2	N
Insertion depth	necessary minimum travel	20
	permissible overtravel	4

### Switching element



Parameter	Value	Unit
Switching principle	Slow-action switching element	
Switching elements with 1 switching element	<b>ES01</b> 1 NC ⊖	
Switching elements with 2 switching elements	<b>ES11</b> 1 NC ⊖ + 1 NO <b>ES02</b> 2 NC ⊖ <b>ES12</b> 2 NC ⊖ + 1 NO <b>ES03</b> 2 NC ⊖	
Switching current, min., at DC 24 V	1	mA
Switching voltage, min., at 10 mA	12	V
Contact material	Silver alloy, gold flashed	

### Connection, cable entry M16 x 1.5



Parameter	Value	Unit
Ambient temperature	- 20 ... + 80	°C
Connection	Screw terminal	
Version	M16 x 1.5	
Conductor cross-section	0.34 ... 1.5	mm <sup>2</sup>
Degree of protection according to IEC 60529	IP 67	
Rated insulation voltage U <sub>i</sub>	250	V AC/DC
Rated impulse withstand voltage U <sub>imp</sub>	2.5	kV
Conventional thermal current I <sub>th</sub>	4	A
Short circuit protection according to IEC 60269-1 (control circuit fuse)	4	A gG
Utilization category to IEC 60947-5-1	AC-15	I <sub>e</sub> 4 A U <sub>e</sub> 230 V
	DC-13	I <sub>e</sub> 4 A U <sub>e</sub> 24 V

### Connection, plug connector SM 4 (M12)



Parameter	Value	Unit
Ambient temperature	- 20 ... + 60	°C
Connection	Plug connector	
Version	M12 (4-pin)	
Degree of protection according to IEC 60529	IP 67 <sup>1)</sup>	
Rated insulation voltage U <sub>i</sub>	250	V AC/DC
Rated impulse withstand voltage U <sub>imp</sub>	2.5	kV
Conventional thermal current I <sub>th</sub>	1.5	A
Short circuit protection according to IEC 60269-1 (control circuit fuse)	4	A gG
Utilization category to IEC 60947-5-1	AC-15	I <sub>e</sub> 4 A U <sub>e</sub> 230 V
	DC-13	I <sub>e</sub> 4 A U <sub>e</sub> 24 V

1) Screwed tight with the related plug connector (see page 99)