

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

Selection table for safety switches NP

Mounting		Connection			Switching element			Page
AS	AB	M	SM4	SR6	One contact	Two contacts	Three contacts	
		Thread M20 x 1.5 for cable gland						
		Plug connector M12 4-pin						
		Plug connector; 6 pin + PE						
					1 NC ⊖			
					1 NC ⊖ + 1 NO,			
					2 NC ⊖			
					2 NC ⊖ + 1 NO			
AS	AB	M	SM	SR6	One contact	Two contacts	Three contacts	Page
•		•			•	•	•	26
•			•			•		27
•				•	•	•	•	27
	•	•			•	•	•	28
	•		•			•		29
	•			•	•	•		29



Safety switch NP

- ▶ Mounting to DIN EN 50047
- ▶ Cable entry M20 x 1.5
- ▶ Plug connector optional



Approach direction



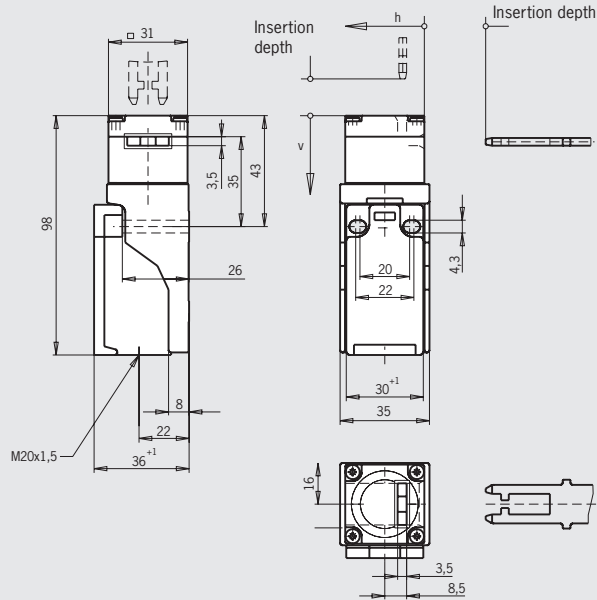
Horizontal and vertical
Can be adjusted in 90° steps

Switching elements

- ▶ **618** Slow-action switching element
1 NC \ominus
- ▶ **628** Slow-action switching element
1 NC \ominus + 1 NO
- ▶ **638** Slow-action switching element
2 NC \ominus
- ▶ **648** Slow-action switching element
2 NC \ominus + 1 NO

Cable entry M20 x 1.5

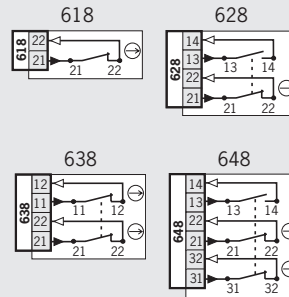
Dimension drawing



Please order
actuator separately
(see pages 90-93)

For cable glands see page 104

Wiring diagrams Actuator inserted



Ordering table

Series	Mounting	Connection	Switching element	Order No. / Item
NP	AS acc. to DIN EN 50047	1 Cable entry 1 x M20 x 1.5	618 1 NC \ominus	083685 NP1-618AS-M
			628 1 NC \ominus + 1 NO	083688 NP1-628AS-M
			638 2 NC \ominus	083691 NP1-638AS-M
			648 ¹⁾ 2 NC \ominus + 1 NO	082280 NP1-648AS-M

1) No \ominus approval

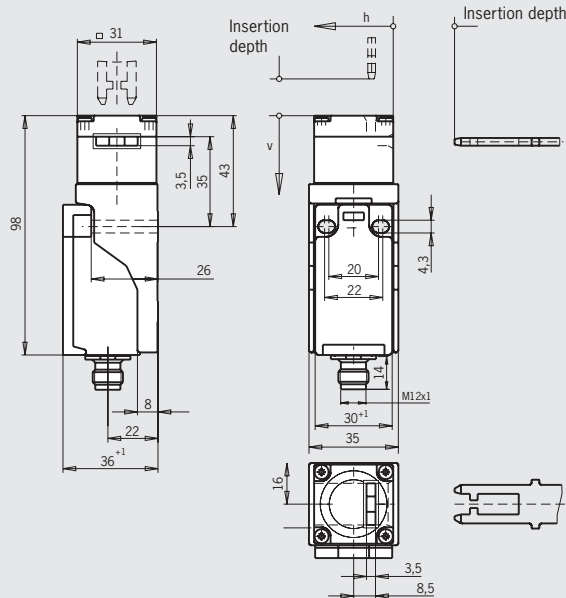
Safety Switches with Separate Actuator, Plastic Housing **EUCHNER**



Plug connector SM4 M12 plug, 4-pin

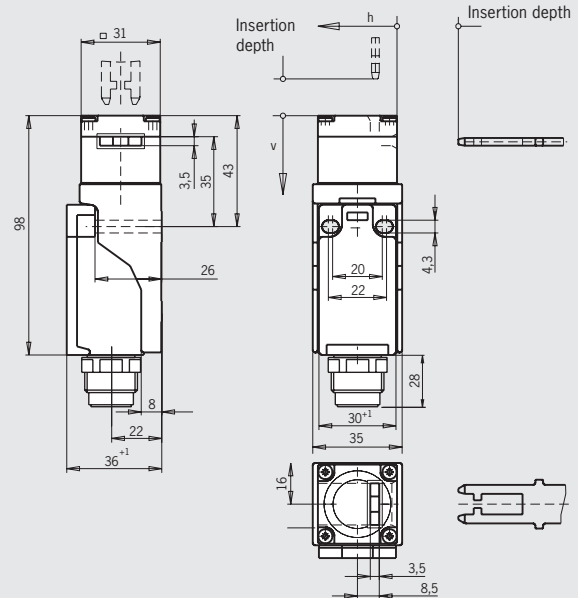
Plug connector SR6 6-pin + PE

Dimension drawing



Please order actuator separately (see pages 90-93)

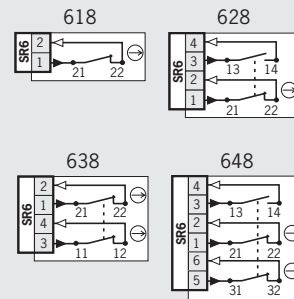
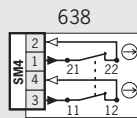
For plug connectors see page 99



Please order actuator separately (see pages 90-93)

For plug connectors see page 100

Wiring diagrams Actuator inserted



Ordering table

Series	Mounting	Connection	Switching element	Order No. / Item
NP	AS acc. to DIN EN 50047	3 Plug connector SM4	638 2 NC ⊖	084400 NP3-638AS
			618 1 NC ⊖	059445 NP2-618AS
		2 Plug connector SR6	628 1 NC ⊕ + 1 NO	059447 NP2-628AS
			638 2 NC ⊖	059449 NP2-638AS
			648 2 NC ⊕ + 1 NO	088924 NP2-648AS

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





Safety switch NP

- ▶ Mounting with 40 mm spacing
- ▶ Cable entry M20 x 1.5
- ▶ Plug connector optional



Approach direction



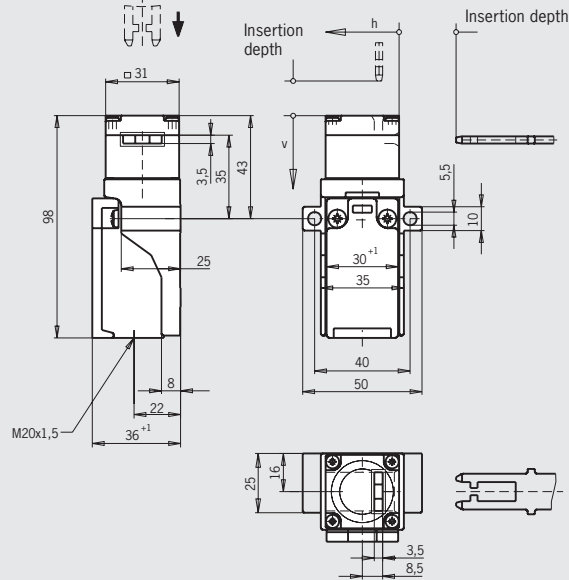
Horizontal and vertical
Can be adjusted in 90° steps

Switching elements

- ▶ **618** Slow-action switching element
1 NC ⊖
- ▶ **628** Slow-action switching element
1 NC ⊖ + 1 NO
- ▶ **638** Slow-action switching element
2 NC ⊖
- ▶ **648** Slow-action switching element
2 NC ⊖ + 1 NO

Cable entry M20 x 1.5

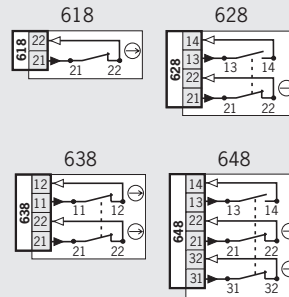
Dimension drawing



Please order actuator separately (see pages 90-93)

For cable glands see page 104

Wiring diagrams Actuator inserted



Ordering table

Series	Mounting	Connection	Switching element	Order No. / Item
NP	AB With 40 mm hole spacing	1 Cable entry 1 x M20 x 1.5	618 1 NC ⊖	083680 NP1-618AB-M
			628 1 NC ⊖ + 1 NO	083686 NP1-628AB-M
			638 2 NC ⊖	083690 NP1-638AB-M
			648 ¹⁾ 2 NC ⊖ + 1 NO	082276 ¹⁾ NP1-648AB-M

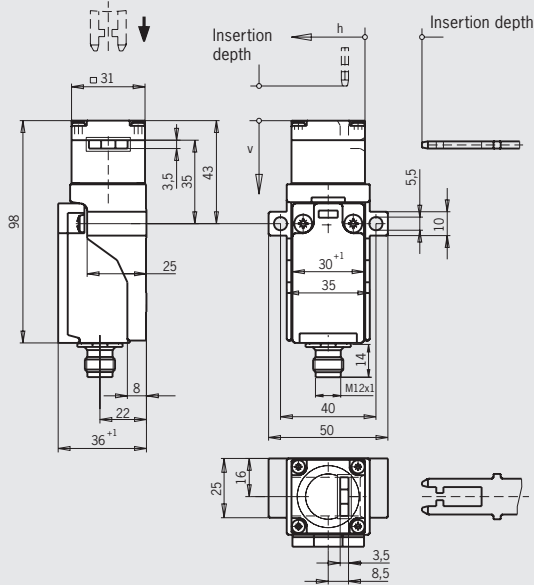
1) No UL approval

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



Plug connector SM4 M12 plug, 4-pin

Dimension drawing

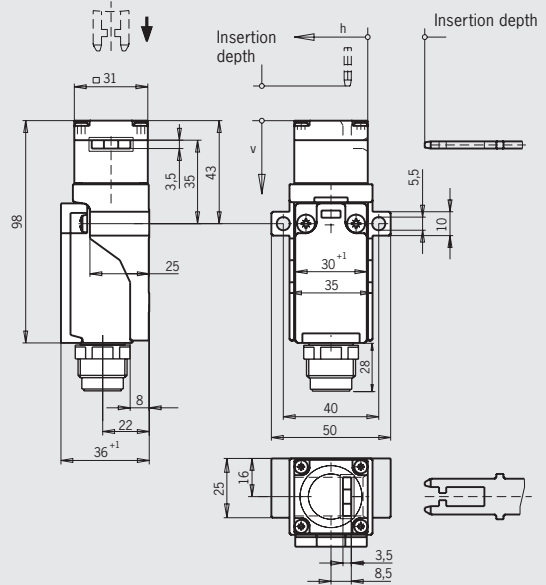


Please order actuator separately (see pages 90-93)

For plug connectors see page 99

Plug connector SR6 6-pin + PE

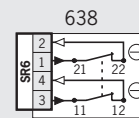
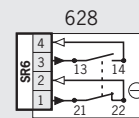
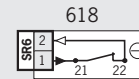
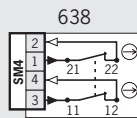
Dimension drawing



Please order actuator separately (see pages 90-93)

For plug connectors see page 100

Wiring diagrams Actuator inserted



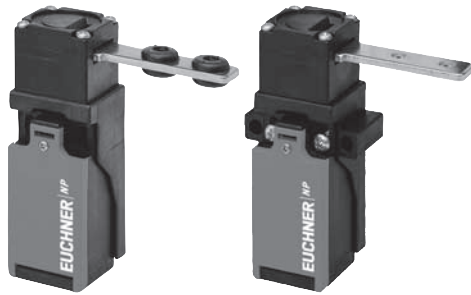
Ordering table

Series	Mounting	Connection	Switching element	Order No. / Item
NP	AB With 40 mm hole spacing	3 Plug connector SM4	638 2 NC ⊖	094509 NP3-638AB
		2 Plug connector SR6	618 1 NC ⊖	059446 NP2-618AB
			628 1 NC ⊖ + 1 NO	059448 NP2-628AB
			638 2 NC ⊖	059450 NP2-638AB

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



Safety switch NP



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 _{10d}	3 x 10 ⁶ operating cycles	

Switch



Parameter	Value	Unit	
Housing material	Reinforced thermoplastic		
Mechanical life	10 ⁶ operating cycles		
Ambient temperature	- 20 ... + 80	°C	
Weight	approx. 0.11	kg	
Max. approach speed	20	m/min	
Actuating force	5	N	
Extraction force	15	N	
Retention force	2	N	
Insertion depth (minimum required travel + permissible overtravel)	Standard actuators	Overtravel actuator	
Approach direction side (h)	28 + 2	28 + 7	mm
Approach direction from top (v)	29.5 + 1.5	29.5 + 7 Only with adapter NP-K Order No. 074 578 / page 83	mm

Switching element



Parameter	Value	Unit
Switching principle	Slow-action switching element	
Switching elements with 1 switching element	618 1 NC \ominus	
Switching elements with 2 switching elements	628 1 NC \ominus + 1 NO	638 2 NC \ominus
Switching elements with 3 switching elements	648 2 NC \ominus + 1 NO	
Switching current, min., at DC 24 V	30	mA
Switching voltage, min., at 10 mA	24	V
Contact material	Silver alloy	

Connection, cable entry M20 x 1.5



Parameter	Value	Unit
Connection	Screw terminal	
Version	M20 x 1.5	
Conductor cross-section	0.34 ... 1.5	mm ²
Degree of protection according to IEC 60529	IP 67	
Rated insulation voltage U _i	250	V AC/DC
Rated impulse withstand voltage U _{imp}	2.5	kV
Conventional thermal current I _{th}	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 _e 4 A U _e 230 V
	DC-13	I _e 4 A U _e 24 V

Connection, plug connector SM 4 (M12)



Parameter		Value	Unit
Connection		Plug connector	
Version		M12 (4-pin)	
Degree of protection according to IEC 60529		IP 67 ¹⁾	
Rated insulation voltage U_i		250	V AC/DC
Rated impulse withstand voltage U_{imp}		2.3	kV
Conventional thermal current I_{th}		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_e 4 A U_e 230 V	
	DC-13	I_e 4 A U_e 24 V	

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

Plug connector SR6 connection



Parameter		Value	Unit
Connection		Plug connector	
Version		6-pin + PE	
Degree of protection according to IEC 60529		IP 65 ¹⁾	
Rated insulation voltage U_i		250	V AC/DC
Rated impulse withstand voltage U_{imp}		2.5	kV
Conventional thermal current I_{th}		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_e 4 A U_e 230 V	
	DC-13	I_e 4 A U_e 24 V	

1) Screwed tight with the related plug connector (see page 100)