

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

Safety switch NP

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



Approach direction



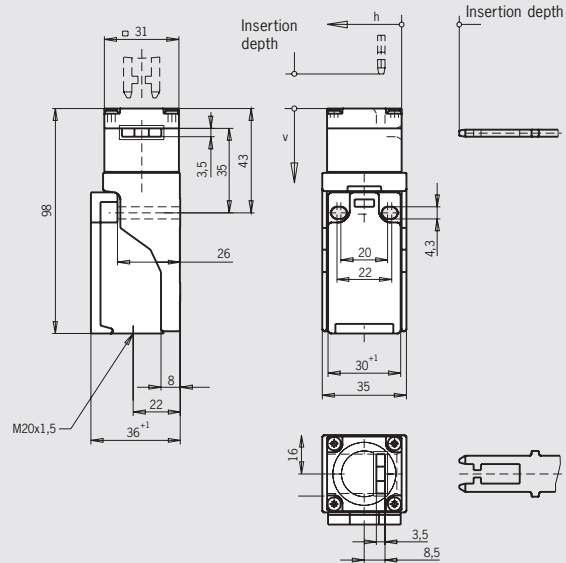
Horizontal and vertical
Can be adjusted in 90° steps

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

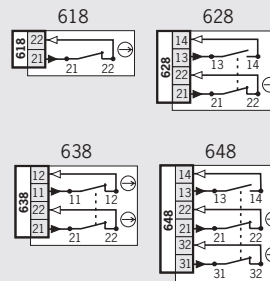
Dimension drawing



Please order actuator separately (see pages 78-81)

For cable glands see page 89

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 | 083 685 NP1-618AS-M |
| | | | 628 1 NC \ominus + 1 NO | 083 688 NP1-628AS-M |
| | | | 638 2 NC \ominus | 083 691 NP1-638AS-M |
| | | | 648 ¹⁾ 2 NC \ominus + 1 NO | 082 280 NP1-648AS-M |

1) No \ominus approval

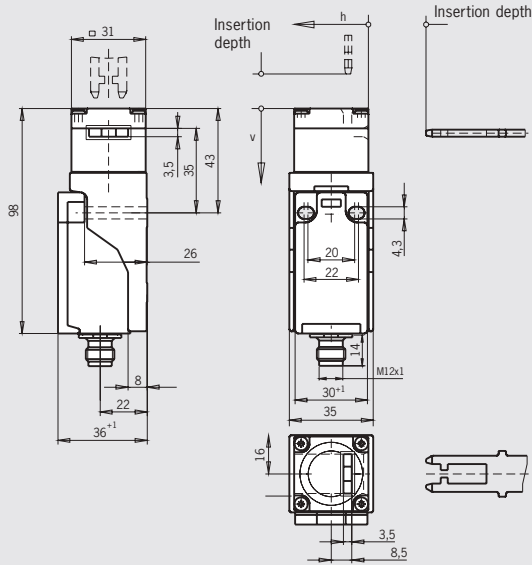
Safety Switches with Separate Actuator, Plastic Housing **EUCHNER**



Plug connector SM4 M12 plug, 4-pin

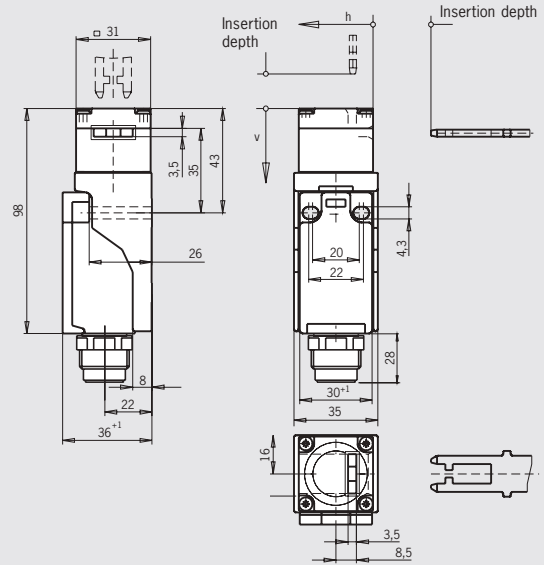
Plug connector SR6 6-pin + PE

Dimension drawing



Please order actuator separately (see pages 78-81)

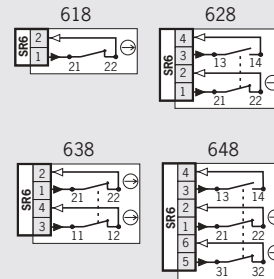
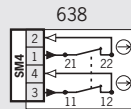
For plug connectors see page 87



Please order actuator separately (see pages 78-81)

For plug connectors see page 88

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 ⊖ | 084 400 NP3-638AS |
| | | | 2 Plug connector SR6 | 618 1 NC ⊖ |
| | | 628 1 NC ⊖ + 1 NO | | 059 447 NP2-628AS |
| | | 638 2 NC ⊖ | | 059 449 NP2-638AS |
| | | 648 2 NC ⊖ + 1 NO | | 088 924 NP2-648AS |



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

Safety switch NP

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



Approach direction



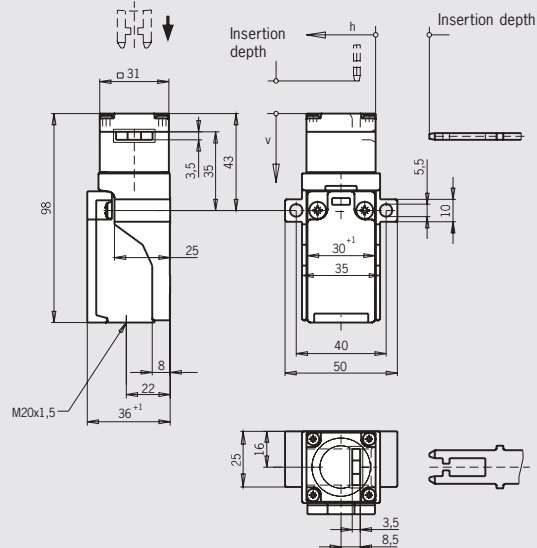
Horizontal and vertical
Can be adjusted in 90° steps

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

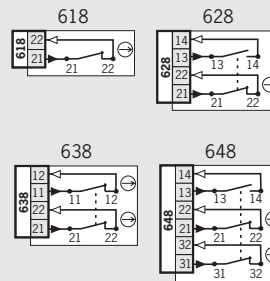
Dimension drawing



Please order actuator separately (see pages 78-81)

For cable glands see page 89

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 ⊖ | 083 680 NP1-618AB-M |
| | | | 628 1 NC ⊖ + 1 NO | 083 686 NP1-628AB-M |
| | | | 638 2 NC ⊖ | 083 690 NP1-638AB-M |
| | | | 648 ¹⁾ 2 NC ⊖ + 1 NO | 082 276 ¹⁾ NP1-648AB-M |

1) No approval

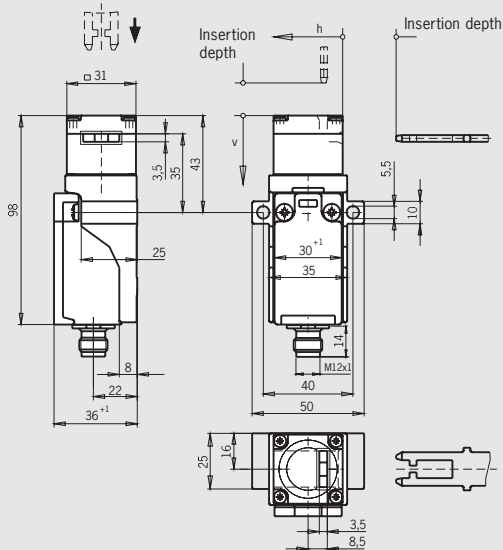
Safety Switches with Separate Actuator, Plastic Housing **EUCHNER**



Plug connector SM4 M12 plug, 4-pin

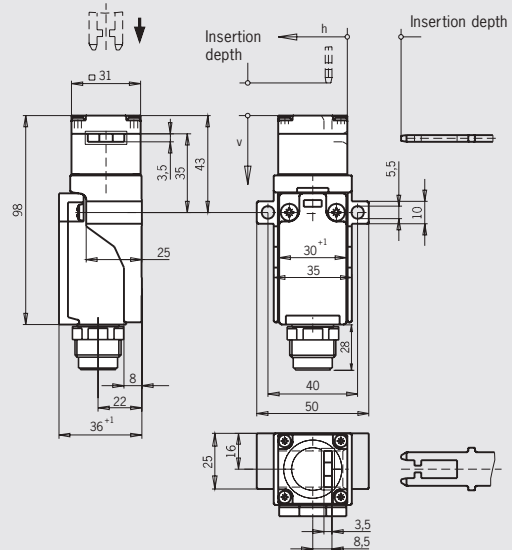
Plug connector SR6 6-pin + PE

Dimension drawing



Please order actuator separately (see pages 78-81)

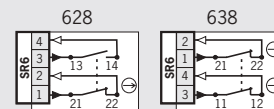
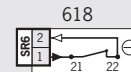
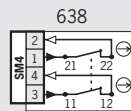
For plug connectors see page 87



Please order actuator separately (see pages 78-81)

For plug connectors see page 88

Wiring diagrams Actuator inserted



Ordering table

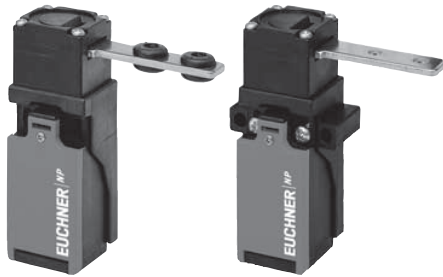
| Series | Mounting | Connection | Switching element | Order No. / Item |
|--------|---------------------------|-----------------------------------|-----------------------------|-----------------------------|
| NP | AB With 40 0mm spacing | 3 Plug connector SM4 | 638 2 NC ⊖ | 094 509 NP3-638AB |
| | | 2 Plug connector SR6 | 618 1 NC ⊖ | 059 446 NP2-618AB |
| | | | 628 1 NC ⊖ + 1 NO | 059 448 NP2-628AB |
| | | | 638 2 NC ⊖ | 059 450 NP2-638AB |

For safety precautions see page 132
For technical data see page 99








Safety switch NP




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

| 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 24 V DC | 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 87-88)

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 87-88)