# Proximity Sensors Inductive Thermoplastic Polyester Housing Type EIA 4025, 40 x 40 x 120 mm

SENSOTRONIK

- **Rotable-head, 5 positions**
- **Mounting dimensions in accordance with DIN 43694**
- **Glass-reinforced thermoplastic polyester housing**
- **Sensing distance: 25 mm**
- **LED-indication for power and output ON**
- **Fully protected**
- **DC types 4-wire NO & NC, 10-55 VDC**
- **AC/DC types 2-wire NO & NC, 20-250 VAC/DC**

## Product Description

Inductive proximity switch in standard limit switch housing. Rugged glass-reinforced polyester housing. Sensing face adjustable in up to 5 positions. 2-wire AC/DC for maximum efficiency.

## Ordering Key

**EIA 4025 PPA P**

- **Type**
- **Housing type**
- **Rated operating dist.(mm)**
- **Output type**
- **Housing material**

## Type Selection

| Rated operating dist. ($S_n$) | Ordering no. Transistor NPN Make & break switching | Ordering no. Transistor PNP Make & break switching | Ordering no. Power MOSFET Make & break switching |
|---|---|---|---|
| 25 mm [1] | **EIA 4025 NPAP** | **EIA 4025 PPAP** | **EIA 4025 UPAP** [2] |

[1] For non-flush mounting
[2] Delivered: NO (make switching)

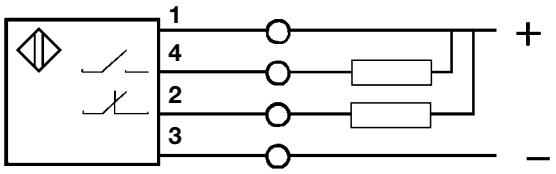
## Specifications

| | Transistor NPN/PNP | Power MOSFET output AC types |
|---|---|---|
| **Rated operational voltage** ($U_e$)<br>($U_B$) | 11.3 to 50 VDC<br>10 to 55 VDC (rippled included) | 24 to 230 VAC/VDC (VAC: 45 to 65 Hz)<br>20 to 250 VAC/VDC (VAC: 45 to 65 Hz) |
| **Ripple** | ≤ 15% | - |
| **Rated operational current** ($I_e$)<br>Continuous<br><br>Short-time | <br>≤ 200 mA<br><br>- | <br>5 - 250 mA @ 25°C<br>5 - 180 mA @ 70°C<br>≤ 2 A, t ≤ 20 ms (Max. 1 pulse per s) |
| **No-load supply current** ($I_o$) | ≤ 25 mA | - |
| **Minimum load current** | - | 5 mA |
| **OFF-state current** ($I_r$) (leakage) | 50 µA | ≤ 1.7 mA @ 120 VAC<br>≤ 2.5 mA @ 220 VAC |
| **Voltage drop** ($U_d$) | 0.8 to 3.5 V | Static: ≤ 10.5 V<br>Dynamic: ≤ 7.5 V |
| **Protection** | Reverse polarity, short-circuit | Transient voltages, short-circuit |
| **Power ON delay** | ≤ 100 ms | ≥ 200 ms |
| **Frequency of operating cycles** (f) | ≤ 100 Hz | ≤ 100 Hz |
| **Indication for supply ON** (LED 2) | LED, green | - |
| **Indication for output ON** (LED 1) | LED, yellow | LED, yellow |
| **Rated operating dist.** ($S_n$) | 25 mm | 25 mm |
| **Repeat accuracy** (R) | ≤ 5% | ≤ 5% |

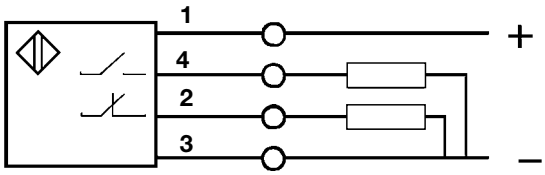
## Specifications (cont.)

| | Transistor NPN/PNP | Power MOSFET output AC types |
|---|---|---|
| **Hysteresis** (H) (Differential travel) | 3 to 20% of sensing distance | 3 to 20% of sensing distance |
| **Effective operating dist.** ($S_r$) | $0.9 \times S_n \leq S_r \leq 1.1 \times S_n$ | $0.9 \times S_n \leq S_r \leq 1.1 \times S_n$ |
| **Usable operating dist.** ($S_u$) | $0.9 \times S_r \leq S_u \leq 1.1 \times S_r$ | $0.9 \times S_r \leq S_u \leq 1.1 \times S_r$ |
| **Ambient temperature** | | |
| Operating | -25° to +70°C (-13° to +158°F) | -25° to +70°C (-13° to +158°F) |
| Storage | -30° to +80°C (-22° to +176°F) | -30° to +80°C (-22° to +176°F) |
| **Degree of protection** | IP 67 (Nema 1, 3, 4, 6, 13) | IP 67 (Nema 1, 3, 4, 6, 13) |
| **Shock resistance** | 30 G/ 11 ms | 30 G/ 11 ms |
| **Vibration resistance** | 10 to 50 Hz/1 mm/5 min. | 10 to 50 Hz/1 mm/5 min. |
| **Housing material** | PBTP | PBTP |
| **Terminal block** | 4 terminals for 2 x 2.5 $mm^2$ wires, self-lifting | 2 terminals for 2 x 2.5 $mm^2$ wires, self-lifting |
| **Cable gland** | M20 x 1.5 | M20 x 1.5 |
| **Weight** | 200 g | 200 g |
| **CE-marking** | Yes | Yes |

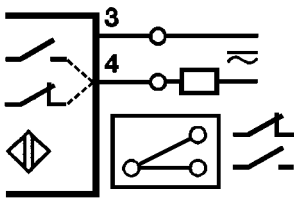
## Wiring Diagrams




**EIA 4025 NPAP**



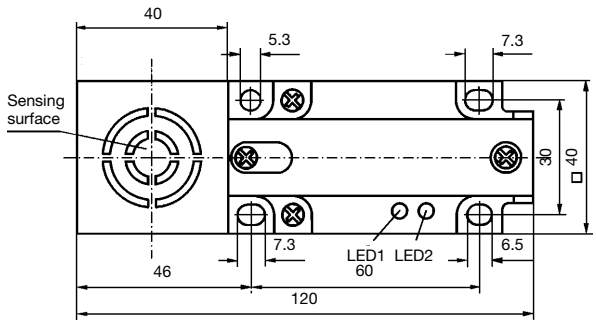

**EIA 4025 PPAP**




Internal programmable

**EIA 4025 UPAP**

## Dimensions



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## Installation Hints

**Table 1**
**Installation examples**
Sensing surface on head ("top"); other orientations of the sensing surface mean deviations from nominal sensing distance.

**Figure 1**
a (mm) ≥ 40
$S_n$ (mm) ≤ 20

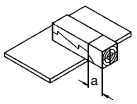


**Figure 2**
a (mm) ≥ 40
$S_n$ (mm) ≤ 25

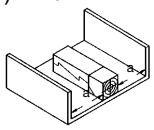


**Figure 3**
Flush mounting not permitted

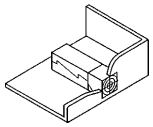

**Table 2**
**Adjacent mounting**
To avoid cross-interference when mounting the sensors next to each other, the given separations (a) should be maintained.

**Figure 4**
a (mm) ≥ 120