

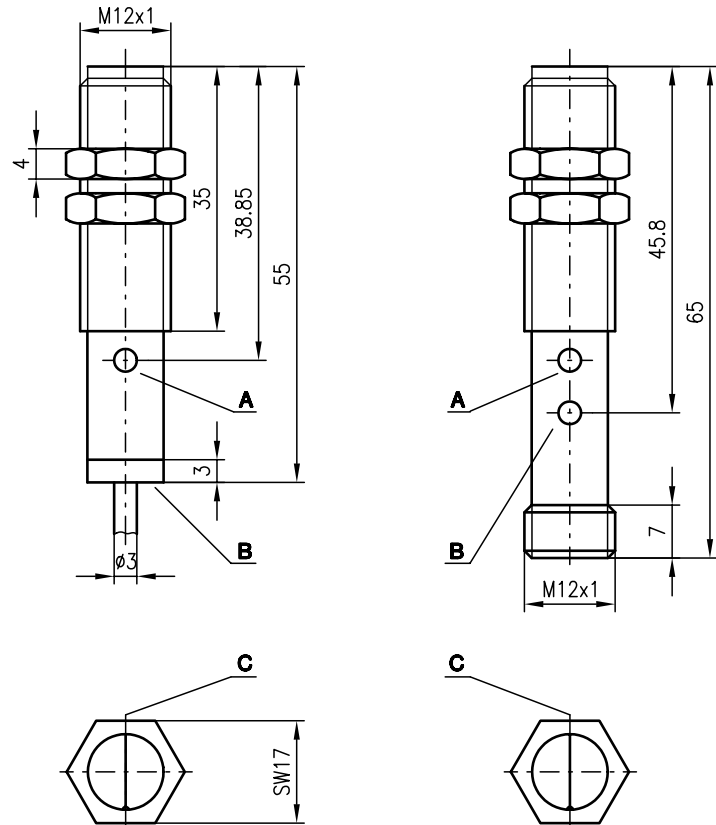


PRK 412

Retro-reflective photoelectric sensors with polarisation filter



Dimensioned drawing



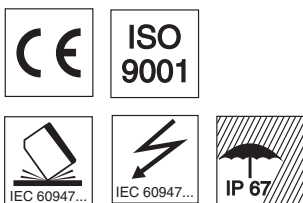
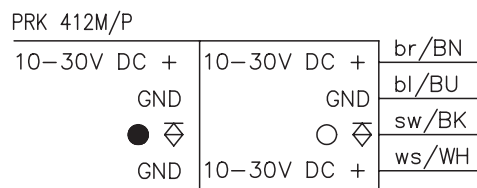
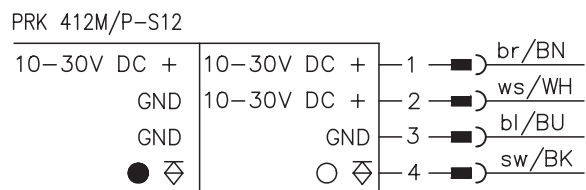
- A Sensitivity adjustment
- B Indicator diode
- C Optical axis

0.05 ... 1.6m



- Retro-reflective photoelectric sensors using visible red light, with polarisation filter
- High switching frequency for detection of fast events
- Slim and short cylindrical metal housing M12x1
- Light/dark switching via control line

Electrical connection



Accessories:

- (available separately)
- M12 connectors (KD ...)
 - Ready-made cables (KB ...)
 - Reflectors
 - Reflective tape
 - 90° deflection head

We reserve the right to make changes • 412_b01e.fm

Specifications

Optical data

| | |
|--|--------------------------------------|
| Typ. operating range limit (TK(S) 100x100) ¹⁾ | 0.05 ... 1.6m |
| Operating range ²⁾ | see table |
| Light beam characteristic | divergent |
| Light source | LED (modulated light) |
| Wavelength | 660nm (visible red light, polarised) |

With polarisation filter

Timing

| | |
|-----------------------|--------|
| Switching frequency | 700Hz |
| Response time | 0.7ms |
| Delay before start-up | ≤ 25ms |

Electrical data

| | |
|--|---------------------------------------|
| Operating voltage U_B | 10 ... 30VDC (incl. residual ripple) |
| Residual ripple | ≤ 10% of U_B |
| Bias current | ≤ 20mA |
| Switching output | PNP transistor output |
| Function characteristics ³⁾ | light/dark switching via control line |
| Signal voltage high/low | ≥ ($U_B - 3V$) / ≤ 3V |
| Output current | max. 200mA |
| Sensitivity | adjustable |

Indicators

| | |
|------------|-----------------|
| LED yellow | switching state |
|------------|-----------------|

Mechanical data

| | |
|-----------------|---|
| Housing | nickel-faced brass |
| Optics cover | plastic |
| Weight | 18g |
| Connection type | M12 connector 4-pin, cable 2m, 4x0.14mm ² |

Environmental data

| | |
|-----------------------------------|-----------------------------------|
| Ambient temp. (operation/storage) | -25°C ... +55°C / -40°C ... +70°C |
| Protective circuit ⁴⁾ | 2, 3 |
| VDE safety class | III |
| Protection class | IP 67 |
| Standards applied | IEC 60947-5-2 |

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) Light switching for control line (ws/WH): not connected or connected to U_B
Dark switching for control line (ws/WH): connected to GND
- 4) 2=polarity reversal protection, 3=short-circuit protection for all outputs

Order guide

| | Designation | Part No. |
|------------------------------|----------------|-----------|
| With M12 connector | | |
| With polarisation filter | PRK 412M/P-S12 | 500 81407 |
| With cable connection | | |
| With polarisation filter | PRK 412M/P | 500 81408 |

Tables

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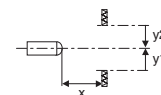
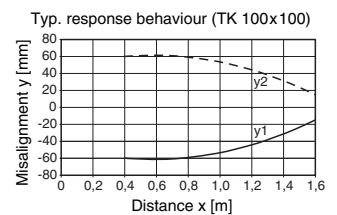
| Reflectors | Operating range |
|------------------|-----------------|
| 1 TK(S) 100x100 | 0.15 ... 1.3m |
| 2 MTK(S) 50x50 | 0.15 ... 0.8m |
| 3 TK(S) 30x50 | 0.15 ... 0.6m |
| 4 TK(S) 20x40 | 0.15 ... 0.5m |
| 5 Tape 2 100x100 | 0.15 ... 0.5m |

| | | | |
|---|------|-----|-----|
| 1 | 0.05 | 1.3 | 1.6 |
| 2 | 0.05 | 0.8 | 1.1 |
| 3 | 0.05 | 0.6 | 0.8 |
| 4 | 0.05 | 0.5 | 0.6 |
| 5 | 0.05 | 0.5 | 0.6 |

- Operating range [m]
- Typ. operating range limit [m]

Diagrams

PRK 412



Remarks

- Models with NPN transistor output on request.