

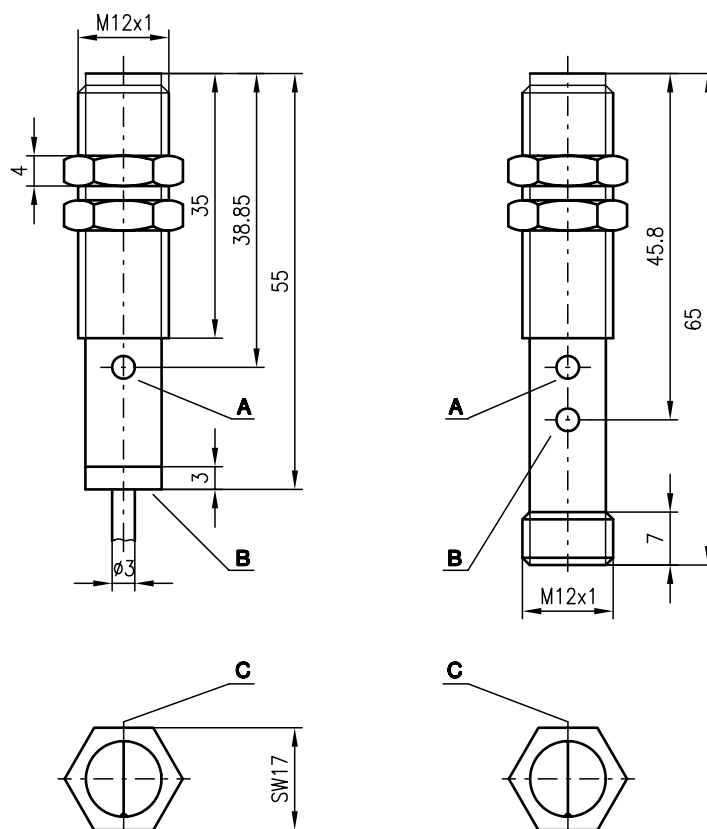
PRK 412
Retro-reflective photoelectric sensors with polarisation filter

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


Accessories:
(available separately)

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

Dimensioned drawing


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

Electrical connection
PRK 412M/P-S12

10-30V DC +	10-30V DC +	1	br/BN
GND	10-30V DC +	2	ws/WH
GND	GND	3	bl/BU
● ◇	○ ◇	4	sw/BK

PRK 412M/P

10-30V DC +	10-30V DC +	br/BN
GND	GND	bl/BU
● ◇	○ ◇	sw/BK
GND	10-30V DC +	ws/WH

Specifications

Optical data

Typ. operating range limit (TK(S) 100x100) ¹⁾

Operating range ²⁾

Light beam characteristic

Light source

Wavelength

With polarisation filter

0.05 ... 1.6m

see table

divergent

LED (modulated light)

660nm (visible red light, polarised)

Timing

Switching frequency

Response time

Delay before start-up

700Hz

0.7ms

≤ 25ms

Electrical data

Operating voltage U_B

Residual ripple

Bias current

Switching output

Function characteristics³⁾

Signal voltage high/low

Output current

Sensitivity

10 ... 30VDC (incl. residual ripple)

≤ 10% of U_B

≤ 20mA

PNP transistor output

light/dark switching via control line

≥ ($U_B - 3V$)/≤ 3V

max. 200mA

adjustable

Indicators

LED yellow

switching state

Mechanical data

Housing

Optics cover

Weight

Connection type

nickel-faced brass

plastic

18g

M12 connector 4-pin,

cable 2m, 4x0.14mm²

Environmental data

Ambient temp. (operation/storage)

Protective circuit ⁴⁾

VDE safety class

Protection class

Standards applied

-25°C ... +55°C/-40°C ... +70°C

2, 3

III

IP 67

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

PRK 412

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

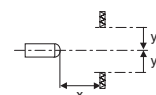
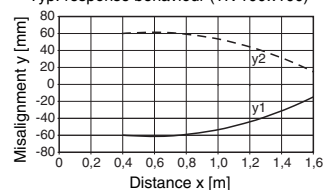
Operating range [m]

Typ. operating range limit [m]

Diagrams

PRK 412

Typ. response behaviour (TK 100x100)



Remarks

- Models with NPN transistor output on request.