

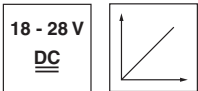
**IPRK 18**

**Retro-reflective photoelectric sensors with analogue output**

Part No. 501 10544

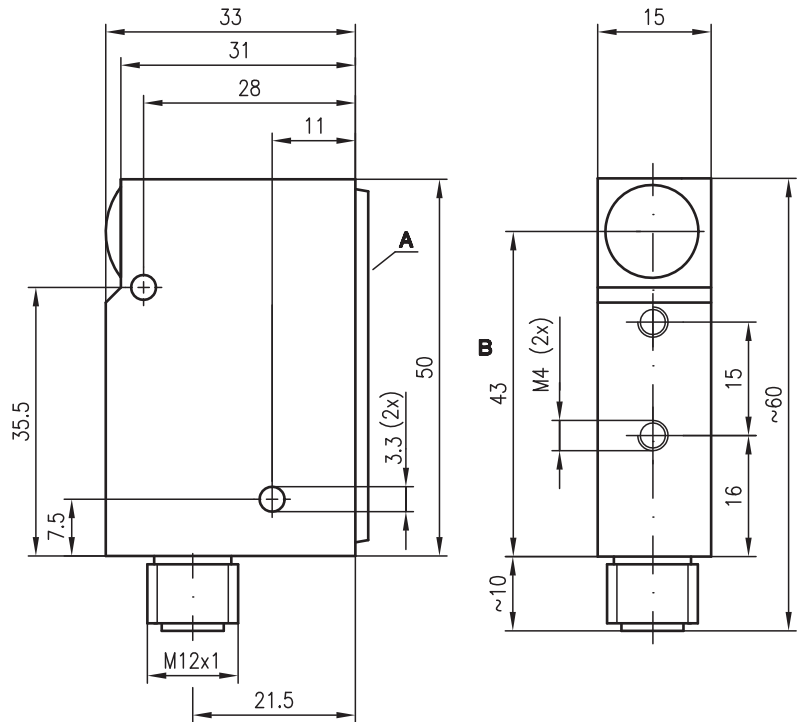


**0 ... 1m**



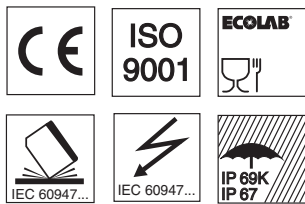
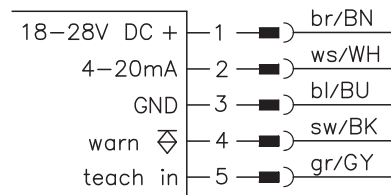
- Analogue output signal 4 ... 20mA
- Teach-in for adaptation to the application

**Dimensioned drawing**



- A** Indicator diodes
- B** Optical axis

**Electrical connection**



**Accessories:**

(available separately)

- Mounting system (BT 95)
- M12 connectors (KD ..., K-D ...)
- Reflectors

We reserve the right to make changes • 18\_b10gb.fm

## Specifications

### Optical data

Typ. operating range limit (MTKS 50x50) <sup>1)</sup>	0 ... 1.2m
Operating range <sup>2)</sup>	see tables
Recommended reflector	MTKS 50x50
Light source	LED (modulated light)
Wavelength	660nm (visible red light, polarised)

### Timing

Update time (analogue output)	2ms
Delay before start-up	≤ 300ms

### Electrical data

Operating voltage $U_B$	18 ... 28VDC (incl. residual ripple)
Residual ripple	≤ 15% of $U_B$
Open-circuit current	≤ 60mA
Analogue output	4 ... 20mA non-linearised, $R_L \leq 1\text{ k}\Omega$ , 4mA with interrupted light path, 20mA with free light path, 12mA after teach-in
Resolution of analogue output	1% of the maximum value (20mA)
Warning output	PNP
Function of warning output	see options
Teach input	PNP
Function of teach input	see options

### Indicators

Green LED, continuous light	voltage supply
Red LED, continuous light	error
Yellow LED, continuous light	light path free

### Mechanical data

Housing	diecast zinc
Optics cover	glass
Weight	150g
Connection type	M12 connector, 5-pin, stainless steel

### Environmental data

Ambient temp. (operation/storage)	-25°C ... +55°C/-40°C ... +70°C
Protective circuit <sup>3)</sup>	2, 3
VDE safety class	III
Protection class	IP 67, IP 69K <sup>4)</sup>
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

### Options

#### Warning output

Signal voltage high/low <sup>5)</sup>	PNP, static principle $\geq (U_B - 2V) \leq 2V$
Output current	max. 100mA
Functions	
no error	warning output = high
Teach-in without error	warning output = high
Hardware device error	warning output = low
Dynamic error	warning output = low (received signal level outside of permissible range)
Teach-in running	warning output = low
<b>Teach input</b>	PNP
Teach-in active/not active	$U_B/0V$ or not connected
Teach time	$\geq 20\text{ms}$ (analogue output supplies measurement value)
Handshake	warning output acknowledges the teach event

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) 2=polarity reversal protection, 3=short-circuit protection for all outputs
- 4) IP 69K test acc. to DIN 40050 part 9 simulated, high pressure cleaning conditions without the use of additives, acids and bases are not part of the test
- 5) Functional extra-low voltage with reliable disconnection or protective extra-low voltage (VDE 0100/T 410)

## Order guide

Selection table		Order code →	IPRK 18/V L.03 Part No. 501 06974					
Equipment ↓								
Switching output	1 PNP warning output	●						
Analogue output	4 ... 20mA	●						
Options	Teach via control line	●						

## Tables

Reflectors		Operating range	
1	MTKS 50x50	0 ... 1.0m	
2	Tape 6 50x50	0 ... 1.0m	

1	0	1.0	1.2
2	0	1.0	1.2

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

MTKS ... = screw type

## Teach-in process

1. Align sensor with reflector.  
The beam must not fall outside the reflector area!
2. Place the object to be scanned in the beam path.
3. Perform teach-in (teach-in input low -> high -> low).
4. Following teach-in, analogue output exhibits approx. 12mA.

## Remarks

- Following successful teach-in, the sensor supplies approx. 12mA.
- The analogue output supplies a measurement value even in the event of an error.
- Preferably use MTK(S) 50x50 or tape 6.
- For foil 6 the sensor's side edge must be aligned parallel to the side edge of the reflective tape.

### Approved purpose:

The diffuse reflection light scanners are retro-reflective photoelectric sensors for optical, contactless detection of objects.