

RKR 18 Retro-reflective photoelectric sensors for target mark detection

en 01-2011/04 50115213

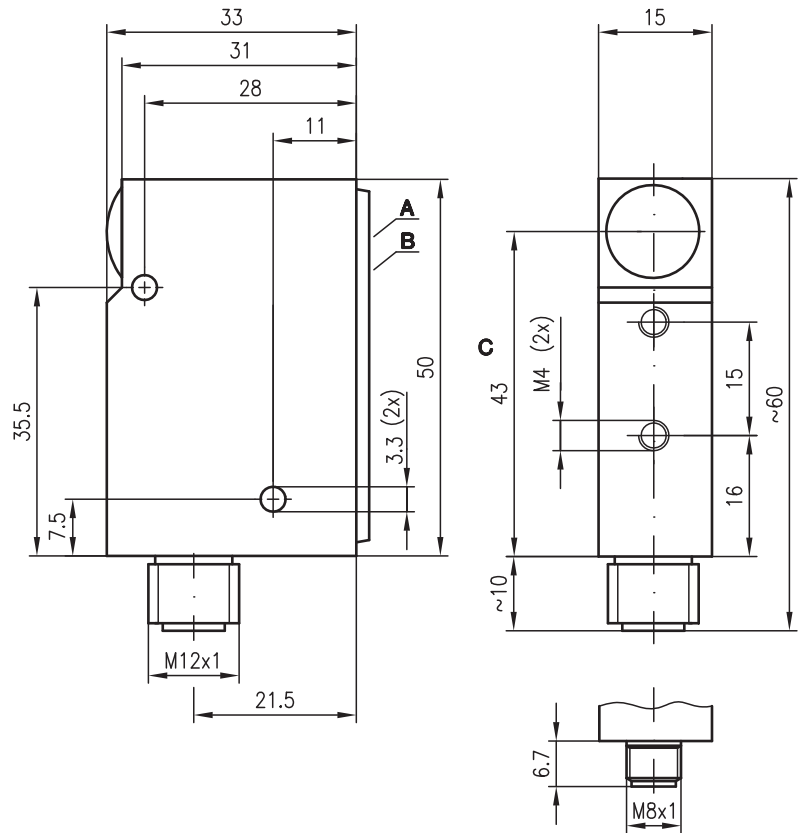


0 ... 7m



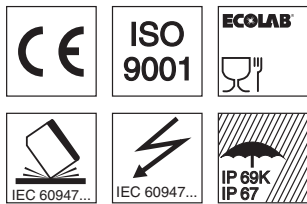
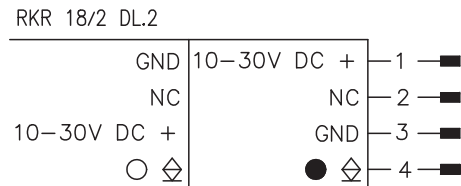
- Retro-reflective photoelectric sensor for detecting target marks (e.g. reflective tape)
- Sensitivity adjustment
- The autocollimation principle used ensures that the device functions reliably over the entire range (0 ... max.)

Dimensioned drawing



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

Electrical connection



Accessories:

(available separately)

- Mounting system (BT 95)
- M12 connectors (KD 095...)
- Ready-made cables (K-D ...)
- Reflectors
- Reflective tapes

We reserve the right to make changes • DS_RKR18_2_DL.2_en.fm

Specifications

Optical data

Typ. operating range limit (TK(S) 100x100) ¹⁾	0 ... 7m
Operating range ²⁾	see tables
Recommended target marks	tape 6 or tape 7
Light source	LED (modulated light)
Wavelength	660nm (visible red light)

Timing

Switching frequency	1500Hz
Response time	0.333ms
Delay before start-up	≤ 100ms

Electrical data

Operating voltage U_B ³⁾	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Open-circuit current	≤ 35mA
Switching output	NPN transistor
Function characteristics	dark or light switching (by reversing the polarity of U_B)
Signal voltage high/low	≥ ($U_B - 2V$) / ≤ 2V
Output current	max. 100mA
Sensitivity	adjustable with 12-turn potentiometer

Indicators

Yellow LED	switching output
Green LED, slowly flashing	operating point 1 minimum performance reserve – transition from quickly flashing to slowly flashing
Green LED, quickly flashing	operating point 2 medium performance reserve – transition from cont. illuminated to quickly flashing
Green LED, continuous light	operating point 3 high performance reserve – continuous light

Mechanical data

Housing	diecast zinc
Optics	glass
Weight	150g
Connection type	M12 connector, 4-pin, stainless steel

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, IP 69K ⁵⁾
LED class	1 (acc. to EN 62471)
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) Functional extra-low voltage with reliable disconnection or protective extra-low voltage (VDE 0100/T 410)
- 4) 2=polarity reversal protection, 3=short-circuit protection for all outputs
- 5) 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

Approved purpose:

This product may only be used by qualified personnel and must only be used for the approved purpose. This sensor is not a safety sensor and is not to be used for the protection of persons.

Order guide

Selection table		Order code →	RKR 18/2 DL2 Part No. 50115268						
Equipment ↓									
Application	Target mark detection	●							
Switching output	PNP transistor								
	NPN transistor	●							
Switching	Light	●							
	Dark	●							
LED	Sensor back	●							
Configuration	12-turn (sensor back)	●							
Connection	M12 connector	●							
	M8 connector								
Features	Polarisation filter								
	Stainless steel housing								

Tables

Reflectors	Operating range
1 TK(S) 100x100	0 ... 6.0m
2 TK(S) 20x40	0 ... 2.2m
3 Tape 6 50x50	0 ... 2.2m
4 Tape 7 50x50	0 ... 1.0m

1	0	6.0	7.0
2	0	2.2	2.5
3	0	2.2	2.5
4	0	1.0	1.2

□ Operating range [m] *)
 □ Typ. operating range limit [m] *)

*) For sensitivity set to maximum sensitivity

Diagrams

Remarks

- With maximum sensitivity adjustment, bright and glossy objects are detected up to a distance of 300mm.
- **Performance reserve**

Performance reserve	Adjustment (indicator LED yellow)
Minimum	Operating pt. 1
Medium	Operating pt. 2
High	Operating pt. 3

Target marks should be detected with the highest possible performance reserve. To do this, turn the 12-gear potentiometer to right limit stop