IPRK 95 Retro-reflective photoelectric sensors with polarisation filter

0 … 3m
0 … 6m

- Polarised retro-reflective photoelectric sensors with integrated AS-i slave
- The autocollimation principle used ensures that the device functions reliably over the entire range (0 … max.)
- The retro-reflective photoelectric sensor PRK 95/A L.4 is used for the detection of transparent media (e.g. clear glass, PE, foil) within the operating range of 1.5m
- Adjustable sensitivity with high resolution allows detection of transparent objects

IEC 60947...
IEC 60947...
IP 69K
IP 67

Accessories:

(available separately)

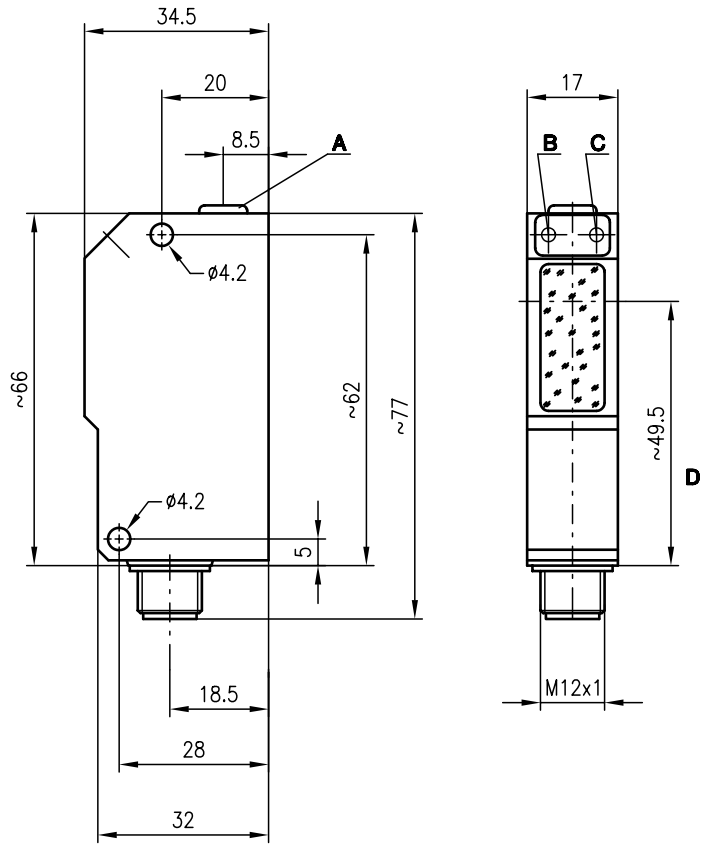
- Mounting systems (BT 95, UMS 1)
- M12 connectors (KD …)
- Reflectors
- Reflective tapes

AS-i Accessories:

(available separately)

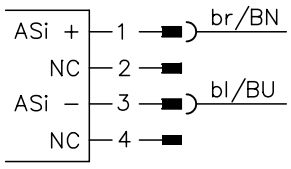
- Bus terminals
- AS-i ribbon cable
- Address programming device
- Coupling modules
- Intermediate cables etc.

Dimensioned drawing



A Sensitivity adjustment
B Switching indicator yellow
C Operation indicator green
D Optical axis

Electrical connection



Specifications

Optical data	IPRK 95/A L.2	PRK 95/A L.4
Typ. operating range limit (TK(S) 100x100) [1]	0 … 6m	0 … 3m
Operating range [2]	see tables	see tables
Light beam characteristic	divergent	
Light source	LED (modulated light)	
Wavelength	660nm (visible red light, polarised)	

Timing	
Sensor switching frequency	1000Hz
Sensor response time	0.5ms
Delay before start-up	≤ 100ms

Electrical data		
Operating voltage U_B	26.5 V … 31.6 V (according to AS-i specification)	
Bias current	≤ 35mA	
Sensitivity		adjustable with 10-turn potentiometer

Indicators [3]	
LED green	ready
LED yellow, slowly flashing	operating point 1 **clear glass** transition from quickly flashing to slowly flashing / light path free
LED yellow, quickly flashing	operating point 2 **coloured glass** transition from continuous light to quickly flashing / light path free
LED yellow, continuous light	operating point 3 **non transparent media** continuous light/light path free

Mechanical data	
Housing	diecast zinc
Optics cover	glass
Weight	90g
Connection type	M12 connector, stainless steel

Environmental data	
Ambient temp. (operation/storage)[4]	-25°C (-30°C) … +55°C/-40°C … +55°C
Protective circuit [5]	1, 4
VDE safety class [6]	II, all-insulated
Protection class	IP 67, IP 69K [7]
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

AS-i data	
I/O code	1
ID code	1
Address	programmed by the user in the range of 1 to 31 (default=0)
Cycle time acc. to AS-i specification	5ms
AS-i standard according to profile	S-1.1

1) Typ. operating range limit: max. attainable range without performance reserve
2) Operating range: recommended range with performance reserve
3) for IPRK 95/A L.2: LED yellow - light path free/LED yellow flashing - light path free, no performance reserve
4) -30°C with operating voltage continuously applied
5) 1=transient protection, 4=interference blanking
6) Rating voltage 250VAC
7) 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

Assignment: data bits				Assignment: parameter bits			
		Programming (host level)				Programming (host level)	
D_0	**Switching output**	Ø no reflection	System input	*P_0	**NC**	Ø	System parameter
		1 reflection				1	
D_1	**Warning output autoControl** [1]	Ø active	System input	*P_1	**light/dark switching**	Ø dark switching	System parameter
		1 not active				1 light switching	
D_2	**Ready output**	Ø sensor not ready	System input	*P_2	**NC**	Ø	System parameter
		1 sensor ready				1	
*D_3	**Activation input**	Ø transmitter on	System output	*P_3	**NC**	Ø	System parameter
		1 transmitter off				1	

* default = 1

1) applies only for IPRK 95/A L.2

Order guide

Designation	Part No.
IPRK 95/A L.2	500 27094
PRK 95/A L.4	500 27095

Tables

IPRK 95/A L.2

Reflectors			Operating range
1	TK(S)	100x100	0 … 4.2m
2	MTK(S)	50x50	0 … 3.2m
3	TK(S)	30x50	0 … 1.8m
4	TK(S)	20x40	0 … 1.7m
5	Tape 2	100x100	0 … 1.2m

1	0				4.2	6
2	0			3.2	5.4	
3	0		1.8	3.0		
4	0		1.7	2.9		
5	0	1.2	1.7			

PRK 95/A L.4

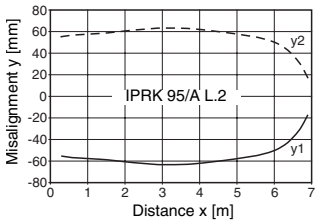
Reflectors			Operating range
1	TK(S)	100x100	0 … 1.8m
2	MTK(S)	50x50	0 … 1.8m
3	TK(S)	30x50	0 … 1.1m
4	TK(S)	20x40	0 … 1.0m
5	Tape 2	100x100	0 … 0.4m

1	0				1.8	3
2	0				1.8	3
3	0			1.1	1.8	
4	0			1.0	1.7	
5	0		0.4	0.7		

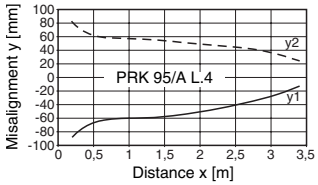
Operating range [m]
Typ. operating range limit [m]

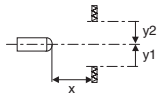
Diagrams

Typ. response behaviour (TK 100x100)

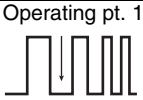
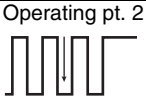


Typ. response behaviour (TK 100x100)





Remarks

Objects	Adjustment (indicator LED yellow)
Clear glass, PE, foil	Operating pt. 1 
Coloured glass	Operating pt. 2 
Opaque objects	Operating pt. 3