



PRK 96

Retro-reflective photoelectric sensors with polarisation filter

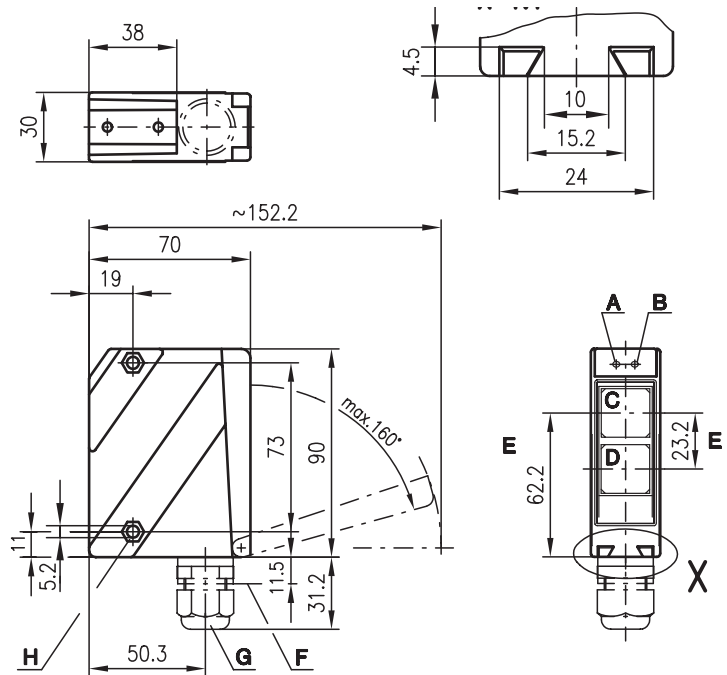


10m

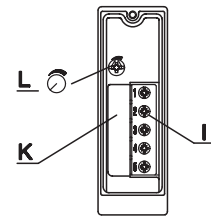


- Polarised retro-reflective photoelectric sensor with large operating range in visible red light
- Robust metal housing with glass cover or plastic housing, protection class IP 67/ IP 69K for industrial application
- Sensitivity adjustment and delay before start-up for optimal adaptation to the application
- Connection via M12 connector or terminal compartment
- Activation input for e.g. muting applications

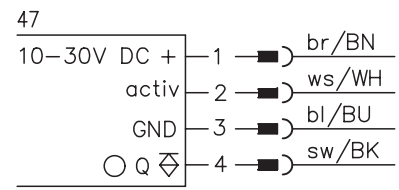
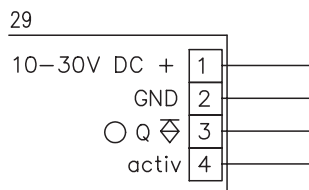
Dimensioned drawing



- A Indicator diode green
- B Indicator diode yellow
- C Receiver
- D Transmitter
- E Optical axis
- F Device plug M12x1
- G Screwed cable gland M16x1.5 for Ø 5 ... 10mm
- H Countersinking for SK nut M5, 4.2 deep
- I Connection terminals
- K Cable entry
- L Sensitivity adjustment



Electrical connection



Accessories:

(available separately)

- Mounting systems (BT 96, BT 96.1, UMS 96, BT 450.1-96)
- M12 connectors (KD ...)
- Ready-made cables (K-D ...)
- Reflectors
- Reflective tapes

We reserve the right to make changes • 96_b04e.fm



Specifications

Optical data

| | |
|--|--------------------------------------|
| Typ. operating range limit (TK(S) 100x100) ¹⁾ | 10 m |
| Operating range ²⁾ | see tables |
| Light spot diameter | approx. 130mm at 6m |
| Light source | LED (modulated light) |
| Wavelength | 660nm (visible red light, polarised) |

Timing

| | |
|-----------------------|---------|
| Switching frequency | 1000Hz |
| Response time | 0.5ms |
| Delay before start-up | ≤ 200ms |

Electrical data

| | |
|--------------------------|--------------------------------------|
| Operating voltage U_B | 10 ... 30VDC (incl. residual ripple) |
| Residual ripple | ≤ 15% of U_B |
| Bias current | ≤ 40mA |
| Switching output | PNP transistor |
| Function characteristics | light switching |
| Signal voltage high/low | ≥ ($U_B - 2V$) / ≤ 2V |
| Output current | max. 100mA |
| Sensitivity | adjustable |

Indicators

| | |
|---------------------|---|
| LED green | ready |
| LED yellow | light path free |
| LED yellow flashing | light path free, no performance reserve |

Mechanical data

| | | | |
|-----------------|----------------------------|-----------------|---------------|
| Housing | diecast zinc | Plastic housing | polycarbonate |
| Optics cover | glass | | plastic |
| Weight | 380g | | 150g |
| Connection type | terminals or M12 connector | | |

Environmental data

| | |
|-----------------------------------|-----------------------------------|
| Ambient temp. (operation/storage) | -20°C ... +55°C / -40°C ... +55°C |
| Protective circuit ³⁾ | 1, 2, 3, 4 |
| VDE safety class ⁴⁾ | II, all-insulated |
| Protection class | IP 67, IP 69K ⁵⁾ |
| LED class | 1 (acc. to EN 60825-1) |
| Standards applied | IEC 60947-5-2 |

Options

| | |
|-------------------------------|---|
| Activation input activ | |
| Transmitter active/not active | ≥ 8V / ≤ 2V (≥ 2V / ≤ 2V) ⁶⁾ |
| Activation/disable delay | ≤ 0.5ms |
| Input resistance | 47KΩ ± 10% |

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs, 4=interference blanking
- 4) Rating voltage 250VAC
- 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
- 6) Active low

Order guide

| Selection table | | Order code → | PRK 96K/P-1361-29 Part No. 500 80476 | PRK 96M/P-1361-47 Part No. 500 82092 | PRK 96K/P-1363-29 Part No. 500 80656 | PRK 96M/P-1362-47 Part No. 500 80477 |
|-----------------|--------------------------------|--------------|---|---|---|---|
| Equipment ↓ | metal | | ● | | | ● |
| | plastic | | ● | | ● | |
| Light source | red light (8m) | | ● | ● | ● | ● |
| Connection | terminals | | ● | | ● | |
| | M12 connector | | | ● | | ● |
| Features | activation input | | ● | ● | ● ⁶⁾ | ● |
| | optics heating/low temperature | | | | | ● |

Tables

| Reflectors | Operating range |
|------------------|-----------------|
| 1 TK(S) 100x100 | 0.3 ... 8m |
| 2 MTK(S) 50x50 | 0.3 ... 7m |
| 3 TK(S) 30x50 | 0.3 ... 4.5m |
| 4 TK(S) 20x40 | 0.3 ... 3m |
| 5 TK(S) 82 | 0.3 ... 6m |
| 6 Tape 2 100x100 | 0.3 ... 4m |

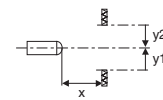
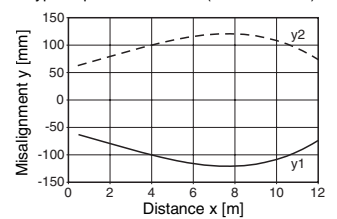
| | | | |
|---|-----|-----|-----|
| 1 | 0.1 | 8 | 10 |
| 2 | 0.1 | 7 | 8.5 |
| 3 | 0.1 | 4.5 | 5 |
| 4 | 0.1 | 3 | 4 |
| 5 | 0.1 | 6 | 7.5 |
| 6 | 0.1 | 4 | 5.5 |

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

- TK ... = adhesive
- TKS ... = screw type
- Tape 2 = adhesive

Diagrams

Typ. response behaviour (TKS 100x100)



Remarks

- The polarised retro-reflective photoelectric sensor is also available with an integrated AS-i chip for direct connection to the AS-i system.
- **PRK 96K/P-1363-29**
Activation via active low signal