

## PRK 96

## Retro-reflective photoelectric sensors with polarisation filter

10m  
18m

- 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
- All-mains design 20 ... 230VAC/DC with relay output
- Relay with change-over contact, sensitivity adjustment, delay before start-up and various options for optimal adaptation to the application
- Connection via comfortable terminal compartment up to 1.5mm<sup>2</sup>

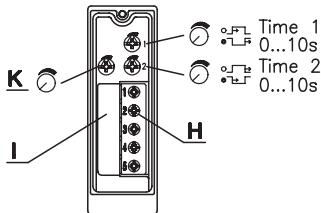
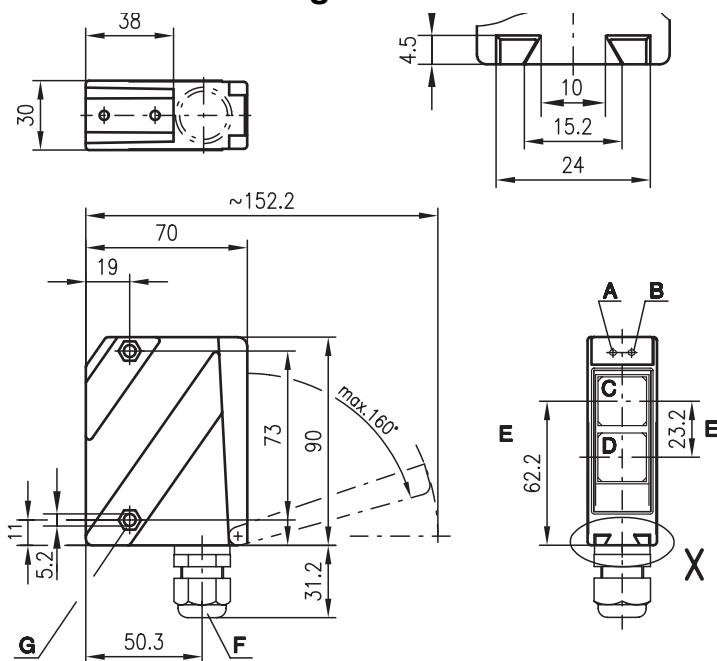


## Accessories:

(available separately)

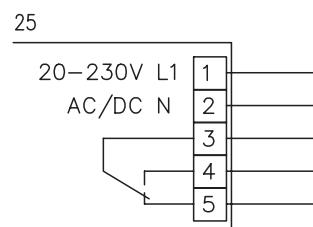
- Mounting systems (BT 96, BT 96.1, UMS 96, BT 450.1-96)
- Spark extinction
- Reflectors
- Reflective tapes

## Dimensioned drawing



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

## Electrical connection



## Specifications

### Optical data

|  |                                      |
|--|--------------------------------------|
| Typ. operating range limit (TK(S) 100x100) <sup>1)</sup> | 10m/18m                              |
| Operating range <sup>2)</sup>                            | see tables                           |
| Light spot diameter                                      | approx. 130mm at 6m                  |
| Light source   | LED (modulated light)                |
| Wavelength   | 660nm (visible red light, polarised) |

### Timing

|                       |         |
|-----------------------|---------|
| Switching frequency   | 20Hz    |
| Response time         | 25ms    |
| Delay before start-up | ≤ 200ms |

### Electrical data

|                                |                              |
|--------------------------------|------------------------------|
| Operating voltage $U_B$        | 20 ... 230VAC, 50/60Hz       |
| Power consumption              | 20 ... 230VDC ± 10%          |
| Switching output <sup>3)</sup> | ≤ 1.5VA                      |
| Function characteristics       | relay, 1 change-over contact |
| Switching voltage, relay       | break-contact/make-contact   |
| Switching current, relay       | 250VAC/DC                    |
| Switching power, relay         | 250VAC, 3A/30VDC, 3A         |
| Sensitivity                    | 750VA, $\cos\phi=1$          |
|                                | adjustable                   |

### Indicators

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

### Mechanical data

|                 |              |
|-----------------|--------------|
| Housing         | diecast zinc |
| Optics cover    | glass        |
| Weight          | 380g         |
| Connection type | terminals    |

### Environmental data

|                                   |                                 |
|-----------------------------------|---------------------------------|
| Ambient temp. (operation/storage) | -20°C ... +55°C/-40°C ... +55°C |
| Protective circuit <sup>4)</sup>  | 1, 4                            |
| VDE safety class <sup>5)</sup>    | II, all-insulated               |
| Protection class                  | IP 67, IP 69K <sup>6)</sup>     |
| LED class                         | 1 (acc. to EN 60825-1)          |
| Standards applied                 | IEC 60947-5-2                   |

### Options

|                                      |                                   |
|--------------------------------------|-----------------------------------|
| Switching delay (slow oper./release) | 0 ... 10s (separately adjustable) |
|--------------------------------------|-----------------------------------|

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) Suitable spark extinction must be provided with inductive or capacitive loads
- 4) 1=transient protection, 4=interference blanking
- 5) Rating voltage 250VAC
- 6) 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

## Order guide

| Selection table |                                | Order code → |   |   |  |  |
|-----------------|--------------------------------|--------------|---|---|--|--|
| Equipment ↓     |                                |              | PRK 96M/R-3420-25<br>Part No. 500 82066 | PRK 96M/R-3430-25<br>Part No. 500 61111 |  |  |
| Housing         | metal                          | ●            | ●                                       |   |  |  |
|                 | plastic                        |              |   |   |  |  |
| Light source    | red light (8m)                 |              |   |   |  |  |
|                 | red light (15m)                | ●            | ●                                       |   |  |  |
|                 | red light (20m)                |              |   |   |  |  |
| Connection      | terminals                      | ●            | ●                                       |   |  |  |
|                 | M12 connector                  |              |   |   |  |  |
| Features        | optics heating/low temperature |              |   |   |  |  |
|                 | switching delay                |              | ●                                       |   |  |  |

## Tables

### 10m models

| 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         |

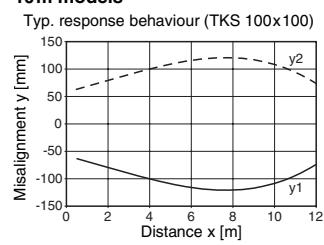
### 18m models

| Reflectors       | Operating range |
|------------------|-----------------|
| 1 TK(S) 100x100  | 0.3 ... 15m     |
| 2 MTK(S) 50x50   | 0.3 ... 11m     |
| 3 TK(S) 30x50    | 0.3 ... 6m      |
| 4 TK(S) 20x40    | 0.3 ... 5m      |
| 5 TK(S) 82       | 0.3 ... 11m     |
| 6 Tape 2 100x100 | 0.3 ... 6m      |
| 1 0.1            | 15   18         |
| 2 0.1            | 11   12         |
| 3 0.1            | 6   7.5         |
| 4 0.1            | 5   6           |
| 5 0.1            | 11   11.5       |
| 6 0.1            | 6   7.5         |

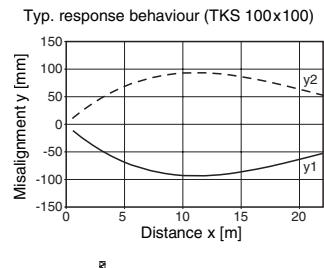
Operating range [m]  
Typ. operating range limit [m]

## Diagrams

### 10m models



### 18m models



## Remarks