



### Specifications

#### Optical data

Typ. scanning range limit (white 90%) <sup>1)</sup>  
 Scanning range <sup>2)</sup>  
 Adjustment range  
 Light source  
 Wavelength

#### Infrared light

10 ... 1000mm  
 see table  
 300 ... 800mm  
 LED (modulated light)  
 880nm

#### Timing

Switching frequency 200Hz  
 Response time 2.5ms  
 Delay before start-up ≤ 100ms

#### Electrical data

Operating voltage  $U_B$  10 ... 30VDC (incl. residual ripple)  
 Residual ripple ≤ 15% of  $U_B$   
 Bias current ≤ 30mA  
 Switching output PNP transistor  
 Function characteristics HRT46... light/dark switching (complementary)  
 IHRT46... dark switching  
 Signal voltage high/low  $\geq (U_B - 2V) \leq 2V$   
 Output current max. 100mA

#### Indicators

LED green ready  
 LED yellow reflection  
 LED yellow flashing reflection, no performance reserve

#### Mechanical data

Housing plastic  
 Optics cover plastic  
 Weight 100g  
 Connection type M12 connector, or cable, cable length: 2000mm, PVC

#### Environmental data

Ambient temp. (operation/storage) -20°C ... +60°C/-40°C ... +70°C  
 Protective circuit <sup>3)</sup> 2, 3  
 VDE safety class <sup>4)</sup> II, all-insulated  
 Protection class IP 67  
 Standards applied IEC 60947-5-2

#### Options

**Warning output autoControl warn** PNP transistor, counting principle  
 Signal voltage high/low  $\geq (U_B - 2V) \leq 2V$   
 Output current max. 100mA

- 1) Typ. scanning range limit: max. attainable range without performance reserve
- 2) Scanning range: recommended range with performance reserve
- 3) 2=polarity reversal protection, 3=short-circuit protection for all outputs
- 4) Rating voltage 250VAC

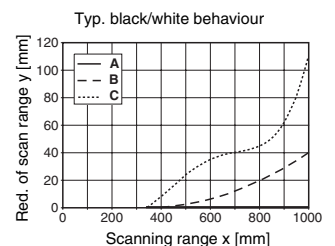
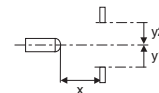
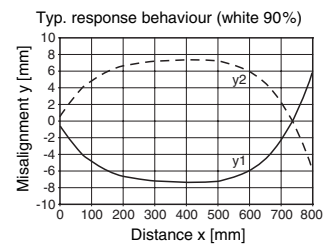
### Tables

|   |   |     |      |
|---|---|-----|------|
| 1 | 0 | 800 | 1000 |
| 2 | 1 | 780 | 900  |
| 3 | 2 | 750 | 880  |

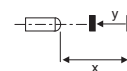
|   |           |
|---|-----------|
| 1 | white 90% |
| 2 | grey 18%  |
| 3 | black 6%  |

Scanning range [mm]  
 Typ. scanning range limit [mm]

### Diagrams



- A white 90%
- B grey 18%
- C black 6%



### Order guide

|                           | Designation                        | Part No.                      |
|---------------------------|------------------------------------|-------------------------------|
| <b>with M12 connector</b> | complementary switching output     | HRT 46/44-800-S12 500 80979   |
|                           | dark switching with warning output | IHRT 46/4D-800-S12 500 80978  |
| <b>with 2m cable</b>      | complementary switching output     | HRT 46/44-800, 2000 500 60941 |
|                           | dark switching with warning output | IHRT 46/4-800, 2000 500 34081 |

### Remarks

- With the set scanning range, a tolerance of the upper scanning range limit is possible depending on the reflection properties of the material surface.