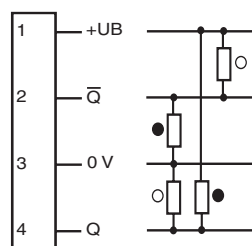
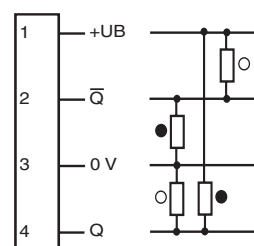


## Elektrischer Anschluss



## Electrical connection



○ = Hellschaltung  
● = Dunkelschaltung



○ = Light on  
● = Dark on

## Technische Daten

| Allgemeine Daten                   |   |
|------------------------------------|---|
| Betriebsreichweite                 | 0 ... 6,5 m   |
| Reflektorabstand                   | 50 ... 6500 mm  |
| Referenzobjekt                     | Reflektor FE-RR1  |
| Lichtsender                        | LED   |
| Lichtart                           | rot, Wechsellicht, 626 nm   |
| Fremdlichtgrenze                   | ≤ 10000 Lux   |
| Anzeigen/Bedienelemente            |   |
| Betriebsanzeige                    | LED grün  |
| Funktionsanzeige                   | LED gelb, leuchtet bei belichtetem Empfänger  |
| Bedienelemente                     | Empfindlichkeitseinsteller  |
| Elektrische Daten                  |   |
| Betriebsspannung                   | $U_B$ 10 ... 30 V DC, class 2   |
| Welligkeit                         | max. 10 %   |
| Leerlaufstrom                      | $I_0$ < 25 mA   |
| Betriebsstrom                      | 100 mA maximal pro Ausgang  |
| Bereitstellungsverzögerung         | $t_v$ ≤ 200 ms  |
| Ausgang                            |   |
| Schaltungsart                      | hell-/dunkelschaltend   |
| Signalausgang                      | 2 Gegentaktgänge, kurzschlussfest, verpolgeschützt, überspannungsfest   |
| Schaltspannung                     | max. 30 V DC  |
| Schaltstrom                        | max. 100 mA   |
| Spannungsfall                      | $U_d$ ≤ 2 V DC  |
| Schaltfrequenz                     | $f$ 500 Hz  |
| Ansprechzeit                       | ≤ 1 ms  |
| Umgebungsbedingungen               |   |
| Umgebungstemperatur                | -20 ... 55 °C (-4 ... 131 °F)   |
| Lagertemperatur                    | -20 ... 75 °C (-4 ... 167 °F)   |
| Mechanische Daten                  |   |
| Schutzart                          | IP67  |
| Anschluss                          | Gerätestecker M8 x 1, 4-polig   |
| Material                           |   |
| Gehäuse                            | ABS   |
| Lichtaustritt                      | Acryl   |
| Masse                              | ca. 8,5 g   |
| Normen- und Richtlinienkonformität |   |
| Normenkonformität                  |   |
| Produktnorm                        | EN 60947-5-2:2007<br>IEC 60947-5-2:2007   |
| Zulassungen und Zertifikate        |   |
| UL-Zulassung                       | cULus   |
| CCC-Zulassung                      | Produkte, deren max. Betriebsspannung ≤36 V ist, sind nicht zulassungspflichtig und daher nicht mit einer CCC-Kennzeichnung versehen. |

## Adressen/Addresses



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Reflexions-Lichtschanke  
mit Gerätestecker M8 x 1, 4-polig  
Retroreflective sensor  
with 4-pin, M8 x 1 connector  
**ML17-6/136/143**



Doc. No.: 45-4029  
DIN A3 -> DIN A7

Part. No.: 909109  
Date: 04/19/2012



**PEPPERL+FUCHS**  
SENSING YOUR NEEDS

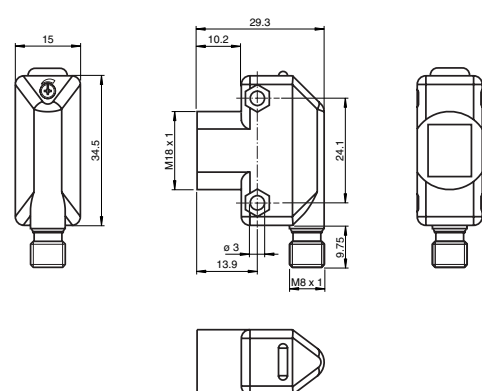
## Technical data

| General specifications                   |  |
|--|--|
| Effective detection range                | 0 ... 6.5 m  |
| Reflector distance                       | 50 ... 6500 mm   |
| Reference target                         | FE-RR1 reflector   |
| Light source                             | LED  |
| Light type                               | modulated visible red light, 626 nm  |
| Ambient light limit                      | ≤ 10000 Lux  |
| Indicators/operating means               |  |
| Operating display                        | LED green  |
| Function display                         | LED yellow, lights up with receiver lit  |
| Controls                                 | sensitivity adjustment   |
| Electrical specifications                |  |
| Operating voltage                        | $U_B$ 10 ... 30 V DC, class 2  |
| Ripple                                   | max. 10 %  |
| No-load supply current                   | $I_0$ < 25 mA  |
| Operating current                        | 100 mA max per output  |
| Time delay before availability           | $t_v$ ≤ 200 ms   |
| Output                                   |  |
| Switching type                           | light/dark on  |
| Signal output                            | 2 Push-pull outputs, short-circuit protected, reverse polarity protected, overvoltage protected                    |
| Switching voltage                        | max. 30 V DC   |
| Switching current                        | max. 100 mA  |
| Voltage drop                             | $U_d$ ≤ 2 V DC   |
| Switching frequency                      | $f$ 500 Hz   |
| Response time                            | ≤ 1 ms   |
| Ambient conditions                       |  |
| Ambient temperature                      | -20 ... 55 °C (-4 ... 131 °F)  |
| Storage temperature                      | -20 ... 75 °C (-4 ... 167 °F)  |
| Mechanical specifications                |  |
| Protection degree                        | IP67   |
| Connection                               | M8 x 1 connector, 4-pin  |
| Material                                 |  |
| Housing                                  | ABS  |
| Optical face                             | Acrylic  |
| Mass                                     | approx. 8.5 g  |
| Compliance with standards and directives |  |
| Standard conformity                      |  |
| Product standard                         | EN 60947-5-2:2007<br>IEC 60947-5-2:2007  |
| Approvals and certificates               |  |
| UL approval                              | cULus  |
| CCC approval                             | Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval. |

## Sicherheitshinweise:

- Vor der Inbetriebnahme Betriebsanleitung lesen
- Anschluss, Montage und Einstellung nur durch Fachpersonal
- Kein Sicherheitsbauteil gemäß EU-Maschinenrichtlinie

## Abmessungen

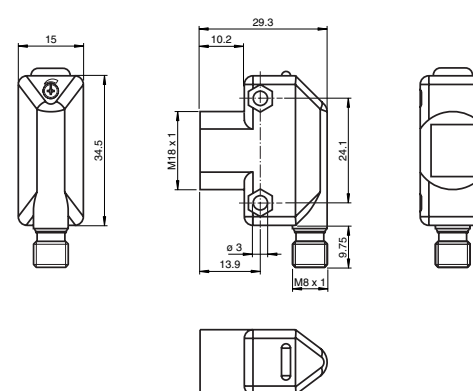


alle Maße in mm

## Security Instructions:

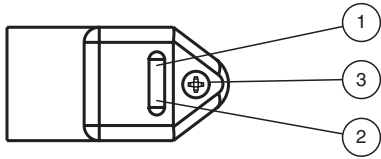
- Read the operating instructions before attempting commissioning
- Installation, connection and adjustments should only be undertaken by specialist personnel
- Not a safety component in accordance with the EU Machinery Directive

## Dimensions



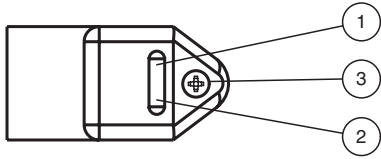
all dimensions in mm

## Anzeigen/Bedienelemente



|   |                            |      |
|---|----------------------------|------|
| 1 | Signalanzeige              | gelb |
| 2 | Betriebsanzeige            | grün |
| 3 | Empfindlichkeitseinsteller |      |

## Indicators/operating means



|   |                        |        |
|---|------------------------|--------|
| 1 | Signal display         | yellow |
| 2 | Operating display      | green  |
| 3 | Sensitivity adjustment |        |

### Charakteristische Ansprechkurve Courbe de response caractéristique Curve di risposta caratteristica

### Characteristic response curve Curva de respuesta característica

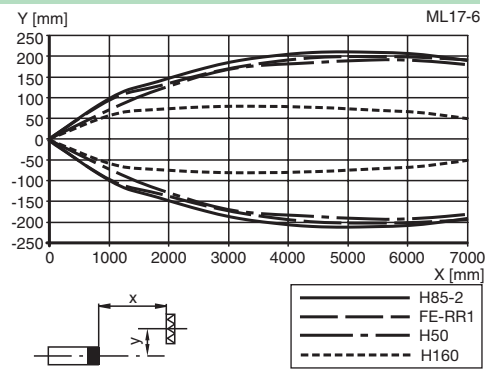
Möglicher Abstand (Versatz) zwischen optischer Achse und Referenzobjekt.

Permissible distance (offset) between optical axis and reference target.

Ecart possible entre l'axe optique et la cible de référence.

Desplazamiento entre el eje óptico y objeto de referencia.

Distanza possibile (sfalsato) tra l'asse ottico e l'oggetto di riferimento.



### Relative Empfangslichtstärke Intensité relative de la lumière reçue Intensità relativa luce in ricezione

### Relative received light strength Potencia relativa de recepción lumínica

Funktionsreserve, Stability control, Réserve de fonctionnement, Reserva de función, Funzione riserva

ML17-6

