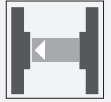


## Thru-beam sensor LA39/LK39-Z/31/40a/116



- Light-on/dark-on, switchable
- Timer function
- Supplied with mounting accessory
- Degree of protection IP67

Thru-beam sensor, 20 m detection range, infrared light, light/dark on, AC/DC version, relay contact output, sensitivity adjuster, timer function, terminal compartment

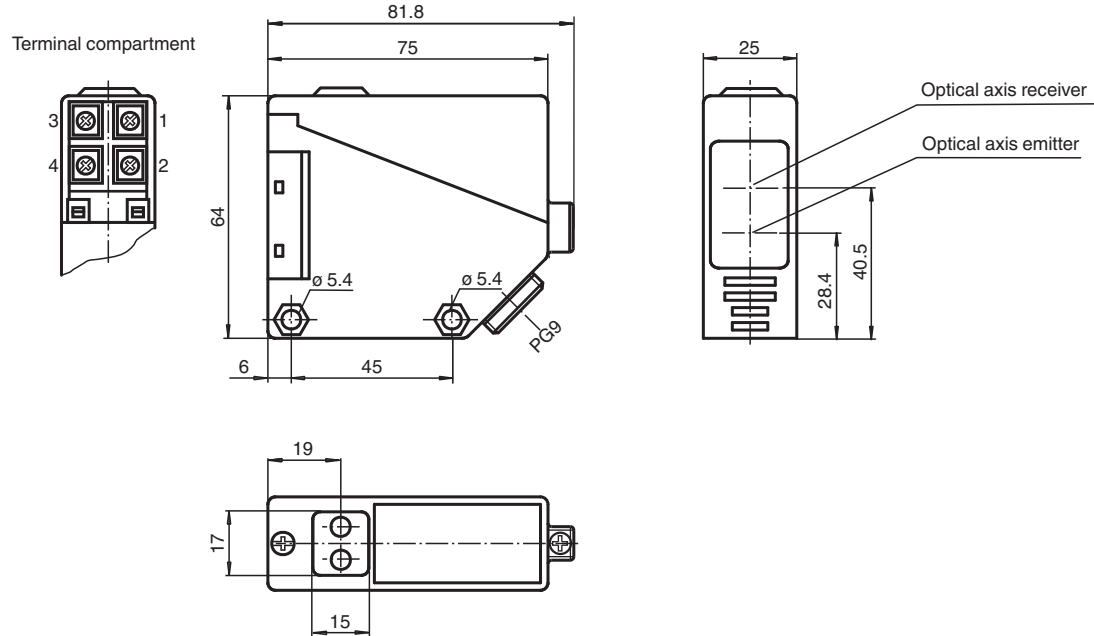


### Function

Series 39 sensors are characterized by their high performance level, compact housing design, and variety of available versions. These include thru-beam sensors with a 20 m detection range, retroreflective sensors with polarization filter for a 5 m detection range, energetic diffuse mode sensors with an 800 mm and 2000 mm detection range, and a background suppression sensor with 500 mm detection range. Fitted in a robust plastic housing, this series is ideal for tough industrial applications.

The sensors are supplied with 10 V to 30 V DC, or 24 V to 240 V AC/DC. Various transistor and relay outputs are available as signal outputs. Standard features include pre-fault diagnostics and pre-fault output. The switching element function can be changed using the light/dark switch.

Dimensions



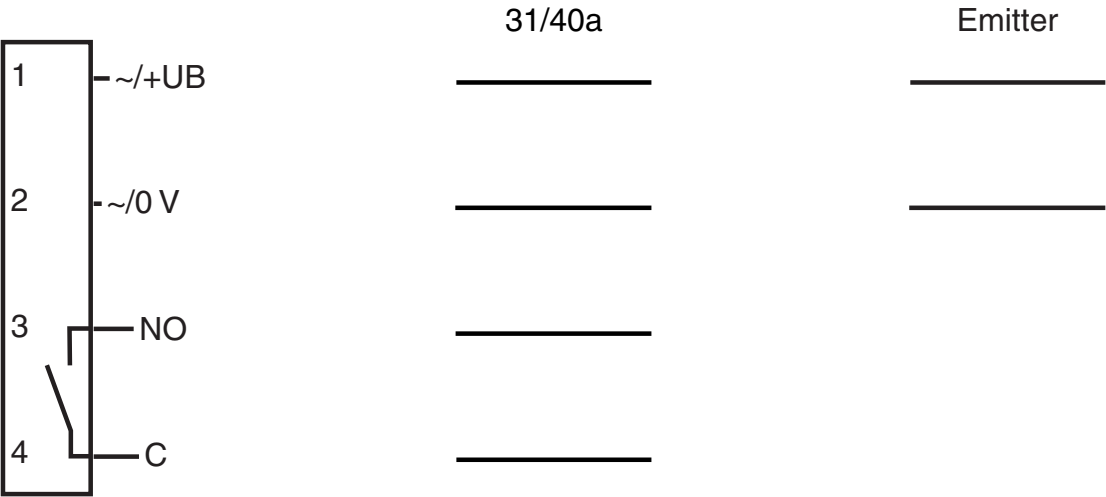
Technical Data

|                                             |                |                                                              |
|---------------------------------------------|----------------|--------------------------------------------------------------|
| <b>System components</b>                    |                |                                                              |
| Emitter                                     |                | LA39/116                                                     |
| Receiver                                    |                | LK39-Z/31/40a/116                                            |
| <b>General specifications</b>               |                |                                                              |
| Effective detection range                   |                | 0 ... 20 m                                                   |
| Threshold detection range                   |                | 25 m                                                         |
| Adjustment range                            |                | 2 ... 25 m                                                   |
| Reference target                            |                | receiver                                                     |
| Light source                                |                | IRED                                                         |
| Light type                                  |                | modulated infrared light                                     |
| Ambient light limit                         |                | 10000 Lux                                                    |
| <b>Functional safety related parameters</b> |                |                                                              |
| MTTF <sub>d</sub>                           |                | 916 a                                                        |
| Mission Time (T <sub>M</sub> )              |                | 20 a                                                         |
| Diagnostic Coverage (DC)                    |                | 0 %                                                          |
| <b>Indicators/operating means</b>           |                |                                                              |
| Operation indicator                         |                | LED red (emitter)                                            |
| Function indicator                          |                | LED yellow: switching state<br>LED red: pre-fault indication |
| Control elements                            |                | Sensing range adjuster, light-on/dark-on changeover switch   |
| Control elements                            |                | switch for timer function                                    |
| <b>Electrical specifications</b>            |                |                                                              |
| Operating voltage                           | U <sub>B</sub> | 12 ... 240 V DC / 24 ... 240 V AC (50 ... 60 Hz)             |

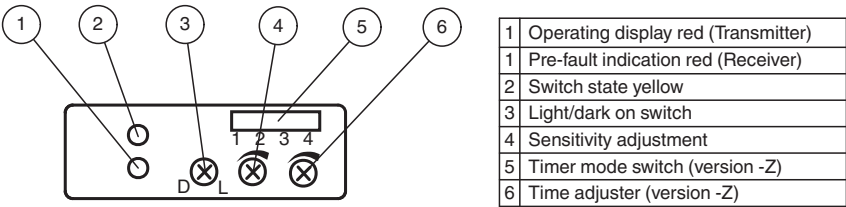
## Technical Data

|                                   |       |                                                                                                                                                                                                                                                                    |
|-----------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ripple                            |       | 10 %                                                                                                                                                                                                                                                               |
| No-load supply current            | $I_0$ | $\leq 60$ mA receiver and emitter                                                                                                                                                                                                                                  |
| Protection class                  |       | II, rated voltage $\leq 250$ V AC with pollution degree 1-2 according to IEC 60664-1<br>Caution!<br>The protection class 2 is only valid when the terminal compartment is closed. output circuit has basic insulation to control circuit according to IEC/EN 61140 |
| Power consumption                 | $P_0$ | $\leq 3$ VA                                                                                                                                                                                                                                                        |
| Time delay before availability    | $t_v$ | $\leq 300$ ms                                                                                                                                                                                                                                                      |
| <b>Output</b>                     |       |                                                                                                                                                                                                                                                                    |
| Switching type                    |       | light/dark on                                                                                                                                                                                                                                                      |
| Signal output                     |       | 1 relay output                                                                                                                                                                                                                                                     |
| Switching voltage                 |       | max. 240 V AC ; 150 V DC                                                                                                                                                                                                                                           |
| Switching current                 |       | max. 3 A                                                                                                                                                                                                                                                           |
| Switching power                   |       | DC: max. 90 W AC: max. 750 VA                                                                                                                                                                                                                                      |
| Switching frequency               | $f$   | $\leq 25$ Hz                                                                                                                                                                                                                                                       |
| Response time                     |       | $\leq 20$ ms                                                                                                                                                                                                                                                       |
| Timer function                    |       | On-/off-delay or pulse extension on choice                                                                                                                                                                                                                         |
| <b>Conformity</b>                 |       |                                                                                                                                                                                                                                                                    |
| Product standard                  |       | EN 60947-5-2                                                                                                                                                                                                                                                       |
| <b>Approvals and certificates</b> |       |                                                                                                                                                                                                                                                                    |
| EAC conformity                    |       | TR CU 020/2011<br>TR CU 004/2011                                                                                                                                                                                                                                   |
| CCC approval                      |       | Certified by China Compulsory Certification (CCC)                                                                                                                                                                                                                  |
| Approvals                         |       | CE                                                                                                                                                                                                                                                                 |
| <b>Ambient conditions</b>         |       |                                                                                                                                                                                                                                                                    |
| Ambient temperature               |       | -25 ... 55 °C (-13 ... 131 °F)                                                                                                                                                                                                                                     |
| Storage temperature               |       | -40 ... 70 °C (-40 ... 158 °F)                                                                                                                                                                                                                                     |
| <b>Mechanical specifications</b>  |       |                                                                                                                                                                                                                                                                    |
| Housing width                     |       | 25 mm                                                                                                                                                                                                                                                              |
| Housing height                    |       | 64 mm                                                                                                                                                                                                                                                              |
| Housing depth                     |       | 75 mm                                                                                                                                                                                                                                                              |
| Degree of protection              |       | IP67                                                                                                                                                                                                                                                               |
| Connection                        |       | terminal compartment PG9, $\leq 2.5$ mm <sup>2</sup>                                                                                                                                                                                                               |
| Material                          |       |                                                                                                                                                                                                                                                                    |
| Housing                           |       | PBT                                                                                                                                                                                                                                                                |
| Optical face                      |       | PMMA                                                                                                                                                                                                                                                               |
| Mass                              |       | Emitter: approx. 90 g receiver: approx. 110 g                                                                                                                                                                                                                      |
| <b>General information</b>        |       |                                                                                                                                                                                                                                                                    |
| Scope of delivery                 |       | Mounting aid                                                                                                                                                                                                                                                       |

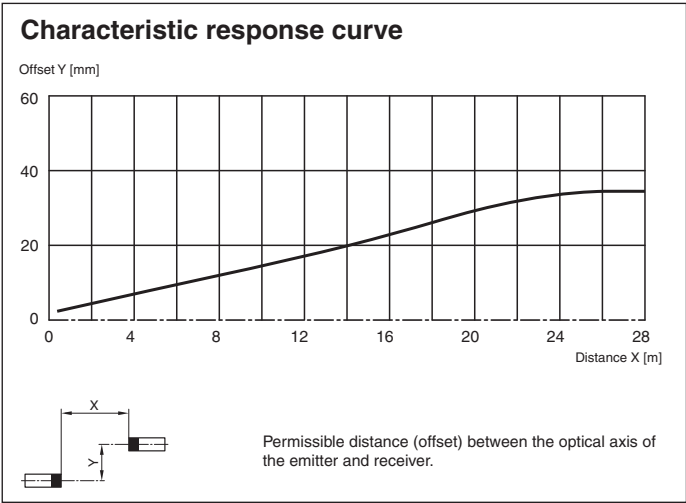
Connection Assignment



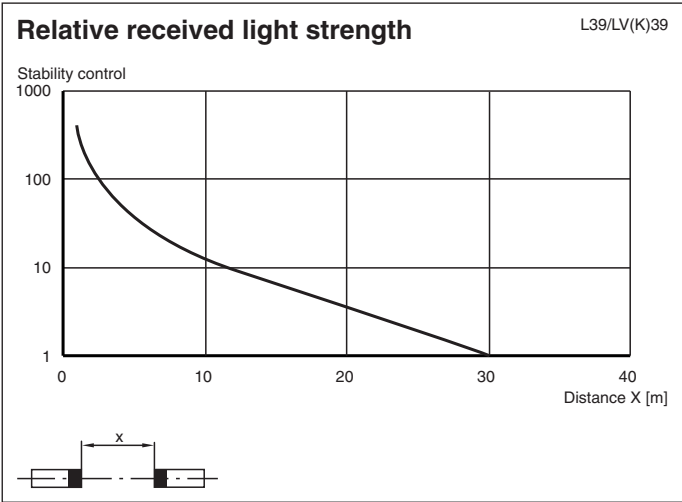
Assembly



Characteristic Curve



Release date: 2020-12-10 Date of issue: 2020-12-10 Filename: 088807\_eng.pdf



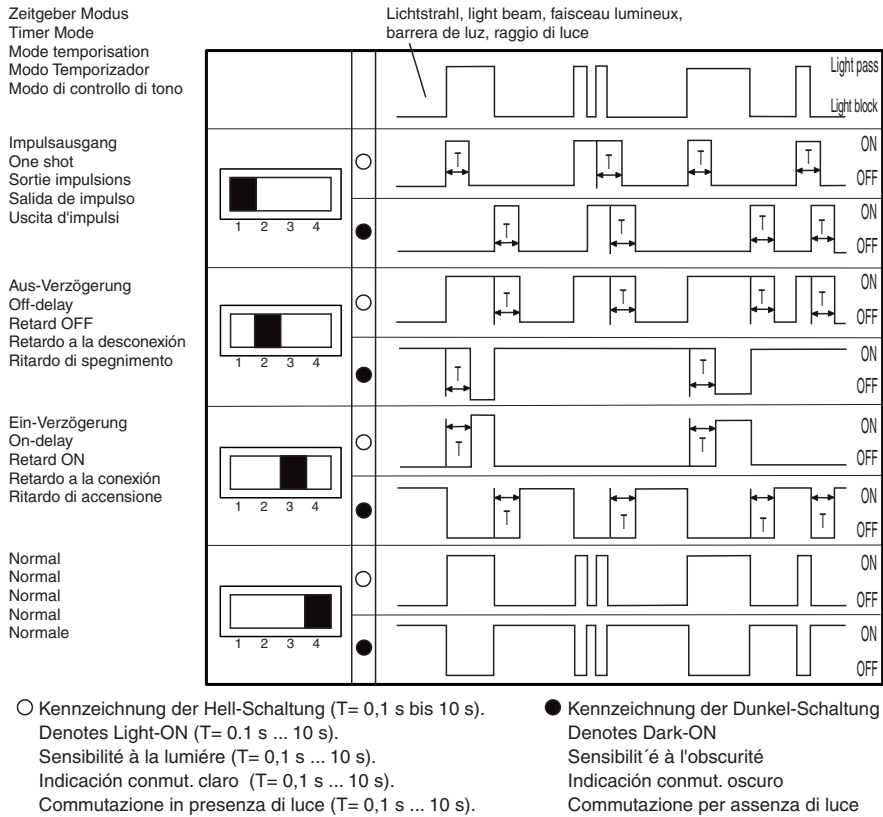
**Application**



Mounting

Timerfunktion  
Fonction de temporisation  
Funzione timer

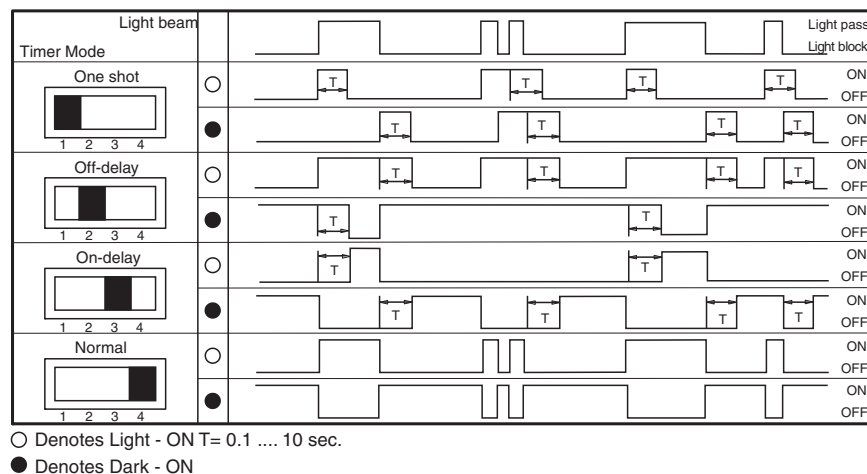
Timer function  
Función del timer



Accessories

|                                                                                     |                 |                                          |
|-------------------------------------------------------------------------------------|-----------------|------------------------------------------|
|  | <b>OMH-RL39</b> | Mounting bracket for RL39 series Sensors |
|-------------------------------------------------------------------------------------|-----------------|------------------------------------------|

## Configuration



## Accessories

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

## Function Principle

The thru-beam sensor requires a pair of devices for operation, comprising a light transmitter and a light receiver. The emitter and receiver must be arranged in optical alignment with each other. The infrared light from the emitter is detected by the receiver and evaluated.

## Application

- Object tracking in material handling, and the packaging sector
- Material flow monitoring
- Bin occupancy check in storage technology
- Fine positioning in high-bay warehouses
- Presence and height monitoring on pallet conveyors
- Single-beam protection for automatic industrial gates and elevator doors
- Protection at automatic gates