

OHK00371

Frame light barrier

- / integrated pulse extension
- / PNP switching output
- / Normally open contact / normally closed contact switchable
- / M8-connector

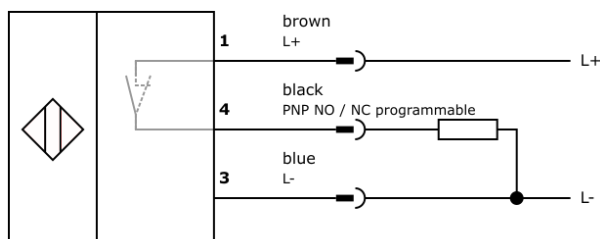


Static and dynamic Operating principle

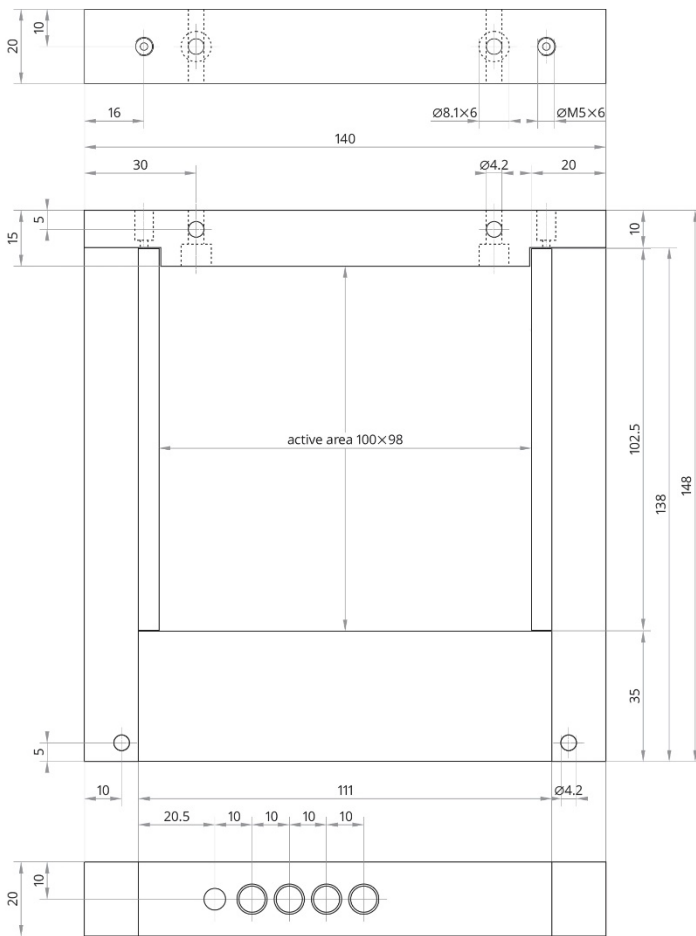
TECHNISCHE DATEN

Active zone	100 x 98mm
Resolution	dynamisch Ø 2.5mm / static Ø 3mm
Output signal	pnp, no/nc
Operating voltage	10 ... 35V DC
Current consumption (without load)	50mA
Output current (max. load)	200mA
Voltage drop (max. load)	1.2V
Transmitting element (clocked)	LED infrared
Wavelength	940nm
Response / release time	0.1ms / 0 ... 150ms
Display (signal)	LED yellow
Setting (sensitivity)	potentiometer
Setting (time)	potentiometer 0 ... 150ms
Setting	change-over switch stat./dyn. und no/nc
Short circuit proof	+
Reverse polarity protected	+
Dimensions	148 x 140 x 20mm
Material (housing)	aluminum, black anodized
Material (Optics)	polycarbonate
Temperature (operation)	-20 ... +55°C
Protection class (EN 60529)	IP67
Connection	M8-connector, 3-pin
Connection accessories	e.g. VK200075

Connection



Dimensional drawing



Intended use

OHK00371 frame light barriers are used as part of a higher-level overall system for detecting objects.



Safety instructions

Frame light barriers **OHK00371** are not permitted for safety applications, especially where the safety of persons depends on the device function.

The operator of the higher-level overall system, e.g. a machine system, is responsible for compliance with the national and international safety and accident prevention regulations applicable to the specific application.

When planning the machine and using the **OHK00371** frame light barriers, the application-specific safety and accident prevention regulations must be observed, e.g.:

- EN 60204, Electrical equipment of machines
- EN 292, Safety of machinery, general principles for design
- DIN 57100 Part 410, Protection against dangerous body currents

Installation and electrical connection of the **OHK00371** frame light barrier may only be carried out by qualified personnel in accordance with the applicable regulations, in a **de-energized** state and with the **machine switched off**.

The machine must be secured against restarting.


Installation and operation

The **OHK00371** frame light barrier operate on the principle of through beam light barriers. Many transmitters and receivers form a light curtain in a frame-shaped housing. Both metallic and non-metallic parts can be detected. Frame light barrier have a switchable static / dynamic operating principle.

In the "**dynamic**" operating mode, the frame light barriers react only to moving objects (ejection control). An object remaining permanently in the beam path is blanked out after approx. 0.5 sec, slight soiling of the optics is compensated for. When the sensitivity potentiometer is set to the right stop (maximum), the smallest possible parts are detected.


In the "**static**" operating mode, the frame light barriers register objects over the entire dwell time within the active area. If the optics are dirty, the resolution characteristics change. When switching from dynamic to static operating mode, the light barrier automatically calibrates itself to the ambient conditions.

Switching between the operating modes is done by a rotary switch.

 Make sure that it is always at the corresponding end stop. Intermediate positions lead to undefined switching states.

When switching to the respective other operating mode, the output LED flashes briefly.


The sensitivity is adjustable with the "**Sensitivity**" potentiometer. The resolution of the light barrier is reduced by turning it counterclockwise. Turning the potentiometer clockwise increases the sensitivity and thus the resolution. The resolution refers to the smallest detectable object size. The spatial characteristics of the transmitter bar mean that the resolution is slightly higher in the center of the detection area than at the edges.

 Always set the sensitivity only as high as necessary to detect the parts. This means that any smaller dirt particles that fall through will not be detected.

The fast response time of only 0.1ms makes it possible to detect even small, fast-moving parts. If necessary, the length of the output signal is not sufficient to be processed by a downstream controller. In such cases the "**Time**" potentiometer is used to extend the pulse of the switching output up to 150ms. Turning counterclockwise (in the - direction) extends the time.

Note that when using pulse stretching, the possible switching frequency is reduced according to the set time. However, the reaction time remains short.

The "**NO-NC**" rotary switch is used to select between dark switching (NO) and light switching (NC).


 Make sure that the rotary switch is always at the corresponding end stop. Intermediate positions lead to undefined switching states.


LED display

The display is via a yellow ring LED on the connector. When the LED lights up, an object is detected. In the "NO" position of the "NO-NC" rotary switch, the switching output is active when the LED is on, in the "NC" position, the switching output is inactive when the LED is on.

Mechanical impact protection and protective glasses protect the optics from damage. Air nozzles are located in the crosshead for cleaning.


These frame light barriers operate with modulated infrared light. The high modulation frequency of 500kHz provides good protection against ambient light.

 Avoid extraneous light on the receiver side!

 Mount the frame light barriers so that the object to be detected can pass freely through the frame opening. The mounting is done with M4 screws.

Wartung und Reparatur

OHK00371 frame light barriers are largely maintenance-free. Regularly remove deposits on the optics of the frame photoelectric sensor with a soft cloth.

 To ensure proper functioning, the corners on the left and right of the protective glass on the transmitter and receiver side in particular must be cleaned carefully.

Any repair may only be carried out by ipf electronic gmbh.

Disposal

At the end of its service life, the product must be disposed of at a suitable disposal point for the recycling of electrical and electronic equipment in accordance with the country-specific regulations (WEEE-Nr. 40951076).

