

Ultrasonic fork sensor UPF-B Series

- an alternative to optical fork barriers
- Simple and quick mounting
- Detection of parts in dirty environment
- Edge detection
- Detection of transparent parts
- High switching speed
- Water tight, IP67, robust, oil resistant



when optical fork sensors fail!

Technical data

UPF-B 80 PA 24 C

Fork width	mm	80
Power supply voltage (reversal polarity protection)	VDC	18...30
Operating frequency	kHz	~350
Binary output, short circuit proof, max. 0.1A	-	PNP NO/NC
Status indicator	-	LED yellow
Mean consumption	mA	<40
Voltage drop	V	<2.5
Switching speed	Hz	500
Resolution, smallest object		
@ min. transmitter power	mm	~3
@ max. transmitter power	mm	~10
Transmitter power (sensitivity)	-	0...100% (adjustable by potentiometer)
Hysteresis	mm	~1
Reproducibility	mm	~0.1
Ambient temperature	°C	0...+60
Mass	g	~100
Protection class	-	IP67
Housing material	-	Aluminum, black elox.
Electrical connection	-	M8 connector 3-pin

Description

Fork barriers have several advantages compared to standard barriers. Transmitter and receiver are perfectly aligned. Mounting is therefore very easy. There is no mechanical misalignment possible after mounting. Ultrasonic fork sensors in particular, are ideal if optical fork sensors fail because of high pollution or transparent objects. The UPF-B fork sensor is compatible with optical fork

sensors from point of view of installation as well as operation. It is suitable for detecting parts or for edge detection, and has a switching speed of 500Hz which is very high for ultrasonic sensors. Thanks to the new transducer sealing made of Viton® the UPF-B sensors are very robust against many environmental influences. In particular, they are oil resistant, unlike many other ultrasonic sensors.

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Function

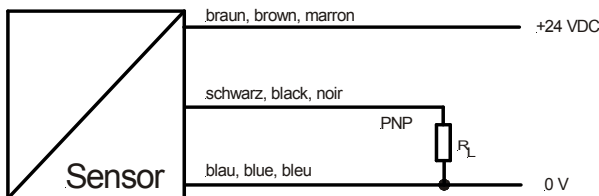
Ultrasonic fork barriers have a transmitter and a receiver, each mounted in one side of the fork housing. The transmitter beam is focused to the receiver. If the receiver detects ultrasound, the output of the receiver becomes active. If the sound beam is interrupted, the receiver output gets disabled (or vice versa). The output signal can be set for NO (switching on dark) or NC (switching on bright) function. The status of the output signal is shown with the LED integrated in the M8 connector. The LED lights up when the output is active.

Mounting

Mounting happens with M4 screws.

Electrical connection

The electrical connection is done with a 3-pin cable with M8 connector.



Settings

Transmitter power (Sens.):

The acoustic power can be adjusted with the potentiometer more far from the connector. The max. power (turn clockwise) should be used for big and slow objects. A reduced power (turn counter clockwise) is favorable when the objects are so small, so acoustically transparent or so fast that the sound would go around or penetrate the object with a high power setting. In particular for small or fast objects the appropriate transmitter power must be experimentally evaluated. The lower the transmitter power is, the more sensitive the sensor is on air flows.

Output function:

The output function (NO or NC) can be selected with the rotational switch which is closest to the connector. This switch shall always be either at the left or the right stop:

- Left stop = NO
- Right stop = NC

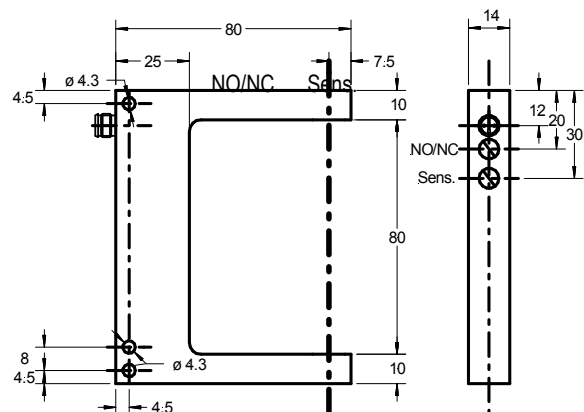


The fork light barriers are configured as standard with NO output.

Cable

The fork barriers have a 3-pin M8 connector for screw mounting. Cables are available separately.

Dimensions



Scope of delivery

- Ultrasonic fork barrier

Accessories (see also data sheet (,ACC'))

PUR cable 3-pin with M8 screw connector

with straight connector: l=2m Type KAB 2K3VGPUR
l=5m Type KAB 5K3VGPUR