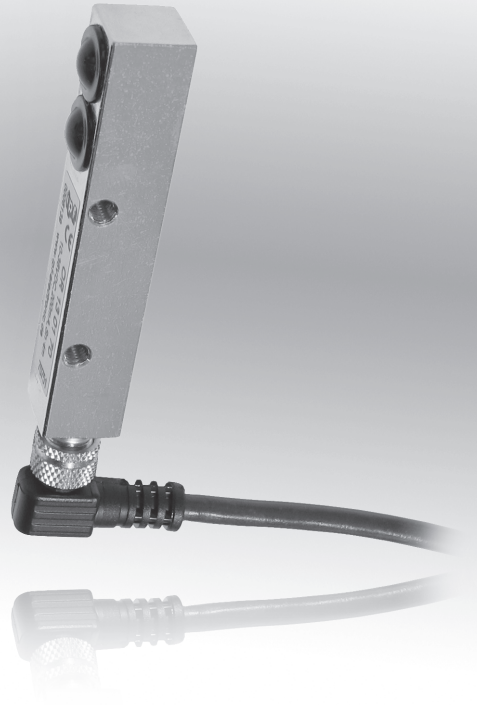
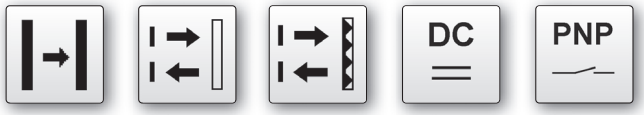
through-beam, retro-reflective, dif. reflection sensors 3000

dimensions	**12 x 64 x 12mm** **12 x 69 x 12mm** **12 x 74 x 12mm**	
through-beam sensor	operating range	**up to 6.0m**
retro-reflective sensor	operating range	**up to 4.0m**
dif. reflection sensor	sensing range	**up to 1.2m**



- ✓ **metal housing made of nickel-plated brass**
- ✓ **status display by LED**
- ✓ **integrated amplifier**
- ✓ **high sampling frequency and sensing ranges**
- ✓ **sensitivity adjustable by potentiometer**
- ✓ **connection with M8-connector**

transmitter with test input
robust metal housing



description

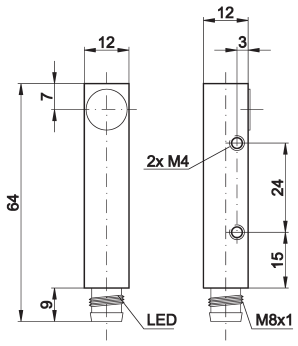
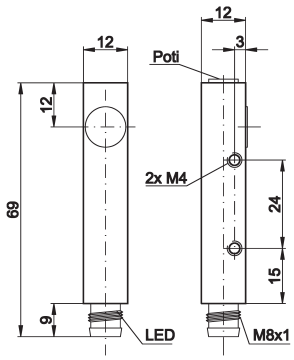
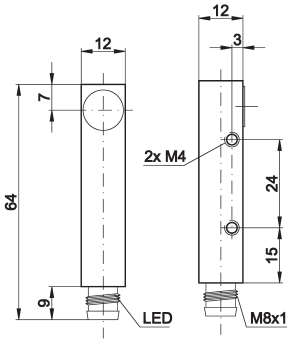
Optoelectronic sensors are indispensable components in all automated production processes.
They are used in all applications where parts are to be detected, counted or positioned in a way which does not involve contact and which is reliable and fast.
The devices feature a brass housing and are often used in connection with a PLC for automatic production processes and machines. Through-beam sensors detect objects of any shape, regardless of their color.
Functional monitoring of the devices is possible via a test input in the transmitter of the through-beam sensor. For this, the operating voltage potential is applied to the corresponding contact. Through this, the basic alignment of the transmitter to the receiver can be checked.

application examples

- presence check of different objects
- collision avoidance in feed movements
- control of object and stack heights
- limit switches, position switches and pulse generators

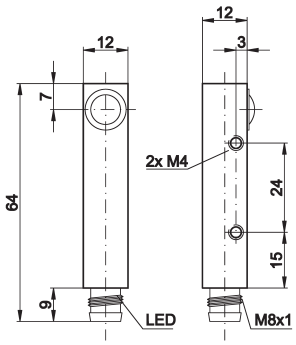
optical sensors

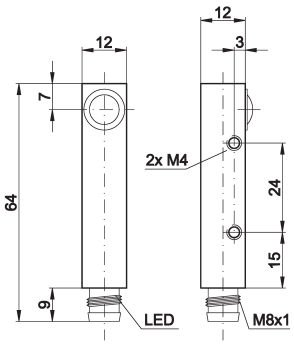
3000 through-beam, retro-reflective, dif. reflection sensors

article-no.	**OE130170**	**OE130171**	**OS130070**
version	**receiver through-beam sensor**	**receiver through-beam sensor**	**transmitter through-beam sensor**
sensitivity adjustment	**-**	**potentiometer**	**-**
operating range	**1.0m**	**1.0m**	**-**
			
TECHNICAL DATA			
operating range	1.0m	1.0m	-
output signal	pnp, dark-on mode	pnp, dark-on mode	-
operating voltage	10 ... 36V DC	10 ... 36V DC	10 ... 36V DC
current consumption (w/o load)	≤ 10mA	≤ 10mA	≤ 30mA
output current (max. load)	200mA	200mA	-
voltage drop (max. load)	1.8V DC	1.8V DC	-
transmitting element (pulsed)	-	-	LED, infrared
wavelength (transmitter)	-	-	880nm
sampling frequency	100Hz	500Hz	-
repeat accuracy	< 10%	< 10%	-
readiness delay	< 15ms	< 15ms	< 15ms
display (signal)	yellow LED	yellow LED	-
display (operation)	-	-	green LED
sensitivity adjustment	-	potentiometer	-
test input	-	-	+
short-circuit protection	+	+	-
reverse polarity protection	+	+	-
dimensions	12x64x12mm	12x69x12mm	12x64x12mm
housing material	nickel-plated brass	nickel-plated brass	nickel-plated brass
lens material	plastic	plastic	plastic
operating temperature	-5 ... +70°C	-5 ... +70°C	-5 ... +70°C
degree of protection (EN 60529)	IP65	IP65	IP65
connection	M8-connector, 3-pin	M8-connector, 3-pin	M8-connector, 3-pin
connection accessories	e.g. **VK200075**	e.g. **VK200075**	e.g. **VK200075**
mounting accessories	**AY000058**	**AY000058**	**AY000058**
mounting accessories (universal holder)	**AY000119**	**AY000119**	**AY000119**

through-beam, retro-reflective, dif. reflection sensors 3000

article-no.	**OE130175**	**OS130075**
version	**receiver through-beam sensor**	**transmitter through-beam sensor**
sensitivity adjustment	**-**	**-**
operating range	**6.0m**	**-**





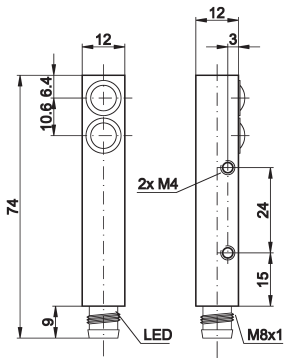
TECHNICAL DATA

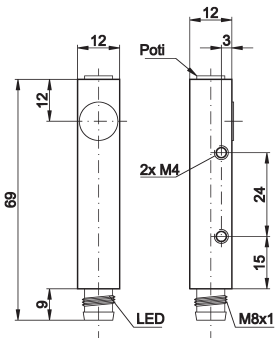
operating range	6.0m	-
output signal	pnp, dark-on mode	-
operating voltage	10 ... 36V DC	10 ... 36V DC
current consumption (w/o load)	≤ 10mA	≤ 30mA
output current (max. load)	200mA	-
voltage drop (max. load)	1.8V DC	-
transmitting element (pulsed)	-	LED, infrared
wavelength	-	880nm
sampling frequency	100Hz	-
repeat accuracy	< 10%	-
readiness delay	< 15ms	< 15ms
display (signal)	yellow LED	-
display (operation)	-	green LED
sensitivity adjustment	-	-
test input	-	+
short-circuit protection	+	-
reverse polarity protection	+	+
dimensions	12x64x12mm	12x64x12mm
housing material	nickel-plated brass	nickel-plated brass
lens material	plastic	plastic
operating temperature	-5 ... +70°C	-5 ... +70°C
degree of protection (EN 60529)	IP65	IP65
connection	M8-connector, 3-pin	M8-connector, 3-pin
connection accessories	e.g. **VK200075**	e.g. **VK200075**
mounting accessories	**AY000058**	**AY000058**
mounting accessories (universal holder)	**AY000119**	**AY000119**

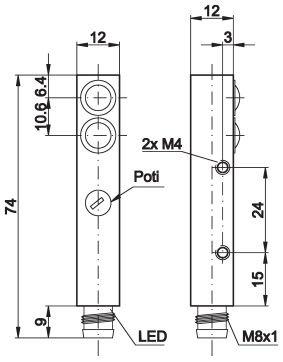
optical sensors

3000 through-beam, retro-reflective, dif. reflection sensors

article-no.	**OR130170**	**OT130170**	**OT130175**
version	**retro-reflective sensor**	**dif. reflection sensor**	**dif. reflection sensor**
sensitivity adjustment	**-**	**potentiometer**	**potentiometer**
operating/sensing range	**4.0m**	**0.2m**	**1.2m**





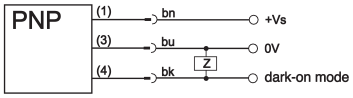


TECHNICAL DATA

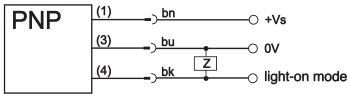
operating range	4.0m	0.2m	1.2m
output signal	pnp, dark-on mode	pnp, light-on mode	pnp, light-on mode
operating voltage	10 ... 36V DC	10 ... 36V DC	10 ... 36V DC
current consumption (w/o load)	≤ 10mA	≤ 10mA	≤ 10mA
output current (max. load)	200mA	200mA	200mA
voltage drop (max. load)	1.8V DC	1.8V DC	1.8V DC
transmitting element (pulsed)	LED, infrared	LED, infrared	LED, infrared
wavelength	880nm	880nm	880nm
sampling frequency	100Hz	100Hz	100Hz
hysteresis	-	< 20%	< 20%
repeat accuracy	< 10%	< 10%	< 10%
readiness delay	< 15ms	< 15ms	< 15ms
display (signal)	yellow LED	yellow LED	yellow LED
sensitivity adjustment	-	potentiometer	potentiometer
test input	-	-	-
short-circuit protection	+	+	+
reverse polarity protection	+	+	+
dimensions	12x74x12mm	12x69x12mm	12x74x12mm
housing material	nickel-plated brass	nickel-plated brass	nickel-plated brass
lens material	plastic	plastic	plastic
operating temperature	-5 ... +70°C	-5 ... +70°C	-5 ... +70°C
degree of protection (EN 60529)	IP65	IP65	IP65
connection	M8-connector, 3-pin	M8-connector, 3-pin	M8-connector, 3-pin
connection accessories	e.g. **VK200075**	e.g. **VK200075**	e.g. **VK200075**
mounting accessories	**AY000058**	**AY000058**	**AY000058**
mounting accessories (universal holder)	**AY000119**	**AY000119**	**AY000119**

connection

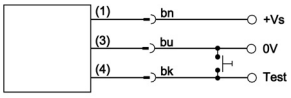
receiver through-beam sensor, retro-reflective sensor



dif. reflection sensor



transmitter through-beam sensor

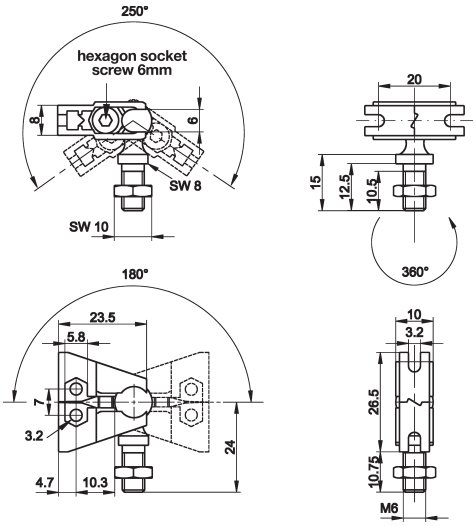


wire colors: bn = brown (1), bu = blue (3), bk = black (4)

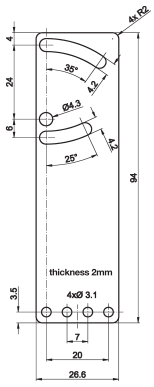
system test: To disable the transmitter in a through-beam sensor the blue (3) and black (4) line must be connected together.

important note: If a cable socket with LED display has to be used for connection of the sensor, the black wire (4) must be permanently connected to +24V DC to prevent the transmitter being disabled via the LED!

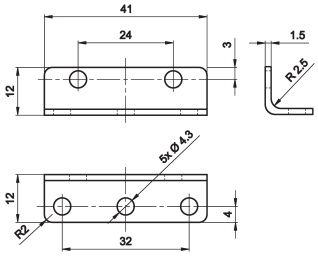
mounting accessories (universal holder) AY000119
consisting of **base module ...**



... and **fitting panel**



mounting bracket AY000058



ACCESSORIES

article-no.	description	note
AY000088	base module *	jaw: stainless steel, ball pin: galvanized steel
AY000119	mounting kit for sensors Ox13	stainless steel
AY000058	mounting bracket	aluminium

* **The AY000088** base module is contained in every mounting kit.
Material of bolts and nuts: galvanized steel.

This data sheet contains the standard versions only. Kindly request the availability of other output- and connection functions.

We will be pleased to supply the matching cable socket for your devices with connector. Please refer to the list in catalog chapter "accessories" under "cable sockets ipf *-SENSORFLEX®*" or search our website for "VK".

Warning: Never use these devices in applications where the safety of a person depends on their functionality.

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Subject to alteration!
Version: February 2012

notes

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