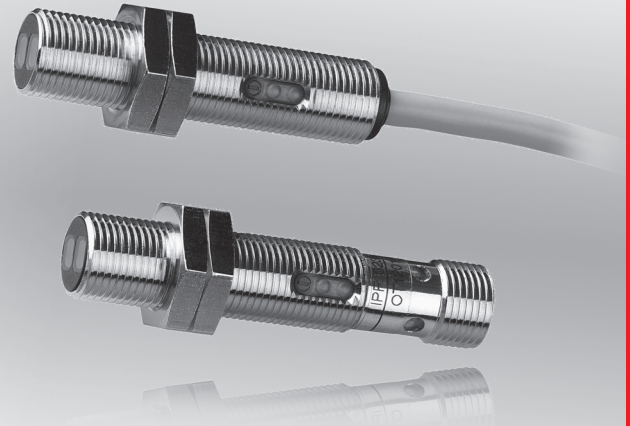


dimensions	<b>M12 x 1mm</b>	
through-beam sensor	operating distance	<b>up to 10.0m</b>
retro-reflective sensor	operating distance	<b>up to 1.5m</b>
dif. reflection sensor	sensing range	<b>up to 0.3m</b>



- ✓ robust metal housing
- ✓ integrated amplifier
- ✓ retro-reflective sensor with polarizing filter
- ✓ adjustable diffuse reflection sensor
- ✓ high sampling frequency and sensing ranges
- ✓ visible red light
- ✓ connection with cable and M12-connector

**up to 10m operating distance  
glass lens**



**description**

Optoelectronic sensors are indispensable components in all automated production processes. They are used in all applications where parts are to be detected, counted, measured 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. For example, they detect objects made from metal, glass, plastic, wood and paper.

Functional monitoring of the sensor is possible for through-beam sensors using the test input in the transmitter. For this, the operating voltage potential is applied to the corresponding contact.

The sensors all work with visible red light and consequently, enable reliable and simple adjustment.

The yellow LED display lights up if the output is securely switched. If the green LED flashes when the output is switched, the respective device is working without sufficient functional reserve, e.g. through soiling or maladjustment.

**application examples**

- ▶ checking the presence of various objects
- ▶ avoiding collision, in the case of feeding movements
- ▶ monitoring object and stack heights
- ▶ limit switches, position switches and pulse generators

article-no. version	OE120106 receiver through-beam sensor	OS120006 transmitter through-beam sensor	OE120126 receiver through-beam sensor	OS120026 transmitter through-beam sensor
sensitivity adjustment	-	-	-	-
operating range connection	10m cable	- cable	10m connector	- connector

### TECHNICAL DATA

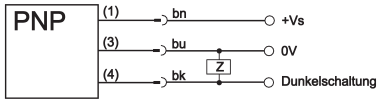
operating distance	10m	-	10m	-
output signal	pnp dark-on mode	-	pnp dark-on mode	-
operating voltage	10 ... 36V DC	10 ... 36V DC	10 ... 36V DC	10 ... 36V DC
current consumption (w/o load)	≤ 15mA	≤ 15mA	≤ 15mA	≤ 15mA
output current (max. load)	200mA	-	200mA	-
voltage drop (max. load)	2.0V DC	-	2.0V DC	-
transmitting element (pulsed)	-	LED, red light	-	LED, red light
wave length (transmitter)	-	660nm	-	660nm
norm trimming plate	-	-	-	-
hysteresis	≤ 10%	≤ 10%	≤ 10%	≤ 10%
readiness delay	20ms	20ms	20ms	20ms
sampling frequency	1kHz	-	1kHz	-
display (signal / reserve)	yellow LED / green LED	- / -	yellow LED / green LED	- / -
sensitivity adjustment	-	-	-	-
input (function test)	-	+	-	+
short-circuit protection	+	-	+	-
reverse polarity protection	+	+	+	+
design	M12x1mm	M12x1mm	M12x1mm	M12x1mm
length (thread/complete)	50mm/50mm	50mm/50mm	41mm/60mm	41mm/60mm
housing material	chrome-plated brass	chrome-plated brass	chrome-plated brass	chrome-plated brass
lens material	glass	glass	glass	glass
operating temperature	-25 ... +55°C	-25 ... +55°C	-25 ... +55°C	-25 ... +55°C
degree of protection (EN60529)	IP67	IP67	IP67	IP67
connection	2m PVC-cable, 3-wire	2m PVC-cable, 3-wire	M12-connector, 3-pin	M12-connector, 3-pin
connection accessories	-	-	e.g. <b>VK200025</b>	e.g. <b>VK200025</b>
mounting accessories (universal holder)	<b>AY000115</b>	<b>AY000115</b>	<b>AY000115</b>	<b>AY000115</b>

**through-beam, retro-reflective, dif. reflection sensors 1300**

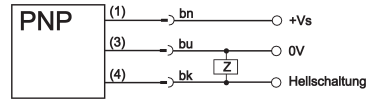
article-no.	OR120106	OR120126	OT120106	OT120126
version	retro-reflective sensor polarizing filter	retro-reflective sensor polarizing filter	dif. reflection sensor with intensity differentiation	dif. reflection sensor with intensity differentiation
sensitivity adjustment	-	-	potentiometer	potentiometer
operating distance / sensing range	1500mm	1500mm	70 ... 300mm	70 ... 300mm
connection	cable	connector	cable	connector
<b>TECHNICAL DATA</b>				
operating distance / sensing range	1500mm	1500mm	70 ... 300mm	70 ... 300mm
output signal	pnp dark-on mode	pnp dark-on mode	pnp light-on mode	pnp light-on mode
operating voltage	10 ... 36V DC	10 ... 36V DC	10 ... 36V DC	10 ... 36V DC
current consumption (w/o load)	≤ 15mA	≤ 15mA	≤ 15mA	≤ 15mA
output current (max. load)	200mA	200mA	200mA	200mA
voltage drop (max. load)	2.0V DC	2.0V DC	2.0V DC	2.0V DC
transmitting element (pulsed)	LED, red light	LED, red light	LED, red light	LED, red light
wave length (transmitter)	660nm	660nm	660nm	660nm
norm trimming plate	-	-	100x100mm white	100x100mm white
hysteresis	≤ 10%	≤ 10%	≤ 10%	≤ 10%
readiness delay	20ms	20ms	60ms	60ms
sampling frequency	1kHz	1kHz	1kHz	1kHz
display (signal / reserve)	yellow LED / green LED	yellow LED / green LED	yellow LED / green LED	yellow LED / green LED
sensitivity adjustment	-	-	potentiometer	potentiometer
input (function test)	-	-	-	-
short-circuit protection	+	+	+	+
reverse polarity protection	+	+	+	+
design	M12x1mm	M12x1mm	M12x1mm	M12x1mm
length (thread/complete)	50mm/50mm	41mm/60mm	50mm/50mm	41mm/60mm
housing material	chrome-plated brass	chrome-plated brass	chrome-plated brass	chrome-plated brass
lens material	glass	glass	glass	glass
operating temperature	-25 ... +55°C	-25 ... +55°C	-25 ... +55°C	-25 ... +55°C
degree of protection (EN60529)	IP67	IP67	IP67	IP67
connection	2m PVC-cable, 3-wire	M12-connector, 3-pin	2m PVC-cable, 3-wire	M12-connector, 3-pin
connection accessories	-	e.g. <b>VK200025</b>	-	e.g. <b>VK200025</b>
mounting accessories (universal holder)	<b>AY000115</b>	<b>AY000115</b>	<b>AY000115</b>	<b>AY000115</b>

### connection

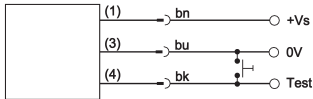
through-beam sensor, diffuse reflection sensor



retro-reflective sensor



transmitter through-beam sensor



wire colors: bn = brown (1), wh = white (2), bu = blue (3), bk = black (4)

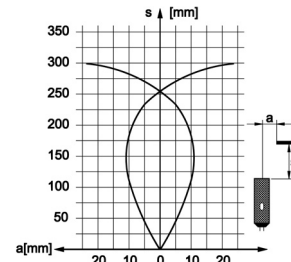
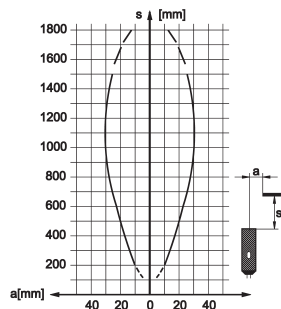
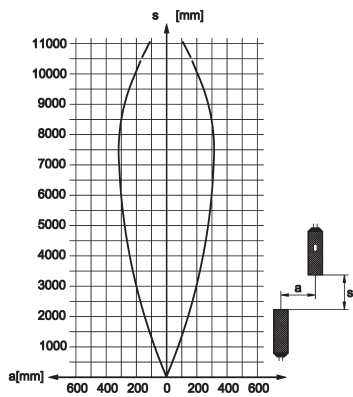
system test: connect the blue (3) and black (4) wire to disable the transmitter of a through-beam sensor.

### response curves

OS/OE12

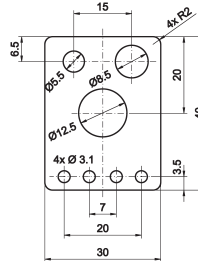
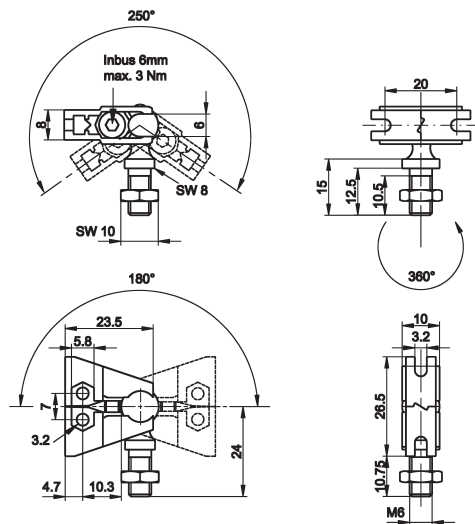
OR12

OT12



universal holder AY000091 consisting of base module ...

... and fitting panel



### ACCESSORIES

article-no.	description	note
AY000088	base module *	jaw: stainless steel, ball pin: galvanized steel
AY000115	mounting kit for design 05/08/12	stainless steel

\* 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.

This data sheet as well as your personal contact can be found at [www.ipf-electronic.com](http://www.ipf-electronic.com)