

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

dimensions

12 x 69 x 12mm 12 x 74 x 12mm

12 x 64 x 12mm

through-beam sensoroperating rangeup to 6.0mretro-reflective sensoroperating rangeup to 4.0mdif. reflection sensorsensing rangeup 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



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

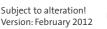
input in the transmitter of the through-beam sensor. For this, the operating voltage potential is applied to the corresponding contact. Through this, the basic alignment of the transmitter to the receiver can be checked.

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

C	E
1	~

Fon +49 2351 9365-0 Fax +49 2351 9365-19





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

article-no. version	OE130170 receiver through-beam sensor	OE130171 receiver through-beam sensor	OS130070 transmitter through-beam sensor	
sensitivity adjustment		potentiometer	-	
operating range	1.0m	1.0m	-	
		B B B B B B B B B B B B B B B B B B B		
TECHNICAL DATA				
operating range	1.0m pnp, dark-on mode	1.0m	-	
output signal operating voltage	10 36V DC	pnp, dark-on mode 10 36V DC	- 10 36V DC	
current consumption (w/o load)	10 36V DC ≤ 10mA	10 36V DC ≤ 10mA	10 36V DC ≤ 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		
			nickel-plated brass	
housing material lens material	plastic			
operating temperature	-5 +70°C	-5 +70°C	-5 +70°C	
degree of protection (EN 60529)	IP65	IP65	-5 + 70°C IP65	
connection	M8-connector, 3-pin	M8-connector, 3-pin	M8-connector, 3-pin	
connection accessories	e.g. VK200075 AY000058	e.g. VK200075 AY000058	e.g. VK200075 AY000058	
mounting accessories mounting accessories (universal holder)	AY000058 AY000119	AY000058 AY000119	AY000058 AY000119	
		2351 9365-0 www.ipf-electronic.cor 2351 9365-19 info@ipf-electronic.cor		



ouic



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

intrough-beam sensor 6.0m 12 12 2x M4 12 2x M4 10 6.0m 100 100 10% 15	through-beam sensor - - - - - - - - - - - - -	
6.0m pnp, dark-on mode 10 36V DC ≤ 10mA 200mA 1.8V DC - - 100Hz < 10%	- - - - 10 36V DC ≤ 30mA - - LED, infrared 880nm - -	
6.0m pnp, dark-on mode 10 36V DC ≤ 10mA 200mA 1.8V DC - - 100Hz < 10%	- - - - 10 36V DC ≤ 30mA - - LED, infrared 880nm - -	
6.0m pnp, dark-on mode 10 36V DC ≤ 10mA 200mA 1.8V DC - - 100Hz < 10%	- - - - 10 36V DC ≤ 30mA - - LED, infrared 880nm - -	
pnp, dark-on mode 10 36V DC ≤ 10mA 200mA 1.8V DC - - 100Hz < 10%	≤ 30mA - - LED, infrared 880nm - -	
pnp, dark-on mode 10 36V DC ≤ 10mA 200mA 1.8V DC - - 100Hz < 10%	≤ 30mA - - LED, infrared 880nm - -	
pnp, dark-on mode 10 36V DC ≤ 10mA 200mA 1.8V DC - - 100Hz < 10%	≤ 30mA - - LED, infrared 880nm - -	
≤ 10mA 200mA 1.8V DC - - 100Hz < 10%	≤ 30mA - - LED, infrared 880nm - -	
200mA 1.8V DC - - 100Hz < 10%	- - LED, infrared 880nm - -	
1.8V DC - - 100Hz < 10%	LED, infrared 880nm - -	
- - 100Hz < 10%	LED, infrared 880nm - -	
100Hz < 10%	880nm - -	
100Hz < 10%	880nm - -	
< 10%	-	
< 10%	- < 15ms	
	< 15ms	
(15)	(I Shi S	
vallevu LED		
yellow LED	- green LED	
lay (operation) -		
tivity adjustment -		
uit protection + plarity protection +		
+	+	
12x64x12mm	12x64x12mm	
nickel-plated brass	nickel-plated brass	
plastic	plastic	
-5 +70°C	-5 +70°C	
IP65	IP65	
M8-connector, 3-pin	M8-connector, 3-pin	
	e.g. VK200075	
	AY000058	
AY000119	AY000119	
	+ 12x64x12mm nickel-plated brass plastic -5+70°C IP65 M8-connector, 3-pin e.g. VK200075 AY00058	

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

version ensitivity adjustment		OR130170 OT130170	
	retro-reflective sensor	dif. reflection sensor	dif. reflection sensor
novating leansing vange	-	potentiometer	potentiometer
perating/sensing range	4.0m	0.2m	1.2m
ECHNICAL 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
oltage drop (max. load)	1.8V DC	1.8V DC	1.8V DC
ransmitting element (pulsed)	LED, infrared	LED, infrared	LED, infrared
vavelength	880nm	880nm	880nm
ampling frequency	100Hz	100Hz	100Hz
nysteresis	-	< 20%	< 20%
epeat accuracy	< 10%	< 10%	< 10%
eadiness delay	< 15ms	< 15ms	< 15ms
isplay (signal)	yellow LED	yellow LED	yellow LED
	-	potentiometer	potentiometer
ensitivity adjustment			
		-	-
est input	- +	-	· ·
est input hort-circuit protection	+	- + +	+
est input hort-circuit protection everse polarity protection	+	+	++
est input hort-circuit protection everse polarity protection limensions	+ 12x74x12mm	+ 12x69x12mm	+ + 12x74x12mm
ensitivity adjustment est input hort-circuit protection everse polarity protection limensions nousing material	+ 12x74x12mm nickel-plated brass	+ 12x69x12mm nickel-plated brass	+ + 12x74x12mm nickel-plated brass
est input hort-circuit protection everse polarity protection limensions housing material ens material	+ 12x74x12mm nickel-plated brass plastic	+ 12x69x12mm nickel-plated brass plastic	+ + 12x74x12mm nickel-plated brass plastic
est input hort-circuit protection everse polarity protection limensions lousing material ens material uperating temperature	+ 12x74x12mm nickel-plated brass plastic -5 +70°C	+ 12x69x12mm nickel-plated brass plastic -5 +70°C	+ + 12x74x12mm nickel-plated brass plastic -5 +70°C
est input hort-circuit protection everse polarity protection limensions nousing material ens material operating temperature legree of protection (EN 60529)	+ 12x74x12mm nickel-plated brass plastic -5 +70°C IP65	+ 12x69x12mm nickel-plated brass plastic -5 +70°C IP65	+ + 12x74x12mm nickel-plated brass plastic -5 +70°C IP65
est input hort-circuit protection everse polarity protection limensions nousing material ens material operating temperature legree of protection (EN 60529) onnection	+ 12x74x12mm nickel-plated brass plastic -5 +70°C IP65 M8-connector, 3-pin	+ 12x69x12mm nickel-plated brass plastic -5 +70°C IP65 M8-connector, 3-pin	+ + 12x74x12mm nickel-plated brass plastic -5 +70°C IP65 M8-connector, 3-pin
est input hort-circuit protection everse polarity protection limensions ousing material ens material operating temperature legree of protection (EN 60529)	+ 12x74x12mm nickel-plated brass plastic -5 +70°C IP65	+ 12x69x12mm nickel-plated brass plastic -5 +70°C IP65	+ + 12x74x12mm nickel-plated brass plastic -5 +70°C IP65



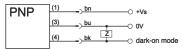
paric



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

connection

receiver through-beam sensor, retro-reflective sensor



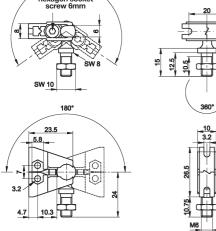
transmitter through-beam sensor

(1)	-) bn	C	+Vs
(3)	<u>)</u> bu		0V
(4)	=) <u>bk</u>	÷H-c	Test

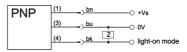
wire colors: bn = brown (1), bu = blue (3), bk = black (4)

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





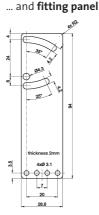
dif. reflection sensor



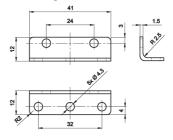
system test: To disable the transmitter in a through-beam sensor the blue (3) and black (4) line must be connected together.

optical sensors

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 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.

This data sheet as well as your personal contact can be found at www.ipf-electronic.com					
CE	ipf electronic gmbh	Kalver Straße 25 – 27 58515 Lüdenscheid – Germany	Fon +49 2351 9365-0 Fax +49 2351 9365-19	www.ipf-electronic.com info@ipf-electronic.com	Subject to alteration! Version: February 2012



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

notes

export division

Kalver Straße 25 – 27 58515 Lüdenscheid Germany

Fon +49 2351 98597-0 Fax +49 2351 98597-29





