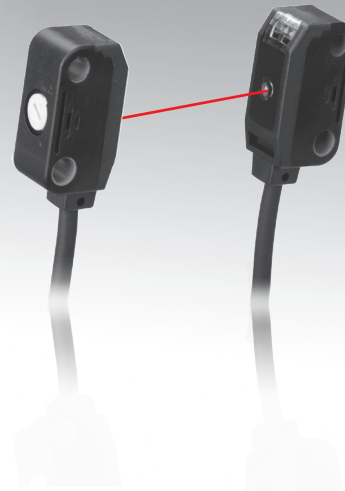


dimensions	<b>8.2 x 19 x 10.5mm</b>		
	<b>8.2 x 22 x 12.3mm</b>		
<b>through-beam sensors</b>	operating distance	<b>2m</b>	
<b>retro-reflective sensors</b>	operating distance	<b>30mm up to 200mm</b>	
<b>diffuse reflection sensors</b>	sensing range	<b>5mm up to 160mm</b>	

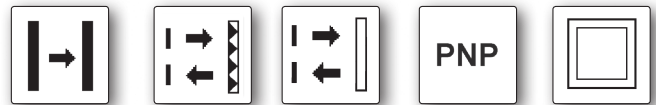


without dangerous failure

- ✓ short response time thanks to high sampling frequency
- ✓ adjustable sensitivity via potentiometer directly at the sensor
- ✓ status display by LED (orange) and stand-by function by dual-LED (green)
- ✓ high system of protection thanks to connection with compound-filled cables
- ✓ easy alignment with visible red light
- ✓ industry-suited and easy to install
- ✓ robust plastic housing with metal ring sockets for M3-mounting



**miniature design with integrated amplifier**



**description**

The devices of the design **Q8** are counted among the smallest optical sensors worldwide. Their extremely compact dimensions make them suitable for applications, which in the past had been reserved for fiber optics. The sensors have such a high repeat accuracy that they may be compared to laser sensors. The devices operate with a visible red light, which simplifies the setting and adjustment. The Q8 design offers two so-called fix focus light sensors.

Their light beam is characterized by very low diffusion, so that very small, even transparent objects may be detected. The smallest light spot diameter is found exactly in the centre of the nominal sensing range.

All these devices are adjustable in their light sensitivity.

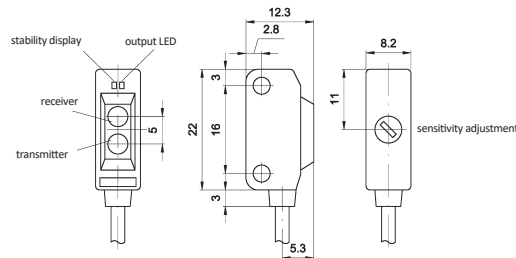
A specialty is the through-beam sensor with adjustable transmitting power. A selection can be made at the receiver between the light-on or dark-on mode.

**application examples**

- ▶ detection and positioning tasks in manifold fields of application
- ▶ presence check of several and smallest objects
- ▶ monitoring and angle detection of objects and stacking heights
- ▶ contactless position recognition of small and large objects
- ▶ color independent detection

article-no.	OYQ80300	OYQ80300
version	retro-reflective sensor / transmitter	through-beam sensor / receiver
operating distance	0 ... 2000mm	0 ... 2000mm
output signal	-	pnp, light-on/dark-on mode
<b>TECHNICAL DATA</b>		
operating distance	0 ... 2000mm	0 ... 2000mm
minimum object size	∅ 3mm	∅ 3mm
output signal	-	pnp, light-on/dark-on mode
operating voltage	12 ... 24V DC ±10%	12 ... 24V DC ±10%
current consumption (w/o load)	≤ 10mA	≤ 15mA
output current (max. load)	-	50mA
voltage drop (max. load)	-	1V DC
transmitting element (pulsed)	red light LED, pulsed	-
wave length	680nm	-
hysteresis	-	-
repeat accuracy	-	< 0.05mm
response time	-	< 0.5msec
display (signal)	-	orange LED
display (stable operation)	-	green LED
setting	potentiometer: transmitting power	-
short-circuit protection	-	+
reverse polarity protection	+	+
dimensions	8.2x19x10.5mm	8.2x19x10.5mm
housing material	PET	PET
lens material	plastic	plastic
operating temperature	-25 ... +55°C	-25 ... +55°C
storage temperature	-30 ... +70°C	-30 ... +70°C
system of protection (EN 60529)	IP67	IP67
connection	2m cable, PUR, 2-wire	2m cable, PUR, 3-wire
mounting accessories	e.g. mounting bracket <b>AO000075</b>	e.g. mounting bracket <b>AO000075</b>
* The <b>OY ...</b> article-no. include a transmitter and receiver.		

article-no.	<b>ORQ80100</b>	<b>ORQ81100</b>
version	retro-reflective sensor	retro-reflective sensor
operating distance	<b>30 ... 200mm</b>	<b>30 ... 200mm</b>
output signal	<b>pnp, dark-on mode</b>	<b>npn, dark-on mode</b>

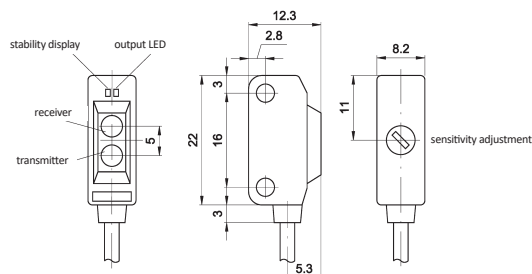


**TECHNICAL DATA**

operating distance	30 ... 200mm	30 ... 200mm
minimum object size	Ø 15mm	Ø 15mm
output signal	npn, dark-on mode	npn, dark-on mode
operating voltage	12 ... 24V DC ±10%	12 ... 24V DC ±10%
current consumption (w/o load)	≤ 20mA	≤ 20mA
output current (max. load)	50mA	50mA
voltage drop (max. load)	1V DC	1V DC
transmitting element (pulsed)	red light LED	red light LED
wave length	680nm	680nm
hysteresis	-	-
repeat accuracy	≤ 0.5mm	≤ 0.5mm
response time	≤ 0.5msec	≤ 0.5msec
display (signal)	orange LED	orange LED
display (stable operation)	green LED	green LED
setting	potentiometer	potentiometer
short-circuit protection	+	+
reverse polarity protection	+	+
dimensions	8.2x22x12.3mm	8.2x22x12.3mm
housing material	PET	PET
lens material	plastic	plastic
operating temperature	-25 ... +55°C	-25 ... +55°C
storage temperature	-30 ... +70°C	-30 ... +70°C
system of protection (EN 60529)	IP67	IP67
connection	2m cable, PUR, 3-wire	2m cable, PUR, 3-wire
mounting accessories	e.g. mounting bracket <b>AO000075</b>	e.g. mounting bracket <b>AO000075</b>
accessories	e.g. reflector <b>AO000088</b>	e.g. reflector <b>AO000088</b>

The reflector **AO000088** is included in the scope of delivery

article-no.	OTQ80100	OTQ80103	OTQ80106
version	dif. reflection sensor, focused	dif. reflection sensor, convergent	dif. reflection sensor, energetic
sensing range	6 ... 14mm	45 ... 115mm	5 ... 160mm

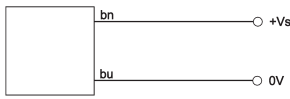


### TECHNICAL DATA

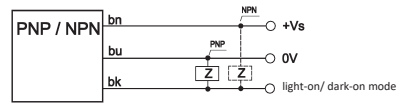
sensing range	6 ... 14mm	45 ... 115mm	5 ... 160mm
minimum object size	∅ 0.1mm	∅ 1mm	stationery, white, 50x50mm
output signal	pnnp, light-on mode	pnnp, light-on mode	pnnp, light-on mode
operating voltage	12 ... 24V DC ±10%	12 ... 24V DC ±10%	12 ... 24V DC ±10%
current consumption (w/o load)	≤ 20mA	≤ 20mA	≤ 20mA
output current (max. load)	50mA	50mA	50mA
voltage drop (max. load)	1V DC	1V DC	1V DC
transmitting element (pulsed)	red light LED	red light LED	red light LED
wave length	680nm	680nm	680nm
hysteresis	≤ 15% Sn	≤ 15% Sn	≤ 15% Sn
repeat accuracy	≤ 0.05mm	≤ 0.3mm	≤ 0.3mm
response time	≤ 0.5msec	≤ 0.5msec	≤ 0.5msec
display (signal)	orange LED	orange LED	orange LED
display (stable operation)	green LED	green LED	green LED
setting	potentiometer	potentiometer	potentiometer
short-circuit protection	+	+	+
reverse polarity protection	+	+	+
dimensions	8.2x22x12.3mm	8.2x22x12.3mm	8.2x22x12.3mm
housing material	PET	PET	PET
lens material	plastic	plastic	plastic
operating temperature	-25 ... +55°C	-25 ... +55°C	-25 ... +55°C
storage temperature	-30 ... +70°C	-30 ... +70°C	-30 ... +70°C
system of protection (EN 60529)	IP67	IP67	IP67
connection	2m cable, PUR, 3-wire	2m cable, PUR, 3-wire	2m cable, PUR, 3-wire
mounting accessories	e.g. mounting bracket <b>AO000075</b>	e.g. mounting bracket <b>AO000075</b>	e.g. mounting bracket <b>AO000075</b>

**connection**

**transmitter**

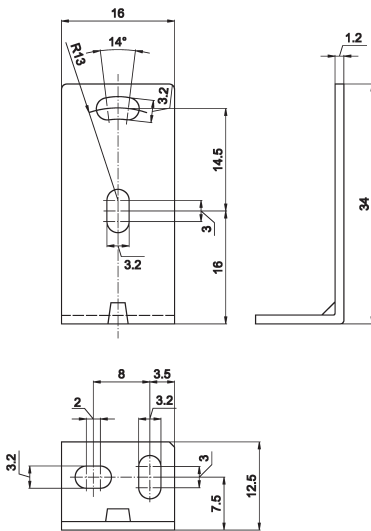


**receiver, retro-reflective sensor and dif. reflection sensor**

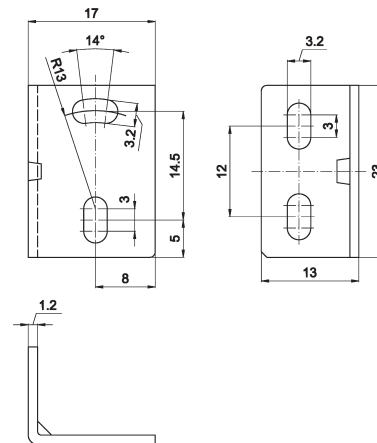


**wire colors:** bn = brown, bu = blue, bk = black

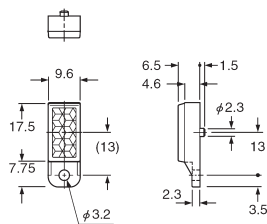
**AO000075 mounting bracket, lengthwise mounting**



**AO000076 mounting bracket, crosswise mounting**



**AO000088 reflector**



**ACCESSORIES**

article-no.	description	material
AO000075	mounting bracket, lengthwise mounting	zincd steel plate
AO000076	mounting bracket, lengthwise mounting	zincd steel plate
AO000088	reflector	plastic

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

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

You also find this data sheet, as well as contact details under [www.ipf-electronic.com](http://www.ipf-electronic.com)

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**NOTES**

A large grid area for taking notes, consisting of a 30x30 grid of small squares. The grid is empty and occupies the majority of the page below the 'NOTES' header.