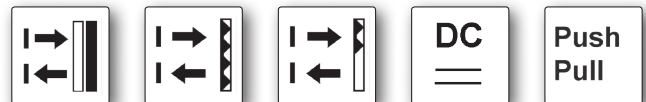


| | | |
|-------------------------|---------------------------|--------------------|
| dimensions | 12.9 x 32.3 x 23mm | |
| dif. reflection sensor | sensing range | up to 300mm |
| retro-reflective sensor | operating range | up to 5m |
| auto-reflective sensor | operating range | up to 300mm |

- ✓ plastic housing, compact design
- ✓ setting via teach-in
- ✓ LED-display with setting control
- ✓ retro-reflective sensor with polarizing filter
- ✓ auto-reflective sensor operates without retro-reflector
- ✓ suppression of mutual interference
- ✓ M8-connector, 4-pin



wear-free teach-in function
1 housing: 3 sensor principles



description

The sensors of the **33** series are characterized by a convenient and reliable teach process and simple operation.

One housing shape with three different sensor principles.

1. Diffuse reflection sensor with background suppression for precise and color-independent detection.
2. Retro-reflective sensor with large operating range, also for the recognition of objects with reflective surfaces.
3. Auto-reflective sensor without reflector. The operating principle of these devices is similar to that of a retro-reflective sensor, except that instead of a reflector that is sensitive to soiling, an arbitrary, diffuse-reflecting object is used as reference surface. A metal part is best suited for this.

With these sensors, a new, convenient and wear-free teach process is presented.

To teach the sensors, it suffices to touch with any ferromagnetic tool.

A blue LED light provides clear optical feedback. To prevent tampering, the function locks automatically after 5 minutes.

Expanded performance reserves for reliable operation under

demanding conditions ensure reliable start up.

A pin-point-LED (point-shaped) is used as transmitting element on some devices. This makes the sensors suitable for the precise positioning and detection of small parts.

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.

To avoid mutual optical interference, the devices feature interference suppression. As a result, it is possible to mount sensor upon sensor without causing erroneous operations.

application examples

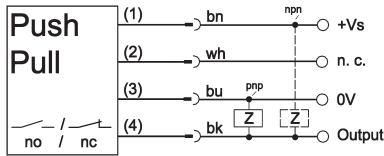
- ▶ distance control
- ▶ position recognition
- ▶ color-independent object recognition
- ▶ recognition of transparent objects

| article-no. | OT330570 | OT330571 |
|---------------------------------|---|---|
| version | diffuse reflection sensor background suppression | diffuse reflection sensor background suppression, point-shaped |
| sensing range | 30 ... 300mm | 30 ... 200mm |
| | | |
| TECHNICAL DATA | | |
| sensing range | 30 ... 300mm | 30 ... 200mm |
| output signal | push-pull, light-on/dark-on mode | push-pull, light-on/dark-on mode |
| operating voltage | 10 ... 30V DC | 10 ... 30V DC |
| current consumption (w/o load) | ≤ 30mA | ≤ 30mA |
| output current (max. load) | 100mA | 100mA |
| voltage drop (max. load) | 3.0V DC | 3.0V DC |
| transmitting element (pulsed) | LED, red light | LED, red light, point-shaped |
| wavelength | 630nm | 630nm |
| response/decay time | 1.0ms | 0.5ms |
| sampling frequency | 500Hz | 1kHz |
| display (operation) | green LED | green LED |
| display (signal) | yellow LED | yellow LED |
| display (alignment mark) | yellow LED, flashing | yellow LED, flashing |
| display (teach) | blue LED | blue LED |
| switch-point setting | with the help of a ferromagnetic tool | with the help of a ferromagnetic tool external |
| short-circuit protection | + | + |
| reverse polarity protection | + | + |
| interference suppression | + | + |
| dimensions | 12.9x32.3x23mm | 12.9x32.3x23mm |
| housing material | plastic (ASA, MABS) | plastic (ASA, MABS) |
| front screen material | PMMA | PMMA |
| operating temperature | -25 ... +60°C | -25 ... +60°C |
| degree of protection (EN 60529) | IP67 | IP67 |
| connection | M8-connector, 4-pin | M8-connector, 4-pin |
| connection accessories | e.g. VK200375 | e.g. VK200375 |
| accessories (universal holder) | AY000118 | AY000118 |

| article-no. | OR330571 | ON330571 |
|---------------------------------|--|--|
| version | retro-reflective sensor polarizing filter, point-shaped | auto-reflective sensor no reflector, point-shaped |
| sensing range | 5m | 30 ... 300mm |
| | | |
| TECHNICAL DATA | | |
| sensing range | 5m | 30 ... 300mm |
| output signal | push-pull, light-on/dark-on mode | push-pull, light-on/dark-on mode |
| operating voltage | 10 ... 30V DC | 10 ... 30V DC |
| current consumption (w/o load) | ≤ 25mA | ≤ 30mA |
| output current (max. load) | 100mA | 100mA |
| voltage drop (max. load) | 3.0V DC | 3.0V DC |
| transmitting element (pulsed) | LED, red light, point-shaped | LED, red light, point-shaped |
| wavelength | 630nm | 630nm |
| response/decay time | 0.5ms | 0.5ms |
| sampling frequency | 1kHz | 1kHz |
| display (operation) | green LED | green LED |
| display (signal) | yellow LED | yellow LED |
| display (alignment mark) | yellow LED, flashing | yellow LED, flashing |
| display (teach) | blue LED | blue LED |
| switch-point setting | with the help of a ferromagnetic tool external | with the help of a ferromagnetic tool external |
| short-circuit protection | + | + |
| reverse polarity protection | + | + |
| interference suppression | + | + |
| dimensions | 12.9x32.3x23mm | 12.9x32.3x23mm |
| housing material | plastic (ASA, MABS) | plastic (ASA, MABS) |
| front screen material | PMMA | PMMA |
| operating temperature | -25 ... +60°C | -25 ... +60°C |
| degree of protection (EN 60529) | IP67 | IP67 |
| connection | M8-connector, 4-pin | M8-connector, 4-pin |
| connection accessories | e.g. VK200375 | e.g. VK200375 |
| accessories (universal holder) | AY000118 | AY000118 |

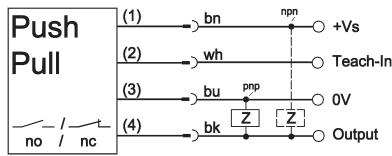
connection

standard version



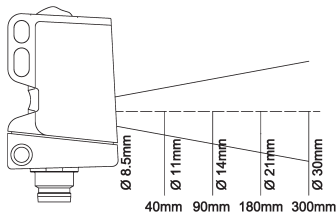
wire colors: bn = brown (1), wh = white (2), bu = blue (3), bk = black (4)
do not connect pnp / npn simultaneously!

version with teach-in by wire

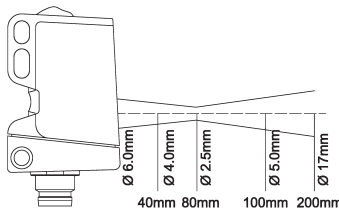


beam path

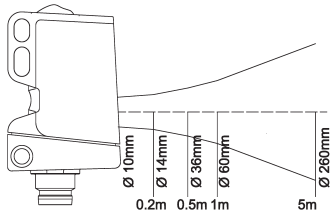
OT330570



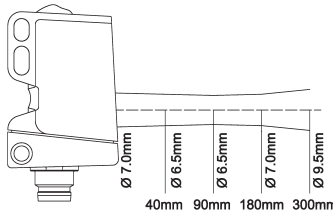
OT330571



OR330571

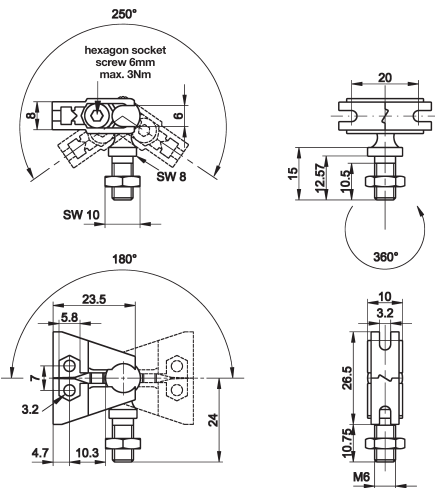


ON330571

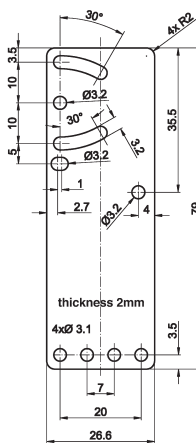


universal holder AY000118

consisting of base module ...



... and fitting panel



ACCESSORIES

| article-no. | description | note |
|-------------|---------------------------------------|--|
| AY000088 | base module * | jaw: stainless steel, ball pin: galvanized steel |
| AY000118 | mounting kit for sensors in design 33 | 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