



W4F

The high-flyers in intelligent automation

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Advantages



Reliable alignment in seconds with BluePilot

With the intuitive "BluePilot" operating concept, sensors of the W4F product family can be aligned particularly conveniently and precisely. The blue LED display gives the user direct feedback for optimal alignment. The photoelectric sensors can be precisely adjusted in a very short time via a push-turn mechanism. In addition, BluePilot provides a visual indication if the detection quality should drop due to contamination or vibration, allowing faults to be corrected early on and preventing unplanned system downtime.



With a combination of teach pushbutton and potentiometer, correct adjustment is easier than ever before.



The blue LED alignment aid accelerates optimal alignment of the sensor, and changes in operational safety are visible at a glance with BluePilot.



The mode setting can easily be read directly off the device via BluePilot.



The "BluePilot" operating concept significantly speeds up calibration of the W4F while minimizing the risk of faults and failures during operation.

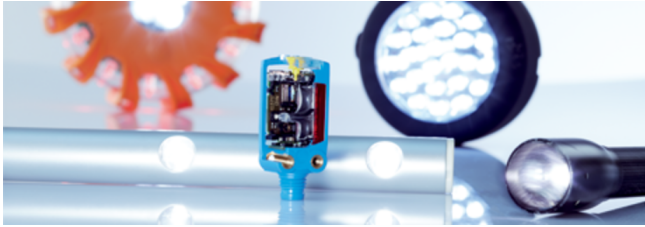


Outstanding detection results in almost any application

Whether with particularly flat, highly reflective, perforated or transparent objects: The W4F offers a wide range of technologies to ensure reliable detection results in the most diverse applications. For example, with the coordinated optical concept of the V-optics, which reliably detects transparent objects such as glass panes or highly reflective objects such as displays. With highly reflective and at the same time very flat objects such as chocolate bars, cookies or assemblies, the photoelectric proximity sensor with ForegroundSuppression can really show off its capabilities. And last but not least, the DoubleLine technology can also reliably detect objects with uneven surfaces and recesses such as printed circuit boards. In addition, the new MultiSwitch photoelectric proximity sensor extends the range of possible applications. For example, the two switching points can be used to monitor assembly processes or to check levels and roll diameters using distance value output via IO-Link.



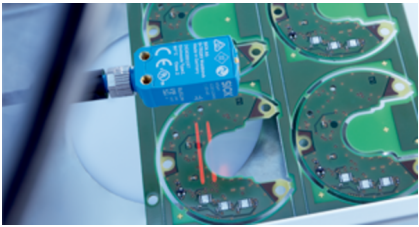
In applications where reflectors used to be necessary, the W4F manages on its own thanks to the use of surface reflections from objects, thus taking up significantly less installation space.



The W4F always delivers precise detection results, even with various optical disturbances such as LED lamps and reflections from metal struts in the background.



Thanks to the two different switching points, the WTB4F MultiSwitch can distinguish between standing and lying objects.



The WTB4B photoelectric proximity sensor with DoubleLine technology can easily detect printed circuit boards with cut-outs without gaps.



Thanks to two LEDs and powerful foreground suppression, the WTV4F, like V-optics, is able to reliably detect very flat objects.



With its Optical Experts, the W4F covers a wide range of challenging applications and, thanks to its compact design, it fits easily into most installation situations.



Rugged design for demanding ambient conditions

Sturdy as steel, light as plastic: The smart interior of the W4F photoelectric sensors is protected by an ultra-rugged housing made of VISTAL®. This is made of fiberglass-reinforced plastic and thus easily withstands extreme thermal, chemical or mechanical loads. In combination with its small dimensions, the sensor is optimally suited for use in automation applications of all kinds.



Thanks to the ultra-rugged VISTAL® housing, the sensor operates safely and reliably even under harsh ambient conditions.



Whether dirt, heat or vibrations: The W4F is designed to deliver precise results even under tough conditions thanks to VISTAL® and rugged sensor technology.



Keeping full control

Thanks to extensive diagnostic functions, the system knows at all times what state the W4F is in and can thus detect a critical drop in performance in advance. In addition, the sensor family features automatic self-monitoring and reports indepen-



Technical data overview

Dimensions (W x H x D)	16 mm x 40.1 mm x 12.1 mm
Light source	PinPoint LED
Type of light	Visible red light
Enclosure rating	IP66, IP67
Housing material	Plastic
Adjustment	Teach-in button / Potentiometer / cable / Teach-Turn adjustment / Teach-in button / Potentiometer / Teach-Turn adjustment (depending on type)



Product description

With the W4F, high performance and smart automation are now also available in a miniature size. The miniature sensor is the perfect complement to the product range of a new generation of opto-electronic sensors such as the W16 and W26 and, thanks to the new ASIC technology from SICK, consistently delivers extremely reliable detection results. This allows for versatile use in a wide range of challenging installation situations. Thanks to ForegroundSuppression, DoubleLine, V-optics and MultiSwitch, the W4F is a high-performance application specialist: Background suppression is improved, and flat, highly-reflective and transparent objects are detected even more precisely. In addition, the W4F as Smart Sensors make monitoring and diagnostics easier than ever before and enable future-proof use in I4.0 plants.

At a glance

- Technologies: ForegroundSuppression, DoubleLine, V-optics and MultiSwitch
- Two switching points and distance value output in one device
- Diffuse sender LED for ambient light suppression
- BluePilot: Teach-Turn adjustment with optical sensing range and alignment aid
- Smart Sensor: Latest diagnostics and monitoring functions
- VISTAL® housing

Your benefits

- Solution for particularly challenging detection tasks in tight installation spaces
- Very high reliability through powerful background suppression and excellent detection of flat, highly-reflective and transparent objects
- Two switching points as well as the output of distance values expand the application possibilities
- Flexible use thanks to high optical reliability
- The highly-visible light spot combined with the intuitive BluePilot operating interface enables set-up in mere seconds
- Maximum monitoring and process reliability thanks to intelligent monitoring and predictive maintenance
- As Smart Sensors, fit for Industry 4.0

Ordering information

Other models and accessories → www.sick.com/W4F

- **Sensing range min. / max.:** 0 mm / 100 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Foreground suppression
- **Switching output:** push-pull: PNP/NPN
- **Light source:** PinPoint LED
- **Type of light:** visible red light

Connection type	Setting Method	Type	Part no.
Cable with M8 male connector, 4-pin, 110 mm	For setting the sensing range, for configuring the sensor parameters and Smart Task functions	WTF4FD-32161220A00	1118831
		WTF4FD-32162220A00	1113184
Cable with connector M8, 3-pin, 110 mm	For setting the sensing range	WTF4FD-31312220ZZZ	1113185
Cable, 3-wire, 2 m	For setting the sensing range	WTF4FD-1G312220ZZZ	1113183
Cable, 4-wire, 2 m	For setting the sensing range, for configuring the sensor parameters and Smart Task functions	WTF4FD-1H161220A00	1118830
		WTF4FD-1H162220A00	1113182
Connector M8, 3-pin	For setting the sensing range	WTF4FD-21311220ZZZ	1119973
Male connector M8, 4-pin	For setting the sensing range, for configuring the sensor parameters and Smart Task functions	WTF4FD-22161220A00	1105423
		WTF4FD-22162220A00	1109266

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com