Intelligence in 1K Format

PNG//smart Sensors in Miniature Design

PNG//smart by wenglor

Technology for Smart Industry

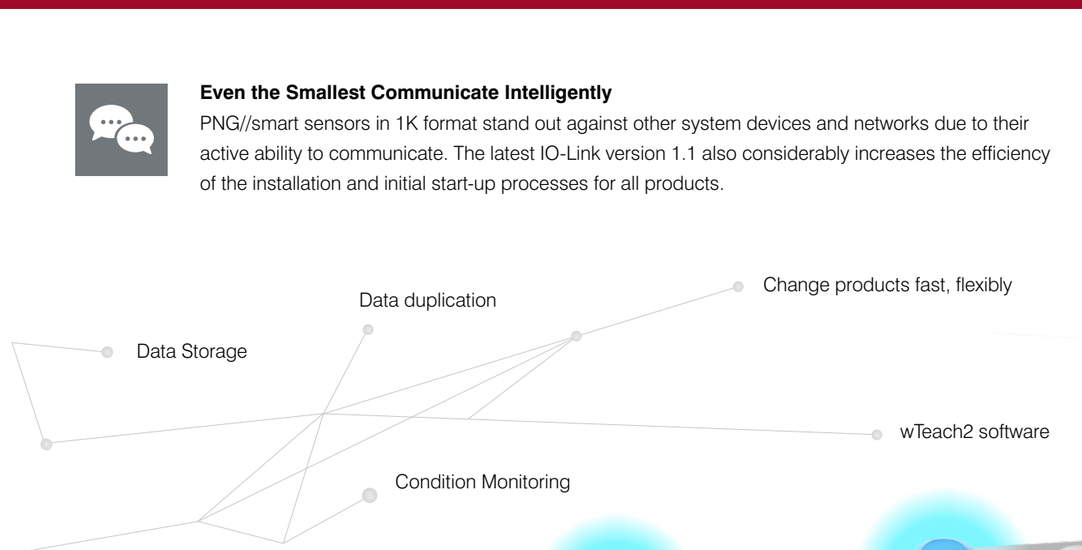
Sensors are the most important components of smart machines. In that sense, **P**hotoelectronic **N**ext **G**eneration in 1K format represents a new age of smart photoelectronic sensors in miniature design. Because of their compact size and adaptive thinking they are opening new opportunities in industrial automation.

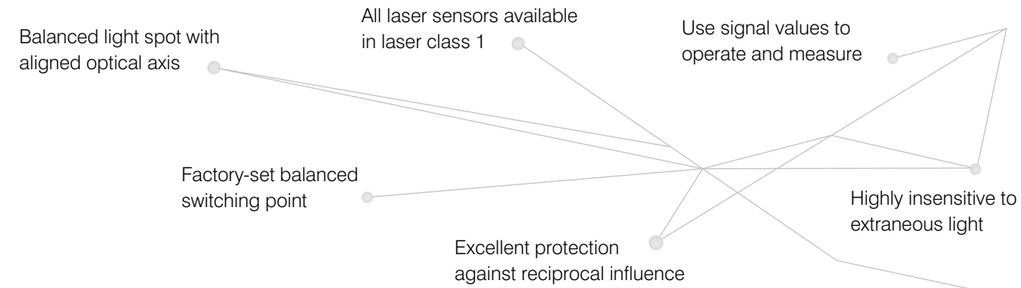
Even the Smallest Communicate Intelligently

PNG//smart sensors in 1K format stand out against other system devices and networks due to their active ability to communicate. The latest IO-Link version 1.1 also considerably increases the efficiency of the installation and initial start-up processes for all products.

More Performance for Less Space

High-quality components and parts guarantee precision and reliability in each individual sensor. From hardware to software, the PNG//smart design in 1K format stands for the highest performance in the smallest sensor designs.





The Smallest Standard for Simplest Integration

With its PNG//smart sensors, wenglor offers various functional principles in one standardized miniature design – a turning point in simple system integration for sensors. In addition to spatial flexibility, the robust housing provides excellent stability.

Expanded temperature range
of –40 °C to +60 °C

+60°C

–40°C

IP67/68

Durable plastic housing with IP67/IP68

Completely visible
LED display

Miniature design in
32 x 16 x 12 mm format

Efficient power consumption
to save resources

weGreen

4g

Innovative light design for
use on robot arms

Various connection options

Cable tail: M12 x 1

Cable: 2 m

Connector: M8 x 1

Light and its Manifold Functionality

Sensors of the PNG//smart series in 1K format are available according to a total of five optical functional principles and in various lighting types. In this way, they are able to solve a wide range of applications, regardless of the shape, color or surface structure of the objects. This versatility makes them relevant in all industrial sectors.

Beverage Industry
The especially rugged plastic housing complies with IP67/IP68 and the sensors can thus be used in the beverage industry, e.g. for the detection of transparent bottles.

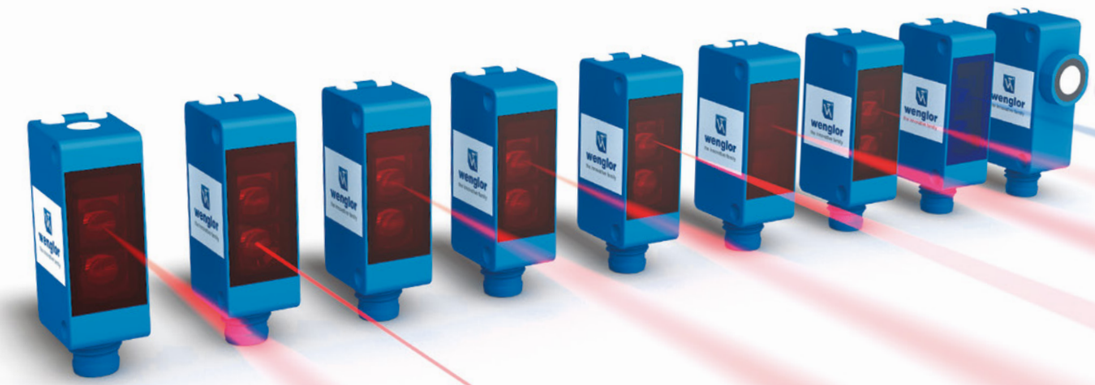
Packaging Industry
Predefined parameters can be sent to the sensors with the press of a button in order to automatically configure packaging systems for a new product and to reduce setup times to a minimum.

Woodworking Industry
This robust sensor housing masters the demanding environmental conditions of the woodworking industry. Due to the increased light intensity, it provides operational reliability and long ranges in dusty environments.

Automotive Industry
Doing away with full encapsulation makes the sensors truly light. Thus, they are especially well suited for applications and robot arms within the automotive industry.

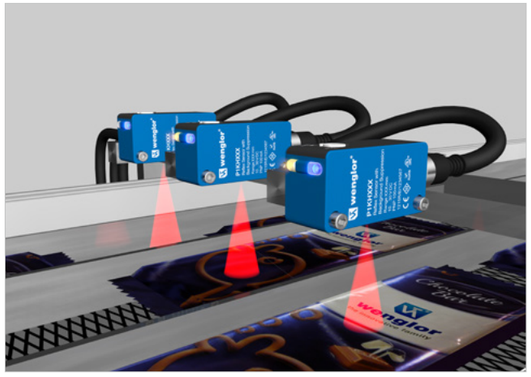
Special Machinery Manufacturing
One design, multiple functional principles: The PNG//smart design provides simple and flexible system integration to solve a multitude of applications within special machinery manufacturing.

Logistics
The sensors monitor the high-speed flow of material in logistics with great precision. At the same time, lower power consumption conserves resources.



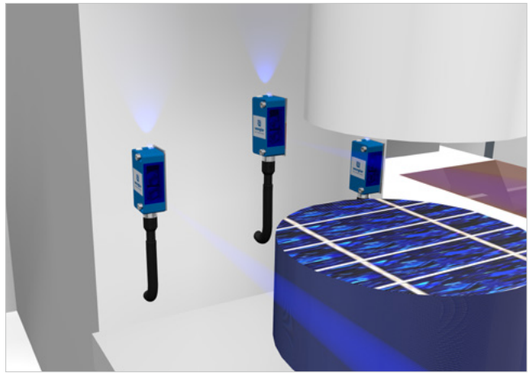
Reflex Sensors with Background Suppression

Reflex sensors with background suppression detect objects against any background. They are used, for example, in position and presence checks or when monitoring stack heights and fill levels. The various lighting types allow them to detect objects regardless of color, shape and surface structure.



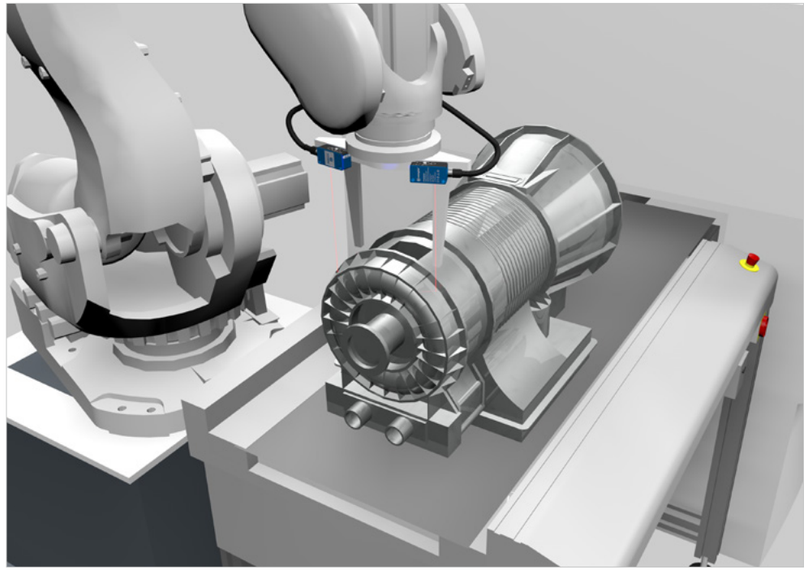
Red Light

Reflex sensors with background suppression and red light detect dark objects such as packages in front of any background over large detection ranges of up to 300 mm, and with high switching frequencies of up to 1 kHz. Some variants also have data storage, teach-in, expanded configuration and diagnostic options as well as two independent switching outputs to request minimum and maximum values.



Blue Light

Reflex sensors with background suppression and blue light are especially well suited to detecting dark and glossy objects, for instance when manufacturing solar wafers.

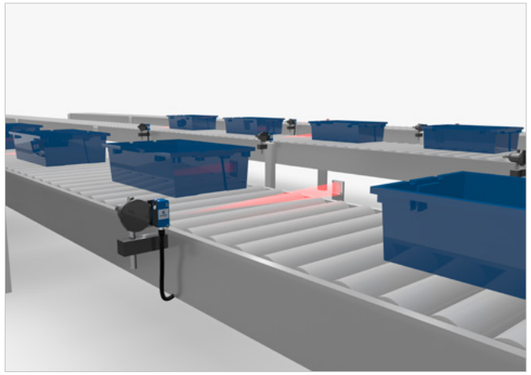


Laser (Red)

Reflex sensors with background suppression and laser light provide highly precise position monitoring for small objects, for instance when installing drive components. They are available in laser classes 1 or 2. Some variants also have data storage, teach-in, expanded configuration and diagnostic options as well as two independent switching outputs to request minimum and maximum values.

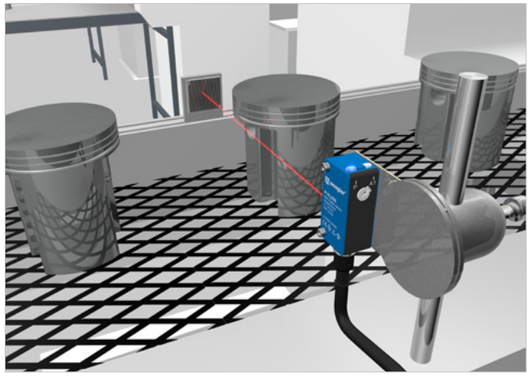
Retro-Reflex Sensors

Retro-reflex sensors work reliably at high switch frequencies and at great distances. This makes them the perfect solution for feed and presence checks on wide feed belts. Objects with reflective or glossy surfaces can be reliably detected.



Red Light

With their large range and high switch frequency, retro-reflective light sensors with red light monitor the feed of material on wide feed belts in logistics centers.

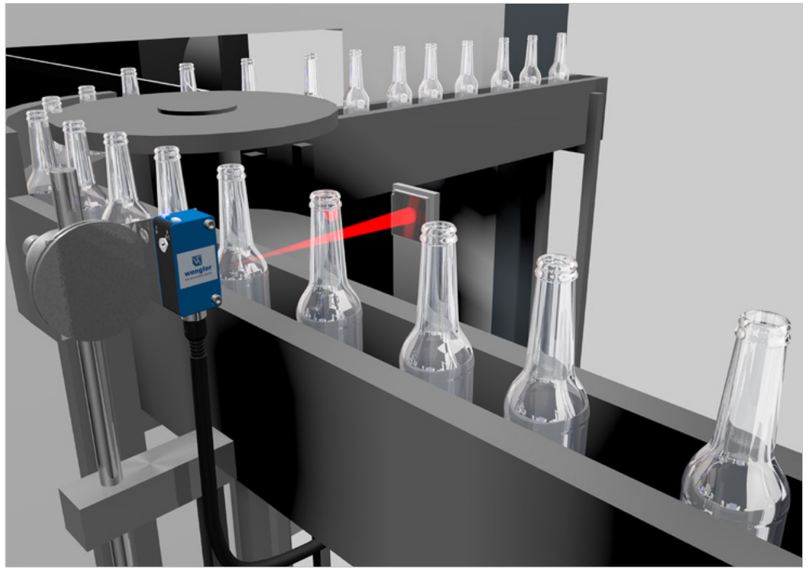


Laser (Red)

Retro-reflex sensors with collimated light are also able to reliably detect glossy and reflective objects. They are therefore excellent for detecting metallic and small components, for example.

Retro-Reflex Sensors for Clear Glass Recognition

Where conventional retro-reflex sensors reach their limits, the retro-reflex sensors for clear glass detection ensure that extremely shiny objects like glass, PET bottles, trays or film can be detected. By use of single-lens optics without a blind range, retro-reflex sensors can detect objects through small openings like holes or gaps.

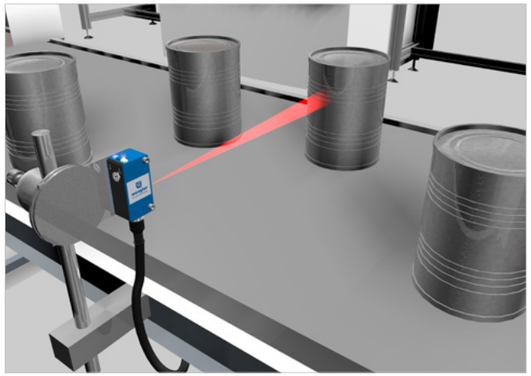


Red Light

The high-quality single-lens optics in retro-reflex sensors for clear glass detection ensure that transparent objects such as glass or PET bottles will be detected without any trouble. Some variants also have data storage, expanded configuration and diagnostic options, teach-in as well as dynamic readjustment of the switching threshold.

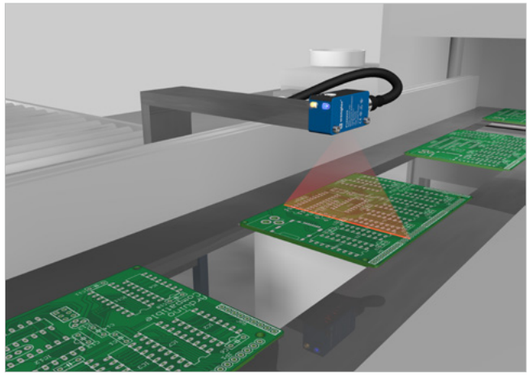
Reflex Sensors

Reflex sensors are well suited for applications in which objects must be detected without a background. Note that: Bright objects reflect more light than dark objects, and can thus be recognized from greater distances. This means that presence or stack height checks can be conducted or quantities detected.



Red Light

Reflex sensors monitor the presence of packaging materials such as cans or cardboard over a detection range of 700 mm. With a switch frequency of up to 1 kHz, they can also be relied upon at great speeds.

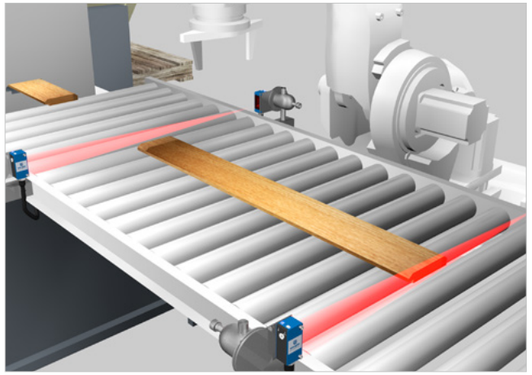


Red Light (Line)

Reflex sensors with red light line always detect objects with punched or perforated surfaces like circuit boards in the same place. In addition, objects with variable positions on the light line can be identified.

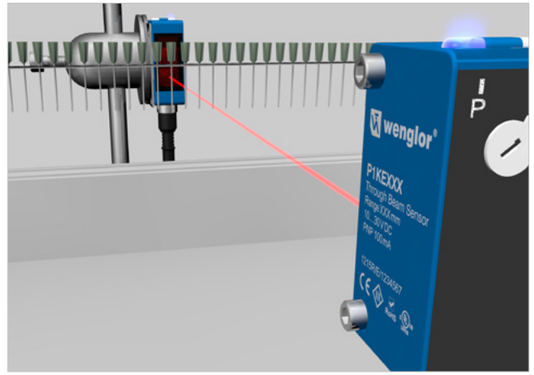
Through-Beam Sensors

Through-beam sensors also work reliably in rough environmental conditions such as steam, fog or dust thanks to the increased light intensity. The transmitter can be deactivated using a separate test input in order to test the functionality of the through-beam barrier.



Red Light

Through-beam sensors also work reliably in dusty environments. The great range provides sufficient operational reliability to, for instance, reliably detect wooden boards at great distances.



Laser (Red)

With their fine laser beam, through-beam sensors are so precise that they are even able to reliably detect super-fine objects like needles at a great distance and high speeds.

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	Reflex Sensors		Reflex Sensors with Background Suppression						Retro-Reflex Sensors		Retro-Reflex Sensors for Clear Glass Recognition		Through-Beam Sensors	
														
Lighting Type	LED (red)	LED (red)	LED (red)	LED (red)	LED (red)	Laser (red) Class 1 Laser (red) Class 2	Laser (red) Class 1	LED (blue)	LED (red)	Laser (red) Class 1	LED (red)	LED (red)	LED (red)	Laser (red) Class 1
Light Spot	Point	Line	Point	Point	Point	Point	Point	Point	Point	Point	Point	Point	Point	Point
Working Range	700 mm	100 mm	150 mm	300 mm	200 mm	120 mm	120 mm	150 mm	5 m	12 m	1,5 m	2 m	6 m	10 m
Switching Frequency	1 Hz	750 Hz	1 kHz	1 kHz	1 kHz	1 kHz/2 kHz	1 kHz	1 kHz	3,5 kHz	4 kHz	3,5 kHz	2 kHz	1 kHz	4,5 kHz
Connection Type	Connector M8 x 1	Connector M8 x 1	Connector M8 x 1 Cable tail M12 x 1 Cable 2 m	Connector M8 x 1 Cable tail M12 x 1	Connector M8 x 1	Connector M8 x 1 Cable tail M12 x 1	Connector M8 x 1	Connector M8 x 1	Connector M8 x 1 Cable tail M12 x 1 Cable 2 m	Connector M8 x 1	Connector M8 x 1	Connector M8 x 1	Connector M8 x 1 Cable 2 m	Connector M8 x 1
Setting Method	Potentiometer	Potentiometer	Potentiometer	Potentiometer (multi-touch)	Teach-in	Potentiometer	Teach-in	Potentiometer	Potentiometer	Potentiometer	Potentiometer	Teach-in	Potentiometer	Potentiometer
Power Consumption	< 20 mA	< 20 mA	< 20 mA	< 20 mA	< 20 mA	< 15 mA	< 15 mA	< 20 mA	< 20 mA	< 15 mA	< 20 mA	< 20 mA	< 20 mA	< 15 mA

The wenglor world of products has even more highlights in the 1K design: transit time sensors, inductive sensors, ultrasonic sensors, and much more.
Learn more now at **www.wenglor.com** .

www.wenglor.com/PNGsmart

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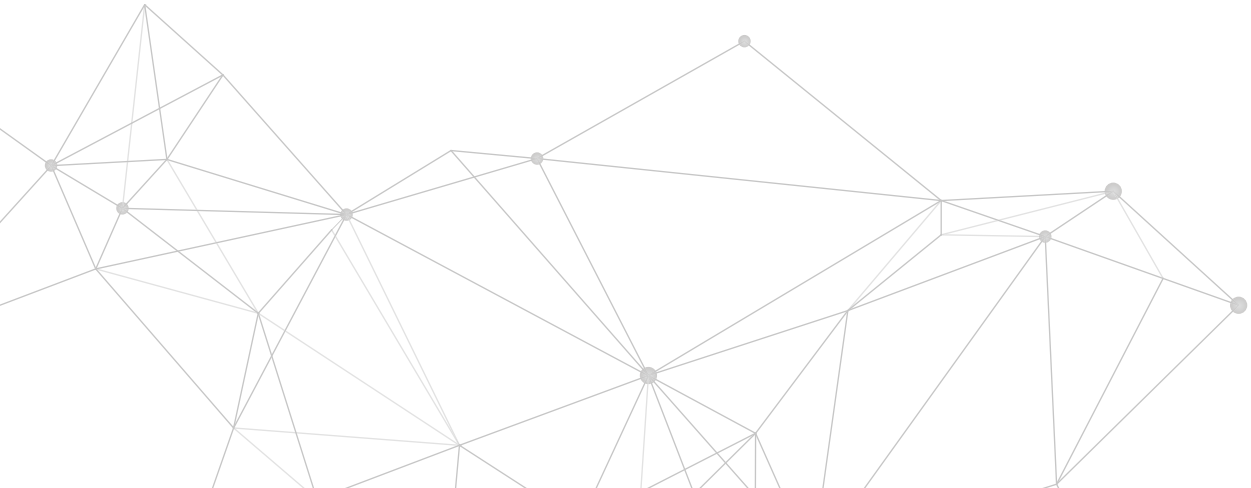
the innovative family



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