

## **Pulse Generator for the Industry**

Transit Time Sensors from wenglor

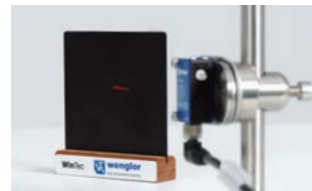
# Pioneering

in the Field of Optical Sensor Technology

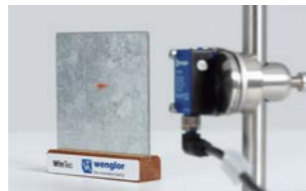


As an internationally established technology leader for individual sensor concepts and series applications, wenglor's products are unparalleled with regard to **quality, precision and performance**. Amongst others, these include High-Performance Distance Sensors which function in accordance with the transit time measurement principle and make use of trailblazing technological solutions that detect objects regardless of color, degree of gloss, surface characteristics and inclination angle.

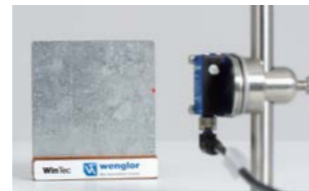
## WinTec: wenglor Innovation



**Reliable detection of all objects**  
WinTec also detects objects with black surfaces, even in extremely inclined positions.



**Reliable for glossy surfaces**  
WinTec is insensitive to gloss in the background and assures reliable switching performance for reflective surfaces and reflectors within the working range.



**Quick and accurate detection of edges**  
Edges are even accurately detected at high process speeds. This is assured by the small laser spot and the high switching frequency of up to 1000 Hz.



**Protection against reciprocal influence**  
WinTec makes it possible to install sensors directly next to each other, and even directly opposite each other, without any reciprocal influence.



**Use at extreme temperatures**  
Transit Time Sensors with WinTec are switched and perform measurement flawlessly even at extreme temperatures of down to  $-40^{\circ}\text{C}$ .



## Responding Quickly and Precisely

Even at Distances of up to 1000 mm and in Extremely Inclined Positions

Where checking for presence and position monitoring in tight spaces are concerned, **the world's smallest Transit Time Sensor**, namely the P1KY001, is distinguished by its minimal housing size and, relative to its compact format, an enormous working range of 1000 mm. The high-performance triple-dot laser even detects black and glossy objects with unsurpassed precision at a switching frequency of 1 000 Hz.

- Miniature format: 22 × 32 × 12 mm
- Working range: 0 to 1000 mm
- 2 switching outputs (antivalent)
- Switching frequency: 1 000 Hz
- Temperature range: -40 to +50° C



### Woodworking Industry

Transit Time Sensors with WinTec accurately detect the edges of wooden panels, even at high process speeds.



### Automotive Industry

At manual workstations as well as in fully automated assembly systems, Transit Time Sensors with WinTec check for the presence of objects and conduct position monitoring tasks.



### Logistics

Integrated into shuttles, the sensor with dimensions of just 22 × 32 × 12 mm detects objects regardless of color and surface characteristics, as well as degree of gloss and angle.



WinTec



### Newest laser technology: triple-dot laser

- Homogenous light spot
- Laser class 1
- Precise object detection
- Very good edge definition



### LED display

for power, switching status and error diagnostics



**270° potentiometer**  
for simple, retraceable adjustment

**Working range**  
1000 mm

More information about the product at:

[www.wenglor.com](http://www.wenglor.com)





## WinTec. The Original.

WinTec type OY2P303A0135 and OY1P303P0189 sensors are amongst the world's highest performance Transit Time Sensors. Their reliable switching and measuring performance is even assured with glossy and light-absorbing surfaces at distances of up to 3000 mm and in extremely inclined positions. These unique capabilities for the implementation of a great variety of applications make them indispensable in all types of automation.



**Plastics Industry**  
Plastic bottles in inclined positions with reflective surfaces are reliably detected and counted by WinTec Transit Time Sensors.



**Packaging Industry**  
Several Transit Time Sensors detect products before they're inserted into the packaging and further transported.

**Tyre Industry**  
Whether checking for presence or position monitoring is involved: sensors with WinTec efficiently control the production of vehicle tyres.



**Compact design**  
(50 × 50 × 20 mm)

**LED display**  
for power, switching status and contamination

**Laser class 1**  
emitted light can be switched off

**Temperature range**  
-40 to +60° C

### OY2P303A0135 for reliable switching

- Working range: 0 to 3000 mm
- 2 switching outputs (antivalent)
- Switching frequency: 1 000 Hz
- Teach-in function

### OY1P303P0189 for precision measurement

- Working range: 50 to 3050 mm
- Analog output (0 to 10 V/4 to 20 mA) and 2 independent switching outputs
- Switching frequency: 250 Hz
- RS-232 interface
- OLED display

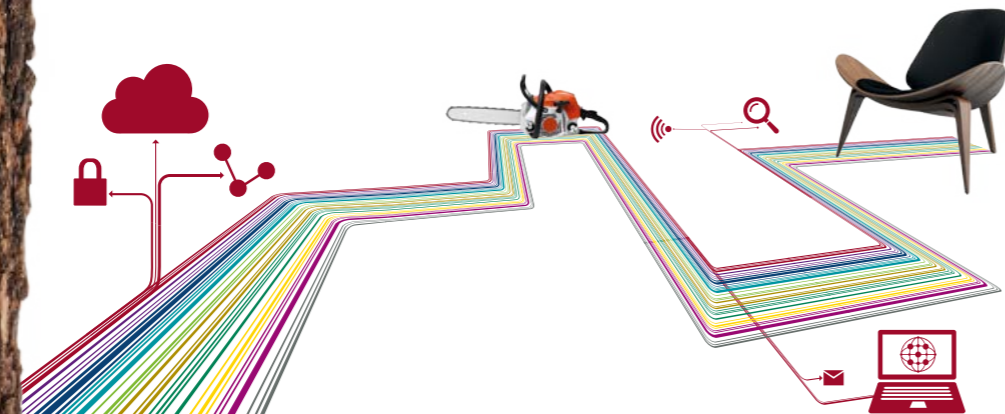
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## Shaping Industry. Witnessing the Future.

Transit Time Sensors with IO-Link or Industrial Ethernet interface make tomorrow's industry applications possible today. Intelligent sensors transmit information concerning position, presence and completeness of the respective objects to other system participants. OY2TA sensors with Power over Ethernet significantly reduce wiring effort by using just a single cable for supply power as well as for data transfer.



### OY1P303P0102

- Compact dimensions: 50 × 50 × 20 mm
- Working range: 0.05 to 3.05 m
- 2 independent switching outputs
- Analog output (0 to 10 V/4 to 20 mA)
- IO-Link interface
- Switching frequency: 250 Hz
- Temperature range: -40 to 50° C

### OY2TA104P0150x

- Compact dimensions: 55 × 81 × 30 mm
- Working range: 0.1 to 10.1 m
- Power over Ethernet
- Integrated web server
- PROFINET, EtherNet/IP™ or EtherCAT interface
- IP68 protection



### Logistics

Autonomous transport vehicles move goods reliably from A to B in the smart factory. Transit Time Sensors with WinTec assure that the vehicles approach the loading stations safely.



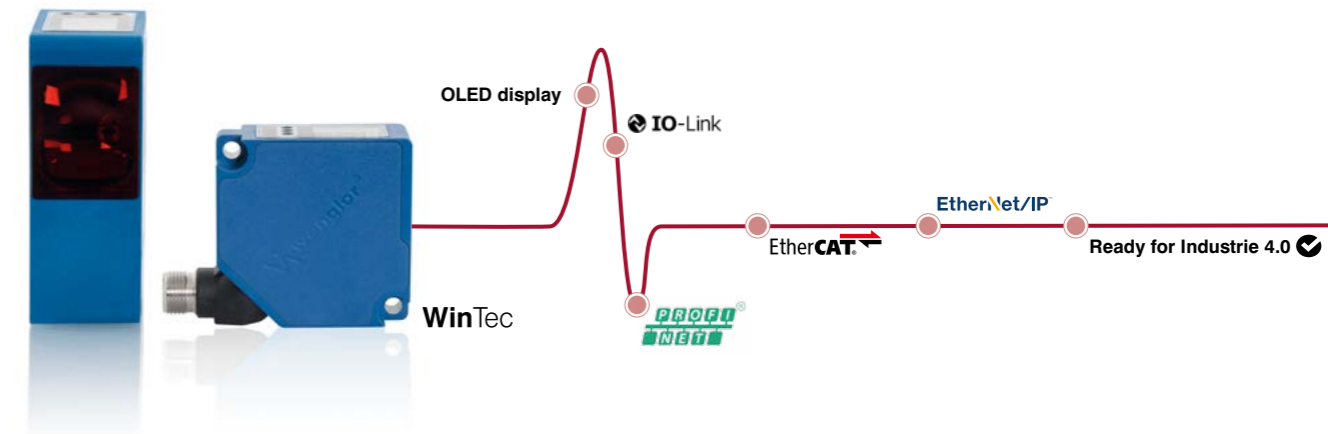
### Printing and Paper Industry

Transit Time Sensors are used in automated printing systems for web break and slack monitoring.



### Automotive Industry

Transit Time Sensors accurately measure stack height while car doors are being stacked. As soon as a certain height is reached, the sensors transmit a signal to the controller.



More information about the product at:  
[www.wenglor.com](http://www.wenglor.com)





## Precision Over Long Distances

wenglor's high-performance Transit Time Sensors are switched and conduct measurements at distances of up to 100 meters. Even at great distances, color, shape and surface characteristics of the object have no influence on measurement results. Even dark objects are reliably detected at considerable distances. Emitted light can be switched off in a targeted fashion for specific process steps in order to assure safety and error-free production. For example, this makes it possible to mount the sensors on moving parts of robots.



### OY1TA/Y1TA

- Working range: 0.1 to 10.2 m
- Laser class 1 or 2

### X1TA

- Working range from 0.1 to 100.2 m with reflector
- Laser class 1



### Metalworking Industry

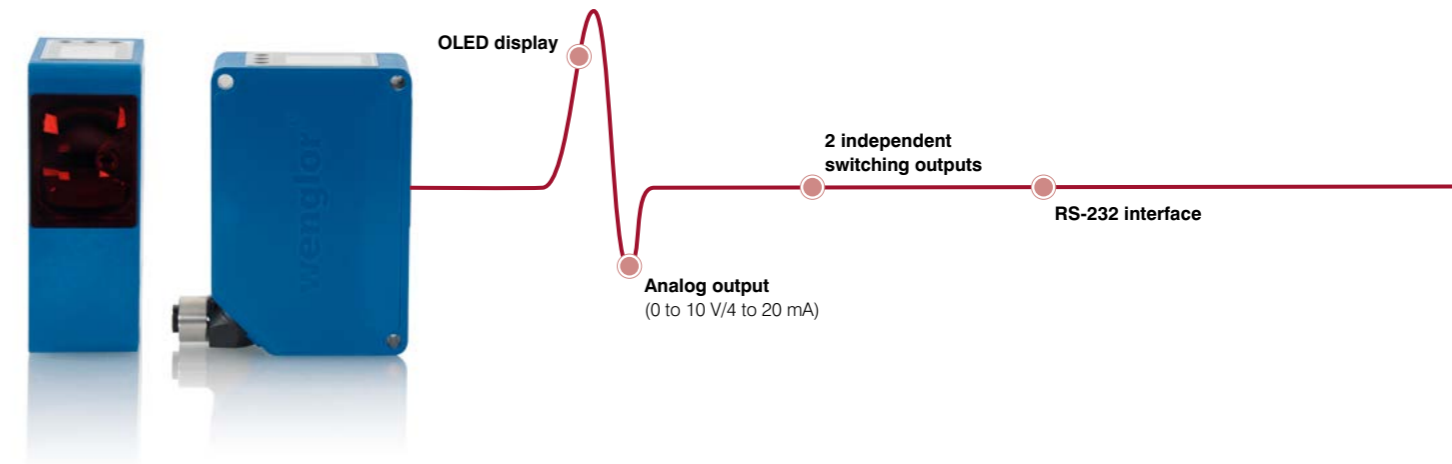
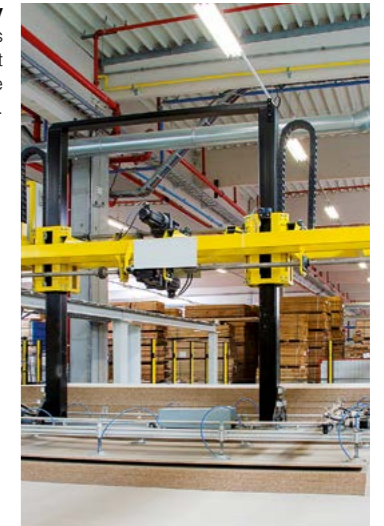
Transit Time Sensors measure the diameter of the aluminum coil during the uncoiling process. The sensor transmits a signal to the controller as soon as the actual diameter is less than the specified tolerance.

### Woodworking Industry

Type Y1TA Transit Time Sensors measure wooden panel stack-height regardless of color and surface characteristics.

### Automotive Industry

Transit Time Sensors monitor the distance between the skids on an electric overhead conveyor and transmit signals to the controller in order to slow down or stop motion.



# Overview



	P1KY001	P1KY002	P1KY003	P1KY004	OY2P303A0135	OY1P303P0102	OY1P303P0189	OY2TA403AT235	OY1TA603P0003	Y1TA100QXT3	Y1TA100QXVT80	Y1TA100MHV80	Y1TA100MHT88	OY2TA104P0150x	X1TA100QXT3	X1TA101MHT88	X1TA101MHV80	
<b>Function</b>	Switching	Switching	Switching	Switching	Switching	Measuring and switching	Measuring and switching	Switching	Measuring and switching	Measuring and switching	Measuring and switching	Measuring and switching	Measuring and switching	Measuring	Measuring and switching	Measuring and switching	Measuring and switching	
<b>Working Range</b>	0...1 000 mm	0...1 000 mm	0...1 000 mm	0...1 000 mm	0...3 000 mm	50...3 050 mm	50...3 050 mm	0...4 000 mm	200...6 200 mm	0,1...10,1 m	0,1...10,1 m	0,1...10,1 m	0,1...10,1 m	0,1...10,1 m	0,1...10,2 m	0,2...100,2 m	0,2...100,2 m	
<b>Design</b>	22 x 32 x 12 mm	22 x 32 x 12 mm	22 x 32 x 12 mm	22 x 32 x 12 mm	50 x 50 x 20 mm	50 x 50 x 20 mm	50 x 50 x 20 mm	55 x 81 x 30 mm	55 x 81 x 30 mm	55 x 81 x 30 mm	55 x 81 x 30 mm	55 x 81 x 30 mm	55 x 81 x 30 mm	55 x 81 x 30 mm	55 x 81 x 30 mm	55 x 81 x 30 mm	55 x 81 x 30 mm	55 x 81 x 30 mm
<b>Laser class</b>	1	1	1	1	1	1	1	2	1	2	2	2	2	1	1	1	1	
<b>Interface</b>	—	—	—	—	—	IO-Link	RS-232	—	—	—	RS-232	—	RS-232	PROFINET (P), EtherCAT (C), EtherNet/IP (E)	—	RS-232	—	
<b>WinTec</b>	yes	yes	yes	yes	yes	yes	yes	no	no	no	no	no	no	yes	no	no	no	
<b>Connection</b>	Connector M8 x 1, 4-pin	Cable 200 mm with connector M12 x 1, 4-pin	Cable 200 mm with connector M8 x 1, 4-pin	Cable 2000 mm, 4-pin	Connector M12 x 1, 4/5-pin	Connector M12 x 1, 4-pin	Connector M12 x 1, 8-pin	Connector M12 x 1, 4/5-pin	Connector M12 x 1, 4-pin	Connector M12 x 1, 4-pin	Connector M12 x 1, 8-pin	Connector M12 x 1, 8-pin	Connector M12 x 1, 8-pin	Connector M12 x 1, 8-pin, PoE	Connector M12 x 1, 4-pin	Connector M12 x 1, 8-pin	Connector M12 x 1, 8-pin	
<b>Setting type</b>	Potentiometer	Potentiometer	Potentiometer	Potentiometer	Teach-in	OLED Display	OLED Display	Teach-in	OLED Display	OLED Display	OLED Display	OLED Display	OLED Display	OLED Display, Web server	OLED Display	OLED Display	OLED Display	
<b>Switching Frequency/ measuring rate</b>	1 000 Hz	1 000 Hz	1 000 Hz	1 000 Hz	1 000 Hz	250 Hz / 500/s	250 Hz / 500/s	1 000 Hz	50 Hz / 100/s	50 Hz / 100/s	50 Hz / 100/s	50 Hz / 100/s	50 Hz / 100/s	—	50 Hz / 100/s	50 Hz / 100/s	50 Hz / 100/s	
<b>Temperature Range</b>	-40...+50° C	-40...+50° C	-40...+50° C	-40...+50° C	-40...+60° C	-40...+50° C	-40...+50° C	-25...+60° C	-25...+60° C	-25...+60° C	-25...+60° C	-25...+60° C	-25...+60° C	-25...+50° C	-25...+60° C	-25...+60° C	-25...+60° C	
<b>Outputs</b>	2 switching outputs antivalent	2 switching outputs antivalent	2 switching outputs antivalent	2 switching outputs antivalent	2 switching outputs antivalent	2 independent switching outputs or 1 switching output and 1 analog output 0 to 10 V/ 4 to 20 mA	2 independent switching outputs and 1 analog output 0 to 10 V/ 4 to 20 mA (with analog ground)	2 switching outputs antivalent	2 independent switching outputs or 1 switching output and 1 analog output 0 to 10 V/ 4 to 20 mA	2 independent switching outputs or 1 switching output and 1 analog output 0 to 10 V/ 4 to 20 mA	2 independent switching outputs and 1 analog output 0 to 10 V/ 4 to 20 mA	2 independent switching outputs and 1 analog output 0 to 10 V/ 4 to 20 mA (with analog ground)	2 independent switching outputs and 1 analog output 0 to 10 V/ 4 to 20 mA (with analog ground)	Industrial Ethernet	2 independent switching outputs or 1 switching output and 1 analog output 0 to 10 V/ 4 to 20 mA	2 independent switching outputs and 1 analog output 0 to 10 V/ 4 to 20 mA (with analog ground)	2 independent switching outputs and 1 analog output 0 to 10 V/ 4 to 20 mA (with analog ground)	



## wenglor **System Components**

wenglor System Components are used to mount, integrate and connect Transit Time Sensors. In order to meet demanding requirements for durability and hygiene, protective housings additionally expand the range of applications and increase system availability.





**wenglor**  
the innovative family

[www.wenglor.com](http://www.wenglor.com)