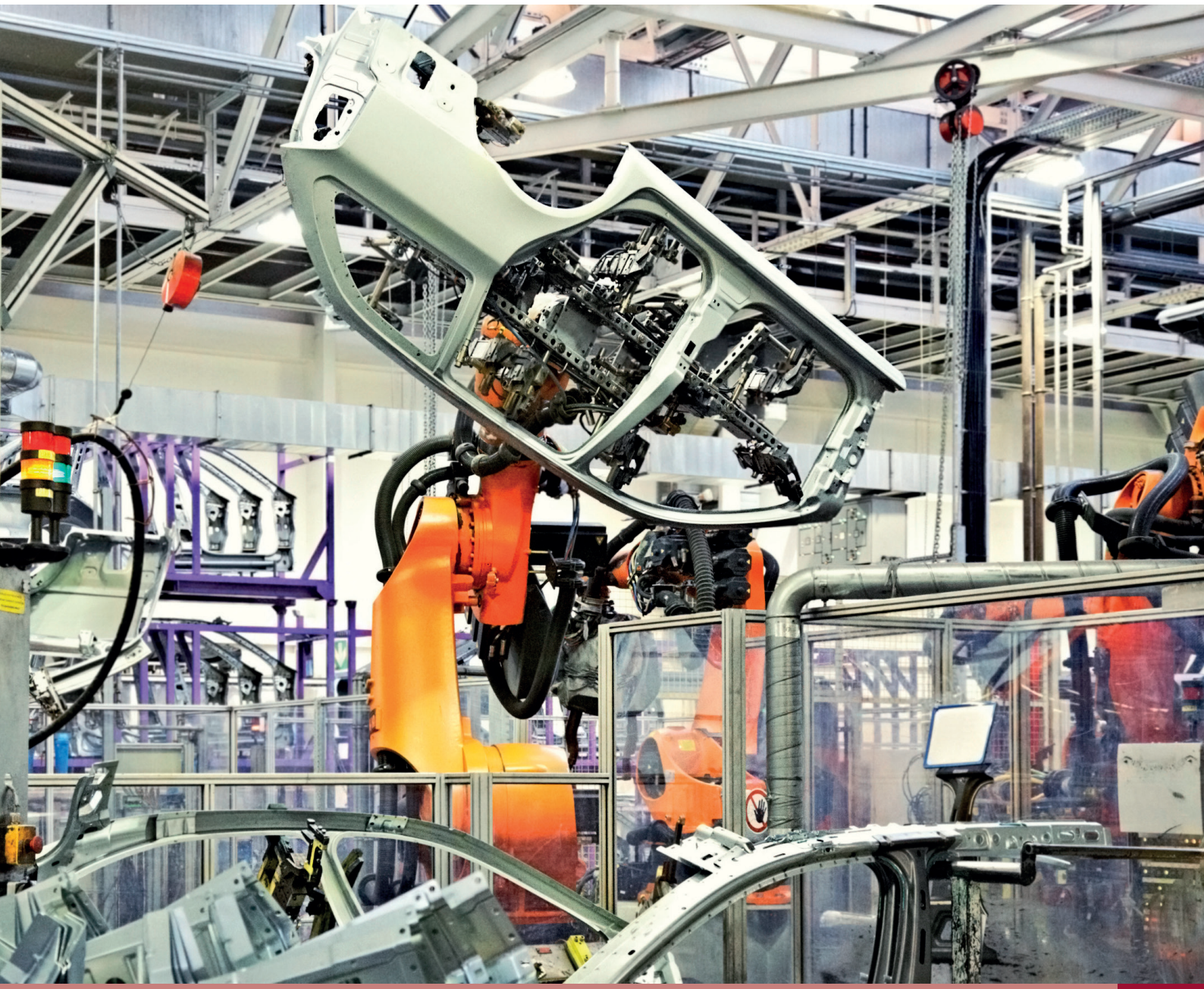
wenglor
the innovative family

New Standards for Precision

Measurement of distances up to **1 000 mm**
with a resolution of down to **0.06 µm**



High-Performance Distance Sensors **from wenglor**

With exceptionally fine 16-bit resolution, PNBC High-Performance Distance Sensors measure objects with accuracies of down to 0.06 µm. For the purpose of comparison: a human hair is 1 000 times thicker.

The high-resolution optics with a linearity error of only 0.05% permit precisely reproducible measurement results. The outstanding performance of the new PNBC series is substantiated by its large working ranges of up to 1 000 mm, and a maximum output rate of 30 kHz for high-speed production. At the same time, PNBC Sensors measure objects in a contactless manner regardless of their surface finish – even on sheet metal with speckle effect. Thanks to the integrated TCP/IP interface, the Distance Sensors are easy to network, and are thus already clearing the way to tomorrow's industrial scenarios.

Ready for Industrie 4.0

- **Resolution for accuracy down to 0.06 µm**
- **Maximum linearity error of 0.05%**
- **Working ranges: 20…1 000 mm**
- **Accurate measurement at output rates of up to 30 kHz**
- **Thermally stable measured values immediately after start-up**
- **Special algorithm against speckle effect**
- **Intelligently networked via TCP/IP interface**

Innovation through Precision

Top quality components make it possible for PNBC Sensors to measure objects extremely accurately by means of the angular measuring method. This results in a highly diverse range of applications:

Surface Inspection

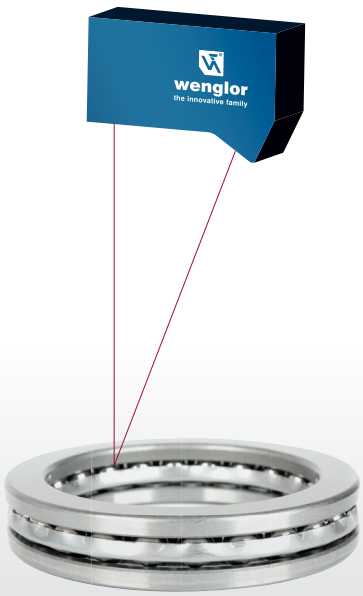
Even the slightest unevenness and material warpage can be detected with PNBC Sensors on different material surfaces.

PNBC Sensors can be networked in order to reliably measure objects of a vast variety of shapes and sizes.

Sample Applications from Actual Practice

Geometric Accuracy

PNBC Sensors verify the manufacturing tolerances of the components, thus assuring highest possible quality standards.



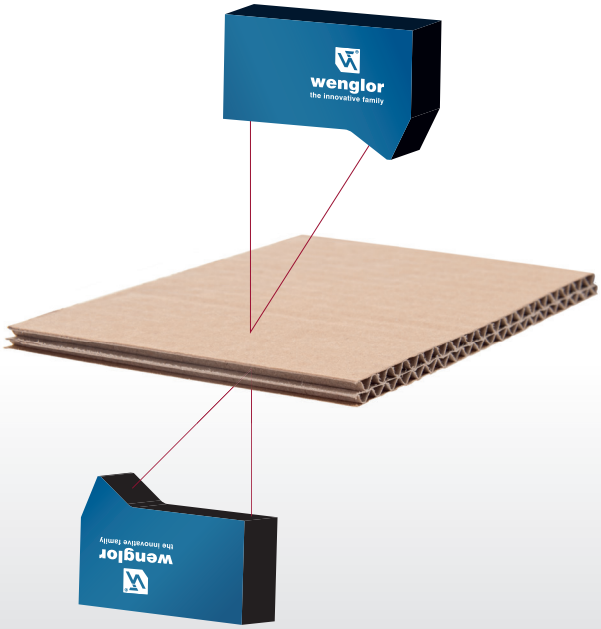
Parts Measurement

PNBC Sensors ascertain out-of-roundness, concentricity and eccentricity of surfaces.

	PNBC001	PNBC002	PNBC003	PNBC004
Working range	20…24 mm	25…35 mm	40…60 mm	58…108 mm
Linearity error	2 µm	5 µm	10 µm	25 µm
Resolution	0.06 µm	0.15 µm	0.3 µm	0.8 µm
Spot diameter	< 0.15 mm	< 0.20 mm	< 0.25 mm	< 0.35 mm
Temperature drift	0.2 µm/K	0.5 µm/K	1 µm/K	2.5 µm/K
Measuring range	4 mm	10 mm	20 mm	50 mm
Output rate	30 000 measurements per second			
Analog output	0...10 V / 4...20 mA			
Number of switching outputs	4			

Thickness Measurement

Minimal thickness deviations and material irregularities are reliably detected.



Edge Counting

Object edges can be reliably counted at extremely high speeds in a fully automated fashion thanks to freely adjustable output rates of up to 30 kHz.

PNBC005	PNBC006	PNBC007	PNBC008
90…190 mm	200…400 mm	250…650 mm	200…1 000 mm
50 µm	100 µm	200 µm	375 µm
1.5 µm	3.1 µm	6.1 µm	12.2 µm
< 0.75 mm	< 0.90 mm	< 1.20 mm	< 1.60 mm
5 µm/K	10 µm/K	20 µm/K	37.5 µm/K
100 mm	200 mm	400 mm	800 mm
30 000 measurements per second			
0...10 V / 4...20 mA			

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Discover further innovations.

More information concerning our products is available at:
www.wenglor.com