

CENTERVIEW 8000

Concentricity, wall thickness, diameter and ovality measuring system

Reduced material consumption, reproducible quality and an efficient manufacturing demand a reliable and innovative partner in the area of measuring and control technology.

The CENTERVIEW 8000 offers a non-contact and continuous online measurement of LAN or coaxial cables as well as automotive and installation cables, due to the unique 8-point-eccentricity, 4-axes-diameter and 8-point-ovality measurement with highest measuring accuracy.

Non-contact specialist

The CENTERVIEW 8000 is a non-contact gauge head, specifically designed for production lines of all round, single conductor wires, and cables with single or multi-wire conductors and solid or foamed insulations. The system measures online the eccentricity, wall thickness, diameter and the ovality of cables with high single value precision. The measuring values are taken from 4 axes (diameter) respectively at 8 points (eccentricity, ovality) and are visualized on the integrated display or at the processor systems of the [ECOCONTROL](#) Series. The operator receives immediately clear information about eccentricity values that can be instantly used for control or centering of the cross head. This assures maximum material savings.

Measurement of micro-coax cables

For a number of applications such as mobile phones, LED displays or medical probes micro-sized wires are required. These cables have a conductor diameter of 25 micrometers with an insulation wall thickness of 80 micrometers. For these diameter ranges, cable specifications have to be exactly realized in order to transfer high-frequency signals without loss. Especially for the measurement of eccentricity, wall thickness, diameter and ovality of micro-coax cables, the CENTERVIEW 8010 is also available for product diameters from 0.1 to 10 mm.

Your Benefits

- Non-contact 8-point eccentricity measurement
- 4-axes diameter measurement
- 8-point ovality measurement
- Scatter plot shows distribution of short-term variations
- Automatic centering of the gauge head
- Free of maintenance and calibration
- Integrated 7" TFT monitor (CENTERVIEW 8000e)
- Measurement of micro-coax cables

Specifications for CENTERVIEW 8010

All information is valid also for the CENTERVIEW 8010 e and CENTERVIEW 8010 C models

Measuring principle	Non-contact, optical/inductive sensors with 4-axes-CCD-line technology combined with impulse-driven laser light sources
Applications	For all round, single conductor wires and cables with solid or stranded conductors such as telephone cables, data cables (CAT 5, 6 and 7), coax cables, automotive or installation cables
Exposure Time	0.25 µs
Measuring Rate	500 measurements/sec (other on demand)
Measuring Range	0.25 - 10 mm*
Sight Field	12.5 mm

Resolution	Selectable 1 µm, 10 µm (factory setting is 1 µm)
Accuracy	Eccentricity: better 1 µm** Diameter: 1 µm*
Repeatability	Eccentricity: ± 1.0 µm Diameter: ± 0.1 µm
Interfaces	RS485 + RS232 diagnosis interfaces Optional: Profibus-DP (option at CENTERVIEW 8000e), industrial fieldbus (e.g. Profinet IO, EtherNet/IP, CANopen, DeviceNet)
Power Supply	115 or 230 V AC ± 10%, 50/60 Hz, 500 VA
Ambient Temperature	+ 5 to + 50°C
Dimensions (W x D x H)	200 x 150 x 1,106 mm
	* Optionally, the CENTERVIEW 8010 is also available for micro-coax cables with product diameters from 0.1 to 10 mm ** Stranded: 2 µm

Specifications for CENTERVIEW 8025

All information is valid also for the CENTERVIEW 8025e and CENTERVIEW 8025 C models

Measuring principle	Non-contact, optical/inductive sensors with 4-axes-CCD-line technology combined with impulse-driven laser light sources
Applications	For all round, single conductor wires and cables with solid or stranded conductors such as telephone cables, data cables (CAT 5, 6 and 7), coax cables, automotive or installation cables
Exposure Time	0.25 µs
Measuring Rate	500 measurements/sec (other on demand)
Measuring Range	0.5 to 25 mm
Sight Field	28 mm
Resolution	Selectable 0.1 µm, 1 µm, 10 µm (factory setting is 1 µm)
Accuracy	Eccentricity: better 1 µm* Diameter: 1 µm
Repeatability	Eccentricity: 1 µm Diameter: 0.1 µm
Interfaces	RS485 + RS232 diagnosis interfaces Optional: Profibus-DP (option at CENTERVIEW 8000e), industrial fieldbus (e.g. Profinet IO, EtherNet/IP, CANopen, DeviceNet)
Power Supply	115 or 230 V AC ± 10%, 50/60 Hz, 500 VA
Ambient Temperature	+ 5 to + 50°C
Dimensions (W x D x H)	287 x 208 x 1200 mm
	* Stranded: 5 µm

What is the range of application for the system?

The CENTERVIEW 8000 is available for product diameters from 0.1 to 25mm and therefore perfectly suitable for the measurement of all types of round, single conductor wire and cables with a solid or stranded conductor such as coax and micro-coax cables, LAN cables, automotive and all kinds of installation cables.

How does the automatic gauge head positioning work?

The inductive measuring circuit watches for equally signal strength at each of its sensors and controls the motors to ensure a concentric positioning to the conductor.

Why is the inductive system located between two optical systems, and not vice-versa?

On the one hand, this concept ensures less interference for the inductive circuit from the environment and provides 8-point measurement with the two optical systems. The additional effect of having each an optical system on the input and output of the system is the detection of a possible tilt angle and thus, assurance of a perfect measuring value.

Why is the unique scatter plot such an indispensable feature?

A single eccentricity does not make a bad cable, but permanent variations do. The scatter plot visualizes the distribution of the short-term variations of the eccentricity: for example, an ellipse type distribution, which occurs when the conductor oscillates, or a ring type distribution caused by a rotating conductor, both leading to permanent variations in the wall thickness.

Technical Article

[Technique for precise concentricity measurement of a conductor in the insulation and relevant parameters of cables and wires](#)