



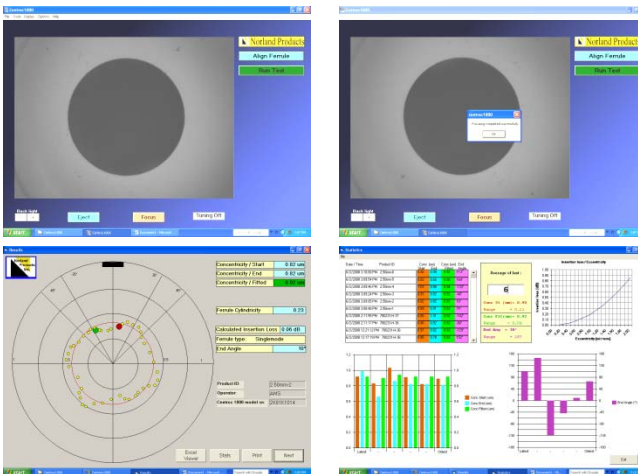
Norland Centroc1000

Concentricity Measurements and Tuning For Fiber Optic Bare Ferrule Inspection and QC



Used For:

- ▶ Ferrule Manufacturers -- Quality Control
- ▶ Connector Manufacturers --- Incoming Inspection
- ▶ Ferrule Endface Visual Examination
- ▶ Concentricity or Eccentricity Measurements of Ferrule Cavity with respect to Ferrule Outside Diameter
- ▶ Ferrule Cylindricity Assessment
- ▶ Tuning of Ferrules at Orientations of Concentricity
- ▶ Tuned Ferrule Concentricity for Fabrication of Connectors with Minimized Insertion Loss



The **Centroc1000** is a **specially** designed auto-focus microscope with high gain imaging and precision rotation control apparatus. The system performs concentricity measurements of the fiber optic ferrule cavity (Ferrule ID) with respect to the outside diameter. It can be used as an essential tool for quality control and ferrule grade classification by ferrule manufacturers and for ferrule incoming quality control inspections of by connector manufacturers. When operating in the tuning mode, the system also provides a method for marking a ferrule at its angle of Concentricity, enabling the fabrication of high precision connectors at very low insertion losses.

The PC controlled instrument is equipped with universal active devices (LEDs @ 475nm and 630 nm) for common ferrule types of 2.50mm and 1.25mm outside diameters. Tested ferrules can be utilized for production of various SM and MM fiber optical connectors, for example, SC, FC, LC, MU, as well as other types. The system collects a series of focused imaging scans from the back illuminated ferrule end face. Between the scans the ferrule is automatically rotated over 360 degrees. Digital images are processed by our proprietary machine vision algorithms and the following results are supplied:

- Amplitude of Ferrule Concentricity as Defined from Center of Ferrule Cavity to Center of Ferrule Outside Diameter
- Angle of Ferrule Concentricity
- Tuning of Angle of Ferrule Concentricity to 12:00 O'clock Position,
- Cylindricity Assessment of Ferrule Outside Diameter

Data Included in Test Results:

- Product Identification, Operator and Unit Identification
- Ferrule Quality Classification
- Statistics of the Measurement Results

Norland Centroc1000:

Specifications:	
Power	12 VDC Powered though the PC
Temperature Range	10°- 45° C Operating, 5°- 55° C storage.
Dimensions, weight	260 x 150 x 345 mm (w x h x d), 7.5 kg.
Optical Illumination	Blue LED @ 475 nm.
Camera Sensitivity	400 –1100 nm Wavelength
Ferrule Types	All 1.25mm and 2.50mm Bare Ferrule Types, PC or UPC Polished.
Repeatability of Concentricity Amplitude (Standard Deviation)	Less than 0.02 μm for Concentricity Range 0~20 μm
Repeatability of Concentricity Angle (Standard Deviation)	Less than 5° for Concentricity greater than 0.3 μm ; Not Applicable for Concentricity less than 0.3 μm
Computer	Pentium Dual Core, 3.0 Ghz, 2GB RAM, 160 GB HD
OS	Windows XP Pro or 2000 Pro.
Standards reference	IEC 61300-3-18 annex A, IEC 61300-3-24, IEC 61300-3-26, IEC 61300-2-41, ISO 2538

NORLAND PRODUCTS INCORPORATED

2540 Route 130, Building 100, Cranbury, NJ 08512 U.S.A.

Tel • 609-395-1966 Fax • 609-395-9006

Email: Sales@norlandproducts.com

Website: www.norlandproducts.com