



# Norland CentrocGP

## *Eccentricity/Concentricity Measurements and Tuning For Minimizing Insertion Loss of Fiber Optic Connectors*

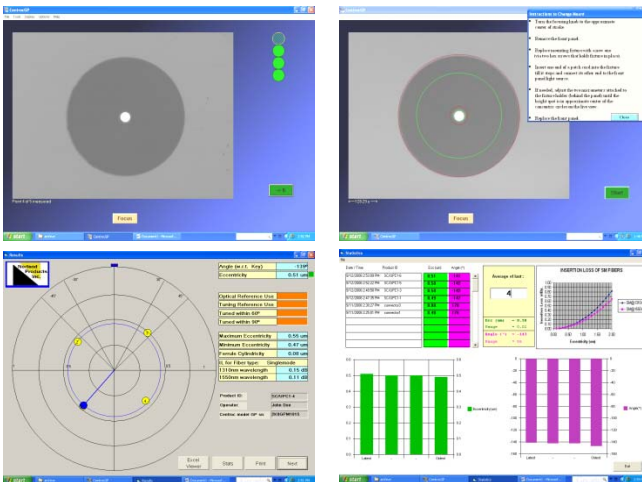


- ▶ **Fiber and Ferrule Visual Examination**
- ▶ **Eccentricity or Concentricity Measurements of Fiber Core w.r.t. Ferrule Outside Diameter**
- ▶ **Ferrule Cylindricity Assessment**
- ▶ **Angular Tuning of PC Connectors for Minimum Insertion Loss (After PC Polishing)**
- ▶ **Angular Tuning of APC Connectors for Optimal Angular Polishing and Minimum Insertion Loss (Before APC Polishing)**

The **CentrocGP** is a specially designed auto-focus microscope with a digital camera and precision chucks. The system performs measurements of fiber optic core eccentricity with respect to ferrule outside diameter of connectors, and provides the basis for angular tuning of PC-type (@ post PC polishing) and APC-type (@ pre-APC polishing) connectors.

The PC controlled unit is equipped with universal active devices (LEDs @ 475nm and 630 nm) for connector types equipped with 2.50mm and 1.25mm ferrules. Measurement fixtures are available for all standard connectors and ferrules.

The system collects a pre-selected number of focused imaging scans from the fully filled illuminated fiber core.



Between the scans the connector is rotated in steps of 45, 60 or 90 degrees. Digital images are processed by machine vision software and the following results are supplied:

- The Eccentricity Amplitude as defined from the center of the ferrule outside diameter to the fiber core center
- (Quick switch between Eccentricity and Concentricity outputs is available)
- The Eccentricity Angle relative to Key Orientation
- The Cylindricity of ferrule outside diameter

Indicated are:

- Reference for Centered or Tuned connector
- Product identification, operator and unit identification
- Statistics of measurement results

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<b>Specifications:</b>	
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 Power LED	Maximum – 25 dBm (475 and 630 nm).
Camera Sensitivity	400 –1100 nm Wavelength
Fiber/Connector Types	SM, MM graded index and MM step index types. PC type (post PC polishing) and APC type (pre-APC polishing) connectors.
Repeatability of Eccentricity Amplitude (Standard Deviation)	Less than 0.05 $\mu\text{m}$ for Eccentricities 0~10 $\mu\text{m}$
Repeatability of Eccentricity Angle (Standard Deviation)	Less than 5° for Eccentricities greater than 0.2 $\mu\text{m}$ ; Not Applicable for Eccentricities less than 0.2 $\mu\text{m}$
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

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