



NORLAND PRODUCTS INCORPORATED

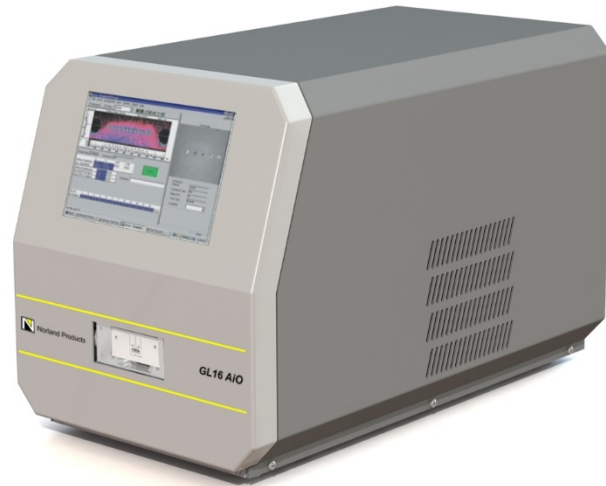
2540 Route 130, Building 100, Cranbury, NJ 08512 U.S.A.

Tel • 609-395-1966 Fax • 609-395-9006

Sales@norlandproducts.com

GL16 – AiO Interferometer End Face Geometry Measurement Instrument

Using the latest technology in precision optics, high-speed cameras, programming, and touch screen display, Norland Products has developed the GL16 – AiO End Face Geometry Measurement Instrument. This instrument is designed as the ultimate tool for analyzing the end face geometry of single and multifiber connectors, and includes support for recent industry developments such as 16- and 32-fiber MT product and Geometry Limit parameter. The Norland GL16 system achieves accuracy, repeatability, reliability, and ease of use that far exceeds the requirements of the industry for this type of quality control instrument.



Everything has been fully automated in this compact system. All electronics and software for calculation and control is contained within the instrument, so an external computer system is no longer required. And with the internal Linux operating system, there is no need for constant updates or virus protection software, resulting in a much more stable and reliable system.

An Ethernet connection is provided for access to the system measurement data as well as for remote diagnosis and software updates. A USB 3.0 port allows for external mouse, keyboard, or barcode scanner use. There are no operator adjustments necessary or knowledge of interferometry needed. NIST traceable standards provide confirmed calibration of magnification and tilt stage operation, insuring accuracy of all measurements. Our patented True Angle™ connector mounts with integral aperture plate and pins allow easy insertion of the connectors into the mount and provide for highest accuracy, specifically, of surface angle results.



Features:

- **Fully automated interferometric system for analyzing multifiber and single fiber connectors**
- **Non-contact closed-loop piezo Scanning White Light Interferometry (SWLI) measurement**
- **Compliant with Industry Specifications for measurement process and Pass/Fail determination**
- **Embedded computer system with Linux OS**
- **Browser-based application supporting local (via front panel 7" touch screen display) and remote (via Ethernet connection) operation**
- **High-resolution, high-speed camera for fast, accurate, and repeatable measurements**
- **Software-controlled tilt stage (for toggling between 0 and 8 degree angle)**
- **NIST traceable standards for calibration of system magnification and tilt stage**
- **No focusing required prior to scanning**
- **Analyze up to 72 fibers in one scan**
- **Supports 16/32 fiber MT product**
- **Measures MT-12 connector within 8 seconds**
- **Concise measurement result display, showing only which end face parameters, if any, have not passed**
- **Full scan information available on screen, as export to CSV file, in SQL database, or as a scan report**
- **3D graphical representation of end face**
- **No vibration damping table required**

NORLAND GL16 - AiO End Face Geometry Measurement Instrument

Scan Result

PASS

MEASUREMENTS 2D IMAGING 3D IMAGING

Pass/Fail Parameters

PARAMETER	MIN	MAX	VAL	RESULT
Radius of Curvature (mm)	5	30	14.965	Pass
Fiber Height (µm)	-116.431	100	34.258	Pass
Apex Offset (µm)	0	70	40.535	Pass

Related Measurements

PARAMETER	VAL
Apex Offset X (µm)	85.554
Apex Offset Y (µm)	16.400

SCAN CALIBRATE

CONNECTOR ID: SF2R-11 AUTO PRODUCT ID: Eval

CONNECTOR TYPE: SF MF

TILT STAGE: 0° 8°

Start

SCAN TYPE: IEC

LIVE VIEW

Scan Result

FAIL

MEASUREMENTS 2D IMAGING 3D IMAGING

Pass/Fail Limits

PARAMETER	MIN	MAX	VAL	RESULT
X ROC (mm)	2000		2897.288	Pass
Y ROC (mm)	5		813.178	Pass
X Endface Angle (deg)	-0.2	0.2	0.075	Pass
Y Endface Angle (deg)	-0.2	0.2	0.014	Pass
Fiber Plane Angle X (deg)	-0.2	0.2	0.016	Pass
Fiber Plane Angle Y (deg)	-0.2	0.2	-0.033	Pass
Minus Coplanarity (µm)		0.35	0.242	Pass
Geometry Limit	17.4	N/A		Pass

Fiber Measurements

NO.	HEIGHT (µM)		CORE DIP (µM)		ROC (MM)		ADJACENT FIBER HEIGHT DIFFERENTIAL(µM)	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
1	1.616	0.042	1.768	0.012				
2	1.625	0.047	0.437	0.012				
3	1.635	0.048	0.807	0.01				
4	1.634	0.058	2.117	0.005				
5	1.637	0.067	3.144	0.007				

SCAN CALIBRATE

CONNECTOR TYPE: SF MF

TILT STAGE: 0° 8°

Start

CONNECTOR ID: MT12-T2-2 AUTO PRODUCT ID: Eval

SCAN TYPE: MT-72

LIVE VIEW

Scan Result

PASS

MEASUREMENTS 2D IMAGING 3D IMAGING

Pass/Fail Limits

PARAMETER	MIN	MAX	VAL	RESULT
X ROC (mm)	2000		5781.209	Pass
Y ROC (mm)	5		147.189	Pass
X Endface Angle (deg)	-0.2	0.2	0.009	Pass
Y Endface Angle (deg)	-0.2	0.2	-0.002	Pass
Fiber Plane Angle X (deg)	-0.2	0.2	0.046	Pass
Fiber Plane Angle Y (deg)	-0.2	0.2	-0.002	Pass
Minus Coplanarity (µm)		0.35	0.058	Pass
Geometry Limit	17.4	N/A		Pass

Fiber Measurements

NO.	HEIGHT (µM)		CORE DIP (µM)		ROC (MM)		ADJACENT FIBER HEIGHT DIFFERENTIAL(µM)	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
1	1.073	0.097	3.832	0.007				
2	1.067	0.104	1.478	0.007				
3	1.064	0.099	1.789	0.01				
4	1.055	0.097	0.647	0.032				
5	1.003	0.096	5.978	0.032				

SCAN CALIBRATE

CONNECTOR TYPE: SF MF

TILT STAGE: 0° 8°

Start

CONNECTOR ID: MT12-T2-1 AUTO PRODUCT ID: Eval

SCAN TYPE: MT-12

LIVE VIEW

SCAN CALIBRATE

CONNECTOR TYPE: SF MF

TILT STAGE: 0° 8°

Start

CONNECTOR ID: CF2RR-14 AUTO PRODUCT ID: 022716 Eva

SCAN TYPE: MT-16

FAIL

Connector ID: CF2RR-13

LIVE VIEW SCAN DETAILS

FAILED PARAMETER	MIN	MAX	VALUE
X Endface Angle (deg)	-0.2	0.2	-0.231
Fiber ROC (mm)			See Details

GL16 - AiO Specifications

Optical resolution: **2.2 microns**

Field of View: **4.2mm wide by 2.4mm high**

Scan range: **80 microns**

Instrument Dimensions (W x H x D): **10 in x 11 in x 18 in**

Power Requirements: **120/240VAC, 50/60 Hz @ 1A**

Weight: **23 lbs.**

Total Measurement Time (Single-fiber): **3 seconds typical**

Total Measurement Time (Multifiber): **8 seconds typical**

Measurement Performance:

	Measured Parameter	Range	Measurement Specifications	
			Repeatability*	Reproducibility*
Single Fiber	Radius of Curvature	3.0 to flat (mm)	0.15%	0.15%
	Fiber Height	-35 to 35 (µm)	0.5nm	1.0nm
	Apex Offset	0 to 500 (µm)	0.3µm	0.7µm
Multi- Fiber	Ferrule Surface Angle (X/Y)	0 to 0.5 (deg)	0.001°	0.0015°
	Fiber Height	0 to 35 (µm)	0.005µm	0.01µm
	Minus Coplanarity	0 to 35 (µm)	0.003µm	0.005µm

* Repeatability - product undisturbed for 50 consecutive measurements - 1 sigma values

** Reproducibility - product reinserted for 50 consecutive measurements - 1 sigma values

TURNKEY SYSTEM – The Norland GL16 - AiO is a complete “all-in-one” system, fully integrated with a high speed computer and touch panel display.

For A Personal Demonstration please contact us at 609-395-1966 or

by email to: Sales@norlandproducts.com



NORLAND PRODUCTS INCORPORATED
2540 Route130, Building 100, Cranbury, NJ 08512
Tel • 609-395-1966 Fax: • 609-395-9006
Sales@norlandproducts.com
www.norlandproducts.com