TESTING MACHINE

ACCIS AC-3005

Tech Optics Ltd
Distributor of Fibre Optic Products

Norland Products

The Norland ACCIS AC-3005 is a fully automated, non-contact, interferometric microscope designed, specifically, for measuring the end-face geometry of array type structures, such as multiple fibre connectors and ferrules. The AC-3005 incorporates a Michelson interferometric objective lens on an inverted microscope with a built-in camera and a high-speed computer. With its user-friendly Windows NT software it provides immediate, 3D, topographical information on the surface being inspected.The AC-3005 for array connectors is the first system that automatically measures planar fibre height for up to 18 fibres in one connector. Utilizing the new Multiple Image Overlay Software, it takes a number of measurements across the surface and stitches them together in a seamless display of the endface geometry. Movement of the stage is automatic, and easy-to-follow instructions are displayed on the screen.

This unit is designed to measure the key parameters of array type connectors. The ACCIS AC-3005 measures the radius of curvature and the angle of the endface along two axes. It measures the planar fibre height and differential, planar fibre height of up to eighteen (18) fibres, simultaneously. In addition, it measures the dome height of the connector. Mounts are available for MT, MTP, MPO, Fotron, MiniMAC, Mini-MT, MT-RJ and custom ferrules. This equipment has the ability to measure both flat and angled multiple

Features
Norland 0º and 8° NIST traceable standard permits angular accuracy of ±0.01°.
Automatic measurement of: radius of curvature and angle of the end face (vertical and horizontal along two axes), planar fibre height and differential planar fibre height for up to 24 fibres, flatness deviation, core dip values (multimode fibres).
Autofocus and angle correction features offer higher product throughput without sacrificing accuracy.
Rugged inverted microscope design for easy levelling and integration into a variety of production processes.
World class, infinity corrected optics assure superior resolution.
The variable tilt stage with micrometer control between 0°–13° with NIST traceable accuracy to ±0.01°.
Change from red light to white light scan instantaneously with a mouse click.
Windows NT/2000 software provides full, 32 bit multiprocessing with an easy to use, intuitive feel.
NT/2000 offers security with network compatible, multilevel password protection.
Choose measurement data to be displayed in Excel and customize pass/fail standards that follow IEC and TIA Guidelines.
Obtain roughness measurements both Ra and Rq.
True Angle™ Connector Mounts* offer extreme accuracy and repeatability with fixed stop plates and pins or guide holes. Edge alignment mounts allow you to view the entire connector end face.
Mounts for MT, Mini-MT, Fotron, MiniMAC, MPO, MPX, MTP and MT-RJ connectors.
Widest variety of mounts available from stock inventory (custom mounts also available)

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Specifications	
Interferometer	Michelson
Light Source	White Light, Tungsten Halogen
Camera	CCTV with 8.8mm x 6.6mm Sensing Area
Image Frame Size	256 x 240 Pixels
Vertical Resolution	11 Angstroms
Magnification	45X
Lateral Resolution	7 microns
Field of View	1600 microns wide

Computer Requirements	
CPU	Pentium IV
Speed	1.7 GHz
Hard Disk	15 GB EIDE Drive
Graphics Adapter	Matrox Productiva
Bios	Phoenix 4.0
Operating System	Microsoft Windows NT 4.0
Frame Grabber	Matrox Meteor II
RAM	128MB SD RAM Installed

fibre connectors. The feedback from the AC-3005 provides the user with extremely useful information on the condition of the connector endface.It allows the user to precisely control the polishing process of array type connectors for the first time. No other instrument provides such detailed information so quickly and easily.The AC-3005 is a unique system that automatically switches between white light (broad band scanning) interferometry and red light (phase shift) interferometry. This allows the system to accurately map both rough and smooth surfaces. The red light mode allows the system to quickly map smooth surfaces, while the white light mode, using the latest state-of-the-art technology, measures rough surfaces and eliminates ambiguities in step heights. White light provides the "True View" that the red light mode cannot always measure. This is a truly versatile system for analyzing all types of connectors and for measuring planar fibre height to the submicron level.

In seconds, the advanced technology of the AC-3005 can obtain the surface topology of a smooth connector with all its vital statistics. Results are quickly available to monitor the polishing operation. With available "pass/fail" standards that are administrator programmable, the AC-3005 is as comfortable in the production area as in the laboratory. The system comes standard with Microsoft Office installed. At the press of a button, Excel is called up into the ACCIS

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	Range	Reproduc-ibility	Repeat ability
Planar Fiber Height	±10µ	±0.02µ	±0.01µ
Flatness Deviation	±10µ	±0.03µ	±0.02µ
Differential Height	±10µ	±0.03µ	±0.02µ
Surface Angle (X)	±0.5°	±0.02°	±0.005°
Surface Angle (Y)	±0.5°	±0.02°	±0.005

- Reproducibility based on 100 measurements with re-inserting connector between measurements.
- Repeatability based on 100 measurements without disturbing the connector between measurements.
- Reproducibility and repeatability are the full differential range of all measurements (max-min) with an AC-3005 on a vibration damping table, after surface angle calibration, using a True Angle™ Connector Mount* and a twelve (12) fibre MT connector

software allowing the user to automatically save, view and print data into or from Excel. A convenient pop-up screen allows selection of appropriate data. Multilevel security allows administrators to design set-up screens and set "Pass/Fail" standards. Users can perform tests by selecting the appropriate screens.The sturdy design of the AC-3005 permits placement of the unit in close proximity to polishing and related test equipment and makes possible options for automated testing. With its exclusive "jitter correcting" algorithms, vibration damping equipment is not usually necessary.

The ACCIS AC-3005 is easy to use. Simply insert a connector into the unit, adjust the optics and activate "Measure." A pop-up screen instructs you how to set the stage for measuring the type of array connector that you have chosen in the set-up. When properly positioned, press a button and the measurement proceeds automatically.Results are clearly and attractively displayed on the colour monitor. Use either the keyboard or the mouse to activate pull-down menus, shortcut icons and on-line and context-sensitive help. Fast print spooling and multiprocessing capabilities allow a hard copy print of the information through a standard ink jet or laser printer with immediate capability for beginning the next scan.The unit is designed on an extra-stable, inverted microscope base that provides a large platform at the top to allow integration into a variety of production processes.

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It can hold flat or angled connectors without changing mounts using our exclusive tilt-stage. The tilt-stage allows continuous variable angles from 0° to 13° with NIST traceable accuracy to +/- 0.01°. Custom mounts are available for a variety of array type connectors. The system uses infinity corrected optics that is the latest technology for high-resolution optical design.