



Data Sheet – ALS1500

ALS1500 Automated Sample Loading Module.

Robotic sample loading module for increased productivity in fibre testing.

Fully compatible with the Dia-Stron measurement modules.

“Pick and place” robot transports samples between cassettes and measurement modules.

Multiple measurement stations for sequential testing.

Common control units and PC software for both the ALS1500 and other measurement modules.

System Description.

General Information.

The Universal Automated System, incorporating the ALS1500, has been built to a modular design, which incorporates a range of Dia-Stron measurement instruments. The ALS1500 is used to transport mounted fibre samples between measurement stations and the sample storage cassettes. Versatility has been designed into the system to permit the user to select different instrument types and automate a sequence of tests.

Control Unit.

The ALS1500 uses the universal control unit (UV1000) which supports the range of Dia-Stron fibre testing instrumentation. The commonality of the control unit permits the addition of the MTT675, LEX 810, FDAS, Cyclic Tester or Bending Module. The control unit has no user interface and all sample protocols are entered through the PC applications software.

Sample Loading Module.

The robotic system operates as a "pick and place" device fully covering an X-axis swept area. Movement of the pickup head is achieved by a high precision lead screw and positional resolution to better than 10 μ is provided by a linear encoder. The pick-up head is pneumatically operated between sample transport and collection/dispensing positions in the vertical axis.

For hair applications, the fibres are mounted in the crimping system developed by Dia-Stron for the MTT range of tensile testers. However, for many other fibres the crimp mounting is unsuitable and the ALS1500 will collect and transport alternative adhesive or tab based mounting systems. The mounted fibres are picked up from the sample cassettes by vacuum and transported to the required instrument locations. Each measuring instrument has a suitable sample pocket for holding the fibre during the measurement procedure. Alternative configurations include linear cassettes or the rotary cassette system, so familiar with users of MTT675 systems.

UvWin PC Applications Software.

The ALS1500 is operated by UvWin PC application, which is a 32-bit software programme written for Windows™ NT 2000 & XP. The automated instrument protocols are selected from user interactive dialogues and the software includes method options for specific applications, data display and storage. Data export to other PC applications is through formatted text files suitable

for import into Excel and other similar software. Specific bend analysis tools are also offered in the software.

UvWin supports the complete range of Dia-Stron fibre testing instruments, including the automated sample loading module (ALS1500) so giving a familiar Windows platform over the range of applications.

Specifications.

Description:

1½ axis sample handling system.

Dimensions:

Auto Loading Module

Bench "foot-print": 600mm x 750mm

Overall size: 850 (w) x 600 (d) x 420 (h)*

Swept area: 650mm

(* measurements in mm)

Drive Systems:

X - axis: Precision lead screw driven by DC motor with linear encoder & closed loop control.

Pick-up head: pneumatically operated with independently sprung vacuum pick-up tubes.

Sample transport speed: 50mm/sec

Positional accuracy: >0.01mm

Services:

Mains supply: universal input

85~265 v.a.c. 47~63Hz 100w

Compressed air: clean dry air 4-8 bar

System Components.

ALS1500 automated sample loading module

UV1000 Control Unit.

PU1100 Pneumatics Control Unit

UvWin PC Applications Software including manuals (supplied on CD).

Mains cord and serial cable.

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