LRS-9424B

LASER RELIABILITY AND BURN-IN TEST SYSTEM





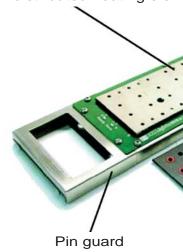
LRS-9424B

Laser Reliability and Burn-In Test System

ILX Lightwave's LRS-9424B Laser Reliability and Burn-In Test System is the right choice for precision and flexibility at an affordable price. With up to 1024 devices in the 9424B's compact chamber, you'll be able to increase throughput and lower your overall cost of test. The modular design of the 9424B allows for low initial purchase price and gives opportunity for future expansion as your business grows.

Our proven laser control technology gives you the flexibility to process TO-can lasers, TOSA assemblies, and proprietary package styles in the same system. The 9424B supports APC, ACC, and LIV test modes and the powerful ReliaTest™ system control software allows customers to automate their tests by easily creating multiple test steps. In addition careful attention to data management and fault mode handling ensures data integrity even through power black outs.

Nickel plated aluminum heat with distributed heating elem



TO-Car



Combine reliability, burnering evaluation in effective platform with the

Applications

Laser Diode

Independent fixture temperature control allows multiple tests to be configured in each system

The LRS-9424B is a sophisticated reliability and burn-in test system with precision in-situ monitoring and test capability making it well suited for engineering evaluation, life testing, and production burn-in screening of laser diodes and LEDs. The 9424B's long-term stability and reliability make it ideal for Telcordia qualification testing of laser diodes intended for telecommunication applications. The system's modular design allows it to be readily adapted to meet a wide range of package styles and test criteria for low power devices.

The 9424B offers high density with the capability of accommodating up to 32 fixtures and 1024 devices in each system. At the same time, the 9424B's unique thermal management system allows each fixture to be independently temperature controlled with an accuracy of $\pm 1.0^{\circ}$ C. With this approach it is possible to run up to 32 independent test processes simultaneously.

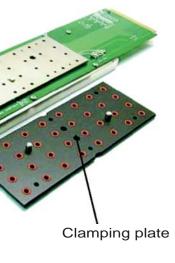
Each test can be quickly configured using the ReliaTest™ system software and test scenarios can include multiple phases of ACC or APC mode burn-in combined with LIV tests. APC mode can be configured using either the internal photodiode or optional external photodiode array.

High system sta insures accurate

Based on proven ILX Lightechnology, the LRS-9424 constant current (ACC) ar 0.1% over 1000 hours cor

Multiple levels of laser dic circuitry, normally closed : startup and power shutdo protection for your laser d for data backup to mainta the computer is disconner ReliaTest™ system softwa AC power and loss of con

A temperature controlled applications requiring extending high system stability each controlled at approximate This provides guaranteed of full scale.



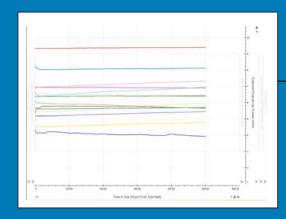
ı Fixture

sink

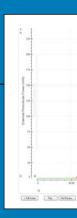
ent

Save, view, and graph data v

-in, and nto one cost le LRS-9424B



Long Term Aging Trend



e Control

bility and repeatability e life time and burn-in testing

twave laser control and measurement B Control Measure Module (CMM) provides and constant power (APC) mode stability of mbined with temperature accuracy of 1.0°C.

de protection including transient suppression shorting relays to protect lasers during power wn, and current/voltage limits insure maximum iodes. The CMM includes on board memory in smooth data recording for times when cted from the LRS-9424B. In addition the are will log any system faults such as loss of munication with the LRS-9424B chamber.

external photodiode array is available for ernal optical power monitoring. To ensure external photodetector array is temperature by 65°C with a stability of better than ±2.0°C. optical power measurement stability of 0.1%

Fixturing

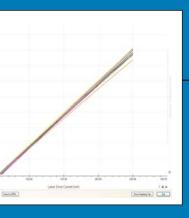
The modular design of the 9424B allows us to customize fixtures to your laser diode package and unique testing requirements

Fixtures are available to accommodate all pin configurations in TO-can, TOSA, and customer proprietary packages. Furthermore ILX has developed a coolerless butterfly, mini-DIL, and COC fixtures for the 9424B. Standard TO-can fixtures may be configured to hold 16 or 32 devices.

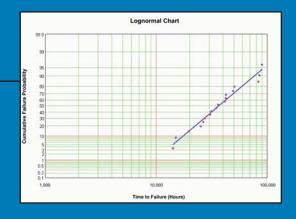
Careful attention to fixture material ensures low thermal contact resistance between the heat sink and the device. The nickel plated aluminum heat sinks provides temperature ranges from 40°C to 150°C with uniformity better than ±1.0°C for temperatures between 25°C to 100°C and ±2.0°C from 100°C to 150°C. TEC based fixtures are available to support temperatures down to 25°C.

Due to the 9424B's unique fixture temperature control system it is possible to open and close the system's chamber door without appreciably affecting other tests in progress. The overall design of the LRS-9424B guarantees you reliability and stability for your life-test, burn-in, and engineering evaluation needs for your TO-can laser diodes.

vith our powerful ReliaTest™ software



In Situ LIV



Cumulative Failure Probability

Why Choose ILX Lightwave?

Experience.

For twenty five years, ILX Lightwave has been a pioneer in laser diode instrumentation and test systems, starting with the industry's first precision laser diode current source in 1986. Since then, we have continued to grow and evolve with the expanding photonic industry, building a tradition of innovation, quality, and customer service.

Quality.

ILX Lightwave has maintained ISO 9000 certification since 2001. Strong internal systems for problem identification and resolution have resulted in continuous improvement of our products and services. We believe that quality is not just something you build into a product; it's something you build into everything you do.

Commitment.

ILX Lightwave's mission is to be the world leader in laser diode instrumentation and test systems. The company's Laser Diode Test Systems group is led by the President to ensure high focus.

After Sales Support.

ILX understands the need for fast, technically accurate responses to all support requests. In addition to customer service engineers, our test system customers have direct access to ILX Lightwave application and design engineers to ensure the highest level of technical support.

_RS-9424B Specifications

System

System Capacity **Device Types Supported** Devices per Fixture

1024 devices

TO-Can, TOSA, Custom Up to 32

Temperature Control

Temperature Range	°C	40 - 150
With 25°C Option	°C	25 - 100
Multiple Temp Control		Yes
Temperature Accuracy		
25°C to 100°C	°C	<u>+</u> 1.0
100°C to 150°C	°C	<u>+</u> 2.0
Maximum ∆T		
Between Fixtures	°C	60

Laser Control

Laser Voltage

Output Polarity Bipolar, User Selectable **Drive Current** 200 400 Range mΑ +0.1 +0.1 Setpoint Accuracy mΑ +0.1 +0.1 Stability¹ % of FS Compliance Voltage 3.0V Typical, 2.8V minimum Control Modes ACC, APC, LIV

Measurement Functions

Range 0 - 5Accuracy +0.01 Internal Monitor Photodiode 0 - 8 Reverse Bias Range V 0 - 2000 Measurement Range µA Accuracy +2 μА <u>+</u>0.1

Stability1 % of FS Front-Facet Photodetector

Detector Types Measurement Range Stability1

Measurement Mode

800.459.9459

Si, InGaAs **User-Specified** +0.1% of Full Scale Relative or Absolute

Laser Test Fixtures

Pin Configuration Dimensions:

Single Wide (HxWxD) cm Materials

Maximum Temperature

User-Specified

~2.5 x 9.5 x 43.5

FR406 and Stainless Steel

170

System Control Computer and **Supervisory Software**

Computer Dell[®] Optiplex, > 2.7 GHz Pentium® Dual Core processor, 2.0 GB ram, 160 GB hard drive, CD-ROM. Ethernet interface. Display 17" Dell[®] Ultrasharp flat panel Power Requirements, Computer 115/230VAC, 50/60 Hz,

single phase, 6/3A autosensing **Battery Backup** > 5 minutes

Operating System Microsoft Windows XP Pro®

System Control Software ReliaTest™

Source Code C# source code provided

with system

General

Size (HxWxD) 168 x 92 x 102 Weight 365 kg **Power Requirements** 180 - 264 VAC, 50/60 Hz, single phase, 30A

Notes

1. Stability measured over 1000 hours

In keeping with our commitment of continuing product improvement, ILX Lightwave reserves the right to change specifications without notice and without liability for such changes.



