

ATE-LD-XXXX-4000

## TEC Laser Diode Reliability & Burn-In Test System

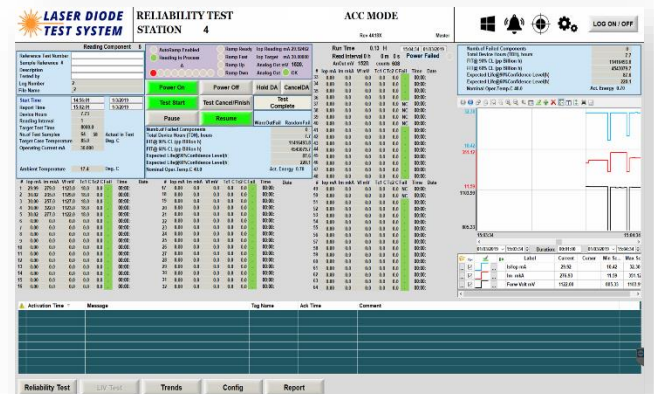


The laser diode test system is Automated Test Equipment (ATE) that provides precise TEC thermal control within  $\pm 0.3^\circ\text{C}$  for lasers operating up to 200 mA.

The automated test system is a low-cost, high-performance solution for accelerated aging, burn-in, and qualification testing of laser diodes.

### Powerful Software Interface

- An easy-to-use GUI provides real-time testing and functional reports
- Multiple test scenarios are easily configured without complicated programming.
- FIT (Failure in Time) & Mean Time to Failure (MTTF) calculation
- LIV Curve, Threshold Current, Operating Current, Forward Voltage, Monitoring Current and Data Collection
- Designed for use by Operators & Supervisors
- E-mail notification



### Custom TEC Temperature DUT Board

- Each module allows separate temperature and measurement settings for 16 laser diodes per module.
- TEC thermal control within  $\pm 0.3^\circ\text{C}$  for lasers operating up to 200 mA
- Designed to operate up to  $125^\circ\text{C}$
- Custom laser diode test fixture boards are built to meet your packaging & test specifications



## Technical Data

|                                  |                                                                        |
|----------------------------------|------------------------------------------------------------------------|
| <b>Reliability Test</b>          | FIT (Failure In Time),<br>MTTF (Mean Time to Failure)                  |
| <b>Measured Quantities</b>       | Optical Power, Current,<br>Forward Voltage (LIV),<br>Temp              |
| <b>Type of Mode of Operation</b> | ACC, APC, LIV<br>CoC, CoS, TO-CAN, Butterfly,                          |
| <b>Laser Types</b>               | Optical Communication Laser Modules,<br>Custom Laser Assembly Modules  |
| <b>Number Test Components</b>    | 64 - 4096                                                              |
| <b>Current Range</b>             | 4 mA – 200 mA                                                          |
| <b>Current Accuracy</b>          | 0.1% F.S                                                               |
| <b>Source Measure Board</b>      | DUT - Custom Interface Test Fixture                                    |
| <b>Current Sweep</b>             | Up to 650 mA                                                           |
| <b>Maximum Current</b>           | 650 mA                                                                 |
| <b>Optical Power</b>             | SI or InGaAs Photodiode                                                |
| <b>Cooling -TEC Air Cooled</b>   | Ambient to 125°C                                                       |
| <b>TEC Temperature Stability</b> | ± 0.3 °C                                                               |
| <b>Input Voltage</b>             | 110V - 240V AC                                                         |
| <b>Power Consumption</b>         | 500 Watts                                                              |
| <b>System Dimensions (mm)</b>    | 600 (W) × 1000 (D) × 1200 (H)<br>(size based on 128 component testing) |
| <b>Material</b>                  | Aluminum/Steel                                                         |

## Essential Features

- **Conforms to Test Standards**  
Telcordia (Bellcore) GR-468-CORE  
MIL-STD-883E, Test Method 1016
- **Types of Testing**  
Accelerated aging, burn-in, and qualification testing
- **Power Monitoring & UPS Backup**  
Power Failure mode ensures data integrity even through power blackouts
- **Laser Diode Protection**  
Custom current high/low limits are set to protect the laser from damage during burn-in or reliability testing

## Advantages

**Primary Advantage:** Fully customized reliability system combining scalable capacity, modular drawer maintenance, and dedicated TEC thermal control.

**Dedicated Support & Diagnostics:** Secure remote access allows Electron Test Equipment engineers to assist your testing team in real time and resolve technical inquiries quickly.

**Configuration & Scalability:** Accommodates 64 to 2,944 lasers, allowing capacity growth by adding modules as production and reliability testing requirements increase.

**Platform Versatility:** A single unified platform supports engineering, qualification, and high-volume burn-in testing.

**Maintenance & Serviceability:** Individual drawers can be independently accessed, serviced, or modified without interrupting system operation.

**DUT Fixturing & Package Support:** Features custom laser package integration and dedicated DUT fixtures.

**System Architecture:** Modular architecture featuring 16 lasers per drawer.

**Thermal Control:** Dedicated TEC temperature control system per drawer, engineered around the customer's specific laser and thermal load.