

Laser diode reliability test system

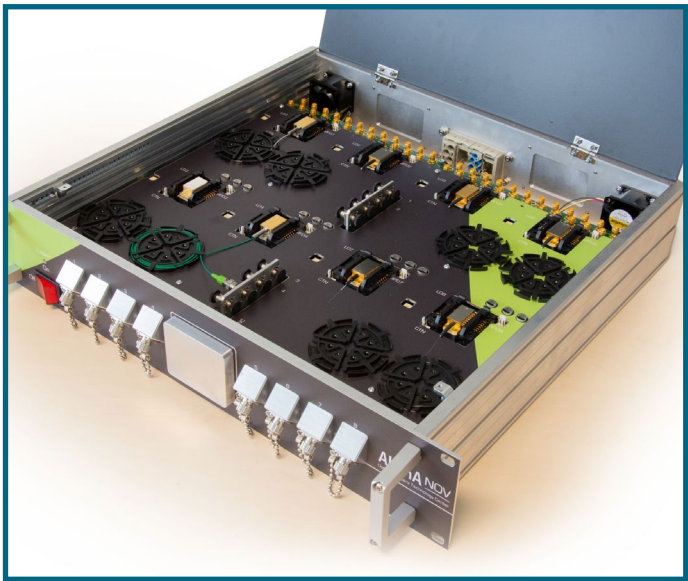


ALPhA **NOV**

Optics & Lasers Technology Center

Laser diode reliability test system

The “Swarm” series are short-pulsed-compatible laser diode reliability evaluation systems ideal for life-test and qualification testing. Several laser diodes form factors can be accommodated.



This test system has been specially designed for the qualification and test of fiber-coupled devices with the maximum of internal and external measurement flexibility. It includes several levels of secured data management to ensure data integrity even through power blackout. It allows to adjust precisely the temperature of each laser diode package and each laser diode chip independantly.

Features

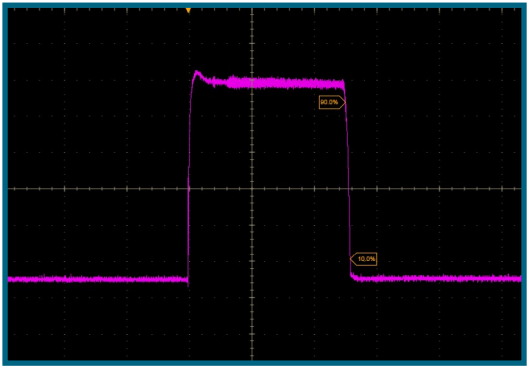
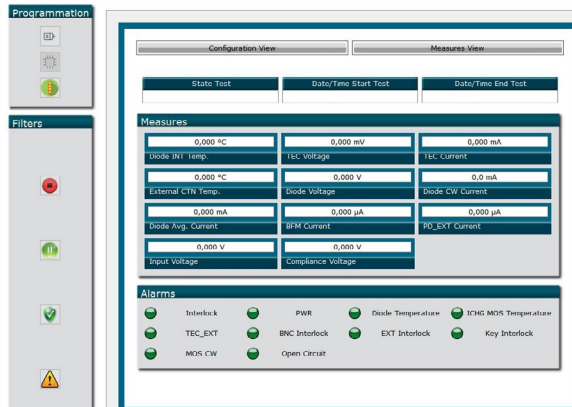
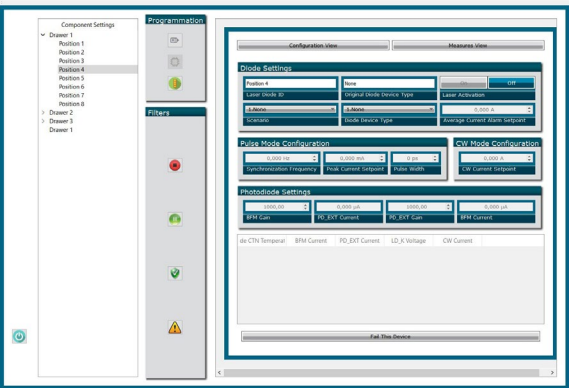
- Life-test and qualification test system for pulsed and CW laser diodes reliability evaluation
- From CW (Continuous Wave) down to less than 1 ns pulse width
- CW-LIV and (prov) Pulsed-LIV testing to avoid thermal effects
- 100% independent behavior of each rack and each laser diode
- Ideal for butterfly or other fiber coupled form factors (Mini-Butterfly, TOSA, TO-CAN etc.)
- Programming supervisory GUI with easy-to-use graphical interface
- Special dedicated software for results analysis
- Full laser protection with special protective window



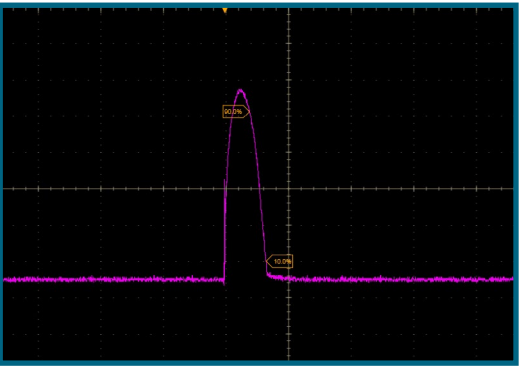
Technical specifications :

Capacity	Up to 112 fibered devices
Diode Chip Temperature Range (°C) :	10 - 55
Diode package Temperature Range (°C) :	20 - 85
Temperature stability (Typ)	< 1 mK
Control Loop	ACC, APC, LIV
Current Range (CW)	1 - 2500 mA
Current Range (pulsed peak current) *	1 - 4000 mA
Pulse duration *	0.5ns to CW
Compliance Voltage (adjustable)	1 - 24 V
Pulse overshoot (adjustable)	Down to 0%
BFM/Ext Photodiode Measurement	Yes / Yes
Internal CW LIV / Pulsed LIV	Yes / Yes (provisional)
Current modulation	External or internal : sin/sqr/triang
Drive Types	100% individual setpoints and test scenario
Laser drive current setpoint resolution	Down to 25 µA
Laser drive current stability	<0.1 mA
Internal embedded memory (per tray of 8 diodes)	50 Go

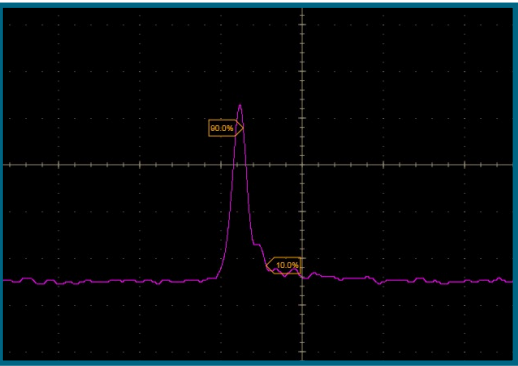
* Depends on the laser diode types and packaging ; Down to 100ps pulses (stability depends on the laser diode)



100 ns 4 A pulse shape



5 ns 4 A pulse shape



~ 100 ps gain switch peak

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