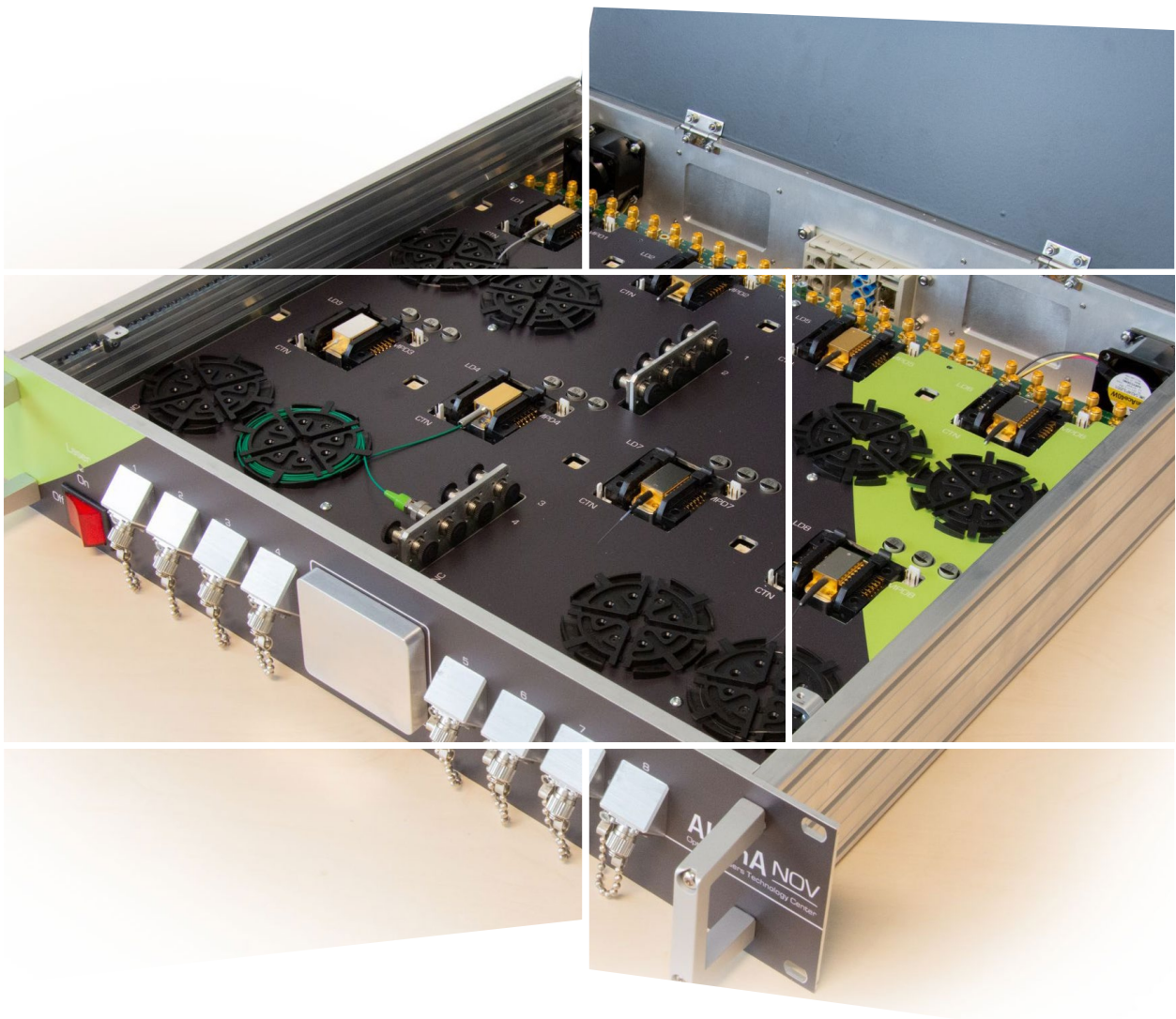# Multi-channel
laser diode driver


ALPhA NOV
Optics & Lasers Technology Center

Multi-Channel laser diode driver

This laser diode driver & temperature controller allows full independent control of up to 8 laser diodes from CW down to very short pulses. It includes several functions including a pulse generator and a precision and very low noise current and modulation driver.
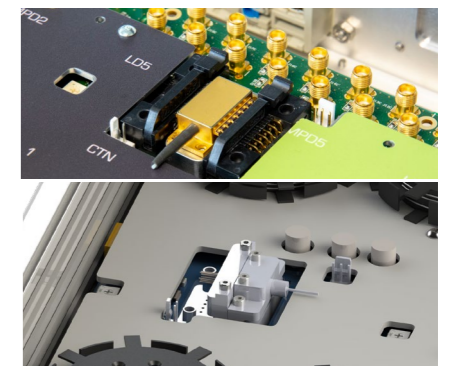
Compatible with several laser diode form factors
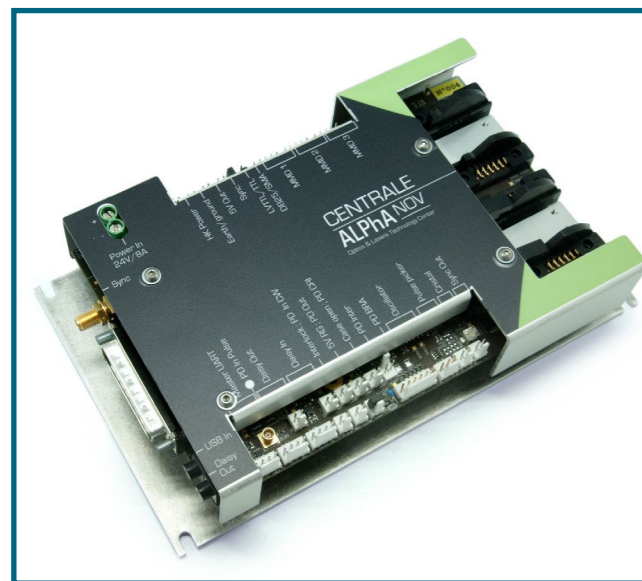

2-Channels version

4 and 8-Channels version with fiber management

Features

- From CW (Continuous Wave) down to 1 nanosecond pulse width
- Full independant control of CW/Pulse duration, peak/CW powers, pulse rep rate, compliance voltage & pulse overshoot, chip temperatures etc.
- Ultra low noise and ripple
- Zero insertion force mounting sockets for any Butterfly or others (TOSA etc.)
- Analog Voltage Signal Remote Control and USB interface with easy-to-use graphical interface/GUI
- Many Libraries for integration in complex systems : DLLs, Hexa, Labview, Python...
- Fiber management with optical power sink
- Several photodiode inputs for full optical power control when needed

Technical specifications

Product	Centrale-2 2 independant channels	Multidiode-4 4 indepedant channels	Multidiode-8 8 indepedant channels
Number of indepedndant channels	2	4	8
Current Range (CW)	0 - 1500 mA (ch.1) /800mA (ch. 2)	0 - 2500 mA	
Current Range (pulsed peak current) *	0 - 3500 mA (ch. 2 only)	0 - 4000 mA	
Laser drive current setpoint accuracy	From 0.05 to 0.5 mA		
Laser drive current stability	<0.1 mA	<0.01 mA	
Compliance Voltage (adjustable)	< 5 V	1 - 24 V (user adjustable)	
Pulse duration	1ns to CW		
Pulse repetition rate	0 - 200 MHz	0 - 250 MHz	
Pulse overshoot (adjustable)	-	Down to 0%	
Diode Chip Temperature Range (°C) :	10 - 55	0 - 90	
BFM/Ext Photodiode Measurement	Yes(option)/Yes (up to 6)	Yes/Yes (1per diode)	
Adj. CW offset in pulse regime	Yes	Yes	
Internal/external current modulation	No	Yes	
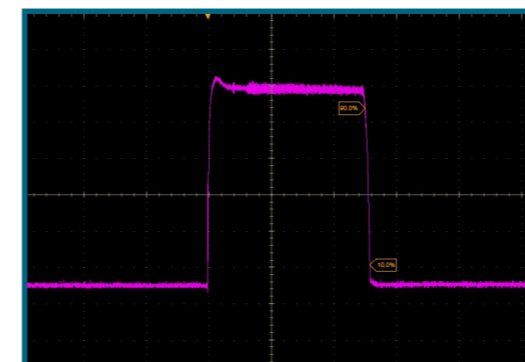
100 ns 4 A pulse shape
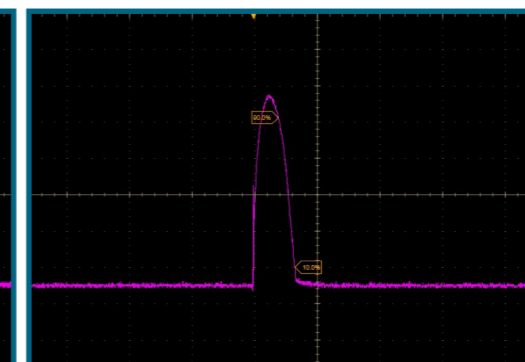
5 ns 4 A pulse shape
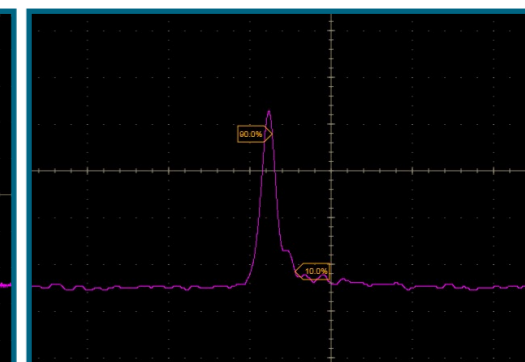
~ 100 ps gain switch peak

(stability ans pulse shape are laser diode dependant)

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