CCS

Precision Pulsed Laser Diode Driver
with TEC Controller
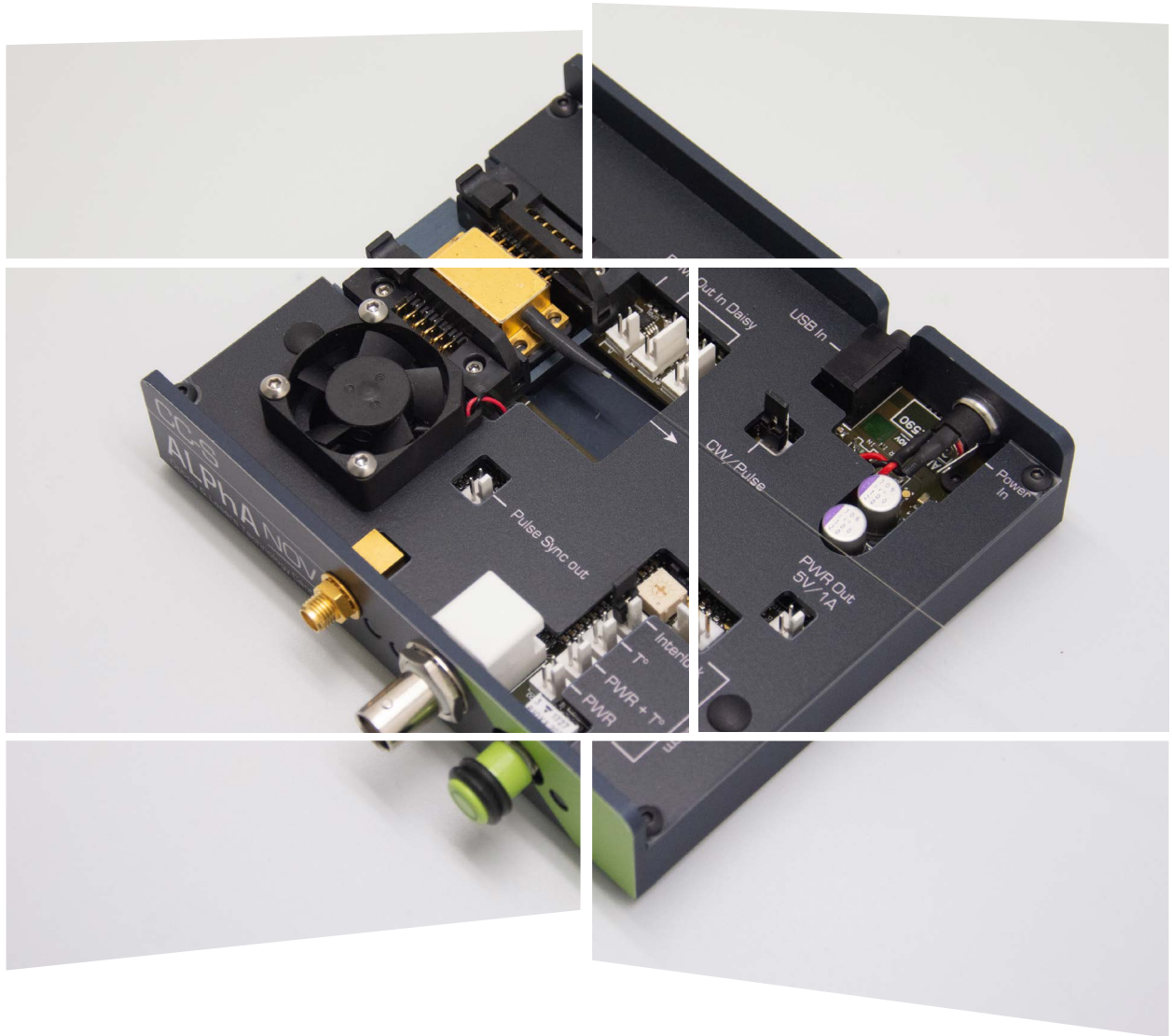
ALPhA NOV

Optics & Lasers Technology Center

CCS

Precision pulsed laser diode driver and TEC controller

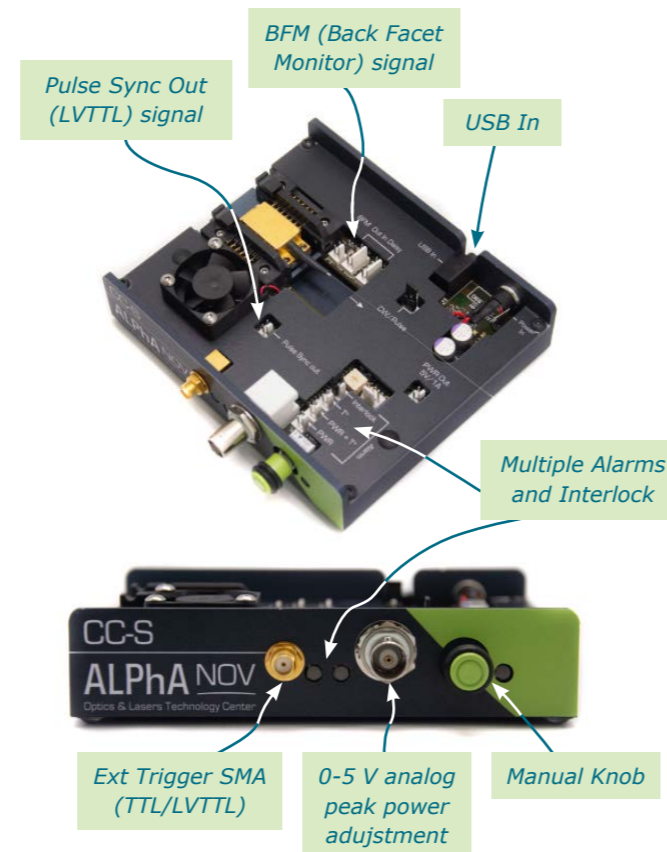### with Integrated Butterfly Mounting Sockets and USB

Designed for precision seed pumping applications, ALPhANOV laser diode pulsing control electronics and mounting modules are optimized for single-shot to CW performance with pulse width down to <1 ns. These complete control electronics and mounting modules deliver precision pulses which are generated internally by an on-board pulse generator, or on demand from an external TTL signal.
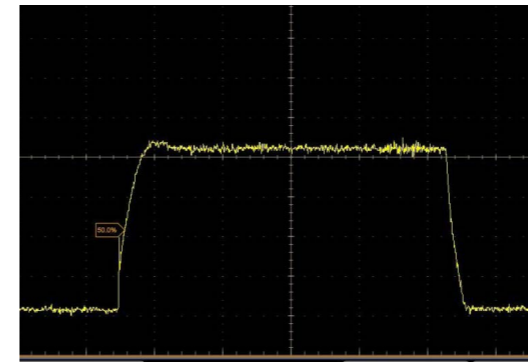
Key features:

- Up to 1500 mA peak current (3500 mA or 9000 mA with optional versions)
- User set pulse width from 500 ps to CW
- Up to 4 MHz repetition rate (optional 10 MHz / 250 MHz)
- Integrated TEC controller
- Down to < 500 ps rise/fall time
- USB, manual, & analog (0-5 V) signal peak power adjustment
- Smart control (USB interface to drive simultaneously several modules from ALPhANOV's laser electronics series)
- Compatible with any laser diode types (with ou without mounting sockets) : TO, VCSEL, Butterfly type 1, type 2 etc.
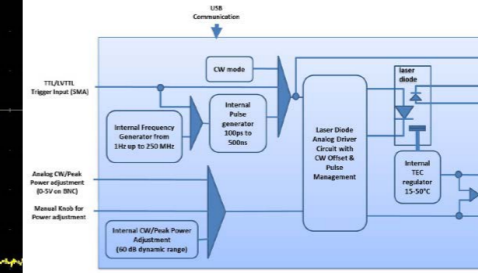
New ! HPP (High Pulse Performance) version:

Pulse Sync Out (LVTTL) signal

BFM (Back Facet Monitor) signal

USB In

Multiple Alarms and Interlock

Ext Trigger SMA (TTL/LVTTL)
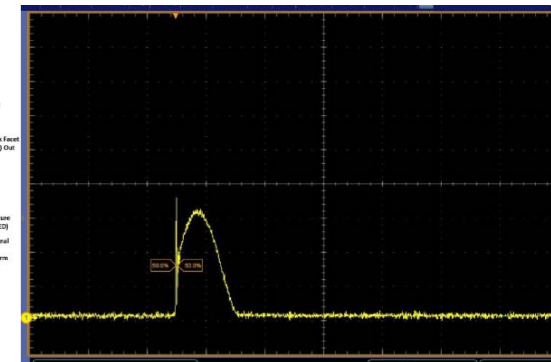
0-5 V analog peak power adujstment

Manual Knob

Technical Specifications

100 ns pulse / 1064 nm FP / CCS-std

Synoptic / CCS-std

3 ns pulse / 1064 nm DFB / CCS-std

Electronic and Optical

	Std	HP (High Power)	UHP (Ultra High Power)	HPP (High Pulse Performance)
Output current - Pulse regime	1,5 A	3,5 A	9 A	4 A
Output current - CW regime	0.8 A		1,5 A	2 A
Output Voltage range	up to 4.8 V		up to 5/10 V	1 - 24 V (Adjustable)
Laser diode T° range	15 - 50 °C			
Pulse duration (Ext pulse trigger)	0.5 ns - CW			
Pulse duration (Internal pulse generator)	0.5 ns - 500 ns			0.5 ns - CW
Typ rise/fall time (TO/Butterfly/VCSEL) [1]	1 / 3 / 0.5 (ns/A)			0.5 / < 1 / < 0.5 (ns/A)
Typ min pulse duration (Butterfly) [1]	1,5 ns		5 ns	< 800 ps
Internal rep rate adjustment	1 Hz - 4 MHz	1 Hz - 10 MHz		1 Hz - 250 MHz
Temporal Jitter	< 25 ps			< 8 ps
Adj. CW offset in pulse regime	No	Yes		
Interface/GUI/libraries	USB - Windows XP/7/10 - DLLs - Hexa - Labview - Python			
Dimensions (mm)	130*119*28			170*107*27.5
Power supply	12 V (110 - 220 V adapter included)			24 V (adapt. incl.)

(1) All version can be provided without sockets for laser diode direct soldering - contact us for more information

ALPhA NOV

Optics & Lasers Technology Center

Institut d'optique d'Aquitaine
Rue François Mitterrand
33400 Talence - France
Ph. +33 (0)5 24 54 52 00

www.alphanov.com