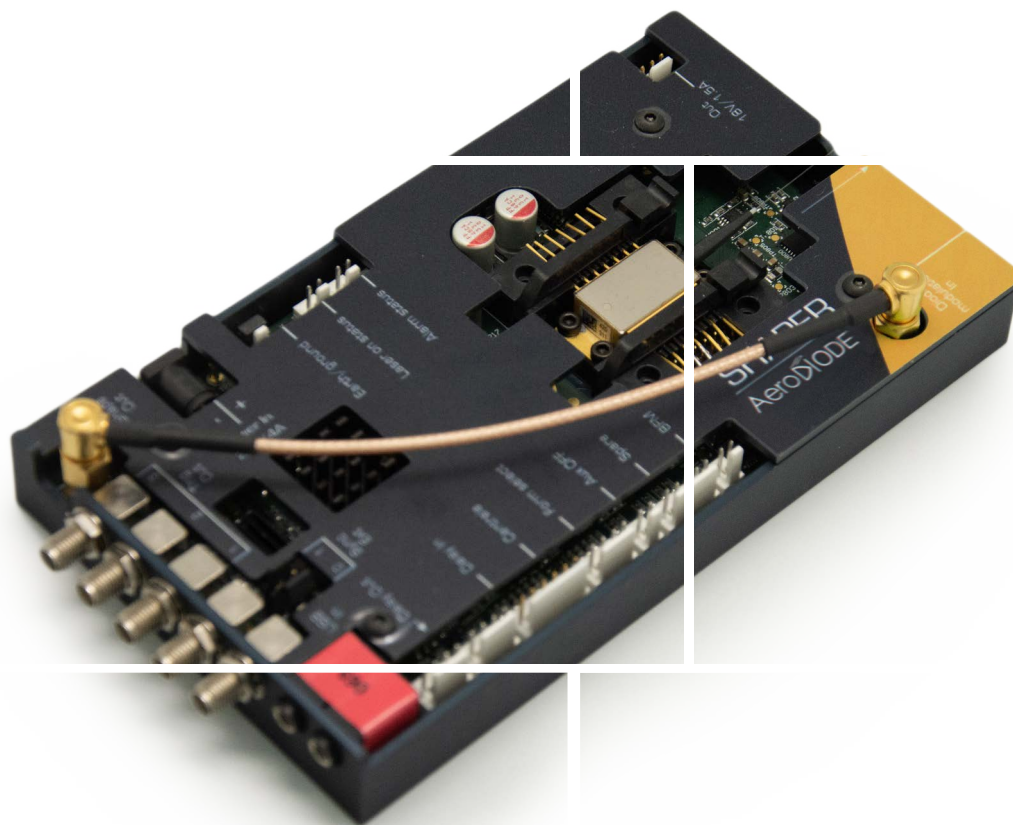


# Laser Diode Driver

For precision pulse shaping

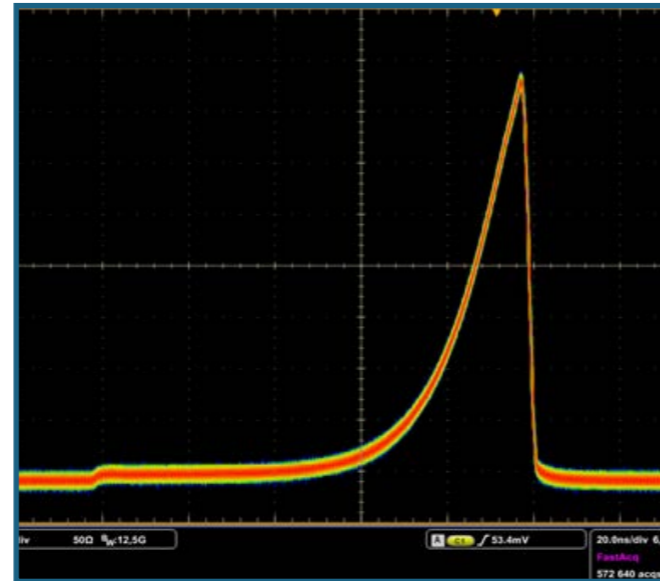
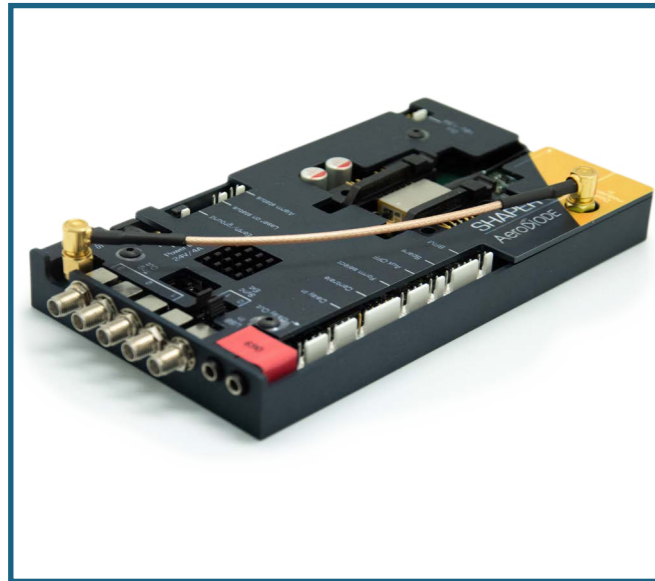


Aero **Di**ODE

# Laser Diode Driver

## For precision pulse shaping

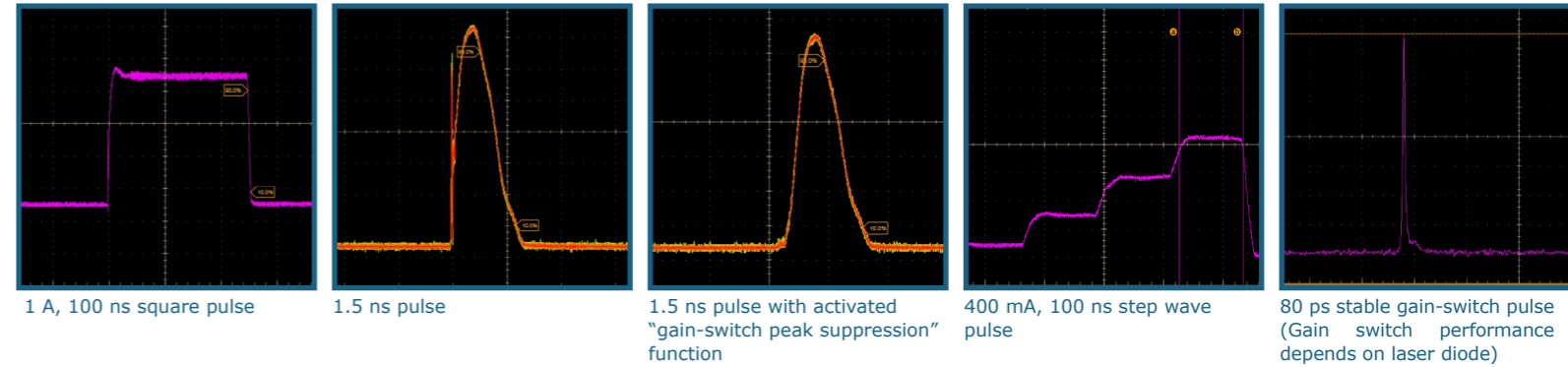
Laser diode driver to generate any pulse shape with nanosecond pulse duration. It is a multifunctional unit with integrated AWG (Arbitrary Waveform Generator), TEC controller & multiple pulse delay generators for signal synchronization. 2 models for either direct (laser diode) or external (EOM or AOM) pulse modulation. (Note : EOM=Electro optic Modulator ; AOM = Acousto-Optic modulator)



### Key features :

- Direct modulation of ns laser pulses with any shape
- 0 to 1.6 A output current with 16 bit/48 dB/30  $\mu$ A resolution
- Integrated pre-configured mounting sockets for type 1 butterfly laser diode (type 2 on request)
- User set pulse shape from 500 ps to 8  $\mu$ s with 0 - 20 MHz repetition rate
- Integrated TEC controller with over temperature protection
- Special mode for laser diode "gain switch peak" suppression
- Built-in pulse AWG with internal or remote triggering
- 3 integrated Pulse Delay Generators
- USB interface with intuitive GUI software
- Available in two versions direct or external modulations

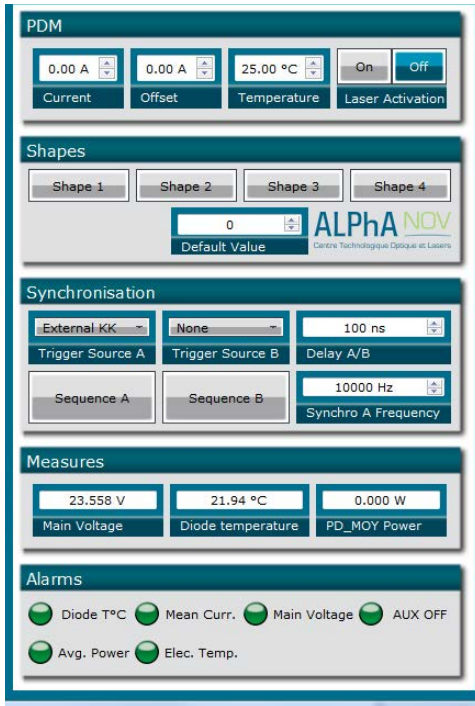
## Technical Specifications



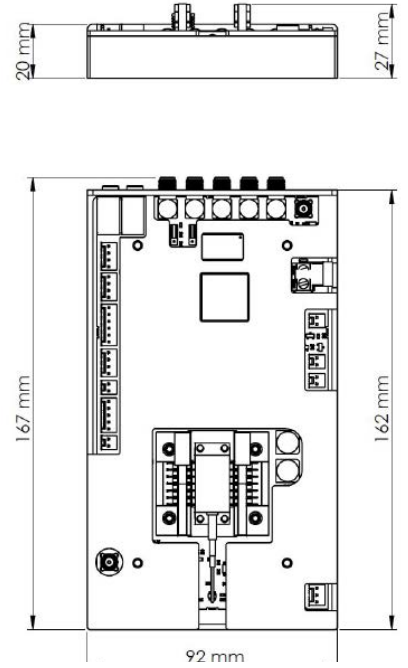
	Shaper Direct (Direct modulation of the laser diode)	Shaper External (External modulation of the laser diode - see diagram last page)
<b>Laser diode driver</b>		
Pulse mode	user design pulse shape	square pulse [1 ns to CW]
Peak current level	0 - 1.6 A	0 - 3.5A
Pulse shaping duration (4000 step max)	0.5 ns - 8 $\mu$ s	1 ns to CW
Pulse shaping timing resolution	500 ps	
Jitter (external/internal trigger)	$\pm$ 2.5 ns / < 100 ps	
Pulse current resolution	30 $\mu$ A	
Laser diode Gain switch peak suppression function	Yes (user switchable and configurable)	no
Jitter (internal trigger/external trigger)	<100 ps / $\pm$ 2.5 ns (200 MHz internal clock)	
<b>External modulator driver (EOM or AOM) : See diagram last page or our fiber modulator tutorial for more precisions</b>		
EOM/AOM* pulse duration (4000 step max)	Not applicable	0.5 ns - 8 $\mu$ s
EOM/AOM* pulse timing resolution		500 ps
Output voltage (factory configuration)		1 V (50 Ohm)/5 V (High-Z)
<b>Pulse Delay Generators outputs (for external equipment synchronization)</b>		
Number of outputs	3	
Synchronization signals duration / resolution	0 - 10 <sup>9</sup> ns / 1 ns	
Output voltage	3.3 V (50 Ohm)	
<b>Special functions</b>		
Configurable starting modes	4 (OEM, previous settings etc.)	
Configurable GUI	100% adjustable by expert user with several user modes (production user, maintenance user etc.)	
Configurable output power supply	0-18V adjustable voltage to drive any additional external board	
<b>General</b>		
Compatibilities & Librairies	Win XP/7/10 - Hexa - DLLs - LabVIEW - Python	
Interface	USB or UART	
Power supply	24 V/4 A (110 V/220 V adapter included)	

# Technical Specifications

## GUI control software

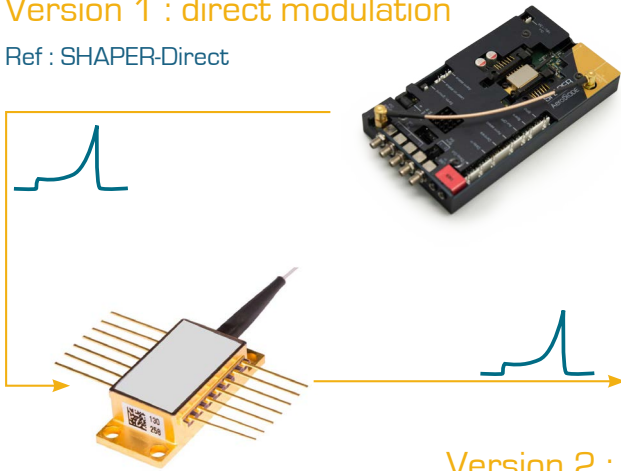


## Mechanical



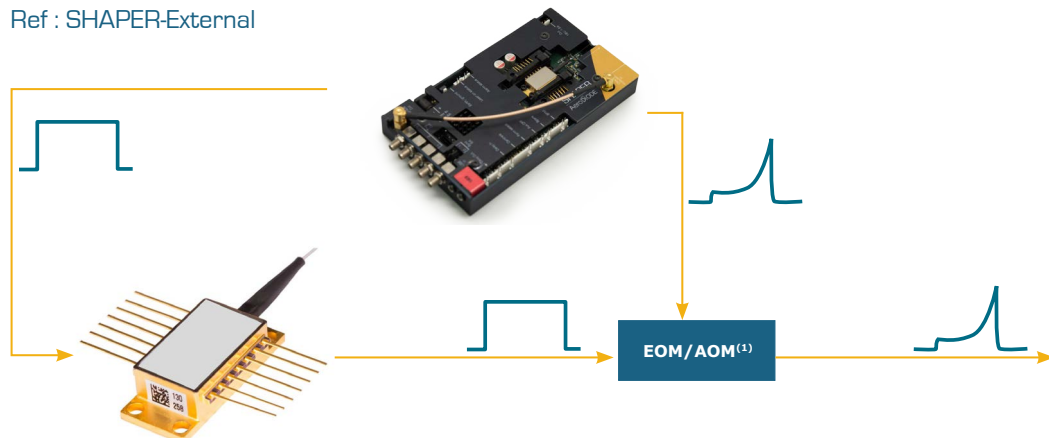
## Version 1 : direct modulation

Ref : SHAPER-Direct



## Version 2 : external modulation :

Ref : SHAPER-External



<sup>(1)</sup> Electro Optic Modulator / Acousto Optic Modulator