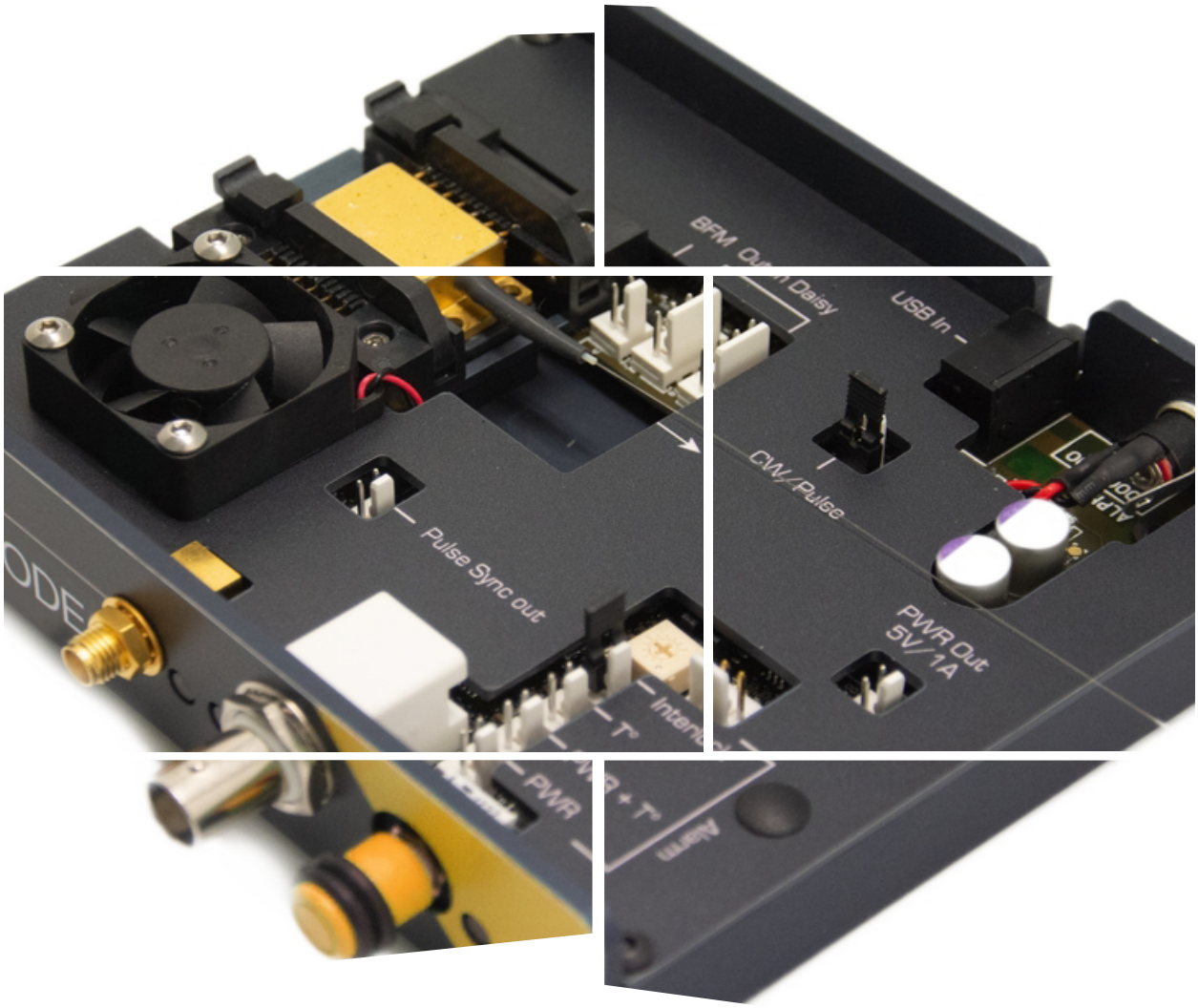
CCS

Precision Pulsed Laser Diode Driver with TEC Controller



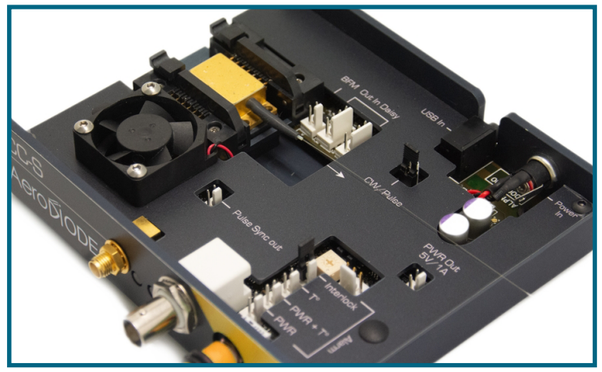
AeroDIODE

www.aerodiode.com

CCS

Precision pulsed laser diode driver and TEC controller

with Integrated Butterfly Mounting Sockets and USB

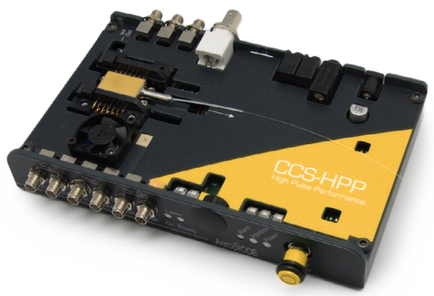


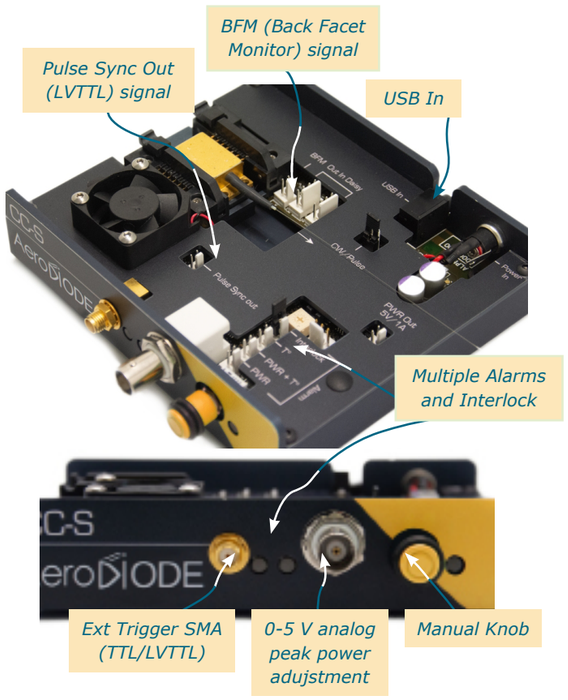
Designed for precision seed pumping applications, AeroDIODE laser diode pulsing control electronics and mounting modules are optimized for single-shot to CW performance with pulse width down to <1 ns. These complete control electronics and mounting modules deliver precision pulses which are generated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

Key features:

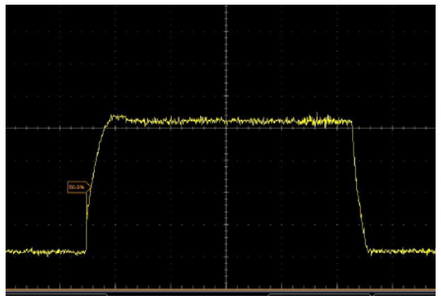
- Up to 1500 mA peak current (3500 mA or 9000 mA with optional versions)
- User set pulse width from 500 ps to CW (internal pulse generator - optical pulse width depends on laser diode)
- Up to 4 MHz repetition rate (optional 10 MHz / 250 MHz)
- Integrated TEC controller
- Down to < 500 ps rise/fall 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:

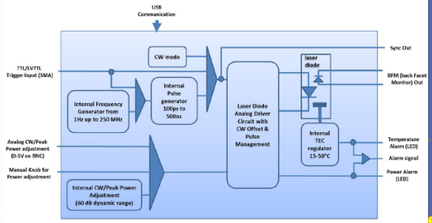




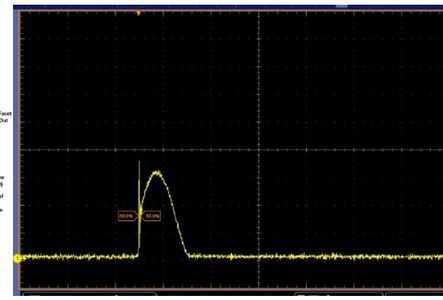
Technical Specifications



100 ns pulse / 1064 nm FP / CCS-std



Synoptic / CCS-std



3 ns pulse / 1064 nm DFB / CCS-std

Electronic and Optical

	CCS-Std	CCS-HP (High Power)	CCS-UHP (Ultra High Power)	CCS-HPP (High Pulse Performance)	SHAPER (User-design Pulse Shape)
Output current - Pulse regime (up to)	1,5 A	3,5 A	9 A	4 A	1.6 A
Output current - CW regime (up to)	0.8 A		1,5 A	2 A	no
Output Voltage range	up to 4.8 V		up to 5/10 V	1 - 24 V (Adjustable)	up to 24 V
Laser diode T° range	15 - 50 °C				
Pulse duration (Ext pulse trigger)	0.5 ns - CW			0.5ns - 8 µsec	
Pulse duration (Internal pulse generator)	0.5 ns - 500 ns				
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	1 ns	
Internal rep rate adjustment	1 Hz - 4 MHz	1 Hz - 10 MHz		1 Hz - 250 MHz	1 Hz - 20 MHz
Temporal Jitter (rms)	< 25 ps			< 8 ps	< 1.5 ns
Adj. CW offset in pulse regime	No	Yes			No
User design pulse shape	No				Yes
Interface/GUI/libraries	USB - Windows XP/7/10 - DLLs - Hexa - Labview - Python				
Dimensions (mm)	130*119*28			170*107*27.5	167*92*27
Power supply	12 V (110 - 220 V adapter included)			24 V (110 - 220 V adapt. incl.)	

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

AeroDIODE

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Photos : AeroDIODE