

HLD 500 SERIES HIGH SPEED PULSED LASER DIODE-DRIVER



- laser current up to 50 A
- pulsewidth 5 nsec to 150 nsec
- rise-/ falltime ≤ 3 nsec
- internal clock 1 kHz to 10 kHz
- TTL-input for external triggering
- level adjustment by supply voltage
- convenient plug in contact for laser diode
- efficient transient protection
- small true low cost OEM-unit

The **HLD 500 series of laser diode drivers** provides its user with an extremely simple and rugged tool to drive a broad range of **pulsed laser diodes available from various manufacturers**.

The **operation of multiple stacked laser diodes is also possible** with no restraints on signal quality.

2 basic versions differing in speed and maximum current are available from stock:

- the **basic high speed version HLD 500-50** offers output currents **up to 50 A** combined with a pulsewidth range of **25 nsec to 150 nsec** and a typical rise-/fall time of **10 nsec**.
- the **ultra high speed version HLD 500-30** delivers an output current **up to 30 A** within a pulsewidth range of **5 nsec to 50 nsec**, whereas the rise-/ fall time is in the order of **3 nsec**.

The **pulse amplitude can be adjusted simply by varying the voltage level of the main power supply**, which is 0 to 48 V for the HLD 500-50 resp. 0 to 125 V for the HLD 500-30.

The maximum applicable **repetition frequency can extend to several MHz** and is limited only by the actual value of pulsewidth and output current (for more details see the instruction manual).

Some typical operating conditions for the HLD 500-50:

- 50 A / 150 nsec → max. 5,0 kHz
- 10 A / 25 nsec → max. 750,0 kHz

similar for the HLD 500-30:

- 30 A / 50 nsec → max. 7,5 kHz
- 6 A / 5 nsec → max. 2,0 MHz

The driver requires a **low power auxiliary supply of 12 V/0,1 A** and a **variable main power supply** adjustable from 0 to 48 V resp. 0 to 125 V, also with only a few mA.

Integrated protection circuitry provides for a controlled power up / down sequence, additional circuit elements protect the laser diode from damage by ESD.

The drivers are suited for all common laser diodes with a 2 pin / 2,54 mm terminal configuration.

Two high current plug in contacts provide for a reliable low inductance connection of the laser diode.

SPECIFICATIONS FOR THE HLD 500-50

laser current range	0 ... 50 A adjustment by main supply voltage
compliance voltage	≥ 10 V @ max. output current
pulsewidth	25 nsec ... 150 nsec
rise time (20 % to 80 %)	≤ 10 nsec
fall time (80 % to 20 %)	≤ 10 nsec
duty cycle	≤ 0,1 %
repetition frequency (internal clock)	1 kHz ... 10 kHz ¹
repetition frequency (external clock)	single shot ... 1 MHz ² TTL compatible input resistance 50 Ω connector type SMB
protection features	controlled power up / down ESD-protection
main power supply	0 ... + 48 V / 0,1 A
auxiliary supply	+12 V / 0,1 A
operating temperature range	- 20 °C ... + 50 °C
design	OEM-type module
dimensions	50 x 30 x 17 mm

¹ Other ranges on request

² Upper limit depends on actual set of pulsewidth and current (see instruction manual)

Please note: Specifications are subject to change without notice

SPECIFICATIONS FOR THE HLD 500-30

laser current range	0 ... 50 A adjustment by main supply voltage
compliance voltage	≥ 10 V @ max. output current
pulsewidth	5 nsec ... 50 nsec
rise time (20 % to 80 %)	≤ 3 nsec
fall time (80 % to 20 %)	≤ 3 nsec
duty cycle	≤ 0,1 %
repetition frequency (internal clock)	1 kHz ... 10 kHz ³
repetition frequency (external clock)	single shot ... 2 MHz ⁴ TTL compatible input resistance 50 Ω connector type SMB
protection features	controlled power up / down ESD-protection
main power supply	0 ... + 125 V / 0,1 A ⁵
auxiliary supply	+12 V / 0,1 A
operating temperature range	- 20 °C ... + 50 °C
design	OEM-type module
dimensions	50 x 30 x 17 mm

³ Other ranges on request

⁴ Upper limit depends on actual set of pulsewidth and current (see instruction manual)

⁵ appropriate DC/DC-Converter available on request

Please note: Specifications are subject to change without notice