

**HLD 500 SERIES**  
**HIGH SPEED PULSED LASER DIODE-DRIVER**



**laser current up to 50 A**  
**pulsewidth 5 nsec to 150 nsec**  
**rise-/ falltime  $\leq$  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

issue 04.08

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

### COMMENTS

- (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

issue 04.08

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

## COMMENTS

- (1) Other ranges on request
- (2) Upper limit depends on actual set of pulsewidth and current (see instruction manual)
- (3) appropriate DC/DC-Converter available on request

**Please note: Specifications are subject to change without notice**