

OptoSci's LDRS Small Form Factor OEM device driver is a stable current driver and thermo-electric controller (TEC) supplied in a credit card size, three board stack. It uses the same LDR core driver hardware and offers similar high specifications as our Eurocard modules (LDR250E and LDR1000E). LDRS is designed to be integrated into the user's product or system rather than sit-stand alone on a test bench as the Eurocard version can. It comes with a dedicated device mount board & heat sink allowing users to solder their devices to the mount board.

Features

- Small Form Factor: The credit card size three board stack measures 75mm x 55mm x 30mm (excluding the heat sink) and is designed to be readily integrated into the user's product / system.
- Device Drive Current up to 250mA or 1A and TEC to 2.5A as standard to ensure precise and stable device current and temperature control for wide range of devices.
- Integrated heatsink with dedicated solder mount board for 14-pin Butterfly devices (SLED, SOA, 980nm Pump Lasers, DFB laser diodes etc). LDRS utilises the same core drivers as our LDRE modules but, unlike the latter, it does not allow rewiring of the unit.
- Comprehensive driver software (V-DRIVE) supplied for full PC control and monitoring of the device.
- Continuous traces of device drive parameters (power, current, forward voltage and temperature) are available on screen to enable ongoing monitoring of the device.
- V-DRIVE software includes LVI plotter allowing direct device characterisation with test data readily available in CSV format.
- Device current & temperature settings can be saved to driver EPROM for set & forget operation with no need for connection to a PC.
- Optional V-DRIVE add-on Multi-Instrument Browser (MIB) for monitoring up to 5 LDR units simultaneously via USB interface.
- Optional LabVIEW (beta) VI's allowing independent temperature / current control of the LDR units via client's own LabVIEW interface.
- *Custom modules available.* Contact us to discuss custom device drivers with different specifications and /or mount board options such as 14-pin demountable DIL connector, bare mount etc.

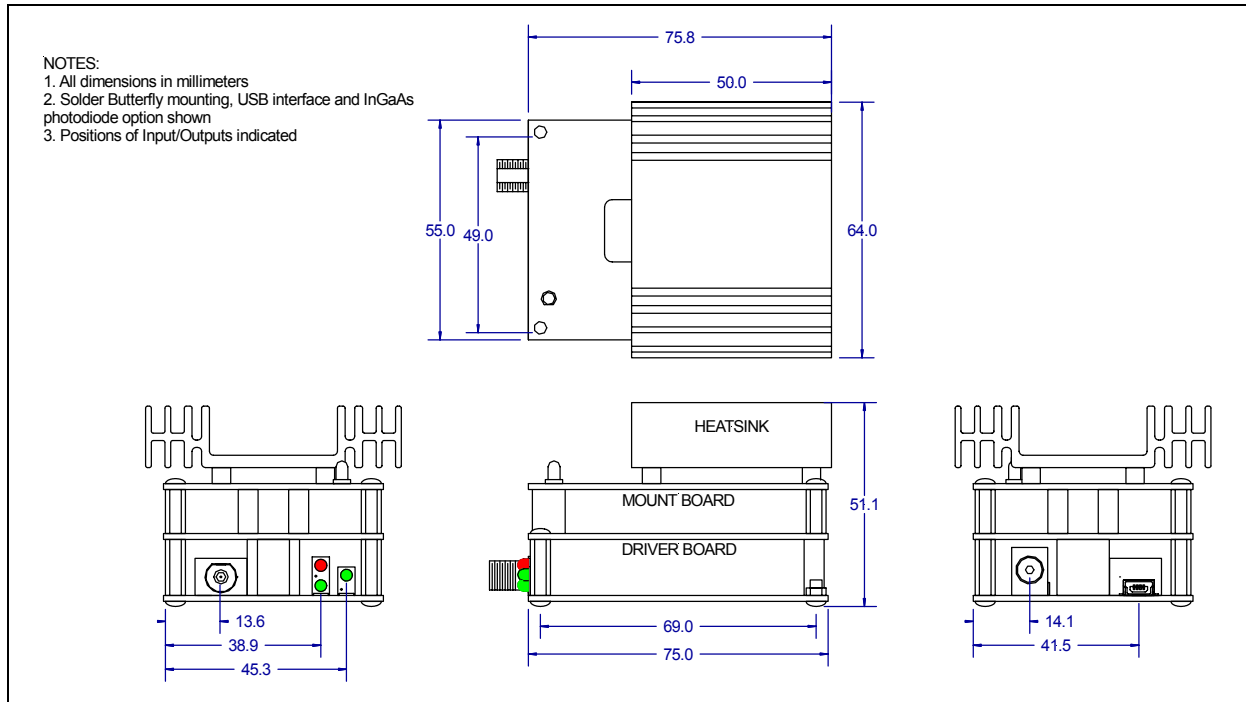
LDRS General Specifications – Custom Options Available

ITEM	SPECIFICATION	COMMENT
Current Source Subsystem		
Drive Current	LDR1000S: 10 – 1000 mA LDR250S: 0 – 250 mA	<i>User adjustable in 0.1mA increments</i>
Current stability (CC mode)	≤ 0.05%	<i>8 hours @ 20°C, after warm up</i>
Forward Voltage	≤ 4 V	<i>16 bit resolution</i>
TEC Subsystem (Temperature specifications assume a standard 10k NTC thermistor)		
TEC Current	≤ 2.5 A	
TEC Temperature set-point range	10 – 40°C	<i>User adjustable in 0.1°C increments</i>
TEC Temperature control stability	±0.02°C	<i>8 hours @ 20°C, after warm up</i>
External Power Monitor (optional)		
Input Optical Power	≤ 2.0 mW	
PC Communications		
Protocol	USB	<i>USB connector</i>
General Data		
Supply Voltage	4.5 – 5.5 V	<i>DC</i>
Supply Current	≤ 3.5 A	<i>Depends on TEC draw</i>
Update Rate	3 Hz	
Operating Temperature	0 – 35°C	
Storage Temperature	-10 – 60°C	
Stack Dimensions (LxWxH)	75 x 55 x 30 mm	<i>3 board stack only</i>
Stack with Heatsink Dims. (LxWxH)	76 x 64 x 51 mm	<i>3 board stack with Heatsink</i>
Weight	0.1 kg	
V-Drive Software Compatibility	Windows XP / 7 / 8 / 10	
Standard Device Mounting Style	Top Boards are designed to accept solder mounts	
Standard Device Package Style	Top Boards are designed to accept 14pin Butterfly packaging	
Custom Device Mounting Options	Demountable DIL package and bare mount boards for custom fitted heatsinks	
Device Pin Compatibility	Laser Diode	Grounded Cathode, Floating as standard. Grounded Anode for 250mA GA option
	Photodiode	Grounded Anode, Floating as standard.

OptoSci OEM Design & Production Capability

OptoSci has extensive experience in the design and production of custom and OEM photonics instruments and sub-systems for our worldwide industrial and research clients, based on our laser diode drivers, TEC controllers, photoreceivers, power meters, lock-in amplifiers, digital & analogue signal processing systems, system control & display modules, etc. (see the *Instrumentation* section of www.optosci.com for further information).

If you have a requirement for a custom photonics instrument, or an OEM sub-system to integrate into your own system or product, and feel that OptoSci's electronic and optoelectronic expertise would be of interest to you then please let us know and we would be happy to examine and discuss your requirements further with you.



Ordering Information:

Driver: **LDR250GKS**
 250mA Grounded Cathode OEM LDR Controller

Driver: **LDR250GAS**
 250mA Grounded Anode OEM LDR Controller

Driver: **LDR1000S**
 1000mA Grounded Cathode OEM LDR Controller

with Photodiode (optional): **LDR □□□□□ S – IF**

250GA (250mA Grounded Anode)
 250GK (250mA Grounded Cathode)
 1000 (1000mA Grounded Cathode)

LDRS OEM module with an external InGaAs photodiode in FC receptacle

Custom Module: **LDR □□□□□ S – CU**
 Non-standard / customised module

Other Optional Items: **BFM-HS**
 Spare 14-pin Butterfly LDRS solder device mount board with heatsink

LDR-5VPSU
 5V, 2.5A plug-in power supply unit

Included Items

The LDRS OEM board is supplied with the following items as standard.

- Full V-DRIVE control software
- Solder Mount for 14pin butterfly packaged fibre coupled laser, SOA or similar device
- Heatsink for butterfly modules (see separate picture)
- USB interface & PC communications cable
- Operators manual

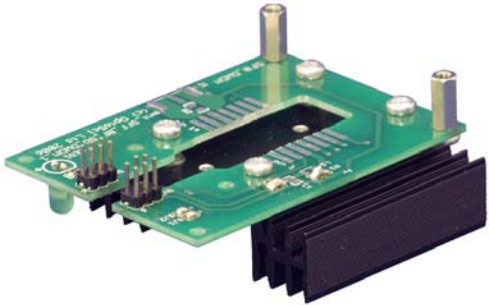
For optional items and other device mounts / connectors please contact OptoSci.

Operation

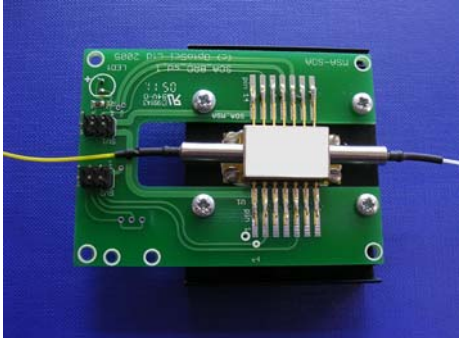
A full operating manual is supplied describing the set-up and operation of the LDRS module and the V-DRIVE software.

Top Mount Board Options:

STANDARD

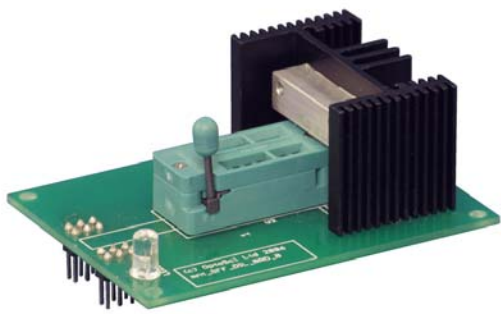


14-pin butterfly Solder Mount board with Heatsink




Example SOA Device soldered onto the mount board

CUSTOM



14-pin Demountable DIL Connector with Heatsink



Sample bare Mount Board for 14-pin devices.
(heatsink to be custom fitted by the end user)
Device Connector options: Solder, DIL, ZIF

Since OPTOSCI are committed to continuously improving the design and performance characteristics of our products, these specifications are subject to change without notice.

Date: April 2016