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CPS192 - May 19, 2016

Item # CPS192 was discontinued on May 19, 2016. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

LASER DIODE MODULES

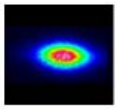
- **Wavelengths from 405 nm to 980 nm**
- **Collimated and Adjustable-Focus Versions**
- **Compact Ø8 mm or Ø11 mm Housing Options**
- **850 nm Single-Wavelength Laser Module**

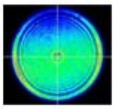
CPS2
Portable 5 VDC USB Battery Pack

CPS532
Collimated Laser Module
Power Supply Not Included

CPS635F
Adjustable-Focus Laser Module
Power Supply Not Included

Elliptical or Round Beam Profiles





Hide Overview

OVERVIEW

Features

- Collimated or Adjustable-Focus Laser Diode Modules
- Compact Ø8 mm or Ø11 mm Housing Makes these Modules Ideal as Alignment Lasers
- Lasing at Wavelengths from 405 nm to 980 nm (See Table to the Right)
  - Four 635 nm Wavelength Options Provide Alternatives to HeNe Lasers
- Single-Wavelength VCSEL Collimated Laser Module for 850 nm Available
- Round or Elliptical Beam Profile Options
- Power Supplies Are Not Included with Individual Laser Diode Modules (Sold Separately Below)

Quick Links
Laser Diode Modules
405 nm - 532 nm
635 nm
650 nm - 670 nm
780 nm
808 nm - 980 nm
850 nm VCSEL
Accessories
Mounting Adapters
5 VDC Power Supply
5 VDC Battery Packs

Thorlabs' Laser Diode Modules are available in either collimated or adjustable-focus varieties and provide output powers ranging from 0.85 mW to 4.5 mW (laser safety Class 2 or 3R depending on the model). Each module has an output beam shape that is either elliptical or round, as indicated in the tables below. These modules, which offer single-spatial-mode output and a compact cylindrical housing, are ideal for use as alignment lasers in optical systems.

For single-frequency applications, our collimated 850 nm VCSEL Module produces a single-wavelength output and a round, Gaussian beam shape similar to that of a point source. Its narrow linewidth produces a spectra that contains no sidebands, but this comes at the expense of a lower total power output.

Click to Enlarge
CPS450 Laser Diode Module Held in a KAD11NT Unthreaded Kinematic Adapter and Mounted into an FMP1 Fixed Optic Mount

Click to Enlarge
CPS980 Module Held in an AD11F SM1-Threaded Adapter and Mounted into a CP90F Quick-Release Cage Plate Within a 30 mm Cage System

Power Supply Options

Each module requires a 5 VDC power supply (not included) to operate. We offer the CPS1 and CPS2 External Battery Packs as well as the LDS5 Wall Adapter below. The CPS laser diode modules connect directly to the output of the LDS5 adapter, while the external battery packs require the use of a USB-to-phono plug, which is included with each pack.

Click to Enlarge
CPS980S Laser Diode Module Held in an AD8F SM1-Threaded Adapter and Mounted into an LM1XY XY Translation Mount

Click to Enlarge

Alternatively, a male 2.5 mm phono plug is included with each CPS laser diode module for customers who wish to wire their own power supply to the laser module. These modules have either an 18" (457 mm) or 24" (610 mm) long cable with a female 2.5 mm phono socket for connection to a power supply.

Mounting Options

Portable Battery Packs Available

The Ø8 mm and Ø11 mm housings are compatible with our line of optomechanical components through the use of various mounting adapters, as shown in the images to the right. Depending on the adapter chosen, these laser modules can be directly mounted into either internally SM1-threaded (1.035"-40) components or mechanics with a Ø1" bore. Further details on each adapter and its compatibility with our line of optomechanics can be found below.

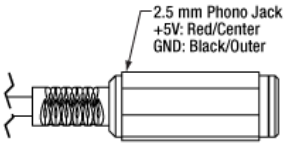
Click to Enlarge
CPS850 Laser Diode Module Held in an AD11NT Unthreaded Adapter and Mounted into a KM100 Kinematic Mount

Please note that the knurled knob used for focus adjustment on the CPS635F, CPS650F, and CPS670F laser modules is too large for the mounting adapter bore. This knob can be unthreaded to mount the diode module in the same manner as the collimated versions. Please make sure to loosen the setscrews locking the knob in place before unthreading; not doing so can damage the threading. Alternatively, the module can be mounted by threading the cord and phono plug through the adapter first.

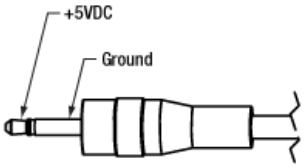
Hide Pin Diagrams

PIN DIAGRAMS

CPS Laser Diode Power Connector



LDS5, CPS1, CPS2 Power Supply Connector



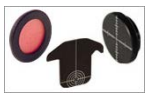
Hide Laser Safety

LASER SAFETY

Laser Safety and Classification

Safe practices and proper usage of safety equipment should be taken into consideration when operating lasers. The eye is susceptible to injury, even from very low levels of laser light. Thorlabs offers a range of laser safety accessories that can be used to reduce the risk of accidents or injuries. Laser emission in the visible and near infrared spectral ranges has the greatest potential for retinal injury, as the cornea and lens are transparent to those wavelengths, and the lens can focus the laser energy onto the retina.

Safe Practices and Light Safety Accessories




- Thorlabs recommends the use of safety eyewear whenever working with laser beams with non-negligible powers (i.e., > Class 1) since metallic tools such as screwdrivers can accidentally redirect a beam.
- Laser goggles designed for specific wavelengths should be clearly available near laser setups to protect the wearer from unintentional laser reflections.
- Goggles are marked with the wavelength range over which protection is afforded and the minimum optical density within that range.
- Laser Barriers and Blackout Materials can prevent direct or reflected light from leaving the experimental setup area.
- Thorlabs' Enclosure Systems can be used to contain optical setups to isolate or minimize laser hazards.
- A fiber-pigtailed laser should always be turned off before connecting it to or disconnecting it from another fiber, especially when the laser is at power levels above 10 mW.
- All beams should be terminated at the edge of the table, and laboratory doors should be closed whenever a laser is in use.
- Do not place laser beams at eye level.
- Carry out experiments on an optical table such that all laser beams travel horizontally.
- Remove unnecessary reflective items such as reflective jewelry (e.g., rings, watches, etc.) while working near the beam path.
- Be aware that lenses and other optical devices may reflect a portion of the incident beam from the front or rear surface.
- Operate a laser at the minimum power necessary for any operation.
- If possible, reduce the output power of a laser during alignment procedures.
- Use beam shutters and filters to reduce the beam power.
- Post appropriate warning signs or labels near laser setups or rooms.
- Use laser sign lightboxes if operating Class 3R or 4 lasers (i.e., lasers requiring the use of a safety interlock).
- Do not use Laser Viewing Cards in place of a proper Laser Barrier or Beam Trap.

Laser Classification

Lasers are categorized into different classes according to their ability to cause eye and other damage. The International Electrotechnical Commission (IEC) is a global organization that prepares and publishes international standards for all electrical, electronic, and related technologies. The IEC document 60825-1 outlines the safety of laser products. A description of each class of laser is given below:

Class	Description	Warning Label
1	This class of laser is safe under all conditions of normal use, including use with optical instruments for intrabeam viewing. Lasers in this class do not emit radiation at levels that may cause injury during normal operation, and therefore the maximum permissible exposure (MPE) cannot be exceeded. Class 1 lasers can also include enclosed, high-power lasers where exposure to the radiation is not possible without opening or shutting down the laser.	
1M	Class 1M lasers are safe except when used in conjunction with optical components such as telescopes and microscopes. Lasers belonging to this class emit large-diameter or divergent beams, and the MPE cannot normally be exceeded unless focusing or imaging optics are used to narrow the beam. However, if the beam is refocused, the hazard may be increased and the class may be changed accordingly.	
2	Class 2 lasers, which are limited to 1 mW of visible continuous-wave radiation, are safe because the blink reflex will limit the exposure in the eye to 0.25 seconds. This category only applies to visible radiation (400 - 700 nm).	
2M	Because of the blink reflex, this class of laser is classified as safe as long as the beam is not viewed through optical instruments. This laser class also applies to larger-diameter or diverging laser beams.	
3R	Lasers in this class are considered safe as long as they are handled with restricted beam viewing. The MPE can be exceeded with this class of laser, however, this presents a low risk level to injury. Visible, continuous-wave lasers are limited to 5 mW of output power in this class.	
3B	Class 3B lasers are hazardous to the eye if exposed directly. However, diffuse reflections are not harmful. Safe handling of devices in this class includes wearing protective eyewear where direct viewing of the laser beam may occur. In addition, laser safety signs lightboxes should be used with lasers that require a safety interlock so that the laser cannot be used without the safety light turning on. Class-3B lasers must be equipped with a key switch and a safety interlock.	
4	This class of laser may cause damage to the skin, and also to the eye, even from the viewing of diffuse reflections. These hazards may also apply to indirect or non-specular reflections of the beam, even from apparently matte surfaces. Great care must be taken when handling these lasers. They also represent a fire risk, because they may ignite combustible material. Class 4 lasers must be equipped with a key switch and a safety interlock.	
All class 2 lasers (and higher) must display, in addition to the corresponding sign above, this triangular warning sign		

Hide Laser Diode Modules: 405 nm - 532 nm

Laser Diode Modules: 405 nm - 532 nm

Click Image for Full View (Not to Scale)					
Item #	CPS405	CPS450	CPS520	CPS532	CPS532-C2
Type	Fixed	Fixed	Fixed	Fixed	Fixed
Wavelength (Typical)	405 nm	450 nm	520 nm	532 nm	532 nm
Power (Typical)	4.5 mW	4.5 mW	4.5 mW	4.5 mW	0.9 mW
Laser Safety Class	3R	3R	3R	3R	2
Beam Shape[a] (Click for Profile)	3.8 mm x 1.8 mm	3.2 mm x 1.0 mm	4.6 mm x 1.7 mm	Ø3.5 mm	Ø3.5 mm
Housing Dimensions	Ø11.0 mm x 40 mm	Ø11.0 mm x 40 mm	Ø11.0 mm x 40 mm	Ø11.0 mm x 72.8 mm	Ø11.0 mm x 72.8 mm
Specifications					

- The beam size was measured at a distance of 2" (50.8 mm) from the front of the housing. The beam profile was obtained using a Thorlabs CCD beam profiler with an OD 4.0 neutral density filter.

Part Number	Description	Price	Availability
CPS405	Collimated Laser Diode Module, 405 nm, 4.5 mW, Elliptical Beam, Ø11 mm Housing	$185.00	Today
CPS450	Collimated Laser Diode Module, 450 nm, 4.5 mW, Elliptical Beam, Ø11 mm Housing	$212.00	Today
CPS520	Collimated Laser Diode Module, 520 nm, 4.5 mW, Elliptical Beam, Ø11 mm Housing	$185.00	Today
CPS532	Collimated Laser Diode Module, 532 nm, 4.5 mW, Round Beam, Ø11 mm Housing	$155.00	Today
CPS532-C2	Collimated Laser Diode Module, 532 nm, 0.9 mW, Round Beam, Ø11 mm Housing	$155.00	Today

Hide Laser Diode Modules: 635 nm

Laser Diode Modules: 635 nm

Click Image for Full View (Not to Scale)				
Item #	CPS635R	CPS635	CPS635S	CPS635F[a]
Type	Fixed	Fixed	Fixed	Adjustable
Wavelength (Typical)	635 nm	635 nm	635 nm	635 nm
Power (Typical)	1.2 mW	4.5 mW	4.5 mW	4.5 mW
Laser Safety Class	3R	3R	3R	3R
Beam Shape[b] (Click for Profile)	Ø2.9 mm	4.5 mm x 1.0 mm	3.8 mm x 1.2 mm	Collimated 5.0 mm x 1.9 mm
Housing Dimensions	Ø11.0 mm x 58.0 mm	Ø11.0 mm x 40.0 mm	Ø8.0 mm x 30 mm	Ø11.0 mm x 54 mm
Specifications				

- Focus can be adjusted by loosening the knurled knob at the front of the laser housing. As the knob is turned, the lens will translate without rotation. Please note that the rotation of the knob can be locked with two setscrews using the provided 0.9 mm hex wrench.
- The beam size was measured at a distance of 2" (50.8 mm) from the front of the housing. The beam profile was obtained using a Thorlabs CCD beam profiler with an OD 4.0 neutral density filter.

Part Number	Description	Price	Availability
CPS635R	**Collimated Laser Diode Module, 635 nm, 1.2 mW, Round Beam, Ø11 mm Housing**	**$88.00**	**Today**
CPS635	**Collimated Laser Diode Module, 635 nm, 4.5 mW, Elliptical Beam, Ø11 mm Housing**	**$87.00**	**Today**
CPS635S	**Collimated Laser Diode Module, 635 nm, 4.5 mW, Elliptical Beam, Ø8 mm Housing**	**$82.00**	**Today**
CPS635F	**Adjustable Focus Laser Diode Module, 635 nm, 4.5 mW, Elliptical Beam, Ø11 mm Housing**	**$99.80**	**Today**

Hide Laser Diode Modules: 650 nm - 670 nm

Laser Diode Modules: 650 nm - 670 nm

Click Image for Full View (Not to Scale)		
Item #	CPS650F[a]	CPS670F[a]
Type	Adjustable	Adjustable
Wavelength (Typical)	650 nm	670 nm
Power (Typical)	4.5 mW	4.5 mW
Laser Safety Class	3R	3R
Beam Shape[b] (Click for Profile)	Collimated 5.0 mm x 2.4 mm	Collimated 5.0 mm x 2.4 mm
Housing Dimensions	Ø11.0 mm x 54 mm	Ø11.0 mm x 54 mm
Specifications		

- Focus can be adjusted by loosening the knurled knob at the front of the laser housing. As the knob is turned, the lens will translate without rotation. Please note that the rotation of the knob can be locked with two setscrews using the provided 0.9 mm hex wrench.
- The beam size was measured at a distance of 2" (50.8 mm) from the front of the housing. The beam profile was obtained using a Thorlabs CCD beam profiler with an OD 4.0 neutral density filter.

Part Number	Description	Price	Availability
CPS650F	**Focus Adjustable Laser Diode Module, 650 nm, 4.5 mW, Elliptical Beam, Ø11 mm Housing**	**$99.70**	**Today**
CPS670F	**Adjustable Focus Laser Diode Module, 670 nm, 4.5 mW, Elliptical Beam, Ø11 mm Housing**	**$113.20**	**Today**

Hide Laser Diode Modules: 780 nm

CPS192 - Collimated Laser Diode Module, 780 nm, 4.5 mW, Elliptical Beam, Ø8 mm Housing

Specifications | Drawing

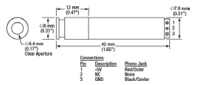
General Specifications	
Characteristic	
Housing Material	Aluminum
Housing Dimensions	Ø8.0 mm x 42 mm
Beam Size[a]	Elliptical, 4.4 mm x 1.7 mm
Operating Temperature	-10 to 60 °C
Storage Temperature	-40 to 85 °C
Operating Voltage	-4.5 V to -5.5 V
Laser Safety Class	3B
Mounting Adapter	AD8F
Compatible Power Supply (Not Included)	LDS5, CPS1, CPS2

a. The beam size was measured at a distance of 2" (50.8 mm) from the front of the housing.

Optical Electrical Characteristics				
Characteristic	**MIN**	**TYP**	**MAX**	**UNIT**
Wavelength	-	780	-	nm
Optical Output Power (CW)	4.0	-	4.5	mW
Axis Deviation[a]	-	7	15	mrad
Beam Divergence (Parallel)	-	-	0.6	mrad
Beam Divergence (Perpendicular)	-	-	1.8	mrad
Operating Current (CW)	-	45	-	mA

a. Max Axis Deviation is the parallelism between the module housing and the output beam.

Laser Diode Modules: 780 nm



CPS192 Mechanical Drawing

Click Image for Full View (Not to Scale)		
Item #	CPS192	CPS780S
Type	Fixed	Fixed
Wavelength (Typical)	780 nm	780 nm
Power (Typical)	4.5 mW	4.5 mW
Laser Safety Class	3R	3R
Beam Shape[a] (Click for Profile)	4.4 mm x 1.7 mm	3.8 mm x 1.6 mm
Housing Dimensions	Ø8.0 mm x 42 mm	Ø8.0 mm x 30 mm
Specifications		

- The beam size was measured at a distance of 2" (50.8 mm) from the front of the housing. The beam profile was obtained using a Thorlabs CCD beam profiler with an OD 4.0 neutral density filter.

Part Number	Description	Price	Availability
CPS192	Collimated Laser Diode Module, 780 nm, 4.5 mW, Elliptical Beam, Ø8 mm Housing	$106.00	Lead Time
CPS780S	Collimated Laser Diode Module, 780 nm, 4.5 mW, Elliptical Beam, Ø8 mm Housing	$98.00	Today

Hide Laser Diode Modules: 808 nm - 980 nm

Laser Diode Modules: 808 nm - 980 nm

Click Image for Full View (Not to Scale)				
Item #	CPS808A	CPS808S	CPS830	CPS830S
Type	Fixed	Fixed	Fixed	Fixed
Wavelength (Typical)	808 nm	808 nm	830 nm	830 nm
Power (Typical)	4.5 mW	4.5 mW	4.5 mW	4.5 mW
Laser Safety Class	3R	3R	3R	3R
Beam Shape[a] (Click for Profile)	2.6 mm x 1.3 mm	2.8 mm x 1.6 mm	4.4 mm x 1.1 mm	4.0 mm x 1.3 mm
Housing Dimensions	Ø11.0 mm x 40 mm	Ø8.0 mm x 30 mm	Ø11.0 mm x 40 mm	Ø8.0 mm x 30 mm
Specifications				

Click Image for Full View (Not to Scale)				
Item #	CPS850	CPS850S	CPS980	CPS980S
Type	Fixed	Fixed	Fixed	Fixed
Wavelength (Typical)	850 nm	850 nm	980 nm	980 nm
Power (Typical)	4.5 mW	4.5 mW	4.5 mW	4.5 mW
Laser Safety Class	3R	3R	3R	3R
Beam Shape[a] (Click for Profile)	4.5 mm x 1.2 mm	3.8 mm x 1.5 mm	3.8 mm x 1.8 mm	3.8 mm x 1.8 mm
Housing Dimensions	Ø11.0 mm x 40 mm	Ø8.0 mm x 30 mm	Ø11.0 mm x 40 mm	Ø8.0 mm x 30 mm
Specifications				

- The beam size was measured at a distance of 2" (50.8 mm) from the front of the housing. The beam profile was obtained using a Thorlabs CCD beam profiler with an OD 4.0 neutral density filter.

Part Number	Description	Price	Availability

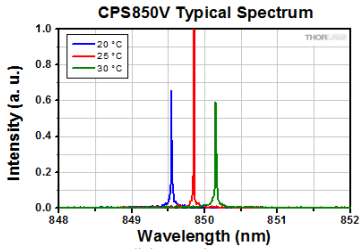
CPS808A	**Collimated Laser Diode Module, 808 nm, 4.5 mW, Elliptical Beam, Ø11 mm Housing**	**$168.00**	**Today**
CPS808S	**Collimated Laser Diode Module, 808 nm, 4.5 mW, Elliptical Beam, Ø8 mm Housing**	**$168.00**	**Today**
CPS830	**Collimated Laser Diode Module, 830 nm, 4.5 mW, Elliptical Beam, Ø11 mm Housing**	**$102.00**	**Today**
CPS830S	**Collimated Laser Diode Module, 830 nm, 4.5 mW, Elliptical Beam, Ø8 mm Housing**	**$102.00**	**Today**
CPS850	**Collimated Laser Diode Module, 850 nm, 4.5 mW, Elliptical Beam, Ø11 mm Housing**	**$102.00**	**Today**
CPS850S	**Collimated Laser Diode Module, 850 nm, 4.5 mW, Elliptical Beam, Ø8 mm Housing**	**$102.00**	**Today**
CPS980	**Collimated Laser Diode Module, 980 nm, 4.5 mW, Elliptical Beam, Ø11 mm Housing**	**$99.00**	**Today**
CPS980S	**Collimated Laser Diode Module, 980 nm, 4.5 mW, Elliptical Beam, Ø8 mm Housing**	**$99.00**	**Today**

Hide VCSEL Laser Diode Module: 850 nm

VCSEL Laser Diode Module: 850 nm

Click Image for Full View (Not to Scale)	
Item #	CPS850V
Type	Fixed
Wavelength (Typical)	850 nm
Power (Typical)	0.85 mW
Laser Safety Class	3R
Beam Shape[a] (Click for Profile)	Ø2.2 mm
Housing Dimensions	Ø11.0 mm x 40 mm
Specifications	

- The beam size was measured at a distance of 2" (50.8 mm) from the front of the housing. The beam profile was obtained using a Thorlabs CCD beam profiler with an OD 4.0 neutral density filter.



Click to Enlarge
Click Here for Raw Data
The CPS850V Collimated VCSEL Module has a single-wavelength output with a narrow linewidth. Graph above shows the typical spectrum taken at 20 °C, 25 °C, and 30 °C using a Thorlabs OSA201 Spectrum Analyzer. The apparent linewidth is limited by the measurement resolution, which is 7.5 GHz (0.25 cm^{-1}). This data is typical and will vary for each module.

Part Number	Description	Price	Availability
CPS850V	**Customer Inspired!Collimated VCSEL Diode Module, 850 nm, 0.85 mW, Circular Beam, Ø11 mm Housing**	**$211.00**	**Today**

Hide Laser Diode Module Mounting Adapters

Laser Diode Module Mounting Adapters

These adapters mount the laser diode housing into SM1 (1.035"-40) lens tubes, 30 mm cage systems, Ø1/2" posts, or Ø1/2" or Ø1" mounts. Please see the application photos in the *Overview* tab for more details.

The KAD8F, KAD8NT, KAD11F, and KAD11NT Adapters provide ±6° of pitch and yaw adjustment. Two 80 TPI fine adjustment screws on the front plate of the adapter control the pitch and yaw position and can be turned using a 5/64" (2.0 mm) hex key.

Please note that the knurled knob used for focus adjustment on the CPS635F, CPS650F, and CPS670F laser modules is too large for the mounting adapter bore. This knob can be unthreaded to mount the diode module in the same manner as the collimated versions, as shown in the animation to the right. Please make sure to loosen the setscrews locking the knob in place before unthreading; not doing so can damage the threading. Alternatively, the module can be mounted by threading the cord and phono plug through the adapter first.

Click Image to Enlarge								
Item #	AD8F	KAD8F	KAD8NT	AD11BA	AD11F	AD11NT	KAD11F	KAD11NT
Description	Externally SM1-Threaded Adapter	Externally SM1-Threaded Kinematic Adapter with Pitch and Yaw Adjustment	Unthreaded Kinematic Adapter with a 1" Outer Diameter and Pitch and Yaw Adjustment	Unthreaded Adapter with a 1/2" Outer Diameter	Externally SM1-Threaded Adapter	Unthreaded Adapter with a 1" Outer Diameter	Externally SM1-Threaded Kinematic Adapter with Pitch and Yaw Adjustment	Unthreaded Kinematic Adapter with a 1" Outer Diameter and Pitch and Yaw Adjustment
Diode Module Housing Diameter	8 mm			11 mm				

Part Number	Description	Price	Availability
AD8F	SM1-Threaded Adapter for Ø8 mm Cylindrical Components	$27.50	Today
KAD8F	SM1-Threaded Kinematic Pitch/Yaw Adapter for Ø8 mm Cylindrical Components	$60.00	Today
KAD8NT	Ø1" Kinematic Pitch/Yaw Adapter for Ø8 mm Cylindrical Components	$57.00	Today
AD11BA	Ø1/2" Unthreaded Adapter for Ø11 mm Cylindrical Components	$19.00	Today
AD11F	SM1-Threaded Adapter for Ø11 mm Cylindrical Components	$27.80	Today
AD11NT	Customer Inspired!Ø1" Unthreaded Adapter for Ø11 mm Cylindrical Components	$22.00	Today
KAD11F	SM1-Threaded Kinematic Pitch/Yaw Adapter for Ø11 mm Cylindrical Components	$63.00	Today
KAD11NT	Ø1" Kinematic Pitch/Yaw Adapter for Ø11 mm Cylindrical Components	$60.00	Today

Hide 5 VDC Regulated Power Supply

5 VDC Regulated Power Supply

- Compatible with CPS Laser Modules
- 5 VDC Power Output
- 6 ft (183 cm) Cable with 2.5 mm Phono Plug


LDS5 Pin Diagram

The LDS5 is a 5 VDC power supply that is ideal for use with our CPS laser diode modules. A 6 ft (183 cm) cable with a 2.5 mm phono plug extends from the body of the power supply for connection to a CPS module.

The power supply has a selectable line voltage of 115 or 230 V. A 120 VAC power cable is included with the LDS5, while the LDS5-EC comes with a 230 VAC power cable. To order this item with a different power cable, please contact tech support.

Part Number	Description	Price	Availability
LDS5-EC	5 VDC Regulated Power Supply, 2.5 mm Phono Plug, 230 VAC	$83.35	Today
LDS5	5 VDC Regulated Power Supply, 2.5 mm Phono Plug, 120 VAC	$83.35	Today

Hide 5 VDC External Battery Packs

5 VDC External Battery Packs

- Portable USB Battery Packs with 5 VDC Output
- Compatible with CPS Laser Modules
- Available in Two Capacities: 4000 mAh or 10 000 mAh

For orders of more than 10 pieces, please contact us directly at: sales-TQE@thorlabs.com


Click to Enlarge
CPS2 Battery Pack with CPS Laser Diode

Thorlabs offers the CPS1 and CPS2 Portable 5 V Battery Packs for powering our CPS laser diode modules and other USB-powered devices. The CPS1 and CPS2 battery packs offer 10 000 mAh and 4000 mAh capacity, respectively. A fully charged CPS1 or CPS2 battery pack can power any CPS laser module for at least 36 hours or 14 hours of continuous operation, respectively. Each battery pack includes a USB-to-Micro-USB cable for charging and a custom USB-to-Phono cable for powering the CPS laser diode module, as shown in the photo to the right. The packs may be charged using standard 5 V USB chargers for portable devices or using a computer USB port.

The CPS1 Battery Pack also includes an LED flashlight adjacent to the micro-USB port. The flashlight is activated and deactivated by pressing the power button twice.

When connecting the CPS Laser Diode Module, the module and adapter should be connected first. Then the adapter cable should be plugged into the isolated power supply to avoid a short circuit in the phono jack. Please note that the USB adapter included with these battery packs is not intended to be used with power supplies that are not current-limited or isolated from ground, such as some computers or laptops.

Note: The laser diode will automatically turn on when the electrical connection is made to the battery pack. Afterwards, it can be turned off using the power button on the battery pack. Please follow proper laser safety procedures.

Part Number	Description	Price	Availability
CPS1	Customer Inspired!5 VDC Battery Pack for CPS Laser Diodes, 10 000 mAh	$34.00	Today
CPS2	5 VDC Battery Pack and USB to Phono Cable for CPS Laser Diodes, 4000 mAh	$19.00	Lead Time

Visit the *Laser Diode Modules* page for pricing and availability information:
https://www.thorlabs.com/newgrouppage9.cfm?objectgroup_id=1487