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THORLABS

PAL9-A - Aug. 3, 2017

Item # PAL9-A was discontinued on Aug. 3, 2017. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

LASERPORT

- Mounts and Collimates a Laser Diode
- Ideal for Fiber Coupling Laser
- Available for 5.6 mm and 9 mm Diodes

PAL9-A

PAL5-B

Application Idea
FB-51W FiberBench with
LaserPort and FiberPort Couplers

OVERVIEW

Features

- Mount and Collimate a Ø5.6 mm or Ø9 mm Laser Diode
- AR-Coated Aspheric Lens with 5 Degrees of Freedom
- Pair with a FiberPort on a FiberBench to Fiber Couple a Laser Diode
- Ideal for Low-Power Laser Diodes

Item #	Lens EFL	Coating Range	Max Beam Divergence	Collimated Output Beam Diameter[a]	Laser Diode Package
PAL5-B	2.7 mm	650 - 1050 nm	31°	0.5 - 2.7 mm	Ø5.6 mm
PAL5-C	2.7 mm	1050 - 1620 nm	31°	0.5 - 2.7 mm	Ø5.6 mm
PAL9-A	2.7 mm	350 - 700 nm	31°	0.5 - 2.7 mm	Ø9 mm
PAL9-C	2.7 mm	1050 - 1620 nm	31°	0.5 - 2.7 mm	Ø9 mm

- Depends on the divergence angle of the laser diode.

Thorlabs' LaserPort mounts either a Ø5.6 mm or a Ø9 mm customer-supplied laser diode and collimates the emitted light. It offers 5-axis (X, Y, Z, pitch, and yaw) adjustment of an aspheric lens relative to a laser diode, allowing the user to adjust the lens for optimum collimation performance. As the LaserPort does not offer TEC control, dissipating heat from the diode is essential for stable power and wavelength output. To accomplish this and to electrically insulate the diode, the LaserPort features a ceramic mounting seat for the diode. To drive the laser diode, we suggest using our SR9 cables; please note that this configuration will only provide an electrical connection, not strain relief. These cables are designed to accommodate various pin configurations and can be easily integrated with our Laser Diode Current Controllers.

Click for Details
PAL9 Mounting
Carriage

Temporary Fiber Pigtail

The highly-stable 5-axis adjustment, combined with the thermal properties of the mount, provides the LaserPort with excellent stability characteristics. As can be seen at the top right of this webpage, the LaserPort can be paired with a FiberPort on a FiberBench for fiber coupling applications. Depending on the divergence angle of the laser diode, a diode can be coupled into single mode fiber with better than 60% efficiency. This essentially creates a temporary fiber pigtail where the laser diode can be easily swapped. As a testament to this setup's stability, our tests have shown initial coupling efficiency to single mode fiber of 62% only decreasing to 58% over a 7 day period.

Laser Diode Temperature Warning

Please note that these LaserPort mounts do not have any temperature regulation or temperature measurement capability, so we do not recommend using them with higher power laser diodes without additional thermal regulation. Running a laser diode at a high operating temperature can significantly shorten its lifetime.

Laser Diode Accessory Selection Guide					
Temperature Controlled Mounts	Passive Mounts	Other Passive Mounts with Collimation Package	Strain Relief Cables	Diode Sockets	Controllers
					

5.6 mm Laser Diode Mounts

Part Number	Description	Price	Availability
PAL5-B	LaserPort for Ø5.6 mm Laser Diode, f = 2.7 mm, 650 - 1050 nm	$470.00	Lead Time
PAL5-C	LaserPort for Ø5.6 mm Laser Diode, f = 2.7 mm, 1050 - 1620 nm	$470.00	3-5 Days

9 mm Laser Diode Mounts

Part Number	Description	Price	Availability
PAL9-A	LaserPort for Ø9.0 mm Laser Diode, f = 2.7 mm, 350 - 700 nm	$470.00	Lead Time
PAL9-C	LaserPort for Ø9.0 mm Laser Diode, f = 2.7 mm, 1050 - 1620 nm	$470.00	3-5 Days