

Applications

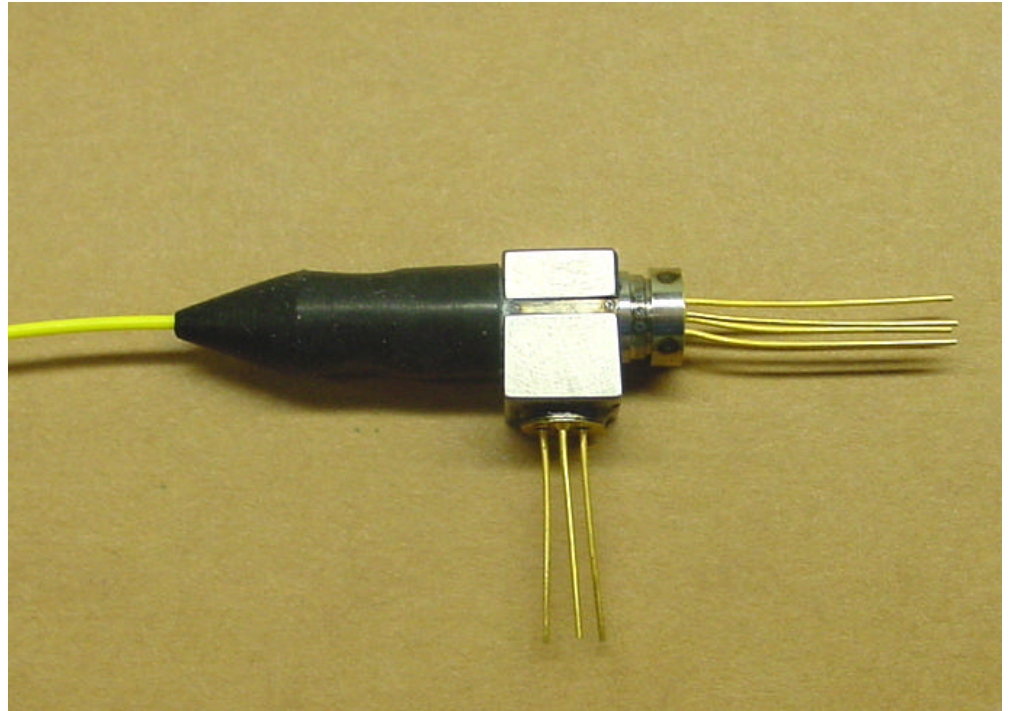
- Stabilized Light Source
- Hand Held Instruments
- Fiber Loss Measurement
- Fiber Plant Characterization

Features

- Output Power -7dBm to 0dBm
- -40 to $+85^\circ$ Operating Temperature
- Choice of Wavelengths
 - 1310nm
 - 1550nm

Compact, rugged construction

- Low Threshold Current Laser
- Low Power Consumption
- Available with optical connectors
- Replaces Discreet Lasers and Optical Couplers
- Class 1 Eye Safe Device
- UL Listed



These small, compact modules require minimal board real estate and may be specified by combining any combination of the following three wavelengths:

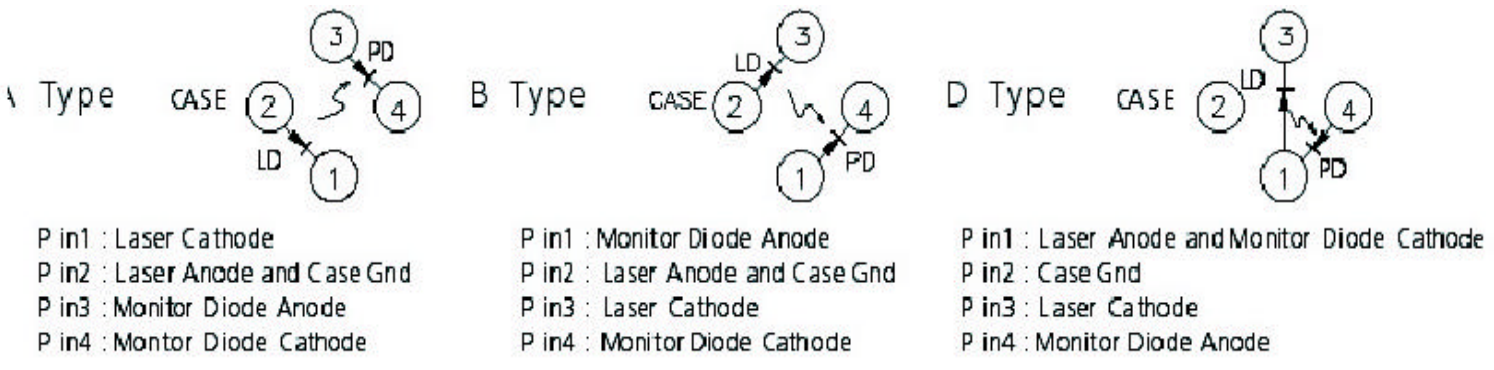
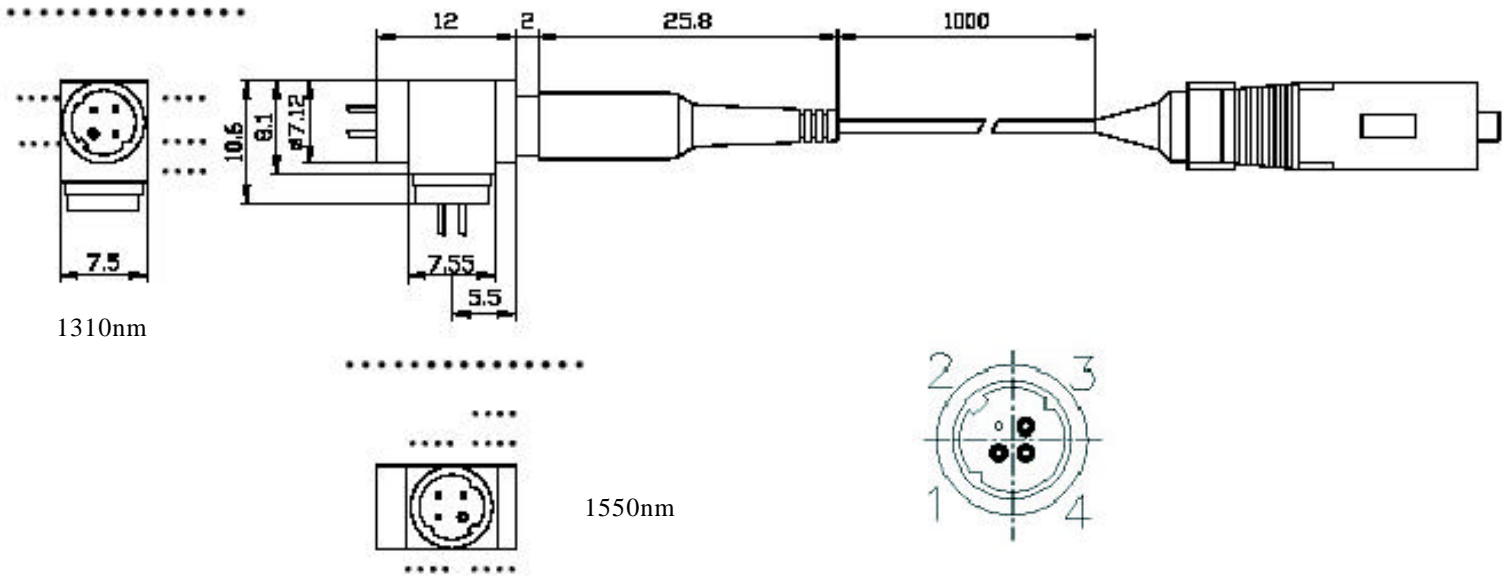
- 1310 nm
- 1550 nm

Modules using 1310 and 1550 nm DFB lasers may be specified. Pulsed lasers, suitable for OTDR applications are also available at both 1310 and 1550 nm.

The PD-LD product incorporates low threshold current, high differential quantum efficiency MQW (Multiple Quantum Well) FP semiconductor lasers whose typical total operating currents are less than 30 mA. These low current consuming laser diodes are well suited for equipment using battery power sources. Low threshold and drive currents help to extend operating duration between battery recharge or replacement.

PD-LD's Combiner modules are built to meet the demanding requirements of the instrumentation marketplace. These units are assembled using state of the art YAG Laser welding processes. This technique guarantees a semiconductor to optical fiber interface that remains stable over mechanical and environmental extreme. Monitor diode to fiber output tracking error is guaranteed for less than 1dB over the -20 to $+70^\circ\text{C}$ operating temperature range. The optical semiconductor die are mounted within hermetically sealed TO can subassemblies making them impervious to contaminants and moisture. Combiner modules are built with 1 meter long 9/125/900 μm SMF28 fiber optic pigtails. These fibers may be terminated with most standard fiber optic connectors including FC, SC, ST and LC.

PD-LD Inc. now offers its next generation of Dual Wavelength Laser Combiner Modules. These devices are designed to couple light from two different semiconductor laser diodes into a single optical fiber output. Single fiber dual wavelength combiner modules offer the user the simplicity of using a single device when configuring equipment that requires the output of two different laser wavelengths.. These Combiner Modules combine two sources in a single housing thus relieving the user of having to fusion splice two discreet lasers along with a coupler and then squeeze them onto their PCB.



Absolute Maximum Ratings Parameters	Module	Symbol	Rating	Units
	Operating Temp		T_{OP}	-20 to 70
Storage Temp		T_{STG}	-40 to 85	°C
Soldering Temp		T_{SLD}	250	°C
Laser Diode				
Forward Current		$I_{F(LD)}$	$I_{TH} + 50$	mA
Reverse Voltage		$V_{R(LD)}$	2	V
Monitor Diode				
Forward Current		$I_{F(MD)}$	2	mA
Reverse Voltage		$V_{R(MD)}$	20	V

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Dual Laser Combiner Module Characteristics and Parameters						
	Symbol	MIN.	TYP.	MAX	Units	Test Condition
Laser Diode						
Power , Low	P_O	0.180	0.200	-	mW	CW
Power, Medium	P_o	0.400	0.500	-	mW	CW
Power, High	P_o	0.800	1.0		mW	CW
Threshold Current 1310nm	I_{TH}	-	5	15	mA	CW
Threshold Current 1550nm	I_{TH}	-	10	15	mA	CW
Operating Current 1310nm	I_{OP}	-	25	30	mA	$I_F = I_{OP}$
Operating Current 1550nm	I_{OP}	-	25	30	mA	$I_F = I_{OP}$
Operating Voltage	V_{OP}	-	1.1	1.5	V	$I_F = I_{OP}$
Peak Wavelength 1310nm	Lambda	1290	1310	1330	nm	25°C
		1260		1360	nm	-40 to 85°C
Peak Wavelength 1550nm	Lambda	1520	1550	1580	nm	25°C
		1490		1606	nm	-40 to 85°C
Spectral Width	Delta Lambda	-	1.0	3.0	nm	RMS,-20dB
Temp. Coefficient		-	-	<0.8	nm/°C	-40 to 85°C
Rise/Fall Time	t_r, t_f	-	0.3	0.7	nsec	10~90%
Monitor Diode						
Output	I_{MD}	0.1	0.5		mA	$I_F = I_{OP}, P_O$
Dark Current	$I_{D(MD)}$	-	0.01	0.1	μA	$V_{R(MD)} = 10V$
Capacitance	$C_{(MD)}$	-	10	20	pF	$V_{R(MD)} = 10V,$ $f = 1MHz$
Module						
Tracking Error		-1		+1	dB	-20 to 70°C

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Ordering Information

