1550nm narrow linewidth single frequency

laser module＜20kHz single mode

● Product Description

Idealphotonics narrow linewidth semiconductor laser module has the characteristics of ultra-low RIN noise and ultra-narrow linewidth, and is currently widely used in automotive lidar and fiber optic sensor detection systems.

● Product features

Linewidth: ＜20kHz、 Optical power: 16dBm、 RIN noise: -165dBc/Hz @100kHz

● Part Number

MP-NL-1550-40-20k-SA-M

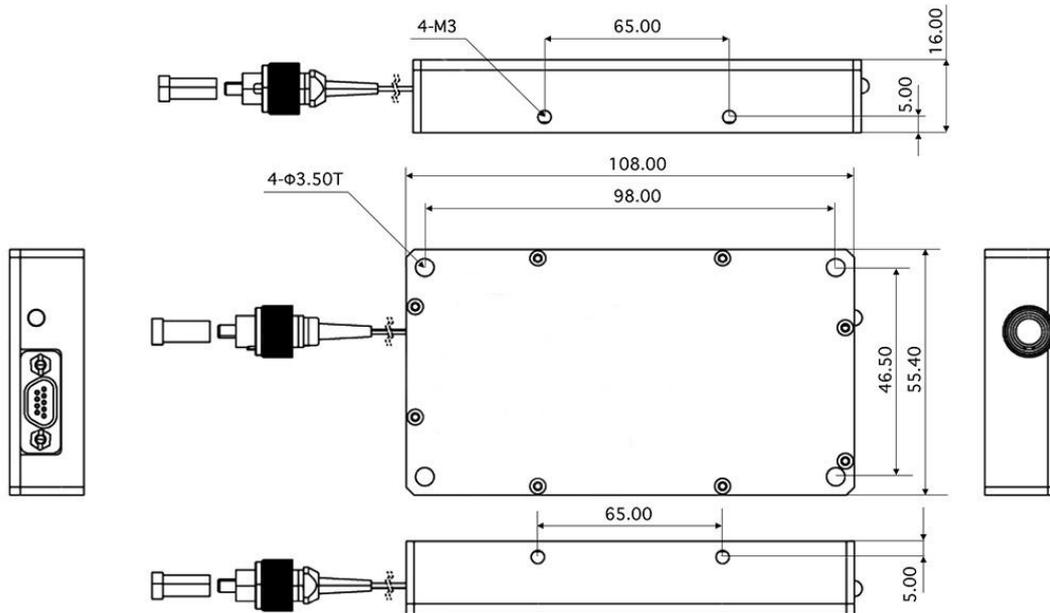## ● Application area

Quantum Communication | Fiber Optic Sensing | Coherent Optical Communication | Optical Frequency Standard Transfer | Gravitational Wave Detection

● Core parameters

Operating wavelength	Lorentz linewidth	Output power
1550nm	＜20kHz	16dBm

● Dimension Drawing

● General Parameters

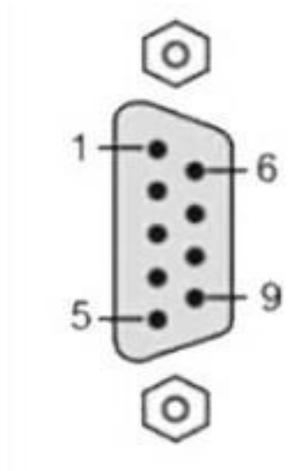**Specifications**

Parameter	Min.	Typical	Max.	Unit	Notes
wavelength	1530	1550	1570	Nm	Customizable
Operating temperature	-10		70	°C	
Output power		16	17	dBm	Customizable
RIN noise		-165	-163	dBc/Hz @100kHz	
Operating current		400	2000	mA	

Operating voltage	4.75	5	5.25	V	
Lorentz linewidth [1]		10	20	KHz	Customizable
Side Mode Suppression Ratio		50		dB	
FM range		3	5	GHz	
Modulation rate	1	100	200	KHz	
FM linearity		1%			
Output method	Optical fiber output（default）				
Connector type	FC/APC（default）				
Fiber type	SM/PM				

Note: The line width test solution is a delayed self-heterodyne beat frequency test

Connector Definition

PIN#	Name	Function / specifictaion
1	Vcc	Input power 5V/3A, low noise
2	Tx(output)	Data output, RS232/3.3 to5V TTL232 (default)
3	Rx(input)	Data input, RS232/3.3 to5V TTL232 (default)
4	Gnd	Ground
5	Gnd	Ground
6	Vcc	Input power 5V/3A, low noise
7	Mod+(input)	N/A
8	Mod-(input)	N/A
9	Enable(input)	Laser output enable, low level on (default on)