

Chilas POLARIS Frequency-stabilized laser

Key features

- ✓ Selectable ITU channel with 50 GHz spacing
- ✓ Narrow linewidth
- ✓ Excellent stability
- ✓ Ultra-low RIN
- ✓ Compact housing
- ✓ Easy to set up and use
- ✓ Manual temperature and current tuning through software
- ✓ High modulation depth and bandwidth
- ✓ RoHS certified



Applications

- ✓ LiDAR
- ✓ Quantum Key Distribution
- ✓ Telecommunications
- ✓ Free-Space Optical Communication Systems
- ✓ Metrology



This component complies with the applicable portions of 21 CFR 1002.10 / 21 CFR 1002.11 / 21 CFR 1002.12 21 CFR 1002.13 / 21 CFR 1002.30a / 21 CFR 1002.30b 21 CFR 1040.10 / 21 CFR 1010.2 / 21 CFR 1010.3 Since this is a component, it does not comply with all the requirements contained in 21 CFR 1040.10 and 21 CFR 1040.11 for complete laser products.

POLARIS Product Datasheet

1. Performance and specifications

Parameter	Min	Typ	Max	Unit	Comments
Center Wavelength	1530	1550	1570	nm	See “4 CHANNELS”
Output Power		10	16	dBm	
Integral linewidth	2		10	kHz	
Intrinsic linewidth	0.3		1	kHz	
Phase noise @ 200Hz	$6 \cdot 10^3$		$1.4 \cdot 10^4$	Hz ² /Hz	
Relative Intensity Noise		-150		dB/Hz	@100kHz
Side-Mode Suppression Ratio		>40		dB	
Polarization Extinction Ratio	20	31		dB	
Modulation bandwidth		1.5		MHz	
Modulation depth		2.5	4	GHz	5 Vpp
Power stability		± 2 ± 0.5			- 20 °C~+70 °C 12h @25±2 °C
Center wavelength stability		± 15		pm	- 20 °C~+70 °C
Short time drift of optical frequency			1	MHz/s	
Long time drift of optical frequency		± 38		MHz	12h @25±2 °C
Power consumption		2	10	W	
Working voltage	4.75	5	5.25	V	
Working temperature	-20		70	°C	
Storage Temperature	-40		85	°C	
Storage Humidity	5		95	%RH	

Package	Values
Fiber & Connector	PM Fiber, FC-APC, Min bending radius 35mm, Max fiber tension 5N
Dimensions L x W x H	85*47*14mm
Module weight	145g (excluding cables)
ESD Level	500V

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2. Graphs

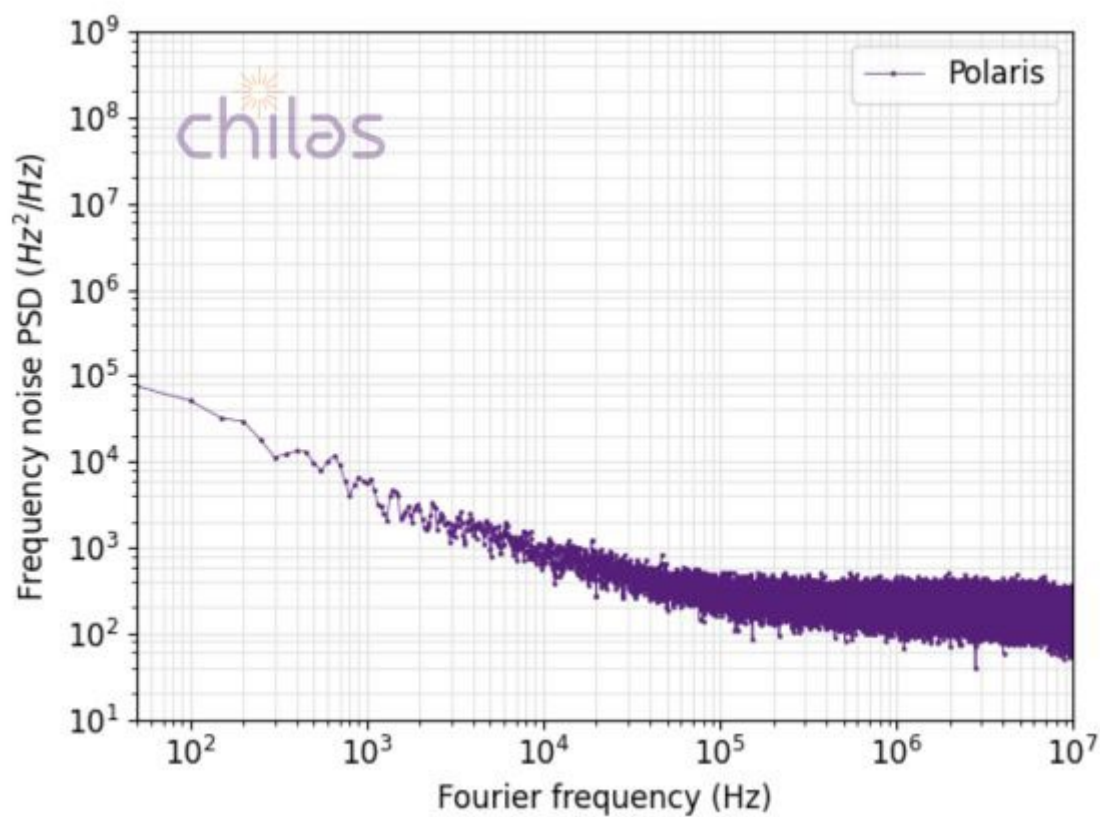


Figure 1 Phase noise of POLARIS

POLARIS Product Datasheet

3. Channels

CH	Wavelength	CH	Wavelength	CH	Wavelength	CH	Wavelength
C00	1.577.855	C17	1.563.863	C34	1.550.116	C51	1.536.609
H00	1577.44	H17	1.563.455	H34	1.549.715	H51	1.536.216
C01	1.577.025	C18	1.563.047	C35	1.549.315	C52	1.535.822
H01	1576.61	H18	1562.64	H35	1.548.915	H52	1.535.429
C02	1.576.196	C19	1.562.233	C36	1.548.515	C53	1.535.036
H02	1.575.782	H19	1.561.826	H36	1.548.115	H53	1.534.643
C03	1.575.368	C20	1.561.419	C37	1.547.715	C54	1534.25
H03	1.574.954	H20	1.561.013	H37	1.547.316	H54	1.533.858
C04	1574.54	C21	1.560.606	C38	1.546.917	C55	1.533.465
H04	1.574.127	H21	1560.2	H38	1.546.518	H55	1.533.073
C05	1.573.714	C22	1.559.794	C39	1.546.119	C56	1.532.681
H05	1.573.301	H22	1.559.389	H39	1545.72	H56	1532.29
C06	1.572.888	C23	1.558.983	C40	1.545.322	C57	1.531.898
H06	1.572.476	H23	1.558.578	H40	1.544.924	H57	1.531.507
C07	1.572.063	C24	1.558.173	C41	1.544.526	C58	1.531.116
H07	1.571.651	H24	1.557.768	H41	1.544.128	H58	1.530.725
C08	1.571.239	C25	1.557.363	C42	1543.73	C59	1.530.334
H08	1.570.828	H25	1.556.959	H42	1.543.333	H59	1.529.944
C09	1.570.416	C26	1.556.555	C43	1.542.936	C60	1.529.553
H09	1.570.005	H26	1.556.151	H43	1.542.539	H60	1.529.163
C10	1.569.594	C27	1.555.747	C44	1.542.142	C61	1.528.773
H10	1.569.183	H27	1.555.343	H44	1.541.746	H61	1.528.384
C11	1.568.773	C28	1554.94	C45	1.541.349	C62	1.527.994
H11	1.568.362	H28	1.554.537	H45	1.540.953	H62	1.527.605
C12	1.567.952	C29	1.554.134	C46	1.540.557	C63	1.527.216
H12	1.567.542	H29	1.553.731	H46	1.540.162	H63	1.526.827
C13	1.567.133	C30	1.553.329	C47	1.539.766	C64	1.526.438
H13	1.566.723	H30	1.552.926	H47	1.539.371	H64	1526.05
C14	1.566.314	C31	1.552.524	C48	1.538.976	C65	1.525.661
H14	1.565.905	H31	1.552.122	H48	1.538.581	H65	1.525.273
C15	1.565.496	C32	1.551.721	C49	1.538.186	C66	1.524.885
H15	1.565.087	H32	1.551.319	H49	1.537.792	H66	1.524.498
C16	1.564.679	C33	1.550.918	C50	1.537.397	C67	1524.11
H16	1.564.271	H33	1.550.517	H50	1.537.003	H67	1.523.723