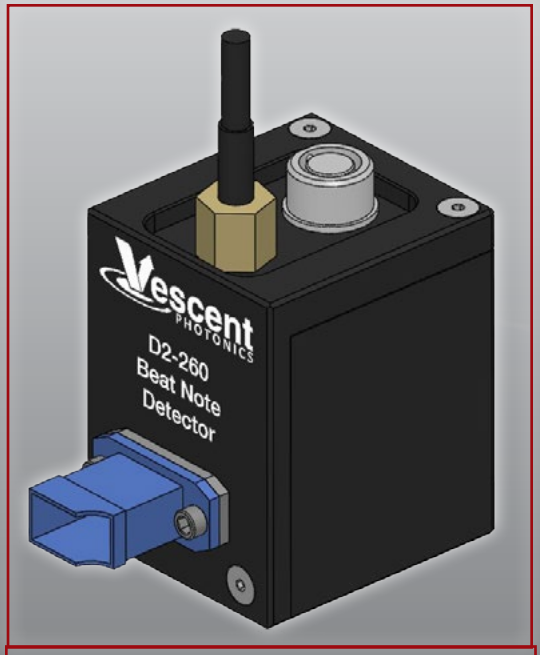
D2-260 Beat Note Detector

High-speed Detector for Heterodyne Detection and Locking

The Vescent Photonics D2-260 beat note detector has greater than 9.5 GHz bandwidth for capturing beat notes between lasers of similar frequencies. Simply overlap the master and slave lasers and launch into the included multimode fiber for measuring the relative frequencies of the two lasers.

The D2-260 is compatible with the Vescent D2-150 and D2-250 Heterodyne Modules and the D2-135 & ICE-CP1 Offset Phase Lock Servos. In combination, a true phase lock between a pair of lasers with a user-defined frequency offset can be established.



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This digitizing, high-speed, preamplified detector converts an oscillating optical signal (a beat note) into and electrical high/low signal. It is designed to measure beat note frequencies. It is not suitable for measuring optical power or other amplitude characteristics due to the digitized output.

Features:

- Optical-to-electrical beat note conversion
- High bandwidth
- High signal-to-noise
- Simple to deploy
- Compatible with D2-135 & ICE-CP1 OPLS and D2-150 and D2-250 heterodyne modules
- Li (670 nm), K (770 nm), Rb (780 & 795 nm), and Cs (855 nm) wavelength response
- Fiber-coupled or free-space input

Applications:

- Detect beat notes for offset phase locking
- Determine relative frequency of two lasers
- Pulse timing and trigger generation

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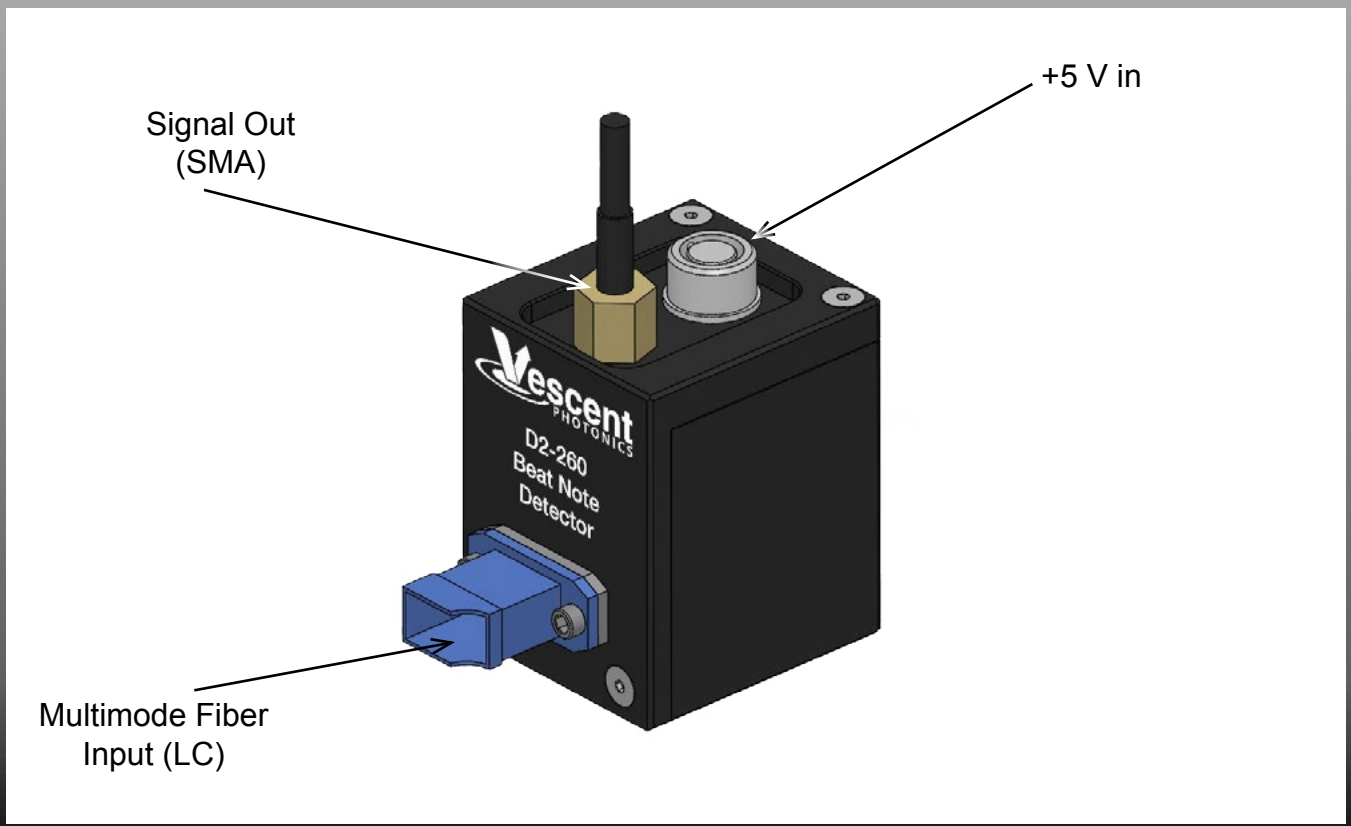
Parameter	Specification
Bandwidth	250 MHz to >9.5 GHz
Wavelength Response	670 ≤ λ ≤ 855 nm
Input Connection	LC multimode fiber
Input Power Range	50 µW to 200 µW
Maximum Optical Power[1]	1 mW
Output Connection	SMA
Output	-6 dBm, 1-4 GHz beat note -13 dBm, 4-8 GHz beat note
Power Requirements[2]	+5 VDC, GND
Dimensions	1.38 x 1.25 x 1.99” 3.5 x 3.2 x 5.1 cm

All specifications subject to change without notice.
[1]Maximum power on detector regardless of power in beat note.
[2]Not included. Available from Vescent D2-005 or ICE-PB1.



Vescent Photonics, Inc.
14998 W 6th Ave., Suite 700
Golden, CO 80401
USA
+1 (303) 296-6766
www.vescent.com

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