

Introduction

Redwave Labs' AD200 is a compact and affordable single-photon detector module with a built-in counter. The AD200 is based on a reliable silicon avalanche photodiode sensitive in the visible spectral range. The detector of the AD200 has high efficiency values in the near visible region (around 650 nm). The AD200 features active quenching and full digital temperature control. A separate power supply is provided as standard.



Specification

Features	70% quantum efficiency at 650 nm	
	55% quantum efficiency at 800 nm	
	Tunable temperature of the diode	
	Low dark and after pulsing rates	
	Software included	
Applications	Time correlated single photon counting	
	Single molecule detection	
	Laser scanning microscopy	
	Particle physics	
	Spectrophotometry	
Specifications	Parameter	Value
Power	Single	+12 V
	Wavelength	400 – 1100 nm
Photodiode	Breakdown Voltage	125V@ 25C
	Active Area	500 µm
Photon Detection Efficiency	Quantum Efficiency	70% at 650 nm 55% at 800 nm
		40-45% at 852nm
Dark Count Rate		25 @ -20C, typical
Deadtime		65 ns
Output pulse		40 ns
	Power	Molex 2 PIN
Connectors	Output	SMB
	USB	USB TYPEB
Dimensions (WxHxD)	Timing Gate	SMB
		120 x 92 x 30 mm
Weight		350 g
Storage Temp		-20 to 85 C
Operating Temp		-20 to 30 C

*All measurements are publicly available on the company's website.

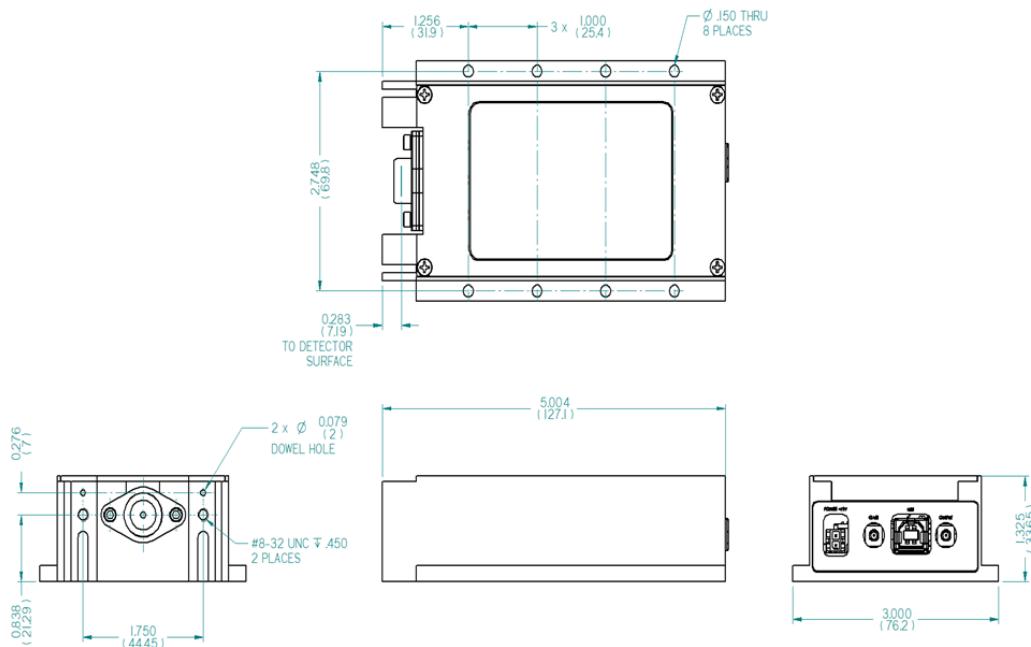
** Each model is delivered with test data specifying the module's actual DCR, dead time, PDE, afterpulsing, and time jitter.

*** RedWave Labs Ltd keeps improving its products and therefore some specifications can vary.

Absolute Maximum Ratings

Symbol	Parameter	Ratings	Unit
V _{dd}	Supply Voltage	+12	Volt
T _{op}	Operational Temperature	-40 to 85	Deg C
T _{st}	Storage Temperature	-55 to 100	Deg C

Mechanical Information



Parameter	Value	Unit
Length	5.004 (127.1)	Inch (mm)
Width	3.000 (76.2)	Inch (mm)
Height	1.325 (33.65)	Inch (mm)
Weight	350	gram