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

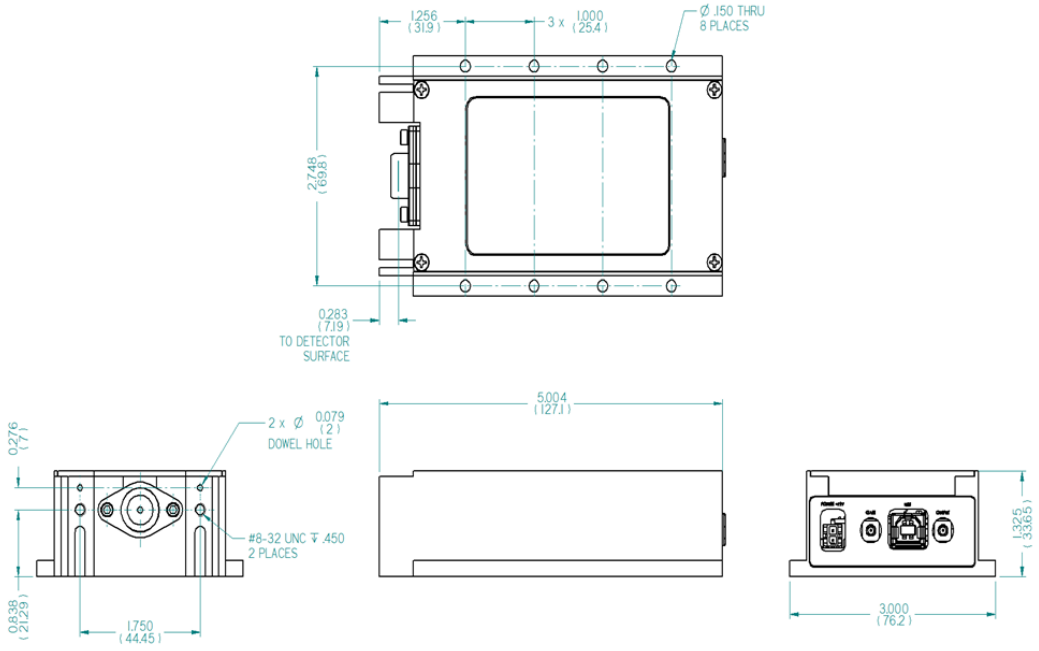
Features	**70% quantum efficiency at 650 nm** **55% quantum efficiency at 800 nm** **Tunable temperature of the diode** **Low dark and after pulsing rates** **Software included**	
Applications	**Time correlated single photon counting** **Single molecule detection** **Laser scanning microscopy** **Particle physics** **Spectrophotometry**	
Specifications	Parameter	Value
Power	Single	+12 V
Photodiode	Wavelength	400 – 1100 nm
	Breakdown Voltage	125V@ 25C
	Active Area	500 µm
	Quantum Efficiency	70% at 650 nm 55% at 800 nm
Photon Detection Efficiency		40-45% at 852nm
Dark Count Rate		25 @ -20C, typical
Deadtime		200 ns
Output pulse		40 ns
Connectors	Power	Molex 2 PIN
	Output	SMB
	USB	USB TYPEB
	Timing Gate	SMB
Dimensions (WxHxD)		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.
*** 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