

## Introduction

Redwave Labs AD200 is a compact and affordable single-photon detector module 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 for the APD. A separate power supply is provided as standard.



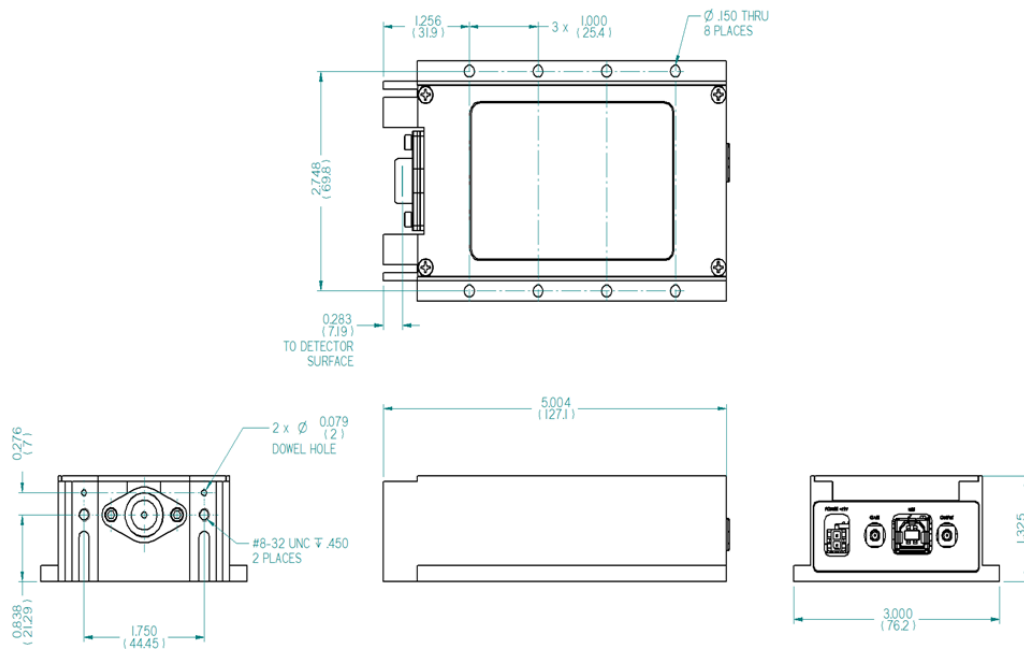
## Specification

Features	<b>70% quantum efficiency at 650 nm</b> <b>55% quantum efficiency at 800 nm</b> <b>Tunable temperature of the diode</b> <b>Low dark and after pulsing rates</b> <b>Software included</b>	
Applications	<b>Time correlated single photon counting</b> <b>Single molecule detection</b> <b>Laser scanning microscopy</b> <b>Particle physics</b> <b>Spectrophotometry</b>	
Specifications	Parameter	Value
Power	Single	+12 V, 2x 3A from PCIe extension power
	Wavelength	400 – 1000 nm
Photodiode	Breakdown Voltage	125V@ 25C
	Active Area	500 μm
Single-Photon Detection Probability	At 650nm	70%
	At 800nm	55%
Dark Count Rate		25 @ -20C, typical
Deadtime		40 ns
Output pulse		40 ns
Connectors	Power	Molex 2 PIN
	Output	SMA
	USB	USB TYPEB
	Timing Gate	SMA
Dimensions (WxHxD)		120 x 92 x 30 mm
Weight		350 g
Storage Temp		-55 to 100 C
Operating Temp		-40 to 85 C

## Absolute Maximum Ratings

Symbol	Parameter	Ratings	Unit
V <sub>dd</sub>	Supply Voltage	+12	Volt
T <sub>op</sub>	Operational Temperature	-40 to 85	Deg C
T <sub>st</sub>	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