

NDL developed an Analog Detector Unit (ADU) for SiPMs in rapid and cost-effective applications. It is composed of three building blocks: Bias & Ctrl Board, Preamplifier Board and Detector Board, through which users can conveniently reassemble and develop other special function units according to different needs.

When operating ADU, users only need to shield it from ambient light interference and connect power and signal cables. The optimal bias voltage is set before delivery from NDL, and it is automatically adjusted according to environment temperature variation. If users want to change the default bias voltage and/or the breakdown voltage (V_B) temperature coefficient, they need to connect a USB cable and input the parameters through software and guidelines that are provided with the module.

Features and Applications

- Single power supply of 5 V
- Temperature compensation for V_B
- Wide adjustable bias voltage range
- Reassemble for various applications
- Compact structure and ease of operation
- Compatible with most commercial SiPMs

Specifications

Blocks	Parameters	Value
Bias & Ctrl Board	Supply Voltage	+5 V
	Supply Current	60 mA
	Bias Voltage Range	20 ~ 55 V
	Adjustable Resolution of Bias Voltage	10 mV
	Temperature Monitoring Range	-10 ~ 60 °C
Preamplifier Board	Gain	40 dB (5000 V/A)
	Bandwidth (3dB)	330 MHz
	Output Max V _{pp}	1 V
	Output Impedance	50 Ω
	Output Connector	SMA
Detection Board	Specifications	Same as the employed SiPM



Novel Device Laboratory, Xue Yuan Nan Lu No.12, Hai Dian District, Beijing, China, 100875. Tel: +86-10-62207419, Email: info@ndl-sipm.net, <u>http://www.ndl-sipm.net</u>







Specifications subject to change without notice

Block diagram



Responses to pulsed light of few photons



Dimensional outlines (unit: mm)





Novel Device Laboratory, Xue Yuan Nan Lu No.12, Hai Dian District, Beijing, China, 100875. Tel: +86-10-62207419, Email: info@ndl-sipm.net, <u>http://www.ndl-sipm.net</u>