

A transimpedance amplifier that converts weak photodiode output current to voltage.
Highly sensitive and supports external operation with PC.

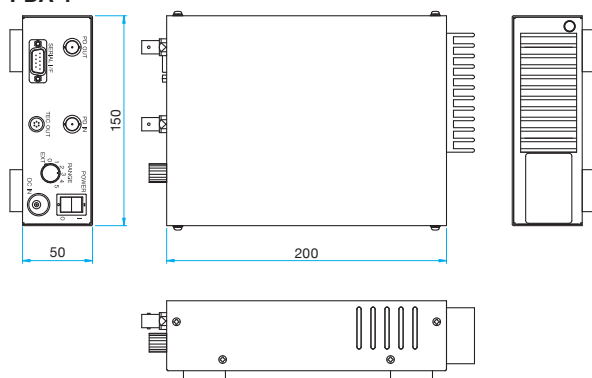


- Includes six conversion ranges $10^5 - 10^{10}$ (V/A) and extremely large conversion ratio, enabling detection of weak light.
- Allows operation from the front panel as well as remotely using a computer via the RS232C interface. Switching of ranges and acquisition of current values are possible from the PC. Excellent compatibility has been achieved with measurement control software such as SGEMCS and SGTERM.
- Includes temperature control of the photodiode when used with PDA-PD-1, achieving stable detection of weak light.

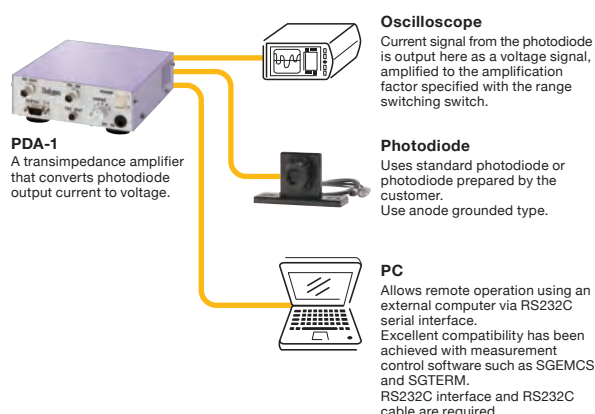
Outline Drawing

(Units: mm)

PDA-1



System Configuration



Characteristics Table (Ambient Temperature 25°C)

Operation Temperature		0°C – 40°C (Except sensor)
Amplifier Gain	Range 0	10^5 V/A
	Range 1	10^6 V/A
	Range 2	10^7 V/A
	Range 3	10^8 V/A
	Range 4	10^9 V/A
	Range 5	10^{10} V/A
MAX analog output voltage Load 2kΩ		4V
Measurement Gain Error	(@Range 0 – 3)	2% vs. max light received in range
	(@Range 4)	3% vs. max light received in range
	(@Range 5)	4% vs. max light received in range
Cutoff Frequency	(@Range 1)	3kHz
	(@Range 3)	30Hz
	(@Range 5)	0.3Hz
A/D Converter Conversion Frequency		16Hz
A/D Converter Resolution		24bits (but effective resolution is 16bits)
Temperature Control Temperature		–10°C (Special photodiode)
Temperature Control Fluctuation Temperature		0.1°C (Special photodiode)
Peltier Output Current		1A (Special Photodiode)

Note) Use of Peltier is limited to the special photodiode.

Specifications

Part Number	PDA-1
Operation Ambient Temperature	0°C – 40°C
Storage Ambient Temperature	–20°C – 60°C
Ambient Humidity	20 – 90%RH (without condensation)
External Dimensions [mm]	(W)150×(H)50×(D)200 (Except for protrusions)
Interface	RS232C Photodiode signal input connector (Attention: PD and photodiode are anode grounded) SIGMA's photodiode special temperature control connector Signal output connector etc.
Accessories	Special AC adapter (AC100V)

Option ■ Temperature controlled Photodiode PDA-PD-1



- The PDA-PD-1 has built-in Peltier cooler, amp, temperature control circuit, and photo detector.
- The photodiode maintains low temperature by means of the Peltier cooling module.
- ND filters can be mounted to adjust the volume of received light. Absorption type fixed ND filters can be used. [Reference](#) B211
- Length of the cable to the amp is about 500mm.
- Structured to not be affected by peripheral noise.

Guide

► C mount type is available separately. Contact our International Sales Division for more information.

Specifications

Part Number		PDA-PD-1
Light Receiving Surface Size [mm]		5.8×5.8
Electrical and Optical Characteristics (Ambient Temperature 25°C)	Sensitivity wavelength range	λ=190 ~ 1100nm
	MAX sensitivity wavelength	λ0=960nm