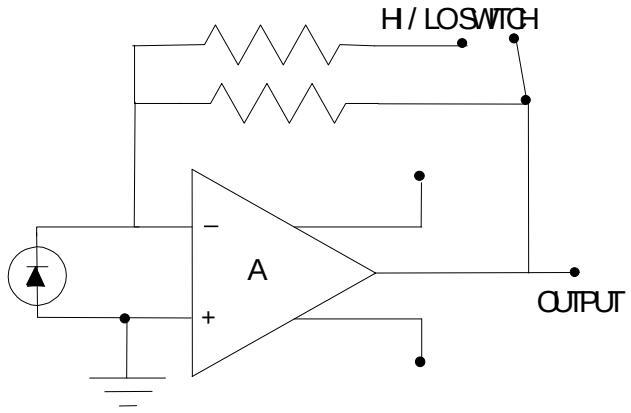
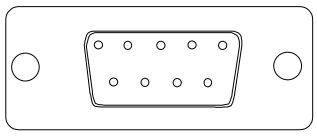
H - SERIES PHOTODIODE / RECEIVER

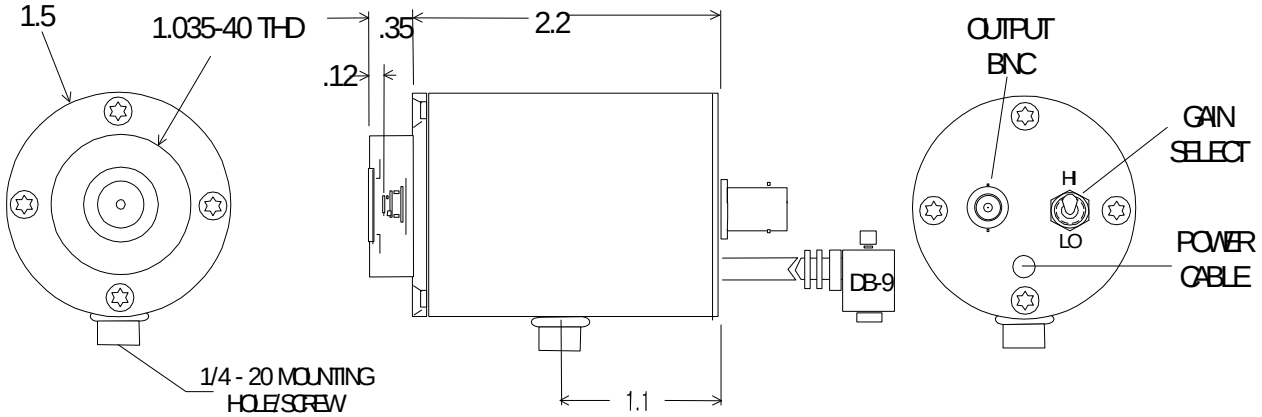


Part No: IGA1.9–010-H



DB-9 PIN OUT

1	NO CONNECT	6	+V
2	NO CONNECT	7	-V
3	NO CONNECT	8	GND
4	NO CONNECT	9	CASE GND
5	NO CONNECT		



Application Note

This unit is a high performance photodiode/receiver operated at ambient temperature with a dual gain FET input transimpedence amplifier. The output voltage is proportional to the input signal current: $V_{out} = I_{signal} \cdot R_f$. The PD/AMP is a DC coupled dual gain system. Care should be taken in shielding the unit from stray light during operation to prevent saturation of the amplifier (and potential failure).

SPECIFICATIONS	
Detector Type	**1.0 mm dia extended InGaAs Photodiode**
Operating Temperature- °C	**22**
Operating Wavelength- μm	**1.2 – 2.1**
Responsivity- V/W @ pk	**1.0×10^{7} / 10^{6}**
Noise- $V/Hz^{1/2}$	**2.5×10^{-6} / 10^{-7}**
NEP- $W/Hz^{1/2}$ @ pk	**$< 2.5 \times 10^{-13}$**
Bandwidth (-3dB)- Hz	**DC – 2kHz**
Power Requirements	**+/- 9 VDC to +/- 15 VDC**
Connections	**BNC signal output. Shielded power cable terminated with a DB-9 connector directly couples the unit with the PS -1 Low Noise Power Supply.**

RoHS Compliant

Electro - Optical Systems Inc, 1288 Valley Forge Rd, Ste 49, Phoenixville, PA 19460
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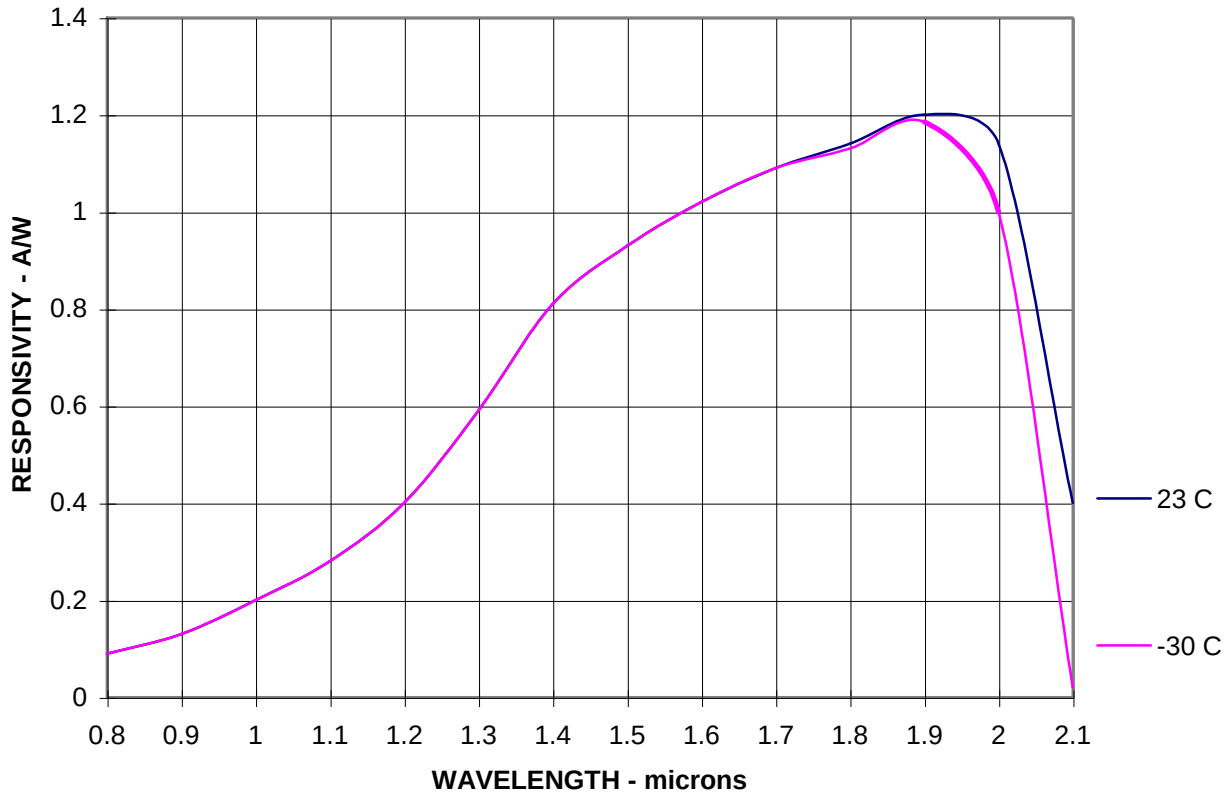
SPECTRAL RESPONSE - IGA1.9-series



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OPERATING THE H-SERIES PHOTODIODE/AMPLIFIER

POWER SUPPLY: A bipolar power supply is required, +,- 6VDC to +,-15VDC, 20mA. This means a +V, central/common ground and a –V connection - 3 wires total, to pins 6, 7, & 8 on the D-sub connector. The power supply pins should be bypassed physically close to the amplifier module. Double check wiring prior to turning on power. Improper /reverse wiring will damage the unit.

GAIN SELECT: The unit is supplied with a switch which provides a 10:1 HI/LO gain function. "UP" position is HI; "DOWN" position is LO gain. Consult the individual data sheet for specific values. The adjustable gain units have a single-turn control potentiometer which adds another x1 to x10 variable gain following the first stage. Clockwise rotation of the pot increases the gain.

AMBIENT LIGHT: Because of the high gains involved, the unit must be shielded from ambient background light during operation. Measurement errors and/or saturation can result from improper shielding.

OUTPUT CONNECTION: The signal output is thru a BNC connector (or BNC terminated cable in the case of the 2-color and adjustable gain units) located on the back of the module.