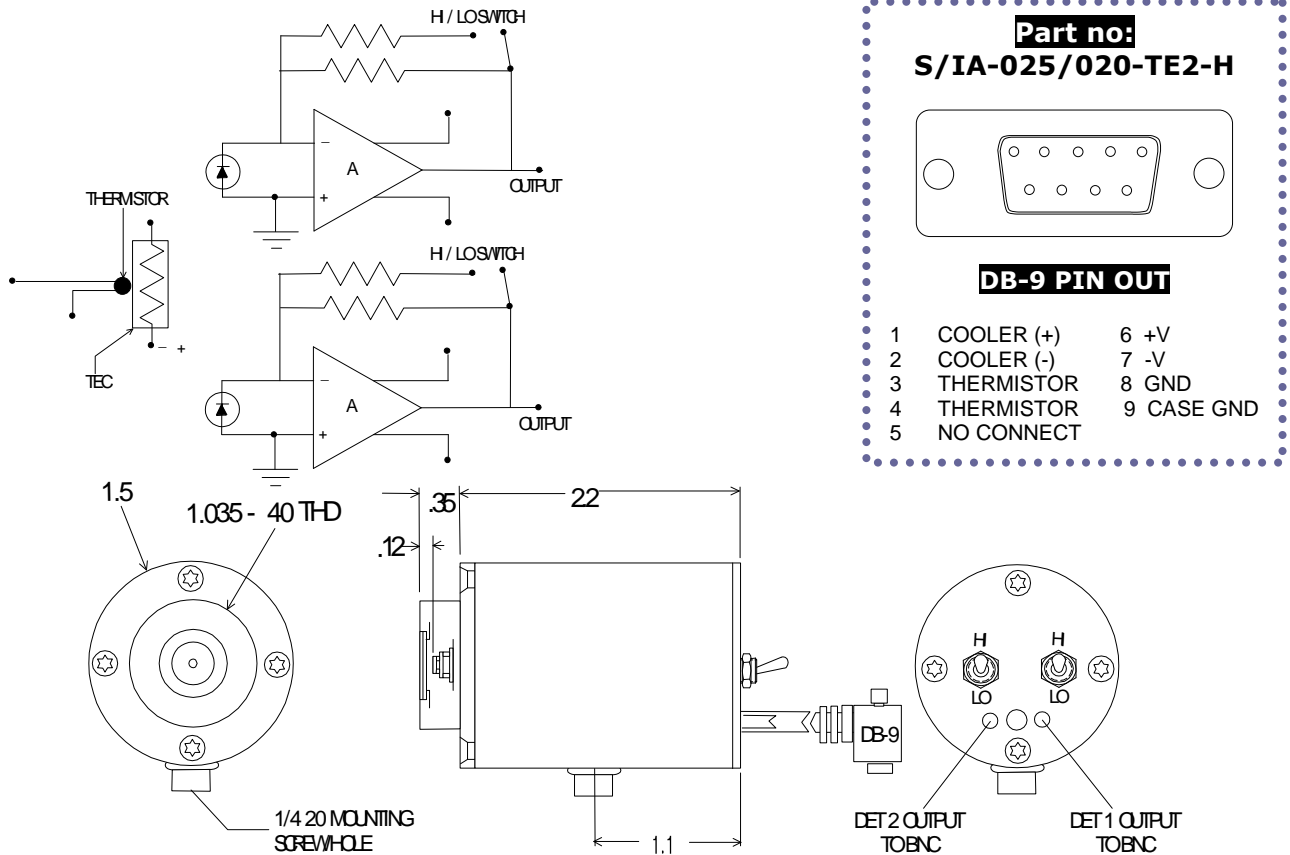


TWO COLOR PHOTODIODE / RECEIVER



Application Note

This unit is a high performance two color "sandwich" photodiode / receiver operated with a thermoelectric cooler for stabilization / cooling and dual gain FET input transimpedance amplifiers. The output voltage is proportional to the input signal current: $V_{out} = I_{signal} \cdot R_f$. The PD/AMP are DC coupled dual gain systems. Care should be taken in shielding the unit from stray light during operation to prevent saturation of the amplifiers (and potential failure).

SPECIFICATIONS

Detector Type	2.5 mm Si Photodiode / 2 mm InAs Photodiode	
Operating Temperature- °C	22 @ $I_{teC} = 0.0$ A	-30 @ $I_{teC} = 0.6$ A typ
Operating Wavelength- μ m	0.3 – 1.0 / 1.0 – 3.4	0.3 – 1.0 / 1.0 – 3.3
Responsivity- V/W @ pk	$0.6 \times 10^9 / 10^8$; $0.3 \times 10^4 / 10^3$	$0.6 \times 10^9 / 10^8$; $1.0 \times 10^4 / 10^3$
Noise- V/Hz ^{1/2}	$6 \times 10^{-6} / 10^{-7}$; $1.5 / 0.2 \times 10^{-6}$	$3.6 \times 10^{-6} / 10^{-7}$; $0.2 / 0.02 \times 10^{-6}$
NEP- W/Hz ^{1/2} @ pk	1.0×10^{-14} ; 3.0×10^{-10}	$6.0 / 10 \times 10^{-15}$; 1.5×10^{-11}
Bandwidth (-3dB)- Hz	DC – 300/2k; DC – 2k	DC – 300/2k; DC – 2k
Power Requirements	+/- 9 VDC to +/- 15 VDC	
Connections	Two shielded signal cables terminated with a BNC. Shielded power cable terminated with a DB-9 connector directly couples the unit with the PS/TC -1 Low Noise Power Supply.	