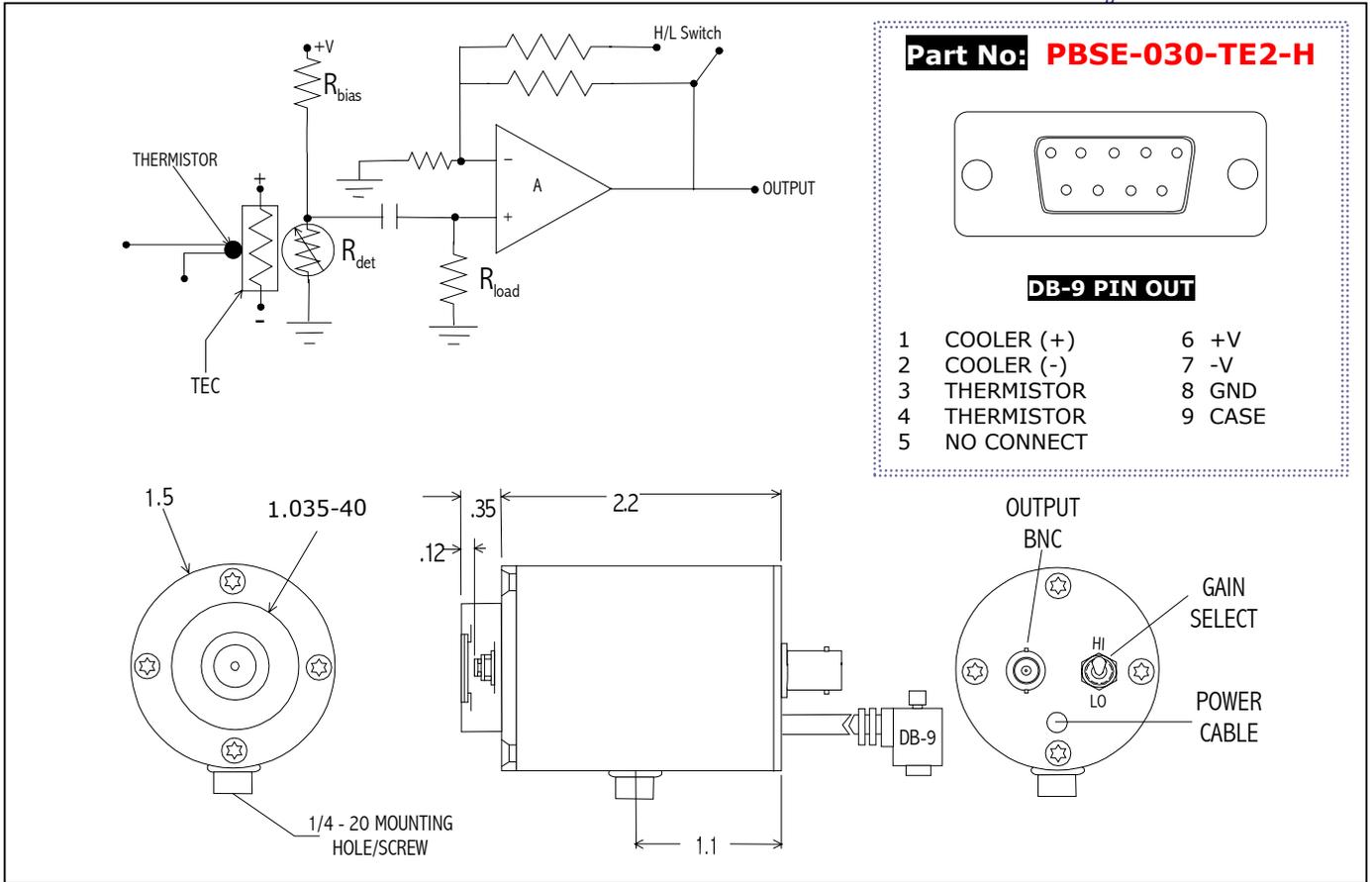


PBSE - SERIES PHOTOCONDUCTOR / RECEIVER



Application Note

This unit is a high performance photoconductor/receiver operated with a thermoelectric cooler for stabilization/cooling with a dual gain voltage amplifier. The detector's bias voltage is linked to the amplifier power supply and no additional biasing is necessary. The PC/AMP is an AC coupled, dual gain detector system requiring a modulated input signal for operation.

SPECIFICATIONS

Detector Type	3 x 3 mm PbSe Photoconductor	
Operating Temperature - °C	22 @ I _{tec} = 0.0 A	-30 @ I _{tec} = 0.6 A
Operating Wavelength - μm	1.0 - 4.5	1.0 - 4.5
Responsivity - V/W @ 4.2	3 x 10 ⁵ / 10 ⁴	10 ⁶ / 10 ⁵ typ
Noise - V/Hz ^{1/2} @ 1k Hz	3.0 x 10 ⁻⁵ / 10 ⁻⁶	2.0 x 10 ⁻⁵ / 10 ⁻⁶
NEP - W/Hz ^{1/2} @ 4.2, 1k Hz	< 1.0 x 10 ⁻¹⁰	< 2.0 x 10 ⁻¹¹
Bandwidth (-3dB) - Hz	5 - 10 k	5 - 10 k
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/TC-1 Low Noise Power Supply.	