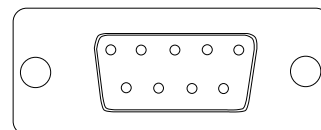


MCT SERIES CRYOGENIC PHOTODETECTOR/AMPLIFIER

Part No: MCT14-010-E-LN6N



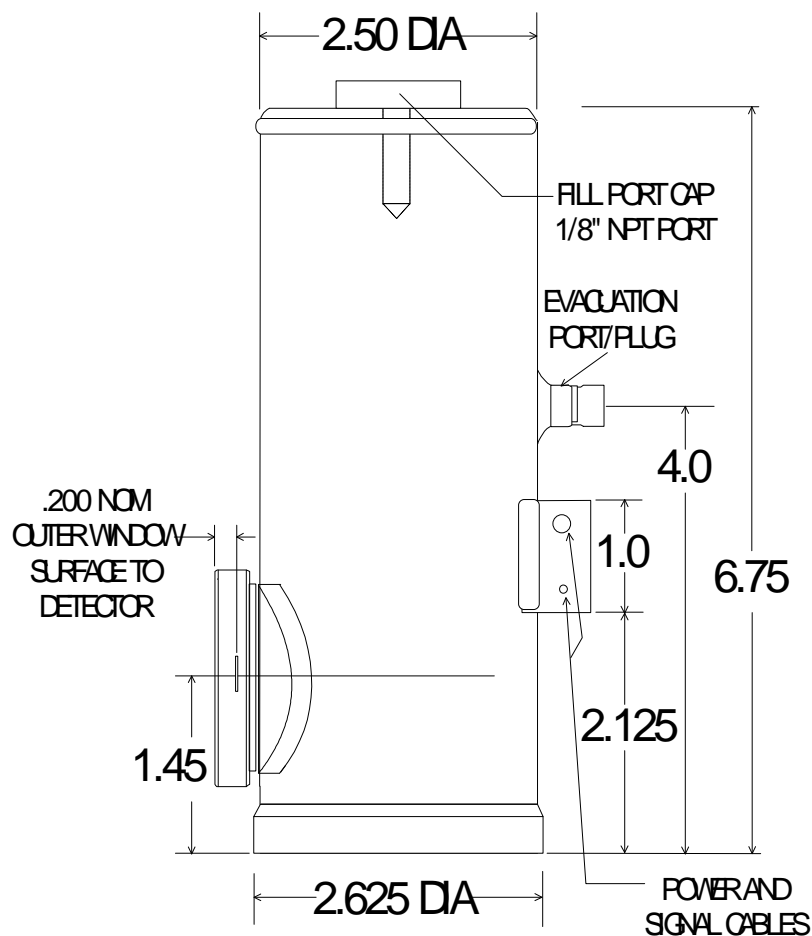
DB-9 PIN OUT

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

Application Note

This unit is a high performance cryogenically operated HgCdTe photodetector/amplifier. The unit should be at LN2 temperature before turning on power to the amplifier. A funnel is provided to assist in the filling of the dewar, which is best accomplished by gradually filling and topping off over a several minute period.

The amplifier has a dual gain function controlled by a switch on the backplate. The HI (up) position is x10 above the LO (down) position. Output is thru a BNC-type cable, and power is connected thru a shielded multi-wire cable terminated in a 9-pin Dsub connector or solder leads.



SPECIFICATIONS

Active Area	1 mm x 1 mm
Spectral Range	2 - 15 μm ; pk @ $\sim 13.5\mu\text{m}$
Detectivity (D^*pk)	$4.0 \times 10^{10} \text{ cm-Hz}^{1/2}/\text{W}$, min
Dewar Hold Time	12 hours minimum with liquid N_2
Field of View	60° nominal
Responsivity (pk), at amplifier out, typ	$5 \times 10^5 \text{ V/W HI}$; 10^4 V/W LO
Voltage Noise, 10kHz, at amplifier out	$1.25 \times 10^{-6} / 10^{-7} \text{ V/Hz}^{1/2}$
Detector Resistance	25 ohms, nom



MCT SERIES CRYOGENIC PHOTODETECTOR/AMPLIFIER

Bias Current (set internally, not user adjustable)	15 mA
Bandwidth	5 Hz - 50kHz typ
Connections	<p>BNC signal coaxial cable with 3 lead shielded power cable.</p> <p>Red = +V, Black = -V, White/Shield = ground</p> <p>Note: A DB9 connector is provided for direct connection to the optional PS-1 Low Noise Power Supply</p>
Power requirements	+,- 9VDC up to +,- 15VDC, 50 mA

Part No: MCTxx-E-LN Series

DB-9 PIN OUT

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SPECTRAL RESPONSE

MCT SERIES PHOTODETECTORS

TYPICAL MCT(14) RELATIVE SPECTRAL RESPONSE

