

MCT SERIES CRYOGENIC PHOTODETECTOR/AMPLIFIER

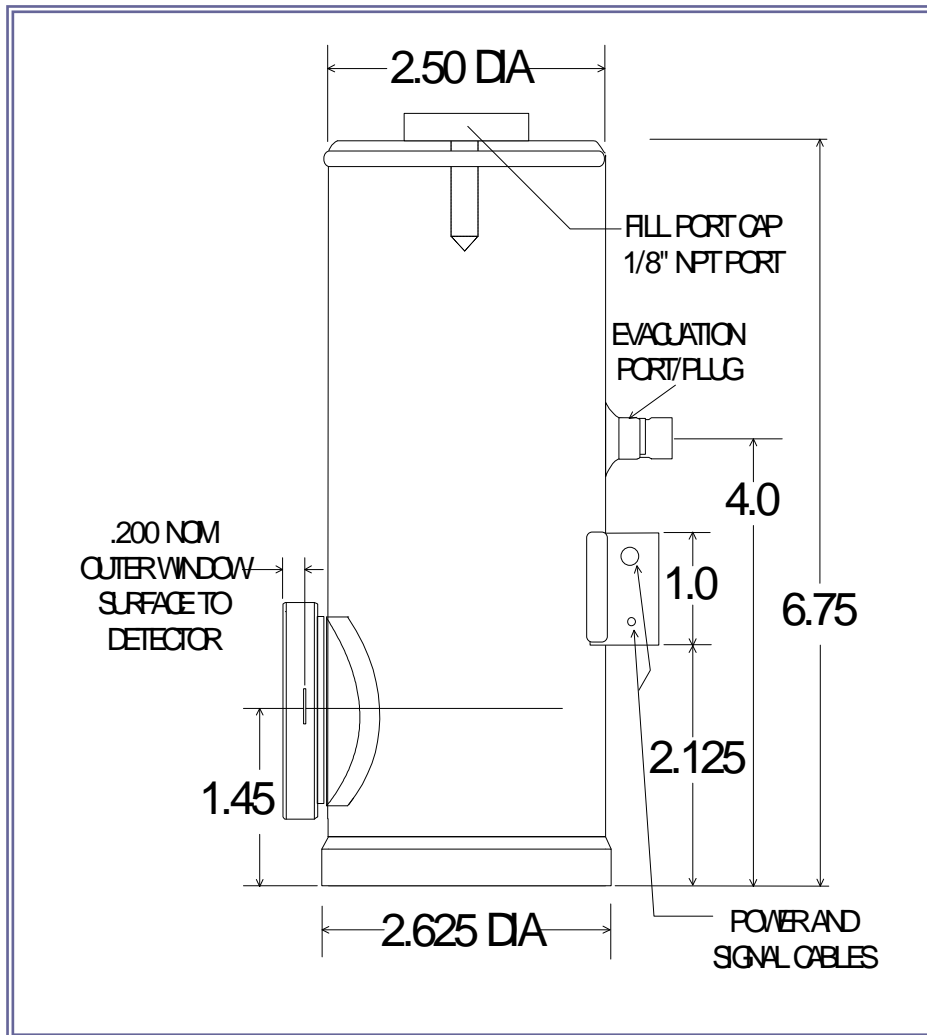
Part No:

MCT20-020-E-LN6N

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	2 mm x 2 mm
Spectral Range	2 - 20 μm ; pk @ $\sim 18 \mu\text{m}$
Detectivity (D^*pk , 10kHz, 1Hz)	$> 5.0 \times 10^9 \text{ cm-Hz}^{1/2}/\text{W}$
Dewar Hold Time	12 hours minimum with liquid N_2
Field of View / Window Material	60° nominal / KRS-5
Responsivity (pk), @ amp out	$1.0 \times 10^5 \text{ HI} / \times 10^4 \text{ LO V/W}$
Noise Voltage (10kHz), @ amp out	$4.0 \times 10^{-6} / \times 10^{-7} \text{ V/Hz}^{1/2}$
Bandwidth	5 Hz - 50kHz typ



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Power Requirement	+,- 5VDC to +,- 15VDC, 100mA
Connections	BNC signal coaxial cable with 3 lead shielded power cable. Red = +V, Black = -V, White/Shield = ground Note: A DB9 connector is provided on units purchased with optional PS-1 Low Noise Power Supply

Part No: MCTxx-E-LN Series

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	



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MCT (20) -TYPICAL RELATIVE SPECTRAL RESPONSE

