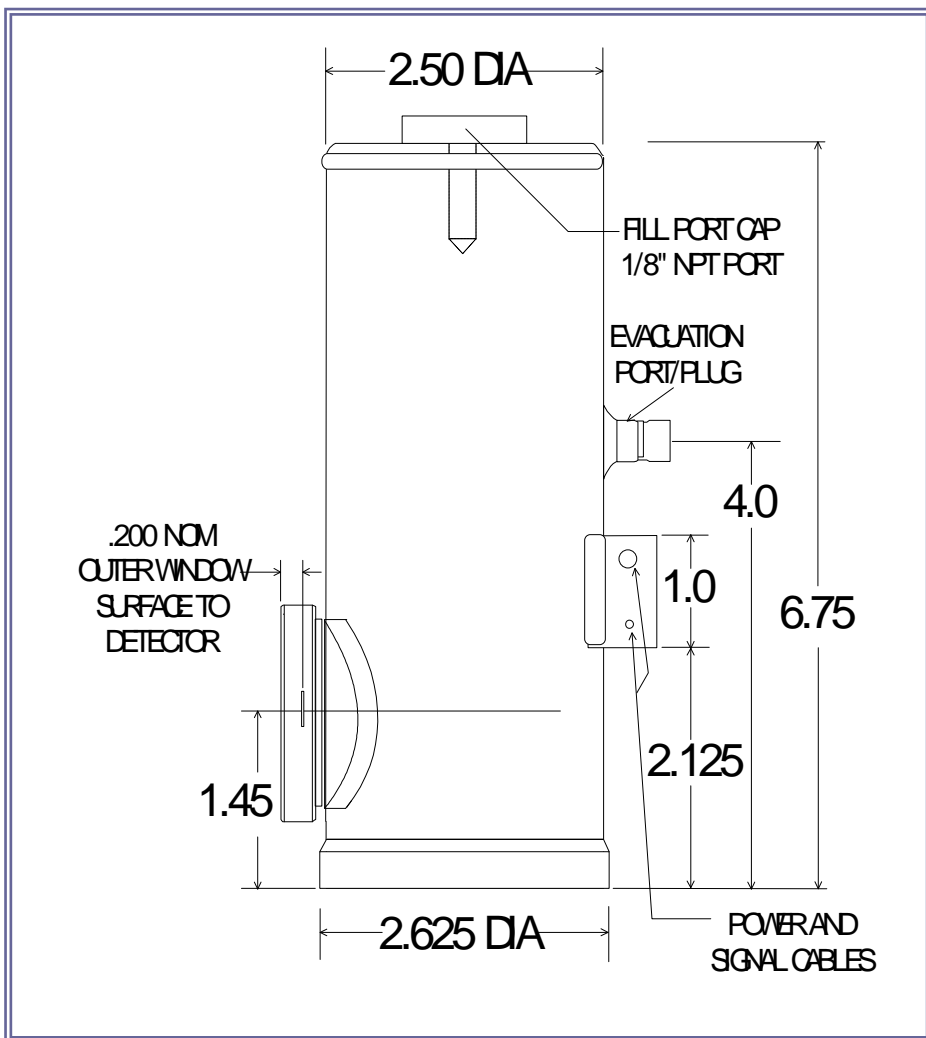


MCT SERIES CRYOGENIC PHOTODETECTOR/AMPLIFIER



Part No:

MCT20-010-E-LN6N

s/n 1012-1

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 - 20 um ; pk @ ~ 18 um
Detectivity (D*pk,10kHz,1Hz)	1.9 x 10¹⁰ cm-Hz^{1/2}/W
Dewar Hold Time	12 hours minimum with liquid N₂
Field of View / Window Material	60° nominal / KRS-5
Responsivity (pk), @ amp out	5.8 x 10⁵ HI ; 10⁴ V/W LO V/W
Noise Voltage (10kHz), @ amp out	3.0 x 10⁻⁶ HI / 10⁻⁷ LO V/Hz^{1/2}
Bandwidth	5 Hz - 50kHz



MCT SERIES CRYOGENIC PHOTODETECTOR/AMPLIFIER

Power Requirements	+,- 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	