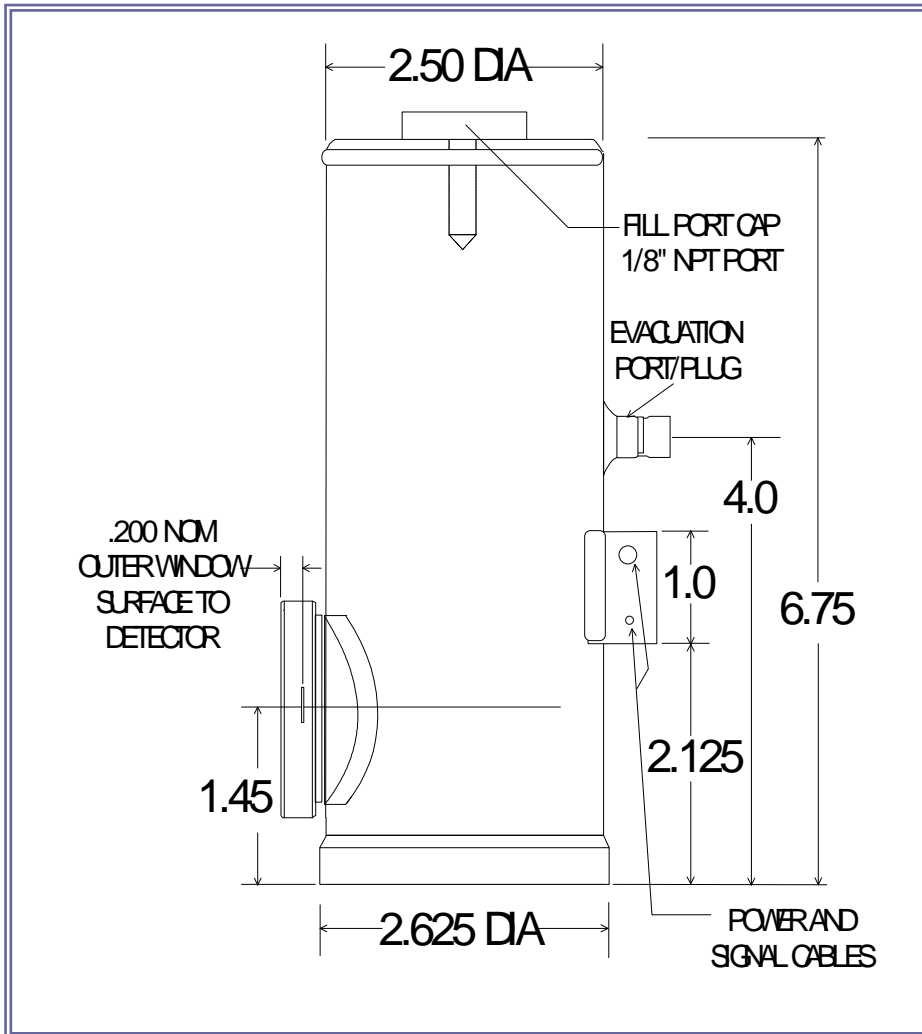


MCT SERIES CRYOGENIC PHOTODETECTOR/AMPLIFIER



Part No:
MCT14-020-E-LN6N
s/n 121119

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 - 14+ um
Dewar window	ARGE
Dewar Hold Time	12 hours minimum with liquid N ₂
Field of View	60° nominal
Responsivity (pk), at amplifier out	9.6 x 10 ⁵ HI ; 10 ⁴ LO V/W
Detector Resistance	47 ohms
Detector Bias (set internally)	20 mA



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Noise Voltage @ 10kHz, amp out	4.3×10^{-6} HI ; $x 10^{-7}$ LO V/Hz ^{1/2}
Detectivity (pk,10kHz,1Hz)	4.4×10^{10} cm-Hz ^{1/2} /W
Bandwidth	5 Hz - 50kHz + typ
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: LN-series Receivers

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		