

DH-MCT12 Dewar-Cooled Photodiode (2-12 μ m)



Overview

The DH_MCT12 cryogenically cooled mercury cadmium telluride takes high responsivity into the LWIR. Housing a 2x2mm active area MCT photodiode (2-12 μ m), the DH_MCT12 is operated in the photoconductive mode with the dedicated 475 ultra-low noise pre-amplifier module. Using an optically chopped input, the signal generated by this detector is best measured by the 496 DSP lock-in amplifier.

Operation in the cryogenic mode offers ultimate sensitivity and low noise performance. The mounting flange supplied with the DH_MCT12 is compatible with the entire range of Bentham monochromators and accessories.

<u>Core benefits</u>	<u>Features</u>
<ul style="list-style-type: none">✓ Excellent MWIR-LWIR performance✓ Spectral coverage 2-12μm✓ High responsivity✓ Low noise	<ul style="list-style-type: none">◆ Dewar-cooled, mercury cadmium telluride detector◆ 2x2mm diameter active area◆ 8 hour Dewar hold time◆ Operated in AC mode◆ Compatible with Bentham's entire range of monochromators and accessories◆ Suitable for free standing applications◆ Recommended for use with 400 series detection electronics

DH-MCT12 Specifications

Electro-optical

Material	Mercury cadmium telluride
Active area	2x2mm
Spectral response range	2-12 μ m
Operating mode	Photoconductive
Shunt resistance (typ.)	100 Ω
Peak wavelength (typ.)	10 μ m
Field of view	60°
Detectivity	$> 5 \times 10^{10} \text{ cm.Hz}^{\frac{1}{2}}.W^{-1}$

Mechanical

Connector	SMA
Compatibility	Interface plate with 4 x M3 clearance holes (Bentham slit pattern)
Dimensions	64L x 64W x 133H (mm)

Wavelength vs Relative Spectral Responsivity

