

## DH-Si Silicon detector (incl. -cal, -QC and -LP options) User Notes



### Overview

The Bentham DH-Si houses a 10x10mm active area silicon detector, which may either mounted to the exit slit of Bentham monochromators, or used free-standing.



This device is responsive over the spectral range 200-1100nm.

The DH-Si can be operated in either the DC or AC regimes; in the latter instance, a chopping frequency of 225Hz is suggested.

Should a calibration be purchased (-cal), please see the accompanying certificate for calibration results.

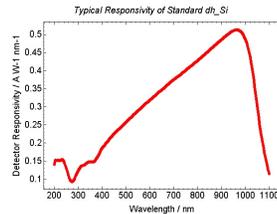
The silicon photodiode here employed is UV enhanced, and is fitted, as standard, with a quartz window. An optional resin window is available for enhanced NIR (yet compromised UV) response.

### Electrical

This device is operated in the photovoltaic mode, without bias, and may be input into any Bentham current amplifier/ ORM via BNC. The pin configuration is inner pin cathode, outer sheath anode.

### Mechanical

The standard DH-Si housing has hole patterns for attachment to the slits of any Bentham monochromator. The QC variant is adapted to the slit via a dove-tailed plated for easy removal of the detector. The LP housing is generally used in free space. When mounting the device to a monochromator exit slit, the fitting of a rubber O-ring around the detector should be ensured to prevent light leakage.



### Specifications

The device specifications are as follow:-

Typical detector responsivity

Active area:	10 x 10 mm
Peak sensitivity wavelength (typ.):	960 nm
Peak Responsivity (typ.)	0.52 A W <sup>-1</sup>
Dark current I <sub>d</sub> (typ.)	2 pA
Photosensitivity vs. temperature	up to 1%/ °C at band edge
Max operating temperature:	-40 to +70 °C *
Max shunt resistance (typ.):	0.2 GΩ
NEP:	1.8 x 10 <sup>-14</sup> W/Hz <sup>1/2</sup>
Window material:	Quartz (Resin Optional)

### WEEE statement:

Bentham are fully WEEE compliant, registration number is WEE/CB0003ZR. Should you need to dispose of our equipment please telephone 0113 385 4352 or 4356, quoting account number 135419.



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