

# DH\_50 Cooled Multi-Alkali Photomultiplier (200-930nm) Brochure



## Overview

The DH\_50 photomultiplier uses temperature control to reduce dark current and extend spectral range of the S20 photocathode. Housing an end-window multi-alkali (S20 photocathode) photomultiplier tube, a mu-metal shield and a PCB based dynode chain, reliable operation can be ensured. Peltier elements, powered by the CPS50 ensure temperature control.

The 215 high voltage supply module maintains the photocathode at a negative high voltage. The photocurrent generated by this detector is best measured using the 487 picoammeter or the 477-pre-amplifier followed by the 496 lock-in amplifier. The quick-change mounting flange supplied with the DH\_50 is compatible with the entire range of Bentham monochromators and accessories.

<u>Core benefits</u>	<u>Features</u>
<ul style="list-style-type: none"> <li>✓ Optimised performance for the most challenging measurements</li> <li>✓ High sensitivity and excellent linearity</li> <li>✓ Spectral coverage 200-930nm</li> <li>✓ Stable operating temperature and reduced dark current</li> </ul>	<ul style="list-style-type: none"> <li>◆ Housed photomultiplier tube featuring mu-metal shield and PCB dynode chain</li> <li>◆ Peltier-based cooling</li> <li>◆ Hermetically sealed housing with quartz window</li> <li>◆ Operated in either the DC or AC regimes</li> <li>◆ Compatible with Bentham's entire range of monochromators and accessories</li> <li>◆ Recommended for use with 400 series detection electronics</li> </ul>

## DH\_50 Cooled Multi-Alkali

### Electro-Optical

Photocathode	S20
Active area	20mm diameter,
Window material	UV Glass
Number dynodes	9
Dynode chain resistance	Linear: 750 k $\Omega$ Pulse Counting: 3.92 M $\Omega$
Operating mode	Photoemmissive
Spectral response range	200-900nm
Peak wavelength (typ.)	420 nm
Dark current (typ.)	1pA at 750V and -20°C
NEP	1.3 x 10 <sup>-16</sup> W.Hz <sup>-1/2</sup>
Range of temperature control	-20°C to +20°C
Max. high voltage	1250V DC
Max. anode current	100 $\mu$ A
Max. operating Temperature	-30 to +50°C

### Mechanical

Connector	BNC/HV-BNC
Compatibility	Supplied with a quick-change interface plate, 4 x M3 clearance holes (Bentham slit pattern)
Dimensions	

## Wavelength vs Relative Spectral Responsivity

