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# Hamamatsu H9305-03 | 3.7 x 13.0mm (185-900nm), Current Output Type PMT Module

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Hamamatsu H9305 Series Photosensor Module

Stock #66-272 **4 In Stock**

C\$3,185.<sup>00</sup>

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**Note:** This item requires accessories for use | [Learn More](#)

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**General**

Current Output	Type:
1.4	Rise Time (ns):
10.00	Settling Time (seconds):
H9305-03	Model Number:

## Physical & Mechanical Properties

110 **Weight (g):**

50.8 x 13 x 53.2 **Dimensions (mm):**

3.7 x 13.0 **Active Area (mm):**

## Optical Properties

185 - 900 **Spectral Response (nm):**

450 **Peak Response Wavelength (nm):**

## Electrical

± 18 **Voltage (V):**

1:10<sup>4</sup> **Sensitivity Adjustment:**

105 **Radiant Sensitivity - Cathode (mAW):**

4.2x10<sup>5</sup> AW **Radiant Sensitivity - Anode:**

0.5 **Ripple (mV):**

+0.25,+0.9,+1.0 **Control Voltage (V):**

7.00 **Current (mA):**

2/10 **Dark Current I<sub>d</sub> (nA):**

10μA **Output Signal:**

7.00 **Input Current (mA):**

## Hardware & Interface Connectivity

Coaxial **Connector:**

[#57-987](#) **Power Supply:**

±11.5 to ±15.5 **Input Voltage (V):**

## Environmental & Durability Factors

+5 to +50 **Operating Temperature (°C):**

-20 to +50 **Storage Temperature (°C):**

## Regulatory Compliance

[Exempt](#) **RoHS 2015:**

[Compliant](#) **Reach 197:**

[View](#) **Certificate of Conformance:**

## Product Details

- Wide Spectral Response
- Fast Time Response
- Low Dark Noise and High Sensitivity
- Power Supply Sold Separately

Photomultiplier Tube (PMT) modules combine a PMT with a high voltage supply and often other signal processing electronics. A variety of PMT modules are available which differ in output signal format (current or voltage), spectral response, amplifier gain and bandwidth, as well as the size of the active area. 8mm Voltage and Current Output types feature 8mm head-on photomultiplier tubes, 1V/μA 20kHz low noise amplifiers, and can be fiber-coupled using either [#57-567](#) SMA Adapter or [#57-568](#) FC Adapter. 8mm Current Output types feature low ripple noise and fast settling times. 15mm Voltage Output types feature 15mm head-on photomultiplier tubes and 0.1V/μA 200kHz amplifiers. [#66-272](#) 3.7 x 13.0mm Current Output type is a high gain (10<sup>7</sup>) PMT module suitable for use in broadband spectrophotometers and other precision photometric instruments. Rectangular active area PMT modules deliver high sensitivity with gains as high as 10<sup>7</sup> and fast response times. The recommended power supplies for the PMT modules are [#57-987](#) or [#84-956](#).

Typical applications include Raman spectroscopy, flow cytometry, fluorescence detection, DNA chip analyzers, multi-photon microscopy, radiation monitoring, semiconductor wafer inspection, laser range finding, broadband spectrophotometers, polymerase chain reaction (PCR) diagnostic instruments, and other precision photometric instruments.

## Theory of Operation

Suitable for low-light-level detection applications, the photomultiplier tube (PMT) provides extremely high sensitivity and ultra-fast response. PMTs consist of a photocathode followed by a series of dynodes and an electron collector (anode) in a highly evacuated glass or metal can envelope. When light enters the photocathode of a photomultiplier tube, photoelectrons are emitted from the photocathode. These photoelectrons are multiplied by secondary electron emission through the dynodes and then collected by the anode as an output pulse. The gain of the PMT, that is the ratio of anode output current to the photoelectric current from the photocathode, is directly related to the supply voltage. PMTs generally operate with a bias between photocathode and anode of 500V to about 1200V DC or higher. The photocathode composition determines the spectral response, the quantum efficiency at each wavelength, the

overall uniformity of photomultiplier sensitivity, and the dark current.

**Warning:** This product is extremely light sensitive. Exposing aperture to room light will permanently damage product. Should only be used with sources less than 1 nano-watt (see specifications for maximum light input per model, all are in nano-watt or pico-watt range). Housings are also fragile, and will be permanently damaged if dropped. Damages due to above reasons are not covered under warranty or return policies.

**Note:** Instruction Manual available for [download](#).

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