

# AP-TOF

## 25mm Time-of-Flight Detector

### Application

- ✓ High performance, fast timing detectors for TOF mass spec

### Features

- ✓ Improved mass resolution
- ✓ 650 picosecond pulse width
- ✓ 300 picosecond rise time
- ✓ 25mm Ø collection
- ✓ Low profile 50Ω conical anode
- ✓ Replaceable MCP cartridge



The PHOTONIS **25mm Time-of-Flight Detector** offers twice the collection area of standard TOF detectors as well as incorporating the patented features that provide previously unobtainable levels of mass resolution, dynamic range, and detection sensitivity for Time-of-Flight Mass Spectrometry.

In MALDI-TOF, ESI-TOF, or custom TOF Mass Spec, the mass resolution of your instrument is often determined by the detector. With our exclusive small pore microchannel plate technology and a new low profile, 50Ω impedance matched conical anode, PHOTONIS Time-of-Flight Detector provides sub-nanosecond pulse widths - nearly ten times faster than conventional detectors. In addition, the large collection area allows more ions to be collected, further increasing instrument sensitivity.

Our exclusive MCPs, with 5 microns diameter pores, offer one of the highest channel densities available. This channel density provides dynamic range improvements of ten times that of conventional microchannel plates.

These MCPs also give the Time-of-Flight detector superior sensitivity and excellent temporal resolution. The flat input surface provides uniform ion conversion and the higher aspect ratio of the MCPs provides gains in excess of  $10^7$ .

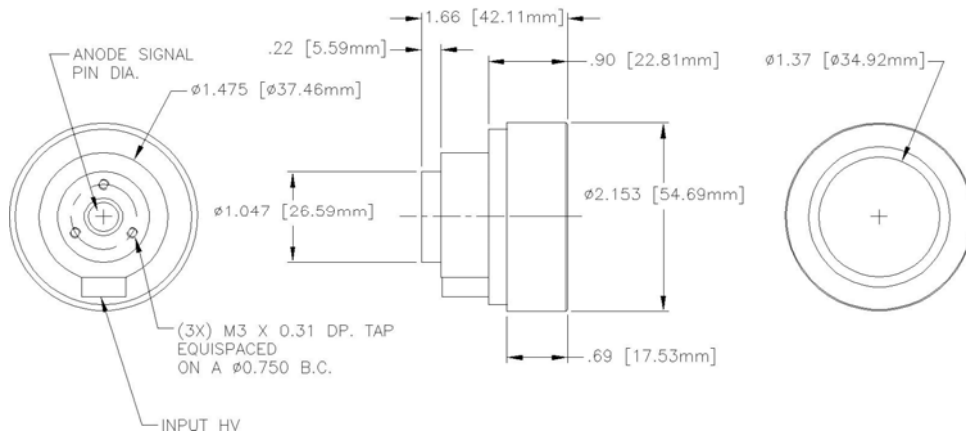
MCP replacement is a snap with PHOTONIS exclusive Quick-Fit<sup>®</sup> MCP cartridge. Each cartridge includes a Chevron<sup>™</sup> set of two Long-Life<sup>™</sup> small pore Extended Dynamic Range MCPs, and a high transmission grid mounted in a rugged module. This module can be purchased separately and allows the operator to replace MCPs quickly and easily.

General Specifications		Unit
Microchannel Plate	Two Long-Life <sup>™</sup> Extended Dynamic Range <sup>™</sup> MCP	
Gain (minimum at 2400V)	$1 \times 10^7$	
Pulse Width (Typical)	650	ps
Rise Time (Typical)	300	ps
Dark Count (maximum at 2400 V)	5	cps/cm <sup>2</sup>
Resistance (reference)	25 - 75	MΩ
Detection Diameter	25	mm
Operating Temperature Range	-50 to 100	°C
Operating Pressure (maximum)	$1.0 \times 10^{-6}$	Torr
Vacuum Flange	6" conflat available	
Electrical Connections	High Voltage: Output Signal:	SHV available with flange BNC available with flange SMA output connector available
DC Offset Voltage on Output Signal (maximum)	500	V

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## Detector Configuration

(dimensions in inches except when specified)



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