

Replacement cartridge for the Advanced Performance Time-of-Flight Detector

Applications

- ✓ Replacement cartridge for bakable (-002) and non-bakable (-001) advanced performance time of flight detector

Features

- ✓ Improved mass resolution
- ✓ 350 picosecond pulse widths
- ✓ 250 picosecond rise time
- ✓ 18mm Ø collection
- ✓ Low profile 50Ω conical anode
- ✓ Replaceable MCP cartridge



The **PHOTONIS Advanced Performance Time-of-Flight Replacement Cartridge** enables the end user to easily refurbish an Advanced Performance Time-Of- Flight Detector without having to return the detector to the factory, thus virtually eliminating expensive instrument down time.

These specially designed replacement cartridges can be installed with little technical expertise. Keyed alignment pins and high reliability contacts ensure proper electrical connections and a successful installation every time.

PHOTONIS exclusive small pore (five micron diameter) Microchannel Plates (MCPs) offer one of the highest channel densities of any MCP in the world. This channel density provides **dynamic range improvements** of ten times that of conventional microchannel plates. The new microchannel plate technology extends the dynamic range far beyond previously attainable levels.

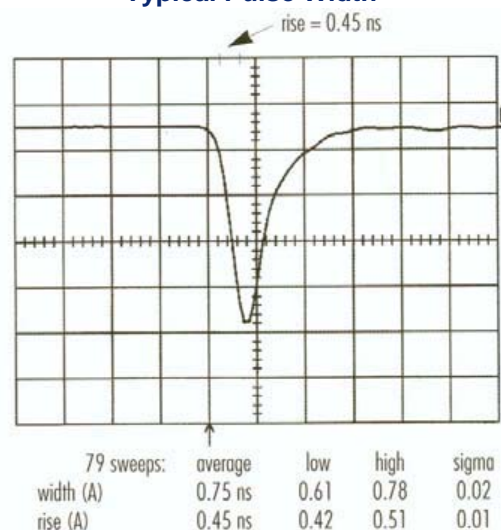
These MCPs also give the new Advanced Performance Time-of-Flight Replacement Cartridge **superior sensitivity and the best temporal resolution available anywhere**. The flat input surface provides uniform ion conversion and the higher aspect ratio of the MCPs provides gains in excess of 10^7 .

Also available is the new bakable design (-002), enabling the detector to be quickly degassed for maximum sensitivity.

Each cartridge includes a Chevron™ set of two Long- Life™ small pore Extended Dynamic Range MCPs and a high transmission grid mounted in a rugged module. The replacement cartridge is pre-tested to assure quality and is delivered with an individual test data sheet.

Specifications	Unit	
Microchannel Plate	Long-Life™ Extended Dynamic Range™	
Gain (minimum at 2400V)	1×10^7	
Dark Count (maximum at 2400 V)	5	cps/cm ²
Resistance (reference)	66 - 400	MΩ
Detection Diameter	18	mm
Operating Temperature Range	-50 to 150 (51005-02) -50 to 50 (51005-01)	°C
Bake out temperature (Maximum)	300 (51005-002) 50 (51005-001)	°C
Operating Pressure (maximum)	1.0×10^{-6}	Torr

Typical Pulse Width



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