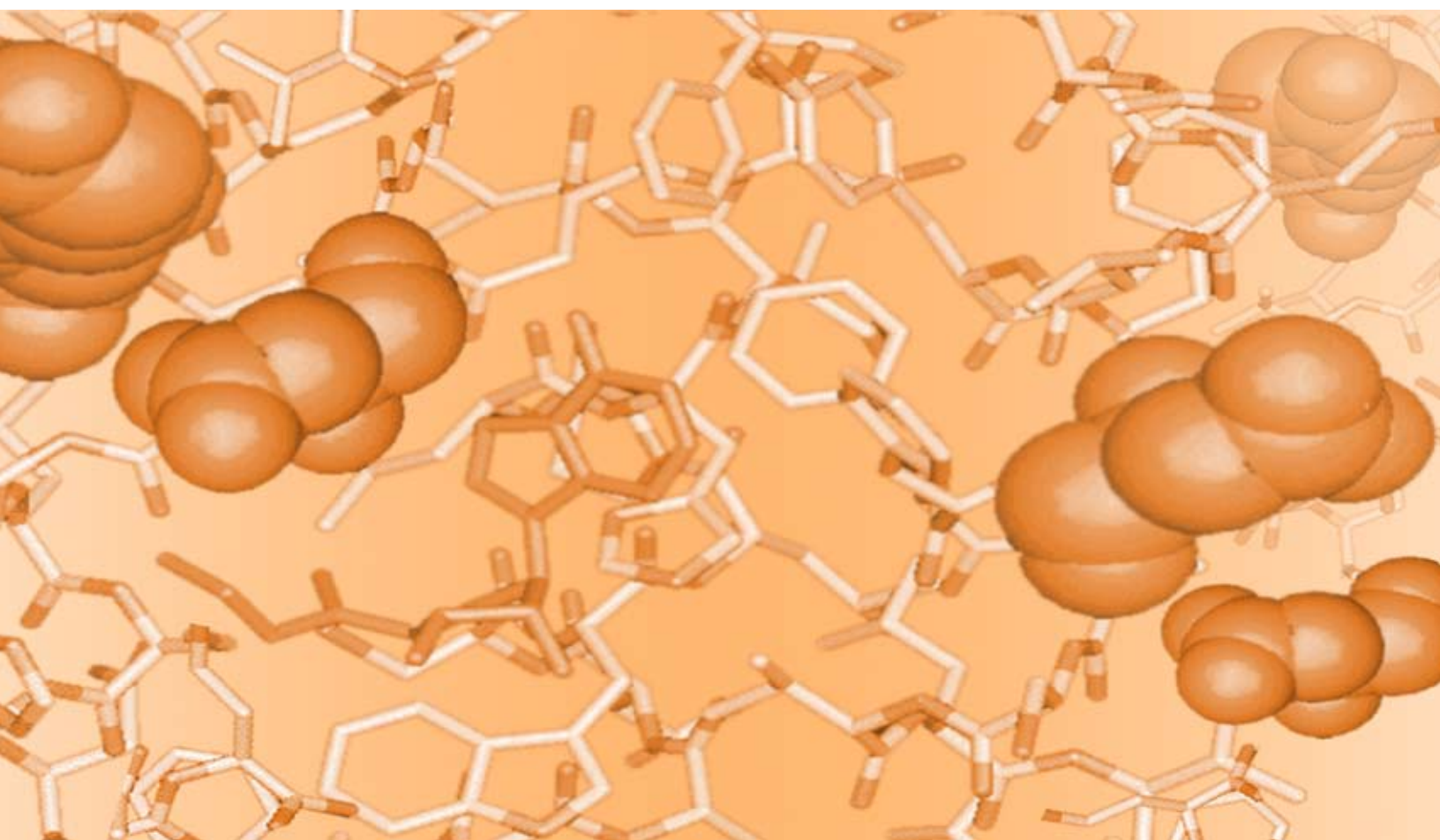




# FluoDia T70



**Photon Technology International, Inc.**

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# FluoDia T70

High

## About PTI

Photon Technology International Inc. (PTI) is a company dedicated to extending the frontiers of science through the application of fluorescence techniques. PTI is engaged in research and development, manufacturing, marketing and sales of fluorescence instrumentation on a global basis and has an installed customer base of more than 10,000 worldwide. PTI is not just an instrument company; it provides training and substantial support for applications for the growing fluorescence marketplace.



## Photon Counting

FluoDia T70 is a high throughput microplate fluorometer with high sensitivity and high speed measurement capabilities, which is very useful for immunoassay and biological research purposes. FluoDia T70 uses photon counting which allows for excellent S/N and stability in order to handle small sample volumes required for gene analysis, or for low fluorescence intensity measurements. With photon counting dark signals are discriminated from incident fluorescence signals by a discriminator so that the interference or noise by dark signals are minimized. Additionally, a 24-bit counter allows measurements with a wide dynamic 7 range( $10^7$ ) even for low-intensity signals.

FluoDia T70 is able to achieve even more sensitivity if the gating time (photon-counting time/well) is set for a longer period of time.

## Low Noise

**Dark Level Stability**  $< 3 \times 10^{-4} \% \text{ full scale}^{*1}$   
 $< 3 \times 10^{-4} \% \text{ full scale}/8\text{Hr}^{*1}$

\*1 RT 25°C. Gating time: 200 msec

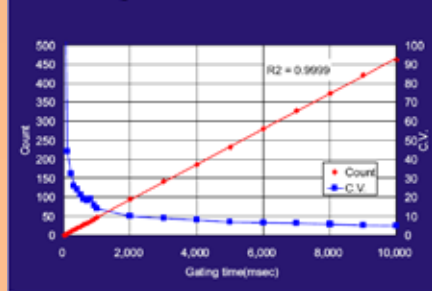
## High Sensitivity

**Sensitivity** **2.4 fmol/well (Fluorescein)**  
**(S/N=3, Furnace method)**  
**Sample Volume** **15 µL/well**  
**Gating Time** **200 msec**

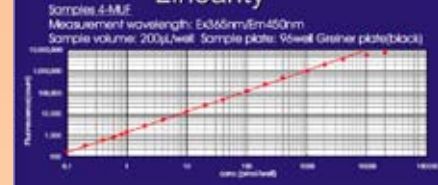
## Wide Range

**Dynamic Range: (Full scale)** **0~16,777,215 count**

Gating time vs. dark count



Linearity



Detection Limits

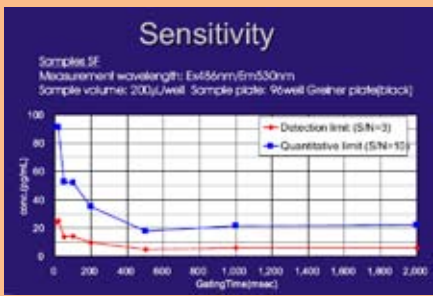
Sample	4-MUF <sup>2</sup>	F <sup>3</sup>
Detection limit	0.1 pmol/well	2.4fmol/well
Microplate	Greiner96	M384
Sample vol (µL/well)	200	15
ExEm(nm)	365/450	486/530
Gating time (msec)	200	200
Sample FC: AV (counts)	1.07	4107
Buffer FC: SD (counts)	32	577

\*2 Fluorescein

\*3 4-MUF: 4-Methyl Umbeliferone

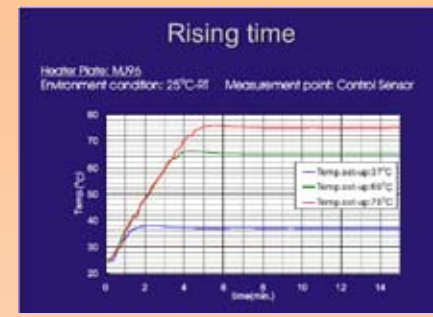


# Temperature Microplate Fluorometer



### Easy to use

- No adjustment of gain required
- Gating time is selectable between 10 msec & 10 sec
- User-friendly software



### High temperature incubation

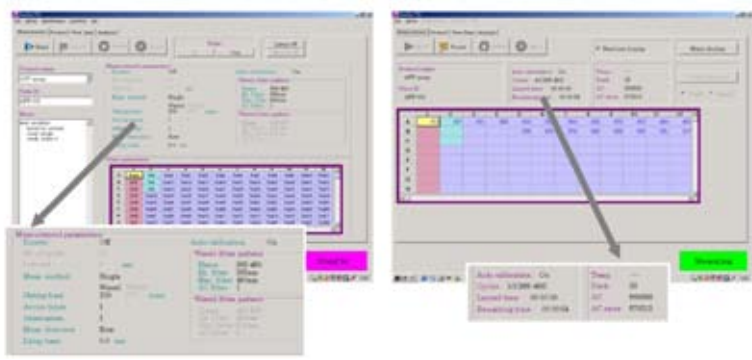
- Temperature control up to 75°
- High precision control excellent uniformity

### Other systems offered

- Fluorescence Imaging Systems
- Ratio Fluorescence Microscopy & Cuvette-based
- Systems
- Steady State Spectrofluorometers
- Fluorescence Lifetime Systems

### Easy To Use

FluoDia T70 does not require any gain adjustment (high voltage). Selection of gating time according to the fluorescence intensity level of the sample permits measurements under optimal conditions.



FluoDia T70 offers user-friendly software that is simple to run from configuration, to acquisition of data. Data can be stored in Excel\*4 format so that it can be used for further processing and analysis.

\*4 Excel is a trademark of Microsoft.

### High Temperature Incubation

FluoDia T70 has optional heater plates available. With a heater plate installed, end-point and kinetic fluorescence measurements become possible with temperature and time-schedules precisely controlled.



### PTI Also Offers Turn-key Fluorescence Systems

The company is dedicated to meeting the ever-growing diversity of special needs of the fluorescence community. PTI, unlike all of our competitors, does not have to shoehorn you into a single system. We do not claim or have to claim that a single system meets every need, because it is simply not true. PTI offers more fluorescence systems tailored for various applications in fluorescence than all of our competitors combined.



# FluoDia T70

## Specifications

<b>Measurement Method</b>	Photon Counting
<b>Excitation Light Source</b>	Quartz Halogen Lamp: 50W
<b>Detector</b>	Side-on PMT (185-830 nm)
<b>Light Guide</b>	Quartz fiber ( 1.4 mm) & condensor lens
<b>Optics</b>	Top-to-top
<b>Wavelength Range</b>	320-830 nm
<b>Excitation/Emission Filters</b>	4 filters/each (Software controlled. Filters are optional)
<b>Dynamic Range</b>	0 - 16, 777, 215 count
<b>Gating Time</b>	10 msec - 10 sec(increments of 10 msec)
<b>Measurement Time</b>	40 sec - (96 wells), 110 sec - (384 wells)
<b>Accumulation</b>	1 -100 times/well
<b>Calibration</b>	Automatic calibration by the calibration plate
<b>Sample Mixing</b>	Mixing Method: linear and orbital shaking Mixing Time: programmable
<b>Temperature Control (Optional)</b>	RT+5 - 75°
<b>Temperature Rise Time (rise time from 20-68°C)</b>	Accuracy: $\pm 0.3^{\circ}\text{C}$ , Uniformity: $\pm 0.3^{\circ}\text{C}$ $\leq 5$ min. without preheating $\leq 1$ min. if preheated at 68°C: (40 $\mu\text{l}$ in V-type 96 well plate)
<b>Microplate Type</b>	96 and 384 wells 6, 12, 24, and 1536 wells optional
<b>External Communication</b>	USB and RS232C terminal and bar-code reader terminal
<b>Dimensions</b>	380 x 505 x 200 mm
<b>Weight</b>	Approx. 20 Kg
<b>Power Supply</b>	AC100-230V, 50/60Hz
<b>Power Consumption</b>	Approx. 250W (Approx. 330W with stage heating)
<b>Operational Environment</b>	15-30°C, 30-90% RH (non-condensing)

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