

# Ultraviolet Photometric Analyzer

Series 6000

**T**eledyne's *Series 6000 Microprocessor Controlled Ultraviolet Photometer* is designed to provide continuous on-line analytical data of critical process conditions and eliminate time consuming laboratory analysis. This analyzer can be configured to measure at any wavelength within the ultraviolet or visible portions of the electromagnetic energy spectrum. Since numerous gases and liquids have a useful absorbance peak in the ultraviolet region, a wide variety of applications are possible.

## Advantages

*Dependable microprocessor-controlled analysis*

*Auto calibration and auto ranging*

*Continuous real time analysis*

*Eliminates time-consuming lab analysis*

## Features

- Microprocessor based, high resolution, ultra stable electronics (no potentiometers)
- Three user-selectable ranges
- Signal & Range ID output: 0-1VDC and 4-20 mA DC (isolated)
- Programmable auto ranging
- Range ID contacts (quantity 4) Form A normally open contacts, 3A@250 VAC resistive
- Two adjustable concentration alarm set points with programmable relay function Form C contacts, 3A@250 VAC resistive
- Programmable auto calibration with mode ID Form A normally open contacts



- Remotely operated calibration (customer supplied valves and 24 VDC signal)
- Self diagnostics with Form C failure contacts
- Full duplex RS232 communication link
- Alphanumeric VF display for set-up and diagnostics
- Power: 115/230 VAC 50/60 Hz

## Principle of Operation

The analyzer's optical path (figure 1) consists of a UV source, sample cell, and detector. A filter wheel located in front of the detector continuously rotates a reference and measuring filter in and out of the optical path. The material of interest continuously flows through the sample cell where the optical energy is absorbed at the various wavelengths in accordance with its composition. The analyzer utilizes the reference wavelength to compensate for extraneous phenomena (turbidity, dirt on optics, source drift, etc.) thereby producing a high degree of stability over long periods.

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*SENSORS ○ ANALYZERS ○ SYSTEMS ○ SCIENTIFIC SOLUTIONS*

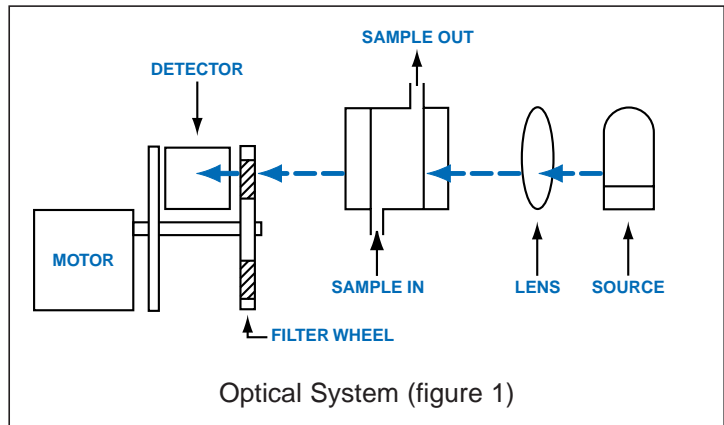
**Configurations**

- 6000: General purpose wall mount
- 6020: Totally explosion proof suitable for use in Class I, Division 1, Groups B, C, & D

*Alternate configurations are available; contact the factory.*

**Specifications**

- Noise: <math>\pm 1\%</math>
- Drift: Less than 1% per day
- Diurnal: Less than 1% per 20°F
- Accuracy:  $\pm 1\%$  of full scale
- Ambient: 32°F to 122°F (0-50°C) non-condensing
- Sample cell: Stainless steel with quartz window standard. Other materials available.
- Cell length: .01 to 40 inches (application dependent)
- Flow rate: 50 to 1500 cc/min
- Light source: Tungsten lamp, mercury, deuterium arc (application dependent)
- Power rating: 115/230 VAC, 50/60Hz volts, approximately 200 watts



Optical System (figure 1)

- Sensitivity: .02 to 3 absorbance units
- Reproducibility:  $\pm 1\%$  of scale or better
- Electronic response: 90% in 1 second
- Filter wavelength: 210 to 1000 nano-meters
- Sample pressure: Quartz window - 30 psig  
Sapphire - 40 psig
- Enclosure: (6000) General purpose - sheet steel  
(6020) Hazardous duty - conduit
- Readout: 2-line alphanumeric vacuum fluorescent display (VFD)

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**Warranty**

Instrument is warranted for 1 year against defects in material or workmanship

NOTE: Specifications and features will vary with application. The above are established and validated during design, but are not to be construed as test criteria for every product. All specifications and features are subject to change without notice.

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