



MODEL NIR 4000L

Near Infrared Process Photometer

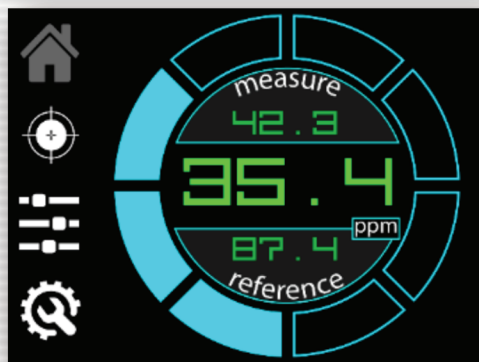


Features

- Compact, space-saving configuration with no moving parts that is available for use in either hazardous or non-hazardous rated areas
- 316SS High-Pressure rated Sample Cell that is isolated from the analyzer electronics
- Optical design approach that compensates for source and detector aging
- Tungsten Halogen Source lamp which is very easy-to-access and replace
- Two-stage, TE-Cooled InGaAs photodiode detector which provides a highly sensitive and stable measurement of water
- Touch-Screen User Interface with intuitive mode buttons & menus that also provides visual diagnostic information by an automatic change in concentration display color

Description

The CAI NIR 4000L Near Infrared process photometer is designed to monitor water impurities found in solvents, alcohols, glycols and acetic acid. It utilizes Beer's Law, the attenuation of light as it passes through a flowing liquid sample, to monitor for changes in concentration of the desired analyte. The CAI NIR 4000L consists of a tungsten halogen lamp, 2 x fiber optic cables, a flow-through sample cell and InGaAs photodiode detector. Light energy from the tungsten lamp is fed via a fiber optic cable to a cross-flow sample cell. The light passing through the flowing liquid sample is collected by the receiving fiber and conveyed to the dual-stage, thermoelectrically (TE) cooled InGaAs measurement detector to provide a continuous analysis of the water impurity. A beam splitter is employed to direct the attenuated light to both the measurement and reference photodiode detectors. CAI selects and incorporates specific measure & reference wavelength optical filters into the light path based upon the given application.



Typical Applications

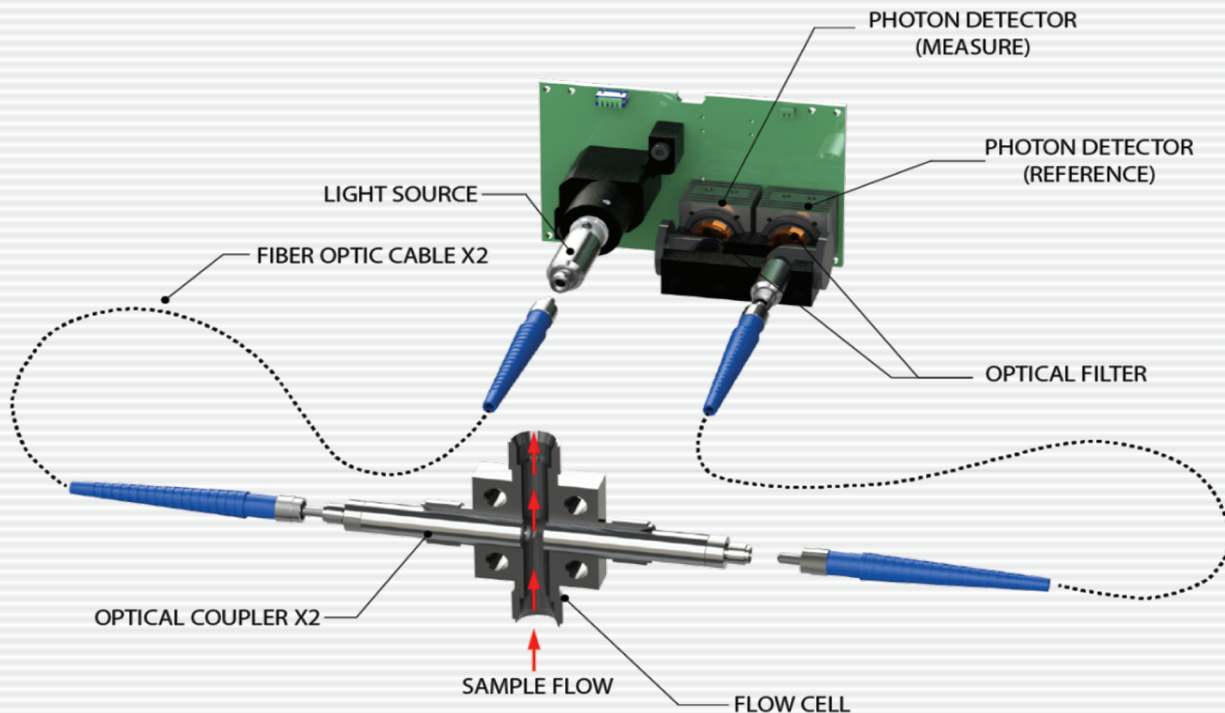
- 0-5% H₂O in Ethylene Glycol
- 0-1% H₂O in Acetone
- 0-1 or 0-10% H₂O in Ethanol (Fuel Blending)
- 0-20% Water in Acetic Acid (Reactor Outlet)
- 0-10% Water in Acetic Acid (Drying Column Inlet)

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Specifications

- Measurement Principle** – NIR Absorbance
- Light Source** – Tungsten Halogen Lamp
- Detector** – Two Stage TE-Cooled InGaAs Photodiode
- Fiber Optic Cables** – (2) x 1 meter, 600 micron core cables
- Sample Flow Cell** – 3 / 8" 316 Stainless Steel Cross Flow Cell (*)
- Range** – Application Dependent- Contact Factory
- Response Time** – Electronic Response is T90 in 1 second
- Power Requirement** – 24VDC Nominal (12 to 48VDC), 8.5 Watts Max
- Enclosure** – NEMA4X
- Process Temperature** – 200 Deg C (max)
- Process Pressure** – Up to 2,000 psig (max)
- Minimum Flow Rate** – 100 ml/min
- Operating Temperature** – - 20 to 40 Deg C
- Storage Temperature** – - 20 to 50 Deg C
- Outputs** – 4-20mA, RS485 (MODBUS) or USB
- Alarms** – Contact Closure (60VDC, 0.75A Max)
- Display** – 3.2" Capacitive Touch Screen LCD



Specifications subject to change without notice.



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