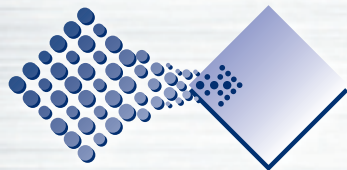


Water in Process Streams

Model 58T NIR Photometric Transmitter



Custom Sensors & Technology has produced the world's most advanced fiber optic based NIR Photometric Transmitter for monitoring and controlling the amount of water in a variety of process streams. This dual wavelength system incorporates state of the art electronics and fiber optic flow cells/probes that can operate in extreme conditions for applications in chemical, petrochemical, and the refinery industries.

NIR Photo-X Photometric Transmitter



The Photo-X Transmitter (shown to the left) is a fiber optic based, low cost, application specific device. The transmitter is designed to continuously measure the amount of water in a process stream, verify it's calibration, and alarm if the flow cell windows are fouling. The Photo-X is a 4-wire, 24VDC transmitter.

Fiber Optic Flow Cells

CS&T has several patented fiber optic flow cells that can operate in extreme process conditions. Variable or fixed pathlength designs are available in 316SS, Hastelloy, Monel, and a variety of other materials. Easily connected to the process via compression fittings flow cells are provided as stand alone devices or can be integrated into a sample system with calibration and flow monitoring controls.



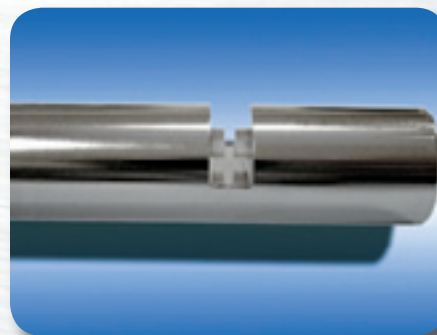
Patented fiber optic flow cells offered by CST, 3/8", 1/2", and 3/4" designs covering pathlengths from 0.1mm to 1M in length.

Other Benefits of the CST NIR Photometer

- Continuously monitors the amount of water in your process stream and produces output signals proportional to concentration
- Corrects for particulate with reference signal
- Unaffected by bubbles or turbidity in sample
- Fiber optic; source, reference, and measure
- 4-20mA range output
- Automatic/Remote Calibration Span Filter
- Window fouling circuit
- Long lasting lamp (2 years)
- Analyzer electronics separated from fluidics section

Applications for NIR Water Transmitter

Water in Acetic Acid	Water in Dibutyl Ester
Water in Fuels	Water in Alcohols
Water in Solvents	Water in HCL, NO ₃ , H ₂ SO ₄



Patent pending transmission probe for insitu measurements

Custom Sensors & Technology is a manufacturer of process photometric and electrochemical based process transmitters

Product Specifications

System

Ambient temperature	-10 to +55°C
Measured parameter	Water
Electromagnetic compatibility	per IEC 801 standards
Repeatability/accuracy	±0.01 AU
Sensitivity (smallest detectable change)	0.005 AU
Smoothing time-constant 1 to 100 seconds	adjustable System response time typically 1 sec.

User Display & control

Type of display	Red LED display
Display numerical format	3-1/2 digits
Water range	User scalable, depends on pathlength used 0-0.200AU Precision 0.01 (of any unit)
User Interface Control	Front Panel dial settings
Display update interval	1 second

Optical

Light source	Tungsten Halogen Lamp with feedback control
Filters	Interference, bandpass, blocking, or edge
Detectors	Si, InGaAs, or PbS
Wavelength range	Concentration/background dependent
Fiber optic connectors	SMA-905

Electrical

Power Supply	24VDC
Power consumption	350mA @ 24VDC
Analog outputs	4-20mA (isolated); min/max: 0/20 mA
Analog loop resistance	500 Ohms

Mechanical

Transmitter weight	2 lbs.
Enclosure size	application specific
Enclosure construction	application specific
Enclosure rating	NEMA 4X (IP66),

Options

High/Low concentration	Long/short Transmission cells
Mixers	In line mixers
Pump	Centrifugal, high shear pump
Packaging	X, Y, or Z (Zone 1, 2) Purge available

Custom Sensors & Technology is a full service provider. We also supply photometric transmitters, fiber optic probes & flow cells, O₂ transmitters, sample handling systems, and services including: application engineering, commissioning & start-ups, product validation, factory acceptance testing, process stream GAP Analysis, and in-house repair.