

High/Low Level Turbidity Transmitter

Model 55TL Photo-X

CST has developed a new low cost photometric transmitter and sample interface for monitoring the amount of Turbidity in a variety of process streams. The transmitter incorporates state of the art electronics connected to a fiber optic based insitu probe or extractive flow cell. In addition, we offer an optional span calibration filter which allows you to check the transmitters performance without shutting down the process or removing the flow cells or probes from service.

Defining the Problem

Turbidity can be a disruptive or desirous component to process streams. Monitoring the presence or absence of scattering particles in a process can assist plant managers, operators, and technicians, with reducing plant upsets, shutdowns, and loss of product.

The CST Solution

Forward and backscatter techniques are employed by the CS&T Turbidity monitor/controller depending on the specific size and concentration of particles that are being measured. CS&T offers both in situ probes and extractive flow cell for this measurement. The extractive flow cell can measure particles in a forward, side or ratio technique while the insitu probe measures with a backscatter technique. Both the insitu and extractive fiber optic accessory separates the sample from the electronics via safe, nonconductive fiber optic cables. The Transmitter is supplied with a local readout and a 4-20mA output that is proportional to the amount of turbidity or % reflectivity in the stream.



Where is Turbidity Measured

- Polymer feed
- Cell Density
- Refineries
- Column packing material
- Bio mass
- Water in Fuel
- Filter efficiency
- Suspended solids

Photo-X Transmitter

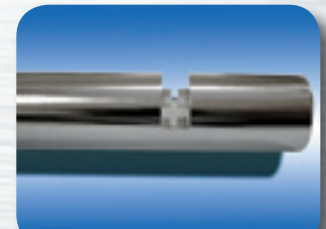
Custom Sensors & Technology manufactures a low cost Photometric transmitter that produces a 4-20mA signal proportional to the amount of Turbidity in process streams. The transmitter is also supplied with an automatic manual/remote means of verifying the response of the transmitter. The transmitter can be supplied in either a logarithmic or linear mode of operation. CST can package for either GP, or Ex-Proof areas.



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Insitu Turbidity Probe

CST provides customers with the means of measuring suspended solids or emulsions based on back scattering of energy from the particles. Particles that are highly reflective and in high concentrations are ideally measured with this type of probe.



The probe can be supplied in a variety of materials and lengths.

Product Specifications

Transmitter

Measured parameter	Turbidity/Reflectivity (absorbance or linear modes)
Resolution	2 NTU
Lamp	NIR LED, minimum 10 year life
Temperature Range	-20°C to +55°C
Pressure Range	+/- 5,000 psig
Response time	< 1 sec
Maximum Zero shift	0.005AU (over +20° to +40°C)
Long term output drift	<1% signal loss/year
Repeatability	1% of range
Range	ppm to percent (please consult factory) or 0-100%
Span Calibration Filter	Manual or remote triggered, NIST traceable (optional)

User Display & control

Type of display	LED
Display numerical format	3-1/2 digits in user defined engineering units

Electrical

Power requirement	24VDC (9-32VDC) Std. or 110/220 VAC, 50/60Hz with power supply
Power consumption	350mA @ 24VDC
Analog outputs	4-20mA isolated
Analog loop resistance	500 Ohms, maximum @ 24V
Alarms	Optional
Certification	CSA, CE

Mechanical

Analyzer weight	1.5 lbs.
Enclosure construction	Extruded Aluminum, (Nema 4X, and purge kits optional) 8" x 3-7/8" x 1-1/2" (HWD")

Probes/Flow cells

Materials	316SS, or Hastelloy C
Temperature rating	315.5°C (600°F)
Pressure rating	5,000-10,000 psig
Expected probe life	25 years

Probe options

1. 6, 12, or 24" in length
2. Automatic retractor

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.