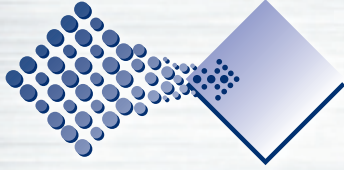


# On-Line Color Transmitter

## 55T Series Color Transmitter



Custom Sensors & Technology supplies a photometric transmitter for monitoring the amount of color of process solutions. The monitoring system incorporates state of the art electronics and an external flow cell or insitu probe that senses color changes of your product in real time. The transmitter produces a 4-20mA output that is proportional to the color being measured. This signal acts as a control feedback, direct logging input, or alarm control depending on the application requirements. As an easy check of the photometers operation a span filter with a fixed upscale response is included with each photometer. The span filter can be initiated at the instrument or remotely triggered from a control room.

### Defining the Problem

The absence or presence of color in a product can greatly affect the quality and or appearance of the product. With enough color change, the process can be forced to take an unwanted and sometimes unexpected shutdown, thus affecting production yield and or quality. Typically, in a process stream, color measurements are made with transmission probes or flow cells. For sample streams which are highly opaque or difficult to transmit energy across a reflectance method can be employed to measure the amount of reflected light from the sample.

### The CS&T Solution

The CS&T flow cells or transmission probes are designed for either extractive or insitu measurements of process streams that need to monitor color changes.

The flow cells or transmittance probes coupled to the CST Color Transmitter is an effective tool to help manage process color changes. The signal from the Transmitter generates a 4-20mA output that is proportional to your process color (presence or absence). This signal can be used to control the final appearance of your process stream.

To develop an immediate response to a process color change, a probe is employed to monitor the conditions directly within the process. The in situ probes have been designed to withstand high temperatures and pressures and can be optionally supplied with an automatic retraction device for cleaning or calibration.

### The Photometric Transmitter

Custom Sensors & Technology manufactures a low cost Photometric Transmitter that optically measures (via a remote fiber optic flow cells or probes) the amount of visible color in your process stream and sends a proportional 4-20mA signal to the control room.



Model 55T Color Transmitter

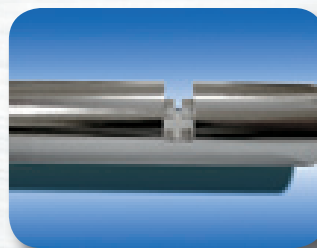
#### Industries Served:

- Chemical
- Petrochemical
- Bio-Tech
- Pharmaceutical
- Pulp & Paper
- Water Quality

#### Color Scales:

- APHA
- Saybolt
- ASTM

### Insitu or Extractive Sample Interface



Insitu Probe



Extractive Flow Cells

# Product Specifications

## Transmitter

Measured parameter	Color-presence/absences
Resolution	0.01AU
Temperature Range	-10°C to +55°C
Response time	< 1 sec
Maximum Zero shift	0.002 mA/°C
Long term output drift	<2% signal loss/year
Repeatability	1% of range
Light source	LED (guaranteed 9 year minimum life), or Tungsten Halogen (one year life)

## User Display & control

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

## Electrical

Power requirement	24V DC (9-32VDC) If 10/220 VAC is available CST will supply an AC/DC power supply
Power consumption	350mA @ 24VDC
Analog outputs	4-20mA isolated
Analog loop resistance	500 Ohms, maximum @ 24V
Alarms	Optional
Certification	Available upon request

## Mechanical

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

## Flow cell or Probe

Materials	316SS or Hastelloy C
Temperature rating	315.5°C (600°F)
Pressure rating	10,000 psig for probes

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Custom Sensors & Technology is a full service provider. We also supply photometric transmitters, fiber optic probes & flow cells, O<sub>2</sub> 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.