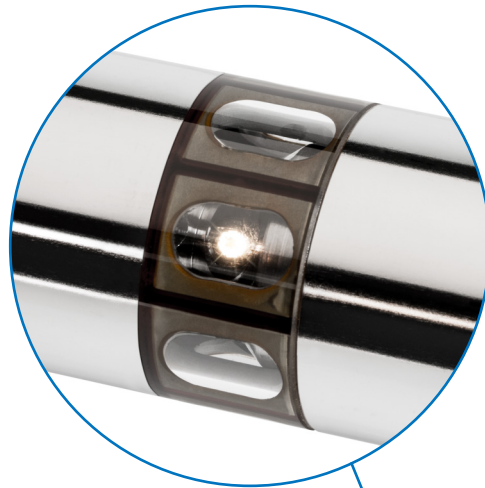


# TELLUS-COL SERIES FOR SOLIDS

## IN-LINE COLOR MEASUREMENT

Color and turbidity measurements are frequently used in many industrial processes across a variety of industries, most dominantly in Food & Beverage, Oil & Gas, and Chemical. BON's TELLUS-COL and TRITON-COL products for color measurement in solids and liquids are able to measure color in a number of ways:

- The presence or absence of color in materials
- Subtle color variations in color spaces
- The exact determination of color accuracy in materials, including powders, granulates, pastes and other highly viscous samples.



- In-line color measurements in real-time
- VIS spectral sensor integrated within probe shaft
- Automated self-cleaning and recalibration optional
- Robust design for industrial use
- Hazardous area / Hygienic design certified
- Contact measurement (probe in touch with material)
- Flashed light source, guaranteeing an extended lifespan, little maintenance required
- Extremely low cost of operation

## **SPECIFICATION FOR SENSOR FAMILY TELLUS-COL**

Measurement method	VIS - Reflection measurement
Measuring geometry	45°/0°, d/0° DIN 5033 (measurement area 3 - 5 mm)
Standard illuminants	D65, others available
Standard colimetric observer	0° with L, others available
Color spaces	XYZ, Yxy, $\Delta E$ CIE $L^*a^*b^*$ , $L^*u^*v^*$ , $L^*C^*h$
Distance metric	$\Delta E$ CIELab; $\Delta L$ , $\Delta a$ , $\Delta b$ ; $\Delta L$ , $\Delta u$ , $\Delta v$ ; $\Delta L$ , $\Delta C$ , $\Delta h$ ; Min/Max, PASS/FAIL
Color value specification	Hazen, APHA, contrast LRV - BS 8493:2008
Dimensions	Length 360 mm, diameter 114 mm, shaft 20 mm
Weight	1.5 kg
Light source	flashed lamp, (life span 10 <sup>9</sup> flashes)
Spectral range	380 nm - 780 nm
Spectral resolution	< 10 nm @ 500 nm
Repetition rate	2 sec
Repeatability	< 0,05 $\Delta E$ CIELab
Operating temperature	5 °C to 45 °C (without cooling mechanism)
Voltage	24 VDC, max. 0,2 A
Industry protocols	0... 10 V; 4...20 mA, ProfiNet, Ethernet-IP, OPC, Field-Bus, Mod-Bus, Profi-Bus, WiFi, RS Minus 485
Process interface	Lighthouse Probe, Tri-Clamp, DIN-flange other options available
Additional components	automated self-cleaning and recalibrating mechanism
Protection class	IP67
EX-Certificate and/or hygiene certificate	available

## **INLINE COLOR MEASUREMENT ALTERNATIVE PROCESS INTERFACE OPTIONS**



**SWAGELOK:** The chemical, petrochemical and biotech industries are using primarily Swagelok connectors for permanent connections, as oppose to quick-release connectors, such as Tri-Clamp. These connectors are very reliable in high-pressure installations, but still easy to operate. Swagelok connectors are usually available in sizes ranging from 1/16" to 1".



**TRI-CLAMP:** Tri-Clamp is the most ubiquitous connector to connect pipes and equipment components in the Food & Beverage industry as well as in the pharmaceutical industry. It is a quick-release connection and generally available for diameters between ½" and 4".



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