OMA-300 CM

ON - LINE COLOR MONITORING: CIE L, a*, b* & XYZ TRISTIMULUS, APHA, HAZEN, SAYBOLT

A fiber optics multi-wavelength UV-VIS process analyzer

OMA-300-CM – a process color monitor by high resolution diode array spectroscopy, providing tristimulus analysis using the visible spectrum from 340 nm to 720 nm. The results of the analysis can be displayed on screen and sent to the analog outputs, or further processed to provide a single number such as the APHA value computed in accordance with ASTM method D5386-93. This method converts CIE tristimulus color measurement of light transmitted through near-clear liquid samples to equivalent visual color rating (Hazen or APHA). Process monitoring in the low 0-30 APHA range is feasible due to the multi wavelength nature of the measurements. The OMA provides higher reproducibility and accuracy in color measurements conforming with the following methods: Saybolt (D-156), Platinum – Cobalt (D-1209), Dyed Aviation Gasoline (D-2392).

The OMA-300-CM process analyzer is offered either as general purpose or purged (explosion-proof) to comply with **hazardous area** classification. All measurements are **continuous**. The analyzer utilizes **fiber optics** to transmit light to and from the flow cell. Industry standard **4-20mA output** signals are available and easily re-scaled. **User friendly interface**, no calibration required.

Features

- Accurate color measurements
- Solid state-low maintenance
- Fiber optics probe-remote sensing
- Touch-screen display and user's interface
- 4-20 mA Outputs
- Continuous on-line measurements
- Full spectrum analyzer-allows for all color analysis methods

Principle of operation:

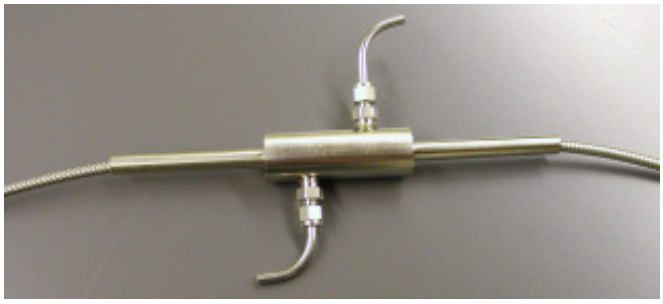
A diode array spectrophotometer measures the total transmitted light through the flow cell. The measurements are converted by the analyzer's CPU to CIE X Y Z tristimulus color. These values are converted, if required, to the yellowness index, or any other color standard index.

Verification:

Verification of analyzer's performance is carried out by the manufacturer prior to shipment. The absorbance values of a solution of platinum – cobalt must fall within a limit as specified by the ASTM method. The user will use a filter to simulate these measurement in the field and to confirm analyzer's performance.

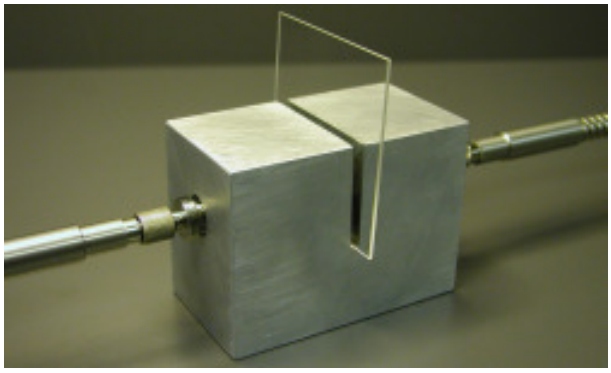
Applied Analytics, Inc.

Flow through cell



Immersion Probe

Filter holder



Specifications

Repeatability:	± 0.5% of scale
Photometric accuracy:	± 0.005 AU
Operating conditions:	
Temperature:	0 to 55°C (32° – 130°F) standard -20° to 55°C (-4 to 131°F) optional
Sample conditions	
Immersion probe	
Temperature	-50° to 300°C (-60 to 570°F)
Pressure	200 bar (3000psi)
Flow through cell	
Pressure	10 bar (147 psig) standard
Temperature	-20° to 150°C (-4 to 302°F)
Note	Wetted flow cell materials are: 316 stainless steel, K7 glass and teflon. Other materials – optional
Area classification:	
General purpose:	Standard
Class I Div. I Group C&D B&D	Optional
Analog Output:	One galvanically isolated 4-20mA (additional channels optional)
Fault relay:	One SPDT alarm relay
Display:	1/4 VGA, NEMA 4 touchscreen LCD display(340x240 pixels)
Power:	80 to 240 Volts AC 40 to 60Hz, 20 Watts.
Physical Dimensions:	
Dimensions	16"(H) x 14" (W) x 8" (D) (41 x 36 x 20 cm)
Weight	32 lbs. (15 Kgs.)

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