

APPLICATION NOTE AN011

Sugar color monitoring

SUGAR PROCESSING

INDUSTRY: Sugar Processing

APPLICATION: On-line color monitoring of sugar in real-time

The Challenge

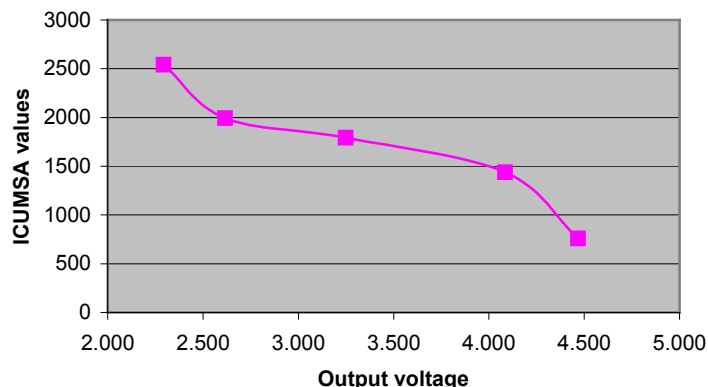
A major raw sugar producer seeks to improve process control methods to reduce production costs while maintaining the color characteristics of the sugar as required by their customers. Supplying sugar with lower ICUMSA color (higher quality) than required in order prevent customer rejection results in increased production costs.

Current process control methods involve color measurements of sugar in a solution. These methods are time consuming and are generally not useful for real-time process control.

The Solution

EMX industries, Inc has developed the BriteX sensor that provides in-process relative color measurements of sugar allowing real-time process adjustments. Monitoring of color as sugar exits the centrifugals allows optimization of the process to produce consistent product meeting the ICUMSA color requirements. The sensor provides measurement data that can be correlated to ICUMSA color allowing tighter process control.

Sensor analog output to ICUMSA



The graph plots ICUMSA color to the BriteX output over a range of 758 IU to 2539 IU. The BriteX analog output signal is monitored by the control system to track sugar color at various stages.

In addition to the analog output signal, the BriteX provides a user adjustable threshold level and a discrete output that indicates when the measured level exceeds the threshold.

The photo on the right shows the BriteX sensor viewing 758 IU sugar. The display shows a relative signal level that is adjustable by the operator. The red LED indicates that the color measured is above the threshold setting. The BriteX color-monitoring system provides a cost-effective alternative to time consuming, labor-intensive manual sugar color measurements.



Equipment required

BX1000S

BriteX, Sugar Color system



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