VISIEYE web break detector

Color Camera for Detecting the Paper Web Breaks

A color camera is an excellent sensor for monitoring the web break against the fabric or in the open draw position. VISIEYE optical detector from Vision Systems can be placed even in the toughest and hottest places of the paper, board, tissue or pulp machine for detecting the web breaks and informing this to the control of the paper machine in minimal time.

Web break in the paper, board, tissue or pulp machine can cause a severe mechanical, electrical and financial damage. Reliable detection reduces machine stop time which improves productivity of the factory. Web breaks are also dangers for machine operators. Thus, web breaks need to be detected in minimal time to avoid these damages. VISIEYE is able to meet these tough requirements coming from the paper industry.

Color detection

VISIEYE has a color camera sensor inside, which is used to detect the web break in the shortest time. The color detection is needed because when the web is running on fabric, the break cannot be detected with traditional photo cells. The color of the fabrics during the production can also vary, which makes it essential to have a sensitive color sensor in the detector.

The color of the fabric is first calibrated in the VISIEYE. The value and its limits are setting a ball in the 3-axis RGB-space (Red, Green and Blue). Then the color of the web is calibrated in the VISIEYE. The web value and its limits are also setting a ball in the RGB-space. Only the measurement values inside these 2 balls are accepted as “Measure OK”-values. The values outside the balls are setting the “Measure OK” output negative.

Calibration

The VISIEYE can be easily calibrated by manually calibrating the break (fabric/open space) and the web in this order from the manual buttons in the control cabinet of VISIEYE. The VISIEYE can also be set in auto calibration mode which enables the colors of the web vary during the production. Color variations can also
be accounted for by setting a wider range for the break limits.

**Mounting**

The VISIEYE is installed roughly 500mm from the web. It can be also installed in an angle from the direction of the web or outside the edge of the web.

![Mounted VISIEYE](image1)

VISIEYE is equipped with 40mm tube clamp mounting bracket which makes the installation easy anywhere on the machine.

![Installation Diagram](image2)

Compressed air is used for keeping the camera window clean and cooling the camera (Vortex can also be used). For difficult environments stainless housing with compressed air cleaning can be applied.

![Air Inlet](image3)

**Reliability**

VISIEYE is the web break detector meeting the toughest requirements of the paper, board, tissue and pulp companies for break detection. The color detection with either manual or automatic calibration gives the operators flexibility in various conditions when color of fabric or web is changing. With the simple control cabinet and easy camera mounting the operation and maintenance of VISIEYE is robust and reliable.

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