Line-Tec 200 Fabric Edge Guide System

The Line-Tec 200 Fiber Optic Edge Guiding System

The Line-Tec 200 Edge Guiding System is a fiber optic fabric edge detection system, which operates on a proven non-contact transmission principle. An optical sensor is placed on the side of the felt or wire and an infrared pulsated light curtain is transmitted from the transmitter to the receiver. The web is blocking the light relative to the edge of the fabric. Edge position signal 4-20mA is transmitted to the pneumatic control system, which controls the angle of the fabric control roll. Typical applications include paper machine wires, board webs and felts. The optical sensor is not affected by dirt, steam or temperatures up to 350 °F. The optical sensor is connected through a fiber-optic cable to an infrared amplifier located in an enclosure away from the heat of the running web. The amplifier sends a special light signal through the transmitting element to the receiving element. The transmitted light is picked up by the receiving element and transmitted to the amplifier. This returning signal is then converted to a 4-20 mA current signal, which is used to provide control signal to edge control system.

Fabric Control loops play an essential role in the paper making process. Effective and reliable fabric control can help paper makers eliminate speed and runnability issues. To solve these issues, the Line-Tec 200 fiber optic IR-based fabric-positioning unit was designed. It fills the needs for fabric controls from wet end to reel.
Line-Tec 200 provides significant non-contact benefits compared to all of today's edge sensors, such as the ability to withstand heat and moisture.

Benefits :

- Due to non contact measuring principle LT-200 will not wear fabrics or felts edges. This ensures the maxi mum life-time of the fabric, and a higher production speed of the machine.
- When connecting the output signal to DCS, LT-200 gives continuous, on-line information on the fabric edge position, guiding pressures and valuable data on condition of the guiding roll actuators.
- Need of service can be observed from DCS or PLC.

Line-Tec 200 Options:

- LT200-7 Edge Guiding Sensor 21ft Fiber Optic Cable
- LT200-95 Edge Guiding Sensor 30ft Fiber Optic Cable
- LT200-12 Edge Guiding Sensor 36ft Fiber Optic Cable

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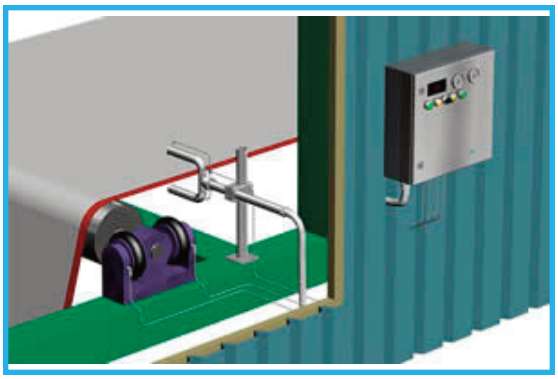
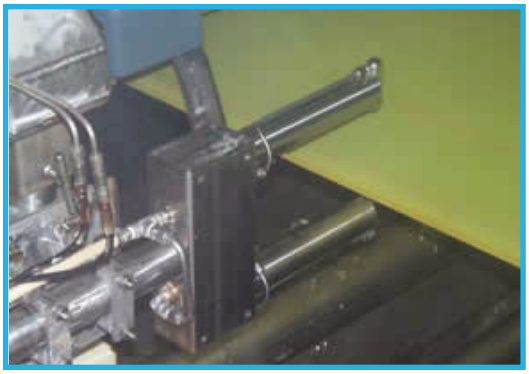
Line-Tec 200 Main Features:

- Immediate reaction to an edge position due to the 4 kHz light frequency.
- No disturbance from direct or reflected visible or infrared light, static electricity, steam, extreme temperatures, dirt or vibration.
- The unit may be installed in any environment around and inside of the paper machine.
- The sensor has the accuracy of 1 mm.
- LT-200 works with all existing guiding actuators, as well as with pneumatic and electrical actuators.
- Measuring sensor can be mounted either front side or back side of the machine.
- System is equipped with rotating mounting bracket, this for example will be used during roll change.

Measurement Principle:

The LT-200 fiber optic web break detection system operates on a proven non-contact, transmission principle. A fork with the optical sensors is placed above or under the fabric to be monitored. Typical applications include wire, press felts and dryer felts. The sensors are not affected by dirt, steam or temperatures up to 350 °F. The optical sensors are connected through a fiber-optic cable to an infrared amplifier located in an enclosure away from the heat of the running web. The amplifier sends a special pulsated and synchronized infrared light through the transmitting element creating an optical curtain. This optical curtain is detected by a similar receiving element on the other side of the fork and transmitted to an amplifier. This signal is then converted to a 4-20 mA current signal, which is used to provide control signal for the pneumatic actuator.





Technical Specifications:

Control Cabinet

- Power Supply 110V 60 Hz
- 32ºF to 150ºF
- Protection Mode Nema 4
- Output two "on / off" alarm relays, one 4-20 mA

Sensor

- Material 304 SS
- Temperature 32ºF - 350ºF
- Humidity 100%

Fiber Optic Cable

- Lengths 21ft, 30ft and 36ft
- Temperature 32ºF - 350ºF
- Protection Teflon/steel conduit

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Process Measurements and Controls for the Pulp & Paper Industry

1703 Amble Greene Drive
Surrey, BC V4A 6H3
Ph: 604-536-3583 FX: 778-292-1920
www.pulptech.us / pulptech@shaw.ca

CONMARK
Conmark Systems, Inc.
www.conmark.com
770-300-0224
info@conmark.com