

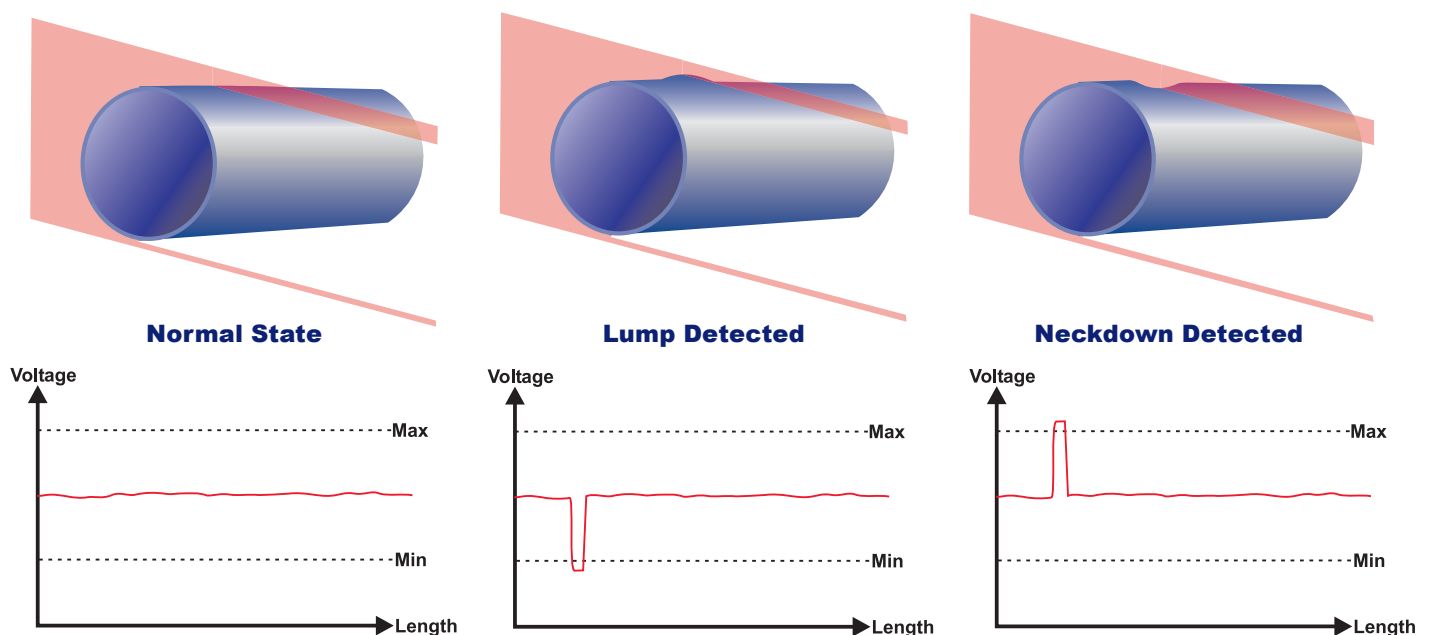
## Fault Detection Systems

The LN Detector series of dual-axis products are designed for detection of short-term faults in the diameter of the cable (lumps or neckdowns). LN Detectors are self-contained instruments with fast response circuitry and solid-state infrared light sources that allow instant detection of changes in the cable diameter. The signal processing and intelligence is built into the gauge head and outputs can be taken straight from the LN Detector that trigger alarms or marking devices when faults are detected.



### Infrared Fault Detection Principle

The infrared light source and optics inside the gauge head create a continuous “curtain” of light across the cable. The cable blocks a certain amount of the light, and that light registers a voltage level at the receiver. When a short variation in the diameter occurs, the amount of light at the receiver changes. The sensitivity to light changes is user definable and when the change is enough to cross the threshold, a fault is triggered.



### LN Detector Models

Model	OD range	Gate size	Sensitivity range
LN 1010XY -D (-DL)	0.040 - 10 mm (0.0015 - 0.40 in.)	50 mm (2.0 in.)	0.02 - 0.5 mm (0.0008 - 0.0200 in.)
LN 1025XY -D (-DL)	0.040 - 25 mm (0.0015 - 1.00 in.)	50 mm (2.0 in.)	0.05 - 2 mm (0.0020 - 0.0800 in.)
LN 1040XY -D (-DL)	0.040 - 40 mm (0.0015 - 1.60 in.)	50 mm (2.0 in.)	0.100 - 10 mm (0.0040 - 0.4000 in.)

- The -D is the basic version, while -DL includes fault characteristic printout capability (height, length, and position of fault)
- The minimum fault length for all versions is 0.762 mm (0.030 in.) at a line speed of 1,500 m/min. (5,000 ft/min).