



Even the smallest yarn defect may have an unwanted impact on the functionality of the intended end product. This is extra critical when it comes to applications involving industrial filament yarn for end products with high safety requirements, such as airbags or tyre cord. But also the suitability of sewing yarn depends on impeccable quality, without any anomalies such as thin- or thick places. Therefore, quality control of produced yarn must include reliable, precise and comprehensive detection of spinning defects such as broken filaments, fluff and other yarn faults.

Lenzing Instruments **ELKOMETER** makes quality verification easy by means of high-volume, precise and fast defect detection on the running yarn, selectable as length- or time based measurement. The at-line system combines parallel mounted optical **PROMPT OLO** sensors with a powerful yarn take-off unit for efficient monitoring of produced defects. Based on individual customer requirements,

ELKOMETER is tailored with up to eight sensor- and yarn positions side by side. Optionally, one of the positions can be equipped with the **DEFECT VIEW** camera system for in-depth analysis of detected anomalies. A high-capacity data collection system and the **PROMPT Visualization** software provides extensive graphical and numerical results presentation both in real time as well as in form of statistical reports. A special defect assessment mode stops the yarn motion immediately after detection and enables human inspection of the defects.

With **ELKOMETER**, inferior products can be sorted out in time before they are sent to the customer, respectively forwarded to following process steps. As a result, there are less customer claims or rejected goods and therewith also the costs for raw material are minimized. By analyzing the detected defects, the spinning process can be optimized correspondingly for enhanced yarn quality.



Scope:

At-line system for length- or time based monitoring of multi- and monofilament yarn for imperfections such as broken filaments, fluff, thin- and thick places etc.

Method:

The foreseen number of bobbins is positioned at the **ELKOMETER** for automatic yarn take-off and guiding through the **PROMPT OLO** sensors and/or the camera system. Each defect passes a light barrier, at which a signal is generated and communicated to the evaluation system. Already tested yarn material is forwarded into a waste container by means of a suction nozzle. If the defect assessment mode is activated, the yarn motion is stopped for human inspection after each detected anomaly.

Results:

Complete and detailed feedback about detected yarn faults is given by the flexible **PROMPT Visualization** software program. During the measurement, results are presented in real time as number of defects with position indications, classified according to kind of defect, as well as images of each detected fault if the optional camera system is in use. **PROMPT Visualize** offers extensive possibilities for off-line results analysis including customizable statistical reports.

Titer range:

7 - 4000 dtex

Yarn take-off speed:

Inspection mode:

1500 m/min

Defect assessment mode:

500 m/min

Yarn guide:

Ceramic (exchangeable)

Optional: without yarn guides

Sampling rate:

100 kHz

Evaluation and control unit:

PC with Windows® based

software

Data communication:

CAN bus from the PROMPT OLO sensor to a bridge box and Ethernet from the bridge box to the PC

Measuring principle:

Optical

Temperature range:

15 - 45 °C

Relative humidity:

Max. 90 %, not condensing

Power supply:

230/115 VAC ± 10 %

50/60 Hz, 1240 W

Dimensions:

Length: 1740 mm

Width: 750 mm

Height: 1035 mm

Weight: 100 kg

May vary depending on customer specifications

Air supply:

90 psi instrument air,

20 scfm (6 bar, 0.6 Nm³/min)

Optionally available:

- Camera system **DEFECT VIEW** for image generation of detected defects
- OPC UA interface

Technical data and pictures are subject to change.

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quality improvement

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