Ultra-fast inspection of short-term surface faults and diameter irregularities for continuous monitoring of fine wires and monofilaments in two planes.

Advanced miniaturised optoelectronic components combined with fast analogue signal processing offer a new dimension in surface fault visualisation. Even at line speeds of 2000 m/min, the Profile Sensor allows accurate measurement and characterisation of micrometric short-term defects in real time. Together with the SENSYSTEM controller, it provides a unique tool for quality control in production and in laboratory. Industrial on-line monitoring applied to enamelling, extrusion, drawing, coating, jacketing and colouring processes running at high line speeds. Precision detection and characterisation of lumps, neck-downs, blisters, bubbles, slubs, flaws, scratches, coating dropouts, contusions and surface roughness.

FEATURES

- Optical measurement in two planes
- Analogue output signals
- Immune to stray light
- Continuous IR-LED light beams
- Continuous real-time monitoring
- Compact and rugged construction
- 200 kHz ultra fast response
- Integrated signal pre-processing
- Precision roller bearing guides
- Micrometric resolution
- Reliable and user-friendly
- Unsensitive to filament vibration

Typology: dual axis
Range: 0.01 mm to 0.4 mm

The PSD Profile Sensor is used in Sensystem
DETECTION SPECIFICATIONS

Diameter measuring range:
- EA: 0.01 mm to 0.2 mm
- FM: 0.1 mm to 0.4 mm
  (other ranges available upon request)

Measuring slit apertures:
- EA: 1.2 mm x 0.28 mm
- FM: 2 mm x 0.35 mm

Sensitivity at 2000 m/min
- For a fault length of 0.28 mm: EA: minimum fault height change of 2 µm
- For a fault length of 0.35 mm: FM: minimum fault height change of 3 µm

ELECTRONICAL SPECIFICATIONS

Continuous total light signal range (DC):
- 0 to 10 V

DC-signal set value, bandwidth:
- EA: 7 ± 0.25 V, DC to 200 kHz
- FM: 9 ± 0.25 V, DC to 200 kHz

Lump and neckdown output signals:
- 0 to 10 V

Supply Voltage, power consumption:
- 18 to 36 V DC, 5 W

MECHANICAL SPECIFICATIONS

Housing dimensions (without wire guides):
- 115 x 115 x 25 mm³

Wire-guides:
- precision bearing pulleys

Housing and wire-guides material:
- black anodised aluminium

Net weight:
- 700 g

Specifications are subject to change without notice.