



AG DEVICES

NEEDLE BREAK DETECTION SYSTEM



DESIGNED FOR THE PRECISE IDENTIFICATION
OF BROKEN OR BENT NEEDLES

The **AG series devices** are the ideal solution where **optical fabric inspection systems** cannot be applied due to **space limitations** or **difficulty in detecting defects**.

Thanks to a wide range of configurations, **EOS** offers **reliable, modular, and adaptable systems** suitable for any production requirement.



KIT COMPOSITION

- **Electronic control unit** with a simple and intuitive interface.
- **AG15**: control for a single optical sensor — ideal for **mechanical or jacquard single-jersey machines**.
- **AG14**: with amplification modules, it manages up to **4 optical sensors**, suitable for **double-jersey machines (Interlock or Rib)**.
- **Detection sensors** available in three versions:
 - **Infrared (IR)** — requires close positioning (1–2 mm from the needles); a compact and reliable solution for machines with adequate space.
 - **Laser** — visible light with dedicated optics, allowing installation at a greater distance (15–20 mm).
- **Customizable sensor mounting system**, available with **guide ring block** or **M4 mounting hole** for cam shell / yarn guide support.
- **High-precision rotation sensor** with integrated magnet.
- **Complete wiring set** and **bypass key** with operator password.
- **Amplifier module** (for AG14: one unit for each pair of probes).

FUNCTIONAL FEATURES

- Detection of **broken or bent needles**.
- Operation up to **50-gauge machines**.
- Counting capability up to **20 kHz per channel**.
- **Identification of the broken needle number**.
- **Automatic acquisition** of the reference needle position.
- Two operating modes:
 - **Total needle count verification**.
 - **Missing needle detection**.
- **User manual and video tutorial** included.

TECHNICAL SPECIFICATIONS

- **Power supply**: 24 Vac / 24 Vdc.
- **Output contact**: configurable machine stop (NO/NC).
- **Operating temperature**: 0–50 °C.
- **Modular installation**, adaptable to various machine types.
- **CE certified**.

APPLICATIONS

- **Single-jersey, double-jersey, and jacquard circular knitting machines**.
- Applicable to machines up to **36-inch diameter**.
- Ideal for the production of **high-quality knitted fabrics**.