

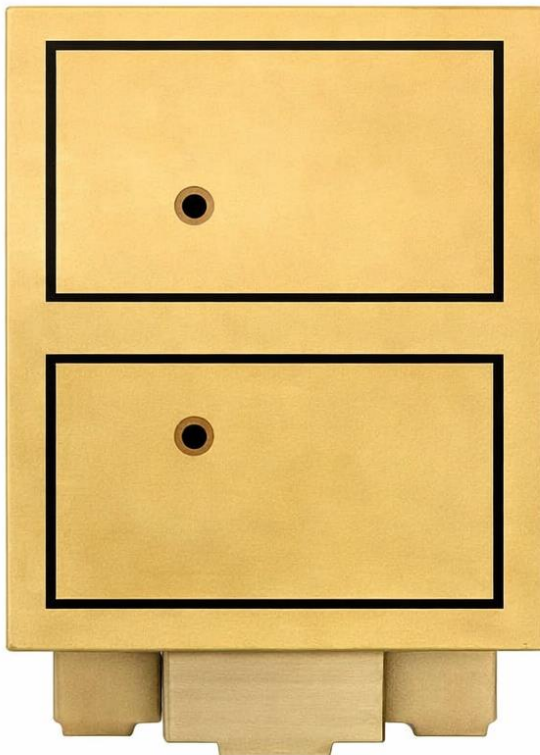
EDGE SENSORS FOR SEGMENTED TELESCOPES



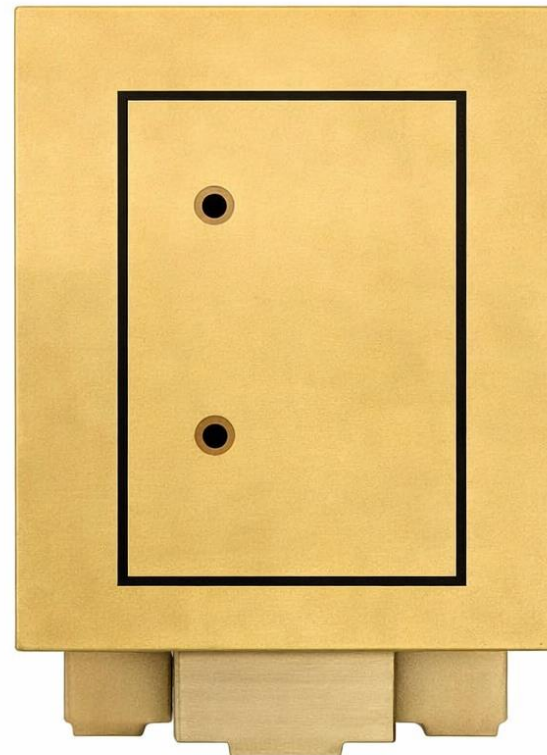
Application: Aligns and stabilizes **piston, tip, and tilt** of mirror segments for large area telescopes..

The **Edge Sensor** is composed of two primary functional blocks:

- **Drive Block** – Actuates correction for piston, tip, and tilt.
- **Sense Block** – Detects relative displacement between mirror segments.



Drive Block



Sense Block

1. Technical Specifications:

- **Substrate:** Low Thermal Expansion Glass (Zerodur, Clearceram)
- **Dimensions:** 75 x 50 mm
- **Coating Stack:** Cr/Au (Custom Stacks)
- **Coating Thickness Non-Uniformity:** ± 10 %
- **Pattern Tolerance:** ± 20 μm
- **Pattern Alignment Accuracy:** ± 30 μm

2. Durability Specifications:

- **Non Adhesive Tape Test:** ASTM-E1216–11
- **Coating Adhesion Test:** ASTM-E1216–11
- **Cheese Cloth Abrasion Test:** MIL-C-675C
- **Environmental Tests:**
 - a. **3 Thermal cycle Test:** MIL-C-48497A
 - b. **25 thermal cycle Test:** MIL-C-48497A
 - c. **Humidity Exposure:** MIL-C-48497A