EAGLEEYE™ Large Facet Polygon Scanners

High Speed Imaging & Material Processing!

EAGLEEYE™ large facet polygon scanners are suitable for high speed imaging and material processing applications. The polygon mirror can accommodate beams of over 20 mm on the facets. The large facets are needed for focusing a large beam to a small spot on a target for material processing. Large facets can also serve as a light collecting optic for light reflected from the target. This is useful for applications including inspection, LIDAR, collision avoidance and other laser imaging. The high torque motor is capable of spinning large polygon mirrors up to 10,000 RPM.

Standard models have short lead time and low prices! Custom facet counts and facet sizes are available on request.

Need polygon speed but not familiar with how to implement polygon scanning technology? See the Laser Scanning News section of our website for educational information.


Feel free to contact us with questions.
**Eagle Eye™ SPECS**

(General specs for typical mirror sizes.)

- **Speed:** 1,000 – 10,000 RPM
- **Speed control:** TTL Ext freq reference and USB (not infinitely variable)
- **Rotation:** CW standard
- **Facet Flatness:** $\lambda/6$ @ 633 nm per inch
- **Surface Roughness:** < 70Å RMS
- **Surface quality:** 60/40
- **Dynamic track:** < 45 arc sec
- **Facet-Facet:** < 5 arc sec total
- **Facet-Datum:** < 10 arc sec total
- **Jitter:** < 0.02%
- **Speed stability:** < 0.02%
- **Bearing:** Ball bearing
- **Operating attitude:** Any
- **Supply Voltage:** 36 VDC
- **Max Current:** < 5.0 A
- **Time to speed:** < 60 sec
- **Motor-Controller cable:** 300 mm
- **Controller Power-I/O cable:** 500 mm
- **Controller:** 100 W x 150 L x 40 H mm
- **Start/Stop control:** TTL or USB
- **Speed sync signal:** TTL or USB
- **Shipping & Storage:** -20C to +70C
- **Operating:** 15C to 45C, 10-80% RH

**STANDARD MIRROR** (up to 21mm spot)

- **Model PLS-08-525-090-AU**
- **Facets:** 8
- **Scan angle up to** $\approx$ 50 degrees (depending on spot size and beam feed angle)
- **Scan Rate:** 133 to 1,333 Hz
- **Inscribed Diameter:** 5.250" (133.35 mm)
- **Mirror thickness:** 0.90" (22.86 mm)
- **Facet clear aperture:** 1.96" x 0.84" (49.8 x 21.3 mm)
- **Coating:** Protected AU for IR wavelengths

**OPTIONAL START OF SCAN DETECTION**

An SOS detector is required to achieve accurate line to line registration with any polygon scanner. It is used to synchronize a CW or pulsed laser to the scanner. (Galvo scanners need absolute encoders, polygon scanners need Start-Of-Scan detection.) Read more about it here:


The PRECISION SOS DETECTOR™ is the first commercially available Start-Of-Scan detector made for the challenging environment inside a high power Polygon Scan Head. It operates equally as well in low powered imaging systems. It is designed to work with the PRECISION SOS LASER DIODE MODULE™