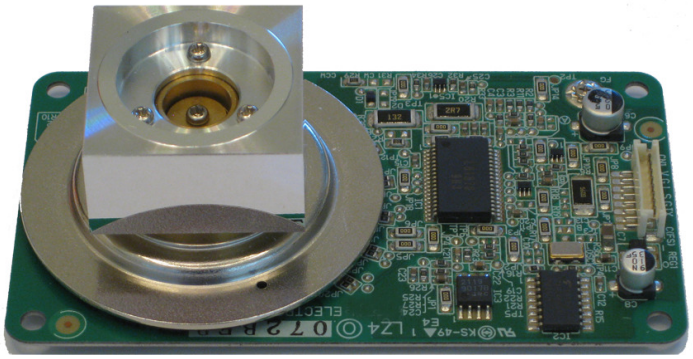
PRECISION LASER SCANNING

GECKO FOUR™ LIDAR scanner with 25 mm aperture



Long range, high resolution LIDAR scanner

The Gecko series of polygon scanners are very compact and efficient by way of integrating the high accuracy polygon on a precision scanning motor directly to a miniaturized controller.

Gecko-Four Is a compact, lightweight, low power LIDAR scanner with a big aperture.

- 25 mm aperture for long range.
  Useful range of > 200 meters depending on implementation.
- Scan rates up to 267 Hz for high resolution.
- Up to 120 degree scan angle.
  Multiple facets may be illuminated for a wider scan angle.
- Start Of Scan detection provides maximum accuracy and repeatability.
- Works well with TOF & FMCW LIDAR technologies.
- Light weight scanner for 3D LIDAR mapping from small UAVs.
- Good for robotic / factory automation collision avoidance and navigation.
- Ideal for Autonomous Vehicle / ADAS LIDAR proof of concept before going custom.
  For applications requiring high resolution and/or long range LIDAR, polygon scanners dominate!

Gecko-Four is a standard model with short lead time and low price.

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.
http://precisionlaserscanning.com/laser-scanning-news/

Feel free to contact us with questions.

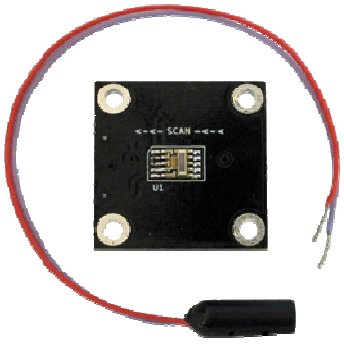
GECKO FOUR™ SPECS

Facets: 4
Inscribed Diameter: 25 mm
Mirror thickness: 25 mm
Facet clear aperture: 23 x 23 mm*
Coating: Protected Aluminum
Speed: 1,000 – 4,000 RPM
Scan Rate: 67 to 267 Hz
Scan angle up to ≈ 120 degrees (depending on spot size and beam feed angle)
Rotation: CW as viewed from polygon side
Facet Flatness: λ/2 @ 633nm per inch
Surface Roughness: < 70Å RMS
Surface quality: 60/40
Dynamic track: < 60 arc second
Facet-Facet: < 30 arc second
Jitter: < 0.05%
Speed stability: < 0.05%
Bearing: Ball bearing
Operating attitude: Shaft vertical, mirror up
Supply Voltage: 24 VDC +/- 10%
Max Current: .5A Start (.25A Run)
Speed control: External freq reference
Time to speed: 10 sec maximum
Controller Power-I/O cable: 500 mm
Start/Stop control: TTL
Speed sync signal: TTL open collector
Ship/Storage: -20C to +60C 10-90% RH
Operating: 15C to 40C, 15-85% RH

*Definition of facet clear aperture is a function of the application.
High accuracy lithography requires a sizeable margin for roll-off at facet edges.
LIDAR applications typically utilize 100% (all 25 x 25 mm) of the facets.

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.) This is the mini-SOS detection kit for compact polygon scanning applications. Read more about it here: http://precisionlaserscanning.com/start-of-scan-sos-detection-for-polygon-scan-heads/



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Specifications subject to change without notice.
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