

BALL BEARING POLYGON SCANNERS

HIGH PRECISION RASTER SCANNING DEMANDING HIGH LOAD CAPACITY

Novanta develops photonics solutions through our globally recognized brands— ARGES, Cambridge Technology, Laser Quantum and Synrad— specializing in cutting-edge components and sub-systems for laser-based diagnostic, analytical, micromachining and fine material processing applications. Powerful lasers, coupled with advanced beam steering and intelligent sub-systems incorporating software and controls, deliver extreme precision and performance, tailored to our customers' demanding applications.

HIGH REPEATABILITY AND HIGH LOAD CAPACITY FOR LOW- AND MID-SPEED RASTER SCANNING

Engineered by Cambridge Technology, our ball bearing based polygon scanners provide a low-cost high precision raster scanner. Our ball bearing based polygon scanner is ideal for applications requiring less than 20,000 RPM which demand high load capacity and/or encoder feedback at a reasonable cost point.



GREAT OPERATIONAL PERFORMANCE AND FLEXIBILITY

- Speeds ranging from 300 to 20,000 RPM available depending on polygon size, facet count, and scanner type
- Enhanced aluminum and protected gold coatings covering wavelengths from 350 nm to 10,600 nm
- DC brushless motor designs offer superior operating characteristics in the most frequently specified speed ranges with high efficiency, high torque output, and excellent positional accuracy.
- Can operate at any attitude or angle as needed
- Optional encoder allows for improved positional feedback and better speed stability at slower speeds
- Polygon facets down to 1/8 wave flatness and 60/40 surface quality
- Excellent power handling due to high rotation speeds and aluminum polygon substrates

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Compact Ball Bearing				
Specifications	P1BB	SB5C	SB5	XLIM
Highlights	Compact Low Speed	Compact Low Speed	Compact Low Speed	Compact Low to Mid Speed
Min Speed	300 RPM			
Max Speed	10,000 RPM	15,000 RPM	15,000 RPM	15,000 RPM
Mirror Size (thk x Dia) Max In.	1.00 X 3.00	1.00 X 3.00	0.40 X 3.00	0.75 x 2.84
Bearing Type	Ball Bearing			
Dynamic Track (Arc Sec.)	≤40	≤20	≤10	≤10
Speed Stability, Typ. (speed and load dependent)	< 0.04%	< 0.02%	< 0.02%	< 0.02%
Housing Design	Cantilevered	Cantilevered	Captured	Captured

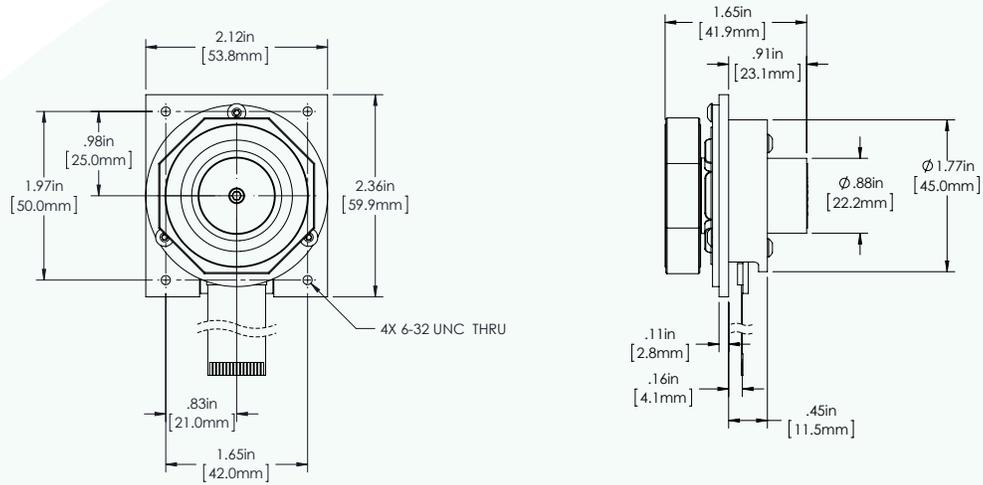
Large Mirror Ball Bearing				
Specifications	XL	XLOB-5	XLOB-6	XLOB-6.5
Highlights	Large Mirror Capacity, Low to Mid Speed			
Min Speed	300 RPM			
Max Speed	12,000 RPM	15,000 RPM	15,000 RPM	15,000 RPM
Mirror Size (thk x Dia) Max In.	1.25 X 3.27	1.25 X 5.00	1.25 X 6.00	1.25 x 6.50
Bearing Type	Ball Bearing			
Dynamic Track (Arc Sec.)	≤20	≤10	≤10	≤10
Speed Stability, Typ. (speed and load dependent)	< 0.02%	< 0.02%	< 0.02%	< 0.02%
Housing Design	Cantilevered	Cantilevered	Captured	Captured
Encoder Option	Yes			

Notes:

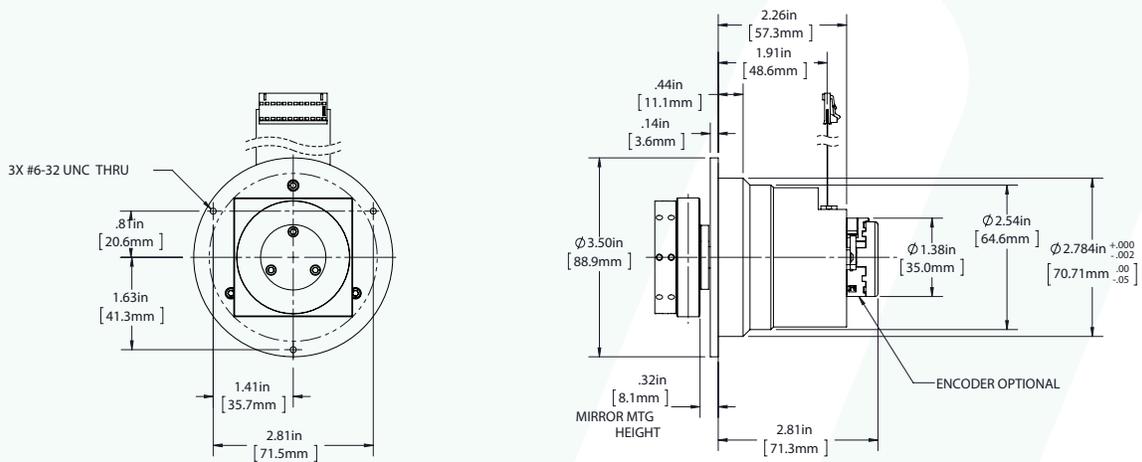
All angles are in optical degrees, unless otherwise noted. All specifications are subject to change without notice.

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P1BB

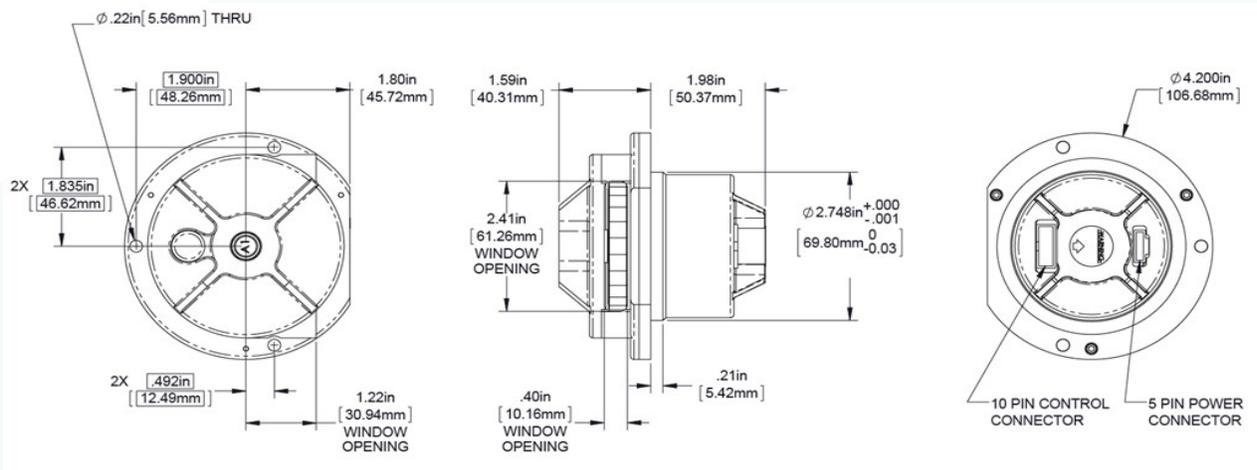


SB5C

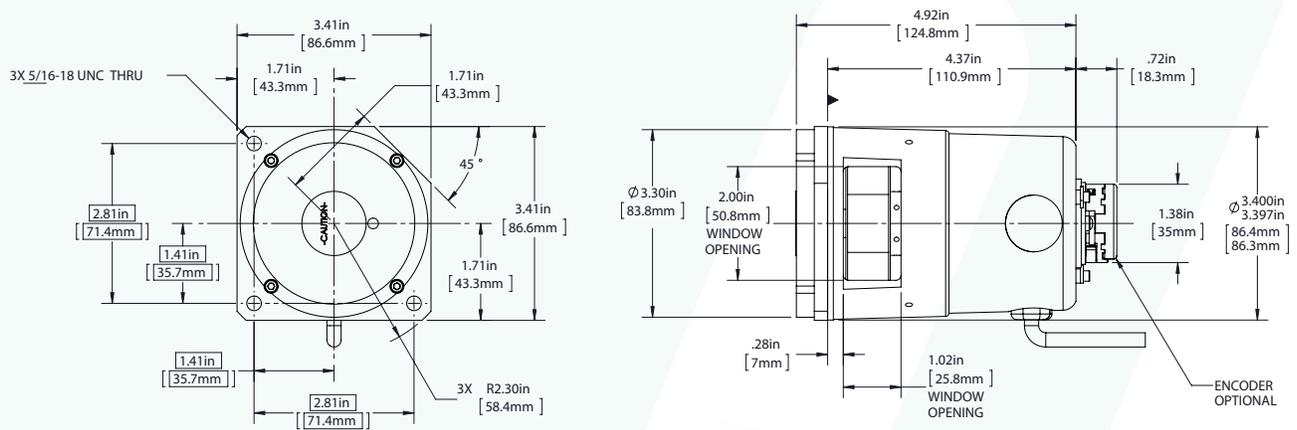


BALL BEARING POLYGON SCANNERS

SB5

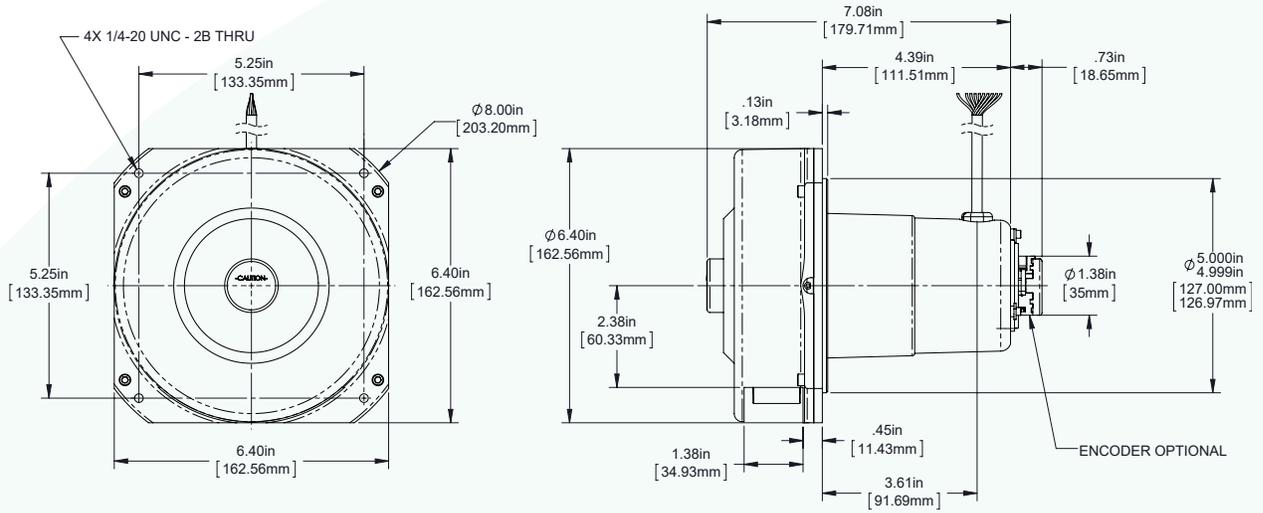


XLIM

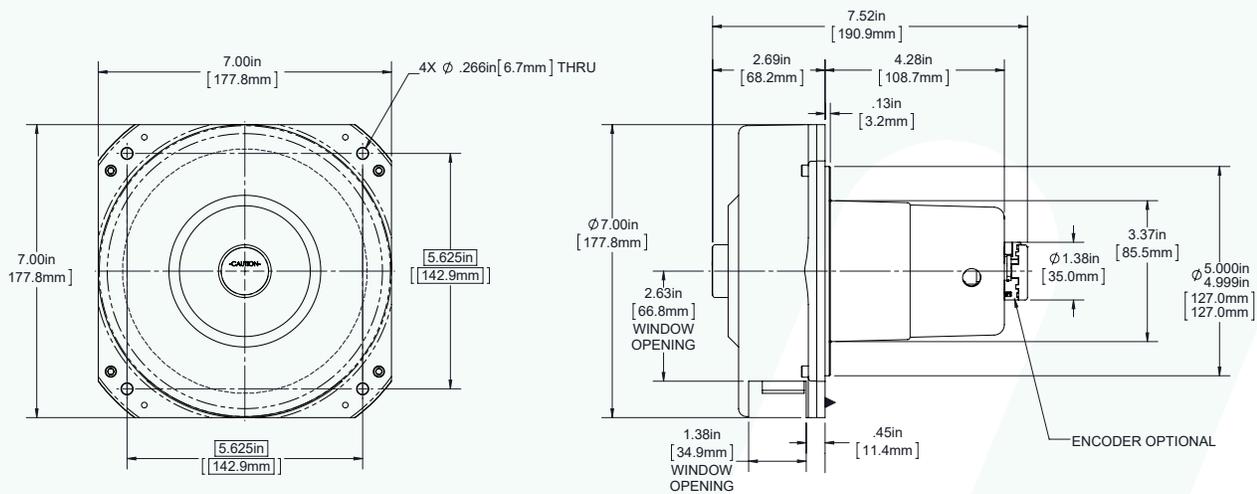


BALL BEARING POLYGON SCANNERS

XLOB-6



XLOB-6.5



Notes:
All angles are in optical degrees, unless otherwise noted. Dimensions are in millimeters. All specifications are subject to change without notice.

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