Novanta PHOTONICS

ENGINEERED BY CAMBRIDGE TECHNOLOGY

AIR BEARING POLYGON SCANNERS

AERODYMANIC AIR BEARINGS PROVIDING EXCELLENT REPEATABILITY

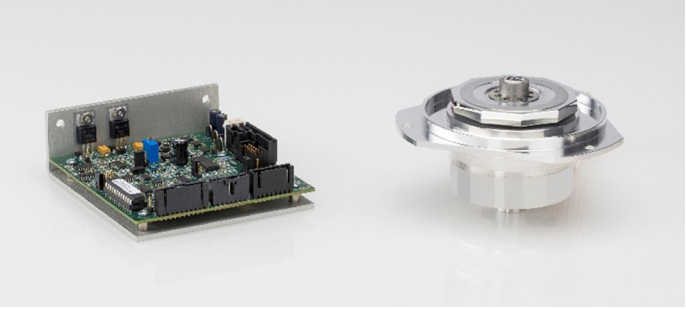
Novanta develops photonics solutions through our globally recognized brands— ARGES, Cambridge Technology, Laser Quantum and Synrad— specializing in cutting-edge components and sub-systems for laser-based diagnostic, analytical, micromachining and fine material processing applications. Powerful lasers,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

LONG LIFETIME AND HIGH REPEATABILITY FOR HIGH-SPEED RASTER SCANNING

Engineered by Cambridge Technology, our air bearing based polygon scanners provide excellent repeatability and long lifetime due to no bearing wear while the scanner is operating.

Our aerodynamic air bearings have been developed to withstand over 20,000 start/stop cycles. They generate their own air pressure as they rotate and require no external air pressure support equipment to operate.

Our aerostatic air bearings provide the ultimate polygon scanner performance. These use pressurized air and closely spaced bearing surfaces to float the rotor. When pressurized, the bearing has no contacting parts which results in extremely long bearing life. These bearings are very stiff and have wobble errors less than one arcsecond.



HIGH PERFORMANCE AND LONG SCANNER LIFE

- Speeds ranging from 6,000 to 55,000 RPM for aerodynamic scanners and from 0 to 30,000 RPM for aerostatic scanners
- Excellent scanner life due to minimal contact between bearing components
- High repeatability and tight dynamic tracking
- 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.
- Enhanced aluminum and protected gold coatings covering wavelengths from 350 nm to 10,600 nm
- 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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Specifications	SA24C	SA24	PHCAB
Highlights	Compact High Speed	Compact High Speed	High Capacity Low to High Speed Range
Min Speed	6,000 RPM	8,000 RPM	0 RPM
Max Speed	24,000 RPM	55,000 RPM	30,000 RPM
Mirror Size (thk x Dia) Max In.	0.40 X 3.00	0.40 X 3.00	1.00 X 5.00
Bearing Type	Aerodynamic	Aerodynamic	Aerostatic
Dynamic Track (Arc Sec.)	≤20	≤10	≤10
Speed Stability, Typ. (speed and load dependent)	< 0.02%	< 0.02%	< 0.02%
Housing Design	Cantilevered	Captured	Cantilevered
Encoder Option	No	No	Yes

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

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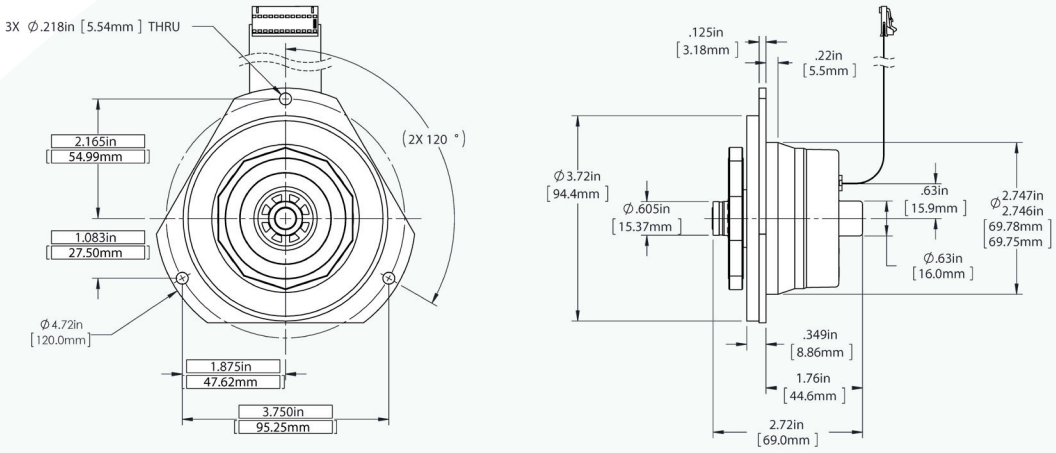
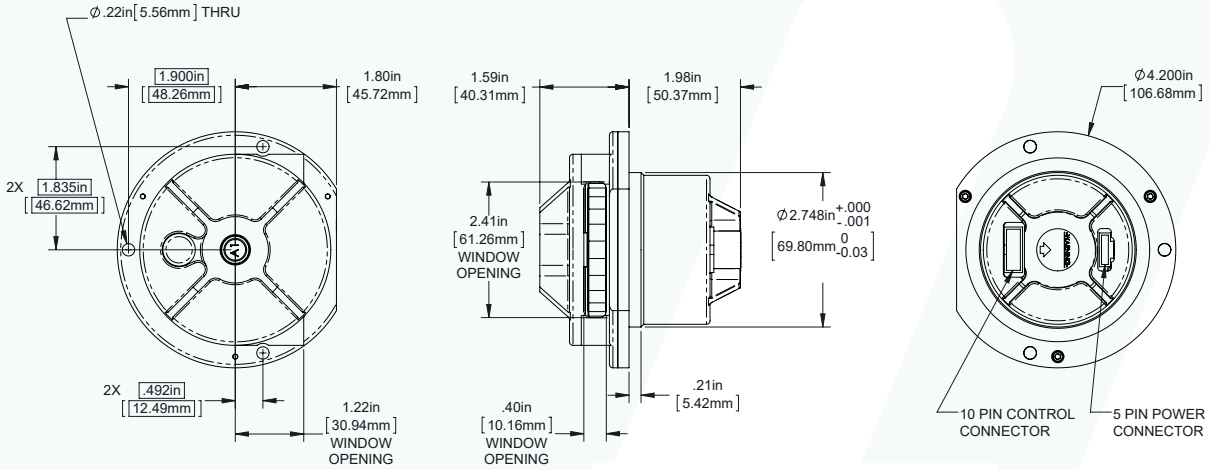
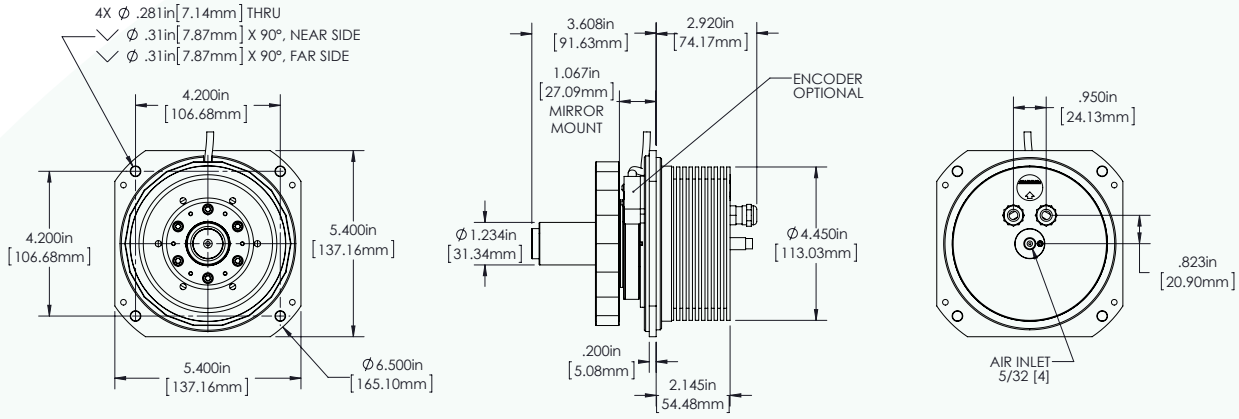
SA24C



SA24



PHCAB



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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