



Nutfield Technology

Photonics in Motion®



QuantumScan-10™
For 10-15 mm Beam Apertures

- ◆ Patent Pending Ceramic Rotor For Faster Step Response
- ◆ Patent Pending Rear Adjustable Stops
- ◆ 3X Greater Position Feedback Signal for Higher Accuracy
- ◆ Small Package with High Torque/Inertia
- ◆ Patented SLR Stator Design For Higher Bandwidth

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QuantumScan-7 & 10

Moving Magnet Galvanometers

Nutfield Technology's QS-7 and 10 use low inertia, high stiffness materials and an innovative architecture to provide industry leading performance. The QS-7 /10 has faster step response and higher signal-to-noise position detection compared to any scanner in its class.

The QS-7/10 offers tremendous torque in a small outline. This means it can be packaged into a smaller volume and still provide peak performance. The Patent Pending ceramic rotor design has exceptionally low inertia and high stiffness, which results in higher bandwidth performance.

The QS-7/10 Position Detector was designed with a high-output feedback signal for the best possible accuracy. NTI galvanometers have three times greater signal-to-noise; the highest in the industry. This means greater pointing accuracy and repeatability in your application.



XLR8 Open Frame Heads
For 5, 7, 10 & 15 mm Beam Apertures



QuantumScan-7™
For 5-10 mm Beam Apertures

Another breakthrough is our stator design, which is the first to incorporate Patented Side Load Reduction (SLR) technology to reduce off axis magnetic forces on the rotor. The benefit is higher bandwidth and faster step response resulting from less stator induced side forces.

Nutfield Technology provides a range of digital and analog control options to meet your time to market and budget requirements. Call us today to find out how we can help customize a solution for your application.

Applications Include:

- ◆ Confocal Microscopy
- ◆ High Speed Marking
- ◆ High Speed Drilling
- ◆ High Speed Coding
- ◆ Fast Raster Imaging

QuantumScan-7 & 10

Galvanometer Specifications

SPECIFICATION	UNITS	QS-7	QS-10
Excursion	Degrees Optical	+/- 38	+/- 38
Rotor Inertia	Gram*Centimeters	0.17	0.23
Recommended Beam Apertures	Millimeters	5 - 10	10 - 15
Small Step Response* (0.17 gm*cm ² load)	Microseconds	(Matched Inertia Load) 150	(Matched Inertia Load) 150
Torque Constant	Dyne*cm/Amp	40*10 ³	70*10 ³
Coil Inductance	Micro Henrys	(at 1000Hz) 76	(at 1000Hz) 100
Coil Resistance	Ohms	1.25	1.70
Angular Sensitivity (Differential Mode)	Micro Amps/Degree	50	50
Repeatability	Micro Radians	6	6
Linearity (% over 50 degrees Optical)	Percent, Minimum	99.9	99.9
Zero Drift**	μrad./degree C, Max	10/1	10/1
Gain Drift**	ppm/degree C, Max	30/1	30/1

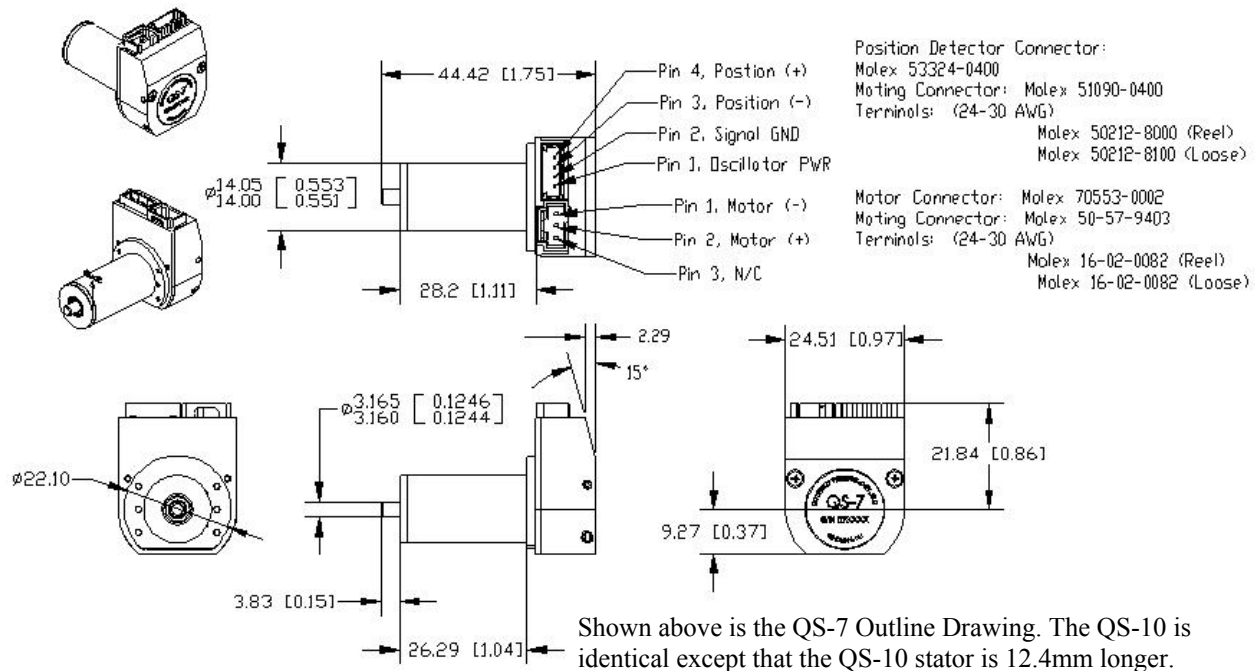
* With QD-4000 Servo Drive Board **With Low Drift Thermal Control Option.

*Performance Criteria: Small Step Size = 1% of Field, Settling to 1/1000, Field Size 120x120mm, 1mm Single Stoke Text

Performance QS-7 7mm: Small Step 270μSec, Mark Speed 7000mm/Sec, Position Speed 1100mm/Sec

Performance QS-7/10 10mm: Small Step 310μSec, Mark Speed 5000mm/Sec, Position Speed 8000mm/Sec

Performance QS-10 15mm: Small Step 390μSec, Mark Speed 4500mm/Sec, Positioning Speed 7000mm/Sec



For More Details Contact Nutfield Technology or Go On-Line.

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Specifications subject to change without notice. 2007