

SMP3010A Fast Mirror Positioner/Scanner

The SMP3010 Fast Mirror Positioner / Scanner is designed to provide rapid and precise angular positioning of scan mirrors, prisms, or other payloads. Random motion commands or repetitive scanning may be achieved using the SignalTronix 32-101A controller. Various feedback sensor types are available including RVDT, Resolver, and Optical Encoders. The RVDT sensor is best suited for limited angle operation up to +/-30 degrees (shaft angle) and in wide temperature range environments. Typical applications include laser scanning systems requiring large mirrors, optical tracking, LIDAR beam director, and any optical system requiring precision pointing or scanning.

Features:

- Fast response time: 20ms for 45° (90° optical) mirror rotation.
- Low cost: Best performance to price relative to competing devices.
- Payload interface: 8mm X 18mm output shaft (optic or payload not included).
- Angular Range: +/-30° or 360° depending on configuration.
- Rugged mechanical design & precision, long life ball bearings.
- Type-II control system, no inherent position or velocity errors.
- Brushless DC motor with RVDT, Resolver, or Optical Encoder feedback.
- Power requirement: 20VDC to 36VDC, 4.50A max.
- Accommodates various payloads, mirrors up to approximately 6.00" major axis .
- Operating temperature range: -25°C to +70°C (RVDT or Resolver feedback).
- Optics: Diamond machined metal mirrors are available, made to customer specifications.
- Custom configurations available to accommodate mounting, payload, and control requirements.

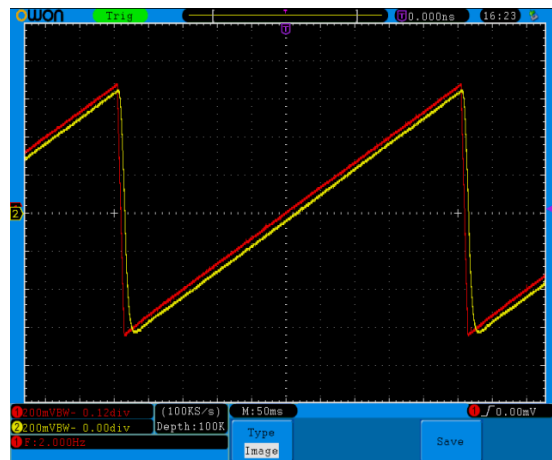
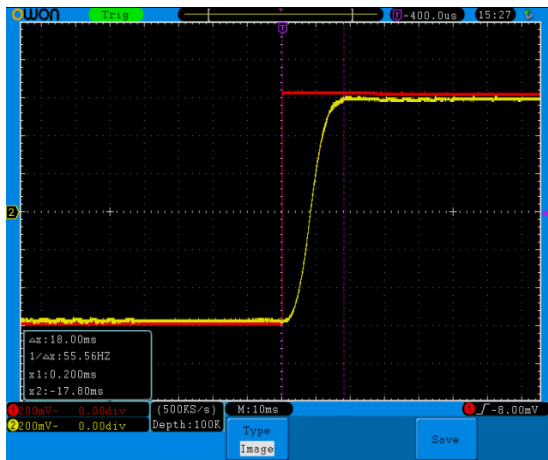
Specifications and Configuration Table

SMP3010A Specification Table

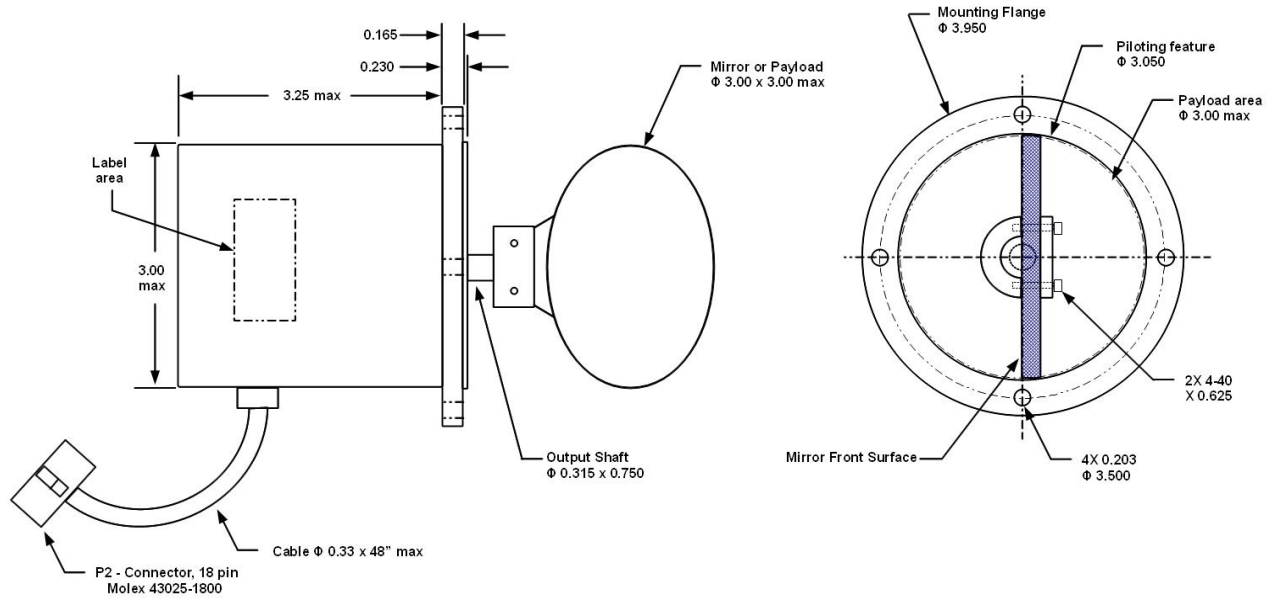
MODEL	3010-100A	3010-102A	3010-104A
Feedback Device	RVDT	RESOLVER	ENCODER
Angular Range	+/-30°	360°	360°
Resolution	16 Bit, 0.000916° / LSB	16 Bit, 0.00549° / LSB	0.001096° / LSB
Repeatability	+/-0.0015°	+/-0.0055°	+/-0.0015°
Accuracy (Basic)	+/-0.05°	+/-0.15°	+/-0.01°
Accuracy (Calibrated)	+/-0.005°	+/-0.025°	+/-0.002°
Response Time (45° Step)*	20m s	20m s	20m s
Control Bandwidth*	55Hz	55Hz	55Hz
Max Slew Rate	16000 Deg/sec	16000 Deg/sec	9600 Deg/sec
Motor Peak Torque	25 oz-in	25 oz-in	25 oz-in
Operating Temperature Range	-25°C to +70°C	-25°C to +70°C	0°C to +70°C
Storage Temperature Range	-40°C to +80°C	-40°C to +80°C	-20°C to +80°C
Power Requirement	20VDC to 36VDC, 4.5A	20VDC to 36VDC, 4.5A	20VDC to 36VDC, 4.5A
Duty Cycle	Continuous	Continuous	Continuous

* With 2.75" x 1.75" x 0.230" Aluminum Mirror Payload

Typical performance with 2.75" x 1.75" x 0.230" Aluminum mirror.

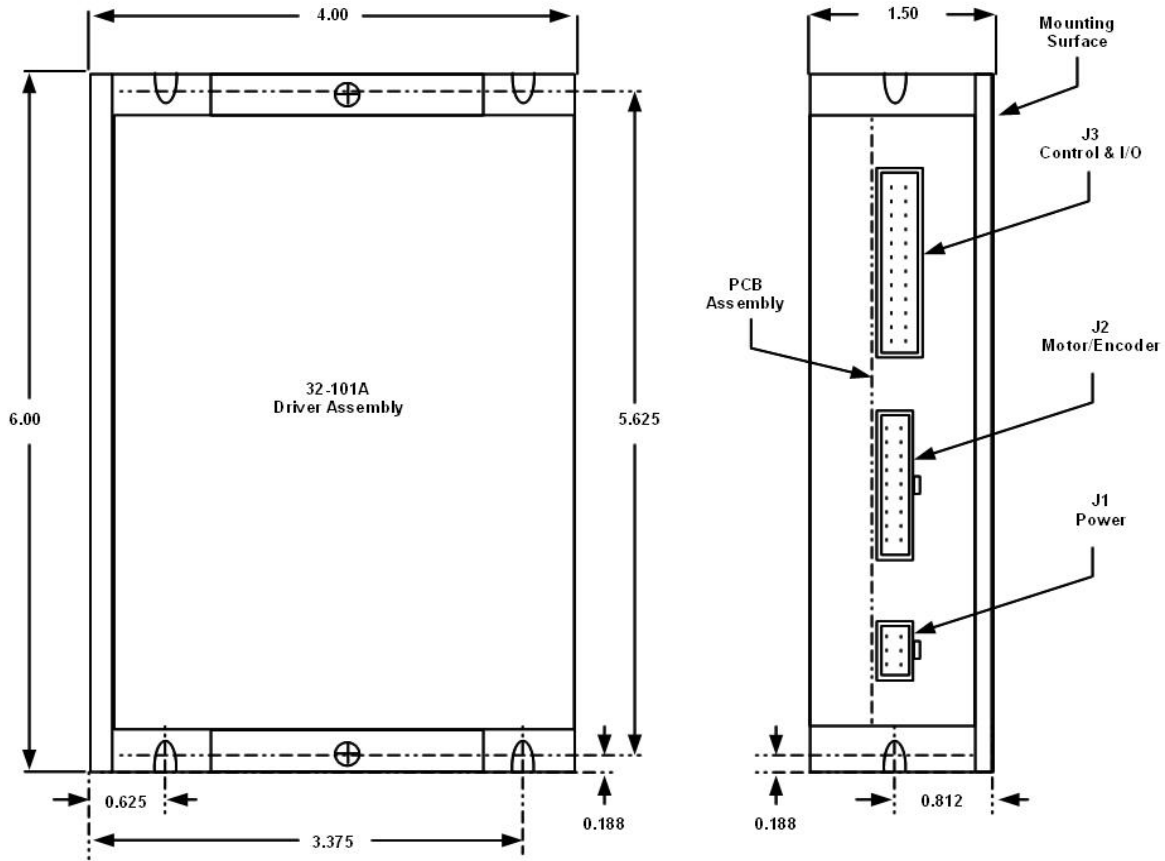


SMP3010A Outline & mounting detail



SMP3010A shown with optional 2.75" x 1.75" Aluminum mirror. Mirrors up to 6.00" major axis may be accommodated. Contact SignalTronix with specific mirror requirements.

Controller/Driver 32-101A



Industry standard motion controllers & drivers which can accommodate resolver or optical encoder feedback devices may be used as alternates to the 32-101A. Contact SignalTronix for additional information.

Typical Application

