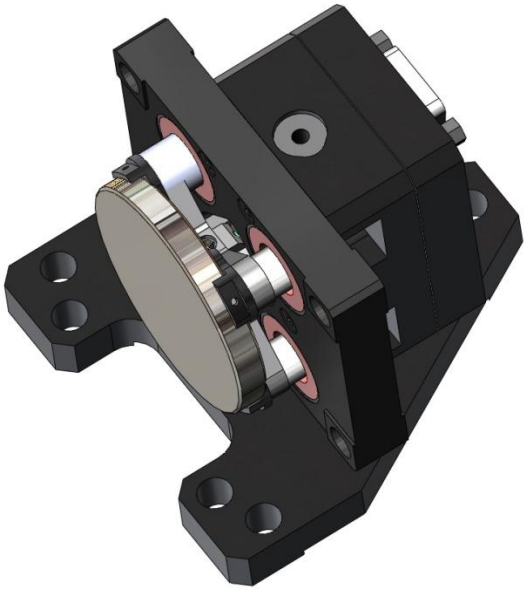
OIM202-Two Inch FSM



Model OIM202 features a low inertia carrier that holds glass 2.0" mirror substrates. Standard coatings are protected gold, aluminum, and silver. We can also mount any 2.0" mirror up to 0.375" thick.

A built in high precision optical sensor monitors mirror angle. The compact optical head is attached to a servo controller using a supplied 6 foot cable. The user inputs analog mirror command to the controller to steer the mirror.

FEATURES:

- Flexure suspension allows stiction free motion of the mirror with an infinite fatigue lifetime
- Built in optical sensor allows the user to monitor both axes of mirror motion
- Moving magnet design allows coils to be heat sunk to the mirror base structure
- New coil design eliminates coil overheating problems, no need to monitor coil temperature
- Available with a thin 1/4th wave or a thicker 1/10th wave substrate
- Mirror coating to customer requirements
- Mirror mounted using low out-gassing RTV
- Useable aperture up to 2.0" (mirror CA dependent)
- Higher performance than our standard OIM100 series fast steering mirror
- Lower inertia, and higher motor strength
- Angular range of +/-1.5 to +/-3.0 degrees mechanical

Optics In Motion LLC, 4223 Rutgers Ave, Long Beach, CA 90808
(562) 481-7103, E-Mail: sales@opticsinmotion.net

Mirror Specifications

Specification	Typical	Units
Dynamic Performance		
Mirror Angular Range (mechanical)	+/- 1.5 to +/-3.0	degrees
Angular resolution	<0.6 to <1.2	urads
3dB Bandwidth (user adjustable, factory set for 400Hz)	> 650	Hz
Linearity	1 to 2	% Full Scale
Step Response (1 mrad step)	<7	ms
Mirror Substrate		
Material	Fused Silica	
Mirror substrate size	2.0" dia x 0.125" (1/4th wave) or 2.0 dia x 0.25" (1/10th wav)	
Coating (Standard)	Protected Aluminum	
Reflectivity	>85% from 400 – 700nm	
Wavefront quality	λ/10 @ 633nm	waves
Clear Aperture	1.80" (90% C.A.)	inches
Electrical		
Peak power	30	Watts
Mechanical		
Mirror head size	3.0 X 2.3 X 2.2	inches
Weight, no foot	10.5	oz
Weight with foot	14.0	oz
Controller size	2.0 X 4.0 X 6.1	inches
Weight	21	oz
Head to Controller Cable Weight	8.0	oz

Complete mirror system
(mirror head, controller, cables, and power supply)

Includes:
Fast Steering Mirror Head
Protected aluminum, gold, or silver coated mirror substrate*
Analog Servo Controller
6 foot cable FSM to Controller
Table top power supply

***** Contact Optics In Motion to obtain a price for other mirror coatings (protected silver, multilayer …).

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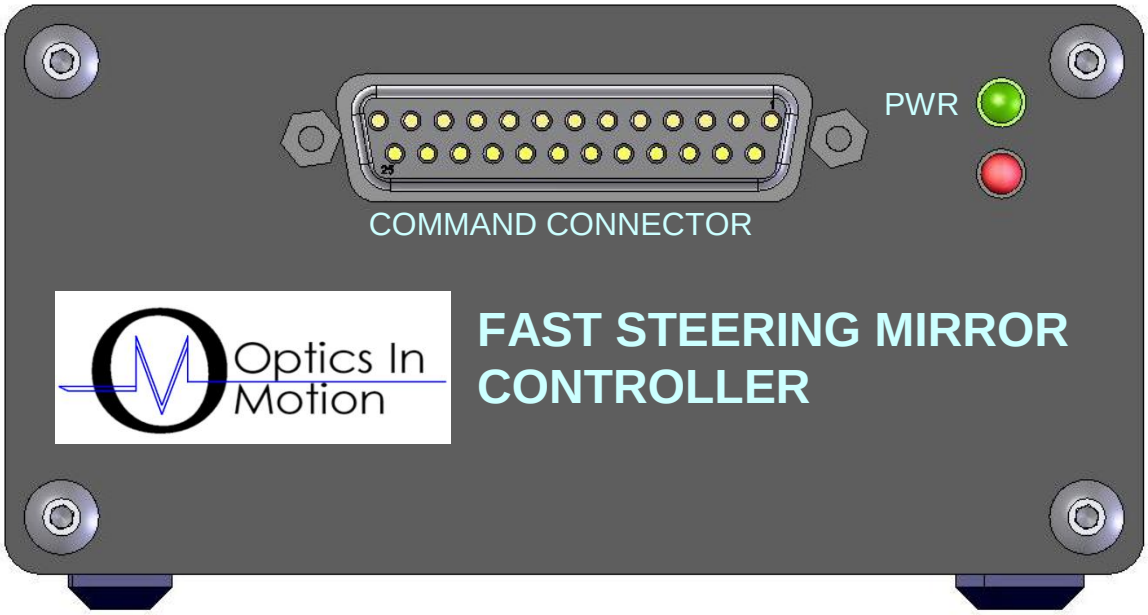

Figure 1: Controller Front View

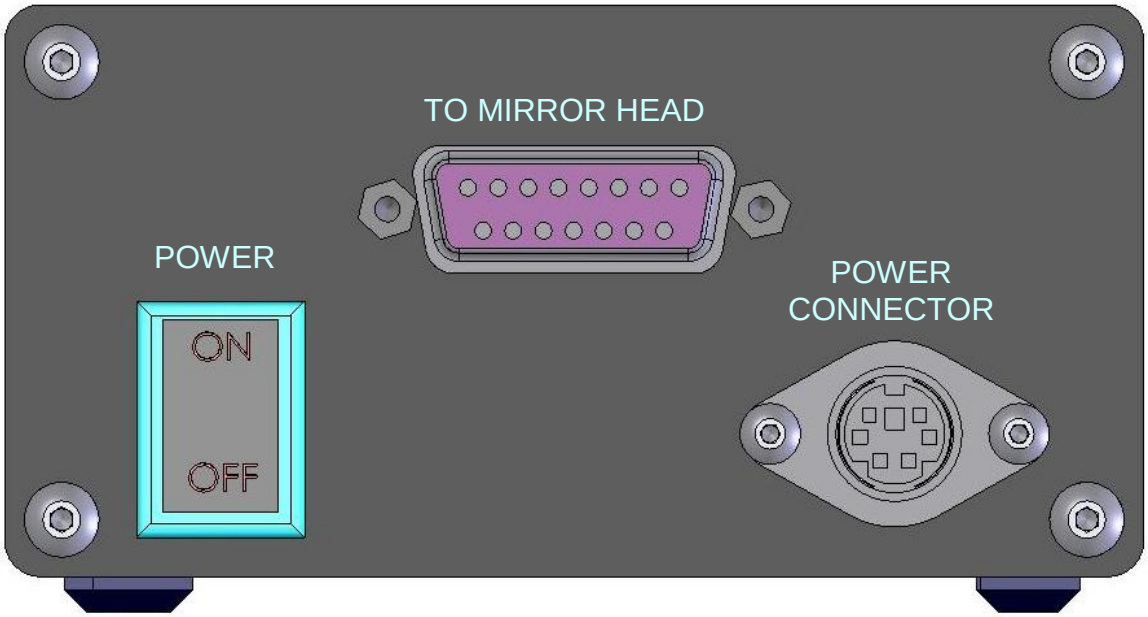

Figure 2: Controller Rear View

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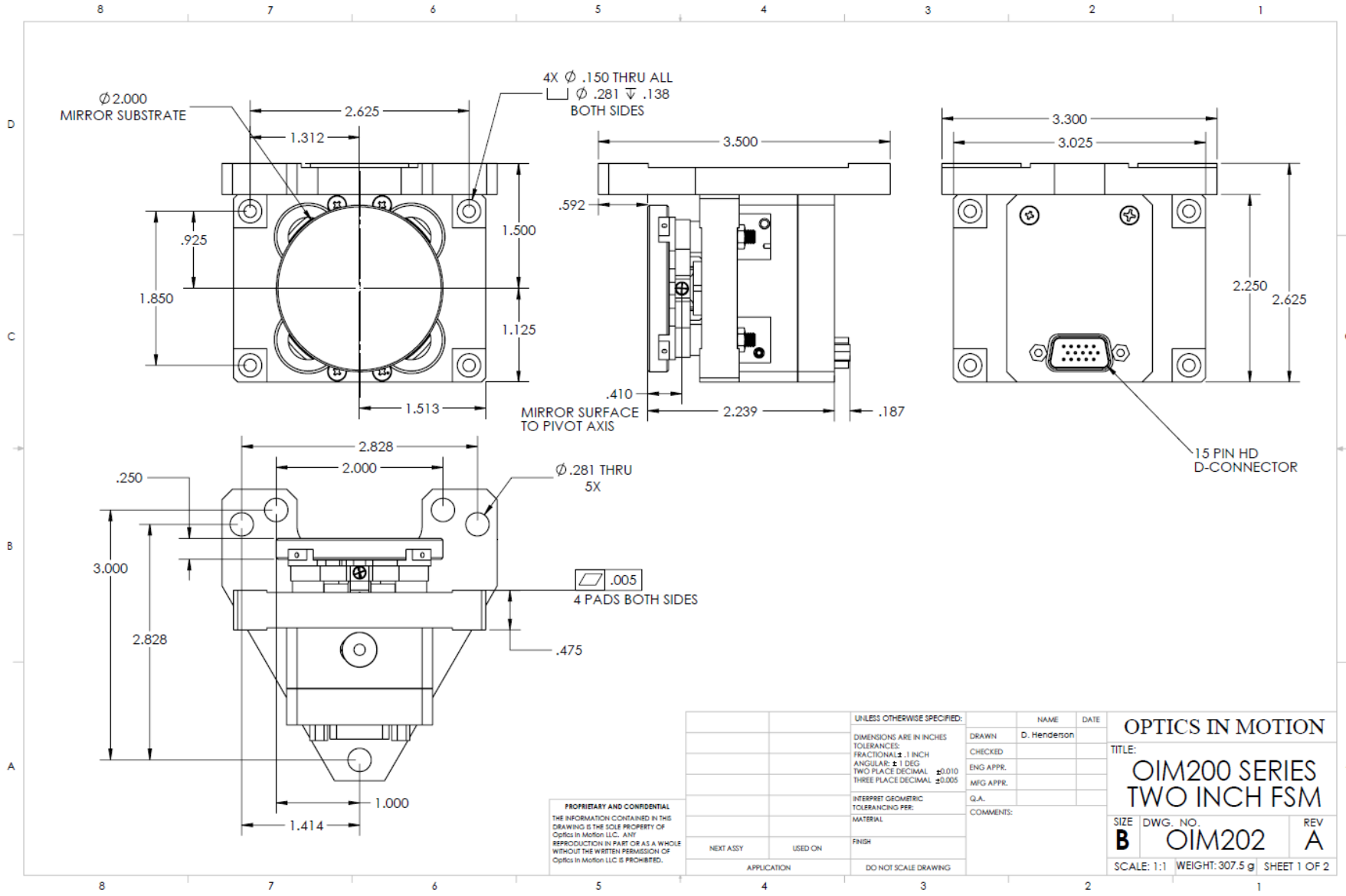

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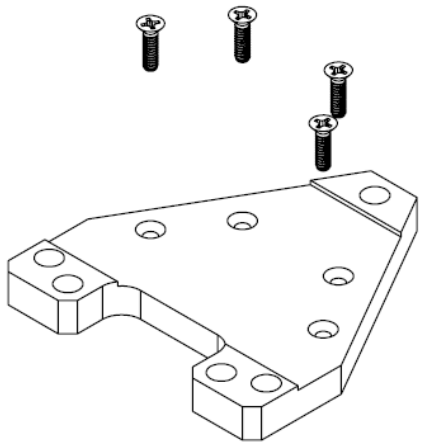

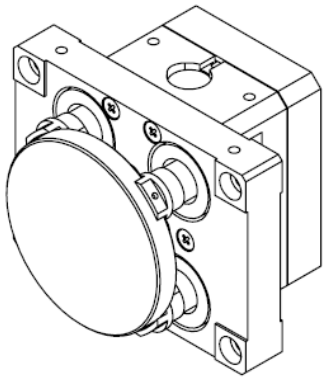

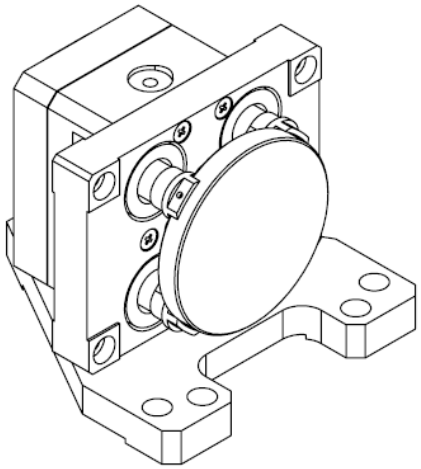

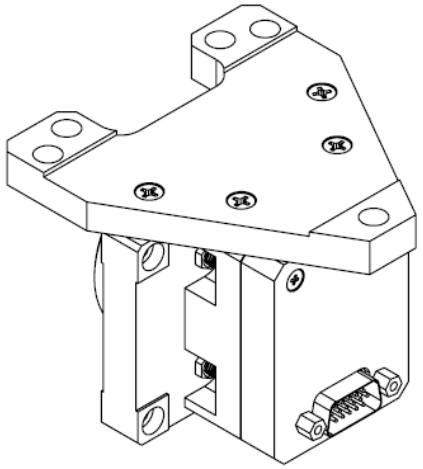

OPTICAL TABLE MOUNTING FOOT REMOVAL ILLUSTRATION

OPTICS IN MOTION		
TITLE: OIM200 SERIES TWO INCH FSM		
SIZE B	DWG. NO. OIM202	REV A
SCALE: 1:1	WEIGHT:	SHEET 2 OF 2

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Command Connector Wiring Table

25-Socket Sub-miniature D Connector

Pin Number	Signal Name	I/O Type	Description
1	X ERROR	Output	X summing junction error voltage output, difference between commanded and actual position. (referenced to ground)
2	INT/EXT SWITCH	Input	Normally low TTL input. High level switches the position feedback input from local to external. (used with input pins 10,11 and 17, 5)
3	X- COMMAND	Input	X mirror position command. Low side of differential command input. Range +/-10 Volts.
4	X+ COMMAND	Input	X mirror position command. High side of differential command input. Range +/-10 Volts.
5	X- EXTERNAL	Input	X external mirror position. Low side of differential position input (from external quad or similar position sensor)
6	GND	Output	Ground Reference
7	-15 VOLTS	Output	-15 VDC for external loads of less than 100ma.
8	RESERVED		
9	N/C		
10	Y+ EXTERNAL	Input	Y external mirror position. High side of differential position input (from external quad or similar position sensor)
11	Y- EXTERNAL	Input	Y external mirror position. Low side of differential position input (from external quad or similar position sensor)
12	Y- COMMAND	Input	Y mirror position command. Low side of differential command input. Range +/-10 Volts.
13	Y+ COMMAND	Input	Y mirror position command. High side of differential command input. Range +/-10 Volts.
14	X POSITION	Output	X mirror angular position readout from local position sensor. (referenced to ground)
15	+5 VOLTS	Output	5 VDC for external loads of less than 100ma.
16	GND	Output	Ground Reference
17	X+ EXTERNAL	Input	X external mirror position Low side of differential position input (from external quad or similar position sensor)
18	RESERVED		
19	+15 VOLTS	Output	+15 VDC for external loads of less than 100ma.
20	GND	Output	Ground Reference
21	RESERVED		
22	GND	Output	Ground Reference
23	Y POSITION	Output	Y mirror angular position readout from local position sensor. (referenced to ground)
24	Y ERROR	Output	Y summing junction error voltage output, difference between commanded and actual position. (referenced to ground)
25	RESERVED		