

Model OIM202.3 features a low inertia carrier that holds a silicon 2.1" x 3.0" mirror substrate. The only coating available for this model is protected gold.

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 protected gold coated silicon mirror only
- Mirror mounted using low out-gassing RTV
- Useable aperture up to 90% of CA
- 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

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)	> 550	Hz
Linearity	1 to 2	% Full Scale
Step Response (1 mrad step)	<7	ms
Mirror Substrate		
Material	Silicon	
Mirror substrate size	2.1" x 3.0" (1/4 th wave)	
Coating	Protected Gold	
Reflectivity	Ravg>96%,Rmin>92% @ 650-1700 nm Ravg>98%,Rmin>96% @ 1.7-20 μ m	
Wavefront quality	$\lambda/4$ @ 633nm	waves
Clear Aperture	(90% C.A.)	
Electrical		
Peak power	30	Watts
Mechanical		
Mirror head size	3.0 X 2.3 X 2.2	inches
Weight, no foot	11.6	oz
Weight with foot	15.1	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 gold coated mirror substrate
Analog Servo Controller
6 foot cable FSM to Controller
Table top power supply

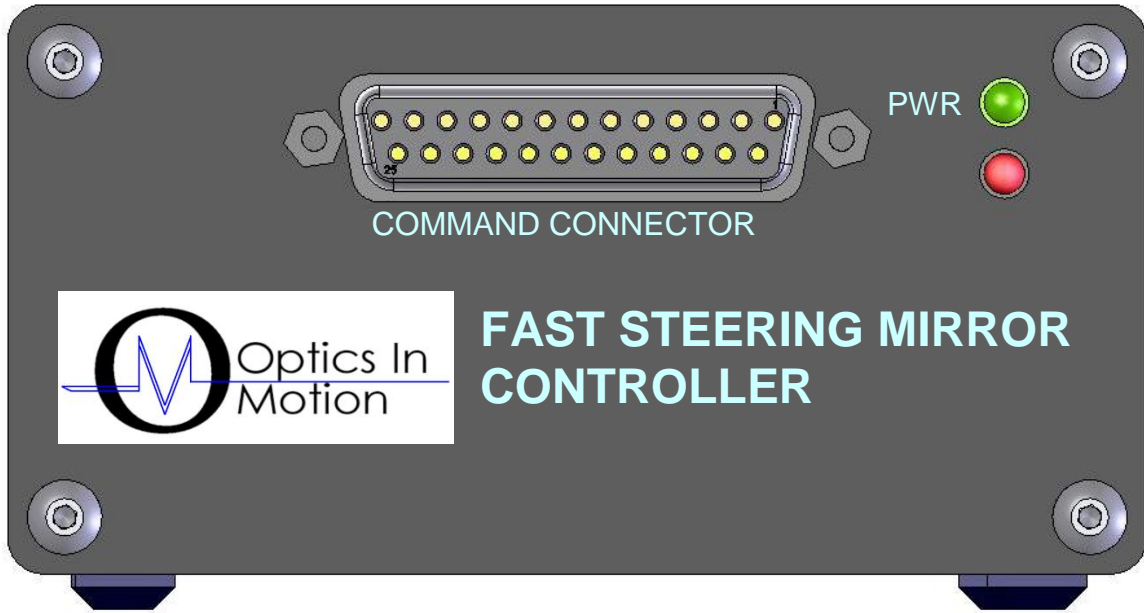


Figure 1: Controller Front View

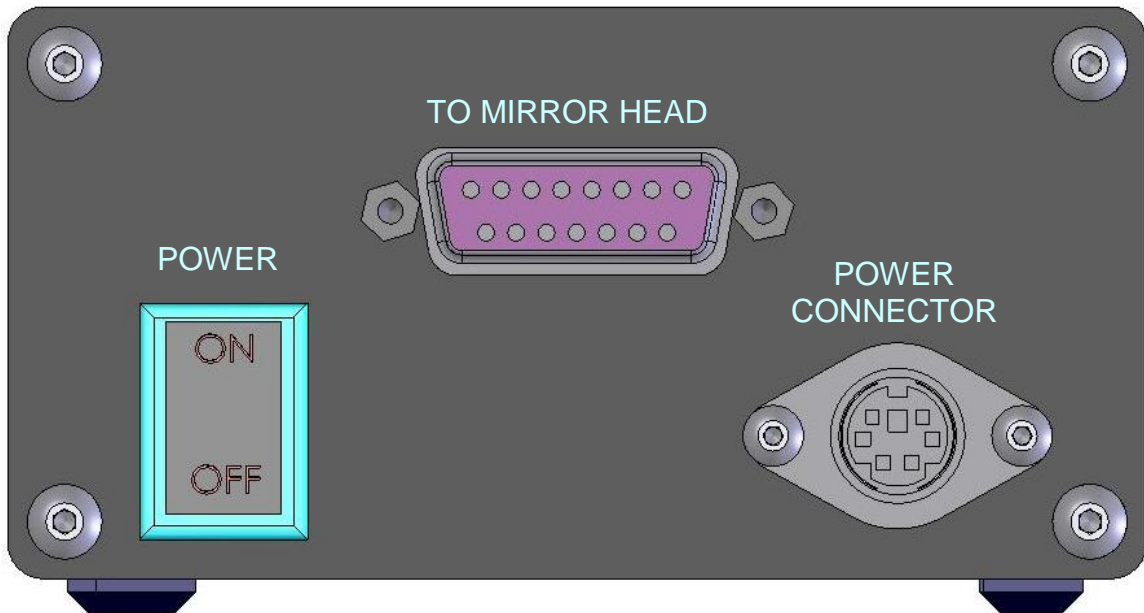
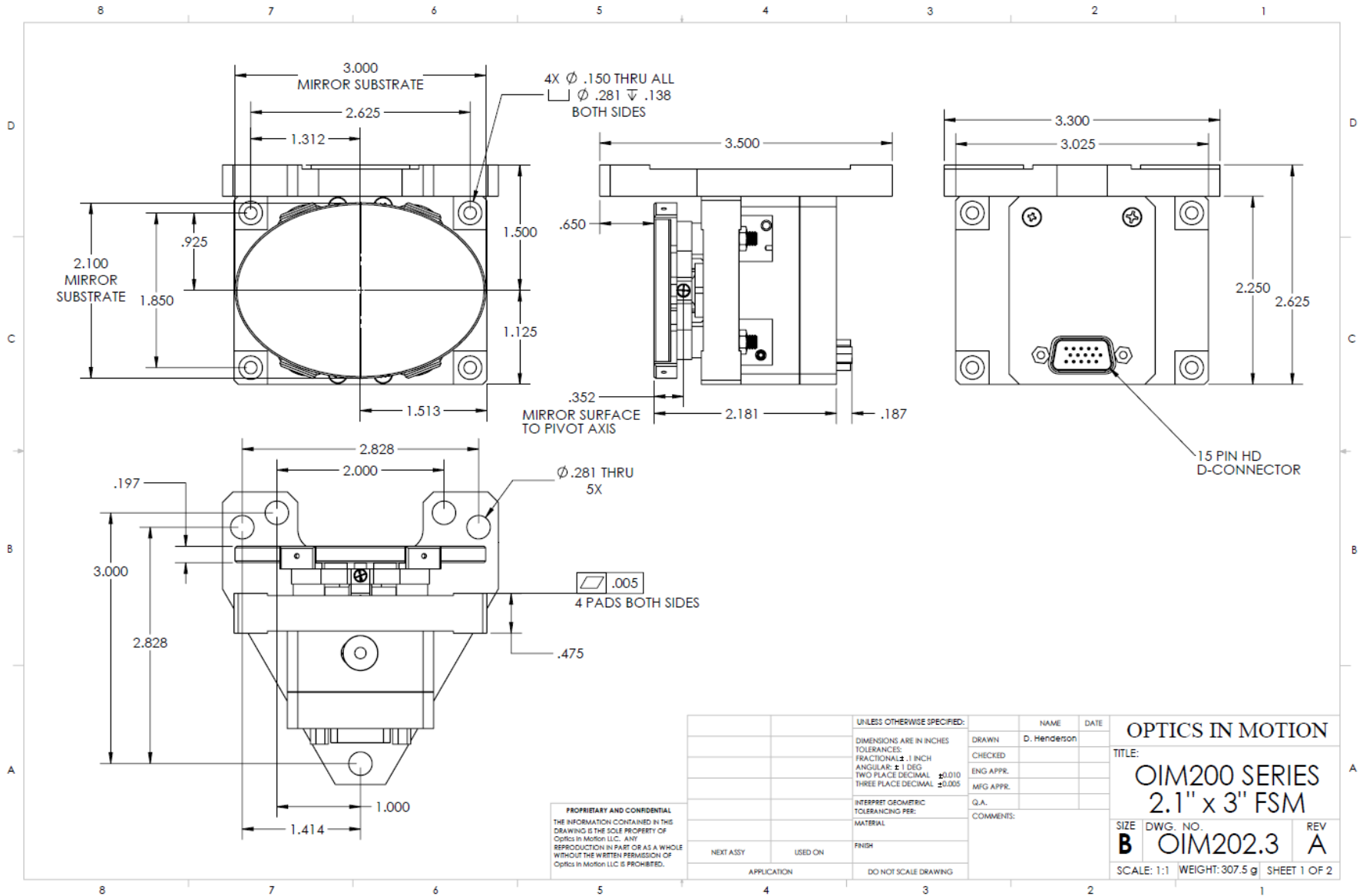
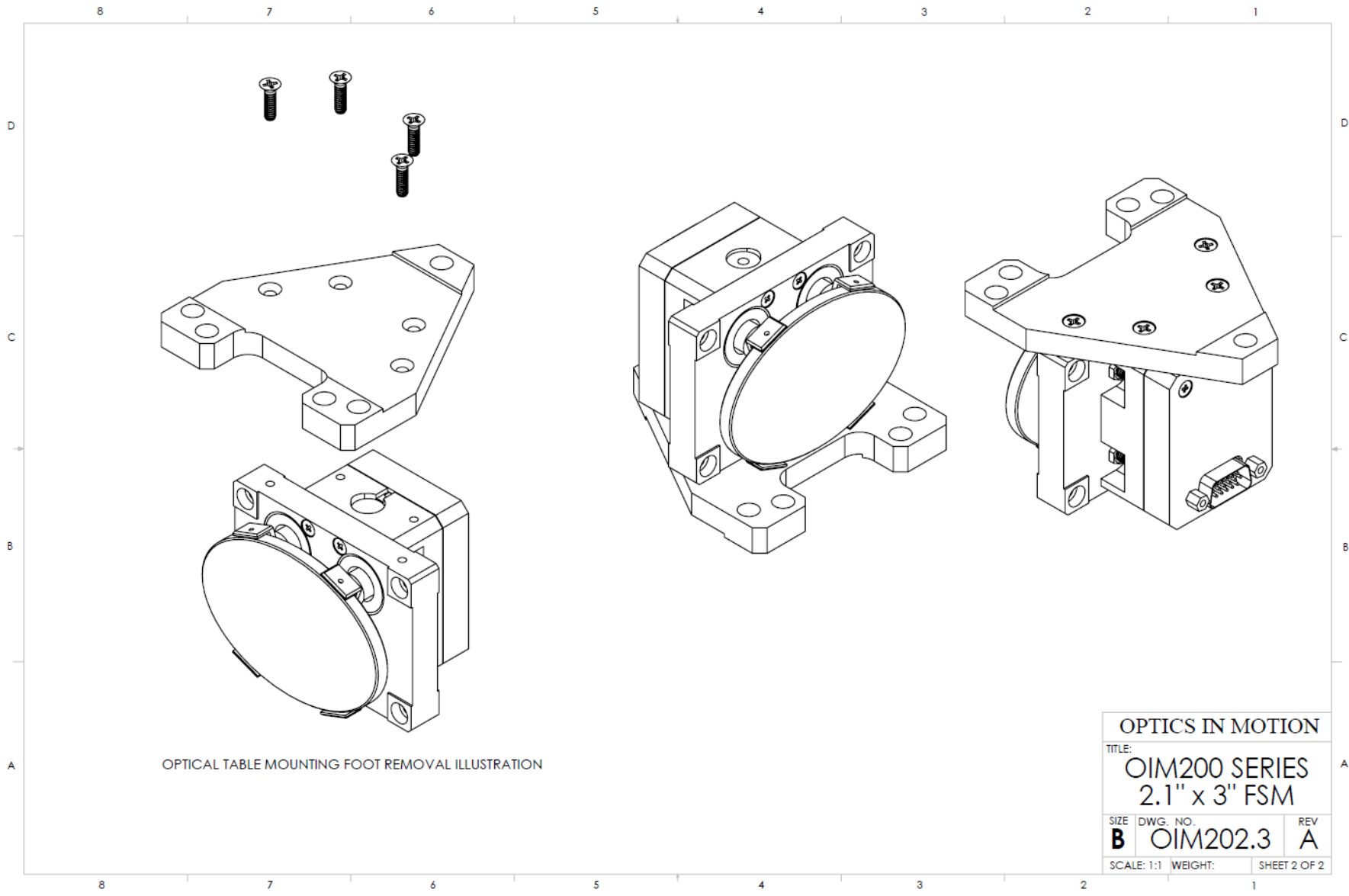


Figure 2: Controller Rear View



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OPTICAL TABLE MOUNTING FOOT REMOVAL ILLUSTRATION

OPTICS IN MOTION		
TITLE:		
OIM200 SERIES		
2.1" x 3" FSM		
SIZE	DWG. NO.	REV
B	OIM202.3	A
SCALE: 1:1		WEIGHT:
		SHEET 2 OF 2

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		