Unifi™

Deformable Mirror System

The Unifi™ Deformable Mirror System is AgilOptics' next generation of membrane deformable mirrors. Unifi™ is an integrated unit with a deformable mirror and a D64USB high-voltage driver.

Communication with a Unifi™ DMS is done via USB 2.0. Unifi™ is controlled by AgilOptics' Clarifi™ or HVDD software packages. Operating Unifi™ requires only a few simple steps. Simply install the unit into your optical system, then plug in the USB cable and power supply, and you're ready to go! A 4" Thorlabs optical mount is included with the system.

The powerful Unifi™ system operates on a single 5V wall block using less than 5W of energy. Unifi™ is a compact package capable of providing actuator commands at up to 4 kHz.

Features:
- 5W Typical power consumption
- Powered using single 5V wall block power supply
- 4 kHz Mirror commands
- 50 mm standard mirror
- USB 2.0 Interface (Type B Connector)
- Fits in standard 4" optical mounts

Clarifi™ & Unifi™:
The Clarifi™ closed loop adaptive optics system can now be provided with the Unifi™ integrated deformable mirror & driver. Unifi™ is available in 16, 25, 30, or 50mm mirror sizes and USB controlled drivers with up to 512 channels. AgilOptics' mirrors are available in a wide range of optical coatings for operation at most laser wavelengths, and feature our ASD (Anti-Snapdown) technology.

(Integrated D64USB high-voltage driver and internal circuitry shown separately for illustration purposes only.)

Unifi™

What Unifi™ Can Do For You:
- **Correct for aberrations in laser beams**
- **Imaging systems improvements**
- **Beam stabilization & redistribution**
- **Provide library of fixed error optical system calibrations**
- **Compact, affordable approach for adding AO capabilities to your optical system**

Ordering Information

UDMS – 50/61 – HR1064
Series Name   A   B   C   D

Series Name: Unifi Deformable Mirror System

A: Mirror Diameter in millimeters (mm)

B: Actuator Count

Standard Mirror Diameter/Actuator Count Combinations:
- · 16/37   · 30/37
- · 25/37   · 50/37
- · 25/61   · 50/61

Custom diameter/actuator counts available to user's specifications. Contact AgilOptics for delivery and pricing.

C: Coating Type
- · HR – High Reflectivity
- · AR – Anti-Reflective

D: Wavelength
  Standard Wavelengths

Multi-Wavelength Coatings
- · Vis – Broad-band visible spectrum
- · Al – Standard
- · AgProt – Protected Silver

Single Wavelength Coatings
- · 1315nm
- · 1064nm
- · 800nm
- · 820nm
- · 633nm
- · 349nm
- · 266nm

Custom coatings can be added to any mirror. Contact AgilOptics for delivery and pricing.

Driver Specifications

Absolute Maximum Ratings
Output Voltage per Channel   295V

Parameter	Test Conditions	MIN	TYP	MAX	UNITS
Power			2.5		W, quiescent
Actuator Bandwidth	Small Signal			4	kHz
	Full Swing, all channels from 0 – 295V – 0		782	790	Hz
Current Output per channel			550		µA
Output Voltage per Channel		280	290	295	V
Number of Channels		32	64	512	

Other Specifications

Communication
USB 2.0

Enclosure Dimensions
Tube: 3.5" (88.9 mm) x 3" (76.2 mm) OD
Mirror Housing: 4.157" (105.6 mm) OD at widest point x 1.46" (37 mm)
Total Enclosure length: 4.5" (114.3 mm)

Weight
Total weight with 4" Optical Mount: 2.625 lbs. (1191 g)
Total Weight without mount: 1.75 lbs. (794 g)
Electronics: .25 lbs. (114 g) [3 boards]

AGILOPTICS®