



### Mid Actuator Count DMs

Mid-actuator count DM systems are high performance wavefront correctors for demanding applications in astronomy, laser communications and long-range imaging and are available in three types: the *Kilo-DM*, *492-DM* and the *648-DM*.

The *Kilo-DM* is an enabling component for precise, high speed, high resolution wavefront control. With up to 1020 actuators controlled to under 1nm of precision and no hysteresis, this system is ideal for demanding applications.

As an alternative to the popular *Kilo-DM*, the *492-DM* and *648-DM* can be used at a lower cost with powerful results. With 492 and 648 actuators respectively controlled to under 1 nm of precision and no hysteresis, the *492-DM* and *648-DM* systems are ideal for applications in astronomy and next-generation imaging.

The high-speed drive electronics for the mid actuator count DMs are capable of 60 kHz frame rate and 14 bit step resolution.

### Mid Actuator Count DM Properties

<b>Mirror Coating:</b>	Aluminum, Gold or Protected Silver
<b>Window:</b>	Various AR coatings available
<b>Hysteresis:</b>	None
<b>Step size:</b>	Sub-nm (average)
<b>Surface Type:</b>	Continuous (DM), Segmented (SLM)
<b>Fill Factor:</b>	>99% (DM), 98% (SLM)
<b>Surface Figure:</b>	<30nm RMS

### Driver Specifications

<b>DIO Interface:</b>	SFP fiber link connection via PCIe Interface card
<b>Input Voltage:</b>	100-240V AC
<b>Resolution:</b>	14 bit
<b>Frame Rate:</b>	34kHz / 60 kHz (Low Latency)*
<b>Response Time:</b>	22 $\mu$ s / 17 $\mu$ s (Low Latency)*
<b>Dimensions:</b>	5.25" x19" x14" (3U Chassis)
<b>Power Draw:</b>	<40W



DM Specifications*	Total Actuator Count	Actuator Count Across Aperture	Stroke ( $\mu$ m)	Aperture (mm)	Pitch ( $\mu$ m)	Mechanical Response (10% - 90%)	Approx. Interactuator Coupling
492-1.5	492	24	1.5	6.9	300	<20 $\mu$ s	15%
492-3.5	492	24	3.5	9.2	400	<80 $\mu$ s	13%
492-3.5-SLM†	492	24	3.5	9.6	400	<40 $\mu$ s	0%
492-5.5	492	24	5.5	10.35	450	<100 $\mu$ s	22%
648-5.5	648	28	5.5	12.15	450	<100 $\mu$ s	22%
Kilo-C-1.5	952	34	1.5	9.9	300	<20 $\mu$ s	15%
Kilo-C-3.5	952	34	3.5	13.2	400	<80 $\mu$ s	13%
Kilo-C-3.5-SLM†	952	34	3.5	13.6	400	<40 $\mu$ s	0%

\*High speed, low stroke driver options are available.

†Segmented surface mirror. All other configurations listed have continuous surfaces