

MID ACTUATOR COUNT DEFORMABLE MIRRORS



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*, the *492-DM* and the *648-DM*.

The *Kilo-C-DM* is an enabling component for precise, high-speed, high-resolution wavefront control. With up to 952 actuators controlled to under 1nm of precision and no hysteresis.

As an alternative to the popular *Kilo-C-DM*, the *492-DM* and *648-DM* can be used with powerful results. With 492 and 648 actuators, these systems have been used in applications in astronomy and next-generation imaging.

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

DM Highlights

Mirror Coating:	Aluminum, Gold or Protected Silver
Window:	Various AR coatings available
Hysteresis:	None
Step size:	Sub-nm (average)
Surface Figure:	<30nm RMS



Driver Specifications

DIO Interface:	SFP fiber link connection via PCIe Interface card
Resolution:	14 bit
Frame Rate:	34kHz / 60 kHz (Low Latency)*
Response Time:	22µs / 17µs (Low Latency)*
Dimensions:	5.25" x19" x14" (3U Chassis)
Power Draw:	<40W



Specifications*	Total Actuator Count	Actuator Count Across Aperture	Stroke (µm)	Aperture (mm)	Pitch (µm)	Mechanical Response (10% - 90%)	Approx. Interactuator Coupling
492-1.5	492	24	1.5	6.9	300	<20 µs	15%
492-3.5	492	24	3.5	9.2	400	<80 µs	13%
492-5.5	492	24	5.5	10.35	450	<100 µs	22%
648-5.5	648	28	5.5	12.15	450	<100 µs	22%
Kilo-C-1.5	952	34	1.5	9.9	300	<20 µs	15%
Kilo-C-3.5	952	34	3.5	13.2	400	<80 µs	13%