

Phase Locked Optical Choppers



- Stable and reliable phase locking
- Chopping is phase-locked to an internal frequency synthesizer
- Frequencies from 4 Hz to 10.65 kHz
- Lock to external references for harmonic or sub-harmonic chopping

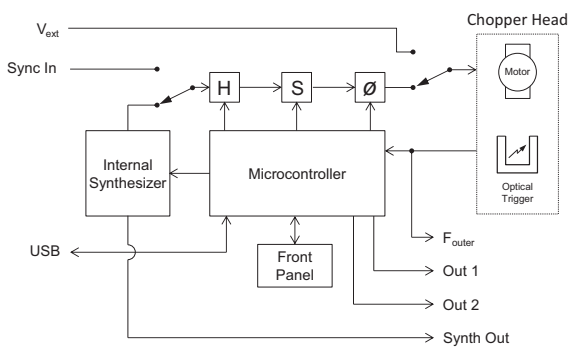
The newly redesigned Model 3502 optical chopper provides rock-solid stability and flexibility because its chopping frequency is phase-locked to its own internal frequency synthesizer. The Model 3502 can now chop from 4 Hz to 10.65 kHz, using either the internal frequency synthesizer or an external source as the reference. You can chop at the fundamental, a harmonic (2 to 15), or even a sub-harmonic (1/2 to 1/15) of the reference. Unique features of the Model 3502 include outputs at the sum and difference of the inner and outer wheels' chopping frequencies for nonlinear-optics experiments, and a high-stability phase shifter that can lock two choppers together for long fluorescence-decay measurements. The chopping frequency, as well as a number of other operating parameters, can be viewed on the front panel display. Easy-to-use cursor keys provide easy adjustment of operating parameters.

The 3502 chopper comes complete with six wheels, a wheel cover, and a USB 2.0 interface. To mount the chopper controller in a standard 19" rack, order the Model 3510 rack-mount kit. The kit includes hardware for mounting one controller in a rack or two controllers side by side in a rack.

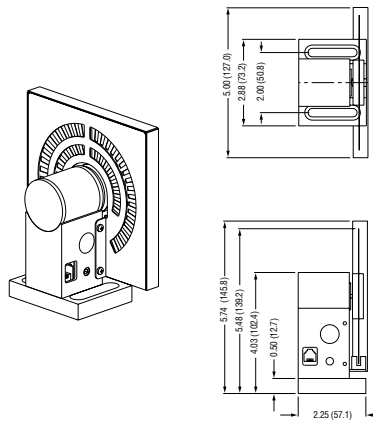


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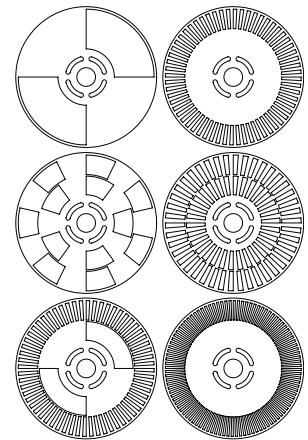
Description	Lowest Frequency (F_{outer})	Highest Frequency (F_{outer})	Jitter ($\mu\text{s p-p}$, typical)	
			@ Minimum Frequency	@ Maximum Frequency
Chopper Wheel, 2 Slot, for 3502 Chopper	4 Hz	213 Hz	2000	50
Chopper Wheel, 7 and 5 Slot, for 3502 Chopper	14 Hz	746 Hz	1000	15
Chopper Wheel, 42 and 30 Slot, for 3502 Chopper	84 Hz	4.48 kHz	150	5
Chopper Wheel, 60 Slot, for 3502 Chopper	120 Hz	6.4 kHz	150	3
Chopper Wheel, 100 slot, for 3502 Chopper	200 Hz	10.65 kHz	200	5



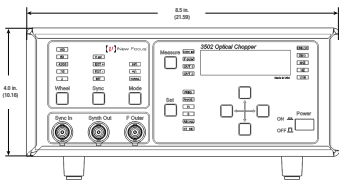
Functional block diagram for Model 3502 Optical Chopper



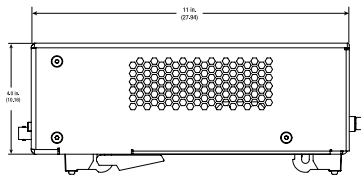
Dimensions of Model 3502 Optical Chopper Head. Dimensions in inches (mm).



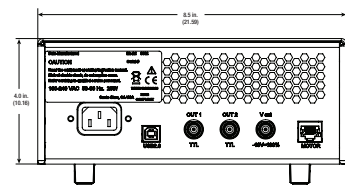
Top row: 2-slot and 60-slot wheels. Middle row: 7/5-slot and 42/30-slot wheels. Bottom row: 60/2-slot and 100-slot wheels. All wheels are 4.50" (114.3 mm) O.D.



Front View



Side View



Rear View



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