

Optical Chopper – Ultra Miniature Model 360C



Specifications

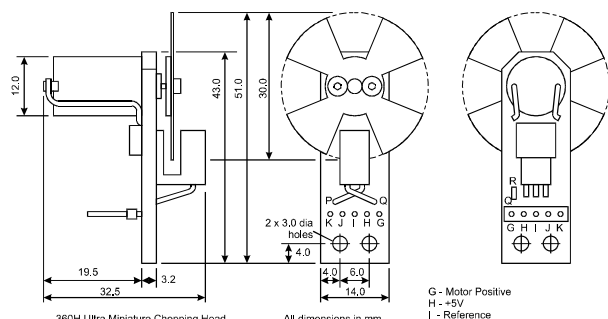
360H Chopping Head

- **Motor:** 5 pole DC motor, sleeve bearings with 1000 hours lifetime, 0-15000 rpm reversible.
- **Reference pick-up:** IR led and phototransistor pair with Schmitt trigger.
- **Dimensions:** 43(H) x 30(L) x 14(W) mm without blade.
- **Dimensions:** 50(H) x 30(L) x 30(W) mm with blade.
- **Mounting:** Two 3 mm holes near base.

Features

- 10Hz - 14kHz standard chopping frequency range
- 30mm diameter chopping discs
- Photochemically etched, non-magnetic discs
- Ultra compact chopper head
- Small size drive board
- Low cost, for OEM applications

- **Scitec Instruments Model 360 optical chopper system consists of a chopper head, drive board, photochemically etched discs and an interconnecting cable. This optical chopper uses 30mm diameter discs.**
- **The drive board and chopping head have been designed to be as compact as possible to allow positioning in areas where space is critical. As the system is designed for OEM use, each component is available separately.**



Maximum rotational speed is 15000 rpm (250 rps). However lifetime is proportional to the number of rotations so the slower the speed the better

G - Motor Positive
H - -5V
I - Reference
J - -OV
K - Motor Negative

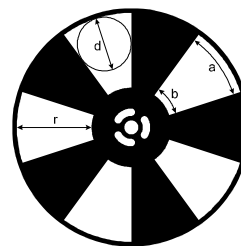
P - 0V
Q - +1.2V (ish)
R - -5V

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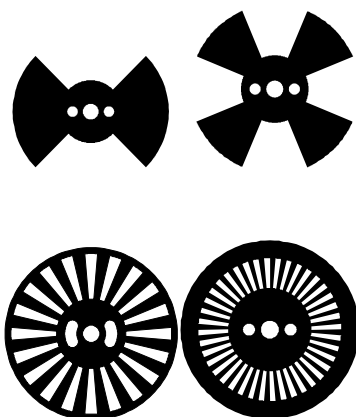
360C OEM Drive Board

- **Input Voltage:** 7V to 15V DC or 9V to 18V AC
- **Frequency Control:** On board trim, external potentiometer or external voltage
- **Frequency Stability:** Short term - see phase jitter. Long term - $\pm 1\%$ of max frequency within 10 to 100% of maximum frequency.
- **Reference output:** 5 V HCT TTL signal via jack socket.
- **Power Requirement:** 60mA no load, 80mA max speed
- **Dimensions:** 43 x 73 mm
- **Weight:** 25 g



350D Chopping Discs

- **Disc types:** 2, 4, 10 and 40 slot (20 and 80 slot discs are also available).
- **Material:** Half hard brass, 0.25mm thick.
- **Diameter:** 30 mm.
- **Surface Finish:** Chemically blacked.
- **Mark-Space Ratio:** 1:1.



Frequency Range

Blade	Frequency (Hz)	Aperture (mm)				Phase Jitter Max
		r	a	b	d	
350D2 (2 slots)	10 - 500	9.0	23.6	9.4	9.0	TBA
350D4 (4 slots)	20 - 1000	9.0	11.8	4.7	8.3	TBA
350D10 (10 slots)	50 - 2500	8.0	4.4	1.9	3.7	TBA
350D20 (20 slots)	100 - 5000	8.0	2.2	0.94	2.0	TBA
350D40 (40 slots)	200 - 10000	8.0	1.1	0.47	1.0	TBA
350D80 (80 slots)	400 - 20000	5.0	0.55	0.35	0.5	TBA

Ordering Information

Model 360C Optical Chopper: The 360 system is available as separate components as most customers require only some of the following parts:

- Model 360C OEM - Drive board, chopping head, interconnecting lead and 2 discs (please specify when ordering).
- 360C OEM - Drive board
- 360H - Chopping head
- 360I - Interconnecting lead, 1 m in length
- 350D2 - Two slot 30mm disc
- 350D4 - Four slot 30mm disc
- 350D10 - Ten slot 30mm disc
- 350D20 - Twenty slot 30mm disc
- 350D40 - Forty slot 30mm disc
- 350D80 - Eighty slot 30mm disc
- 350D - Set of 4 discs (350D2, 350D4, 350D10 & 350D40)

Please note, a complete system also requires a wall mounted power supply which is available from many sources.

See separate data sheets for details of the complete range of chopper discs and accessories that can be used with the Model 360C Optical Chopper.

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