

# Optical Chopper

SR540 — Optical chopper system

- 4 Hz to 3.7 kHz chopping frequencies
- Low phase jitter
- Single and dual beam experiments
- Sum & difference reference outputs



## SR540 Specifications

The SR540 chopper will handle all your optical chopping requirements — from simple measurements to dual-beam and intermodulation experiments. The SR540 has a 4-digit frequency display, front-panel frequency control, analog voltage frequency control, and two reference outputs with selectable operating modes. Two anodized aluminum blades are provided: a 5/6 slot blade for frequencies up to 400 Hz, and a 25/30 slot blade for frequencies up to 3.7 kHz. Reference outputs are provided for frequencies corresponding to each row of slots, as well as the sum and difference frequencies.

### Ordering Information

|          |                                   |
|----------|-----------------------------------|
| SR540    | Optical chopper                   |
| O5402530 | 25/30 dual-slot replacement blade |
| O54056   | 5/6 dual-slot replacement blade   |
| O5405    | 5-slot replacement blade          |
| O54030   | 30-slot replacement blade         |
| O540RCH  | Replacement chopper head          |

|                       |   |
|-----------------------|---|
| Chop frequency        | 4 Hz to 400 Hz (5/6 slot blade)<br>400 Hz to 3.7 kHz (25/30 slot blade)                               |
| Frequency stability   | 250 ppm/°C (typ.)   |
| Frequency drift       | <2%, 100 Hz < f < 3700 Hz   |
| Phase jitter (rms)    | 0.2° (50 Hz to 400 Hz)<br>0.5° (400 Hz to 3.7 kHz)  |
| Frequency display     | 4-digit, 1 Hz resolution and accuracy   |
| Frequency control     | 10-turn pot with 3 ranges:<br>4 Hz to 40 Hz<br>40 Hz to 400 Hz<br>400 Hz to 3.7 kHz                   |
| Input control voltage | 0 to 10 VDC for 0 to 100% of full scale. Control voltage overrides frequency dial.                    |
| Reference modes       | $f_{inner} > f_{outer}$ , $5 \times f_{outer}$ , $f_{inner} + f_{outer}$ ,<br>$f_{outer} - f_{inner}$ |
| Dimensions            | Controller: 7.7" × 1.8" × 5.1" (WHD)<br>Head: 2.8" × 2.1" × 1.0" (WHD)                                |
| Blade diameter        | 4.04" ± 0.002"  |
| Cable length          | 6 ft.   |
| Power                 | 12 W, 100/120/220/240 VAC,<br>50/60 Hz  |
| Warranty              | One year parts and labor on materials and workmanship, 90 days on motor                               |