

EOPC-SC-2

The **SC-2** type **mini sub-miniature** fixed frequency resonant optical scanners is the **NEW SMALLEST SIZE** mechanical scanner available. It is an electromagnetically driven moving mirror device, which deflects a light beam with a continuous sinusoidal motion. The mirror assembly is attached at the centre of a taut band spring. The scanning frequency range of the SC-2 type scanner is from 100Hz to 1000Hz, fixed at any one value within the range. The scan angle is inversely proportional to the frequency, and is a function of the mirror size. The standard operating temperature is 0°C to +55°C. Other temperature range and vacuum operation are available upon request.

High device "Q" insures frequency stability and low electrical drive power. High flexural stiffness provides good resistance to shock and vibration, as well as low wobble, and good scan repeatability. Resonating at the natural frequency makes the device an excellent candidate for long life operation for a multitude of applications which require good imaging with minimal distortion. The scanner is especially suitable for dedicated, high volume, OEM industrial applications. The SC-2 type scanner can easily be incorporated in very small size systems and portable instruments.

The operation of the scanner at the resonant frequency is sustained by a positive feedback amplifier type [ED driver](#) or the [AGC driver](#). The [AGC driver](#) provides a higher amplitude stability (0.01%) and a position output signal.

Applications include: **can be used as an intra cavity Q-Switch**, confocal microscopy, cancer diagnosis, ophthalmic imaging, adaptive optics, optical coherence tomography(OCT), X-ray technology, DNA sequencing, brain imaging, detecting cognitive recognition, dentistry, dermatology, developmental biology, NDE/NDT, oncology and high resolution imaging of optical coherence microscopy(OCM), laser scanners, image and pattern forming and recognition, printers, biomedical imaging, quality inspection, fluorescent microscopy, semiconductor imaging, image and pattern forming and recognition, web inspection, biomedical imaging, quality inspection, Process verification, mask inspection and machine vision to name a few.

ONE FIXED FREQUENCY from the range of 100Hz to 1000Hz

The following should serve as guide lines only:

SCANNER MODEL	SCAN ANGLE (P-P DEG OPT)	MIRROR SIZE (mm)	FREQ. (Hz) +/- 10%
SC-2-2	50°	6 dia	230
SC-2-2	50°	7x6	200
SC-2-2	50°	10x6	125
SC-2-3	40°	6 dia	360
SC-2-3	40°	7x6	300
SC-3-3	40°	10x6	200
SC-2-4	30°	6 dia	550
SC-2-4	30°	7x6	450
SC-2-4	30°	10x6	275
SC-2-5	20°	6 dia	800
SC-2-5	20°	7x6	650
SC-2-5	20°	10x6	385

Laser Support Services

SPECIFICATIONS:

ELECTRICAL:

Drive coil resistance: 950 ohms

Sense coil resistance: 950 ohms

Cable length: 8 inches

Connector: female 4 pin plug on 0.1 inch centers, Molex P/N 22-01-3047 or equiv.

Scan frequency range: 100 Hz to 1000 Hz

Frequency accuracy: +/-10% at 25°C, closer accuracy available upon request

Scan angle: to 50° peak to peak optical as a function of frequency and mirror size

MIRROR:

Sizes: 6mm diameter, 7x6mm, 10x6mm

Thickness: 1.0mm, standard; other thickness values available

Flatness: 1/4 wavelength (for 6mm and 7x6mm mirrors), 1/2 wavelength for 10x6mm mirror

Surface quality: scratch and dig: 60-40