



# Gooch & Housego



## AO Frequency Shifter

I-FS040-2S2E-3-OL3

Former model number: FS040-2E-OL3

A general purpose, 40MHz frequency shifter, suitable for use over the range 633 – 680nm.

Featuring a generous active aperture, high efficiency and low RF drive power. This device is ideal for use in heterodyne interferometric systems, particularly laser Doppler velocimetry and has been designed to facilitate double pass configurations.

In addition to the specifications indicated, we also offer alternative wavelengths, frequency shift, active aperture & integrated driver characteristics.

### Key Features:

- High efficiency
- Low drive power
- 633 - 680nm
- 40MHz
- Custom configurations available

### Applications:

- Industrial:
  - Vibrometry
  - Process control
- Scientific:
  - Interferometry

## General Specifications

Interaction material:	Tellurium Dioxide (TeO <sub>2</sub> )
Acoustic mode:	Anisotropic, slow shear
Wavelength:	633 - 680nm
AR coating reflectivity:	< 0.2% per surface
Transmission:	> 99.5%
Frequency shift:	40MHz
VSWR:	< 1.2:1
Active aperture:	2 x 4mm (vertical x horizontal)
Clear aperture:	2.5 x 4mm (vertical x horizontal)
Input polarisation:	Linear, horizontal with respect to housing base
Output polarisation (1 <sup>st</sup> order diffracted):	Linear, vertical (rotated by 90° to input)
Angle between zero and 1 <sup>st</sup> order beams:	> 2°
Zero to 1st order polarisation extinction ratio:	> 100:1
Output Configuration:	Diffracted & undiffracted beams split about Input direction.
Diffraction efficiency:	> 90%
RF power:	100mW

## Ordering Code

**Explanation: I-FS040-2C2E-3-OL3** (Frequency shifter, 40MHz, 2.0mm active aperture, shear mode, tellurium dioxide, 633nm, SMA female bulk head RF connector, OL3 housing).

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