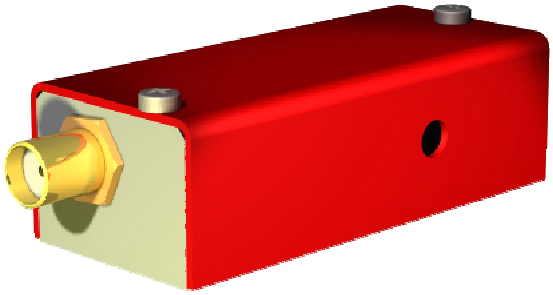
MQ240 AO Modulator/Shifter



• High speed • High power • Linear Polar

These modulators have been specially designed for high speed high power modulation, where TeO2 cannot be used.
They cover the deep UV range up to Visible range. Suitable for DPSS 355 nm or 532 nm.

They can also be used as fixed frequency shifters @240 MHz, as well as variable frequency shifters or deflectors with a frequency range up to 240 +/- 40 MHz.

Specifications

Material-Acoustic mode	Fused silica / High UV grade fused silica
Acoustic Velocity	V=5960 m/s
Optical Wavelength range	**UV** : 325-450 nm
Transmission	> 95 %
Optical Input / Output polarizations	Linear ⊥
Aperture	0.15 x 1 mm²
Carrier frequency / Frequency shift	240 MHz
Separation angle	> 13 mrd
Diffraction efficiency (with TEM00 beam, $M^2 \leq 1.1$)	**UV** : ≥ 80 %
1st order ellipticity	Nom 85 % @50 µm beam dia
Rise time	110 ns /mm (min 10 ns)
Amplitude modulation bandwidth	> 85 MHz (-3 dB, @50 µm)
Static extinction ratio	> 2000/1
Max optical power density	> 10 W / mm²
Input impedance	Nom 50 Ω
V.S.W.R.	Nom < 1.5/1
RF Power	**UV** : ≤ 2 Watts
Connector	SMA
Size / Weight	(LxlxH) 50.9 x 22.4 x 15.8 mm³ / 50 g
Operating Temperature	10 to 40 °C

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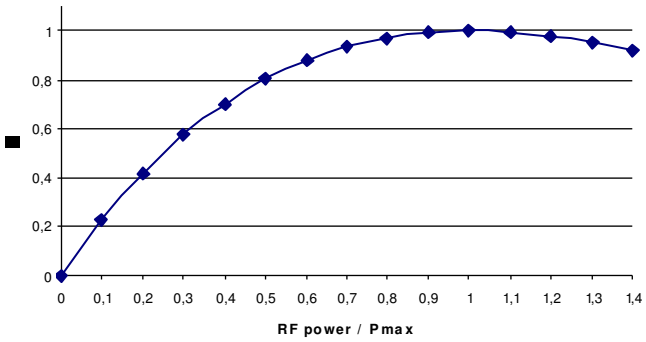
→ Separation angle (Δθ) is wavelength (λ) sensitive:

$$\Delta\theta = \frac{\lambda F}{V}$$

→ RF power (P) is wavelength (λ) sensitive:

$$\frac{P_1}{P_2} = \frac{\lambda_1^2}{\lambda_2^2}$$

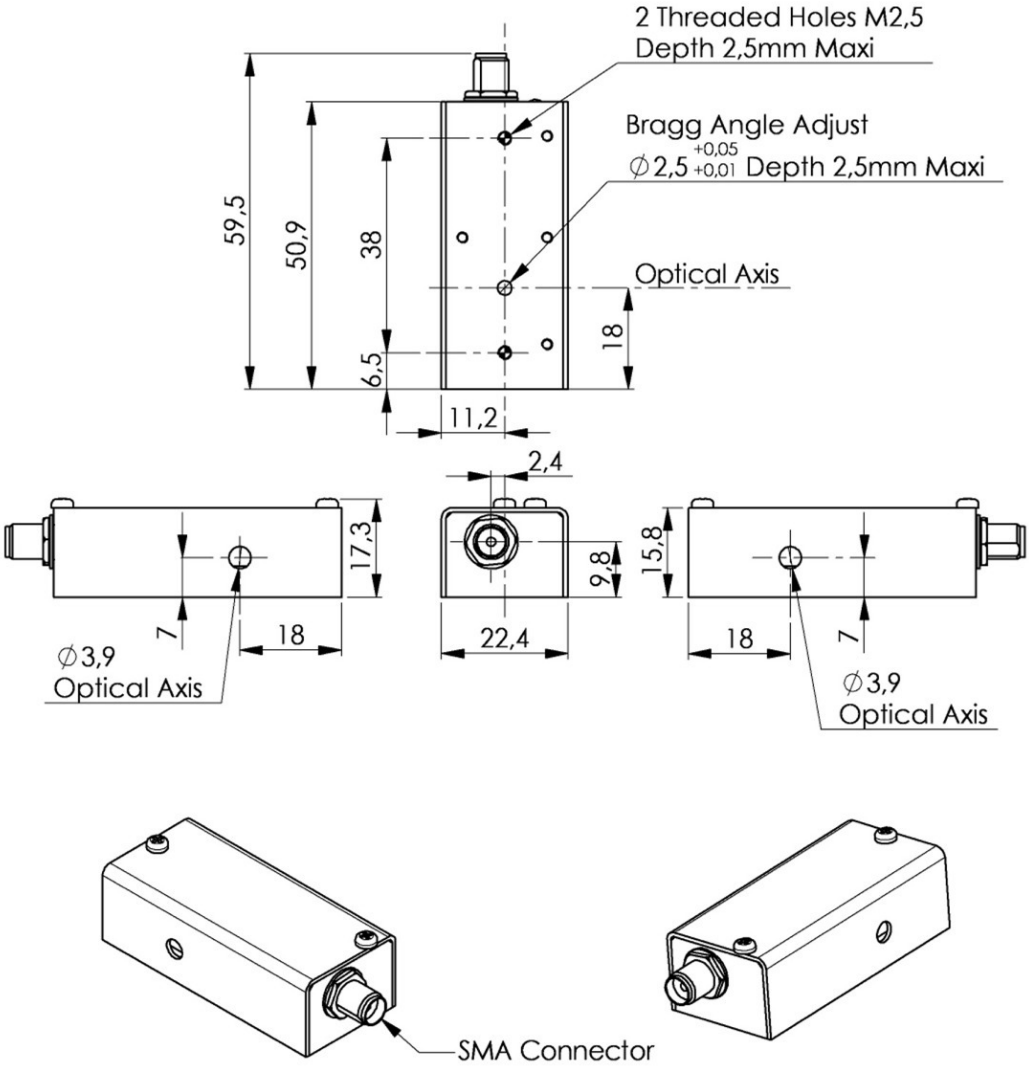


OPTION

Frequency range 240+/-40MHz
Nominal efficiency over 240+/-40MHz > 60%

Outline Drawing

sizes in mm



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