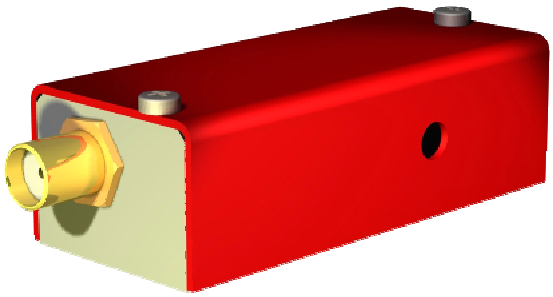
MQ180 AO Modulator/Shifter

High power modulator



• 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 @180 Mhz, as well as variable frequency shifters or deflectors with a frequency range up to 180 +/- 25 MHz.

Specifications

	MQ180-A0,2-UV	MQ180-A0,2-VIS
Material-Acoustic mode	Fused silica	
Acoustic Velocity	V=5960 m/s	
Optical Wavelength range	325-442 nm	440-670 nm
Transmission	> 95 %	
Optical Input / Output polarizations	Linear ⊥	
Aperture	0.2 x 1 mm²	
Carrier frequency / Frequency shift	180 MHz	
Separation angle	> 9 mrd	> 13 mrd
Diffraction efficiency (with focussed TEM00 beam 90 µm, M² ≤ 1.1)	≥ 80 %	≥ 70 %
Rise time	110 ns /mm (min 10 ns)	
Amplitude modulation bandwidth	> 48 MHz (-3 dB, @90 µm)	
Static extinction ratio	> 1000/1	
Max optical power density	> 100 W / mm² @VIS	
Input impedance	Nom 50 Ω	
V.S.W.R.	Nom < 1.5/1	
RF Power	≤ 2 Watts	≤ 4 Watts
Connector	SMA	
Size / Weight	(Lxlxh) 50.9 x 22.4 x 15.8 mm³ / 50 g	
Operating Temperature	10 to 40 °C	

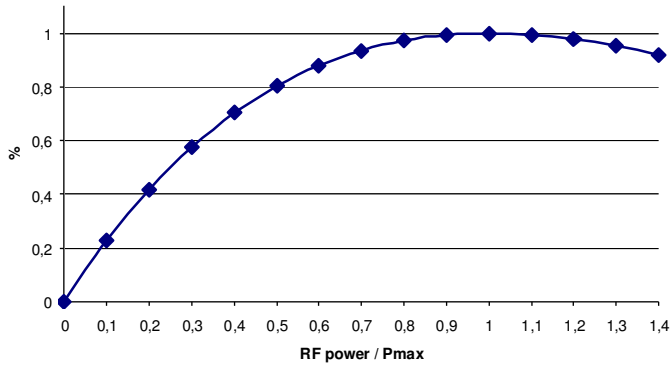
AA Sa 18, rue Nicolas Appert 91898 ORSAY France
Tel : +33 (0)1 76 91 50 12 – Fax : +33 (0)1 76 91 50 31 – www.aaoptoelectronic.com
QUANTA TECH 116 West, 23rd Street - Suite 500 New York, NY 10011 USA
Tel: 646 375 2452 - Fax: 866 978 2682 – www.quanta-tech.com

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

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

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

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

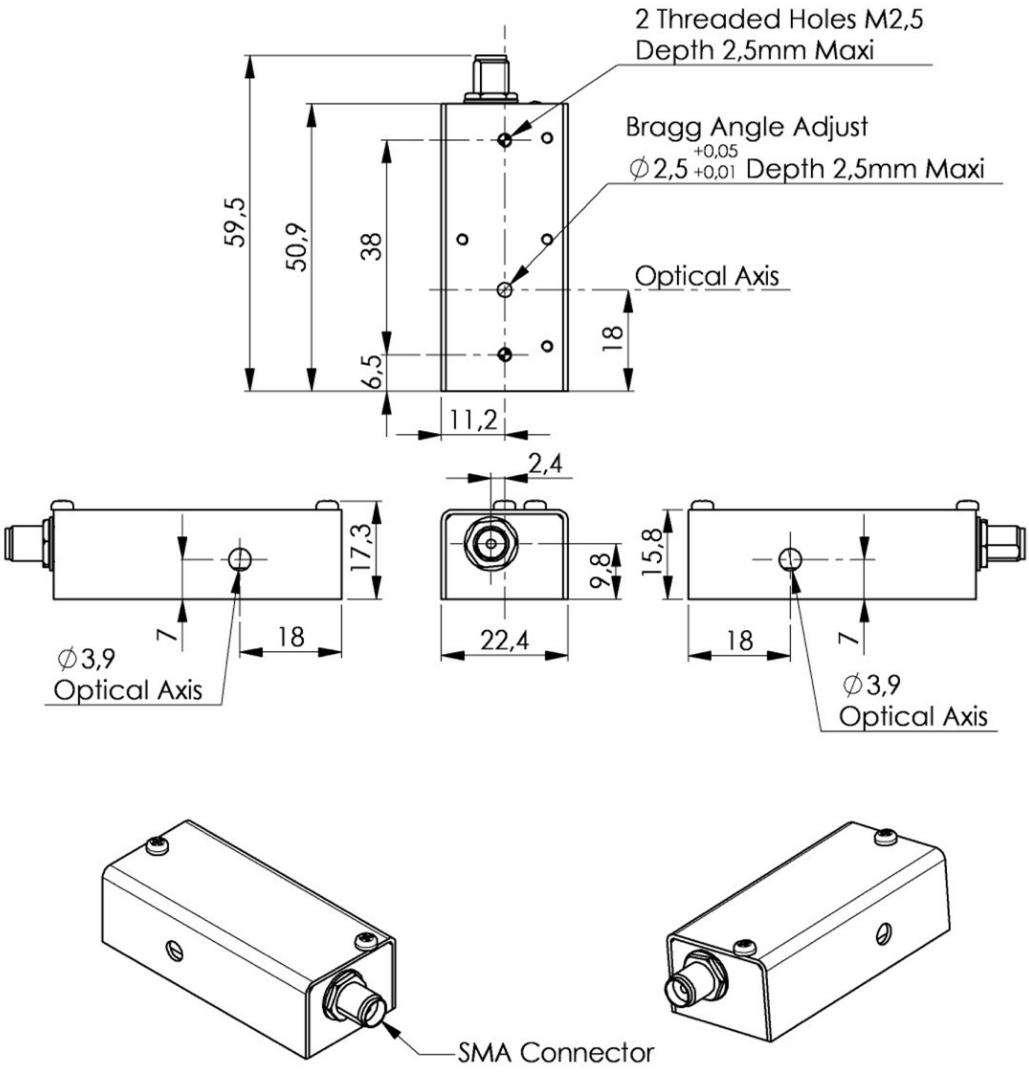


OPTION

Frequency range 180+/-30MHz
Nominal efficiency over 180+/-30MHz > 60%

Outline Drawing

sizes in mm



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