

Faraday Rotators

Devices for precise non-reciprocal rotation of laser polarization

Faraday rotator provides non-reciprocal rotation while maintaining linear polarization. The plane of polarization will be rotated 45° when light transmits through the Faraday rotator in the forward direction and rotated additional 45° in the same relative direction with respect to magnetic field when light travels backwards from the reverse direction. It will effectively reject the light traveling backward.

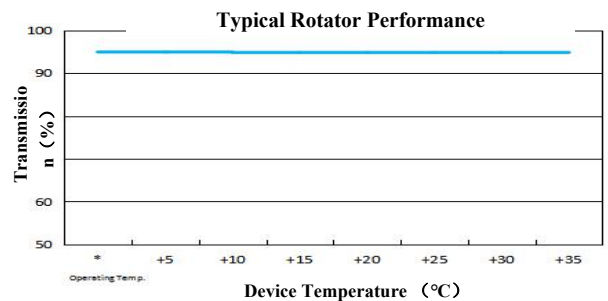
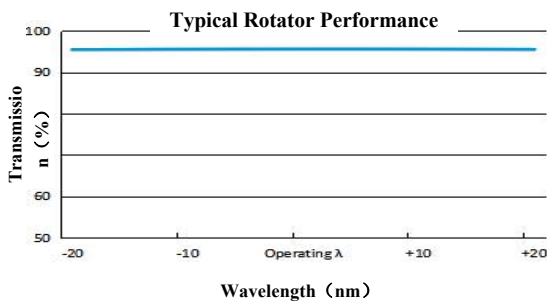
CASTECH is dedicated to grow magneto-optical crystals with high Verdet constant and low absorption coefficient to ensure higher level reliability and less degradation. Combined with our unique high LIDT process technology, we are able to supply customized Faraday rotators for high power applications, up to 500W average power. The working wavelength of our Faraday rotator family ranges from 355nm to 4500nm.



Applications

- Laser sensing system
- Ultrafast laser system
- OCT system
- Laser detection

CASTECH's products are produced independently throughout the entire process and can be customized according to customer needs. Refer to the following list for standard products.



Faraday Rotators Model Number : HPRO-t-p-a-λ-w-h

Type(t)	Power(p)	Aperture(a)	Wavelength (λ)	Waveplate (w)	Housing(h)
FS (Common)	1-500 W	2-20 mm ...	355-4500 nm ...	C (Contained) N (Not Contained)	A01 A02 ...

Typical Specifications

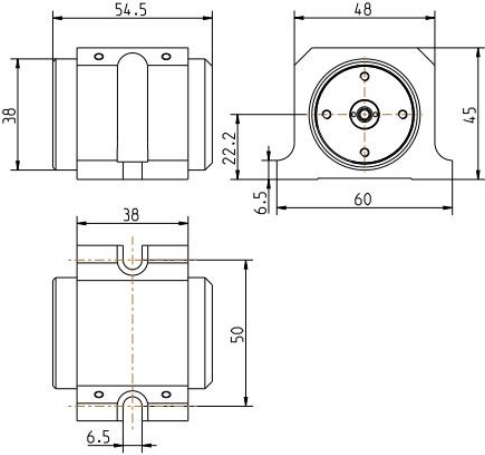
Aperture	Wavelength	Extinction ratio	Rotation angle	Withstand power*	Transmission
2-15 mm	355-1080 nm	>30 dB	45 ± 0.5°	100 W	>98 %
2-10 mm	1310-4500 nm	>30 dB	45 ± 0.5°	100 W	>98 %
15-20 mm	600-1080 nm	>30 dB	45 ± 1°	500 W	>98 %

Operating temperature range: 10°C-30°C. *Indicates the maximum average power products can handle.

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Housing dimensions(mm):

A01 (Aperture ≤ 5 mm)



A15 (Aperture ≤ 12 mm, Water-cool)

