1550 nm 45° Faraday rotator for Aperture of 5mm

Product Description

Idealphotonics' Faraday rotator is a device that achieves precise non-reciprocal rotation of laser polarization. It provides non-reciprocal rotation while maintaining the linear polarization of the beam. In conjunction with a polarizer, it can block the return light in the optical path. Device for precise nonreciprocal rotation of laser polarization Faraday rotators provide non-reciprocal rotation while maintaining the linear polarization of the light beam. When light passes through the Faraday rotator in a certain direction, the polarization state will rotate 45 °; when the light beam passes through the Faraday rotator in the opposite direction, the polarization state will rotate another 45 ° in the same direction relative to the magnetic field. Based on this principle, in combination with a polarizer, the return light in the optical path can be blocked. The Faraday rotator provided by our company is made of magneto-optical crystal with high Verdet constant and low absorption coefficient, which is highly reliable. M2 degradation is small. Combined with high damage threshold technology, the maximum product's average power can reach 500W, with a wavelength range of 355 nm-4500nm

Part Number

R155155NA01

Product features

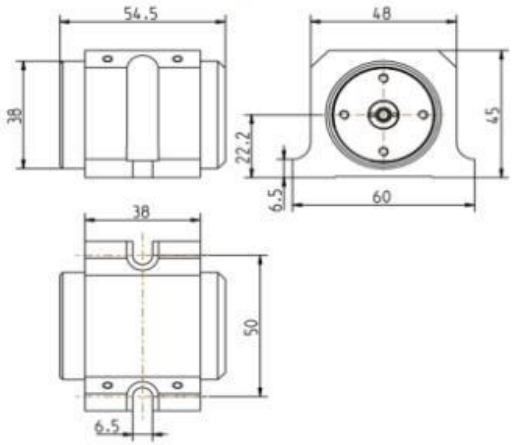
Rotate the polarization plane of incident light by 45 °、 High Verdet constant magneto-optical crystal, low loss、 Used with a polarizer to block the return light in the optical path

Application area

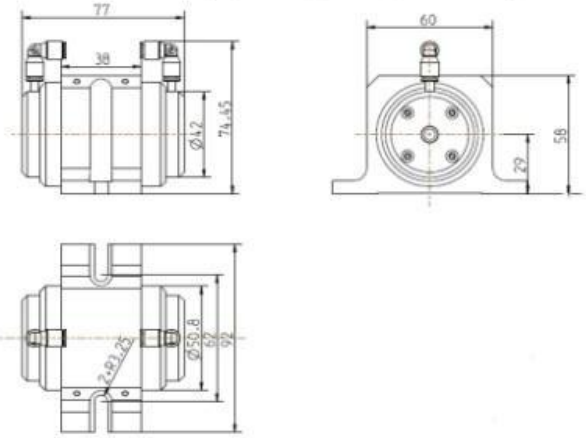
Laser sensor system 、Ultrafast laser systems 、OCT System 、Laser Detection

Dimensional Drawing

A01 (Aperture ≤5 mm)



A15 (Aperture ≤12 mm, Water-cool)



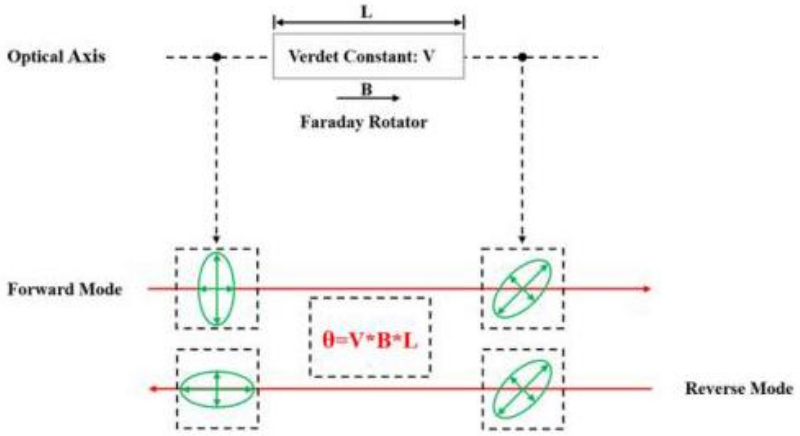
Technical parameters for 1650 nm 45° Faraday rotator

Model No	I1550R10
Wavelength	1550nm±10nm
Transmission	>98%
Rotation Angle	45 ° ±0.5 °
Optical Power (Average)	1W
Clear Aperture	5 mm
Extinction Ratio	>30dB
Operating Temperature	10-30℃
Storage Temperature	-10-60℃

General parameters

Typical indicator reference					
Clear Aperture	Wavelength	Extinction ratio	Rotation Angle	Power handling *	Transmittance
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 %
The operating temperature range of the product is 10℃-30℃. * Indicates the maximum average power that the product can withstand.					

Working Principle Diagram



Faraday Rotator

Transmittance curve: