DK PHOTONICS
Optical Passive Components

# Circulator & Isolator

## 1064nm 3 port Polarization Insensitive Optical Circulator

## Key Features

- Low Insertion Loss
- High Isolation
- Low PDL
- High Stability and Reliability
- Cost Effective

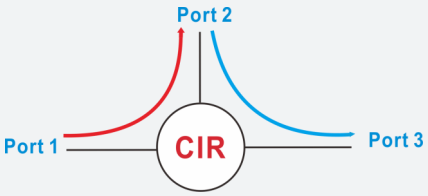
The 3 port Polarization Insensitive Optical Circulator is a compact, high-performance light-wave component that routes incoming signals from Port 1 to Port 2, and incoming Port 2 signals to Port 3. So fiber optic circulators act as signal routers, transmitting light from an input fiber to an output fiber, but directing light that returns along that output fiber to a third port. They perform a similar function as an isolator, protecting the input fiber from return power, but also allowing the rejected light to be employed.

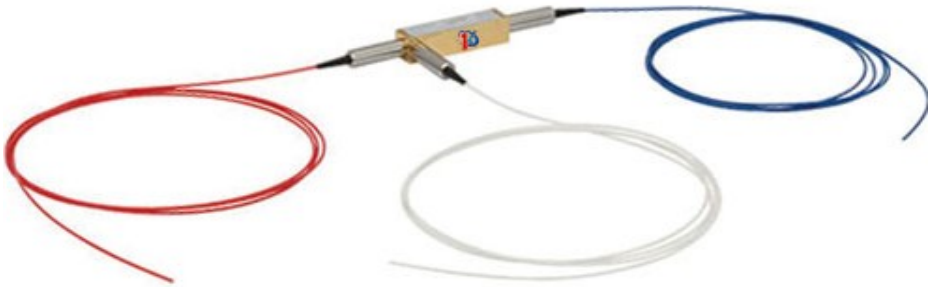
The fiber optic circulator utilizes proprietary designs and metal bonding micro-optics packaging. It's a compact, high-performance component, with high isolation, low insertion loss, low PDL, high stability and reliability. It is widely used in combination with fiber gratings and other reflective components in WDM systems, wavelength add/drop, high speed systems, bi-direction communication systems, dispersion compensation, optical time domain reflectometer (OTDR) measurements.

If you do not see a standard Optical Circulator that meets your needs, we welcome the opportunity to review your desired specification and quote a custom circulator. Requests for custom fiber pigtails, different wavelengths and handling power of operation or other specific needs will be readily addressed.

## Applications

- WDM Systems
- Optical Fiber Amplifier
- Pump Laser Source
- Fiber Optic Sensor
- Test and Measurement
- Instrumentation




## For more Info

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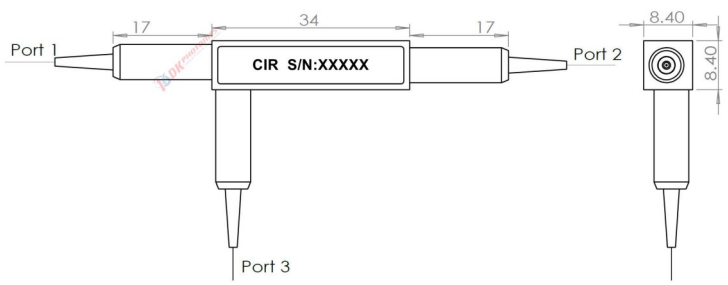
## Package Dimension:




*Due to ongoing design improvements, the package size is subject to change. Please contact DK Photonics for confirmation if you have special requirements.

# 1064nm 3 port Polarization Insensitive Optical Circulator

## Performance Specifications

| Parameter | Unit | Values |
|---|---|---|
| Center Wavelength | nm | 1064 |
| Grade | - | P Grade |
| Operating Wavelength Range | nm | ± 5 |
| Min. Isolation at 23℃ | dB | 22 |
| Typ. Isolation at 23℃ | dB | 28 |
| Typ. Insertion Loss at 23℃ | dB | 1.8 |
| Max. Insertion Loss at 23℃ | dB | 2.2 |
| Min. Cross Talk (Port 1->Port 3) | dB | 45 |
| Max. Polarization Dependent Loss,23℃ | dB | 0.15 |
| Min. Return Loss | dB | 50 |
| Max. Power Handling (total input, continuous wave) | mW | 300 |
| Max. Tensile Load | N | 5 |
| Fiber Type | - | 1060-XP fiber |
| Operating Temperature | ℃ | -5 to +70 |
| Storage Temperature | ℃ | -40 to +85 |
| Package Dimensions | mm | (L)34×(W)8.4×(H)8.4 |

1. Above specifications are for device without connector.

2. For devices with connectors, IL will be 0.3dB higher, RL will be 5dB lower.

3. For this 1064nm Circulator, due to high IL, it is recommended to use average power of <300mW, if you need higher handle power, lower IL, please look for our 1064nm TGG based Circulator.

## Order information

P/N: PIOC-①-②-③-④-⑤-⑥-⑦

When you inquire, please provide the correct P/N number according to our ordering information, and attach the appropriate description would be better. If need any connector, we do not recommend choosing a 250μm bare fiber pigtail.

| ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ |
|---|---|---|---|---|---|---|
| Port | Grade | Operating Wavelength | Power Handling | Fiber Diameter | Fiber Length | Connector |
| 3:3-port | P: P grade | 64:1064nm<br>XX: Others | L: low power | 25:250μm bare fiber<br>90:900μm Loose tube<br>XX: Others | 05:0.5m<br>10:1.0m<br>15:1.5m<br>XX: Others | 00: None<br>FP: FC/PC<br>FA: FC/APC<br>SA: SC/APC<br>LA: LC/APC<br>XX: Others |

**Part Number Example :** PIOC-3-P-64-L-90-10-00

**Description:** 1064nm Polarization Insensitive Optical Circulator, P Grade, 0.3W power handling, 1060-XP fiber, with 0.9mm OD loose tube, 1.0m length fiber pigtails, and no connectors at all ports.

## Ordering Information for Custom Parts

If you need to customize other specifications, please provide detailed description for your requirement.