



1940nm Polarization Maintaining Tap Coupler/ Isolator Hybrid Combination

Key Features

- Compact Size
- Low insertion loss
- High channel Isolation
- High Extinction Ratio
- High stability and reliability

Applications

- Fiber laser
- Fiber amplifier
- Fiber Sensor
- Communications
- Laboratory R&D

DK Photonics' Tap Coupler/Isolator Hybrid Combination is a combination of a wavelength division multiplexer, tap coupler and an isolator in a compact package. All input and output fibers are polarization maintaining. This product has an extremely low insertion loss, a very stable tap-coupling ratio, high isolation, and high return loss. This product offers integrated solution to amplifier application by combining more functions into a very compact package.



For more Info

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Package Dimension



* If Tap port is on the input side (Backward Tap), Tap is both axis working. If Tap port is on the Output side (Forward Tap), it is fast axis blocked, slow axis working. The default tap is on the input side.

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



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Performance Specifications

| Parameter | Unit | Values | |
|---|------|--|-----------------------------|
| Stage of Isolator | - | Single Stage | Dual Stage |
| Signal Central Wavelength (λ_c) | nm | 1940 | |
| Max. Signal Excess Loss, λ_c , @ 23°C | dB | 1.4($\lambda_c \pm 20$ nm) | 1.7($\lambda_c \pm 20$ nm) |
| Min. Signal Isolation, λ_c , @ 23°C(Isolator) | dB | 16($\lambda_c \pm 50$ nm) | 35($\lambda_c \pm 50$ nm) |
| Tap Ratio | % | 1~50 | |
| Tap Channel Typ. Loss | dB | 1%(19.0~21), 2%(16.2 ~ 19.0), 5%(12.2 ~ 15.0) | |
| Min. Extinction Ratio @ 23°C | dB | Type B: 20, Type F: 22 | |
| Min. Return Loss | dB | 50 | |
| Max. Power Handling (CW) | W | 0.5, 1, 2, 5, 10 | |
| Max. Peak Power for Pulse | kW | 1, 5, 10 | |
| Max. Tensile Load | N | 5 | |
| Fiber Type | - | SMF-28e, SM1950 or PM1550 or PM1950 fiber for Tap port, PM1550 or PM1950 fiber for Input & output port | |
| Operating Temperature | °C | -5 to +70 | |
| Storage Temperature | °C | -40 to +85 | |
| Package Dimensions | mm | $\Phi 5.5 \times L35(<5W)$, $60 \times 12 \times 8(>5W)$ | |

- Above specifications are for device without connector.
- For devices with connectors, IL will be 0.3dB higher, RL will be 5dB lower and ER will be 2dB lower. The default connector key is aligned to slow axis. Power transmits through the connector less than 2W.
- Type B: Both axis working, Type F: Fast axis blocked, the default is Type B if without request.
- If there is pulse application, please be sure to inform us of pulse energy and peak power.
- If you have questions about the axial direction, please contact us.

Order information P/N:PMTIH-S/D-①-②-③-④-⑤-⑥-⑦-⑧-⑨ (S: Single Stage, D: Dual Stage)

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 250 μ m bare fiber pigtail.

| ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ | ⑧ | ⑨ |
|-------------|-------------------------------------|--|-----------------------------------|--|----------------|---|---|---|
| Wavelength | Tap Ratio | Optical Power | Tap Configuration | Axis alignment | Fiber type | Pigtail Diameter | Fiber Length | Connector |
| 1940:1940nm | 01:1% Tap 02:2% Tap 05:5% Tap | L: <0.5W 1:1W 3:3W 5:5W 10:10W | F: Forward Tap B: Backward Tap | F: Fast axis blocked, Slow axis working B: Both of axis working | XX: fiber name | 25:250 μ m bare fiber 90:900 μ m Loose Fiber XX: Others | 08:0.8m 10:1.0m 15:1.5m XX: Others | 00: None FP: FC/PC FA: FC/APC XX: Others |

Part Number Example: PMTIH-S-1940-01-1-F-P19-90-10-FA

Description: 1940nm Polarization Maintaining Tap Coupler/Isolator Hybrid Combination, Single Stage, , 1% tap, 1W, and Fast axis blocked, Slow axis working, PM1950 fiber, with 0.9mm OD loose tube, 1.0m fiber length, and FC/APC connectors at all ports.

Ordering Information for Custom Parts

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