DK PHOTONICS
Optical Passive Components

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

For more Info

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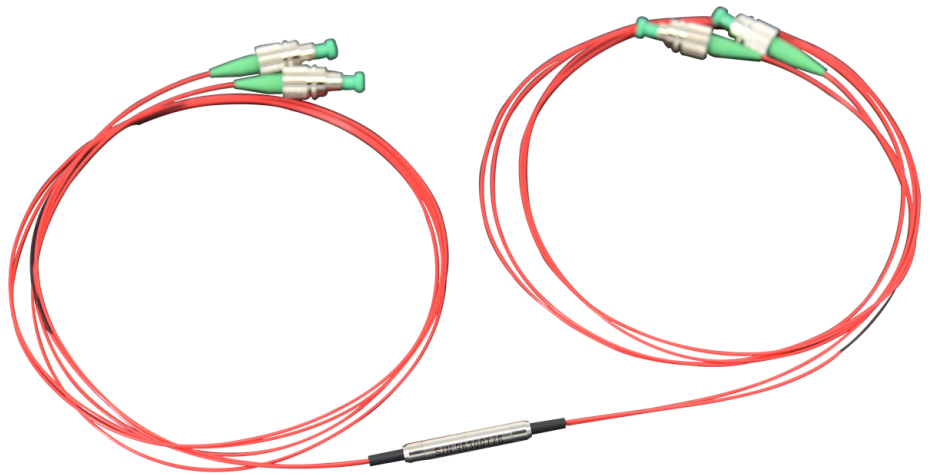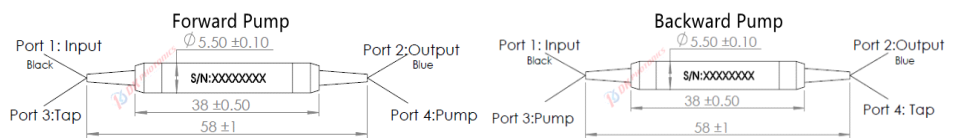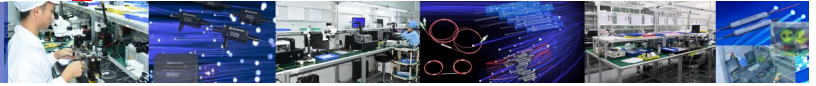Dahe Road, Longhua Dis.,

Shenzhen, China 518109

980/1550nm Polarization Maintaining WDM/Tap Coupler/Isolator Hybrid Combination

DK Photonics' WDM/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.

Package Dimension

Forward Pump

Port 1: Input
Black

Ø 5.50 ±0.10

S/N:XXXXXXXX

Port 2:Output
Blue

38 ±0.50

58 ±1

Port 3:Tap

Port 4:Pump

Backward Pump

Port 1: Input
Black

Ø 5.50 ±0.10

S/N:XXXXXXXX

Port 2:Output
Blue

38 ±0.50

58 ±1

Port 3:Pump

Port 4: Tap

∗ For forward pump, Tap is both axis working. For backward pump, Tap is fast axis blocked, slow axis

*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	1550	
Signal Wavelength Range	nm	1528~1565(C Band), 1570~1605(L Band)	
Max. Signal Excess Loss, λ c, @ 23℃	nm	1.3	1.5
Min. Signal Isolation, λ c, @ 23℃(Isolator)	nm	31	45
Tap Ratio	%	1~50	
Tap Channel Typ. Loss	dB	1%(19.0~21), 2%(16.2 ~ 19.2), 5%(12.2 ~ 15.2)	
Min. Isolation (WDM) Signal Channel	dB	30	
Min. Isolation (WDM) Pump Channel	dB	12	
Pump Wavelength Range	nm	960~990	
Max. Insertion Loss (Pump to Common)	dB	0.6	
Min. Extinction Ratio @ 23℃	dB	20	
Min. Return Loss	dB	50	
Max. Power Handling (CW)	W	Type B: 20, Type F: 22	
Max. Peak Power for Pulse	kW	1, 5,10	
Max. Tensile Load	N	≤5	
Fiber Type	-	PM980-XP or Specified for Pump port PM1550-XP or Specified for Common Signal and tap port	
Operating Temperature	℃	-5 to +70	
Storage Temperature	℃	-40 to +85	
Package Dimensions	mm	Ø5.5 x L38	

1. Above specifications are for device without connector.
2. 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.
3. Type B: Both axis working, Type F: Fast axis blocked, the default is Type B if without request.
4. If there is pulse application, please be sure to inform us of pulse energy and peak power.
5. If you have questions about the axial direction, please contact us.

Order information   P/N:PMWTIH-①-②-③-④-⑤-⑥-⑦-⑧-⑨

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	⑧	⑨
Wavelength	Stage of Isolator	Optical Power	Tap Ratio	Pump Configuration	Axis alignment (Only for signal)	Pigtail Diameter	Fiber Length	Connector
59:1550 signal/980 pump	S: Single Stage D: Dual Stage	L: <0.5W 1:1W 3:3W 5:5W 10:10W	01:1% Tap 02:2% Tap 05:5% Tap	F: Forward Pump B: Backward Pump	F: Fast axis blocked, Slow axis working B: Both of axis working	25:250µm bare fiber 90:900µm Loose Fiber XX: Others	05:0.5m 10:1.0m 15:1.5m XX: Others	00: None FP: FC/PC FA: FC/APC XX: Others

Part Number Example: PMWTIH-59-S-L-01-B-F-90-10-FA
Description: Polarization Maintaining WDM/Tap Coupler/Isolator Hybrid Combination ,1550nm signal/980nm pump, single stage isolator, 1% tap, backward pump, fast axis blocked, slow axis working, 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.