Fiber Optic Coupler

Fiber optic couplers are optical devices that connect three or more fiber ends, dividing one input between two or more outputs, or combining two or more inputs into one output.

Fiber optic coupler is different from WDM. **WDM** can divide the different wavelength fiber light into different channels. Fiber optic couplers divide the light power and send it to different channel.

Single window fiber optic coupler is with one working wavelength. Dual window fiber optic coupler is with two working wavelength. For Single mode fiber, the term means that the fiber is optimized for 1310 nm and 1550 nm; For Multimode fiber, the term means that the fiber is optimized for 850 nm and 1310 nm.

Choices for fiber optic coupler type include Single window fiber optic coupler, Dual window fiber optic coupler, Wide band fiber optic coupler.

**Single window fiber Optic couplers** (1310 +/-10nm or 1510 +/-10nm) are designed for a single wavelength with a narrow wavelength window.
  1. Standard Singlemode coupler
  2. Singlemode Tree coupler
  3. Unitary 1(3) x 3 coupler

**Dual window fiber Optic couplers** (1310 +/-40nm and 1510+/-40nm) are designed for two wavelengths with a wide wavelength window for each.
  1. Dual window wideband coupler
  2. Dual window Tree coupler
  3. Dual window Star coupler
  4. Unitary 1X3 and 1X4 Dual Window Wideband

**Wideband fiber optic couplers** (1310 +/-40nm or 1510+/40nm; 850nm +/-40nm or 1310nm+/-40nm) are designed for a single wavelength with a wider wavelength window.
  1. Singlemode Wideband coupler
  2. Unitary 1x3 wideband coupler (1310+/-30nm or 1510+/-30nm)
  3. Wideband Tree coupler
  4. Standard Multimode coupler

LFO Fiber Optic Couplers and **Splitters** are available in a variety of styles, sizes, port configurations, couple (split) values, and wavelength specifications allowing a high degree of flexibility in tailoring the product to suit your precise requirements and application.
**LFO Fiber Optic Coupler Series**

**Standard Singlemode Coupler**
Standard Singlemode Couplers (Single window Standard Singlemode Couplers) are bi-directional multi-port devices which combine or separate optical signals over 1310nm or 1550nm wavelength windows. They are manufactured using the fused bionics taper (FBT) process ensure consistency in quality, reliability and high performance in a wide range of applications.

**Standard Multimode Coupler**
Standard Multimode Couplers are fabricated from graded index fibers with core diameters of 50um or 62.5um. Standard multimode couplers are commonly used in short distance communications with LED sources operating at 1310nm or 850nm. They can be widely used in Local Access Networks (LAN), Passive Optical Networks (PON), Optical Communications, Testing Instrument and Optical Fiber Sensor.

**Singlemode Wideband Coupler**
Singlemode Wideband Couplers (Single window Singlemode Wideband Couplers) have 80nm bandwidth, compared to 20nm of standard singlemode couplers. They are working at center wavelength other than 1310nm or 1550nm can also be provided. They are manufactured using the fused bionics taper (FBT) process ensure consistency in quality, reliability and high performance in a wide range of applications.

**Dual Window Wideband coupler**
Dual Window Wideband couplers (Dual Window Wideband Single mode couplers) are bi-directional passive devices which split or combine different optical signals over 1310nm and 1550nm wavelength windows. They are manufactured using the fused bionics taper (FBT) process ensure consistency in quality, reliability and high performance in a wide range of applications.

**Singlemode Tree coupler**
Singlemode Tree Fiber Optic Couplers (Single Window Singlemode Tree couplers) are bi-directional high-port count units for splitting or combining optical signals over 1310nm or 1550nm wavelength windows. They are fused bionics tapered couplers cascaded in series to achieve the desired port configuration. These couplers are used to branch 1(2) input fibers into N (3, 4, 8,...16 ..) output fibers with minimum loss.

**Wideband Tree coupler**
Wideband Tree Fiber Optic couplers (Single Window wideband Tree couplers) have 80nm bandwidth, compared to 20nm of standard singlemode couplers. They are working at 1310nm or 1550nm wavelength windows. They are fused bionics tapered couplers cascaded in series to achieve the desired port configuration. These couplers are used to branch 1(2) input fibers into N (3, 4, 8,...16 ..) output fibers with minimum loss.
**Dual Window Tree Coupler**

Dual Window Tree Couplers (Dual Window Singlemode Tree couplers) are bi-directional high-port count units for splitting or combining different optical signals over 1310nm and 1550nm wavelength windows. These Tree couplers are fused bionics tapered couplers cascaded in series to achieve the desired port configuration. They are used to branch 1(2) input fibers into N (3, 4, 8,...16..) output fibers with minimum loss.

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**Dual Window Star Coupler**

Dual Window Star Couplers (Dual Window Singlemode Star Couplers) are bi-directional high-port count units for splitting or combining different optical signals over 1310nm and 1550nm wavelength windows. These Star Couplers are fused bionics tapered couplers cascaded in series to achieve the desired port configuration. They are used to branch N (4, 8...16..) input fibers into N (4, 8...16..) output fibers with minimum loss.

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**Unitary 1X3 and 3X3 Coupler**

Unitary 1X3 and 3X3 Couplers are multi-port components based on single fusion of multi fibers using advanced Fused Bionics Taper Technology. They have wide operation wavelength window, including 1310nm or 1550nm. These Couplers have compact package size, low insertion loss, wide bandwidth and high reliability in performance.

---

**Unitary 1X3 Wideband Coupler**

Unitary 1X3 Wideband Couplers are multi-port components based on single fusion of multi fibers using advanced Fused Bionics Taper Technology. They have 60nm bandwidth, compared to 20nm of Unitary 1X3 Couplers. They have wide operation wavelength window, including 1310nm or 1550nm. These Couplers have compact package size, low insertion loss, wide bandwidth and high reliability in performance.

---

**Unitary 1X3 and 1X4 Dual Window Wideband**

Unitary 1X3 and 1X4 Dual Window Wideband are multi-port components based on single fusion of multi fibers using advanced Fused Bionics Taper Technology. They have wide operation wavelength window, including 1310nm and 1550nm. These Couplers have compact package size, low insertion loss, wide bandwidth and high reliability in performance.
Standard Single Mode Coupler

Features

- Low insertion Loss
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments
- Point to point system
- WAN

Specifications

<table>
<thead>
<tr>
<th>ITEM</th>
<th>VALUE</th>
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<td>Operation Wavelength, nm</td>
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<td>Grade</td>
<td>Supper(s)</td>
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<td>Port Configuration</td>
<td>1×2 or 2×2</td>
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<tr>
<td>Coupling Ratio</td>
<td>1 : 99 to 50 : 50, (50 : 50 standard)</td>
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<tr>
<td>Insertion Loss, dB</td>
<td>Refer to Coupling ratio vs. insertion Loss chart</td>
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<tr>
<td>Directivity, dB</td>
<td>≥50(1×2), ≥60(2×2)</td>
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<tr>
<td>Reflectance, dB</td>
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<td>Operation Temperature, ℃</td>
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<td>Storage temperature, ℃</td>
<td>-55℃ ~ 85℃</td>
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Package Options (for different pigtail)

1. Coated fiber (250 μm) T5, MA, MB, M3
2. Loose tube (900 μm) TA, MA, MB, M3
3. PVC cable (3.0mm) A1, MA, MB, M3

Note: (*) -20℃ ~ +70℃ for PVC cable
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<thead>
<tr>
<th>Coupling Ratio (%)</th>
<th>Insertion Loss(dB)</th>
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<td>40/60</td>
<td>4.4/2.5</td>
<td>4.7/2.8</td>
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<td>30/70</td>
<td>5.7/1.8</td>
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<td>20/80</td>
<td>7.5/1.2</td>
<td>8.0/1.4</td>
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<td>10/90</td>
<td>10.8/0.7</td>
<td>11.5/0.9</td>
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<td>5/95</td>
<td>14.6/0.4</td>
<td>15.5/0.6</td>
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<tr>
<td>1/99</td>
<td>21.6/0.2</td>
<td>22.0/0.3</td>
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</table>
Standard Multimode Coupler

Features

- Low insertion Loss
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- Video transmission
- Fiber optic sensing
- Testing instruments

Specifications

<table>
<thead>
<tr>
<th>ITEM</th>
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<td>Directivity, dB</td>
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<td>Reflectance, dB</td>
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<tr>
<td>Storage temperature, °C</td>
<td>-55°C ~85°C</td>
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</table>

Package Options (for different pigtail)

1. Coated fiber (250μm) T5, MA, MB, M3
2. Loose tube (900μm) TA, MA, MB, M3
3. PVC cable (3.0mm) A1, MA, MB, M3

Note: (*) -20°C ~ +70°C for PVC cable.
<table>
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<tr>
<th>Coupling Ratio (%)</th>
<th>Insertion Loss(dB)</th>
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<th></th>
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<tr>
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<td>Super Grade(S)</td>
<td>High Grade(H)</td>
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</tr>
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<td>50/50</td>
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<td>4.3</td>
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<td>40/60</td>
<td>4.9/3.0</td>
<td>5.4/3.5</td>
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<td>30/70</td>
<td>6.2/2.3</td>
<td>6.7/2.7</td>
<td></td>
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<tr>
<td>20/80</td>
<td>8.0/1.8</td>
<td>8.7/2.1</td>
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<tr>
<td>10/90</td>
<td>11.3/1.25</td>
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<td>5/95</td>
<td>14.9/0.9</td>
<td>16.2/1.3</td>
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<tr>
<td>1/99</td>
<td>22.1/0.7</td>
<td>22.7/1.0</td>
<td></td>
</tr>
</tbody>
</table>

Standard Multimode Coupler   Ordering information

Connector (for both ends)
- 11-ST
- 21-FC/PC
- 31-SC/PC
- 41-LC/PC
- 51-MU/PC
- 00-None
- XX-Others

Wavelength
- 31-1310 nm
- 30-1300 nm
- 85-850 nm

Pigtail length (for each port)
- 050- 50cm
- 100- 100cm
- 150- 150cm
- 200- 200cm
- 000- Modulized
- XXX-Others

Coupling ratio
- 00 – 50 please specify

Port number
- 12- 1 x 2
- 22- 2 x 2

Fiber type
- 2- 50/125um
- 3- 62.5/125um
- X-Others

Package option
- 01-T5 with coated fiber
- 02-MA/MB/M3 with coated fiber
- 11-TA with loose tube cable
- 12-MA/MB/M3 with loose tube cable
- 21-A1 with PVC cable(2.0mm)
- 31-A1 with PVC cable(3.0mm)
- 32-MA/MB/M3 with PVC cable(3.0mm)
- 33-MA/MB/M3 with adapters
- XX-Others

Grade
- S- Super
- H- High

LEAD Fiber Optics Co., Ltd.
TEL: 886-2-8672-2371
FAX: 886-2-8672-3275
www.twfiberoptic.com
sales@fiberoptic.com.tw
3F., No.135, Dasyue Rd., Sansia Township, Taipei County 23741, Taiwan (R.O.C.)
Singlemode Wideband Coupler

Features
- Low insertion Loss
- Customized Package available
- Environmentally stable.

Applications
- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments
- Point to point system
- WAN

Specifications

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<tr>
<th>ITEM</th>
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<td>Polarization Stability ,dB</td>
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<tr>
<td>Port Configuration</td>
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<tr>
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<tr>
<td>Directivity ,dB</td>
<td>≥50(1×2), ≥60(2×2)</td>
</tr>
<tr>
<td>Reflectance ,dB</td>
<td>≥55</td>
</tr>
<tr>
<td>Operation Temperature, °C</td>
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<tr>
<td>Storage temperature, °C</td>
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<tr>
<td>Package Options (for different pigtails)</td>
<td>1.coated fiber (250µm) or T5,MA,MB,M3</td>
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<tr>
<td></td>
<td>2.Loose tube (900µm) or TA,MA,MB,M3</td>
</tr>
<tr>
<td></td>
<td>3.PVC cable (3.0mm) or A1,MA,MB,M3</td>
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</table>

Note: (*) -20°C ~ +70°C for PVC cable
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<th>Coupling Ratio (%)</th>
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<td>Super Grade(S)</td>
<td>High Grade(H)</td>
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<td>50/50</td>
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<td>4.25/3.25</td>
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<td>18.4/0.5</td>
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<tr>
<td>1/99</td>
<td>21.6/0.3</td>
<td>21.6/0.4</td>
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</tbody>
</table>
Singlemode Wideband Coupler  

**Connector (for both ends)**
- 11-ST
- 21-FC/PC
- 22-FC/APC
- 31-SC/PC
- 32-SC/APC
- 41-LC/PC
- 51-MU/PC
- 00-None
- XX-Others

**Wavelength**
- 31-1310 nm
- 35-1550 nm

**Pigtail length (for each port)**
- 050- 50cm
- 100- 100cm
- 150- 150cm
- 200- 200cm
- 000- Modulized
- XXX- Others

**Coupling ratio**
- 00 ~ 50 please specify

**Package option**
- 01-Corning SMF-28e
- 02-MA/MB/M3 with coated fiber
- 11-TA with loose tube cable
- 12-MA/MB/M3 with loose tube cable
- 21-A1 with PVC cable(2.0mm)
- 31-A1 with PVC cable(3.0mm)
- 32-MA/MB/M3 with PVC cable(3.0mm)
- 33-MA/MB/M3 with adapters
- XX-Others

**Port number**
- 12- 1 x 2
- 22- 2 x 2

**Grade**
- S- Super
- H- High
Dual Window Wideband Coupler

Features

- Low insertion Loss
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments

Specifications

<table>
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<tr>
<th>ITEM</th>
<th>VALUE</th>
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<tr>
<td>Polarization Stability ,dB</td>
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<td>Port Configuration</td>
<td>1×2 or 2×2</td>
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<td>Insertion Loss ,dB</td>
<td>Refer to Coupling ratio vs. insertion Loss chart</td>
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<td>Directivity ,dB</td>
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<td>Reflectance ,dB</td>
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<td>Package Options</td>
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<td>(for different pigtail)</td>
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<td>1.coated fiber (250μm)</td>
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<tr>
<td>3.PVC cable (3.0mm)</td>
<td>A1,MA,MB,M3</td>
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Note: (*) -20 ºC ~ +70 ºC for PVC cable

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<td></td>
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**Dual Window Wideband Coupler Ordering Information**

- **CO-DW**: XXX/XX
- **Wavelength**: 35-1310/1550 nm
- **Connector (for both ends)**
  - 11-ST
  - 21-FC/PC
  - 22-FC/APC
  - 31-SC/PC
  - 32-SC/APC
  - 41-LC/PC
  - 51-MU/PC
  - 00-None
  - XX-Others
- **Pigtail length (for each port)**
  - 050- 50 cm
  - 100- 100 cm
  - 150- 150 cm
  - 200- 200 cm
  - 000- Modulized
  - XXX-Others
- **Port number**
  - 12- 1 x 2
  - 22- 2 x 2
- **Grade**
  - S- Super
  - H- High
- **Coupling ratio**
  - 00 ~ 50 please specify
- **Package option (for both ends)**
  - 01-T5 with coated fiber
  - 02-MA/MB/M3 with coated fiber
  - 11-TA with loose tube cable
  - 12-MA/MB/M3 with loose tube cable
  - 21-A1 with PVC cable(2.0mm)
  - 31-A1 with PVC cable(3.0mm)
  - 32-MA/MB/M3 with PVC cable(3.0mm)
  - 33-MA/MB/M3 with adapters
  - XX-Others
Singlemode Tree Coupler

Features

- Low insertion Loss
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments

Specifications

<table>
<thead>
<tr>
<th>ITEM</th>
<th>VALUE</th>
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<tbody>
<tr>
<td>Port Configuration</td>
<td>1(2)×4</td>
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<tr>
<td>Operation Wavelength, nm</td>
<td>1310nm±10 or 1550nm±10</td>
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<tr>
<td>Grade</td>
<td>H</td>
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<tr>
<td>Insertion Loss, dB</td>
<td>6.6</td>
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<tr>
<td>Uniformity, dB</td>
<td>0.7</td>
</tr>
<tr>
<td>Operation Temperature, °C</td>
<td>-40°C ~ 85°C (*)</td>
</tr>
<tr>
<td>Storage temperature, °C</td>
<td>-55°C ~ 85°C</td>
</tr>
</tbody>
</table>

Package Options (for different pigtail)

1. coated fiber (250 μm)  A2, MA, MB, M3  A3, MA, MB, M3  MA, MB, M1  M1, M2
2. Loose tube (900 μm)  A2, MA, MB, M3  A3, MA, MB, M3  MA, MB, M1  M1, M2
3. PVC cable (3.0mm)  A2, MA, MB, M3  A3, MA, MB, M3  MA, MB, M1  M1, M2

Note: (*) -20°C ~ +70°C for PVC cable
## Singlemode Tree Coupler Ordering Information

<table>
<thead>
<tr>
<th>CO-ST</th>
<th>XX/XX</th>
<th>XX</th>
<th>X</th>
<th>XX</th>
<th>XX</th>
<th>XXX(cm)</th>
</tr>
</thead>
</table>

### Connector (for both ends)
- 11-ST
- 21-PC/PC
- 22-FC/APC
- 31-SC/PC
- 32-SC/APC
- 41-LC/PC
- 51-MU/PC
- 00-None
- XX-Others

### Pigtail length (for each port)
- 050- 50cm
- 100- 100cm
- 150- 150cm
- 200- 200cm
- 000- Modulized
- XXX-Others

### Wavelength
- 31-1310 nm
- 55-1550 nm
- XX-Others

### Package option
- 01-A2/A3 with coated fiber
- 02-MA/MB/M1/M2/M3 with coated fiber
- 11-A2/A3 with loose tube cable
- 12-MA/MB/M1/M2/M3 with loose tube cable
- 21-A2/A3 with PVC cable(2.0mm)
- 31-A2/A3 with PVC cable(3.0mm)
- 32-MA/MB/M1/M2/M3 with PVC cable(3.0mm)
- 33-MA/MB/M1/M2/M3 with adapters
- XX-Others

### Input port No.
- 01- 1
- 02- 2

### Output port No.
Please specify desired port number in two digits

### Fiber type
- A- Corning SMF-28e
- D- Dispersion-shift fiber
- X-Others

### Grade
- A- Average
- H- High

---

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[sales@fiberoptic.com.tw](mailto:sales@fiberoptic.com.tw)  
3F., No.135, Dasyue Rd., Sansia Township, Taipei County 23741, Taiwan (R.O.C.)
Wideband Tree Coupler

Features

- Low insertion Loss
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments

Specifications

<table>
<thead>
<tr>
<th>ITEM</th>
<th>VALUE</th>
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<tbody>
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<td>Port Configuration</td>
<td>1(2)×4 1(2)×8 1(2)×16 1(2)×32</td>
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<tr>
<td>Operation Wavelength, nm</td>
<td>1310nm±40 or 1550nm±40</td>
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<tr>
<td>Grade</td>
<td>H A H A H A H A</td>
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<tr>
<td>Insertion Loss ,dB</td>
<td>7.0 7.4 10.6 11.5 14.0 15.3 18 19</td>
</tr>
<tr>
<td>Uniformity, dB</td>
<td>0.8 1.2 1.4 3.0 2.4 3.8 2.6 5.0</td>
</tr>
<tr>
<td>Operation Temperature, ℃</td>
<td>-40℃ ~ 85℃ (*)</td>
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<tr>
<td>Storage temperature, ℃</td>
<td>-55℃ ~ 85℃</td>
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<tr>
<td>Package Options (for different pigtail)</td>
<td>A2,MA,MB,M3 A3,MA,MB,M3 MA,MB,M1 M1,M2</td>
</tr>
</tbody>
</table>

Note: (*) -20℃ ~ +70℃ for PVC cable.
Wideband Tree Coupler Ordering information

**Connector (for both ends)**
- 11-ST
- 21-FC/PC
- 22-FC/APC
- 31-SC/PC
- 32-SC/APC
- 41-LC/PC
- 51-MU/PC
- 00-None
- XX-Others

**Wavelength**
- 31-1310 nm
- 55-1550 nm
- X-Others

**Pigtail length (for each port)**
- 050- 50cm
- 100- 100cm
- 150- 150cm
- 200- 200cm
- 000- Modulized
- XXX-Others

**Package option**
- 01-A2/A3 with coated fiber
- 02-MA/MB/M1/M2/M3 with coated fiber
- 11-A2/A3 with loose tube cable
- 12-MA/MB/M1/M2/M3 with loose tube cable
- 21-A2/A3 with PVC cable(2.0mm)
- 31-A2/A3 with PVC cable(3.0mm)
- 32-MA/MB/M1/M2/M3 with PVC cable(3.0mm)
- 33-MA/MB/M1/M2/M3 with adapters
- XX-Others

**Output port No.**
Please specify desired port number in two digits

**Input port No.**
Please specify desired port number in two digits

**Fiber type**
- A- Corning SMF-28e
- D- Dispersion-shift fiber
- X-Others

**Grade**
- A- Average
- H- High

**Pigtail length (for each port)**
- 050- 50cm
- 100- 100cm
- 150- 150cm
- 200- 200cm
- 000- Modulized
- XXX-Others

**Package option**
- 01-A2/A3 with coated fiber
- 02-MA/MB/M1/M2/M3 with coated fiber
- 11-A2/A3 with loose tube cable
- 12-MA/MB/M1/M2/M3 with loose tube cable
- 21-A2/A3 with PVC cable(2.0mm)
- 31-A2/A3 with PVC cable(3.0mm)
- 32-MA/MB/M1/M2/M3 with PVC cable(3.0mm)
- 33-MA/MB/M1/M2/M3 with adapters
- XX-Others

**Output port No.**
Please specify desired port number in two digits

**Input port No.**
Please specify desired port number in two digits

**Fiber type**
- A- Corning SMF-28e
- D- Dispersion-shift fiber
- X-Others

**Grade**
- A- Average
- H- High

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## Dual Window Tree Coupler

### Features
- Low insertion loss
- Customized Package available
- Environmentally stable.

### Applications
- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments

## Specifications

<table>
<thead>
<tr>
<th>ITEM</th>
<th>VALUE</th>
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<td>Port Configuration</td>
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<td>Operation Wavelength, nm</td>
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<tr>
<td>Grade</td>
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<td>Insertion Loss, dB</td>
<td>7.2 7.6 11.0 11.7 14.5 15.5 18.5 20.0</td>
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<tr>
<td>Uniformity, dB</td>
<td>0.9 1.4 2.1 3.2 2.6 4.0 3.0 6.0</td>
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<td>Operation Temperature, °C</td>
<td>-40°C ~ 85°C (*)</td>
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<tr>
<td>Storage temperature, °C</td>
<td>-55°C ~ 85°C</td>
</tr>
</tbody>
</table>

### Package Options (for different pigtail)

- 1.coated fiber (250 μm) A2,MA,MB,M3 A3,MA,MB,M3 MA,MB,M1 M1,M2
- 2.Loose tube (900 μm) A2,MA,MB,M3 A3,MA,MB,M3 MA,MB,M1 M1,M2
- 3.PVC cable (3.0mm) A2,MA,MB,M3 A3,MA,MB,M3 MA,MB,M1 M1,M2

Note: (*) -20°C ~ +70°C for PVC cable

### Dual Window Tree Coupler Ordering Information

- **CO-DT**
  - **XX/XX**
  - **-35**
  - **-XX**
  - **X**
  - **XX**
  - **XX**
  - **XXX(cm)**

#### Connector (for both ends)
- 11-ST
- 21-FC/PC
- 22-FC/APC
- 31-SC/PC
- 32-SC/APC
- 41-LC/PC
- 51-MU/PC
- 00-None
- XX-Others

#### Pigtail length (for each port)
- 050- 50cm
- 100- 100cm
- 150- 150cm
- 200- 200cm
- 000- Modulized
- XXX-Others

#### Package option
- 01-A2/A3 with coated fiber
- 02-MA/MB/M1/M2/M3 with coated fiber
- 11-A2/A3 with loose tube cable
- 12-MA/MB/M1/M2/M3 with loose tube cable
- 21-A2/A3 with PVC cable (2.0mm)
- 31-A2/A3 with PVC cable (3.0mm)
- 32-MA/MB/M1/M2/M3 with PVC cable (3.0mm)
- 33-MA/MB/M1/M2/M3 with adapters
- XX-Others

#### Pigtail length (for each port)
- 050- 50cm
- 100- 100cm
- 150- 150cm
- 200- 200cm
- 000- Modulized
- XXX-Others

#### Wavelength
- 35-1310/1550 nm

#### Output port No.
- Please specify desired port number in two digits

#### Input port No.
- 03- 1
- 04- 2

#### Grade
- A- Average
- H- High

---

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3F., No.135, Dasyue Rd., Sansia Township, Taipei County 23741, Taiwan (R.O.C.)
## Dual Window Star Coupler

### Features
- Low insertion Loss
- Customized Package available
- Environmentally stable.

### Applications
- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments

### Specifications

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<td>A</td>
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<tr>
<td></td>
<td>H</td>
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<td></td>
<td>A</td>
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<td>3.2</td>
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<td>6.0</td>
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<tr>
<td>Operation Temperature, °C</td>
<td>-40°C ~ 85°C  (*)</td>
</tr>
<tr>
<td>Storage temperature, °C</td>
<td>-55°C ~ 85°C</td>
</tr>
</tbody>
</table>

### Package Options (for different pigtails)

| 1.coated fiber (250μm)     | A3,MA,MB,M3   |
|                            | MB,M1,M2     |
|                            | M1,M2        |
|                            | M2           |
| 2.Loose tube (900μm)       | A3,MA,MB,M3  |
|                            | MB,M1,M2     |
|                            | M1,M2        |
|                            | M2           |
| 3.PVC cable (3.0mm)        | A3,MB,M3     |
|                            | MB,M1,M2     |
|                            | M1,M2        |
|                            | M2           |

Note: (*) -20°C ~ +70°C for PVC cable
Dual Window Star Coupler Ordering information

**CO-DS**  XX/XX  -35-  XX  X  XX  XX  XXX(cm)

**Connector** (for both ends)
- 11-ST
- 21-FC/PC
- 22-FC/APC
- 31-SC/PC
- 32-SC/APC
- 41-LC/PC
- 51-MU/PC
- 00-None
- XX-Others

**Pigtail length (for each port)**
- 050-50cm
- 100-100cm
- 150-150cm
- 200-200cm
- 000-Modulized
- XXX-Others

**Wavelength**
- 35-1310/1550 nm

**Input port No.**
Please specify desired port number in two digits

**Output port No.**
Please specify desired port number in two digits

**Package option**
- 01-A3 with coated fiber
- 02-MA/MB/M1/M2/M3 with coated fiber
- 11-A3 with loose tube cable
- 12-MA/MB/M1/M2/M3 with loose tube cable
- 21-A3 with PVC cable(2.0mm)
- 31-A3 with PVC cable(3.0mm)
- 32-MA/MB/M1/M2/M3 with PVC cable(3.0mm)
- 33-MB/M1/M2/M3 with adapters
- XX-Others

**Grade**
- A- Average
- H- High

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Unitary 1×3 and 3×3 Coupler

Features

- Low insertion Loss
- High uniformity
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments

Specifications

<table>
<thead>
<tr>
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<tr>
<td>Port Configuration</td>
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<tr>
<td>Operation Wavelength</td>
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<tr>
<td>Grade</td>
<td>High(H) Average(A) High(H) Average(A)</td>
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<tr>
<td>Insertion Loss (dB)</td>
<td>5.6 6.3 6.2 6.5</td>
</tr>
<tr>
<td>Uniformity, dB(33:33:33)</td>
<td>0.9 1.3 1.5 2.2</td>
</tr>
<tr>
<td>Thermal Stability, dB(peak-peak)</td>
<td>≤0.4</td>
</tr>
<tr>
<td>Polarization Stability, dB</td>
<td>≤0.2</td>
</tr>
<tr>
<td>Coupling Ratio</td>
<td>33 : 33 : 33 or Customer Specify</td>
</tr>
<tr>
<td>Directivity, dB</td>
<td>≥50(1×3), ≥60(3×3)</td>
</tr>
<tr>
<td>Reflectance, dB</td>
<td>≥50</td>
</tr>
<tr>
<td>Operation Temperature, °C</td>
<td>-40°C ~ 85°C (*)</td>
</tr>
<tr>
<td>Storage temperature, °C</td>
<td>-55°C ~ 85°C</td>
</tr>
</tbody>
</table>

Package Options (for different pigtail)

1. coated fiber (250μm)  T3, A2, MA, MB, M3
2. Loose tube (900μm)     TC, A2, MA, MB, M3
3. PVC cable (3.0mm)      TC, A2, MA, MB, M3

Note: (*) -20°C ~ +70°C for PVC cable.
# Unitary 1×3 and 3×3 Coupler Ordering Information

<table>
<thead>
<tr>
<th>CO-U3</th>
<th>XX/XX</th>
<th>XX</th>
<th>XX</th>
<th>X</th>
<th>XX</th>
<th>XX</th>
<th>XXX(cm)</th>
</tr>
</thead>
</table>

## Connector (for both ends)
- 11-ST
- 21-FC/PC
- 22-FC/APC
- 31-SC/PC
- 32-SC/APC
- 41-LC/PC
- 51-MU/PC
- 00-None
- XX-Others

## Wavelength
- 31-1310 nm
- 55-1550 nm

## Package option
- 01-T3 with coated fiber
- 02-A2/MA/MB/M3 with coated fiber
- 11-TC with loose tube cable
- 12-A2/MA/MB/M3 with loose tube cable
- 21-A2 with PVC cable(2.0mm)
- 31-A2 with PVC cable(3.0mm)
- 32-MA/MB/M3 with PVC cable(3.0mm)
- 33-MA/MB/M3 with adapters
- XX-Others

## Pigtail length (for each port)
- 050- 50cm
- 100- 100cm
- 150- 150cm
- 200- 200cm
- 000- Modulized
- XXX-Others

## Coupling ratio
- 00 ~ 45 Please specify the different port

## Input/port number
- 05- 1 port
- 03- 3 ports

## Fiber type
- A- Corning SMF-28e
- X- Others

## Grade
- A- Average
- H- High
**Unitary 1×3 Wideband Coupler**

### Features
- Low insertion Loss
- High uniformity
- Customized Package available
- Environmentally stable.

### Applications
- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments

### Specifications

<table>
<thead>
<tr>
<th>ITEM</th>
<th>VALUE</th>
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<tbody>
<tr>
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<tr>
<td>Port Configuration</td>
<td>1×3</td>
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<tr>
<td>Grade</td>
<td>High(H) Average(A)</td>
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<tr>
<td>Insertion Loss, dB</td>
<td>5.8</td>
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<tr>
<td>Uniformity, dB(33:33:33)</td>
<td>1.2</td>
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<tr>
<td>Thermal Stability, dB(peak-peak)</td>
<td>≦0.4</td>
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<tr>
<td>Polarization Stability, dB</td>
<td>≦0.2</td>
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<td>Coupling Ratio</td>
<td>33 : 33 : 33 or Customer Specify</td>
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<tr>
<td>Directivity, dB</td>
<td>≧50</td>
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<tr>
<td>Reflectance, dB</td>
<td>≧50</td>
</tr>
<tr>
<td>Operation Temperature, °C</td>
<td>-40°C ~ 85°C(*)</td>
</tr>
<tr>
<td>Storage temperature, °C</td>
<td>-55°C ~ 85°C</td>
</tr>
</tbody>
</table>

**Package Options (for different pigtail)**

1. coated fiber (250μm) T3,A2,MA,MB,M3
2. Loose tube (900μm) TC,A2,MA,MB,M3
3. PVC cable (3.0mm) A2,MA,MB,M3

Note: (*) -20°C ~ +70°C for PVC cable
## Unitary 1×3 Wideband Coupler Ordering Information

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<th>XX/XX</th>
<th>XX</th>
<th>XX</th>
<th>X</th>
<th>X</th>
<th>XX</th>
<th>XXX(cm)</th>
</tr>
</thead>
</table>

### Connector (for both ends)
- 11-ST
- 21-FC/PC
- 22-FC/APC
- 31-SC/PC
- 32-SC/APC
- 41-LC/PC
- 51-MU/PC
- 00-None
- XX-Others

### Wavelength
- 31-1310 nm
- 55-1550 nm

### Pigtail length (for each port)
- 050- 50cm
- 100- 100cm
- 150- 150cm
- 200- 200cm
- 000- Modulized
- XXX-Others

### Coupling ratio
- 05 ~ 45 Please specify the different port

### Package option
- 01-T3 with coated fiber
- 02-A2/MA/MB with coated fiber
- 11-TC with loose tube cable
- 12-A2/MA/MB with loose tube cable
- 21-A2 with PVC cable (2.0mm)
- 31-A2 with PVC cable (3.0mm)
- 32-MA/MB with PVC cable (3.0mm)
- 33-MA/MB with adapters
- XX-Others

### Fiber type
- A- Corning SMF-28e
- X-Others

### Grade
- A- Average
- H- High

---

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3F., No.135, Dasyue Rd., Sansia Township, Taipei County 23741, Taiwan (R.O.C.)
Unitary 1×3 and 1×4 Dual Window Wideband Coupler

Features

- Low insertion Loss
- High uniformity
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments

Specifications

<table>
<thead>
<tr>
<th>ITEM</th>
<th>VALUE</th>
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<tbody>
<tr>
<td>Operation Wavelength</td>
<td>1310nm±40 and 1550nm±40</td>
</tr>
<tr>
<td>Port Configuration</td>
<td>1×3 1×4</td>
</tr>
</tbody>
</table>
| Coupling Ratio           | 33 : 33 : 33 25 : 25 : 25 :
|                           | 25 25 25                  |
| Insertion Loss (dB)      | 5.4 7.2                   |
| Uniformity, dB(Typical)  | 1.0 1.5                   |
| Excess Loss, dB(Typical) | 0.15 0.30                 |
| Polarization Stability, dB| 0.3                       |
| Return Loss, dB          | 50                        |
| Operation Temperature °C | -40°C ~ 85°C (*)          |
| Storage temperature °C   | -55°C ~ 85°C              |

Package Options (for different pigtail)

1. Coated fiber (250 μm) 3*60mm
2. Loose tube (900 μm) 4*70mm

Note: (*) -20°C ~ +70°C for PVC cable
Unitary 1×3 and 1×4 Dual Window Wideband Coupler

**Connector (for both ends)**
- 11-ST
- 21-FC/PC
- 22-FC/APC
- 31-SC/PC
- 32-SC/APC
- 41-LC/PC
- 51-MU/PC
- 00-None
- XX-Others

**Wavelength**
- 35-1310 / 1550 nm

**Package option**
- 01-Metal tube with coated fiber
- 11-Metal tube with loose tube cable (900um)
- XX-Others

**Coupling ratio**
- 25- 25:25:25:25
- 33- 33:33:33
- XX-Others

**Input/output port**
- 13- 1 x 3
- 14- 1 x 4

**Pigtail length (for each port)**
- 050- 50cm
- 100- 100cm
- 150- 150cm
- 200- 200cm
- 000- Modulized
- XXX-Others

**Fiber type**
- A- Corning SMF-28e
- X-Others

**Grade**
- A- Average
- H- High

CO-U4 XX/XX -35 XX X X XX XX XXX(cm)