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# User Instruction Manual

## Passive Fiber Products

### **IQPFS22**

Dual 1 x 2 Fiber Optic Splitter

### **IQPFS24**

Quad 1 x 2 Fiber Optic Splitter

### **IQPFS41**

Single 1 x 4 Fiber Optic Splitter

### **IQPFS42**

Dual 1 x 4 Fiber Optic Splitter

### **IQPFS43**

Triple 1 x 4 Fiber Optic Splitter

### **IQPFC21**

Single 2 x 2 Fiber Optic Coupler

### **IQPFC22**

Dual 2 x 2 Fiber Optic Coupler

### **IQPFC23**

Triple 2 x 2 Fiber Optic Coupler



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# 1. About this Manual

This manual describes the IQ Passive Fiber modules.

If you have any questions regarding the installation and setup of your product, please refer to the Customer Service contact details (see section 1.1).

## 1.1 Contact Details

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Customers with a support contract should call their personalized number, which can be found in their contract, and be ready to provide their contract number and details.

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## 2. IQPF Modules

### 2.1 Module Description

The IQ Passive Fiber modules complement the existing range of fiber optic modules available in the IQ portfolio. These modules are designed to function alongside the electrical/fiber converters and CWDM functions available.

These optical modules are completely passive devices and there are no other active components on the fully assembled modules.

### 2.2 Block Diagrams

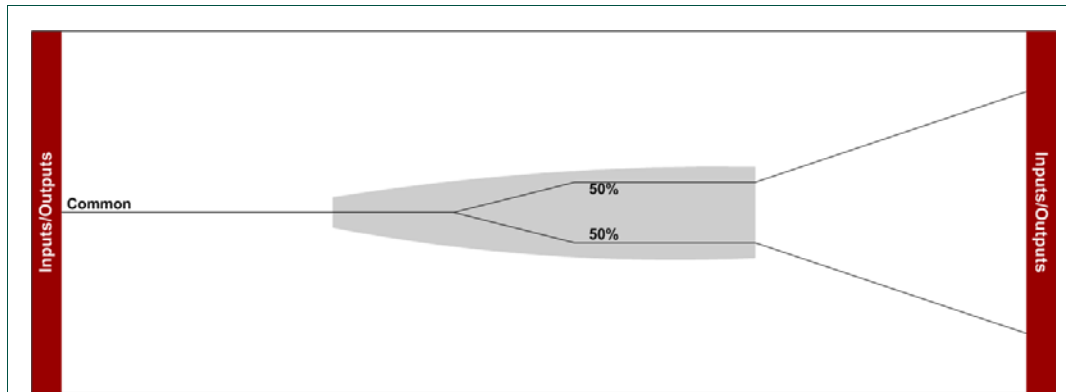


Fig 1. IQPFS22/IQPFS24: 1 x 2 Splitters

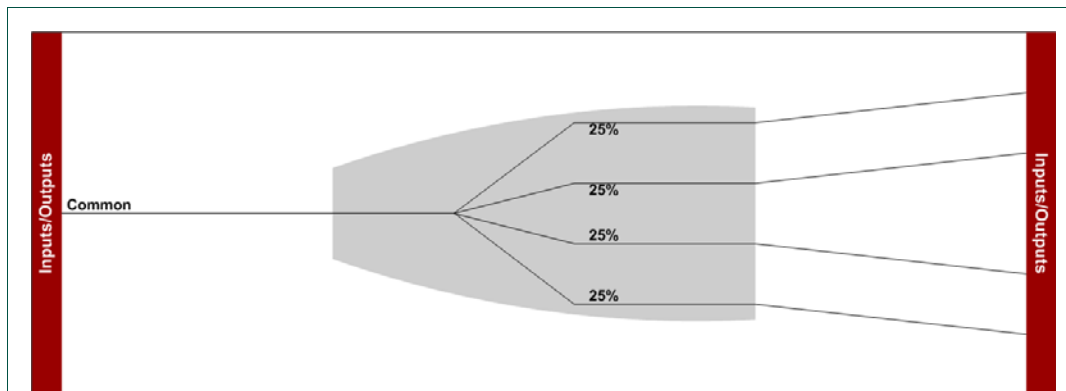


Fig 2. IQPFS41/IQPFS42/IQPFS43: 1 x 4 Splitters

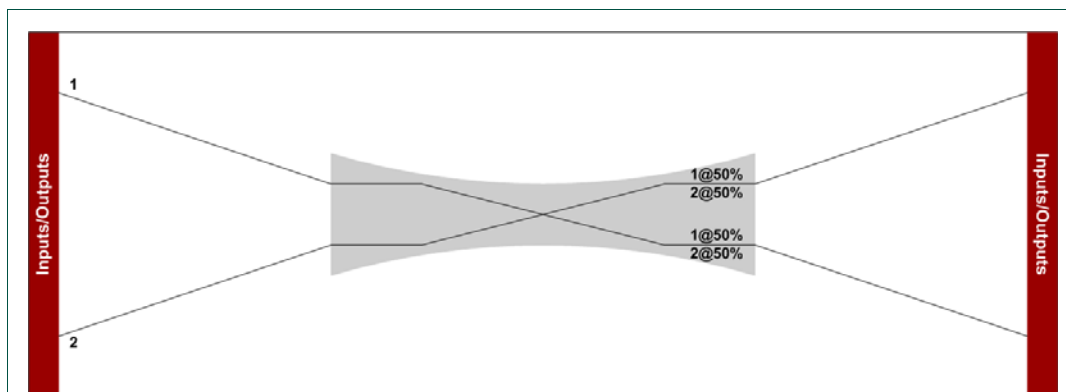


Fig 3. IQPC21/IQPFC22/IQPFC23: 2 x 2 Couplers

### 2.3 Rear Panel Views

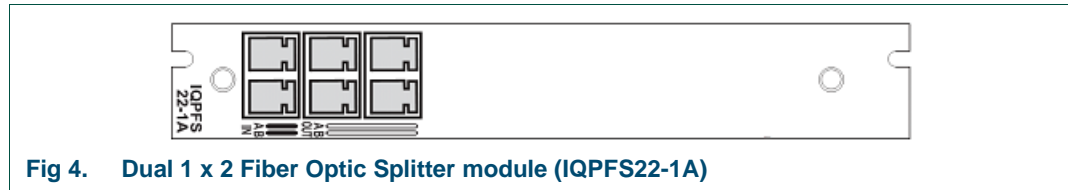


Fig 4. Dual 1 x 2 Fiber Optic Splitter module (IQPFS22-1A)

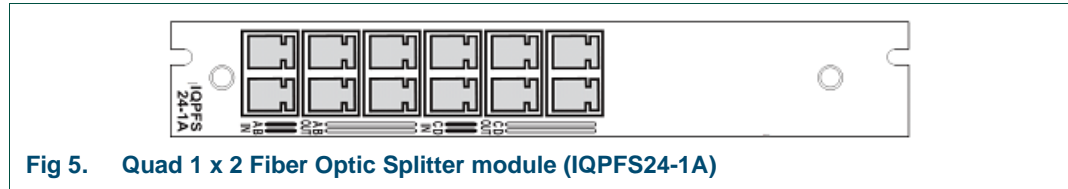


Fig 5. Quad 1 x 2 Fiber Optic Splitter module (IQPFS24-1A)

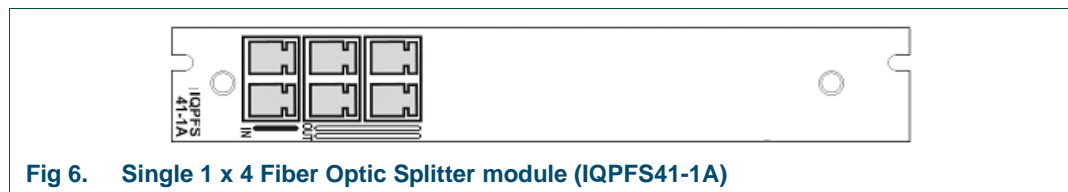


Fig 6. Single 1 x 4 Fiber Optic Splitter module (IQPFS41-1A)

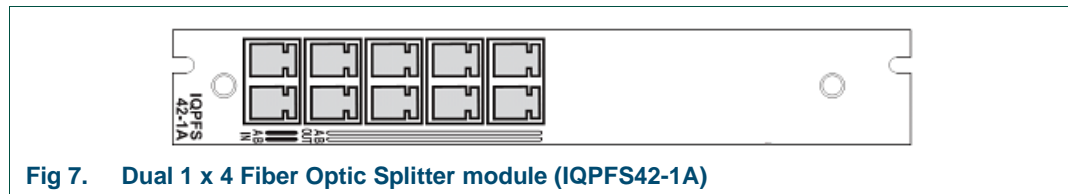


Fig 7. Dual 1 x 4 Fiber Optic Splitter module (IQPFS42-1A)

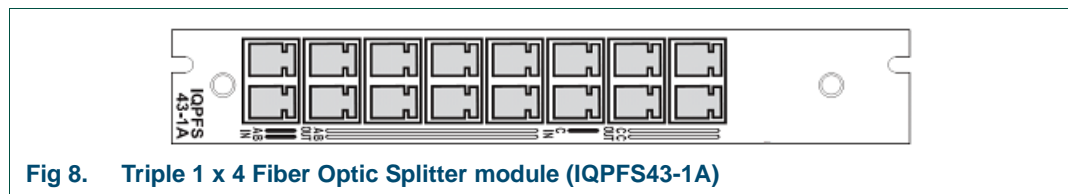


Fig 8. Triple 1 x 4 Fiber Optic Splitter module (IQPFS43-1A)

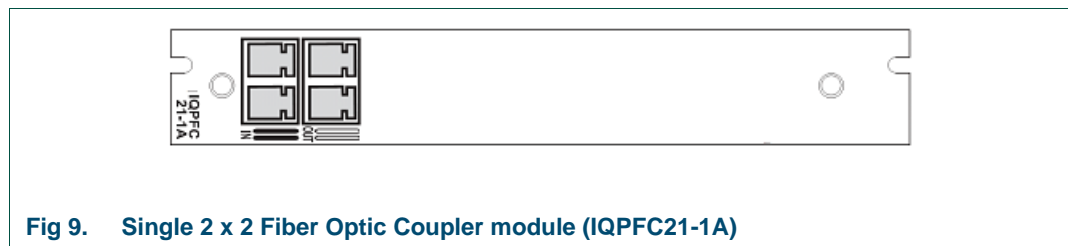


Fig 9. Single 2 x 2 Fiber Optic Coupler module (IQPFC21-1A)

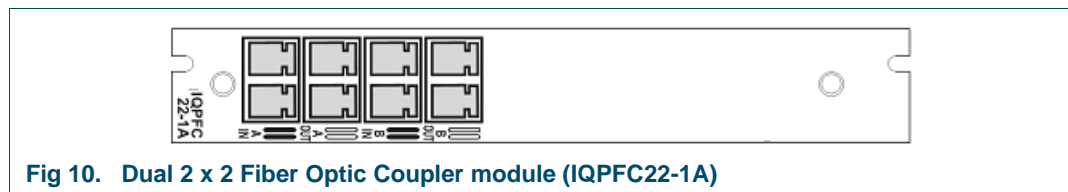


Fig 10. Dual 2 x 2 Fiber Optic Coupler module (IQPFC22-1A)

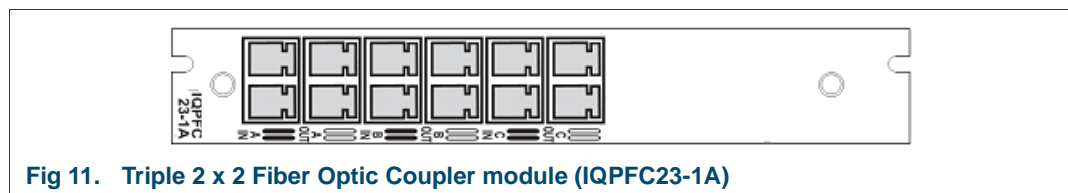


Fig 11. Triple 2 x 2 Fiber Optic Coupler module (IQPFC23-1A)



## 2.4 Order Codes

Versions of the module cards available are:

Order Code	Description
<b>IQPFS22-1A</b>	Dual 1 x 2 Fiber Optic Splitter module. Each splitter consists of 3 wideband (1260-1650nm) bi-directional fiber connections (LC/PC). A common port plus the two split ports.
<b>IQPFS24-1A</b>	Quad 1 x 2 Fiber Optic Splitter module. Each splitter consists of 3 wideband (1260-1650nm) bi-directional fiber connections (LC/PC). A common port plus the two split ports.
<b>IQPFS41-1A</b>	Single 1 x 4 Fiber Optic Splitter module. Each splitter consists of 5 wideband (1260-1650nm) bi-directional fiber connections (LC/PC). A common port plus the four split ports.
<b>IQPFS42-1A</b>	Dual 1 x 4 Fiber Optic Splitter module. Each splitter consists of 5 wideband (1260-1650nm) bi-directional fiber connections (LC/PC). A common port plus the four split ports.
<b>IQPFS43-1A</b>	Triple 1 x 4 Fiber Optic Splitter module. Each splitter consists of 5 wideband (1260-1650nm) bi-directional fiber connections (LC/PC). A common port plus the four split ports.
<b>IQPFC21-1A</b>	Single 2 x 2 Fiber Optic Coupler module. Each coupler consists of 4 wideband (1260-1620nm) bi-directional fiber connections (LC/PC). Two ports either side of the coupler.
<b>IQPFC22-1A</b>	Dual 2 x 2 Fiber Optic Coupler module. Each coupler consists of 4 wideband (1260-1620nm) bi-directional fiber connections (LC/PC). Two ports either side of the coupler.
<b>IQPFC23-1A</b>	Triple 2 x 2 Fiber Optic Coupler module. Each coupler consists of 4 wideband (1260-1620nm) bi-directional fiber connections (LC/PC). Two ports either side of the coupler.

**Table 1. Order Codes**

**Note:** All modules are suitable for all IQ enclosures 1U Passive, 1UA, 3UA and 3UB.

## 2.5 Feature Summary

- Wideband fiber connections (LC/PC), 1260nm-1650nm (Splitters), 1260nm-1620nm (Couplers)
- Single common fiber connection (LC/PC) carries all CWDM wavelengths.
- Protocol transparent; can be used for network or video applications
- Supports all data rates for Ethernet (i.e. 10/100/1000/10GBASE) or video (i.e.1080p, HD and SD).
- Can be located anywhere as passive operation requires no power.

## 2.6 Technical Specification

### 2.6.1 Input and Output Connectors

Inputs and Outputs	Model Number	
Number of Optical Ports	6	(IQPFS22)
	12	(IQPFS24)
	5	(IQPFS41)
	10	(IQPFS42)
	15	(IQPFS43)
	4	(IQPFC21)
	8	(IQPFC22)
	12	(IQPFC23)
Connector/format	LC/PC	

**Table 2. Input and Output Connectors**

### 2.6.2 Connection Specifications

Specifications	
<b>Electrical</b>	Passive
<b>Wavelengths</b>	1260nm-1650nm (Splitters IQPFS__)
	1260nm-1620nm (Couplers IQPFC__)
<b>Insertion Loss</b>	<4.7 dB typical (1x2 Splitters IQPFS2__)
	<8.0 dB typical (1x4 Splitters IQPFS4__)
	<4.7 dB typical (Couplers IQPFC__)
<b>Return Loss</b>	>55 dB
<b>Operating Temperature</b>	-40°C to 85°C

**Table 3. Specifications**

## 2.7 Installation

These modules can be installed in IQH3B/3A/1A/1P enclosures. As the card is fitted from the rear of the enclosure at least 435 mm clearance is required behind the enclosure for installation.

## 2.8 IQPF Applications

Splitters can be used to implement bi-directional links for communications or video over a single fiber, or to create basic signal duplication as shown in the following system examples. When the ports on a splitter are reversed it behaves as a combiner; combining the multiple sources at its input onto the single common output.

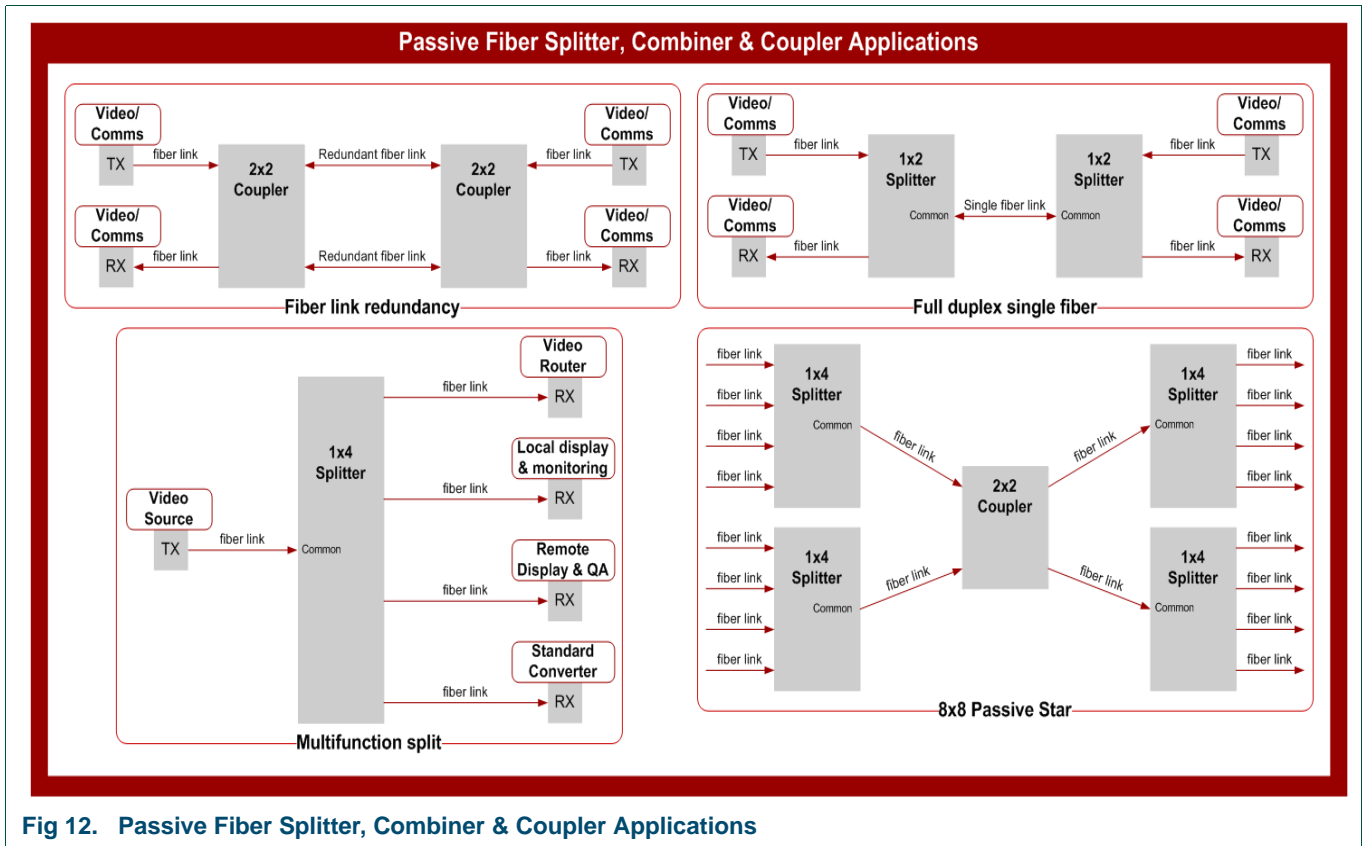


Fig 12. Passive Fiber Splitter, Combiner & Coupler Applications

