

SECTION INDEX

Bulk Fibre Cabling	8 to 9
Fibre Adapters & Couplers	10
Fibre Light Source	3
Fibre Modem E1 (G.703)	14
Fibre Modem E3	14
Fibre Modem RS232	12
Fibre Modem RS422, RS485, V.35	13
Fibre Optic Attenuators	15
Fibre Optic Breakout Boxes	11
Fibre Patch Leads	4 to 7
ISDN over Fibre	12
Loaded Fibre Optic Patch Panels	11
Mode Conditioning Patch Cables	7
MPO Cabling	3

GET CONNECTED WITH BETTERBOX®

Not sure about your requirements? Call our fibre optic engineers and you can use their expertise as often as you like. It's free, and ensures that you will get the best solution for your application.

Whether you need an ST to ST fibre patch lead, an FDDI to SC adapter lead, a fibre cable built to your spec or anything to do with wiring, BetterBox® has everything you will ever need to fulfil your requirements.

If you can't find what you need, or need something different, just let us know.

We will find or build it for you and it won't cost you an arm and a leg. Take advantage of our bulk-buy special offers.

VIDEO

Interconnecting Your LAN Devices

An optical fibre is a very thin (thinner than a human hair) fibre made of plastic or of a very pure form of glass. Using specially tuned light waves a beam of light can be carried for many hundreds of thousands of metres (depending on the fibre used and on the light source). Since light is made up of very high frequency magnetic waves, using special techniques, many hundreds of channels of data and voice can be encoded into a single optical fibre. (Technology currently under test will allow a single fibre to carry up to 200 million simultaneous telephone conversations). However the most common use of fibre optics by end users tends to be for point to point applications carrying in most of the cases low speeds of up to 10Mbps. Optical fibres have several advantages over copper wire;

Capacity - several hundreds of channels over a single fibre,
Distance depending on the application it can be run for tens of kilometres without amplification.

Safety - no electrical signals are carried, only light

Noise immunity - it doesn't generate any electromagnetic noise signals and is not affected by external electromagnetic noise, etc.

Directing Traffic with Bridges, Routers & Switches

Optical fibres are available in a variety of formats but for the purposes of this tutorial we will only be referring to glass fibres and these can be divided into two groups; 1) Multimode and 2) Single Mode. From a user's view point the important thing to know is that for short lengths of up to a few kilometres, the fibre to use is normally Multimode fibre. For longer distances Singlemode fibre is used. By the way, as standard, telephone service providers tend to install Singlemode fibres. This is important to know when you decide to buy equipment to connect to the ends of the fibre, because the cost of equipment used to connect to Singlemode fibres, is considerably higher than equipment designed to connect to Multimode fibre. (Also keep in mind that equipment designed for Singlemode fibre will not work on Multimode fibre and vice versa.) As a rule of thumb, Multimode equipment is the most widely used for most short distance applications of up to a few kilometres.

You can find a full range of Multimode line Drivers for V.24, X.21, V.35 and G.703 in chapter 9 of this catalogue and a full range of Multimode fibre optic Multiplexors in chapter 12. You can also find a full range of fibre patch cords and bulk fibre in this Chapter, Fibre Optic Networking. With regards to the number of fibres you need per piece of equipment, you need to find out if your equipment uses a single fibre to transmit and receive (simplex fibre) or does it need one fibre to transmit and one fibre to receive (duplex fibre). If you are still confused it's simple, just call our fibre specialists on 01908 561400 and they will discuss your requirements and advise you of the best solution for your application.



Fibre Optic Networking



FOCLS Tester

Description

This visible LED light source connects to one end of a fibre optic cable and is bright enough to be seen at the other end, without being dangerous to the human eye. The tester can be purchased with either ST, SC or LC connectors. Adapter cables are available to allow use with different fibre connectors.

FEATURES

- Ultra high intensity red LED
- Available with ST, SC or LC connectors
- Runs for hours on a single 9v battery

Order Code	Description	Price
G-FOCLS-ST	Light source with ST connectors	£27.50
G-FOCLS-SC	Light source with SC connectors	£27.50
G-FOCLS-LC	Light source with LC connectors	£27.50
G-FOCLS-KIT	3 x Light sources with LC, ST and SC connectors	£69.00



MPO Cabling

Description

MPO ribbon fibre cable assemblies were designed to provide high performance interconnects of up to 24 fibres in a small footprint. The MPO connects four to 24 fibres using bare ribbon or ruggedized ribbon cable. Alignment between mating ferrules is accomplished using two precision guide pins that are pre-installed into the designated male connector. MPO assemblies utilize a push-pull connector housing for a quick and reliable connection.

Whilst these assemblies have been designed for 40GbE and 100GbE, they are suitable for lower speeds also. Fanouts to single fibre leads with industry standard LC, MU, FC, SC and ST connectors are available to connect with current installed equipment. There are at least three standard methods of cabling MPO cable assemblies. The three standards are known as Method A, Method B and Method C. It is important to know which standard you are using and to stick to that method to ensure correct connectivity.

Method A uses a straight through configuration for the MPO to MPO cable and requires different patch cords at each end. One patch cord needs to be straight through and the other needs to have the pairs flipped. All connectors are mated key-up to key-down. (Method A Picture) Method B uses a straight through configuration for the MPO to MPO cable and uses standard patch cords at each end. The difference to Method A is that the connectors are mated key-up to key-up. This means that position 1 connects position 12, position 2 to 11 and so on. (Method B picture) Method C uses a pair flip in the trunk cable to correct the polarity. This means that the same modules and patch leads can be used at both ends. In this configuration, position 1 connects to position 2 and position 2 to 1. Position 3 connects to 4 and 4 connect to 3. This continues down the pairs until 11 connects to 12 and 12 connects to 11. (Method C picture)



(MPO Connector close picture)
The above picture shows the end of a 12 core fibre lead. The two big pins at either side are the precision locating pins. The 12 fibre cores can be seen across the centre of the connector between the locating pins.



(MPO)
An MPO cable with a breakout cassette from MPO to 12 x LC connectors



Fibres available in the following colours

GY Grey **OR** Orange **PK** Pink **RD** Red **GN** Green **BU** Blue **PU** Purple **BK** Black **YL** Yellow

When ordering your fibre please add the corresponding colour abbreviation (as listed above) after the order code.
For example FOP-50-SCSC-01M-RD is FOP-50-SCSC-01M in Red.

LSOH

SC



SC

DUPLIX SC to SC Fibre Optic Patch Leads

MULTIMODE	Length	62.5/125	50/125	Price	50/125 OM3	Price	50/125 OM4	Price
	1m	FOP-62-SCSC-01M	FOP-50-SCSC-01M	£9.95	FOP-OM3-SCSC-01M	£10.45	FOP-OM4-SCSC-01M	£12.45
2m	FOP-62-SCSC-02M	FOP-50-SCSC-02M	£10.80	FOP-OM3-SCSC-02M	£11.30	FOP-OM4-SCSC-02M	£13.30	
3m	FOP-62-SCSC-03M	FOP-50-SCSC-03M	£11.65	FOP-OM3-SCSC-03M	£12.15	FOP-OM4-SCSC-03M	£14.15	
5m	FOP-62-SCSC-05M	FOP-50-SCSC-05M	£13.35	FOP-OM3-SCSC-05M	£13.85	FOP-OM4-SCSC-05M	£15.85	
10m	FOP-62-SCSC-10M	FOP-50-SCSC-10M	£17.60	FOP-OM3-SCSC-10M	£18.10	FOP-OM4-SCSC-10M	£20.10	
Custom Length per additional Metre			£0.85	£0.85	£0.85			

SINGLEMODE	Length	9/125	Price
	1m	FOP-SM9-SCSC-01M	£15.45
2m	FOP-SM9-SCSC-02M	£16.30	
3m	FOP-SM9-SCSC-03M	£17.15	
5m	FOP-SM9-SCSC-05M	£18.85	
10m	FOP-SM9-SCSC-10M	£23.10	
Custom Length per additional Metre			£0.85

LSOH

SC



ST

DUPLIX SC to ST Fibre Optic Patch Leads

MULTIMODE	Length	62.5/125	50/125	Price	50/125 OM3	Price	50/125 OM4	Price
	1m	FOP-62-SCST-01M	FOP-50-SCST-01M	£9.95	FOP-OM3-SCST-01M	£10.45	FOP-OM4-SCST-01M	£12.45
2m	FOP-62-SCST-02M	FOP-50-SCST-02M	£10.80	FOP-OM3-SCST-02M	£11.30	FOP-OM4-SCST-02M	£13.30	
3m	FOP-62-SCST-03M	FOP-50-SCST-03M	£11.65	FOP-OM3-SCST-03M	£12.15	FOP-OM4-SCST-03M	£14.15	
5m	FOP-62-SCST-05M	FOP-50-SCST-05M	£13.35	FOP-OM3-SCST-05M	£13.85	FOP-OM4-SCST-05M	£15.85	
10m	FOP-62-SCST-10M	FOP-50-SCST-10M	£17.60	FOP-OM3-SCST-10M	£18.10	FOP-OM4-SCST-10M	£20.10	
Custom Length per additional Metre			£0.85	£0.85	£0.85			

SINGLEMODE	Length	9/125	Price
	1m	FOP-SM9-SCST-01M	£15.45
2m	FOP-SM9-SCST-02M	£16.30	
3m	FOP-SM9-SCST-03M	£17.15	
5m	FOP-SM9-SCST-05M	£18.85	
10m	FOP-SM9-SCST-10M	£23.10	
Custom Length per additional Metre			£0.85

LSOH

ST



ST

DUPLIX ST to ST Fibre Optic Patch Leads

MULTIMODE	Length	62.5/125	50/125	Price	50/125 OM3	Price	50/125 OM4	Price
	1m	FOP-62-STST-01M	FOP-50-STST-01M	£9.95	FOP-OM3-STST-01M	£10.45	FOP-OM4-STST-01M	£12.45
2m	FOP-62-STST-02M	FOP-50-STST-02M	£10.80	FOP-OM3-STST-02M	£11.30	FOP-OM4-STST-02M	£13.30	
3m	FOP-62-STST-03M	FOP-50-STST-03M	£11.65	FOP-OM3-STST-03M	£12.15	FOP-OM4-STST-03M	£14.15	
5m	FOP-62-STST-05M	FOP-50-STST-05M	£13.35	FOP-OM3-STST-05M	£13.85	FOP-OM4-STST-05M	£15.85	
10m	FOP-62-STST-10M	FOP-50-STST-10M	£17.60	FOP-OM3-STST-10M	£18.10	FOP-OM4-STST-10M	£20.10	
Custom Length per additional Metre			£0.85	£0.85	£0.85			

SINGLEMODE	Length	9/125	Price
	1m	FOP-SM9-STST-01M	£15.45
2m	FOP-SM9-STST-02M	£16.30	
3m	FOP-SM9-STST-03M	£17.15	
5m	FOP-SM9-STST-05M	£18.85	
10m	FOP-SM9-STST-10M	£23.10	
Custom Length per additional Metre			£0.85

LSOH

MT/RJ



MT/RJ

DUPLIX MT/RJ to MT/RJ Fibre Optic Patch Leads

MULTIMODE	Length	62.5/125	50/125	Price	50/125 OM3	Price	50/125 OM4	Price
	1m	FOP-62-MTMT-01M	FOP-50-MTMT-01M	£19.05	FOP-OM3-MTMT-01M	£19.55	FOP-OM4-MTMT-01M	£21.55
2m	FOP-62-MTMT-02M	FOP-50-MTMT-02M	£19.90	FOP-OM3-MTMT-02M	£20.40	FOP-OM4-MTMT-02M	£22.40	
3m	FOP-62-MTMT-03M	FOP-50-MTMT-03M	£20.75	FOP-OM3-MTMT-03M	£21.25	FOP-OM4-MTMT-03M	£23.25	
5m	FOP-62-MTMT-05M	FOP-50-MTMT-05M	£22.45	FOP-OM3-MTMT-05M	£22.95	FOP-OM4-MTMT-05M	£24.95	
10m	FOP-62-MTMT-10M	FOP-50-MTMT-10M	£26.70	FOP-OM3-MTMT-10M	£27.20	FOP-OM4-MTMT-10M	£29.20	
Custom Length per additional Metre			£0.85	£0.85	£0.85			

SINGLEMODE	Length	9/125	Price
	1m	FOP-SM9-MTMT-01M	£24.55
2m	FOP-SM9-MTMT-02M	£25.40	
3m	FOP-SM9-MTMT-03M	£26.25	
5m	FOP-SM9-MTMT-05M	£27.95	
10m	FOP-SM9-MTMT-10M	£32.20	
Custom Length per additional Metre			£0.85

Fibres available in the following colours

GY Grey **OR** Orange **PK** Pink **RD** Red **GN** Green **BU** Blue **PU** Purple **BK** Black **YL** Yellow

When ordering your fibre please add the corresponding colour abbreviation (as listed above) after the order code.
For example FOP-50-SCSC-01M-RD is FOP-50-SCSC-01M in Red.

LSOH

MT/RJ



ST/PC

DUPLIX MT/RJ to ST Fibre Optic Patch Leads

MULTIMODE	Length	62.5/125	50/125	Price	50/125 OM3	Price	50/125 OM4	Price
	1m	FOP-62-MTST-01M	FOP-50-MTST-01M	£14.50	FOP-OM3-MTST-01M	£15.00	FOP-OM4-MTST-01M	£17.00
2m	FOP-62-MTST-02M	FOP-50-MTST-02M	£15.35	FOP-OM3-MTST-02M	£15.85	FOP-OM4-MTST-02M	£17.85	
3m	FOP-62-MTST-03M	FOP-50-MTST-03M	£16.20	FOP-OM3-MTST-03M	£16.70	FOP-OM4-MTST-03M	£18.70	
5m	FOP-62-MTST-05M	FOP-50-MTST-05M	£17.90	FOP-OM3-MTST-05M	£18.40	FOP-OM4-MTST-05M	£20.40	
10m	FOP-62-MTST-10M	FOP-50-MTST-10M	£22.15	FOP-OM3-MTST-10M	£22.65	FOP-OM4-MTST-10M	£24.65	
Custom Length per additional Metre			£0.85	£0.85	£0.85			

SINGLEMODE	Length	9/125	Price
	1m	FOP-SM9-MTST-01M	£20.00
2m	FOP-SM9-MTST-02M	£20.85	
3m	FOP-SM9-MTST-03M	£21.70	
5m	FOP-SM9-MTST-05M	£23.40	
10m	FOP-SM9-MTST-10M	£27.65	
Custom Length per additional Metre			£0.85

LSOH

MT/RJ



SC

DUPLIX MT/RJ to SC Fibre Optic Patch Leads

MULTIMODE	Length	62.5/125	50/125	Price	50/125 OM3	Price	50/125 OM4	Price
	1m	FOP-62-MTSC-01M	FOP-50-MTSC-01M	£14.50	FOP-OM3-MTSC-01M	£15.00	FOP-OM4-MTSC-01M	£17.00
2m	FOP-62-MTSC-02M	FOP-50-MTSC-02M	£15.35	FOP-OM3-MTSC-02M	£15.85	FOP-OM4-MTSC-02M	£17.85	
3m	FOP-62-MTSC-03M	FOP-50-MTSC-03M	£16.20	FOP-OM3-MTSC-03M	£16.70	FOP-OM4-MTSC-03M	£18.70	
5m	FOP-62-MTSC-05M	FOP-50-MTSC-05M	£17.90	FOP-OM3-MTSC-05M	£18.40	FOP-OM4-MTSC-05M	£20.40	
10m	FOP-62-MTSC-10M	FOP-50-MTSC-10M	£22.15	FOP-OM3-MTSC-10M	£22.65	FOP-OM4-MTSC-10M	£24.65	
Custom Length per additional Metre			£0.85	£0.85	£0.85			

SINGLEMODE	Length	9/125	Price
	1m	FOP-SM9-MTSC-01M	£20.00
2m	FOP-SM9-MTSC-02M	£20.85	
3m	FOP-SM9-MTSC-03M	£21.70	
5m	FOP-SM9-MTSC-05M	£23.40	
10m	FOP-SM9-MTSC-10M	£27.65	
Custom Length per additional Metre			£0.85

LSOH

LC/PC



MT/RJ

DUPLIX LC to MT/RJ Fibre Optic Patch Leads

MULTIMODE	Length	62.5/125	50/125	Price	50/125 OM3	Price	50/125 OM4	Price
	1m	FOP-62-MTLC-01M	FOP-50-MTLC-01M	£17.55	FOP-OM3-MTLC-01M	£18.05	FOP-OM4-MTLC-01M	£20.05
2m	FOP-62-MTLC-02M	FOP-50-MTLC-02M	£18.40	FOP-OM3-MTLC-02M	£18.90	FOP-OM4-MTLC-02M	£20.90	
3m	FOP-62-MTLC-03M	FOP-50-MTLC-03M	£19.25	FOP-OM3-MTLC-03M	£19.75	FOP-OM4-MTLC-03M	£21.75	
5m	FOP-62-MTLC-05M	FOP-50-MTLC-05M	£20.95	FOP-OM3-MTLC-05M	£21.45	FOP-OM4-MTLC-05M	£23.45	
10m	FOP-62-MTLC-10M	FOP-50-MTLC-10M	£25.20	FOP-OM3-MTLC-10M	£25.75	FOP-OM4-MTLC-10M	£27.70	
Custom Length per additional Metre			£0.85	£0.85	£0.85			

SINGLEMODE	Length	9/125	Price
	1m	FOP-SM9-MTLC-01M	£23.05
2m	FOP-SM9-MTLC-02M	£23.90	
3m	FOP-SM9-MTLC-03M	£24.75	
5m	FOP-SM9-MTLC-05M	£26.45	
10m	FOP-SM9-MTLC-10M	£30.70	
Custom Length per additional Metre			£0.85

LSOH

LC



LC

DUPLIX LC to LC Fibre Optic Patch Leads

MULTIMODE	Length	62.5/125	50/125	Price	50/125 OM3	Price	50/125 OM4	Price
	1m	FOP-62-LCLC-01M	FOP-50-LCLC-01M	£16.05	FOP-OM3-LCLC-01M	£16.55	FOP-OM4-LCLC-01M	£18.55
2m	FOP-62-LCLC-02M	FOP-50-LCLC-02M	£16.90	FOP-OM3-LCLC-02M	£17.40	FOP-OM4-LCLC-02M	£19.40	
3m	FOP-62-LCLC-03M	FOP-50-LCLC-03M	£17.75	FOP-OM3-LCLC-03M	£18.25	FOP-OM4-LCLC-03M	£20.25	
5m	FOP-62-LCLC-05M	FOP-50-LCLC-05M	£19.45	FOP-OM3-LCLC-05M	£19.95	FOP-OM4-LCLC-05M	£21.95	
10m	FOP-62-LCLC-10M	FOP-50-LCLC-10M	£23.70	FOP-OM3-LCLC-10M	£24.20	FOP-OM4-LCLC-10M	£26.20	

Fibres available in the following colours

GY Grey **OR** Orange **PK** Pink **RD** Red **GN** Green **BU** Blue **PU** Purple **BK** Black **YL** Yellow

When ordering your fibre please add the corresponding colour abbreviation (as listed above) after the order code.
For example FOP-50-SCSC-01M-RD is FOP-50-SCSC-01M in Red.

LSOH

LC/PC



SC/PC

DUPLIX LC to SC Fibre Optic Patch Leads

Length	62.5/125		50/125		50/125 OM3		50/125 OM4	
	Price		Price		Price		Price	
1m	FOP-62-LCSC-01M	FOP-50-LCSC-01M	£13.00		FOP-OM3-LCSC-01M	£13.50	FOP-OM4-LCSC-01M	£15.50
2m	FOP-62-LCSC-02M	FOP-50-LCSC-02M	£13.85		FOP-OM3-LCSC-02M	£14.35	FOP-OM4-LCSC-02M	£16.35
3m	FOP-62-LCSC-03M	FOP-50-LCSC-03M	£14.70		FOP-OM3-LCSC-03M	£15.20	FOP-OM4-LCSC-03M	£17.20
5m	FOP-62-LCSC-05M	FOP-50-LCSC-05M	£16.40		FOP-OM3-LCSC-05M	£16.90	FOP-OM4-LCSC-05M	£18.90
10m	FOP-62-LCSC-10M	FOP-50-LCSC-10M	£20.65		FOP-OM3-LCSC-10M	£21.15	FOP-OM4-LCSC-10M	£23.15
Custom Length per additional Metre			£0.85		£0.85		£0.85	

Length	9/125		Price	
1m	FOP-SM9-LCSC-01M		£18.50	
2m	FOP-SM9-LCSC-02M		£19.35	
3m	FOP-SM9-LCSC-03M		£20.20	
5m	FOP-SM9-LCSC-05M		£21.90	
10m	FOP-SM9-LCSC-10M		£26.15	
Custom Length per additional Metre			£0.85	

LSOH

LC



ST

DUPLIX LC to ST Fibre Optic Patch Leads

Length	62.5/125		50/125		50/125 OM3		50/125 OM4	
	Price		Price		Price		Price	
1m	FOP-62-LCST-01M	FOP-50-LCST-01M	£13.00		FOP-OM3-LCST-01M	£13.50	FOP-OM4-LCST-01M	£15.50
2m	FOP-62-LCST-02M	FOP-50-LCST-02M	£13.85		FOP-OM3-LCST-02M	£14.35	FOP-OM4-LCST-02M	£16.35
3m	FOP-62-LCST-03M	FOP-50-LCST-03M	£14.70		FOP-OM3-LCST-03M	£15.20	FOP-OM4-LCST-03M	£17.20
5m	FOP-62-LCST-05M	FOP-50-LCST-05M	£16.40		FOP-OM3-LCST-05M	£16.90	FOP-OM4-LCST-05M	£18.90
10m	FOP-62-LCST-10M	FOP-50-LCST-10M	£20.65		FOP-OM3-LCST-10M	£21.15	FOP-OM4-LCST-10M	£23.15
Custom Length per additional Metre			£0.85		£0.85		£0.85	

Length	9/125		Price	
1m	FOP-SM9-LCST-01M		£18.50	
2m	FOP-SM9-LCST-02M		£19.35	
3m	FOP-SM9-LCST-03M		£20.20	
5m	FOP-SM9-LCST-05M		£21.90	
10m	FOP-SM9-LCST-10M		£26.15	
Custom Length per additional Metre			£0.85	

LSOH

E2000



E2000

DUPLIX E2000 to E2000 Fibre Optic Patch Leads

Length	62.5/125		50/125		50/125 OM3		50/125 OM4	
	Price		Price		Price		Price	
1m	FOP-62-E2E2-01M	FOP-50-E2E2-01M	£40.00		FOP-OM3-E2E2-01M	£40.50	FOP-OM4-E2E2-01M	£42.50
2m	FOP-62-E2E2-02M	FOP-50-E2E2-02M	£40.85		FOP-OM3-E2E2-02M	£41.35	FOP-OM4-E2E2-02M	£43.35
3m	FOP-62-E2E2-03M	FOP-50-E2E2-03M	£41.70		FOP-OM3-E2E2-03M	£42.20	FOP-OM4-E2E2-03M	£44.20
5m	FOP-62-E2E2-05M	FOP-50-E2E2-05M	£43.70		FOP-OM3-E2E2-05M	£43.90	FOP-OM4-E2E2-05M	£45.90
10m	FOP-62-E2E2-10M	FOP-50-E2E2-10M	£47.65		FOP-OM3-E2E2-10M	£48.15	FOP-OM4-E2E2-10M	£50.15
Custom Length per additional Metre			£0.85		£0.85		£0.85	

Length	9/125		Price	
1m	FOP-SM9-E2E2-01M		£45.90	
2m	FOP-SM9-E2E2-02M		£46.35	
3m	FOP-SM9-E2E2-03M		£47.20	
5m	FOP-SM9-E2E2-05M		£48.90	
10m	FOP-SM9-E2E2-10M		£53.15	
Custom Length per additional Metre			£0.85	

LSOH

E2000



LC

DUPLIX E2000 to LC Fibre Optic Patch Leads

Length	62.5/125		50/125		50/125 OM3		50/125 OM4	
	Price		Price		Price		Price	
1m	FOP-62-E2LC-01M	FOP-50-E2LC-01M	£35.00		FOP-OM3-E2LC-01M	£35.50	FOP-OM4-E2LC-01M	£37.50
2m	FOP-62-E2LC-02M	FOP-50-E2LC-02M	£35.85		FOP-OM3-E2LC-02M	£36.35	FOP-OM4-E2LC-02M	£38.35
3m	FOP-62-E2LC-03M	FOP-50-E2LC-03M	£36.70		FOP-OM3-E2LC-03M	£37.20	FOP-OM4-E2LC-03M	£39.20
5m	FOP-62-E2LC-05M	FOP-50-E2LC-05M	£38.40		FOP-OM3-E2LC-05M	£38.90	FOP-OM4-E2LC-05M	£40.90
10m	FOP-62-E2LC-10M	FOP-50-E2LC-10M	£42.65		FOP-OM3-E2LC-10M	£43.15	FOP-OM4-E2LC-10M	£45.15
Custom Length per additional Metre			£0.85		£0.85		£0.85	

Length	9/125		Price	
1m	FOP-SM9-E2LC-01M		£40.50	
2m	FOP-SM9-E2LC-02M		£41.35	
3m	FOP-SM9-E2LC-03M		£42.20	
5m	FOP-SM9-E2LC-05M		£43.90	
10m	FOP-SM9-E2LC-10M		£48.15	
Custom Length per additional Metre			£0.85	

Fibres available in the following colours

GY Grey **OR** Orange **PK** Pink **RD** Red **GN** Green **BU** Blue **PU** Purple **BK** Black **YL** Yellow

When ordering your fibre please add the corresponding colour abbreviation (as listed above) after the order code.
For example FOP-50-SCSC-01M-RD is FOP-50-SCSC-01M in Red.

LSOH

E2000



ST

DUPLIX E2000 to ST Fibre Optic Patch Leads

Length	62.5/125		50/125		50/125 OM3		50/125 OM4	
	Price		Price		Price		Price	
1m	FOP-62-E2ST-01M	FOP-50-E2ST-01M	£32.00		FOP-OM3-E2ST-01M	£32.50	FOP-OM4-E2ST-01M	£34.50
2m	FOP-62-E2ST-02M	FOP-50-E2ST-02M	£32.85		FOP-OM3-E2ST-02M	£33.35	FOP-OM4-E2ST-02M	£35.35
3m	FOP-62-E2ST-03M	FOP-50-E2ST-03M	£33.70		FOP-OM3-E2ST-03M	£34.20	FOP-OM4-E2ST-03M	£36.20
5m	FOP-62-E2ST-05M	FOP-50-E2ST-05M	£35.40		FOP-OM3-E2ST-05M	£35.90	FOP-OM4-E2ST-05M	£37.90
10m	FOP-62-E2ST-10M	FOP-50-E2ST-10M	£39.65		FOP-OM3-E2ST-10M	£40.15	FOP-OM4-E2ST-10M	£42.15
Custom Length per additional Metre			£0.85		£0.85		£0.85	

Length	9/125		Price	
1m	FOP-SM9-E2ST-01M		£37.50	
2m	FOP-SM9-E2ST-02M		£38.35	
3m	FOP-SM9-E2ST-03M		£39.20	
5m	FOP-SM9-E2ST-05M		£40.90	
10m	FOP-SM9-E2ST-10M		£45.15	
Custom Length per additional Metre			£0.85	

LSOH

E2000



SC

DUPLIX E2000 to SC Fibre Optic Patch Leads

Length	62.5/125		50/125		50/125 OM3		50/125 OM4	
	Price		Price		Price		Price	
1m	FOP-62-E2SC-01M	FOP-50-E2SC-01M	£32.00		FOP-OM3-E2SC-01M	£32.50	FOP-OM4-E2SC-01M	£34.50
2m	FOP-62-E2SC-02M	FOP-50-E2SC-02M	£32.85		FOP-OM3-E2SC-02M	£33.35	FOP-OM4-E2SC-02M	£35.35
3m	FOP-62-E2SC-03M	FOP-50-E2SC-03M	£33.70		FOP-OM3-E2SC-03M	£34.20	FOP-OM4-E2SC-03M	£36.20
5m	FOP-62-E2SC-05M	FOP-50-E2SC-05M	£35.40		FOP-OM3-E2SC-05M	£35.90	FOP-OM4-E2SC-05M	£37.90
10m	FOP-62-E2SC-10M	FOP-50-E2SC-10M	£39.65		FOP-OM3-E2SC-10M	£40.15	FOP-OM4-E2SC-10M	£42.15
Custom Length per additional Metre			£0.85		£0.85		£0.85	

Length	9/125		Price	
1m	FOP-SM9-E2SC-01M		£37.50	
2m	FOP-SM9-E2SC-02M		£38.35	
3m	FOP-SM9-E2SC-03M		£39.20	
5m	FOP-SM9-E2SC-05M		£40.90	
10m	FOP-SM9-E2SC-10M		£45.15	
Custom Length per additional Metre			£0.85	

Gigabit Ethernet Mode Conditioning Patch Cables

Description

Mode Conditioning Patch Cords are recommended when running Gigabit Ethernet distances of more than 200 metres over Multimode fibre. Modern Gigabit equipment uses special lasers to produce the signals required for high bandwidth applications. These signals can confuse the receiver unit and reduce distance capabilities. To compensate for this, use a Mode Conditioning patch cord which overcomes the problem by using one Singlemode leg which is especially spliced to the Multimode fibre to ensure the correct signal launch.

FEATURES

- For use with Gigabit Ethernet LX ports
- Allows signal to travel IEEE 802.3z specification distances
- Compatible with 50nm and 62.5nm fibre optic cables
- Recommended for Multimode cable runs greater than 50 metres
- SC and MT/RJ version available
- ST - SC are available



Example Order Codes	Description	Pricing
G-FOP-MCP-LC50-LC-3M	LC 50/125 to LC SM 3M Mode Conditioning Cable	£42.50
G-FOP-MCP-SC50-LC-3M	SC 50/125 to LC SM 3M Mode Conditioning Cable	£42.50
G-FOP-MCP-ST62-SC-5M	ST 62.5/125 to SC SM 5M Mode Conditioning Cable	£45.00

STEP 1
STEP 2
STEP 3
STEP 4

Choose Multimode Connector	Choose Multimode Type	Choose Singlemode Connector	Choose Length in Metre
ST	62 = 62.5/125	ST	
SC	50 = 50/125	SC	
LC		LC	

Bulk Fibre Cabling
Description

Our pre-terminated fibre cables allow you to install a fibre network without the costs of hiring a fibre installation firm and they save you the time and effort associated with fibre termination toolkits.

For a structured fibre solution that is quick, easy and economic these cables cannot be beaten. Available in standard lengths and various core sizes the connectors are protected by a crush resistant pulling sock.

FEATURES

- Includes Non-reusable pulling sock
- Range of fibres available include 62.5, 50/125, 9/125, OM3
- Standard cable is tight-buffered LSOH
- Steel tape armoured cable available as an option
- Custom lengths available
- Indoor/outdoor & outdoor/indoor direct transitions
- Also LC, & FC/PC,D4, E2000, MPO


Pre-Terminated

All cables available Singlemode also. Please call

▲ Fig.1 - shows the pre-terminated fibre cable being inserted into the pulling sock for quick and easy fibre network installation.

**Pre-Terminated Bulk Fibre Cabling
62.5/125**

Order Code	Number of Cores	Fibre Size	Length	Terminations	Price
G-PTFC450LC-OM1	4	62.5/125	50m	LC	£112.00
G-PTFC450SC-OM1	4	62.5/125	50m	SC	£108.00
G-PTFC450ST-OM1	4	62.5/125	50m	ST	£108.00
G-PTFC4-OM1-PM	4	62.5/125	1m		£0.82
G-PTFC850LC-OM1	8	62.5/125	50m	LC	£162.00
G-PTFC850SC-OM1	8	62.5/125	50m	SC	£156.00
G-PTFC850ST-OM1	8	62.5/125	50m	ST	£156.00
G-PTFC8-OM1-PM	8	62.5/125	1m		£1.36
G-PTFC1650LC-OM1	16	62.5/125	50m	LC	£284.00
G-PTFC1650SC-OM1	16	62.5/125	50m	SC	£272.00
G-PTFC1650ST-OM1	16	62.5/125	50m	ST	£272.00
G-PTFC16-OM1-PM	16	62.5/125	1m		£2.50
G-PTFC2450LC-OM1	24	62.5/125	50m	LC	£368.00
G-PTFC2450SC-OM1	24	62.5/125	50m	SC	£346.00
G-PTFC2450ST-OM1	24	62.5/125	50m	ST	£346.00
G-PTFC24-OM1-PM	24	62.5/125	1m		£3.52

**Pre-Terminated Bulk Fibre Cabling
50/125 OM2**

Order Code	Number of Cores	Fibre Size	Length	Terminations	Price
G-PTFC450LC-OM2	4	50/125 OM2	50m	LC	£110.00
G-PTFC450SC-OM2	4	50/125 OM2	50m	SC	£106.00
G-PTFC450ST-OM2	4	50/125 OM2	50m	ST	£106.00
G-PTFC4-OM2-PM	4	50/125 OM2	1m		£0.68
G-PTFC850LC-OM2	8	50/125 OM2	50m	LC	£152.00
G-PTFC850SC-OM2	8	50/125 OM2	50m	SC	£144.00
G-PTFC850ST-OM2	8	50/125 OM2	50m	ST	£144.00
G-PTFC8-OM2-PM	8	50/125 OM2	1m		£1.08
G-PTFC1650LC-OM2	16	50/125 OM2	50m	LC	£254.00
G-PTFC1650SC-OM2	16	50/125 OM2	50m	SC	£240.00
G-PTFC1650ST-OM2	16	50/125 OM2	50m	ST	£240.00
G-PTFC16-OM2-PM	16	50/125 OM2	1m		£1.92
G-PTFC2450LC-OM2	24	50/125 OM2	50m	LC	£358.00
G-PTFC2450SC-OM2	24	50/125 OM2	50m	SC	£338.00
G-PTFC2450ST-OM2	24	50/125 OM2	50m	ST	£338.00
G-PTFC24-OM2-PM	24	50/125 OM2	1m		£2.62

Bulk Fibre Cabling
**Pre-Terminated Bulk Fibre Cabling
50/125 OM3**

Order Code	Number of Cores	Fibre Size	Length	Terminations	Price
G-PTFC450LC-OM3	4	50/125 OM3	50m	LC	£128.00
G-PTFC450SC-OM3	4	50/125 OM3	50m	SC	£124.00
G-PTFC450ST-OM3	4	50/125 OM3	50m	ST	£124.00
G-PTFC4-OM3-PM	4	50/125 OM3	1m		£0.86
G-PTFC850LC-OM3	8	50/125 OM3	50m	LC	£194.00
G-PTFC850SC-OM3	8	50/125 OM3	50m	SC	£186.00
G-PTFC850ST-OM3	8	50/125 OM3	50m	ST	£186.00
G-PTFC8-OM3-PM	8	50/125 OM3	1m		£1.56
G-PTFC1650LC-OM3	16	50/125 OM3	50m	LC	£330.00
G-PTFC1650SC-OM3	16	50/125 OM3	50m	SC	£316.00
G-PTFC1650ST-OM3	16	50/125 OM3	50m	ST	£316.00
G-PTFC16-OM3-PM	16	50/125 OM3	1m		£3.40
G-PTFC2450LC-OM3	24	50/125 OM3	50m	LC	£464.00
G-PTFC2450SC-OM3	24	50/125 OM3	50m	SC	£444.00
G-PTFC2450ST-OM3	24	50/125 OM3	50m	ST	£444.00
G-PTFC24-OM3-PM	24	50/125 OM3	1m		£4.82

**Pre-Terminated Bulk Fibre Cabling
50/125 OM4**

Order Code	Number of Cores	Fibre Size	Length	Terminations	Price
G-PTFC450LC-OM4	4	50/125 OM4	50m	LC	£170.00
G-PTFC450SC-OM4	4	50/125 OM4	50m	SC	£166.00
G-PTFC450ST-OM4	4	50/125 OM4	50m	ST	£166.00
G-PTFC4-OM4-PM	4	50/125 OM4	1m		£1.56
G-PTFC850LC-OM4	8	50/125 OM4	50m	LC	£276.00
G-PTFC850SC-OM4	8	50/125 OM4	50m	SC	£270.00
G-PTFC850ST-OM4	8	50/125 OM4	50m	ST	£270.00
G-PTFC8-OM4-PM	8	50/125 OM4	1m		£2.86
G-PTFC1650LC-OM4	16	50/125 OM4	50m	LC	£592.00
G-PTFC1650SC-OM4	16	50/125 OM4	50m	SC	£578.00
G-PTFC1650ST-OM4	16	50/125 OM4	50m	ST	£578.00
G-PTFC16-OM4-PM	16	50/125 OM4	1m		£5.52
G-PTFC2450LC-OM4	24	50/125 OM4	50m	LC	£630.00
G-PTFC2450SC-OM4	24	50/125 OM4	50m	SC	£612.00
G-PTFC2450ST-OM4	24	50/125 OM4	50m	ST	£612.00
G-PTFC24-OM4-PM	24	50/125 OM4	1m		£8.00

**Pre-Terminated Bulk Fibre Cabling
9/125 OS1**

Order Code	Number of Cores	Fibre Size	Length	Terminations	Price
G-PTFC450LC-OS1	4	9/125 OS1	50m	LC	£116.00
G-PTFC450SC-OS1	4	9/125 OS1	50m	SC	£112.00
G-PTFC450ST-OS1	4	9/125 OS1	50m	ST	£112.00
G-PTFC4-OS1-PM	4	9/125 OS1	1m		£0.62
G-PTFC850LC-OS1	8	9/125 OS1	50m	LC	£156.00
G-PTFC850SC-OS1	8	9/125 OS1	50m	SC	£148.00
G-PTFC850ST-OS1	8	9/125 OS1	50m	ST	£148.00
G-PTFC8-OS1-PM	8	9/125 OS1	1m		£0.92
G-PTFC1650LC-OS1	16	9/125 OS1	50m	LC	£234.00
G-PTFC1650SC-OS1	16	9/125 OS1	50m	SC	£220.00
G-PTFC1650ST-OS1	16	9/125 OS1	50m	ST	£220.00
G-PTFC16-OS1-PM	16	9/125 OS1	1m		£1.60
G-PTFC2450LC-OS1	24	9/125 OS1	50m	LC	£326.00
G-PTFC2450SC-OS1	24	9/125 OS1	50m	SC	£306.00
G-PTFC2450ST-OS1	24	9/125 OS1	50m	ST	£306.00
G-PTFC24-OS1-PM	24	9/125 OS1	1m		£2.10

Fibre Adapters & Couplers
ST-ST Adapters (simplex)

FEATURES

- Durable metal housing
- Metal alignment sleeve for Multimode
- Panel mount design
- Ceramic alignment sleeve for Singlemode
- Available in Multimode & Singlemode styles
- Mounting nut included

Order Code	Description	Price
G-ADPST350	ST Multimode	£1.89
G-ADPST35MS	ST Singlemode	£4.49

ST-FC Adapters (simplex)

FEATURES

- Durable metal housing
- Metal alignment sleeve for Multimode
- Panel mount design
- Ceramic alignment sleeve for Singlemode
- Available in Multimode & Singlemode styles
- Mounting nut included

Order Code	Description	Price
G-ADPSTFCMS	ST-FC Multimode	£Call
G-ADPSTFCSS	ST-FC Singlemode	£Call

ST-SC Adapters (simplex)

FEATURES

- Durable metal housing
- Metal alignment sleeve
- Panel mount design
- Can be clipped or screw mounted
- Available in Multimode & Singlemode styles
- Mounting nut included

Order Code	Description	Price
G-ADPSTSCS	ST-SC Multimode	£3.95
G-ADPSTSCSS	ST-SC Singlemode	£4.45

ST-SC Adapters (duplex)

FEATURES

- Durable plastic housing
- Metal alignment sleeve
- Panel mount design
- Can be clipped or screw mounted
- Available in Multimode and Singlemode styles

Order Code	Description	Price
G-ADPSTSCD	ST-SC Multimode	£5.95
G-ADPSTSCDS	ST-SC Singlemode	£6.95

SC-SC Adapters (simplex)

FEATURES

- Durable plastic housing
- Metal alignment sleeve
- Panel mount design
- Can be clipped or screw mounted
- Available in Multimode & Singlemode styles

Order Code	Description	Price
G-ADPSCSCMS	SC-SC Multimode	£2.75
G-ADPSCSCSS	SC-SC Singlemode	£5.45

SC-SC Adapters (duplex)

FEATURES

- Durable plastic housing
- Metal alignment sleeve
- Panel mount design
- Can be clipped or screw mounted
- Available in Multimode and Singlemode styles

Order Code	Description	Price
G-ADPSCSCD	SC-SC Multimode	£3.75
G-ADPSCSCDS	SC-SC Singlemode	£6.50

MT/RJ Adapters

FEATURES

- For high density applications
- Panel mount design
- Multimode only

Order Code	Description	Price
G-ADPMTRJ	MT/RJ Multimode	£2.95

LC-LC Adapters (simplex)

FEATURES

- Blue plastic housing
- Zirconia Ceramic alignment sleeve
- Panel mount design
- Singlemode Style

Order Code	Description	Price
G-ADPLCLSS	LC SM/MM	£6.75

LC-LC Adapters (duplex)

FEATURES

- Plastic body with flanges and clips for panel mount applications
- Dual purpose for Multimode and Singlemode use

Order Code	Description	Price
G-ADPLCLCMD	LC-LC MM/SM	£8.75

SMA Adapters (simplex)

FEATURES

- Bulkhead D-hole type mount
- Includes mounting nut and alignment sleeves
- Fits 905 and 906 style
- Metal Adapter body

Order Code	Description	Price
G-ADPSMAMS	SMA Multimode	£8.75

E-2000 Adapters
FEATURES

- High performance ceramic alignment sleeve
- Bulkhead flange style with embedded nuts
- Features integral safety baffle for eye protection
- Hybrid adapters for E2000-SC and FC available by special order
- E2000 UPC Adapter SX available by special order



Order Code	Description	Price
G-ADPE2000SS	E2000 Singlemode	£Call

Fibre Optic Breakout Boxes
Description

These Breakout boxes have been designed for small fibre installations or in fibre runs where a transition point is required. Each enclosure is lightweight and compact.

FEATURES

- Supplied with cable management glands & blanks
- Available in 4 or 8 way unloaded models
- Beige in colour

Order Code	Description	Price
G-FOBB420	4 Way Breakout Box	£19.95
G-FOBB425	8 way Breakout Box	£20.95
G-ADPST350	ST Adapter with Locknut & black ID ring	£1.89



FOBB420
(ST adapters not included)

Loaded Fibre Optic Patch Panels
Description

Our loaded Patch Panels are supplied preconfigured with either high quality adapters (either ST, SC or LC), for fast easy installation. A cable management kit is also included. We also offer a fixed or sliding drawer style unit for easier access.

FEATURES

- Fixed or sliding drawer style
- Available in ST, SC or LC configurations
- Supplied with cable management system
- Supplied with cage nut set



SC Fixed drawer patch panel

ST Sliding drawer patch panel

Order Code	Description	Price
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Also available in Beige

ST		
G-FOPP372	8 Port (4 duplex) ST Fibre patch panel fixed drawer	£29.95
G-FOPP374	16 Port (8 duplex) ST Fibre patch panel fixed drawer	£38.50
G-FOPP376	24 Port (12 duplex) ST Fibre patch panel fixed drawer	£46.50
G-FOPP372-SM	8 Port (4 duplex) ST Fibre patch panel fixed drawer singlemode	£30.95
G-FOPP374-SM	16 Port (8 duplex) ST Fibre patch panel fixed drawer singlemode	£39.50
G-FOPP376-SM	24 Port (12 duplex) ST Fibre patch panel fixed drawer singlemode	£47.50
G-FOPP378	1u 8 way ST patch panel sliding drawer	£42.50
G-FOPP382	1u 16 way ST patch panel sliding drawer	£49.95
G-FOPP384	1u 24 way ST patch panel sliding drawer	£56.95

SC		
G-FOPP410	8 Port (4 duplex) SC Fibre patch panel fixed drawer multimode	£29.95
G-FOPP414	16 Port (8 duplex) SC Fibre patch panel fixed drawer multimode	£38.50
G-FOPP416	24 Port (12 duplex) SC Fibre patch panel fixed drawer multimode	£46.50
G-FOPP410-SM	8 Port (4 duplex) SC Fibre patch panel fixed drawer singlemode	£30.95
G-FOPP414-SM	16 Port (8 duplex) SC Fibre patch panel fixed drawer singlemode	£39.50
G-FOPP416-SM	24 Port (12 duplex) SC Fibre patch panel fixed drawer singlemode	£47.50
G-FOPP401	1u 8 way (4 duplex) SC sliding drawer	£51.60
G-FOPP406	1u 16 way (8 duplex) SC sliding drawer	£75.00
G-FOPP407	1u 24 way (12 duplex) SC sliding drawer	£95.85

LC		
G-FOPP420	16 Port (8 duplex) LC Fibre patch panel fixed drawer	£39.25
G-FOPP421	24 Port (12 duplex) LC Fibre patch panel fixed drawer	£48.25
G-FOPP422	32 Port (16 duplex) LC Fibre patch panel fixed drawer	£57.25
G-FOPP423	48 Port (24 duplex) LC Fibre patch panel fixed drawer	£75.00
G-FOPP420-SM	16 Port (8 duplex) LC Fibre patch panel fixed drawer singlemode	£62.50
G-FOPP421-SM	24 Port (12 duplex) LC Fibre patch panel fixed drawer singlemode	£83.85
G-FOPP422-SM	32 Port (16 duplex) LC Fibre patch panel fixed drawer singlemode	£104.00
G-FOPP423-SM	48 Port (24 duplex) LC Fibre patch panel fixed drawer singlemode	£135.00
G-FOPP460	1u 8 way (4 duplex) LC sliding drawer Patch Panel	£47.50
G-FOPP462	1u 16 way (8 duplex) LC sliding drawer Patch Panel	£63.30
G-FOPP464	1u 24 way (12 duplex) LC sliding drawer Patch Panel	£79.16

Custom Cables ...at your fingertips

If you can't find the cable you need, we will build it for you and from your own designs. Alternatively, we will do all the research, then design it from scratch and build it for you! We won't stop until you have the cable you need!

For more details please contact our Technical Support Team on 01908 561400



FOM232 Fibre Modem

Description

Fibre modem to connect with RS232 port of computer or other devices. It solves the problem of traditional RS232 communication conflict between distance and rate. Electromagnetic and lightning interference, improve the reliability safety and security of communications, suitable for industrial control, procedure control or traffic control, especially for systems in bank, electric, and environments which have special requirement for electromagnetic interference. Possible applications can be military control, industrial control, traffic control, video control, distribution acquisition system, electric acquisition and control system, highway charging system.



Specifications Optical interface parameter

- Optical wavelength: 850/1300nm for multimode fibre, 1300/1550nm for singlemode fibre.
- Optical interface: SC/ST (Optional)
- Transceiver module: > -6dBm
- Optical receiver sensitivity: <-36 (BER<10)
- Receive range: >-30dB
- Transmission distance: multimode 2 Km, singlemode 20/ 40 / 60 / 120 Km.RS 232 interface:

Interface character: RS232

- Interface Rate: 0 - 115.2Kbps
- Connector: RJ-45, DB9 or DB25 connector
- Interface type: DCE.

Power:

- DC: -48V (-36 to -72V); +24 V (Optional)
- AC: 90 to 260 VAC ; 47 ~ 63Hz
- Power Interface: DC power terminal/AC socket
- Power Consumption: 2 W maximum

Working environment:

- Operating temperature: 0° to 50°C
- Storage temperature: -40° to +80°C
- Relative humidity: 5% to 90% (25°C non condensing)

Order Code	Description	Price
G-FOM232SCMM02	DB25 Female to Multimode fibre 2km with SC	£105.00
G-FOM232SCSM20	DB25 Female to Singlemode fibre 20km with SC	£115.00

Please contact us for versions with other connectors or distances.

ISDN over Fibre

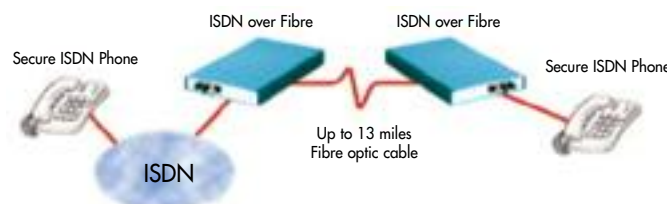
Extend one or four basic rate ISDN SO ports easily and securely over Singlemode or Multimode Fibre Optic cable.

Description

What if you need to deploy ISDN devices around a field deployed campus or base? What if you need to deploy ISDN over a large terrestrial distances but are concerned about the security of using copper cable? The BB702x ISDN over Fibre Extender offers the ability to extend one or four basic rate interfaces (including signalling) over single or Multimode fibre. The ISDN over Fibre Extender provides a strong, secure method of deploying ISDN interfaces in high electrical noise areas or in RF shielded enclosures, or in areas where data tapping is a risk. For tap-and tamper-proof ISDN applications there is no better way to connect the telephones or video conferencing systems (for example with 4 BRIs) over a fibre pair to the central IT high security room.

FEATURES

- Two BB702x are a converter pair (NT/TE) to extend one BRI over fibre optic cable - protocol and application transparent
- On the NT site 40V power source for TEs can be provided
- Multimode and Singlemode fibre optics are supported
- Normally the transmission operates with 1310nm wavelength (850nm/1550nm on request) in both cases
- The unit reaches high ranges with Singlemode up to 4 km (higher ranges available on request)
- The BB702x are available in several chassis. Desktops with external PS as well as 19" rack mountable chassis (1U for 3 boards/3U for 14 boards) with redundant PS
- Plug and play devices, easy to use
- Only the NT/TE and 40V PS 1 feature can be selected by jumpers. No other configuration is needed.



Order Code	Description	Price
G-BB7020	2 Port ISDN Extender Multimode ST	£895.00
G-BB7021	2 Port ISDN Extender Singlemode ST	£995.00

FOMSER Fibre Optic Modem

Description

FOMSER is a high-performance fibre optic modem developed by using a dedicated integrated circuit. It can modulate data signals directly over single or multi-mode fibre optic cable. At another end of the optic cable, optical signal is demodulated back to the original data signal. All modems are available with either multi-mode or single-mode optical transceivers and with SC or ST connectors. Distances of up to 120 km are achievable on some Singlemode versions.



FEATURES

- Loopback of local analog/digital interface
- Up to 120km transmission distance on singlemode optic fibre
- AC 220V or DC 48V inputs may be selected for fibre optic modems

SPECIFICATIONS OPTICAL INTERFACE

- Operating wavelength : 850nm,1310nm or 1550nm
- Optic fibre connector: ST or SC
- Fibre types: Multimode, Singlemode
- Transmission distances
- Singlemode up to 120km, Multimode: up to 2km V.35 interface
- Data rate : N x 64Kbps (N=1~32)
- Available with CTS/RTS (Hardware) flow control function
- Type of connector: M34 connector
- Operating mode: DCE
- Indicator lamp: To indicate the operating status of power supply, data receiving/sending, loopback and random code test, code missing alarm, out-of-frame alarm etc.

RS422 Interface

- Interface Rate: 0 - 115.2Kbps Connector: RJ-45,DB9 or DB25 connector
- Interface type: DCE RS485 interface:
- Interface character: match RS485 Interface Rate: 0 - 115.2Kbps
- Connector: RJ-45 Interface type: DCE.

Environmental

- Size : 140mm (depth) x 210mm (width) x 42mm (height)
- Power supply
- AC : 90V - 260V AC input, 5V/2A output
- DC : -48V (-36 to -72V); +24 V (Optional)
- Power consumption : 3W Max
- Operating temperature : 0°C - 50°C Storage temperature: -20°C - 80°C
- Humidity: 5% - 90% (non condensing)

Order Code	Description	Price
G-FOMV35SCMM02	M34 Female to Multimode fibre 2km with SC	£149.95
G-FOMV35SCSM20	M34 Female to Singlemode fibre 20km with SC	£165.00
G-FOM422SCMM02	RJ45 to Multimode fibre 2km with SC	£157.50
G-FOM422SCSM20	RJ45 to Singlemode fibre 20km with SC	£172.50
G-FOM485SCMM02	RJ45 to Multimode fibre 2km with SC	£157.50
G-FOM485SCSM20	RJ45 to Singlemode fibre 20km with SC	£172.50

Please contact us for versions with other connectors or distances

FOME1 Fibre Media Converter

Description

FOME1 is a fibre media converter for 1 x G.703 E1 non-framed or 1 x G.704 framed transmission. The BNC interface provides unbalanced 75 Ohm coaxial connections while the RJ-45 interface provides balanced 120 Ohm connections over twisted pair wiring. All E1 media converters are available with either multimode or singlemode optical transceivers and with connectors for SC or ST. Singlemode versions are capable of up to 120 km. With WDM, single fibre versions allow for big savings on fibre costs - instead of fibre pair they use just a single fibre.

FEATURES

- Two row of LEDs, upper row indicate local status, lower row indicate remote status and alarm status.
- Ability take out specified time-slots to compose N x 64K (N=1 to 32) data channel. (Framed version)
- Provides 3 loop functions: local loop (ANA), local loop (DIG), remote loop (DIG).
- Have pseudo random code test function, easy the installation and maintenance.
- Power supply option: AC220V, DC-48V. The positive and negative terminal can be exchanged for DC-48V,
- Easy for installation and maintenance.

Order Code	Description	Price
G-FOME1SCMM02	G.703/4 to Multimode fibre 2km with SC	£295.00
G-FOME1SCSM20	G.703/4 to Singlemode fibre 20km with SC	£345.00

Please contact us for versions with other connectors or distances.



SPECIFICATIONS

- E1 interface
- Bit Rate: 2.048 Mb/s 50 ppm
- Line Code: HDB3
- Line Impedance: 120 Ohm / 75 Ohm
- Connector: RJ-45 and BNC
- Pulse Shape: ITU-T G.703
- Jitter Performance: ITU-T G.823
- Optical interface
- Optical wavelength: 850/1310nm for multimode fibre, 1310/1550nm for singlemode fibre.
- Optical interface: SC/ST (Optional)
- Transceiver module: > -6dBm
- Optical receiver sensitivity: <-36(BER<10)
- Receive range: >-30dB
- Transmission distance: multi-mode 2 Km, singlemode 20/40 /60/ 80 / 120 Km, WDM available for different distances
- Power
- DC -48V (-36 to -72V); +24 V (Optional) AC: 90 to 260 VAC; 47 ~ 63Hz
- Power Interface: DC power terminal/AC socket
- Power Consumption: 5 W maximum
- Environment
- Operating temperature: 0° to 50°C
- Storage temperature: -20° to +70°C
- Relative humidity: 5% to 90% (non condensing)

E1 (G.703) 2.048Mbps to Fibre Optic Media Converter
Description

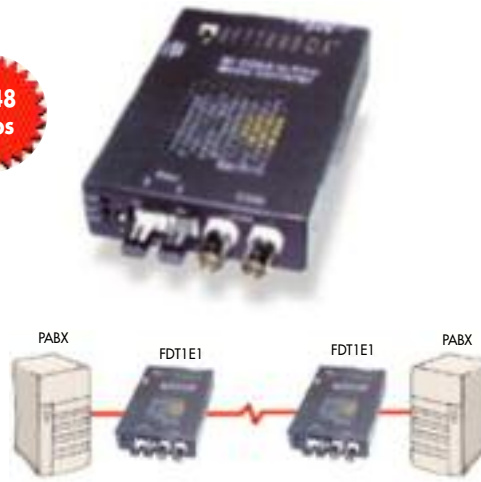
The FDT1E1 enables you to quickly and easily convert between Multimode or Singlemode fibre and a 2.048Mbps copper interface. A typical application could be connecting two PABXs with E1 interfaces to a fibre link running between two buildings. The Multimode version will work up to 2Km with the Singlemode version working up to 8Km. The unit has been designed to work with E1 or T1 services.

FEATURES

- Converts copper ports on E1 or T1 devices to Multimode or Singlemode fibre
- Distances of up to 2Km (Multimode) or 8Km (Singlemode)
- Loopback facility for easier installations
- Jitter Attenuators optimise Bit Error Rate (BER) performance

SPECIFICATIONS

- Standards: ITU-T, ANSI, AT&T, ETSI
- Connectors: 120Ω UTP for E1/T1
ST connectors for Fibre Interface
- Data Rates: 2.048Mbps
- Optical Budget: 11.0dB
- Distances: 2Km - Multimode, 8Km - Singlemode
- Dimensions: 75 x 50 x 118mm (WHD)
- Power: +9Vdc, 500mA
(power supply included)
- Environment: 0-50°C, 5-90% Non Condensing Humidity



Order Code	Description	Price
G-FDT1E1-RJ45	Multimode RJ45/ST	£495.00
G-FDT1E1-SC-RJ45	Multimode RJ45/SC	£495.00
G-FDT1E1-SM	Singlemode RJ45/ST	£595.00
G-FDT1E1-SM-SC-RJ45	Singlemode RJ45/SC	£595.00

MTRJ Option available.
Rackmount Option available.

FOME3 Fibre Media Converter
Description

FOME3 E3 fibre converter can be used to provide 34.36 (E3) signal conversion between electrical interface and optical interface of E3 based network interface. It conforms to the ITU-T G.703 T3 recommendation. The converter features compactness, light weight, low power consumption and high reliability. The 34M E3 fibre converter optical / electrical operates on 1310 nm lasers, with a typical transmission distance of 40 km over single mode optical fibres. For longer hops, 1550 nm lasers can be selected for 100 km and more distances. WDM single fibre single strand also is available on request.

FEATURES

- High reliability, comply to ITU-T G.703
- Single Fibre Bi-Directional option
- State-of-the-art design, ensure normal working under different environment.
- Supports local and remote loop - back on electrical or optical interface for system diagnostic.
- Suitable for PDH E3 interface interconnection
- Compact design and low power consumption
- Simply to use & plug & play E3 fibre converter
- Electrical Interface
- ITU-T G.703 Compliant

SPECIFICATIONS

- Data Rate: 34.368 Mbps
- Line Code: HDB3
- Physical Connector: BNC Coaxial
- Optical Interface
- Bit rate: 34.368 Mbps
- Coding: NRZ
- Connector: SC
- Light source: Laser Diode
- Wave length: 1310 nm (Typical), or 1550 nm (Optional) or Single
- Fibre Bi-Directional WDM (Optional)
- Transmit power: -12 dBm (1310 nm) / -5 dBm (1550 nm)
- Receive sensitive: -36 dBm (1310 nm) / -38 dBm (1550 nm)
- Power
 - AC 220V: Range 165 V to 265 V
 - DC -48V: Range -36V to -72V
 - Power Consumption: <3 W
- Environment
 - Working Temperature: 0-50°C
 - Relative Humidity: <90 % (Non condensing)
 - Dimensions: WxHxD(mm): 205 x 135 x 46



Order Code	Description	Price
G-FOME3SCSM40	G.703/4 to Singlemode fibre 40km with SC	£950.00
G-FOME3SCWDM20	G.703/4 to Singlemode fibre 20km WDM with SC	£995.00

Please contact us for versions with other connectors or distances.

Fibre Optic Attenuators
Description

Fibre optic attenuators are used in the fibre optic communications to reduce the optical fibre power at a certain level, the most commonly used type is female to male plug type fibre optic attenuator, it has the optical fibre connector at one side and the other side is a female type fibre optic adapter, fibre optic attenuator name is based on the connector type and the attenuation level. For instance, an LC5dB fibre optic attenuator means this attenuator uses LC fibre optic connector and it can reduce the optical fibre power level by 5dB.

The ability of any fibre optic system to transmit data ultimately depends on the optical power at the receiver. Either too little or too much power will cause high bit error rates. Too much power, and the receiver amplifier saturates, too little and noise becomes a problem as it interferes with the signal. This receiver power depends on two

basic factors: how much power is launched into the fibre by the transmitter and how much is lost by attenuation in the optical fibre cable plant that connects the transmitter and receiver. Attenuators are commonly used in fibre optic communications, either to test power level margins by temporarily adding a calibrated amount of signal loss, or installed permanently to properly match transmitter and receiver levels.

The BetterBox® LC attenuation range is from 1dB to 20dB.
The BetterBox® SC attenuation range is from 1dB to 20dB.
The BetterBox® FC attenuation range is from 3dB to 20dB.
The BetterBox® SC/APC attenuation range is from 15dB & 20dB.
The BetterBox® ST attenuation range is from 2dB to 20dB.



Order Code	Description	Price
G-FOATTEN-3DB-FC	Attenuator SM FC 3dB	£8.50
G-FOATTEN-5DB-FC	Attenuator SM FC 5dB	£8.50
G-FOATTEN-6DB-FC	Attenuator SM FC 6dB	£8.50
G-FOATTEN-7DB-FC	Attenuator SM FC 7dB	£8.50
G-FOATTEN-9DB-FC	Attenuator SM FC 9dB	£8.50
G-FOATTEN-10DB-FC	Attenuator SM FC 10dB	£8.50
G-FOATTEN-15DB-FC	Attenuator SM FC 15dB	£8.50
G-FOATTEN-17DB-FC	Attenuator SM FC 17dB	£8.50
G-FOATTEN-18DB-FC	Attenuator SM FC 18dB	£8.50
G-FOATTEN-20DB-FC	Attenuator SM FC 20dB	£8.50
G-FOATTEN-1DB-LC	Attenuator SM LC 1dB	£8.50
G-FOATTEN-2DB-LC	Attenuator SM LC 2dB	£8.50
G-FOATTEN-3DB-LC	Attenuator SM LC 3dB	£8.50
G-FOATTEN-4DB-LC	Attenuator SM LC 4dB	£8.50
G-FOATTEN-5DB-LC	Attenuator SM LC 5dB	£8.50
G-FOATTEN-6DB-LC	Attenuator SM LC 6dB	£8.50
G-FOATTEN-7DB-LC	Attenuator SM LC 7dB	£8.50
G-FOATTEN-8DB-LC	Attenuator SM LC 8dB	£8.50
G-FOATTEN-9DB-LC	Attenuator SM LC 9dB	£8.50
G-FOATTEN-10DB-LC	Attenuator SM LC 10dB	£8.50
G-FOATTEN-11DB-LC	Attenuator SM LC 11dB	£8.50
G-FOATTEN-12DB-LC	Attenuator SM LC 12dB	£8.50
G-FOATTEN-14DB-LC	Attenuator SM LC 14dB	£8.50
G-FOATTEN-15DB-LC	Attenuator SM LC 15dB	£8.50

Order Code	Description	Price
G-FOATTEN-16DB-LC	Attenuator SM LC 16dB	£8.50
G-FOATTEN-17DB-LC	Attenuator SM LC 17dB	£8.50
G-FOATTEN-18DB-LC	Attenuator SM LC 18dB	£8.50
G-FOATTEN-19DB-LC	Attenuator SM LC 19dB	£8.50
G-FOATTEN-20DB-LC	Attenuator SM LC 20dB	£8.50
G-FOATTEN-1DB-SC	Attenuator SM SC 1dB	£8.50
G-FOATTEN-2DB-SC	Attenuator SM SC 2dB	£8.50
G-FOATTEN-3DB-SC	Attenuator SM SC 3dB	£8.50
G-FOATTEN-4DB-SC	Attenuator SM SC 4dB	£8.50
G-FOATTEN-5DB-SC	Attenuator SM SC 5dB	£8.50
G-FOATTEN-6DB-SC	Attenuator SM SC 6dB	£8.50
G-FOATTEN-7DB-SC	Attenuator SM SC 7dB	£8.50
G-FOATTEN-9DB-SC	Attenuator SM SC 9dB	£8.50
G-FOATTEN-10DB-SC	Attenuator SM SC 10dB	£8.50
G-FOATTEN-11DB-SC	Attenuator SM SC 11dB	£8.50
G-FOATTEN-12DB-SC	Attenuator SM SC 12dB	£8.50
G-FOATTEN-13DB-SC	Attenuator SM SC 13dB	£8.50
G-FOATTEN-14DB-SC	Attenuator SM SC 14dB	£8.50
G-G-FOATTEN-20DB-SC	Attenuator SM SC 20dB	£8.50
G-FOATTEN-15DB-SC/A	Attenuator SM SC/APC 15dB	£9.95
G-FOATTEN-20DB-SC/A	Attenuator SM SC/APC 20dB	£9.95
G-FOATTEN-2DB-ST	Attenuator SM ST 2dB	£12.50
G-FOATTEN-10DB-ST	Attenuator SM ST 10dB	£12.50
G-FOATTEN-20DB-ST	Attenuator SM ST 20dB	£12.50

Custom Cables ...at your fingertips

If you can't find the cable you need, we will build it for you and from your own designs. Alternatively, we will do all the research, then design it from scratch and build it for you!
We won't stop until you have the cable you need!

For more details please contact our Technical Support Team on 01908 561400

