



www.apollotech.com.au

The Apollo Gigabit Fibre Media Converters convert Optical-Electric Ethernet signals between 10/100/1000M UTP interface (TX) and 1000M optical fibre interface (FX). The traditional 10/100/1000M gigabit Ethernet can be extended to the distance of 100km through an optical fibre link. It possesses stable performance and good quality by adopting latest IC packages. 6 Group LED indicated lights can fully monitor the working conditions of the media convertor. It is easy for end-users to observe network operation. The Apollo Series Gigabit Converters can be used alone alternatively they can be produced in the form of a Converter Card to be inserted to a 16 slot rack unit. The Media Convertor series are suitable for use in a Data Network Centre.

Main features

- Auto negotiation function allows UTP ports to auto select 10/100/1000M and Full Duplex or Half Duplex.
- The UTP port supports the connection of MDI/MDI-X auto crossover.
- Multimode Fibre: the max distance up to 2km
- Singlemode Fibre: the max distance up to 100km
- Supporting the max 1536 byte Ethernet packet
- Supporting flow control
- Adopting internal power supply

Technical Specifications

- Operating standards: IEEE802.3z/AB, 1000Base-T and 1000Base-SX/LX
- MAC address table: 4K
- Data Buffer: 256K
- Connector: UTP: RJ-45, 10/100/1000Mbps; Fibre: SC, 1000Mbps
- Cable :
- UTP cable: Cat 5e or Cat 6 (the max distance up to 100m)
- Fibre : multimode : 50/125, 62.5/125µm (the max distance up to 2km)
 - singlemode : 8.3/125, 8.7/125, 9/125µm (the max distance up to 100km)
- Flow control : Full Duplex: IEEE802.3x
 - Half Duplex: back pressure.
- Power: AC 220V(170-260V) 50Hz; DC 5V, 2A
- Ambient temperature: 0 ~ +50°C
- Storage temperature: -20 ~ +70°C
- Humidity: 5% ~ 90%
- Dimensions: 40 (high) x 110 (width) x 140 (length) mm

Fibre Information

Type	Connector	Fibre type	Max. distance	Wavelength	TX power	Sensitivity	Link Budget
APOLLO5A	SC	Multimode	2km	850nm	-11~-3dBm	-18dBm	7dBm
APOLLO5B	SC	Multimode	2km	1310nm	-11~-3dBm	-20dBm	10dBm
APOLLO5C	SC	Singlemode	20km	1310nm	-10~-3dBm	-21dBm	11dBm
APOLLO5D	SC	Singlemode	40km	1310nm	-4~-0dBm	-25dBm	21dBm
APOLLO5E	SC	Singlemode	60km	1310nm	-0~3dBm	-26dBm	26dBm
APOLLO5F	SC	Singlemode	80km	1550nm	-2~2dBm	-26dBm	24dBm
APOLLO5G	SC	Singlemode	100km	1550nm	1~3dBm	-27dBm	28dBm

10/100M Ethernet Fibre Media Convertors

Apollo Technology Gigabit Fibre Media Converters convert Optical - Electric Ethernet signals between 10/100M UTP interface (TX) and 100M optical fibre interface (FX). It can extend traditional 10/100M fast Ethernet to a distance of 120km through an optical fibre link. It possesses stable performance and good quality by adopting latest IC packages. 6 Group LED indicated lights can fully monitor the working conditions the media convertor. It is easy for end-users to observe network operation. external power supply Converters can be used alone, or inserted to a 14 slots Media Converters Rack. The Media Convertor series are suitable for use in a Data Network Centre.



Main features

- Auto negotiation function allows UTP port to auto select 10M or 100M, and Full Duplex or Half Duplex.
- UTP port supports MDI/MDI-X auto crossover.
- Indicator function of link fault (LFP): When optical fibre or UTP is at fault, the converter could stop all the link.
- Multiple Optical Transceiver could be chosen: SC, ST or FC, singlemode / multimode
- Supporting 1600 bytes packet for management
- Converter working mode can be chosen: Store and forward switch mode, Modified cut-through switch mode, or Converter mode.
- Internal or External switching power: for users to choose.

Technical Specifications

- Operating standards: IEEE802.3u、10/100Base-TX and 100Base-FX;
- MAC addresses table: 1K
- Data buffer: Built-in 128Kbyte RAM .
- Connectors: UTP Connector: RJ-45, 10/100Mbps; Fibre Connector: ST/SC/FC, 100Mbps
- Cable:
- UTP: Cat. 5 (the max distance up to 100m)
- Fibre (Multimode): 50/125, 62.5/125 μ m (the max distance up to 2km or 5km)
- Fibre (Singlemode): 8.3/125, 8.7/125, 9/125, 10/125 μ m (the max distance up to 20 -120km)
- Flow Control
- Full Duplex: Supporting standard IEEE802.3x
- Half Duplex: back pressure
- LED: Power, FX SD, FX Link/Act, TX 100, TX FDX, TX Link/Act.
- Power Requirement: AC 170 ~ 240V, DC 5V.
- Ambient Temperature: 0 ~ 700C
- Humidity: 5 ~ 90%
- Dimensions: Internal power: 30×110×140mm
External power: 26×70×93mm

Fibre Optic Information

Type	Connector	Fibre type	Wavelength	Max. distance	TX power	Sensitivity	Link Budget
APOLLO4A	ST/SC	multimode	850/1310nm	2km	-20~-12dBm	-30dBm	10dBm
APOLLO4B	SC	multimode	850/1310nm	5km	-13~-8dBm	-30dBm	17dBm
APOLLO4C	SC	singlemode	1310nm	25km	-14~-8dBm	-32dBm	18dBm
APOLLO4D	SC	singlemode	1310nm	40km	-8~-3dBm	-33dBm	25dBm
APOLLO4E	SC	singlemode	1310nm	60km	-3~0dBm	-36dBm	33dBm
APOLLO4F	SC	singlemode	1550nm	80km	-10~-5dBm	-35dBm	25dBm
APOLLO4G	SC	singlemode	1550nm	100km	-5~0dBm	-36dBm	31dBm
APOLLO4H	SC	singlemode	1550nm	120km	0~3dBm	-36dBm	36dBm

Apollo Handheld Adjustable Light Source is Apollo Technologys newly designed fibre optic tester, it can be utilized in fibre network installation, fibre network engineering acceptance and fibre network maintenance. Combined usage with the Apollo handheld optical power meter, it offers a quick and accurate testing solution on both SM and MM fibres. This light source provides testing over 1 to 4 wavelengths and output power can be adjusted on customer requests.

Features

- Wave ID information can be transmitted when used with JW3216 Optical Power Meter.
- Tone generation, 270HZ,330HZ,1KHZ,2KHZ
- Output power can be adjustable
- Output power value is shown on LCD display
- Intelligent backlight control (light intensity can be adjusted properly according to ambient light, which greatly reduced power consumption)
- AA alkaline and AC adapter for power supply
- Low battery indication



Specifications

Model	JW3116
Operating wavelength (nm)	1310/1550;1310/1490/1550/1625 (others specify on requests)
Applicable fiber	SM, MM
Laser type	FP-LD(others specify on requests)
Output Power (dBm)	-5~-12dBm (can be adjustable)
Adjustable step size (dBm)	<0.5
Stability(dB, 30min, 20°C)	0.15
Modulation (Hz)	CW, 270, 330, 1K, 2K
Fiber Port	FC/PC
Alkaline Battery	3*AA, 1.5V
Power Supply Adaptor(V)	8.4
Battery Operating time(h)	45
Operation Temperature(°C)	-10~+60
Storage Temperature(°C)	-25~+70
Outline size (mm) /weight	180*90*45(250g)

Standard Packages

MODEL	INCLUDES
All Apollo Models	Apollo Optical Light Source, 3pcs 1.5V batteries, AC Adaptor, User Manual, Cotton swabs and Soft carrying case.

Apollo Handheld Optical Power Metre is Apollo's newly designed fiber optic tester, it can be utilized in fibre network installation, fibre network engineering acceptance and fibre network maintenance. Combined usage with the Apollo handheld optical light source, it offers a quick and accurate testing solution on both SM and MM fibres. Compared with usual power meters, the JW3216 has a greater level of functionality/features automatic wavelength identification and switching and intelligent backlight control.

Features

- Wave ID—Automatic wavelength identification and switching (when used with the handheld light source)
- Frequency ID/Tone detection---Automatic frequency identification
- Intelligent backlight control (light intensity can be adjusted properly according to ambient light, which greatly reduced power consumption)
- Data storage function, up to 1000 test records
- USB communication port for saved testing records download
- Reference power level can be set up and stored
- User self calibration function
- Auto-off function can be activated or deactivated.
- AA alkaline and AC adapter for power supply
- Low battery indication



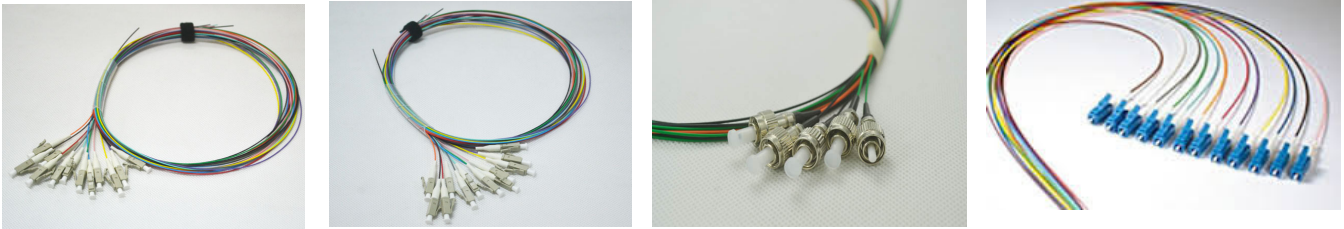
Specifications

Model	JW3216A	JW3216C
Calibrated (nm)	850, 1300,1310,1490,1550,1625	
Detector type	InGaAs	
Measurement Range (dBm)	-70~+6	-50~+26
Uncertainty (dB)	±0.15 (3.5%)	
linearity (dB)	±0.02	
Display resolution (dB)	0.01	
Frequency ID (Hz)	270, 330, 1K, 2K	
Wave ID (nm)	1310, 1490, 1550, 1625	
Date storage capacity	1000	
Communication Port	USB	
Optical Connector type	FC,SC,ST interchangeable	
Alkaline battery	3*AA, 1.5V	
Power Supply Adaptor(V)	8.4	
Battery Operating time (h)	200	
Operation Temperature(°c)	-10~+60	
Storage Temperature(°c)	-25~+70	
Outline size (mm) /weight	180*90*45(250g)	

Standard Packages

MODEL	INCLUDES
All Apollo Models	Apollo Optical Power Meter, 3pcs 1.5V batteries, AC Adaptor, User Manual, Cotton swabs and Soft carrying case.

Fibre Optic Pigtails:



Fibre Optic pigtails are essential when terminating cables within a splice enclosure by either using a fusion splicer or mechanical splicing. Using pre-polished assemblies can reduce the risk of poor connector termination and therefore loss. Cables terminated within a production facility will give a higher performance than cables terminated on site.

Apollo Technology Pty Ltd distributes a wide range of laboratory terminated and tested fibre optic pigtail assemblies

Apollo Technology Pty Ltd Fibre Optic Pigtails are available in a 12 pack using 900µm tight buffered fibre with international standard colors. The standard length that is supplied is 1.5m.

The Fibre Optic Pigtails are available with a range of connectors: SC, SC APC, LC, LC APC, ST, MTRJ and FC.

FEATURES AND BENEFITS

- Easy to strip and cleave
- Full range of test results provided.
- Fully machine polished connectors supplied, ensuring low loss
- High quality, machine polished connectors for consistent low loss performance
- Identifiable fibre buffer colors under all lighting conditions
- Short connector boots for ease of fibre management in high density applications
- Ultra polish & Angle polish options available all terminations are manufactured to exceed performance parameters set by industry standards.
- Fast turnaround of non-standard requirements.
- Full traceability & test certification supplied with each assembly.
- 900µm tight buffered fibre optic cable.

APPLICATIONS

- For use in permanent termination of optical fibre via fusion splicing
- For use in permanent termination of optical fibre through mechanical splicing

Number	TIA/EIA-598 ¹
1	blue
2	orange
3	green
4	brown
5	grey
6	natural / white
7	red
8	black
9	yellow
10	violet
11	pink
12	turquoise

¹ EN 50174-1

Specifications

* Pigtail Specification

Mechanical Length: 2m ± 10mm

Other lengths available to order

Product Packaging

Each pigtail is packaged individually and individually identified for traceability, test certification is supplied for each assembly.

* Connector Specification

Optical Performance (Singlemode) ~Insertion loss: Max. 0.3 dB, Typical 0.2 dB

Return loss: UPC > 50dB, APC >60Db

(Multimode) ~Insertion loss: Max. 0.3 dB, Typical 0.2 dB

Optical Performance

(MT-RJ): Insertion loss: Max. 0.5 dB

Operating Temperature

: -40°C to +85°C

Intermateability

: Optically and mechanically compatible with all equivalent connectors.

Compliant with IEC 874-14.

Part number:

SC OM1-	SC1P122
SC OM3-	SC3P122
SC OM4-	SC4P122
SC SM (OS2)-	SC2P122
LC OM1-	LC1P122
LC OM3-	LC3P122
LC OM4-	LC4P122
LC OS2 (SM)-	LC2P122
ST OM1-	ST1P122
ST OM3-	ST3P122
ST OS2 (SM)-	ST2P122
FC SM (SM)-	FC2P122
MTRJ OM1-	MT1P122
MTRJ SM-	MT2P122

Fibre Optic Patchleads



Apollo Technology Pty Ltd fibre optic patch leads are simplex or duplex fibre optic cables terminated at either end with connectors that allow them to be quickly and easily connected to an optical switch, fibre optic termination tray, an SFP or other various types of telecommunication equipment.

Apollo Technology Pty Ltd have the flexibility to be able to offer OM1, OM3, OM4, OS2 in both standard cable and RBR (Reduced Bend Radius) cable configurations. A variety of colors and connector types are also available. Cable jacket sizes include 1.8mm, 2.0mm and 3.0mm variations.

Please advise us at the time of quote if there are any specific requirements as we are more than happy to customise the leads to exactly what you require.

Some key characteristics of Apollo Technology Pty Ltd fibre optic patch leads are:

1. High Return Loss & Low Insertion Loss
2. High reliability and stability
3. Green Production, CE, RoHS Standard

There are a number of applications in which Apollo Technology fibre optic patch leads can be used:

1. Optical fibre communications systems.
2. Optical fibre access networks
3. Optical fibre CATV
4. Optical fibre test equipment (SFP's, Switches, Media Convertors)
5. Optical fibre data communication

Technical Specifications:

Mode	Single mode		Multimode
Polish	UPC	APC	PC
Insertion Loss	≤0.2dB	≤0.3dB	≤0.2dB
Return Loss	≥55dB	≥65dB	≥35dB
Interchangeability	≤0.2dB		
Salt Spray	≤0.1dB		
Repeatability	≤0.1dB (1000 times)		
Vibration	≤0.2dB (550Hz 1.5mm)		
Temperature	≤0.2dB (-40+85 sustain 100 hours)		
Humidity	≤0.2dB (+25+65 93 R.H.100 hours)		
Apex Offset	0µm ~ 50µm		
Radius of Curvature	7mm ~ 25mm		
Standards-Compliant	ROHS,IEC and GR-326		



Description:

Apollo Technology are able to manufacture a large range of pre-terminated cables made to your exact specifications. If you require them in a specific material, break out type or connector configuration just let us know and we are more than happy to assist.

Features:

- All Cables come ready to install with comprehensive test results.
- Plug and Play solution- save time money and effort.
- Pulling option available to assist in easy deployment in the field.
- A variety of colors and connector types allow for simple customisation.

To order please complete the simple form below and email or call us at:

sales@apollo-tech.com.au

0408 449 815/ 0402729855

Distribution Cable (Indoor/Outdoor Cable)

Apollo Technology Fibre Optic distribution cable (Indoor/Outdoor Cable) uses top quality materials to guarantee excellent results across a wide array of deployments.

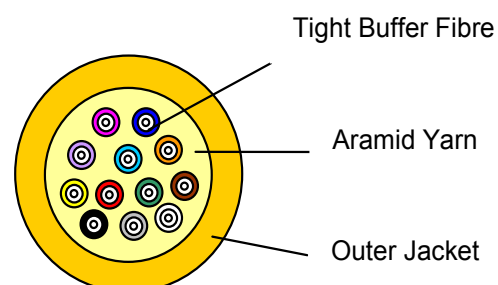
there are a number of number of different uses for these cables including: indoor, inside building buildings and FTTD.

- It can supply bandwidth, transmission speech, data, TV and video
- Characteristic: small diameter, lightweight and flexible so it is easy to install, maintain and manage

(Characteristic)

*Excellent stripping performance of tight buffer Fibre

*Small cable diameter and bending radius allow it to be easily installed in small places



(Geometrical Characteristics)

Distribution Cable Type	2	4	6	8	12	24	48
Distribution Cable Diameter(mm)	5.00	5.10	5.30	6.00	6.60	8.50	10.50
Distribution Cable Weight(kg/km)	20	20	22	25	28	50	
TBF Diameter(μ m)	900 \pm 50						

(Mechanical Characteristics)

Max Load(N)	Long Term	130	130	130	130	130	200
	Short Term	440	440	440	440	440	660
Bending Radius(CM)	Dynamic	20×D (D: Cable Diameter)					
	Static	10×D (D: Cable Diameter)					

(Fibre)

Fibre Type(core/cladding dimension)	8.3/125, 50/125, 62.5/125
-------------------------------------	---------------------------

(Transmission Characteristics)

	SMF	50/125	62.5/125
	1310/1550(nm)	850/1300(nm)	850/1300(nm)
(dB/km) Max Attenuation(dB/km)	0.45/0.30	3.5/1.5	3.5/1.5
(dB/km) AVG. Attenuation(dB/km)	0.40/0.25	3.0/1.0	3.0/1.0
(MHz•km) Min Bandwidth(MHz•km)	---	400/400	160/500

(Environmental Characteristics)

(Storage Operating Temperature)	-20°C ~ +60°C
---------------------------------	---------------

Ordering information:

Singlemode:

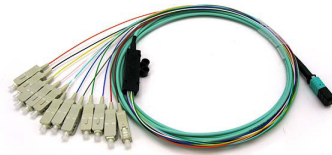
- SM4- 4 Core Singlemode Indoor/Outdoor Cable
- SM6- 6 Core Singlemode Indoor/Outdoor Cable
- SM8- 8 Core Singlemode Indoor/Outdoor Cable
- SM12- 12Core Singlemode Indoor/Outdoor Cable
- SM24- 24 Core Singlemode Indoor/Outdoor Cable

OM3 50 Micron:

- OM36- 6 Core 50 micron OM3 Indoor/Outdoor Cable
- OM312- 12 Core 50 micron OM3 Indoor/Outdoor Cable
- OM324- 24 Core 50 micron OM3 Indoor/Outdoor Cable

OM4 50 Micron:

- OM46: 6 Core 50 micron OM4 Indoor/Outdoor Cable
- OM412: 12 Core 50 micron OM4 Indoor/Outdoor Cable
- OM424: 24 Core 50 micron OM3 Indoor/Outdoor Cable



MPO/MTP is short for “Multi-fibre Push On”. MPO/MTP cables can only be manufactured in a factory and are not able to be assembled at site as some other connector types are.

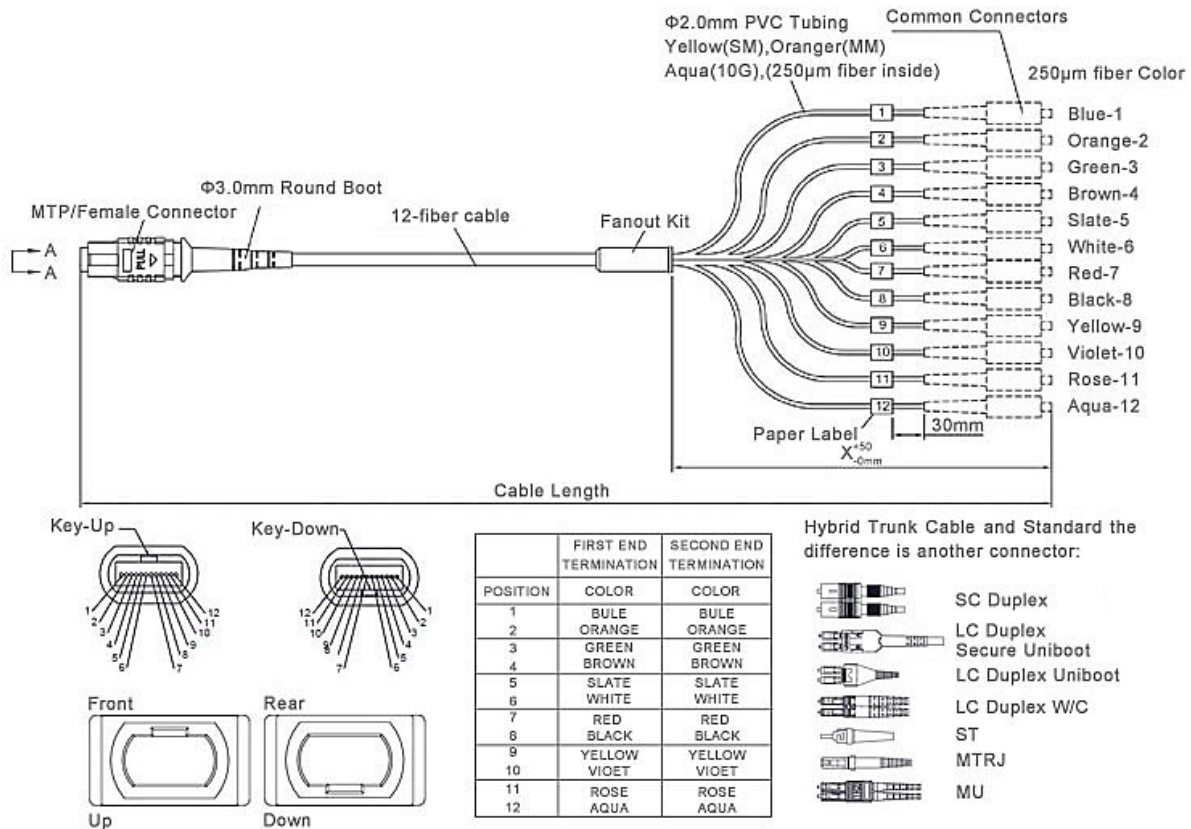
The MPO/MTP connector uses tightly held tolerance stainless steel guide pin tips with an elliptical shape. The elliptical shaped guide pin tips improves guidance and reduces guide hole wear over time.

MTP/MPO connectorised ribbon fibre cable assemblies provide reliable high performance interconnects of up to 24 fibres in a small footprint. The MTP/MPO connectors utilize the precision moulded NTT compatible ferrule which 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.

MTP/MPO connectors are used with single-mode and multimode fibre-optic cables. The MTP/MPO is a connector manufactured specifically for a multifibre ribbon cable. The MTP/MPO single-mode connectors have an angled ferrule allowing for minimal back reflection, whereas the multimode connector ferrule is commonly flat. The ribbon cable is flat and appropriately named due to its flat ribbon-like structure, which houses fibres side by side in a jacket. The typical insertion loss for matched MTP/MPO connectors is 0.25 db. From a design perspective, it is recommended to use a loss margin of 0.5 dB or the vendor recommendation for MTP/MPO connectors.

MPO FAN OUT CABLES

Because all MPO Cables must be assembled at the factory, you may need to buy Fan Out cables to connect to legacy/existing fibre optic plant to single core connectors such as SC in your horizontal plant. (note – a single 40GbE port uses eight fibre cores or four pairs).



SPECIFICATIONS

APOLLO MPO CABLE:

Item	SM	MM
Insertion Loss	$\leq 0.5\text{dB}$	
Return Loss	$\geq 45\text{dB}$	$\leq 20\text{dB}$
Repeatability	$\leq 0.2\text{dB}$	
Durability	$\geq 1000\text{matings}$	
Tensile Strength	$\geq 10\text{Kg}$	
Operating Temperature	-40 to $+80^{\circ}\text{C}$	



A fibre optic attenuator, is a device used to reduce the power level of an optical signal. Optical 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. Fibre optic attenuators are available in a wide range of connectors types and loss insertion values.

APPLICATIONS

- Fibre Optical distributing frame
- Fibre Optical network system
- High speed fibre optical transmission system
- CATV system
- Long distance DWDM system
- Optical add-drop multiplexers(OADM)

FEATURES

- High return loss
- Simple structure
- Max operation power(1W)
- Low wavelength relativity
- Low polarization related loss

SPECIFICATIONS

Item	
Attenuation Value	1~25dB
Attenuation Precision	$\leq 5\text{dB} \pm 0.3\text{dB}$, $\geq 10\text{dB} \pm 1\text{dB}$, $\geq 10\text{dB} \pm 10\%$
Return Loss	PC $\geq 55\text{dB}$; APC $\geq 60\text{dB}$
Operation Wavelength	1310nm and 1550nm(SM)
Polarization Loss	$\geq 0.1\text{dB}$
Operation Temperature	-40℃~ +75℃
Storage Temperature	-40℃~ +85℃
Temperature(Un-encapsulation)	95%RH Apply Telecordia Standard(GR-910-CORE)



Fibre optic connector cleaning tapes utilise a specially formulated dry cloth for a thorough and efficient cleaning of various fibre optic end-faces. The Fibre Optic cleaning tapes eliminate the need for hazardous cleaning fluids that can leave a residue on the end face. the cloth is extremely effective in removing grease, dust and other contaminants. The fibre optic connector cleaning tapes allow for substantial labor savings over conventional, high volume applications and have been adopted by manufacturers and carriers worldwide.

FEATURES

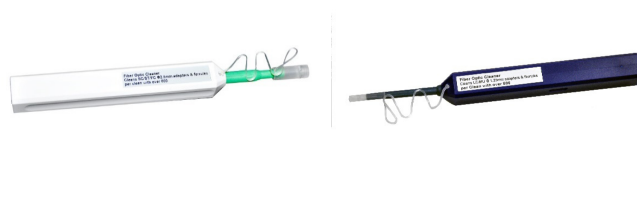
- Suitable for cleaning tasks in factories and field applications
- Environmentally friendly
- Achieve high quality cleaning without alcohol or other solvents.
- The cleaning tape is replaceable thus reducing the long term costs
- This is an ideal tool for use when the connector face is available to you for cleaning
- Specifically designed to clean ST, SC, FC, SMA D-4, DIN, and Diamond connector faces
 - Connector cleaned: SC, SC2, FC, ST,DIN, D4 MU, LC, MT
 - More than 500 times/cartridge
 - Size: 125mm (Width) X 70mm (Height) X 29mm (Thickness)
 - Environment Operation Temperature -20°C to 50°C
 - Humidity 20% to 80%R.H.
 - Preservation Temperature -20°C to 60°C
 - Replacement reel .

ORDERING INFORMATION:

PART NUMBER: CLTPECASS- Cleaning Tape Cassette

CLTPE- Cleaning Tape Replacement

ONE CLICK FIBRE OPTIC CLEANING PENS 1.25MM/2.5MM



The Apollo one click Fibre optic connector cleaning pens utilise a specially formulated dry cloth for a thorough and efficient cleaning of various fibre optic end-faces. The fibre optic cleaning pens have been developed to work with the LC, SC, FC, and ST connectors, this instrument cleans the ferrule end faces removing dust, oil, and other debris without nicking or scratching the end face. The fibre optic connector cleaning pens allow for substantial labor savings over conventional, high volume applications and have been adopted by manufacturers and carriers worldwide.

FEATURES

- Easy pushing motion engages connector and initiates cleaner
- Disposable with 800+ cleanings per unit
- Made from anti static resin
- Cleaning micro fibres are densely stranded and debris free
- Extendable tip reaches recessed connectors
- Cleaning system rotates 180 for a full sweep
- Audible click when engaged

APPLICATIONS

- Fibre network panels and assemblies
- Outdoor FTTX applications
- Cable assembly production facility
- Testing laboratories
- Server, switches, routers and OADMS with SC and LC interface

ORDERING INFORMATION:

- 125CP- suitable for 1.25mm end faces: LC
- 25CP- suitable for 2.5mm end faces: ST/SC/FC

SFP Module 1.25G SINGLEMODE

Duplex LC Connector, 1310nm, VCSEL for Multimode Fibre, RoHS Compliant



Applications

- Gigabit Ethernet Links
- Fibre Channel Links at 1.06 Gbps
- High Speed Backplane Interconnects
- Switched Backbones

Features

RoHS Pb

- 1310nm FP LD
- Data Rate: 1.25Gbps, NRZ
- Single +3.3V Power Supply
- RoHS Compliant and Lead-free
- AC/AC Differential Electrical Interface
- Compliant with Multi-Source Agreement (MSA) Small Form Factor Pluggable (SFP)
- Duplex LC Connector
- Compliance with specifications for IEEE-802.3z Gigabit Ethernet at 1.25 Gbps
- Compliance with ANSI specifications for Fibre Channel applications at 1.06 Gbps
- Eye Safety
 - Designed to meet Laser Class 1, complies with EN60825-1

Description

The SM SFP is a high performance and cost-effective module for serial optical data communication applications specified for single mode of 1.25 Gb/s. It operates on +3.3V power. The module is intended for single mode fibre, operates at a nominal wavelength of 1310nm, and complies with Multi-Source Agreement (MSA) Small Form Factor Pluggable (SFP). Each module consists of a transmitter optical subassembly, a receiver optical subassembly, and an electrical subassembly. All are housed in a metal package and the combination produces a reliable component.

The module is a duplex LC connector transceiver designed for use in Gigabit Ethernet applications and to provide IEEE-802.3z compliant link for 1.25Gb/s intermediate reach applications.

The characteristics are performed in accordance with Telcordia Specification GR-468-CORE.

EMC

Most equipment utilizing high-speed transceivers will be required to meet the following requirements:

- 1) FCC in the United States
- 2) CENELEC EN55022 (CISPR 22) in Europe

To assist the customer in managing the overall equipment EMC performance, the transceivers have been designed to satisfy FCC class B limits and provide good immunity to radio-frequency electromagnetic fields.

Eye Safety

The transceivers have been designed to meet Class 1 eye safety and comply with EN 60825-1.

PRODUCT INFORMATION

Model Number	Operating Voltage & SD Output	Distance	LD Type & Wavelength	Output Power	Sensitivity
SFP-S10	3.3V TTL AC/AC	10 km	1310 nm FP	-9.5 ~ -3 dBm	≤-21 dBm

ABSOLUTE MAX RATINGS

PARAMETER	SYMBOL	MIN	MAX	UNIT	NOTE
Storage Temperature	TS	-40	85	°C	
Supply Voltage	VCC	0	6	V	
Data Input Voltage	---	0	Vcc	V	
Supply Current	IS		300	mA	

OPERATING CONDITIONS

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	NOTE
Case Operating Temperature	TA	0		70	°C	
Supply Voltage	VCC	3.1		3.5	V	
Data Input Voltage Swing	VID	300		1860	mV	

SFP Module 1.25G MULTIMODE

Duplex LC Connector, 850nm VCSEL for Multimode Fibre, RoHS Compliant



Applications

- Gigabit Ethernet Links
- Fibre Channel Links at 1.06 Gbps
- High Speed Backplane Interconnects
- Switched Backbones

Description

The SFPMM is a high performance and cost-effective module for serial optical data communication applications specified for multimode of 1.25 Gb/s. It operates on +3.3V power. The module is intended for multimode fibre, operates at a nominal wavelength of 850nm, and complies with Multi-Source Agreement (MSA) Small Form Factor Pluggable (SFP). Each module consists of a transmitter optical subassembly, a receiver optical subassembly, and an electrical subassembly. All are housed in a metal package and the combination produces a reliable component.

The module is a duplex LC connector transceiver designed for use in Gigabit Ethernet applications and to provide IEEE-802.3z compliant link for 1.25Gb/s short reach applications. The characteristics are performed in accordance with Telcordia Specification GR-468-CORE.

Features

RoHS Pb

- 850nm VCSEL
- Data Rate: 1.25Gbps, NRZ
- Single +3.3V Power Supply
- RoHS Compliant and Lead-free
- AC/AC Differential Electrical Interface
- Compliant with Multi-Source Agreement (MSA) Small Form Factor Pluggable (SFP)
- Duplex LC Connector
- Compliance with specifications for IEEE-802.3z Gigabit Ethernet at 1.25 Gbps
- Compliance with ANSI specifications for Fibre Channel applications at 1.06 Gbps
- Eye Safety
 - Designed to meet Laser Class 1, complies with EN60825-1

EMC

Most equipment utilizing high-speed transceivers will be required to meet the following requirements:

- 1) FCC in the United States
- 2) CENELEC EN55022 (CISPR 22) in Europe

To assist the customer in managing the overall equipment EMC performance, the transceivers have been designed to satisfy FCC class B limits and provide good immunity to radio-frequency electromagnetic fields.

EYE SAFETY

The transceivers have been designed to meet Class 1 eye safety and comply with EN 60825-1.

PRODUCT INFORMATION

Model Number	Operating Voltage & SD Output	Wavelength	Output Power	Sensitivity	Distance
SFPMM	3.3V TTL AC/AC	850 nm	-9.5 ~ -4 dBm	≤-17 dBm	550 m(50/125μm) 275 m(62.5/125μm)

ABSOLUTE MAX RATINGS

PARAMETER	SYMBOL	MIN	MAX	UNIT	NOTE
Storage Temperature	TS	-40	85	°C	
Supply Voltage	VCC	0	6	V	
Supply Current	IS		240	mA	

10Gbps 1310nm SFP+ Optical Transceiver, 10Km

1. Features

- SFP+ package with LC connector
- 1310nm DFB Laser and PIN photo detector
- Up to 10km transmission on SMF
- Power dissipation < 1W
- LVPECL compatible data input/output interface
- Low EMI and excellent ESD protection
- laser safety standard IEC-60825 compliant
- Compatible with RoHS
- Compatible with SFF8472

2. Application

- Ethernet
- Fibre Channel

3. Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Storage Temperature	Tst	-40	+85	°C
Supply Voltage	Vcc	0	+3.6	V
Operating Relative Humidity	RH	0	+3.6	%

4. Operation Environment

Parameter		Symbol	Min	Typical	Max	Units
Supply Voltage		V _{cc}	3.15		3.45	V
Operating Case Temperature	Commercial	T _c	-5		+70	°C
Power Dissipation					1	W
Data Rate				10.3125		Gbps

5. Optical Characteristics

(Ambient Operating Temperature -5°C to +70°C, V_{cc} = 3.3 V)

Parameter	Symbol	Min.	Typ.	Max.	Units
Transmitter Section					
Center Wavelength	λ_o	1290	1310	1330	nm
Side-Mode Suppression Ratio	SMSR	35	-	-	dB
Average Output Power	Po	-8	-	+0.5	dBm
Extinction Ratio	Er	3.5	-	-	dB
Dispersion Penalty				3.2	dB
Relative Intensity Noise	RIN12OMA			-128	dB/Hz
Total jitter	Tj	IEEE 802.3ae			
Receiver Section					
Center Wavelength	λ_o		1310		nm
Receiver Sensitivity	Rsen			-12.5	dBm
Stressed Sensitivity	Rsen			-10.5	dBm
Receiver Overload	Rov	-3			dBm
Return Loss		12			dB
LOS Assert	LOS _A	-25			dBm
LOS Dessert	LOS _D			-16	dBm
LOS Hysteresis		0.5		4	

Apollo FTTH High Precision Fusion Splicer



The Apollo A117 FTTH Fusion Splicer, with high performance product at a low performance. This high performance product is fast lightweight and very simple to use. This product is designed with the installer in mind. Fast Heating times combined with accuracy and low losses ensure optimum performance and results.

Features

- Used for FTTH and ordinary fibre project
- Core to core alignment by PAS technology
- 8 sec splicing time and 30 sec heat time
- 300 X or Y view, 200 X and Y view
- 5-inch digital high-quality LCD screen, observe X and Y view at same time
- Three in one fixture for splicing single fibre, cable indoor and pig tail
- Has a built in large capacity lithium battery up to 200 cycles of splicing and heating
- Built in large capacity lithium battery of 200 times splicing and heating
- Small size and light weight, 1.98KG including battery

Model	A117 FTTH Fusion Splicer
Splicing Type	SM, MM, DS, NZDS
Splicing Loss	0.02dB(SM), 0.01dB(MM), 0.04dB(DS), 0.04dB(NZDS)
Return Loss	>60dB
Splicing Mode	Manual, Half Auto, Auto
Fiber Alignment	Core to Core Alignment by PAS technology
Applicable Fiber	Cable indoor and 0.25mm, 0.9mm fiber, SC connector(option)
Splicing Time	≤9s
Heat Time	≤30s
Cleaved Length	8~16mm
Fibre Image/ Magnification	300/200
View Display	5-inch digital high-quality LCD screen
Tension Test	Standard 2N (option)
Heat Shrinkable Sleeve	60mm, 40mm and serials heat Shrinkable Sleeve
Battery Capacity	200 cycles splicing and heating, 3 hours charging time (splicing and charging at same time)
Battery Life	Cycling charge 300-500 times, easy to replace battery
Electrodes Life	3000, easy to replace electrodes
Power Source	≤20W
Interface	USB Convenient data download and software update
Construction Lighting	Built in high brightness, wide range of lights, easy to operate at night
Power supply	Built in lithium battery 5200mAh 11.1V; external adapter, input: AC100-240V, output: DC13.5V/4.5A
Operating Condition	0-5000m above sea level, Temperature: -10-60°C, Humidity:0~95%RH (No dew)
Weight (including battery)	1.98 KG (including battery)
Dimension (LxWxH)	135mm(L)×158mm(W)×155mm(H)



Standard Configuration

No	Name	Qt
1	Fusion Splicer (FL-117)	1 set
2	Fiber Cleaver	1 pc
3	Fiber Stripper	1 pc
4	AC Adaptor	1 pc
5	Li Battery	1 pc
6	Charger	1 pc
7	Spare Electrodes	1 pair
8	Cooling Tray	1 pc
9	User Manual CD	1 pc
10	Carrying Case	1 pc

APOLLO FTTH

High Precision Fusion Splicer



The Apollo A118 FTTH Fusion Splicer, a lightweight precision product that is amazing value for money. This highly reliable unit allows for easy operation and maintenance of optical fibre networks. The splicer offers fast splice and heating times with an excellent environmental performance. Users have the option of operating the unit with integrated hard keys, or a new ultra-sensitive 5" LCD (tempered glass) touch screen.

Features

- Used for FTTH and ordinary fiber project
- 8 sec splicing time and 30 sec heat time
- 300 X or Y view, 200 X and Y view
- 5 inch digital high-quality LCD screen, observe X and Y view at same time
- Three in one fixture, splicing single fiber, cable indoor and pig tail
- Built in large capacity lithium battery of 200 times splicing and heating
- Small size and light weight, 1.98KG including battery
- V type high power automatic heater with steel based thick film; high thermal efficiency, fast heating and long life
- Core to core alignment by PAS technology
- With 7200 mAh Ultra-large capacity Libattery
- Large amplification and clearcore

Model	Apollo Fusion Splicer
Splicing Type	SM, MM, DS, NZDS
Splicing Loss	0.02dB(SM), 0.01dB(MM), 0.04dB(DS), 0.04dB(NZDS)
Return Loss	>60dB
Splicing Mode	Manual, Half Auto, Auto
Fiber Alignment	Core to Core Alignment by PAS technology
Applicable Fiber	Cable indoor and 0.25mm, 0.9mm fiber, SC connector (option)
Splicing Time	≤9s
Heat Time	≤30s
Cleaved Length	8~16mm
Fibre Image/ Magnification	300/200
View Display	5 inch digital high-quality LCD screen
Tension Test	Standard 2N (option)
Heat Shrinkable Sleeve	60mm, 40mm and serials heat Shrinkable Sleeve
Battery Capacity	200 cycles splicing and heating, 3 hours charging time (splicing and charging at same time)
Battery Life	Cycling charge 300-500 times, easy to replace battery
Electrodes Life	3000, easy to replace electrodes
Power Source	≤20W
Interface	USB Convenient data download and software update
Construction Lighting	Built in high brightness, wide range of lights, easy to operate at night
Power supply	Built in lithium battery 5200mAh 11.1V; external adapter, input: AC100-240V, output: DC13.5V/4.5A
Operating Condition	0-5000m above sea level, Temperature: -10~60°C, Humidity: 0~95%RH (No dew)
Weight (including battery)	1.98 KG (including battery)
Dimension (LxWxH)	135mm(L)×158mm(W)×155mm(H)



Standard Configuration

No	Name	Qt
1	Fusion Splicer	1 set
2	Fiber Cleaver	1 pc
3	Fiber Stripper	1 pc
4	AC Adaptor	1 pc
5	Li Battery	1 pc
6	Charger	1 pc
7	Spare Electrodes	1 pair
8	Cooling Tray	1 pc
9	User Manual CD	1 pc
10	Carrying Case	1 pc

The Apollo palm held visible fault locator (VFL) is an efficient and low cost basic fibre test tool, it provides a visible way to find fibre faults and identify fibers in an optical network during and after installation. It assists in:

- Finding any breaks, poor connections, bending or cracking in fibre optic cables.
- Finding faults in the OTDR dead zone
- End-to-end visual fibre identification

Key Features

- Constant & stable output power
Special laser driver circuit design, to make sure the laser output power remains a constant power level as long as in an available battery voltage.
- Low battery warning.
- Long battery life (up to 40 hours with 2AAA batteries)
- Operates either CW or Pulsed
- Pocket size and light weight, easy to use



Specifications

Type	JW310N Economical VFL
Central Wavelength)	650nm±10nm
Emitter Type	FP-LD
Output Power	1mw or 10mw
Optical Connector	FC/2.5mm universal connector For 1.25mm connectors, FC (Male)-LC (Female) convertor can be optional on customer requests
Operating Model	Both CW and Pulse(2Hz) available
Power Supply	Two AAA alkaline batteries
Battery Operating Time	40hours Test with Panasonic LR6 AAA ALKALINE battery
Operating	-10~+60 (°C)
Storage Temperature	-25~+70 (°C)
Dimension (mm)	100*30*18
Weight	37g

Standard Packages

MODEL	INCLUDES
Apollo VFL	VFL, Two AAA batteries, User Manual, Cotton swabs and Soft Carrying case.

OPTICAL FIBRE IDENTIFIER



Description

The Optical Fibre Identifier can quickly identify the direction of transmitted fibre and display the relative core power without interrupting the current service. The Fibre identifier recognizes modulation like, 270Hz, 1KHz and 2KHz with continuous audible tone. There are four adapter heads available: Ø0.25, Ø0.9, Ø2.0 and Ø3.0. This OFI is powered by 2 pcs standard AA batteries.

Features

- Easy-to-use “ONE KEY” operation;
- Efficiently identifies the fibre transmission direction and frequency tone (270Hz, 1KHz, 2KHz) with an audible warning;
- Displays the relative core power;
- 4 Easy-to-replace adaptors;
- Durable metal housing and quality construction;
- Lower power indication.
- It is portable and comes with its own carry case.

Specifications

Identified Wavelength Range	800-1700 nm	
Identified Signal Type	CW, 270Hz±5%, 1kHz±5%, 2kHz±5%	
Detector Type	Ø1mm InGaAs 2pcs	
Adapter Type	Ø0.25 , Ø0.9, Ø2.0, Ø3.0	
Signal Direction	Left & Right LED	
Single Direction Test Range (dBm, CW/0.9mm bare Fibre)	-46~10(1310nm)	
	-50~10(1550nm)	
Signal Power Test Range (dBm, CW/0.9mm bare Fibre)	-50~+10	
Signal Frequency Display (Hz)	270, 1k, 2k	
Frequency Test Range (dBm, Average Value)	Ø0.9, Ø2.0, Ø3.0	-30~0 (270Hz,1KHz)
		-25~0 (2KHz)
	Ø0.25	-25~0 (1KHz,2KHz)
		-20~0 (2KHz)
Insertion Loss(dB, Typical Value)	0.8 (1310nm)	
	2.5 (1550nm)	
Alkaline Battery(V)	2pcs AAA batteries	
Operating Temperature(°C)	-10- +60	
Storage Temperature(°C)	-25- +70	
Dimension (mm)	196X30.5X27	
Weight (g)	195	

10Gbps 850nm SFP+ Optical Transceiver, 300m

1. Features

- SFP+ package with LC connector
- 850nm VCSEL Laser and PIN photo detector
- Up to 300m transmission on 2000MHz-km MMF
- Power dissipation < 1W
- LVPECL compatible data input/output interface
- Low EMI and excellent ESD protection
- laser safety standard IEC-60825 compliant
- Compatible with RoHS
- Compatible with SFF8472

2. Application

- 10GBASE-SR/10G Ethernet

3. Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Storage Temperature	Tst	-40	+85	°C
Supply Voltage	Vcc	0	+3.6	V
Operating Relative Humidity	RH	0	85	%

4. Operation Environment

Parameter		Symbol	Min	Typical	Max	Units
Supply Voltage		V _{cc}	3.15		3.45	V
Operating Case Temperature	Commercial	T _c	0		+70	°C
Power Dissipation					1	W
Data Rate				10.3125		Gbps

5. Optical Characteristics

(Ambient Operating Temperature 0oC to +70oC, V_{cc} =3.3 V)

Parameter	Symbol	Min.	Typ.	Max.	Units
Transmitter Section					
Center Wavelength	λ_o	840	850	860	nm
RMS Spectral Width	$\Delta\lambda$	-	-	0.45	dB
Average Output Power	Po	-5	-	-1	dBm
Extinction Ratio	Er	3.0	-	-	dB
Dispersion Penalty				3.9	dB
Relative Intensity Noise	RIN ₁₂ OMA			-128	dB/Hz
Total jitter	Tj	IEEE 802.3ae			
Receiver Section					
Center Wavelength	λ_o		850		nm
Receiver Sensitivity	Rsen			-11.5	dBm
Stressed Sensitivity	Rsen			7.5	dBm
Receiver Overload	Rov	-3			dBm
Return Loss		12			dB
LOS Assert	LOS _A	-25			dBm
LOS Dessert	LOS _D			-15	dBm
LOS Hysteresis		0.5		4	



For any further information please contact
us at sales@apollotech.com.au or via our
website: www.apollotech.com.au

E: sales@apollotech.com.au

P: Simon Kaye 0408449815

P: Benn Gordon 0402729855

W: www.apollotech.com.au