





### INTRODUCTION

E-Systemizer Tech Pvt. Ltd is an ISO 9001-2015 Certified Company having state-of-art advanced Technology in-house manufacturing facility established in RAI industrial area close to North Delhi which is providing uncompromised quality of products & services in the field of telecommunication across all over India. With the team of the most efficient and expertise quality and professionalism, E-Systemizer is always the favorite in the field as the technicians and engineers of ours leaves no table unturned to provide quality product and services for the satisfaction of our clients.

### OUR PRODUCT AND SERVICES

We are one of the leading manufacturers of infrastructure solution for telecommunication in the country. In Field of Telecom connectivity, fiber optic, RF, MW and other range of networking products like Fiber Optic Cable(armored/unarmored), Accessories, Splitters, Attenuator, Patch Cords are the ranges of products offered by E-Systemizer.

Our wide range of products also includes-, RF Connectors, Jumper Cable, Weather Proofing Kits, Earthing Kits, Tower Cable Trays/Ladder, Feeder Marking Set, BTS Label Set, Surge Arrestor, Clamps and Hangers along with Cable Entry systems. We also deal in In-Built Solutions/Systems which includes Power Splitter/Combiner, Omni Antennas, Directional /Hybrid Couplers.

E-Systemizer is also known as the best manufacturer of Fiber Optic Cable. Our team always looks for bringing the most advanced and best telecommunication connectivity cables & devices for the industry. The dedicated research and development team is always on their feet to bring something new or the excel in the field along with help of our best and most trusted Quality Management System to ensure error free service for the complete satisfaction of our clients.

### QUALITY OF OUR SERVICES

We aim to provide "Guaranteed Quality, Served through Technology" and that is why our team of expert professionals is dedicatedly working for the quality management system so that each and every services and product is of unmatched quality.

E-Systemizer is the sister concern company of **Accurate Connecting Systems Pvt Ltd.(www.acspl.in)**, we have also succeeded in gaining the faith and trust of our client and that is also in a very short duration of time with our quality services.

## **OUR CERTIFICATIONS**





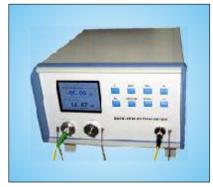




# E-SYSTEMIZER TEST & MEASURING INSTRUMENTS



NETWORK ANALYZER



IL/RL TEST METER



**PIM TEST ANALYZER** 



MICROSCOPIC APPARATUS



SITE MASTER



**OPTICAL LIGHT SOURCE** 



TENSILE TEST MACHINE



**OPTICAL TIME DOMAIN REFLECTOMETER(OTDR)** 



HOT AIR OVEN



**FUSION SPLICER** 



**OXYGEN INDEX APPARATUS** 



### CABLE ANALYZER

### E-SYSTEMIZER Connecting Accurately !

### OUR MANUFACTURING PROCESS



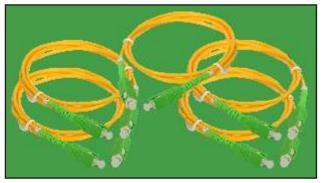
OPTICAL FIBER CUTTING PROCESS



CURING PROCESS



END FACE TESTING



FINAL PRODUCT



CONNECTOR ASSEMBLING PROCESS



POLISHING PROCESS



IL/RL TESTING



READY FOR SHIPPING

### E-SYSTEMIZER Connecting Accurately!

### OUR MANUFACTURING PROCESS



CABLE CUTTING



CABLE STRIPPING



PIN SOLDERING



CONNECTOR SOLDERING



CABLE MOULDING



PIM(Passive Intermodulation) TESTING



VSWR TESTING



READY FOR SHIPPING

 E-SYSTEMZZER

 Connecting Accurately !

 Products
 INDEX
 Page No.

 Fiber Optic Patch Cord
 8

 SC/FC/LC/ST/MTRJ regular patch cord
 8

 MTO/MTP Series
 9

 FTTA (Fiber To The Antenna) PATCH CORD
 10

 ODC Patch Cord
 11

FTTH Drop Patch Cord 12 LX.5 Patch Cord 13 Armoured Patch Cord 14 Waterproof Pigtail/ Patch Cord 15 More New Patch Cords 16 Adapters Fiber Optic Adapter 17 Hybrid Adapter 18 Bare Adapter 18 Male to Female Adapter 19 More New Adapter 20 Fiber Optic Attenuator 21 Fiber Optic Splitter **FBT Splitter** 22 **PLC Splitter** 23 Fiber Joint Enclosure In-line type/Horizontal 24 Vertical type/Dome Type 25 Fiber Optic Terminal Box 19" Rack mounted Fixed type 26 19" Rack mounted Slidable/Drawer type 26 Fiber Optic Distribution Panel Wall mounted type 27 Fiber Splitter Box 4/8/16 Port Outdoor splitter box 28 32/64 Port Outdoor Splitter Box 28 29 **FTTH Products** Media Converter 10/ IOOM Single Fiber Media Converter 30 10/100 Dual Fiber Media Converter 31 32 10/100/1000M Single Fiber Media Converter 10/100/1000M Dual Fiber Media Converter 33

#### 10/100/1000M 4 RJ45 ports+ fiber media converter 14 slot 2U 16 Slot fiber media converter rack chassis 19" 2U Video Converter 2 Channels Fiber Optic Video Converter single mode 20/40/60km Fiber Optic Video Converter 16 Channels 20km Fiber Optic Video Converter 8 Channels 20km Channel Fiber Optic Video Converter single mode, 20/40/60km 1310/1490/1550 Filter Wavelength Division Multiplexer (FWDM) Multimode 1310/1550nm Filter Wavelength Division Multiplexer (MM FWDM) CWDM-1 x2 CWDM Device (3 port)

CWDM Mux Demux Module Packed in ABS Box43Mini CWDM Mux/ Demux module448+1 -CH Coarse Wavelength Division Multiplexer (CWDM Mux/ Demux) Module454, 8, 1 6, 1 8-Channel CWDM OADM Module46DWDM-100G, 200G DWDM Optical Add-Drop Multiplexer (1x2 DWDM OADM)47100GHz Dense Wavelength Division Multiplexer (DWDM Module 4,8,1 6 Channel)48

34

33

35

36

37

38

39

40

41

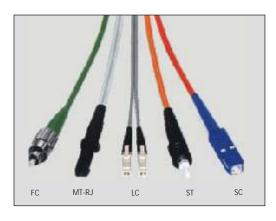
42

Connecting Accurately !	
100,200G DWDM OADM Module (4, 8 Channel) 100G DWDM N-CH Packed in 19-in 1U Rack mount	49
Optical Transceivers	50
100 Mbps -2.67Gbps Optical Transceiver-	51
8 Gbps (BiDi & WDM) Optical Transceiver-	51
100Mbps- 2.67 Gbps (BiDi & WDM)- Optical Transceiver-	51
3.3~6.14 Gbps Optical Transceiver-	51
8Gbps-11.1Gbps (SFP+) Optical Transceiver-	52
XFP Optical Transceiver- 100Mbps~40 Gbps (SFP +/QSFP) Copper Transceiver	52 52
100Mbps~40 Gbps (SFP) Copper Transceiver	52
Antenna	52
Indoor Omni Directional Antenna	53
Indoor Panel Antenna (7.5dBi)	53
Lightning Surge Arrestors	54
Jumper Cable Series	Γ 4
Type Of Jumper Cable 1/4", 1/2" RF Coaxial Connector Series	54
The 7/16 Type Connectors	55
N Type Coaxial Connectors	55
SMÁ Type Coaxial Connectors	56
TNC Type Coaxial Connectors	56
BNC Coaxial Connectors	56
SMB Type Connectors	57
MDR & D-type Connectors LEMO Connector	57 58
Accessories For Antenna Feeder	50
Feeder Clamps	59
Outdoor Grounding Kits (ring Buckle Type)	59
Outdoor Grounding Kits (copper Lingua Type)	59
Outdoor Grounding Kits (ring Type)	59
Indoor Grounding Kits (metal Strip Type)	60
Universal Ground Bars Accessories	60
Cable Entry Systems	60
Weather Proofing Kits	61
Cold Shrink Tube	61
Cables	
Coaxial/Shielded/PCM Cables	62
Energy Cables For Power Supply Multi Core Cables	62
Power Cables	62 63
Copper Control Cables	63
Twisted Pair Cables	
UTP Category 5E LAN Cable	64
FTP Category 5E LAN Cable	65
SFTP Category 5E LAN Cable	66
UTP Category 6 LAN Cable	67
FTP Category 6 LAN Cable SFTP Category 6 LAN Cable	68 69
FTP Category 6A LAN Cable	70
SFTP Category 7 LAN Cable	70
Wire Harness & Accessories	72-75



Fiber Optic Patch Cord

SC/FC/LC/ST/MTRJ regular patch cord



A patch cord is a fiber optic cable used to attach one device to another for signal routing. Normally, there are 5 types connector: SC/FC/LC/ST/MTRJ.. 3types ferrule: PC, UPC, APC...

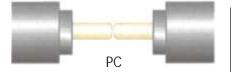
SC stands for Subscriber Connector- a general purpose push/pull style connector. It is a square, snap-in connector latches with a simple push-pull motion and is keyed.

FC stands for Fixed Connection. It is fixed by way of threaded barrel housing. FC connectors are generally constructed with a metal housing and are nickel-plated.

LC patch cord is a fiber optic cable used to attach one device to another for signal routing. LC stands for Lucent Connector. It is a small form-factor fiber optic connector, half the size of the SC.

ST stands for Straight Tip- a quick release bayonet style connector. ST connectors are cylindrical with twist lock coupling. They are push-in and twist types

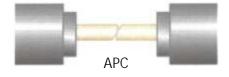
MTRJ stands for Mechanical Transfer Registered Jack. It's half the size of the SC connector.



PC stands for Physical Contact. With the PC connector, the two fibers meet as they do with the flat connector, but the end faces are polished to be slightly curved or spherical. This eliminates the air gap and forces the fibers into contact



UPC stands for Ultra Physical Contact.The end faces are given an extended polishing for a better surface finish. These connectors are often used in digital, CATV, and telephony systems.



APC stands for Angled Physical Contact The end faces are still curved, but they're angled at an industry-standard eight degrees. This maintains a tight connection. These connectors are preferred for CATV and analogue systems.

FC, SC, LC, ST **Specification** Unit SM MM PC UPC PC APC Insertion Loss (typical) dB £0.3 £0.2 £0.3 £0.2 **Return Loss** dB /45 /50 /60 /35 **Operating Wavelength** 1310, 1510 mm °C -40~75 **Operating Temperature** °C -45~85 Storage Temperature Cable diameter w 3.0, w 2.0, w 0.9 mm



### MTO/MTP Series

MPO (Multifiber Pull Off) was the first generation of MTP designed by NTT. It is now the name of the category of multi-fiber connectors produced by several companies. MTP (Mechanical Transfer Pull Off), however, is USCONEC's trade name for their own superior style of MPO connector.



### Features

- Push-pull latching
- > Easy assembly, no crimp tool needed
- > Alignment achieved with high precision guide pins
- > Designed for low loss and standard loss SM and MM applications
- > Ruggedized round cable, oval cable and bare ribbon options available
- > Color coded housings available to differentiate fiber type, polish type and/or connector grade

### Application

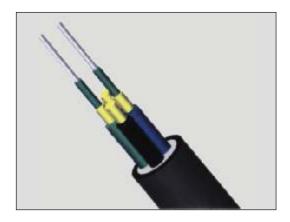
- > Array trunk cables
- > Array fiber to single fiber fanouts and cassettes
- ► High fiber density card edge access
- > Optical switching interframe connections
- > Datacenter cabling

MM Low loss Specification Multimode MT Ferrule		Standard Multimode MT Ferrule	SM Low loss Singlemode MT Ferrule	Standard Multimode MT Ferrule
Insertion Loss	Typical<0.30dB Maximum<0.5dB	Typical<0.50dB Maximum<0.7dB	Typical<0.30dB Maximum<0.5dB	Typical<0.50dB Maximurn<0.7dB
Return Loss >20dB		>20dB	PC > = 45 dB	PC > = 45 dB
Return Loss	>200b	>20UB	APC>=60dB	APC>=60dB



### FTTA (Fiber To The Antenna) PATCH CORD





### Features

- Good mechanical and environmental characteristics
- > Flame retardant characteristics meet the requirements of relevant standards
- > The mechanical characteristics of jacket meet the requirements of relevant standards
- > Soft, flexible, water blocked, UV resistant, easy to lay and splice, and with big capacity data transmission
- Meet various requirements of market and clients

### Application

- > 3G 4G base stations used
- ► Aerospace & Defence
- > Equipment diagnosis

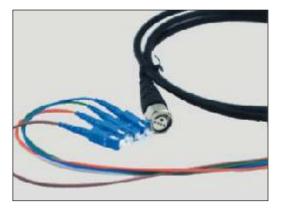
- > FO sensor
- ► FTTA, FTTP, FTTX, WIMAX
- > BBU, RRU, RRH, LTE

Insertion Loss	<=0.3dB
Repeatability	<=0.2dB
Fiber Core	2,4
Mating times	>=500N
Working temperature	-40 ~ +80°C



### ODC Patch Cord

The ODC Connector together with the far transmission cable, are becoming the standard interface specified in 3G, 4G and Wimax Base Station remote radios and FTTA (Fiber-to-the-Antenna) applications.



### Features

- > Screwed locking mechanism, confirm the connection is long-term and reliable.
- ► Guide structure, can be installed blindly, simply and quickly.
- > Airtight construction: Water proof, dust proof and corrosion resistant. Protection caps.
- > Compact appearance, robust and flexible.
- Sealing design through wall.
- Reduce the times of splicing.

### Application

- Indoor and Outdoor applications
- > Outdoor & Military communication equipment connection.
- > Oil field, mine communication connection.
- > Far transmission wireless base station.

- ► Video Surveillance system
- > Optical fiber sensor.
- ► Railway signal control.
- Intelligent substation

Insertion Loss	<=0.7dB
Repeatability	<=0.5dB
Fiber Core	2/4
Mating times	>=500N
Working temperature	-40 ~ +80°C



### FTTH Drop Patch Cord



### Application

- > CATV
- > Telecommunication networks
- Active device termination
- > Metro
- Local Area Networks (LANs)

- > Data processing networks
- Test equipment
- Premise installations
- > Wide Area Networks (WANs)

### Cable Parameters

Items		Items		Specifications
Fiber	1 / 2 / 4 Core			
Colored Coating Fiber		250±15 mm		
Colored Coaling The	Color	White / Black / Others		
Dimension		(2.0±0.1) mm x (3.1±0.1) mm		
	Material			
Jacket Color		Black /White		
Strength Member		FRP& (Steel Wire)		

Item	Singlemode	Multimode
Insertion loss	<=0.3dB <=0.3dB	
Return loss	>=50dB	>=35dB
Operating temperature	-40 ~+85 °C	
Ceramic ferrule spec	125.5um concentricity deviation<=1 mm	127um concentricity deviation<=3mm
Mode type	9/1 25 mm	50/125 mm, 62.5/125 mm



### LX.5 Patch Cord

The LX.5 was developed with carrier-class reliability to ensure network integrity. Available in simplex or duplex configurations, the LX.5 maintains single circuit access and incorporates safety shutters on both the connector and adapter body to provide protection from dust, dirt, and ferrule end-face handling damage. The connector also features a latching mechanism that effectively releases the connector from the adapter. Its user-friendly and intuitive design prevents cables from snagging at the back of the connector.



### Features

- > Doubles the density; twice as many fiber connections
- Exactly half the size of the SC connector; adapter fits the SC footprint
- Shutters on both the adapter and connector
- > Incorporates proven, reliable ceramic ferrules
- > Available in singlemode and multimode versions
- Easy to convert between simplex and duplex connectors

### Application

- ► Telecom
- > LAN, WAN
- > CATV

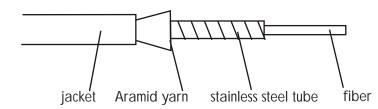
- > Sensor Systems
- ► Measuring Technique
- ► Utilities, Railways

Insertion Loss	<=0.2dB (UPC)		
	<=0.5dB(APC)		
Boot OD	3.0mm, 2.0mm, 1.6mm, 0.9mm optional		
Operating temperature	-40 ~ +75°C		









Armored patch cord can be laid in all kinds of environmental extremes. It is used without protection tube which saves space and is quite convenient for maintenance. Also it has the construction including

stainless steel tube which protects optical fiber and provide better security for the whole system.

### Features

- > Protection of stainless steel tube with small caliber.
- > Avoid the damage of torsion.
- ► High tensile coefficient and stress coefficient.
- > Convenient for application, highly security.
- > Application without damage to cable.
- Manufacture without damage to cable.
- > Cost cutting for maintenance.

### Application

- > Machine room
- ► FTTH
- > Area network
- Test equipment

- ► National defence
- ► FO sensor
- Light communication system
- > Common antenna TV system

Fiber Core	1/2/4/8 cores
Insertion Loss	<=0.3dB
Tensile strength	Short term: / 300N: long term: / 150N.
Working temperature	-40 ~ +85°C



Waterproof pigtail/ Patch Cord

Waterproof fiber pigtail/Patch cord can be used in harsh environment. It is mainly used in outdoor connection of the optical transmitter. Waterproof fiber pigtail is designed with a stainless steel strengthened waterproof unit and armored outdoor PE jacketed cables. Waterproof fiber pigtails/Patch cord are widely used in data transmission network, typical types are with 2 fiber cores, 4 fiber cores or 8, 12 fiber cores. By adopting the special structure cables and connectors, these fiber cable assemblies are widely used in CATV and other applications.



### Features

- > Waterproof features & reliable performance
- > Pull & erosion resistance, good grounding
- > Low insertion loss, high return loss, excellent exchangeability, high stability
- > The cable and pigtail is not moved when tighten the connection screw, which ensure the convenient construction.

### Application

- ► CATV & LAN
- Data & Communication System
- > Connection for main fiber and optical receiver.

Fiber Core	1 /2/4/8/1 2 cores			
Insertion Loss	<=0.3dB			
Max OD (mm)	Inner cable OD:2.0mm, Outer cable OD:11.8mm. Inner cable OD:1.6mm. Outer cable OD:9.8mm			
Working temperature	-20 ~ +70t			



### More New Patch Cords



Mode Conditioning Patch Cord



Bundle Patch Cord



Pulling eyes Patch Cord



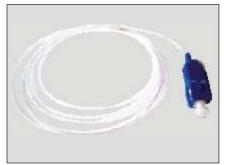
Loopback Jumper



Fan-out Kit Tubing



Bare ferrule Pigtail



Bare fiber Piatail



**DIN Patch Cord** 



Spring patch cord



E2000 Patch Cord



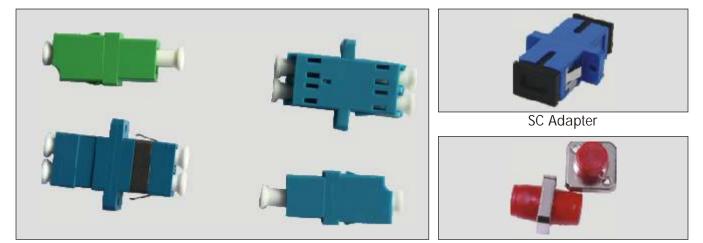
MU Patch Cord



PDLC Patch Cord



Fiber Optic Adapter

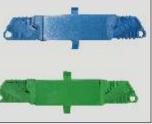


LC Adapter





MTRJ Adapter



E2000 Adapter



MPO Adapter



ST Adapter

		SC/LC/FC/ST/MPO/MT-RJ/E2000				
Parameter	Unit	SM			MM	
		PC	UPC	APC	PC	
Insertion Loss	dB	£0.3	£0.2	£0.3	£0.2	
Exchangeability	dB	£0.2				
Repeatability	dB	£0.2				
Durability	Time	>1000				
Operating Temperature	°C	-40~75				
Storage Temperature	°C	-45~85				



### Hybrid Adapter









FC-ST

FC-SC

FC-LC

ST-LC





ST-SC

SC-LC

FC-SC FC-ST SC-ST Duplex...

Hybrid fiber optic adapters offer a solution for hybrid applications where the two different kinds of fiber connectors or cable assemblies need to be linked with each other.

### Application

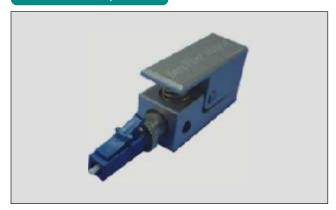
- Local Area Network
- ► CATV System

- Telecommunication Networks
- Equipment Test

		FC-ST, FC-SC, FC-LC,ST-LC,ST-SC,SC-LC				
Parameter	Unit		SM			
		PC	UPC	APC	PC	
Insertion Loss	dB	£0.3	£0.2	£0.3	£0.2	
Exchangeability	dB	£0.2				
Repeatability	dB	£0.2				
Durability	Time	>1000				
Operating Temperature	°C	-40~75				
Storage Temperature	°C	-45~85				



### **Bare Adapter**



Bare Fiber Adapter is a most affordable and easy method for temporarily connecting bare fiber with all industry standard connectors. We provide a simple and easy method to quickly interconnect any standard fiber connector to a piece of unterminated (bare) fiber to meet service, test or communication requirements.

### Application

- > Temporarily connect bare fiber
- Testing bare fiber, fiber on the reel, fiber before and after installation
- Temporary connections to OTDRs, Power Meters, Talksets, Demo Equipment, Light Sources, Data & Telecom Equipment and Dark Fiber
- Maintenance, Restoration and Installation Jobs

#### Features

- Technology Award Finalist
- Constructed of machined aluminum
- Stainless steel connector modules
- Requires only .14" to .55" of fiber exposed after cleaving
- Accepts buffer up to 900uM
- Reusable, easy clean-out
- Interchangeable connector modules
- Unique holding mechanism utilizing new micropads to hold the fiber secure during testing

### Male to Female Adapter



Male to female fiber optic adaptors allow user to convert from one connector type to another.

These adaptors are comprised of a polymer/metal outer body and inner assembly fitted manufactured to demanding specifications, The combination of ceramic /Phosphor bronze alignment sleeves and a precision moulded polymer housing provides consistent long-term mechanical and optical performance

### Application

- Fiber optic transmission system
- > CATV networks
- > LAN
- Testing/Measurement Instruments
- > Fiber distribution frame, mounts in Fiber Optic
- Wall Mount and Rack Mount Cabinets

#### Features

- Female to male hybrid adaptor
- Application for system requirement
- Saving cost

			S	Т	
Parameter	Unit	SM			MM
		PC	UPC	APC	PC
Insertion Loss	dB	£0.3	£0.2	£0.3	£0.3
Operating Temperature	°C	-40~85			
Storage Temperature	°C	-45~85			

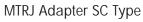


More New Adapter





MTRJ Adapter flange type





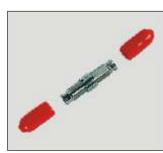
MPO Adapter



MU Adapter



MU DX Adapter



**DIN Adapter** 



FC-E2000 Adapter



LC-E2000 Adapter



SC-E2000 Adapter



FC-MU Adapter



LC-MU Adapter



SC-MU Adapter



SC SX Shutter



SC DX Shutter







LC/APC Quad Shutter



### Fiber Optic Attenuator



### Features

- Low back reflection and Low PDL
- > High precision attenuation value
- > Precision control of attenuation range
- ► Wide attenuation range
- > Precision ceramic ferrule
- ► FC, SC, ST, LC ... optional
- Plastic or metal housing material

### Specification

### Male to Female type Optical Attenuator flange type optical attenuator

Fiber Optic Attenuator is a component installed in a fiber optic transmission system that reduces the power in the optical signal.

It is often used to limit the optical power received by the photo detector to within the limits of the optical receiver.

### Application

- > Fiber optical telecommunication system
- ► Fiber optical CATV
- Fiber optical sensor
- Testing equipment

Item	Unit	Parameter
Operating Wavelength	mm	SM:1310/1550nm MM: 850 /1300nm
Attenuation Range	dB	1-10 dB(1dB step), 15, 20, 25, 30 dB
Return Loss	dB	PC:/50 UPC:/55 APC:/60
Attenuation Tolerance	dB	£+/-0.5(1-10dB) or £+/-1.0(11-30dB)
Operating Temperature	°C	-25°C ~ +75°C
Storage Temperature	°C	-40°C~ + 85°C

### More New Attenuator

Adjustable optical attenuator





The FBT Splitter can couple the optical signals in the coupling area, and then re-distribute the light power. The key parameters include operating wavelength, bandwidth, and excess loss, coupling ratio, PDL and so on.

Directivity(d		> 55			
Operating Temper		-20~+70			
Storage Tempera		-40~+85			
Fiber Pigtail Len	igth(m)		1 or Customer On Request		
Port Configuration			1 x 2 /3/4 any ports		
	Single mode Dual/Thre	ee Window Tree/Star (	Couplers		
Port Configuration	1X4	1X8	1 X16	1 X32	
Max. Insertion Loss (dB)	7.2	10.8	14.4	17.8	
Uniformity (Max.) (dB)	0.8	1.7	1.7 2.0 2.5		
Operating Wavelength (nm)	1310/1550±40, 1310/1490/1550±40 or Custom wavelength				



### PLC Splitter





Planar light wave circuit (PLC) splitter is a type of optical power management device that is fabricated using silica optical waveguide technology. It features small size, high reliability, wide operating wavelength range and good channel-to-channel uniformity, and is widely used in PON networks to realize optical signal power splitting.

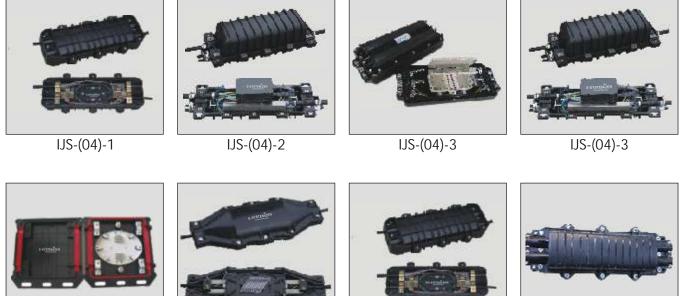
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Parameters	1x2	1x4	1x8	1x16	1x32	1x64	1x128
Operating Wavelength (nm)				1260~1650	)		
Fiber Type			G657A1	or customer	specified		
Insertion Loss (dB) (P/S Grade)	3.8/4.0	3.8/4.0	3.8/4.0	3.8/4.0	3.8/4.0	3.8/4.0	3.8/4.0
Loss Uniformity (dB)	0.4	0.6	0.8	1.2	1.5	2.0	2.5
Polarization Dependent Loss(dB)	0.2	0.2	0.2	0.25	0.3	0.35	0.4
Return Loss (dB)(P/S Grade)	55/50	55/50	55/50	55/50	55/50	55/50	55/50
Directivity (dB)	55	55	55	55	55	55	55
Wavelength Dependent Loss (dB)	0.3	0.3	0.3	0.5	0.5	0.5	0.5
Temperature Stability (-40~85 °C) (dB)	0.4	0.4	0.4	0.5	0.5	0.5	0.5
Operating Temperature (°C)				-40~85			
Storage Temperature (°C)	-40~85						
Device Dimension (mm)	40x4x4	40x4x4	40x4x4	50x4x4	50x7x4	60x12x4	N/A
Module Dimension (mm)	100x80 x10	100x80 x10	100x80 x10	120x80 x18	140x115 x18	140x115 x18	140x115 x18
Mini-Module Dimension (mm)	50x7x4	50x7x4	50x7x4	60x12x4	80x20x6	100x40x6	N/A

E-SŸŠTEMIZER
Connecting Accurately !

Fiber Joint enclosure

In-line type/Horizontal



IJS-(04)-5C



IJS-(04)-6





IJS-(04)-8

E-Systemizer provides In-line joint closure, they can be used in aerial, duct, and direct buried application. They are made of the high quality material and with the mechanical sealing structure filled with the sealing material, and can be reopened and reused without changing sealing material and tools. IP68 Grade.

Item	IJS(04)-1	IJS (04)-2	1JS (04)-3	IJS (04)-5	IJS(04)-5C	IJS (04)-6	IJS (04)-7
Dimension(mm)	435x190 x85	435x190 x120	435x190 x120	435x190 x80	200x220 x42	435x140 x75	435x190 x170
Weight(kg)	2.6	2.8	2.6	2.3	0.8	1.5	4.7
Cable diameter(mm)	F10/F17	F10/F22	F10/F22	F10/F17	F10/F22	F10/F12.5	F10/F22
Cable ports		2 in, 2 out				1 in, 1 out	4in, 4 out
Max capacity	96	168	192	96	24	48	288
Sealing structure	Sticky Cincture						



### Vertical type/Dome Type





IJS-M3-RS



IJS-M5-RS



IJS-M5-JF

E-Systemizer provides In-line joint closure, they can be used in aerial, duct, and direct buried application. They are made of the high quality material and with the mechanical sealing structure filled with the sealing material, and can be reopened and reused without changing sealing material and tools. IP68 Grade.

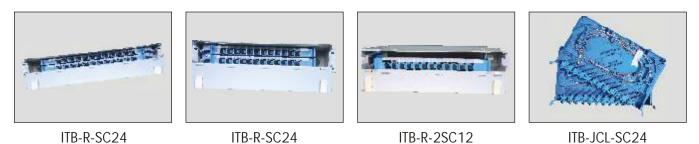
Item	IJS-M3-JF	IJS -M3-RS	IJS -M5-RS	IJS-M5-JF
Size (mm)	F190x410	F 190x435	F 210x540	F 210x540
Weight (kg)	2.6	2.5	3.9	4.0
Cable diameter	F7~F22	F7~F22	F7~F22	Max: 1*32 PLC Splitter
Cable ports	2 in, 2 out	2 in,2 out	2 in,2out, 1oval port	2 in, 2out, 1 oval port
Splice tray cores	24(single)	12/24 (single)	24(single)/72(ribbon)	24(single)
No. of splice tray	4	4	4	6
Max capacity	96(single)	96(single)	96(single)/288(ribbon)	144 (single)
Cable entry sealing	Screw mechanical	Heat-shrinkable sealing	Heat-shrinkable sealing	Screw mechanical

### E-SYSTEMIZER

Connecting Accurately!

### Fiber Optic Terminal Box

### 19" Rack mounted Fixed type



Fiber Optic Terminal Box can be applied in the branch connection of fiber termination, such as distribution box, 19" standard structure, rack mounting, be able fot installation of FC, SC, ST, LC adapters, Max capacity is 48Core

### Specification

Туре	Dimension(mm)	Capacity cores	Remark
ITB-R-1 U	480*250*1U	12 /24	
ITB-R-2U	480*250*2U	36/48	The body is made of cold
ITB-JCL-1 U	480*300*2U	12/24	rolled steel sheet, with electrostatic spraying.
ITB-FCZ-1U	480*300*1 U	12	We can install adaptors
ITB-R-FC24	480*250*1U	24	for you, available for
ITB-R-FC48	480*250*2U	48	FC, ST, SC, LC.
ITB-R-ST12	480*250*1U	24	
ITB-R-ST24	480*250*1U	24	

### 19" Rack mounted Slidable/Drawer type



ITB-RS-SC24



ITB-RS-2V-SC24

slidable rack mount fiber optic distribution frame is with the drawer for splicing, easy to withdraw the fibers when testing and distributing. It has aluminum sliding fittings with self-locking functions prevent the drawer from falling when moved.

Model	Dimension(mm)	Max capacity(cores).	Remark
ITB-RS-SC/24		12	Cold rolled steel sheet,
ITB-RS -FC24	430*300*1U	24	with electrostatic
ITB-RS -2SC24		48	spraying, suitable for FC,SC,ST,LC adapters.
ITB-RS-FC48	430*300*2U	48	ro, so, si, lo auapters.
ITB-RS-2V-SC24	430*300*1U	24	

### E-SYSTEMIZER Connecting Accurately!

### Fiber Optic Distribution Panel

### Wall mounted type



IDF-(05)A

IDF-(05)B



Available for small capacity communication system, wall mounting, reasonable and compact structure, harmonized with machine room. The cabinet is composed of two parts, one links with optical cables for fusion connection between optical cable and fiber pigtail and another links with patch cord.

### Features

- > Provide fusion and storage applicance for optical cables
- > Reliable protection appliance of fixing, stripping and earthing for optical cables.
- Whole range protected design for fiber lay to ensure the bending radius=40mm
- > Provide various accessores to avoid any unexpected damage to the fiber

Туре	Dimension(mm)	Max capacity cores	Remark
IDF(05)A-24	455*405*80	24	cold rolled steel sheet, electrostatic spraying.
IDF (05)A-48	455*405*120	48	Provide 24-72 adaptors, available for FC,ST,SC,LC.
IDF (05)A-72	455*405*150	72	Fit for wall mounting
IDF (05)B-48	455*405*120	48	cold rolled steel sheet, electrostatic spraying.
IDF (05)B-72	455*405*150	72	electrostatic spraying. Provide 48-72 adaptors, available for FC,ST,SC,LC. Fit for wall mounting
IDF (05)A-24A	350*350*80	24	cold rolled steel sheet, electrostatic spraying.
IDF (05)C-24	350*300*80	24	Provide 12-24 adaptors, available for FC,ST,SC,LC.
IDF (05)D-24	330 300 80	24	Fit for wall mounting



### Fiber Splitter box

### 4/8/16 Port Outdoor splitter box







FTB-16

- PLC splitter is compatible with 3 wavelength (1310/1490/1550)
- > Low insertion loss and high directivity, high quality, reliability, and performance
- Available for :1 x2,2x2,1 x4, 2x4,1 x8, 2x8, 1X16, 2X16
- > FTTH network and CATV system application
- Suitable for SC, LC duplex adapter
- > Design to protect splitter
- > Bracket preparation that can be fixed when installing it on wall
- > Application for outdoor, IP65 grade

### Dimension

Model	Capacity	Size
FTB-04	4 ports	210mm(W)X140mm(H)x40mm(D)
FTB-08	8 ports	200mm(W)x215mm(H)x54mm(D)
FTB-16	16 Ports	260mm(W)x320mm(D)x115mm(D)

### 32/64 Port Outdoor Splitter Box



FTB-32



FTB-64

### Features

- High quality cold rolled steel body, electrostatic spraying with water proof powder
- High quality water proof lock, wall mounted cabinet
- Operating temperature:-30°C~+55°C,storage temperature:-40°C~+60°C
- With access to 2 pcs of 12 cores fiber optic cables and up to 32 pcs of customer cables
- > Suitable for multi fiber optic cable access as well
- Suitable for 36 pcs of SC, FC, ST adapters, easy to installation and maintenance
- Support branch connection styles

Item	FTB-32 FTB-64	
Dimenstion (mm)	H450Xw350xD150	H550Xw450xD220
Cable diameter (mm)	F 10~F 14	
Cable ports	2 holes	
Max capacity of splice tray	24 (single fiber)	
Max quantity of splice tray	2 4	
Max capacity of main backbone cable	12 (single fiber)	



### FTTH Products

Quick Assembly Connector



QAC

QAC/ SC has easy assembly and excellent stability features without further processing, such as polishing, adhesives to facilitate the termination of the fiber in the field and working hard to secure space environment alone can access for assembling like pole, manholes.

In addition, it can be reduced the defect rate dramatically by worker's connection error, due to being able to reconnected.

### Features

- > No special assembling tool
- Easy for assembling with mechanical splice and no polishing
- Easy for learning technology by a simple assembling method (within 1 and half minutes)
- Minimize the defect rate by features of removal and reusable.

### Mechanical splice



E-Systemizer Mechanical Splicer provide quick and easy fiber splice in the field. It employs the mature V-groove technology, can be widely applicable for splicing different optical

cables, optical fiber splicing of floor distribution units (FDU), splicing of the optical drop cables with the pigtails in the multimedia boxes, and repairing any damaged lines to realize firm and reliable splicing in optical fibers. Mechanical Splicer applies to connect any single-core multimode fiber and single-core fiber Easy and rapid to operate, safe and reliable.



- Applicable for FTTH, FTTO an FTTD, etc., and allows easy use in different installation environments.
- The clasp design of the cover has greatly reduced the installation strength.

### Specification

Article	value
Insertion loss	£0.3 (max 0.4)
Return loss	∕40dB
Connector type	SC/PC
Cable	drop 3.0mm / flat 2x3mm cable

Model	Inner carton dimension(mm)	Inner carton weight(kg)
FTB-86	86x86x23	0.08
FTB-0102	205x115x35	0.25
FTB-104B	150x110x30	0.15



### Media Converter

### 10/ IOOM Single Fiber Media Converter

### Features

- > Complies with IEEE 802.3 10 Base-T standard.
- ► Complies with IEEE 802.3u 10/100 Base-TX/FX standard
- > Complies with IEEE 802.3X standard
- > 10/100/ Mbps port with full/half duplex auto-negotiation
- Back pressure flow control for full duplex
- > Twisted-pair connector: NODE/HUB or SWITCH (5 class UTP)
- Back pressure flow control for full/half duplex IEEE802.3X
- > Automatic identification of MDI/MDI-X cross-line
- ► High-performance 155Mbps memory bandwidth
- Complies with FCC, 15 CLASS A, ROHS and CE MARK



### Application

- > Apply to ready to rise to 10 M extended enterprise network bandwidth 100 M
- > Apply to images, voice and other multimedia data on an integrated transport network point
- Applies to the computer signal transmission in need of the occasion widely used for computer data transmission network to meet a variety of business needs
- Apply to the campus broadband network, broadcasting network and intelligent residential broadband fiber-tofloor fiber to the home data transfer with the switches and other computer network equipment can be combined to form:-chain, star, ring-type network and other computer networks

	IEEE802.3 10 Base-T standard		
Standard Protocol	IEEE802.3u 10/100Base-TX/FX standard		
Standard Frotocol	IEEE 802.3	d standard.	
		Q standard.	
Band Width	RJ 45 Port: 10/100Mbps	Optical Port: 155Mbps	
Operation Mode	Full /Half duplex mode		
Connectors	UTP: RJ-45	Fiber connector: SC/ST/FC	
Operation Mode	Full /Half duplex mode		
LED Indicators	POWER, FPL,10/100, FRX, TRX , FDX		
	External	DC-48V,DC24V,DC12V,DC5V	
Power Supply	Internal	AC110-250V/50Hz	
		DC -32~-72V	
	Power Consumption	£5W	
	Work Temperature	0°C~50°C (32 °F~122 °F )	
Environmental Parameters	Storage Temperature	-40°C~70°C (-40 °F~158 °F)	
	Humidity	5%~90% non-condensing	
TP Cable	Cat5 UTP cable (the max distance up to 100m)		
Fiber Cable	8. 3/125, 8. 7/125, 9/125, 10/125mm(the max distance up to 20 -120km)		
	50/125, 62.5/125mm(the max distance up to 2km or 5km)		
MTBF (Hours)	>50000		
	External power supply	94mm*70mm*25mm(3.7 *2.8*0.98 inch)	
Dimensions(mm)	Internal power supply	140mm*110mm*30mm(5.5 *4.3 *1.2 inch)	
	Socket Card	157mm*128mm*31mm(6.2 *5.1*1.2 inch)	
	External power supply	0.4 kg	
Gross Weight	Internal power supply	0.8kg	
	Socket Card	1.0kg	

### Technical Specification



### 10/100 Dual Fiber Media Converter

### Features

- > Complies with IEEE 802.3 10 Base-T standard.
- ► Complies with IEEE 802.3u 10/100 Base-TX/FX standard
- > Complies with IEEE 802.3X standard
- 10/100/ Mbps port with full/half duplex auto-negotiation
- Back pressure flow control for full duplex
- Twisted-pair connector: NODE/HUB or SWITCH (5 class UTP)
- Back pressure flow control for full/half duplex IEEE802.3X
- > Automatic identification of MDI/MDI-X cross-line
- > High-performance 155Mbps memory bandwidth
- > Complies with FCC, 15 CLASS A, ROHS and CE MARK



### Application

- > Apply to ready to rise to 10 M extended enterprise network bandwidth 100 M
- > Apply to images, voice and other multimedia data on an integrated transport network point
- Applies to the computer signal transmission in need of the occasion widely used for computer data transmission network to meet a variety of business needs
- Apply to the campus broadband network, broadcasting network and intelligent residential broadband fiber-tofloor fiber to the home data transfer with the switches and other computer network equipment can be combined to form:-chain, star, ring-type network and other computer networks

	IEEE802.3 10 Base-T standard		
Standard Protocol	IEEE802.3u 10/100Base-TX/FX standard		
Standard Frotocol	IEEE 802.3	d standard.	
		Q standard.	
Band Width	RJ 45 Port: 10/100Mbps	Optical Port: 155Mbps	
Operation Mode	Full /Half duplex mode		
Connectors	UTP: RJ-45	Fiber connector: SC/ST/FC	
Operation Mode	Full /Half duplex mode		
LED Indicators	POWER, FPL, 10/100, FRX, TRX, FDX		
	External	DC-48V,DC24V,DC12V,DC5V	
Power Supply	Internal	AC110-250V/50Hz	
		DC -32~-72V	
	Power Consumption	£5W	
	Work Temperature	0°C~50°C (32°F~122°F)	
Environmental Parameters	Storage Temperature -40°C~70°C (-40°F~158		
	Humidity 5%~90% non-condensing		
TP Cable	Cat5 UTP cable (the max distance up to 100m)		
Fiber Cable	8. 3/125, 8. 7/125, 9/125, 10/125mm (the max distance up to 20 -120km)		
	50/125, 62. 5/125mm (the max distance up to 2km or 5km)		
MTBF (Hours)	>50000		
	External power supply	94mm*70mm*25mm(3.7 *2.8*0.98 inch)	
Dimensions(mm)	Internal power supply	140mm*110mm*30mm(5.5 *4.3 *1.2 inch)	
	Socket Card	157mm*128mm*31mm(6.2 *5.1*1.2 inch)	
	External power supply	0.4 kg	
Gross Weight	Internal power supply	0.8kg	
	Socket Card 1.0kg		

### Technical Specification



### 10/100/1000M Single Fiber Media Converter

### Features

- > Complies with IEEE 802.3 10 Base-T standard.
- Complies with IEEE 802.3u 10/100 Base-TX/FX standard
- Complies with IEEE 802.3X standard
- 10/100/1000 Mbps port with full/half duplex auto-negotiation
- Back pressure flow control for full duplex
- Converter mode with auto-change-forward(Switch)function
- Back pressure flow control for full/half duplex IEEE802.3X
- Automatic identification of MDI/MDI-X cross-line
- ► High-performance 1.25Gbps memory bandwidth
- ► Complies with FCC, 15 CLASS A, ROHS and CE MARK



### Application

- > Apply to ready to rise to 1000 M extended enterprise network up to 120 km
- Apply to images, voice and other multimedia data on an integrated transport network point
- Applies to the computer signal transmission in need of the occasion widely used for computer data transmission network to meet a variety of business needs
- Apply to the campus broadband network, broadcasting network and intelligent residential broadband fiber-tofloor fiber to the home data transfer with the switches and other computer network equipment can be combined to form:-chain, star, ring-type network and other computer networks

Technical Specification
-------------------------

	IEEE802.3 10 Base-T standard			
	IEEE802.3u 10/100Base-TX/FX standard			
Chandand Dratesal	IEEE802.1 q, IE	EE802.1 p QoS,		
Standard Protocol	IEEE802.1 d S	Spanning Tree		
	IEEE 802.3	z standard		
	IEEE 802.3ab standard			
Band Width	RJ 45 Port:10/100/1000Mbps	Optical Port: 1.25Gbps		
Operation Mode	Full /Half d	uplex mode		
Connectors	UTP: RJ-45	Fiber connector: SC/ST/FC		
Operation Mode		uplex mode		
LED Indicators		OO, FRX, TRX , FDX		
	External	DC5V 2A		
Power Supply	Internal	AC110-250V/50Hz		
		DC -32~-72V		
	Power Consumption	£5W		
	Work Temperature	0°C~50°C (32°F ~ 122°F )		
Environmental Parameters	Storage Temperature	-40°C~70°C (-40°F ~ 158°F)		
	Humidity	5%~90% non-condensing		
TP Cable	Cat5 UTP cable (the max distance up to 100m)			
Fiber Cable		nm (the max distance up to 20 -120km)		
	50/125, 62. 5/125mm (the max distance up to 2km or 5km)			
MTBF (Hours)	>50000			
	External power supply	94mm*70mm*25mm(3.7 *2.8*0.98 inch)		
Dimensions(mm)	Internal power supply	140mm*110mm*30mm(5.5 *4.3 *1.2 inch)		
	Socket Card	157mm*128mm*31mm(6.2 *5.1*1.2 inch)		
	External power supply	0.4 kg		
Gross Weight	Internal power supply 0.8kg			
	Socket Card	1.0kg		



### 10/100/1000M Dual Fiber Media Converter

### Features

- > Provide one fiber connector and one UTP connector
- ► Fully complies with IEEE802.3 10Base-T, IEEE802.3u 100Base-TX, IEEE802.2ab 1000Base-TX, IEEE802.3z 1000Base-FX standard
- > Auto-detection of half/full duplex transfer mode for TX port
- Auto-negotiation of 10/100/1000Mbps rate and Auto-MDI/MDIX for TX port
- Provide switch configuration of half/full duplex transfer mode for FX port
- Extend fiber distance up to 2km for multi-mode fiber and 20km for single-mode fiber
- > Compacts size for easy installation and working with Media Chassis
- Choice of fiber-connector from SC, LC and WDM, multi-mode / singlemode fiber for 1 000Base SFP interface
- Easy-to-view LED indicators provides status to easily monitor network activity Internal power supply
- 1000Base-SX: 50/125mm or 62.5/125mm multi-mode fiber cable, up to 220/550m
- > 1000Base-T: 2-pair Cat. 5/5e/6 UTP cable, up to 100 meters
- > Back pressure flow control for full duplex IEEE802.3 X and half duplex.



### Technical Specification

	IEEE802.3 10 Base-T standard		
	IEEE802.3u 10/100Base-TX/FX standard		
Standard Drotocol		EE802.1 p QoS,	
Standard Protocol		Spanning Tree	
	IEEE 802.3	z standard	
	IEEE 802.3ab standard		
Band Width	RJ 45 Port:10/100/1000Mbps	Optical Port: 1.25Gbps	
Operation Mode		uplex mode	
Connectors	UTP: RJ-45	Fiber connector: SC/ST/FC	
Operation Mode	Full /Half duplex mode		
LED Indicators		OO, FRX, TRX , FDX	
	External	DC5V 2A	
Power Supply	Internal	AC110-250V/50Hz	
		DC -32~-72V	
	Power Consumption	£5W	
	Work Temperature	0°C~50°C (32°F ~ 122°F )	
Environmental Parameters	Storage Temperature	-40°C~70°C (-40°F ~ 158°F)	
	Humidity 5%~90% non-condensing		
TP Cable	Cat5 UTP cable (the max distance up to 100m)		
Fiber Cable	8. 3/125, 8. 7/125, 9/125, 10/125mm (the max distance up to 20 -120km)		
	50/125, 62. 5/125mm (the max distance up to 2km or 5km)		
MTBF (Hours)	>50000		
	External power supply	94mm*70mm*25mm(3.7 *2.8*0.98 inch)	
Dimensions(mm)	Internal power supply	140mm*110mm*30mm(5.5 *4.3 *1.2 inch)	
	Socket Card	157mm*128mm*31mm(6.2 *5.1*1.2 inch)	
Cross Moight	External power supply	0.4 kg	
Gross Weight	Internal power supply 0.8kg		
	Socket Card	1.0kg	



10/100/1000M 4 RJ45 ports+ 2 Fiber ports Ethernet optical transceiver



- In conformity to IEEE 802.3 10 Base-T standard. In conformity to IEEE 802.3u 100 Base-TX, IEEE802.3z, IEEE802.3ab standard.
- Built in high efficiency SRAM for packet buffer, with 1K-entry look up table and 4-way associative hash algorithm.
- > Half duplex: back pressure flow control
- ► Full duplex: IEEE802.3x flow control
- > Automatic identification of MDI/MDI-X cross line.
- In conformity to safety code of FCC and 15 CLASS A and CE MARK.

### Technical Specification

- Standard Protocol: IEEE802.3 10 Base-T standard
- ► IEEE 802.3u 100Base-TX and IEEE802.3z standard
- Connector: Two UTP R1-45 connector, two SC/ST connector
- Operation mode: full duplex mode or half duplex mode
- > Power supply parameter:
- Power line (External): 110-265V AC; Power Adapter 5V 1A DC
- Environmental temperature: -20°C 70 °C
- ▶ Relative humidity: 5%-90%
- > TP cable: Cat5 UTP cable
- > Transfer fiber:
- multi-mode: 50/125, 62.5/125 or 100/140 mm
- single mode: 8.3/125, 8.7/125, 9/125 or 10/125 mm

### Dimension

Power external: 1 85mm(L)x 112mm(W) x 35mm(H)

fiber media converter 14 slot 2U rack mount chassis



### Features

- > Versatile chassis for multiple converter installations
- Fourteen/Sixteen front panel slots for FHC Media Converters
- > 19" Rack Mount
- Optional redundant power supply
- Plug and Play Operation
- LED Indication for Primary and Secondary Power Supplies
- LED Indication for Converters
- Metal Case

### Available converter modules

- Gigabit ethernet 1000Base-T to 1000Base-SX/LX converter (multimode and single mode)
- 100Base-TX to 100Base-FX (SC/ST or FC) converter (multimode and single mode)
- N-Way 10/100Base-TX to 100Base-FX (SC/ST or FC) converter (multimode and single mode
- 1000Base-SX (single mode/SC) to 1000Base-SX (multimode/SC) converter
- 100Base-FX (single mode/SC) to 100Base-FX (multimode/SC) converter
- 10Base-T (STP) to 10Base-FL (ST) converter (multimode and single mode)
- 10/100Base-TX to 100Base-FX 2 wavelength WDM switch converter
- The 2U-Chassis is a versatile, flexible and cost effective solution for fiber conversion installations particularly when many fibers are terminated in one 1 9-inch rack

- Diagnostic LED: MB, MN
- Safety Standards: UL, CSA, FCC Part 15 Class B, CE
- Number of Ports: 14 slots for Series media converter
- Dimension: 294x 283 x 100 mm (WxDxH)
- > Weight: 5 Kg (Net Weight)
- > Power input: 100-240V, 150W, 50-60Hz
- Redundant Power(Optional) Input:100-240V, 150W, 50-60Hz
- Operating Temperature: 0°C +50°C
- Storage Temperature: -40°C +70°C
- Humidity: 5 90% non condensing

### Connecting Accurately ! 16 Slot fiber media converter rack chassis 19" 2U

### Features

- > Versatile chassis for multiple converter installations
- Fourteen/Sixteen front panel slots for FHC Media Convergers
- > 19" Rack Mount
- Optional redundant power supply
- > Plug and Play Operation
- LED Indication for Primary and Secondary Power Supplies
- LED Indication for Converters
- ► Metal Case

### Available converter modules

- Gigabit ethernet 1 000Base-T to 1 000Base-SX/LX converter (multimode and single mode)
- > 100Base-TX to 100Base-FX (SC/ST or FC) converter (multimode and single mode)
- ▶ N-Way 10/100Base-TX to 100Base-FX (SC/ST or FC) converter (multimode and single mode
- 1000Base-SX (single mode/SC) to 1000Base-SX (multimode/SC) converter
- 100Base-FX (single mode/SC) to 100Base-FX (multimode/SC) converter
- > 10Base-T (STP) to 10Base-FL (ST) converter (multimode and single mode)
- > 10/100Base-TX to 1 00Base-FX 2 wavelength WDM switch converter
- The 2U-Chassis is a versatile, flexible and cost effective solution for fiber conversion installations particularly when many fibers are terminated in one 19-inch rack

E-SYSTEMIZER

- Diagnostic LED: MB, MN
- > Safety Standards: UL, CSA, FCC Part 15 Class B, CE
- > Number of Ports: 14 slots for Series media converter
- Dimension: 294x 283 x 100 mm (WxDxH)
- > Weight: 5 Kg (Net Weight)
- Power input:100-240V, 150W, 50-60Hz
- Redundant Power(Optional) input:100-240V, 150W, 50-60Hz
- Operating Temperature: 0°C +50°C
- Storage Temperature: -40°C +70°C
- > Humidity: 5 90% non condensing



### Video Converter

2 Channels Fiber Optic Video Converter single mode 20/40/60km

### Features

- > 10-digit coding and non-compression video transmission;
- > Automatically reply for overloading protection;
- Status indicating;
- > No electromagnetic, frequency and ground current interference;
- Surface mounted technology;
- > Advanced auto-adaptive technology avoiding on-site electric or optical adjustment;
- LED status indicating the operation of the surveillance.

### Application

- Intelligent Transportation System
- > Connection of Sub-network for Surveillance Center
- Public Security Surveillance
- High Way & Toll Station Surveillance

- ► High Quality Video Conference
- > Industrial Closed Circuit Television Surveillance
- TV-live ,audio, phone, Ethernet, transmission

Video Specification					
Port			2		
Video interface			BNC		
Video in/outp			75V		
Video in/output voltage		(typ	oical)1.0Vp-p/max 1.5V	р-р	
Bandwidth			5-8MHz		
Differential gain					
Differential phase			<0.6°		
SN			/ 68dB		
Field gr	adient		<0.5%		
		Data Characteristics			
Physical of			phoenix contact (DATA)		
Data co		RS-485/422,RS232			
	Channels of data		forward and reverse path data multi-channels		
Interface port			strial standard interface	port	
Marking tom	noroturo(°C)	Environment Specification			
Working temperature(°C) Storage temperature(°C)		-30~+75			
Relative humidity		-40~+85 0~95%			
		Optical Budget			
Fiber type	MM	SM	SM	SM	
Budget	20dBm	20dBm	22dBm	25dBm	
Transmission Distance	28000m	20dbm	40km	60km	
	ZIIII	Other Specification	TOKIN	OORIN	
Dimension(mm)		143x107x28			
Input rating voltage		AC220V/50Hz			
Power supply		DC 5V/2A			
Power		£5W			
Sampling rate		15MHZ			
MTBF		/ 100,000h			





# Fiber Optic Video Converter 16 Channels 20km

#### Features

- > 10-digit coding and non-compression video transmission;
- Automatically reply for overloading protection;
- > Status indicating;
- > No electromagnetic, frequency and ground current interference;
- Surface mounted technology;
- > Advanced auto-adaptive technology avoiding on-site electric or optical adjustment;
- > LED status indicating the operation of the surveillance.

#### Application

- Intelligent Transportation System
- > Connection of Sub-network for Surveillance Center
- Public Security Surveillance
- > High Way & Toll Station Surveillance

- ► High Quality Video Conference
- > Industrial Closed Circuit Television Surveillance
- TV-live ,audio, phone, Ethernet, transmission

#### **Specification**

		Video Specification			
Ро	rt	16			
Video in	terface		BNC		
Video in/outp			75V		
Video in/out		(typ	oical)1.0Vp-p/max 1.5V	р-р	
Band			5-8MHz		
Different					
Differenti			<0.6°		
SN			/ 68dB		
Field gr	adient		<0.5%		
		Data Characteristics			
Physical c			phoenix contact (DATA)		
Data co			RS-485/422,RS232		
Channels			forward and reverse path data multi-channels		
Interfac	ce port	Industrial standard interface port			
Marking tom	noroturo(°C)	Environment Specification -30~+75			
Working tem Storage tem	perature(°C)		-40~+85		
Relative		0~95%			
INCIALIVE I	numunty	Optical Budget			
Fiber type	MM	SM	SM	SM	
Budget	20dBm	20dBm	22dBm	25dBm	
Transmission Distance	2000/m 2km	20dbm	40km	60km	
	ZIIII	Other Specification	TOKIN	OORIN	
Dimension(mm)		490x255x45			
Input rating voltage		AC220V/50Hz			
Power supply		DC 5V/5A			
Power		£20W			
Samplir	ng rate	15MHZ			
MT		/ 100,000h			





# Fiber Optic Video Converter 8 Channels 20km

#### Features

- > 10-digit coding and non-compression video transmission;
- > Automatically reply for overloading protection;
- > Status indicating;
- > No electromagnetic, frequency and ground current interference;
- Surface mounted technology;
- > Advanced auto-adaptive technology avoiding on-site electric or optical adjustment;
- > LED status indicating the operation of the surveillance.

#### Application

- Intelligent Transportation System
- > Connection of Sub-network for Surveillance Center
- Public Security Surveillance
- > High Way & Toll Station Surveillance

- ► High Quality Video Conference
- > Industrial Closed Circuit Television Surveillance
- TV-live ,audio, phone, Ethernet, transmission

#### Specification

		Video Specification			
Po		8			
Video in	terface		BNC		
Video in/outp			75V		
Video in/out		(typ	oical)1.0Vp-p/max 1.5V	р-р	
Bandy			5-8MHz		
Different					
Differenti			<0.6°		
SN			/ 68dB		
Field gr	adient		<0.5%		
		Data Characteristics			
Physical c			phoenix contact (DATA)		
Data co			RS-485/422,RS232		
Channels			forward and reverse path data multi-channels		
Interfac	e port	Industrial standard interface port			
\A/anking to m		Environment Specification	-30~+75		
Working tem			-30~+75 -40~+85		
Storage temp		-40~+85 0~95%			
Relative	lumiany	Optical Pudgot	Optical Budget		
Fibertune	MM	SM	SM	SM	
Fiber type	20dBm	20dBm	22dBm	25dBm	
Budget Transmission Distance	2000111 2km	200Bin 20km	40km	60km	
	ZNIII	Other Specification	40NII	UUKIII	
Dimension(mm)		176x176x47			
Input rating voltage		AC220V/50Hz			
Power supply		DC 5V/2A			
Power		£10W			
Samplin		15MHZ			
MT		/ 100,000h			





# 1 Channel Fiber Optic Video Converter single mode, 20/40/60km

#### Features

- > 10-digit coding and non-compression video transmission;
- > Automatically reply for overloading protection;
- > Status indicating;
- > No electromagnetic, frequency and ground current interference;
- Surface mounted technology;
- Advanced auto-adaptive technology avoiding on-site electric or optical adjustment;
- > LED status indicating the operation of the surveillance.

#### Application

- Intelligent Transportation System
- > Connection of Sub-network for Surveillance Center
- Public Security Surveillance
- > High Way & Toll Station Surveillance

- ► High Quality Video Conference
- Industrial Closed Circuit Television Surveillance
- TV-live ,audio, phone, Ethernet, transmission

#### Specification

		Video Specification			
Po		1			
Video in			BNC		
Video in/outp			75V		
Video in/out		(typ	oical)1.0Vp-p/max 1.5V	о-р	
Bandy			5-8MHz		
Different			0.40		
Differenti			<0.6°		
SN Field at			/ 68dB		
Field gr	auleni	Data Characteristics	<0.5%		
Physical of	onnoctor		phoenix contact (DATA)		
Data co			RS-485/422,RS232		
Channels		forward ar	nd reverse path data mul	ti-channels	
Interfac			strial standard interface		
interrut		Environment Specification			
Working tem	perature(°C)		-30~+75		
Storage tem		-40~+85			
Relative	humidity		0~95%		
		Optical Budget			
Fiber type	MM	SM	SM	SM	
Budget	20dBm	20dBm	22dBm	25dBm	
Transmission Distance	2km	20km	40km	60km	
	( )	Other Specification			
Dimension(mm)		133x107x28			
Input rating voltage		AC220V/50Hz			
Power supply Power		DC 5V/1A £5W			
Sampling rate		15MHZ			
MT		/ 100,000h			
ΙΫΓΙ DI			7 100,0001		





# 1310/1490/1550 Filter Wavelength Division Multiplexer (FWDM)

#### Features

- > Wide Operating Wavelength Range
- Low Insertion Loss
- ► Ultra Flat Wide Passband
- ► High Channel Isolation
- ► High Stability and reliability
- ► Epoxy-free on Optical Path

#### Application

- > Testing Instruments
- ► FTTH Tri-Play System

Performance Spe	ecification						
Parar	meter	FWDM 4/35	FWDM 5/34	FWDM 34/5			
Pass Band Wavel	ength Range (nm)	1480~1500	1540~1560	1260~1360&1480~1500			
Reflection Band 1 Wa	avelength Range (nm)	1260~1360	1260~1360	1540~1560			
Reflection Band 2 Wa	avelength Range (nm)	1540~1560	1480~1500	1040~1000			
Insertion loss (dB)	Reflect Channel		£0.6				
	Pass Channel	£0.8					
Pass Band F	Rippler (dB)	<0.3					
Isolation	Reflect Channel	>15					
1301211011	Pass Channel		>30				
Insertion Loss Temperat	ture Sensitivity (dB/°C)	<0.005					
Polarization Dep	endent Loss (dB)	<0.1					
Polarization Mod	le Dispersion (ps)	<0.1					
Directivity (dB)		>50					
Return loss (dB)		>50					
Maximum Power Handling (mW)		1000					
Operating Temperature (°C)		-20~+80					
Storage Temperature (°C)		-40~+85					
Package Dimension (mm)		F5.5x34 (L38 for 900um Loose tube)					



# Multimode 1310/1550nm Filter Wavelength Division Multiplexer (MM FWDM)

#### Features

- > Wide Operating Wavelength Range
- Low Insertion Loss
- ► Ultra Flat Wide Passband
- ► High Channel Isolation
- ► High Stability and reliability
- ► Epoxy-free on Optical Path

#### Application

#### > System Monitoring

- > WDM Network
- > Transmitters and Fiber lasers
- ► Fiber Optical amplifier
- > Fiber optic Instruments



Parameter		Specification	
Pass Band Wavelength Range (nm)		1500 ~ 1600 (or 1260 ~ 1 360)	
Reflection Band Wa	velength Range (nm)	1260 ~ 1360 (or 1500~1600)	
Insertion loss (dB)	Reflect Channel	£0.5	
	Pass Channel	£0.6	
Isolation (dB)R	Reflect Channel	<0.3	
Isolation	Reflect Channel	>15	
13012(1011	Pass Channel	>40	
Insertion Loss Temperature Sensitivity (dB/°C)		<0.005	
Polarization Dependent Loss (dB)		<0.1	
Polarization Mod	de Dispersion (ps)	<0.1	
Directivity (dB)		>50	
Return loss (dB)		>50	
Maximum Power Handling (mW)		500	
Operating Temperature (°C)		-20~+80	
Storage Temperature (°C)		-40~+85	
Package Dir	mension (mm)	F5.5x34 (L38 for 900um Loose tube)	



# CWDM

1 x2 CWDM Device (3 port)

#### Features

- Low Insertion Loss
- Wide pass band
- ► High Channel Isolation
- ► High Stability and reliability
- ► Epoxy-free on Optical Path

#### Application

- ► Line Monitoring
- > WDM Network
- > Telecommunication
- > Cellular Application
- ► Fiber Optical amplifier
- > Access Network



Parameter		Specification	
Channel Wavelength (nm)		1260 ~ 1620	
Center waveleng	oth Accuracy (nm)	±0.5	
	bacing (nm)	20	
Channel Passband (@	-0.5dB bandwidth (nm)	>13	
Pass Channel In	sertion Loss (dB)	£0.6	
Reflection Channel	I Insertion Loss (dB)	£0.4	
ChannelR	ipple (dB)	<0.3	
Isolation loss (dB)	Adjacent	>30	
	Non-adjacent	>40	
· · · · · · · · · · · · · · · · · · ·	ture Sensitivity (dB/°C)	<0.005	
0 1	ature Shifting (nm/°C)	<0.002	
Polarization Dep	oendent Loss (dB)	<0.1	
	ode Dispersion	<0.1	
	vity (dB)	>50	
Return Loss(dB)		>45	
Maximum Power Handling (mW)		300	
Operating Temperature (°C)		-25~+75	
0	perature (°C)	-40~85	
Package dir	nension (mm)	F5.5x34 (L38 for 900um Loose tube)	



# CWDM Mux Demux Module Packed in ABS Box

#### Features

- Low Insertion Loss
- Wide pass band
- ► High Channel Isolation
- ► High Stability and reliability
- ► Epoxy-free on Optical Path
- Access Network

Application

- ► Line Monitoring
- > WDM Network
- > Telecommunication
- > Cellular Application
- ► Fiber Optical amplifier
- > Access Network

# 

	· ·	
Performance	Snaci	tication
	JUCU	ncation

Parameter		4 Channel 8		8 Cha	annel	16 Channel	
		Mux	Demux	Mux	Demux	Mux	Demux
Channel Way	velength (nm)			1270·	-1610		
Center waveleng	oth Accuracy (nm)			±(	).5		
· · · · · · · · · · · · · · · · · · ·	oacing (nm)			2	0		
	-0.5dB bandwidth (nm)			>`	13		
	Loss (dB)	£	1.6	£2		£	4.5
	formity (dB)	£	1.6	£	1.0	£	1.5
Channel Ripple (dB)			0.3				
Isolation loss (dB)	Adjacent	N/A	>30	N/A	>30	N/A	>30
	Non-adjacent	N/A	>40	N/A	>40	N/A	>40
	ture Sensitivity (dB/°C)	< 0.005					
0 1	ature Shifting (nm/°C)	<0.002					
the second se	endent Loss (dB)	<0.1					
	ode Dispersion	<0.1					
Directivity (dB)		>50					
Return Loss(dB)		>45					
Maximum Power Handling (mW)		300					
Operating Temperature (°C)		-5~+75					
<b>.</b> .	perature (°C)	-40~85					
Package din	nension (mm)	L100 x W80 x H10 L142 x W102 x H14.5					



# Mini CWDM Mux/ Demux module

#### Features

- ➤ Mini Size
- ► High Reliability
- > Low Insertion Loss and Better Uniformity
- ► Ultra High Thermal Stability
- ► Epoxy-Free in Optical Path
- ► ROHS Compliant

Application

- > CWDM System
- ► CATV System
- > Network upgrading

#### Specification

Contract Contract of the second secon

Parameter			Unit		Val	ues		
Channel Number			СН				8(+E2)	
	Centra	I Wavelength		nm	1270, 1	1270, 12901610 or 1271, 12911611		
Passband		Channels	Min.	nm		+/-	-6.5	
газрани		Upgrade port	Min.				1310+/-50	1260-1457
		Adjacent Channel	Min.			3	0	
	Mux	Non-adjacent Channel	Min.			4	0	
Isolation		Upgrade port	Min.	dB		1	5	
1301211011		Adjacent Channel	Min.	UD		3	0	
	Demux	Non-adjacent Channel	Min.			4	0	
		Upgrade port	Min.			1	5	
Insertion Lo	22	Channels	Max.	dB	1.0	1.5	1.6	1.8
Inscrition Lo	33	Upgrade port	Max.	UD			1.2	1.2
Ri	ipple in I	Passband	Max.	dB	0.3			
	Direct	tivity	Min.	dB	50			
Polariz	zation De	ependent Loss	Max	dB	0.15			
Polariz	ation Mo	ode Dispersion	Max	ps	0.10(GD)			
	Return	Loss	Min.	dB	45			
Fiber Type				Cornir	ng SMF-28 wit	h 900mm loos	e tube	
Fiber Length			m	1.0+/-0.1				
Power Handling Max		mW		500				
Operating Temperature		°C		-10~70				
Storage Temperature			°C		-40~85			
	Packa	ge Dimension		mm	(L)60x(W)29x(H)10			

All specifications include the effect of operating temperature and all states of polarization. Values referenced without connectors and insertion loss for a connector-pair is 0.20dB (typ.) and 0.30dB (max.). Fiber length includes rubber boot and excludes the connector.



# 8+1 -CH Coarse Wavelength Division Multiplexer (CWDM Mux/ Demux) Module

#### Features

- Low Insertion Loss
- > Wide pass band
- ► High Channel Isolation
- ► High Stability and reliability
- ► Epoxy-free on Optical Path
- Access Network

#### Application

- ► Line Monitoring
- > WDM Network
- ► Telecommunication
- Cellular Application
- ► Fiber Optical amplifier
- > Access Network

#### **Performance Specification**



Para	meter	8+1-CH Mux	8+1-CH Demux	
Channel Wavelength (nm)		1 270-1 610 or 1271-1611		
Center Waveleng	gth Accuracy (nm)	± C	0.05	
Channel Sp	acing (GHz)	2	0	
Channel Passband (@	-0.5dB bandwidth (nm)	>`	13	
	ithout skip component)	*	2.8	
	Vith skip component)	*	2.0	
	iformity (dB)	* (	0.6	
Channel R	Ripple (dB)	* (	0.3	
Isolation loss (dB)	Adjacent	]	30	
	Non-adjacent	]	40	
		]	12	
	ture Sensitivity (dB/°C)	* 0.005		
0 1	ature Shifting (nm/°C)	* 0.002		
· · · ·	pendent Loss (dB)	* 0.1		
	lode Dispersion	*	0.1	
Directivity (dB)		1 50		
Return Loss(dB)		1 45		
Maximum Power Handling (mW)		300		
Operating Temperature (°C)		-5 ~+75		
U U U U U U U U U U U U U U U U U U U	perature (°C)	-40~ +85		
Package dir	mension (mm)	L100 X V	V80 X 10	

Note: All parameters are for device without connectors.



# 4, 8, 1 6, 1 8-Channel CWDM OADM Module

#### Features

- Low Insertion Loss
- Wide pass band
- ► High Channel Isolation
- ► High Stability and reliability
- ► Epoxy-free on Optical Path
- Access Network

Application

- ► Line Monitoring
- > WDM Network
- > Telecommunication
- Cellular Application
- ► Fiber Optical amplifier
- > Access Network

Performance	Specification



Parameter		4 Ch	4 Channel 8 Cha		annel	16 Cł	16 Channel	
		Mux	Demux	Mux	Demux	Mux	Demux	
Channel Wa	velength (nm)	1270~1610						
Center waveleng	jth Accuracy (nm)			±(	).5			
Channel Sp	bacing (nm)	20						
Channel Passband (@	-0.5dB bandwidth (nm)			>`	13			
Insertion	Loss (dB)	£	1.6	£2	2.5	É	1.5	
	formity (dB)	£	1.6	£	1.0	£	1.5	
Channel R	lipple (dB)	0.3						
Isolation loss (dB)	Adjacent	N/A	>30	N/A	>30	N/A	>30	
1301011011033 (00)	Non-adjacent	N/A	>40	N/A	>40	N/A	>40	
	ture Sensitivity (dB/°C)	<0.005						
Wavelength Tempera	ature Shifting (nm/°C)	<0.002						
Polarization Dep	endent Loss (dB)	<0.1						
Polarization M	ode Dispersion	<0.1						
Directiv	vity (dB)	>50						
Return Loss(dB)		>45						
Maximum Power Handling (mW)		300						
Operating Temperature (°C)		-5~+75						
Storage Temperature (°C)		-40~85						
Package dir	nension (mm)	L100 x W80 x H10 L142 x W102 x H14.5						



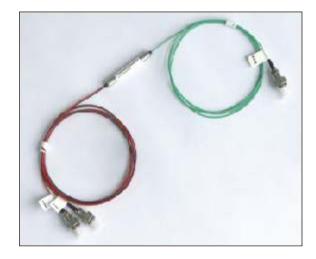
# DWDM 100G, 200G DWDM Optical Add-Drop Multiplexer (1x2 DWDM OADM)

#### Features

- Low Insertion Loss
- > Wide pass band
- ► High Channel Isolation
- ► High Stability and reliability
- > Epoxy-free on Optical Path

#### Application

- Channel Add/Drop
- > DWDM Network
- > Wavelength Routing
- ► Fiber Optical amplifier
- > CATV fiber optic System



Parameter		MUX/DEMUX				
Channel Wavelength (nm)		ITU Grid				
Center waveleng	gth Accuracy (nm)	±0.5	0.1			
Channel Sp	acing (Ghz)	100	200			
· · · · · · · · · · · · · · · · · · ·	-0.5dB bandwidth (nm)	>0.22	>0.5			
	sertion Loss (dB)	£ 1.0	£ 0.9			
Reflection Channe	I Insertion Loss (dB)	£ 0.6	£ 0.6			
Channel F	Ripple (dB)	<(				
Isolation loss (dB)	Adjacent	>30				
	Non-adjacent	>40				
Insertion Loss Temperature Sensitivity (dB/°C)		< 0.005				
• •	ature Shifting (nm/°C)	<0.0				
	oendent Loss (dB)	<(				
Polarization M	ode Dispersion	<0.1				
	vity (dB)	>50				
Return Loss(dB)		>45				
Maximum Power Handling (mW)		500				
Operating Temperature (°C)		-10~+75				
Storage Temperature (°C)		-40~85				
Package dimension (mm)		F 5.5x34 (L38 for 900um Loose tube)				



# 100GHz Dense Wavelength Division Multiplexer (DWDM Module 4,8,1 6 Channel)

#### Features

- Low Insertion Loss
- Wide pass band
- ► High Channel Isolation
- ► High Stability and reliability
- Epoxy-free on Optical Path

#### Application

- Channel Add/Drop
- > DWDM Network
- ► Wavelength Routing
- ► Fiber Optical Amplifier
- > CATV fiber optic System



Parameter		4 Channel		8 Channel		16 Channel	
-		Mux	Demux	Mux	Demux	Mux	Demux
Channel Wa	velength (nm)	ITU 100GHz Grid					
	gth Accuracy (nm)		±0.1				
	oacing (nm)			1(	)0		
	-0.5dB bandwidth (nm)			>	25		
Insertion	Loss (dB)	£	1.8	£3	3.7	£!	5.5
	iformity (dB)	£	0.6	£	1.0	£	1.5
Channel F	Ripple (dB)	0.3					
Isolation loss (dB)	Adjacent	N/A	>30	N/A	>30	N/A	>30
· · ·	Non-adjacent	N/A	>40	N/A	>40	N/A	>40
	ture Sensitivity (dB/°C)	< 0.005					
0 1	ature Shifting (nm/°C)	< 0.002					
· · · · · · · · · · · · · · · · · · ·	pendent Loss (dB)	<0.1 <0.1 <0.5			0.5		
	ode Dispersion	<0.1					
	vity (dB)	>50					
Return Loss(dB)		>45					
Maximum Power Handling (mW)		300					
Operating Temperature (°C)		-5~+75					
Storage Temperature (°C)		-40~85					
Package dir	nension (mm)	L100 x W80 x H10 L142 x W102 x H14.5					

# E-SYSTEMIZER Connecting Accurately! 100,200G DWDM OADM Module (4, 8 Channel)

#### Features

- ► ITU channel spcaing
- Low insertion loss
- > Wide pass band
- ► High Channel Isolation
- ► High Stability and reliability
- > Epoxy-free on Optical Path
- > Access Network

#### Application

- Channel Add/Drop
- DWDM Network
- ► Wavelength Routing
- ► Fiber Optical amplifier
- > CATV fiber optic System



Parameters		4 Ch	annel	8 Channel			
		Add Drop		Add	Drop		
Channel Wavelength (nm)		ITU Grid					
Center wavelength Accuracy (nm)			+0.05 (100G) / ±0.1(200G)				
Channel Spa	acing (GHz)		1(	00			
Channel Passband (@-	-0.5dB bandwidth (nm)		>0.22 (100G)	/ >0.5(200G)			
	In—Drop@drop	2	.0	3	.2		
Insertion loss (dB)	AddOut@add	2	.0	3	.2		
	Inout @other	2	.5		.0		
Add/Drop Channel Ripple (dB)			< 0.3				
Isolation @Add/	Adjacent	N/A	>30	N/A	>30		
/Drop Channel	Non-adjacent	N/A	>40	N/A	>40		
	ture Sensitivity (dB/°C)	<0.005					
Wavelength Tempera	ature Shifting (nm/°C)	<0.002					
	endent Loss (dB)	<0.1					
Polarization M	ode Dispersion		<(	).1			
Directiv	rity (dB)	>50					
Return Loss(dB)		>45					
Maximum Power Handling (mW)		500					
Operating Temperature (°C)		-10~+75					
Storage Temperature (°C)		-40~85					
Package dimension (mm)		L100 x W80 x H10					



100G DWDM N-CH Packed in 19-in 1U Rack mount

#### Features

- Low Insertion Loss
- Wide pass band
- ► High Channel Isolation
- ► High Stability and reliability
- ► Epoxy-free on Optical Path

#### Application

- Channel Add/Drop
- > DWDM Network
- > Wavelength Routing
- ► Fiber Optical Amplifier
- > CATV fiber optic System



Parameter		4 Channel		8 Channel		16 Channel	
		Mux	Demux	Mux	Demux	Mux	Demux
Channel Wa	velength (nm)	ITU 100GHz Grid					
Center waveleng	gth Accuracy (nm)	±0.1					
	oacing (nm)			1(	00		
Channel Passband (@	-0.5dB bandwidth (nm)			>	25		
Insertion	Loss (dB)	£	1.8	£3	3.7	£!	5.5
	iformity (dB)	£(	0.6	£	1.0	£	1.5
Channel F	Ripple (dB)	0.3					
Isolation loss (dB)	Adjacent	N/A	>30	N/A	>30	N/A	>30
	Non-adjacent	N/A	>40	N/A	>40	N/A	>40
	ture Sensitivity (dB/°C)	< 0.005					
0 1	ature Shifting (nm/°C)	<0.002					
· · · · · · · · · · · · · · · · · · ·	pendent Loss (dB)	<0.1 <0.1 <0.15			.15		
	ode Dispersion	<0.1					
	vity (dB)	>50					
Return Loss(dB)		>45					
Maximum Power Handling (mW)		300					
Operating Temperature (°C)		-5~+75					
Storage Temperature (°C)		-40~85					
Package dir	mension (mm)	L100 x W80 x H10 L142 x W102 x H14.5					



# 100 Mbps -2.67Gbps OPTICAL TRANSCEIVER



SFP (Small From - Factor Pluggable) optic transceiver modules are designed for use in datacom and telecom optical links, offering a smaller footprint and lower power consumption They are compliant with the SEP MSA, and support up to to2.67Gbps datalink applications such as FE/GE Ethernet, 1/2G FC SAN and OC3~OC48 SONET/STM-1~STM-16 SDH. Digital diagnostics functions are avoidable as specified by the SFP MSA. The transceiver is RoHS compliant and lead-free.

#### Application

- ➤ FE/GE Ethernet
- 1/2GFCSAN
- OC3~OC48 SONET/STM -16 SDH

# 100Mbps- 2.67 Gbps OPTICAL TRANSCEIVER (BiDi & WDM)



100 Mbps-2.67 Gbps BiDi OPTICAL TRANSCEIVERS ARE designed for use in datacom and telecom optical links, offering bi-direction datalink in single fiber They are compliant with the SFP MSA, and support 100 Mbps-2.67Gbps datalink applications such as FE/GE Ethernet, 1/2G FC SAN and OC3~ OC48 SONET / STM -1~STM-16 SDH. Digital Diagnostics functions are available, as specified by the SFP MSA. The transceiver is RoHS compliant and lead-free.

#### Application

- ► FE/GE Ethernet
- 1/2G FC SAN
- OC3~OC48 SONET / STM-1 ~ STM-16 SDH

# 8 Gbps OPTICAL TRANSCEIVER (BiDi & WDM)



8Gbps -11.1 Gbps WDM OPTICAL TRANSCEIVER are designed for use in datacom and telecom optical links, liks, offering CWDM (1270nm,1290nm..1610nm)/ DWDM (C-BAND 50GHz /100GHz) datalink They are compliant with the SFP +/ XFP MSA, and support 8Gbps to 11.1Gbps datalink applications such as 8G ~10G Ethernet,8G~10G FC SAN and OC192 SONET /STM-64 SDH, CPRI wireless. Digital diagnostics functions are available, as specified by the SFP+/ XFP MSA. The transceiver is RoHS compliant and lead-free.

#### Application

- 1G-10G Ethernet Links
- IG-10G Fiber Channel
- SONET/SDH
- CPRI

# 3.3~6.14 Gbps OPTICAL TRANSCEIVER " LTE /CPRI/OBSAI (SFP + BiDi WDM)



6.14Gbps SFP+ /BiDi / WDM optic transceiver modules are designed for use in LTE /CPRI /OBSAI wireless communication systems optical links, offering datalink rate up to 6. 14 Gbps applications such as LTE /CPRI/OBSAI, Support single fiber , multi-rate , asymmetrical rate applications, Digital diagnostics functions are available, as specified by the SFP+MSA The transceiver is RoHS compliant and lead-free.

#### Application

- ► LTE
- > CPRI
- > OBSAI



# 8Gbps-11.1Gbps OPTICAL TRANSCEIVER (SFP+)



SFP+ (Small From-factor Pluggable Plus ) optic transceiver modules are designed for use datacom and telecom optical links, offering a smaller footprint and lower power consumption than XFP transceivers They are compliant with the SFP+ MAS, and support up to 10.5Gbps datalink applications such as  $1\sim10G$  Ethernet , $1\sim10G$  FC SAN and OC48-OC192 SONET / STM-16~STM-64 SDH, CPRI wireless.Digital diagnostics functions are available, as specified by the SFP+ MSA. The transceiver is RoHS compliant and lead -free.

#### Application

- IG 10G Ethernet Links
- 1G -10G Fiber Channel
- > SONET/SDH
- > CPRI

# 100Mbps -40 Gbps COPPER TRANSCEIVER (SFP +/QSFP)



COPPER SFP +/ QSFP transceivers are installed into optical SFP +QSFP slots enabling two or more optical Ethernet ports (10GBase-X, 40GBase-X) to be linked up by short copper cable . These Transceivers are compatible with SFP +/QSFP MSA. RoHS and lead free

#### Application

- 10G Ethernet
- 40G Ethernet

# 8Gbps-11.1Gbps OPTICAL TRANSCEIVER (XFP)



XFP is a standardized from factor for serial 10 Gb/s fiber optic transceivers . It is protocol - independents and compliant to standards : 10G Ethernet , 8G/10G Fibre channel , SONET OC -192 , SDH STM -64 and OTN G.709 , supporting bit rate from 8G through 11.1G . XFP Transceivers are used in datacom and telecom optical links and offer a smaller footprint and lower power consumption than other 10 Gb/s transponders. Digital diagnostics functions are available, as specified by the XFP MSA . The transceiver is RoHS compliant and lead -free.

#### Application

- > 10G Ethernet Links
- > 8G / 10G Fiber Channel
- SONET/SDH

# 100Mbps -40 Gbps COPPER TRANSCEIVER (SFP)



COPPER SFP RJ 45 transceivers are installed into optical SFP slots enabling an optical Ethernet port (1000Base -T). They support 1000BASE-T or 10/100/1000. BASE-T Autonegotiation These transceivers are compatible with Gigabit Ethernet and 1000BASE-T standards. RoHS. and lead-free.

#### Application

> 1000BASE-T GB Ethernet



# ANTENNA

# INDOOR OMNI DIRECTIONAL ANTENNA

Ceiling Indoor Omni Directional Antenna is suitable for indoor coverage through Repeater distribution network enhancing weak signals in fringe areas. Its low profile makes it an ideal product for ceiling, wall or other unobtrusive mounting installation.

: 824-960 / 1710-2500 MHZ

: 2.5/4.0 dBi

: Omni Directional

: N Type female (Pig - Tail)

: < 1.3

:50 V

: 360<sup>c</sup>

: 100 watts

: Direct ground

:90°

: Vertical

#### **ELECTRICAL SPECIFICATION**

- Frequency
- Gain
- VSWR
- Polarization
- Impedance
- **Ra**diation Pattern
- Horizontal Beam width
- Vertical Beam width  $\mathbf{>}$
- Maximum Input Power
- Connector
- **Lightening Protection**

#### MECHANICAL SPECIFICATION

- Dimension
- > Weight

#### MATERIAL

- Base/Reflector  $\succ$
- Radiator  $\mathbf{>}$
- Radome  $\succ$

#### MOUNTING

: Aluminum

:ø160 x130 (mm)

: 0.30 Kg (approx)

: Aluminum : ABS

Mountina

:Ceiling Mountable

Grouting and screws are provided with antenna.

# INDOOR PANEL ANTENNA (7.5DBI)

Panel Antenna is intended for use in point to point or point to multi point communication applications. These Antennas are compact in size with excellent performance and can be easily installed in door environments

#### **ELECTRICAL SPECIFICATION**

<ul> <li>Frequency</li> <li>Gain</li> <li>VSWR</li> <li>Polarization</li> <li>Impedance</li> <li>Rotation Pattern</li> <li>Horizotal Beam With</li> <li>Vertical Back Ratio</li> <li>Front to Back Ratio</li> <li>Maximum Input Power</li> <li>Connector</li> <li>Lightening Protection</li> </ul>	: $824-960/170-2500 \text{ MHz}$ : 2.5 / 4.0 dBi : <1.3 : Vertical : 50 V : Directional : $90^{\circ}\pm5^{\circ}$ : $65^{\circ}\pm5^{\circ}$ : > 15db : 100 watts : N Type female (Pig -Tail) : Direct ground
MECHANICAL SPECIFICATION	
<ul><li>Dimension</li><li>Weight</li></ul>	: (177x 152x46)mm : 0.40 Kg
MATERIAL	
<ul> <li>Base/Reflector</li> <li>Radiator</li> <li>Radome</li> </ul>	: Aluminum : Aluminum : ABS



Mounting : Wall Mountable Grouting and screws are provided with antenna.



# LIGHTNING SURGE ARRESTORS

Lightning Surge Arrestors : Lightning strike by lightning means a test to the radio equipment. Perhaps in a few microseconds instant, the voltage of surge can be as high as the dozens kilovolt/meter. The whole system will load enormous, and bring the damage to the equipment as a consequence. Our company produces arresters will meet the requirement of switching voltage. It is an essential selection and a safe-guard accessory when build the base station. Correct exertion is a guarantee to the high-efficient system.

#### TECHNICAL CHARACTERISTICS

- > Characteristic Impedance
- ► Frequency Range
- Insertion loss
- > Surge Current
- Voltage Standing Wave Ratio
- Temp. range
- Connector

#### MATERIAL & PLATING

- > Body
- ► Contact Pin
- Elastic Contact
- ► Insulator
- > Other Conductor
- ➤ O-ring Sealing

: 800~2200MHz : <0.2dB : 30kA(8/20 s) : <1.5 : -40~ +85° : 7/16M-To-7/16F NM-To NF 7/16F-TO-7/16F

:50V

: Brass

: Brass

: PTFE

: Brass

: Beryllium Bronze

: Silastic rubber



JUMPER CABLE SERIES

#### TYPE OF JUMPER CABLE 1/4", 1/2"

Purpose : Used for connection between Antenna and Feeder Cable, connecting between Cabinet and Feeder cable. Feature : Low Loss, Low VSWR with Reliable Connection, Flexibility, Convenient for Installation. Jumpers : Cables are available for different types of connection interfaces and customized lengths as per customer requirement

#### ELECTRICAL SPECIFICATION

- > Type of Jumper Cable
- Frequency Range
- Return Loss
- Impedance
- Connection Cables

#### **INSERTION LOSS**

- > Frequencies (MHz)
- ► 800MHz
- > 900MHz
- ► 1000MHz
- ► 1800MHz
- > 2000MHz
- > 2200MHz
- ► 2400MHz
- ➤ 2500MHz

- : 1/4" / 1/2" low Loss Jumper
- : (800-2500)MHz
- : Better than 20dB
- :50 V
- : Din-type (7/16)/N-type

: Attenuation (dB/100M) 1/4" / 1/2" : 12.72 dB / 6.35 dB : 13.55 dB/6.75 dB : 14.35 dB/ 7.20 dB : 19.70 dB/9.90 dB : 20.90 dB/ 10.50 dB : 21.80dB/11.10dB : 23.00 dB/ 11.60 dB : 23.60 dB/11.95 dB





Connecting Accurately!

# **RF** Coaxial Connector Series

# THE 7/16 DIN TYPE CONNECTORS

The 7/16 DIN type connectors has a thread joining structure, Its characteristics are large power and capacity, low voltage standing wave ratio, high performance of third-order infer modulation and good air tightness. It can be used in the system of broadcast and telivision antenna, jumper connection and microwave communication system.

:0.08dB(2.5GHzmax)

: Beryllium or tin brass

: Beryllium or tin brass

: >500 (cycles)

: Brass

: Brass

#### TECHNICAL CHARACTERISTICS

> Temperature	:-40 ~ +85°C
<ul> <li>Relative Humidity</li> </ul>	: <95%
<ul> <li>Atmospheric Pressure</li> </ul>	:70~106KPa
> Characteristic	: 50 V
<ul> <li>Frequency Range</li> </ul>	:DC~7.5GHz
<ul> <li>Working Voltage</li> </ul>	: 1500V
> Withstanding	: 4000V
Insulation Resistance	: 10000M V
Contact Resistance	
<ul> <li>Outer Conductor</li> </ul>	:0.2mV
<ul> <li>Center Conductor</li> </ul>	:0.4mV
Voltage Standing Wave Ratio	
<ul> <li>Straight</li> </ul>	:<1.10(<2.2GHz)
► Right Angle	: <1.15 (<2.2GHz)

#### Right Angle

- Intermodulation 3rd order at 2x20w : -150dBc
- Insertion loss
- Durability (Mating)

#### MATERIAL & PLATING

t

#### Contact Pin

- Socket
- Elastic Contact
- ▶ Insulator
- Fastening
- 0-ring Sealing  $\succ$

# : PTFE : Brass or Metal alloy : Silastic

#### N TYPE COAXIAL CONNECTORS TECHNICAL CHARACTERISTICS

> Temperature	:-40~+85°C
<ul> <li>Relative Humidity</li> </ul>	: <95%
Atmospheric Pressure	: 70~ 106KPa
Characteristic	: 50 V
<ul> <li>Frequency Range</li> </ul>	:DC-11GHz
Working Voltage	: 1000V
Withstanding	: 2500V
<ul> <li>Insulation Resistance</li> </ul>	: 5000M V
Connector Resistance	
<ul> <li>Outer Conductor</li> </ul>	:0.2mV
Center Conductor	:1mV
Voltage Standing Wave Ratio	
<ul> <li>Straight</li> <li>Right Angle</li> <li>Durability (Mating)</li> </ul>	: <1.10 (<2.2GHz) : <1.15 (<2.2GHz) : >500 (cycles)





E-SŸŠTEMÎZER
Connecting Accurately!

:<0.15dB(6GHz)

# RF Coaxial Connector Series SMA TYPE COAXIAL CONNECTORS

TECHNICAL CHARACTERISTICS	
> Characteristic	: 50 V
<ul> <li>Frequency Range</li> </ul>	:0~12.4 GHz
<ul> <li>Working Voltage</li> </ul>	: 330V
<ul> <li>Withstanding</li> </ul>	: 1000V
<ul> <li>Insulation Resistance</li> </ul>	: >5000M V
Contact Resistance	
<ul> <li>Outer Conductor</li> </ul>	:<0.2mV
<ul> <li>Center Conductor</li> </ul>	:<3mV
Voltage Standing Wave Ratio	
<ul> <li>Straight</li> </ul>	:<1.10 (<2.2GHz)
<ul> <li>RightAngle</li> </ul>	:<1.15 (<2.2GHz)





# TNC TYPE COAXIAL CONNECTORS

# TECHNICAL CHARACTERISTICS

Insertion Loss

<ul> <li>Characteristic Impedance</li> </ul>	: 50 V		
<ul> <li>Frequency Range</li> </ul>	:DC~11GHz		
<ul> <li>Working Voltage</li> </ul>	: 500V		
<ul> <li>Withstanding</li> </ul>	:1500V		
<ul> <li>Insulation Resistance</li> </ul>	: 5000M V		
Contact Resistance			
<ul> <li>Outer Conductor</li> </ul>	: <2.5M V		
<ul> <li>Center Conductor</li> </ul>	: 10 M V		
Voltage Standing Wave Ratio			
<ul> <li>Straight</li> </ul>	: <1.22		
<ul> <li>Right angle</li> </ul>	: <1.30		
BNC COAXIAL CONNECTORS			

#### TECHNICAL CHARACTERISTICS

<ul> <li>Characteristic Impedance</li> <li>Frequency Range</li> <li>Working Voltage</li> <li>Withstanding</li> <li>Insulation Resistance</li> </ul>	: 50 V, 75 V : DC~4.0GHz : 500V : 1500V : 5000M V				
<ul> <li>Contact Resistance</li> <li>Outer Conductor</li> <li>Center Conductor</li> </ul>	: <1MV : <1.5MV				
Voltage Standing Wave Ratio					

≻	Straight	:<1.22
	Right angle	:<1.30







#### RF Coaxial Connector Series SMB TYPE CONNECTORS

#### TECHNICAL CHARACTERISTICS

<ul> <li>Characteristic Impedance</li> </ul>	:50 V
Frequency Range	:0~4GHz
<ul> <li>Working Voltage</li> </ul>	: 330V
> Withstanding	:1000V
Insulation Resistance	:>1000M V
Contact Resistance	
<ul> <li>Outer Conductor</li> </ul>	:<1MV
<ul> <li>Center Conductor</li> </ul>	:<6M V
Voltage Standing Wave Ratio	:
> Straight	: <1.34 (3 GHz)
<ul> <li>Right angle</li> </ul>	: <1.45 (1 GHz)
Insertion Loss	: 0.3dB (1.5 GHz)

# MDR & D-TYPE CONNECTORS

#### TECHNICAL CHARACTERISTICS

#### MATERIALS

- Contact base metal
- Contact area finish
- Solder area finish
- Retainer clip base metal
- Retainer finish
- Housing

- : Copper alloy
- : Gold over nickel
- : Tin over nickel
- : Copper alloy
- : Tin over nickel
- : High-temperature thermoplastic

#### ELECTRICAL PERFORMANCE

- > Contact resistance: 30m. max. initial ,15m. max. change after test
- Current rating: 1.5A min. per contact with temperature rise not exceeding 30°C

#### **ENVIRONMENTAL**

- > Humidity: 96 hours at 40°C with 90-95% relative humidity.
- ► Temperature life: 85°C for 500 hours.
- Thermal shock: 10 cycles between -55°C and +85°C

#### MECHANICAL PERFORMANCE

- > Durability: 500 mating cycles
- Mating force: 50 N max./45 N max.
- Unmating force: 5 N min./4.5 N min.





# **8 PIN LEMO CONNECTOR**

# **TECHNICAL CHARACTERISTICS**

#### MATERIALS

- Shell Style/Model.FG\*
- > Keying.
- Housing Material.
- Variant.

#### SPECIFICATIONS.

- Contact Type
- > Max. Matings
- > Contact Dia.
- > Bucket Dia.
- ► Max. Stranded Conductor
- > Max. Conductor
- > Resistance (max)
- ➤ Vtest (contact-shell)

### 2 PIN LEMO CONNECTOR TECHNICAL CHARACTERISTICS

#### MATERIALS

- Shell Style/Model.FG\*
- > Keying.
- Housing Material.
- > Variant.

#### SPECIFICATIONS.

- Contact Type
- > Max. Matings
- > Contact Dia.
- ► Bucket Dia.
- ► Max. Stranded Conductor
- > Max. Conductor
- > Resistance (max)
- ➤ Vtest (contact-shell)

#### OTHERS.

- ► Temp (min / max)
- > Humidity (max)
- ► Vibration
- Shock Resistance
- ► Salt Spray Corrosion
- Climatical Category
- > Shielding (min)
- > Shielding (min)
- ► IP Rating

- : Straight plug, cable collet and nut for fitting a bend relief
- : 1key (alpha=0, plug: male contacts, receptacle: female contacts)
- : Brass (chrome plated) shell and collet nut, nickel plated brass latch sleeve and mid pieces
- : Z, Nut for fitting a bend relief
- :5000 : 0.7 mm (0.028in) : 0.8 mm (0.031 in) :0.34 mm^2 (AWG 22) :0.34 mm^2 (AWG 22) :6.1 mOhm



- : Straight plug, cable collet and nut for fitting a bend relief
- : 1key (alpha=0, plug: male contacts, receptacle: female contacts)
- : Brass (chrome plated) shell and collet nut, nickel plated brass latch sleeve and mid pieces
- : Z, Nut for fitting a bend relief
- : Solder
- :5000
- : 0.7 mm (0.028in)
- : 0.8 mm (0.031in)
- :0.34 mm^2 (AWG 22)
- :0.34 mm^2 (AWG 22)
- :6.1 mOhm
- :1150 V (AC), 1630 V (DC)
- :-55°C/+250°C : <=95% [at 60 deg C / 140 F] : 15 g [10 Hz - 2000 Hz] : 100 g [ 6 ms] :>1000 hr :50/175/21 : 75 dB (10 MHz) : 40 dB (1 GHz) :50



- : 1150 V (AC), 1630 V (DC)
- : Solder



# ACCESSORIES FOR ANTENNA FEEDER

# FEEDER CLAMPS

Feeder fixture is suitable for using in mobile communication base stations, repeator, indoor coverage system, wireless paging and Microwave Communication System, to fix transmission cable in iron tower, indoor, outdoor, subway and tunnel. The appearance of the Feeder fixture is beautiful and it is very durable, lightweight, compact, economic, positioning reliable and easy to install, endure canker.

#### TECHNICAL SPECIFICATION

- ► Temp. range
- ► High Temperatures
- Low Temperatures
- > Press
- > Shake

- : -55° ~ +85° C : 85° C : -55° C : >5000N
- : 200m/S2 (10~500Hz)



# OUTDOOR GROUNDING KITS (RING BUCKLE TYPE)

#### MATERIAL & PLATING

- Copper Block
- ➤ Steel Wire
- ► Fastening
- ► Line Beezer
- Earth Cable
- Pyrocondensation Canal
- :T2 Red Copper Skin
- : Stainless Steel
- : Stainless Steel
- : T2 Red Copper Canal
- : Cuprum Core
- : Polyolefin Plastics



# OUTDOOR GROUNDING KITS (COPPER LINGUA TYPE)

# MATERIAL & PLATING

- Copper Tongue
- Fastening
- Line Beezer
- > Earth Cable
- Pyrocondensation Canal
- : T2 Red Copper Skin
- : Stainless Steel
- : T2 Red Copper Canal
- : Cuprum Core
- : Polyolefin Plastics

# OUTDOOR GROUNDING KITS (RING TYPE)

#### MATERIAL & PLATING

- Copper Wreath
- Copper Rivet
- Fastening
- Line Beezer
- Earth Cable
- Pyrocondensation Canal
- : T2 Red Copper Skin
- : T2 Red Copper Skin
- : Stainless Steel
- : T2 Red Copper Skin Canal
- : Cuprum Core
- : Polyolefin Plastics





# ACCESSORIES FOR ANTENNA FEEDER INDOOR GROUNDING KITS (METAL STRIP TYPE)

#### MATERIAL & PLATING

- Bracket
- Metal Strip
- > Fastening
- C-Copper Beezer
- ► Earth Cable
- Dustproof Box

- : Stainless Steel : Stainless Steel
- : Stainless Steel
- : T2 Red Copper Canal
- : Cuprum Core
- : ABS Plastic



# UNIVERSAL GROUND BARS

The products are made of red copper plate, insulator and bracket, can be conflux 10 to 30 sheaves of grounding cables into one grounding. Its widely suitable for antenna feeder and equipments grounding cables into one grounding. Especially, the guard theft grounding copper strap is more security that installed outside room.

#### TECHNICAL CHARACTERISTICS

- Temperature Scope
- Impact Resistance
- Insulation Resistance
- Contact Resistance

#### MATERIAL & PLATING

- > Bracket
- ► Copper Line
- Bracket
- Insulated Body

- :-60°C~+150°C :>70KA :>5G V
- :<0.6mV
- **.** . . .
  - : Stainless Steel
  - : T2-Purple Copper
  - : Stainless Steel
  - : Insulated Colophony



# CABLE ENTRY SYSTEMS

The Point of entry is critical when bringing cable into a building or equipment shelter. Cable entry system help protect valuable Telecom equipment by preventing help protect valuable Telecom equipment by preventing the ingress of dust and water. Wall entry consist of base plate and detachable UV proof EPDM rubber boots which comes in different shapes and sizes

Hatch/Entry Plate : 1 Way Hatch/Entry Plate : 4 Way Hatch/Entry Plate : 6 Way Hatch/Entry Plate : 9 Way





# ACCESSORIES WEATHER PROOFING KITS

The application of sealing materials to coaxial cable connections protects them from weather conditions. These include moisture penetration and loosening of connections from vibrations caused by strong winds. E-Systemizer recommends weatherproofing these connections with standard weatherproofing tapes such as butyl and plastic electrical tapes.

- A. Main feeder cable-to-jumper cable connection
- B. Jumper cable-to-antenna connection

This kit provides an additional moisture seal and keeps connections free of dirt and tarnish from pollution. It also prevents loosening of connections from vibration or other external stresses, which would eventually allow moisture penetration. The sealed connection is suitable for typical exposed and buried cable applications.



#### COLD SHRINK TUBE

#### General Specification and information

Cold shrink tubes made of silicone rubber or EPDM rubber are a series of open ends, tubular rubber sleeves, which are manufactory expanded and assembled onto a removable supporting plastic core.

They are supplied for field installation in this pre-stretched condition. The core is removed after the tube has positioned for installation over an in line connection, terminal lug, etc., allowing the tube to shrink and form a waterproof seal.

#### Features

- ► Simple installation
- > No tools or heating required
- Tightly sealing, retaining its resiliency and pressure even after years of aging and exposure
- Great thermal stability
- > Excellent chemical and wet electrical properties
- Improved tough rubber formulation to withstand rough backfilling only for EPDM serial
- Waterproof which can meet requirements of IP67
- > Acids and alkalis resistance
- > Ozone and ultraviolet resistance
- > Compact design, especially suitable for small space



# Background and Application

Antenna-feeder system is an important part of mobile communication system, properties of which are vital to the communication quality.

Exposure of antenna and feeder may moisturize the connectors, which may gather condensed water on the connectors between jumper and antenna or between feeder and jumper. All of these may rise the standing wave ratio and cause power loss, resulting in minifying the covering range of the station.

Therefore, they are ideal sealing products, mainly used to connecting points between antenna and feeder or between feeders in antenna-feeder system of mobile communication station for sealing. The excellent sealing properties can even achieve synchronous-breathing. Meanwhile, they can be used in zones of heavy pollution, lower temperature and high elevation.



# CABLES COAXIAL/SHIELDED/PCM CABLES

E-Systemizer are the leading suppliers for telecommunication cables i.e. Co-Axial cables/Shielded/PCM cables of all sizes and specification.

#### APPLICATION

These cables are meant for inter exchange and for local network use. These cable may be unarmored/armored type.

#### RANGE

Conductor Insulation Shielding

Inner sheath Armor (for armored cables) Outer sheath : Solid / Stranded / Flexible copper (bare / tinned) : PVC - HR; PE, LSZH : individual & overall or overall screen only by Al-Mylar tape / copper tape / copper wire braid : PVC - HR / FR / FRLS; PE, LSZH : Galvanized steel round wire / strip : PVC - HR / FR / FRLS; PE, LSZH

# ENERGY CABLES FOR POWER SUPPLY

TYPE & SIZES

PVC Flexible Cables upto 1.1kv grade as per IS:694

#### SIZES

1.0 - 630 sq.mm Single/Multi core

#### OPTIONS

Conductor: Stranded/Solid bright annealed Copper Insulation: PVC/HR PVC/FRLS/XLPE/Zero Halogen

# MULTI CORE CABLES

#### TYPE & SIZES

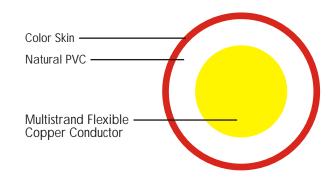
Multistrand, flexible bright annealed electrolytic copper conductor, PVC insulated and sheathed upto 1100v as per IS:694

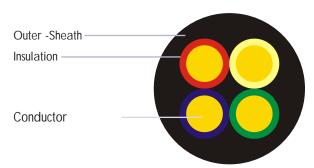
SIZES

Single, Two, Three or Four core upto 150 sq.mm

#### OPTIONS

Insulation: PVC/HR PVC/FRLS/Zero Halogen Unsheathed/Sheathing: PVC/HR PVC/FRLS/ Zero Halogen







# POWER CABLES

#### TYPE & SIZES

PVC/XLPE Power Cables for 1.1kv for Electrical Substations as per IS:1554/PT-1 & IS:7098/PT-I

#### SIZES

Single Core 1.0-1000 sq.mm Multicore 4 - 630 sq.mm

#### OPTIONS

Conductor: Stranded/Solid,Circular/Shaped Aluminium/Copper Insulation: PVC/XLPE/HR PVC Inner Sheath: PVC/HR PVC/FRLS PVC/Unarmoured/Armoured -G.S.Round Wire/Flat Strip or Aluminium Wire/Flat Strip Outer Sheath: PVC/HR PVC/FRLS PVC

# COPPER CONTROL CABLES

#### TYPE & SIZES

Annealed electrolytic copper conductor, PVC/XLPE insulated, PVC sheathed 650/1100V grade as per IS:1554-1 & IS:7098-I.

#### SIZES

1.5/2.5 sq.mm upto 61 core 4 & 6 sq.mm upto 4 core

#### **OPTIONS**

Conductor: Solid/Stranded, Plain/Tinned

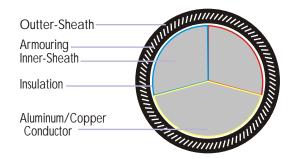
Insulation: PVC/HR PVC/XLPE

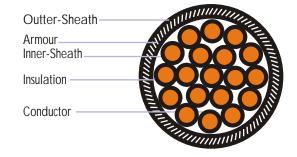
Inner Sheath: PVC/HR PVC/FRLS/Zero Halogen

Unarmoured / Annoured: G.S.Round Wire/Flat Strip

Outer Sheath: PVC/HR PVC/FRLS/Zero Halogen

Additional Option: Overall shielding with aluminium mylar tape with 100% coverage & 25% overlap on laid up cores for static noise rejection.







# TWISTED PAIR CABLES UTP CATEGORY 5E LAN CABLE

General Specification and information

For fixed application, this cable is in 4-pair with conductors in 24AWG/32AWG\*7 pure copper conductor with insulation of HD polyolefin, protected by a thermoplastic and non-flame propagating sheath colored according to customer's special request.

This cable is used for high speed transmission of voice and data between central and peripheral system for frequencies up to 100Mhz, for D class application in structured cabling system for buildings, specification checked up to 350Mhz.

Standard	Application
ISO/IEC 11801-2Ed	10/100BASE(TIEEE 802.3)
ANSI TIA/EIA 568-B.2	ATM,TP-PMD,ANSI X39T.5(TP),LSDN,TP-DDI
EN 50173	ETHERNET, 1000BASE-T
EN-50288-3-1	GIGABIT-ETHERNET
UL	Token Ring(IEEE802.5)

#### Electrical Specifications

Dielectric strength:	2.5KV dc-2seconds
Conductor resistance:	Max 9.38 ohm/100M at 20°C
Max. ring resistance	16.8 ohm/100 M at 20°C
Max. mutual capacitance	560 pf/100M
Max. capacity unbalance	330 pf/100M
Standard impedance	100±15 ohm between 1Mhz and 100Mhz
Minimum bending radius	50mm
Working temperatures	-20~60°C

Frequency (Mhz)	RL (dB)	ATT (dB/100)	Next (dB)	P.S Next (dB)	ACR (dB)	PS-ACR (dB)	ELFEXT (dB)	PS-FLF Ext (dB)
1MHz	20.0	2.1	68.0	66.0	66.3	64.3	63.8	60.8
4MHz	23.0	4.2	59.2	57.2	55.2	53.2	51.7	48.8
8MHz	24.5	5.9	54.8	52.8	49.0	47.0	45.7	42.7
10MHz	25.0	6.6	53.3	51.3	46.8	44.8	43.8	40.8
16MHz	25.0	8.3	50.3	48.3	42.1	40.1	39.7	36.7
20MHz	25.0	9.4	48.8	46.8	39.5	37.5	37.8	34.8
25MHz	24.3	10.3	47.3	45.3	36.9	34.9	35.8	32.8
31.25MHz	23.6	11.8	45.9	43.9	34.2	32.2	33.9	30.9
62.5MHz	21.5	17.1	41.4	39.4	24.4	22.4	27.8	24.8
100MHz	20.1	22.2	38.3	36.3	16.3	14.3	23.8	20.8
155MHz	18.8	28.2	35.4	33.4	7.4	5.4	20.0	17.0
200MHz	18.0	32.5	33.7	31.7	1.4	0	17.7	14.7
240MHz	17.4	36.1	32.6	30.6	-	-	16.2	13.2
300MHz	16.8	41.1	31.2	29.2	-	-	14.2	11.2
350MHz	16.3	45.0	30.1	28.1	-	-	12.9	9.9

Code	Description	Inner Conductor	Insulation	Pairs color code	Sheath
	UTP Cat5e	Pure copper	PE	Blue-blue/white	CM(CMG);
1221	4x2 24AWG/1	AWG 24		Orange-Orange/white	CIVI(CIVIC) ;
1421	4x2 32AWG/7	AWG 24		Green-green/white	LSOH ;
1421	4x2 34AWG/7	AWG 26		Brown-brown/white	LJOH ,



# TWISTED PAIR CABLES FTP CATEGORY 5E LAN CABLE

General Specification and information

For fixed application, this cable is in 4-pair with conductors in 24AWG/32AWG\*7 pure copper conductor with insulation of HD polyolefin, grouped with drain wire under Polyester tape and AI-foil/polyester tape, protected by a thermoplastic and non-flame propagating sheath colored according to customer's special request. This cable is used for high speed transmission of voice and data between central and peripheral system for frequencies up to 100Mhz.

$\begin{tabular}{ l                                   $							
ANSI TIA/EIA 568-B.2       ATM,TP-PMD.ANSI X39T.5(TP).LSDN,TP-DDI         EN 50173       ETHERNET, 1000BASE-T         EN-50288-3-1       GIGABIT-ETHERNET         UL       Token Ring(IEEB02.5)         Electrical Specifications       2.5KV dc-2seconds         Conductor resistance:       Max 9.38 ohm/100M at 20°C         Max. ring resistance:       Max 9.38 ohm/100M at 20°C         Max. ring resistance:       16.8 ohm/100 M at 20°C         Max. nutual capacitance       560 pf/100M         Max. capacity unbalance       100±15 ohm between 1Mhz and 100Mhz         Standard impedance       100±15 ohm between 1Mhz and 100Mhz         Minimum bending radius       50mm         Vorking temperatures       -20-60°C         Frequency (Mhz)       RL /(dB)       ATT(dB/100)       Next (dB)       P.S. NEXT (dB)         0.772       20       1.8       67       64         1Mhz       20       2       65.3       62.3         4Mhz       23       4.1       56.3       53.3         8Mhz       24.5       5.8       51.3       48.8         10Mhz       25       6.5       50.3       47.3         10Mhz       25       6.5       50.3       47.3	Standard						
EN 50173         ETHERNET, 1000BASE-T           EN-50288-3-1         GIGABIT-ETHERNET           UL         Token Ring(IEEE802.5)           Electrical Specifications         2.5KV dc-2seconds           Onductor resistance:         Max 9.38 ohm/100M at 20°C           Max. ring resistance         16.8 ohm/100 M at 20°C           Max. ring resistance         16.8 ohm/100 M at 20°C           Max. ring resistance         16.8 ohm/100 M at 20°C           Max. rapacitiance         560 pf/100M           Max. capacity unbalance         330 pf/100M           Standard impedance         100±15 ohm between 1Mhz and 100Mhz           Minimum bending radius         50mm           Vorking temperatures         -20-60°C           Frequency (Mhz)         RL /(dB)         ATT(dB/100)         Next (dB)         P.S. NEXT (dB)           0.772         20         1.8         67         64           1Mhz         20         2         65.3         62.3           4Mhz         23         4.1         56.3         53.3           8Mhz         24.5         5.8         51.3         48.8           10Mhz         25         6.5         50.3         47.3           16Mhz         25         8.2	ISO/IEC 11801-	2Ed		10/100BASE(TIEEE 802.3)			
$\begin{tabular}{ c c c c } \hline Intermset & Intermset &$	ANSI TIA/EIA 568	8-B.2	ATM,TP-I	PMD,ANSI X39T.5(TP),L	SDN,TP-DDI		
Token Ring(IEEE802.5)Electrical SpecificationsDielectric strength: $2.5$ KV dc-2secondsConductor resistance:Max 9.38 ohm/100M at 20°CMax. ring resistance: $16.8$ ohm/100 M at 20°CMax. mutual capacitance $560 pf/100M$ Max. capacity unblance $100 \pm 15 $ ohm between 1Mhz at 100MhzStandard impedare $100 \pm 15 $ ohm between 1Mhz at 100MhzMinimum bending radius $50mm$ Working temperatures $-20-60°C$ Frequency (Mhz)RL / (dB)ATT(dB/100)Next (dB)P.S. NEXT (dB)0.772 $20$ $1.8$ $67$ $64$ 1Mhz $20$ $2$ $65.3$ $62.3$ Mhz $23$ $4.1$ $56.3$ $53.3$ 8Mhz $24.5$ $5.8$ $51.3$ $48.8$ 10Mhz $25$ $8.2$ $47.3$ $44.3$ 10Mhz $25$ $8.2$ $47.3$ $44.3$ 20Mhz $25$ $9.3$ $45.8$ $42.8$	EN 50173			ETHERNET, 1000BASE-	Т	/	NM/
Electrical SpecificationsDielectric strength:2.5KV dc-2secondsConductor resistance:Max 9.38 ohm/100M at 20°CMax. ring resistance:16.8 ohm/100 M at 20°CMax. mutual capacitance:560 pf/100MMax. capacity unbance:100±15 ohm between 1Mhz and 100MhzStandard impedance:100±15 ohm between 1Mhz and 100MhzMinimum bending radius:50mmWorking temperature:-20~60°CFrequency (Mhz):RL /(dB)ATT(dB/100)Next (dB)P.S. NEXT (dB)O.772201.867641Mhz20265.362.3Mhz24.55.851.348.810Mhz256.550.347.316Mhz258.247.344.320Mhz259.345.842.825Mhz24.310.444.341.3	EN-50288-3-	1		GIGABIT-ETHERNET		2	$\setminus$ $\mathbf{M}$
Dielectric strength:2.5KV dc-2secondsConductor resistance:Max 9.38 ohm/100M at 20°CMax. ring resistance16.8 ohm/100 M at 20°CMax. mutual capacitance560 pf/100MMax. capacity unbalance330 pf/100MStandard impedance100±15 ohm between 1Mhz and 100MhzMinimum bending radius50mmWorking temperatures-20~60°CFrequency (Mhz)RL /(dB)ATT(dB/100)Next (dB)P.S. NEXT (dB)O.772201.867641Mhz20265.362.34Mhz234.156.353.38Mhz24.55.851.348.810Mhz256.550.347.316Mhz258.247.344.320Mhz259.345.842.825Mhz24.310.444.341.3	UL			Token Ring(IEEE802.5	)		
Conductor resistance:         Max 9.38 ohm/100M at 20°C           Max. ring resistance         16.8 ohm/100 M at 20°C           Max. mutual capacitance         560 pf/100M           Max. capacity unbalance         330 pf/100M           Standard impedance         100±15 ohm between 1Mhz and 100Mhz           Minimum bending radius         50mm           Working temperatures         -20~60°C           Frequency (Mhz)         RL /(dB)         ATT(dB/100)         Next (dB)         P.S. NEXT (dB)           O.772         20         1.8         67         64           1Mhz         20         2         65.3         62.3           4Mhz         23         4.1         56.3         53.3           8Mhz         24.5         5.8         51.3         48.8           100Mhz         25         6.5         50.3         47.3           16Mhz         25         9.3         45.8         42.8           20Mhz         25         9.3         45.8         42.8           25Mhz         24.3         10.4         44.3         41.3	Electrical Specific	ations					<u> </u>
Max. ring resistance         16.8 ohm/100 M at 20°C           Max. mutual capacitance         560 pf/100M           Max. capacity unbalance         330 pf/100M           Standard impedance         100±15 ohm between 1Mhz and 100Mhz           Minimum bending radius         50mm           Working temperatures         -20~60°C           Frequency (Mhz)         RL /(dB)         ATT(dB/100)         Next (dB)         P.S. NEXT (dB)           O.772         20         1.8         67         64           1Mhz         20         2.8         53.3         62.3           Mhz         23         4.1         56.3         62.3           Mhz         23         4.1         56.3         62.3           Mhz         25         5.8         51.3         48.8           100Mhz         25         6.5         50.3         47.3           16Mhz         25         9.3         45.8         42.8           20Mhz         25         9.3         45.8         42.8		·		2.5KV dc-2seconds			
Max. mutual capacitance         560 pf/100M           Max. capacity unbalance         330 pf/100M           Standard impedance         100±15 ohm between 1Mhz and 100Mhz           Minimum bending radius         50mm           Working temperatures         -20~60°C           Frequency (Mhz)         RL /(dB)         ATT(dB/100)         Next (dB)         P.S. NEXT (dB)           0.772         20         1.8         67         64           1Mhz         20         2         65.3         62.3           4Mhz         23         4.1         56.3         53.3           8Mhz         24.5         5.8         51.3         48.8           10Mhz         25         6.5         50.3         47.3           16Mhz         25         9.3         45.8         42.8           25Mhz         24.3         10.4         44.3         41.3	Conductor resista	ance:	Ma	ax 9.38 ohm/100M at	20°C		
Max. capacity unbalance330 pf/100MStandard impedance $100\pm15$ ohm between 1Mhz and 100MhzMinimum bending radius $50mm$ Working temperatures $-20-60^{\circ}C$ Frequency (Mhz)RL / (dB)ATT (dB/100)Next (dB)P.S. NEXT (dB)0.772201.867641Mhz20265.362.34Mhz234.156.353.38Mhz24.55.851.348.810Mhz256.550.347.316Mhz258.247.344.320Mhz259.345.842.825Mhz24.310.444.341.3	U			16.8 ohm/100 M at 20	)°C		
Standard impedance         100±15 ohm between 1Mhz and 100Mhz           Minimum bending radius         50mm           Working temperatures         -20~60°C           Frequency (Mhz)         RL /(dB)         ATT(dB/100)         Next (dB)         P.S. NEXT (dB)           0.772         20         1.8         67         64           1Mhz         20         2         65.3         62.3           4Mhz         23         4.1         56.3         53.3           8Mhz         24.5         5.8         51.3         48.8           10Mhz         25         6.5         50.3         47.3           16Mhz         25         9.3         45.8         42.8           25Mhz         24.3         10.4         44.3         41.3				560 pf/100M			
Minimum bending radius         50mm           Working temperatures         -20~60°C           Frequency (Mhz)         RL /(dB)         ATT(dB/100)         Next (dB)         P.S. NEXT (dB)           0.772         20         1.8         67         64           1Mhz         20         2         65.3         62.3           4Mhz         23         4.1         56.3         53.3           8Mhz         24.5         5.8         51.3         48.8           10Mhz         25         6.5         50.3         47.3           16Mhz         25         8.2         47.3         44.3           20Mhz         25         9.3         45.8         42.8           25Mhz         24.3         10.4         44.3         41.3				330 pf/100M			
Working temperatures-20~60°CFrequency (Mhz)RL /(dB)ATT(dB/100)Next (dB)P.S. NEXT (dB)0.772201.867641Mhz20265.362.34Mhz234.156.353.38Mhz24.55.851.348.810Mhz256.550.347.316Mhz259.345.842.820Mhz259.345.842.825Mhz24.310.444.341.3			100±15	5 ohm between 1Mhz and 100Mhz			
Frequency (Mhz)RL /(dB)ATT(dB/100)Next (dB)P.S. NEXT (dB)0.772201.867641Mhz20265.362.34Mhz234.156.353.38Mhz24.55.851.348.810Mhz256.550.347.316Mhz259.345.842.825Mhz24.310.444.341.3	°			50mm			
0.772201.867641Mhz20265.362.34Mhz234.156.353.38Mhz24.55.851.348.810Mhz256.550.347.316Mhz258.247.344.320Mhz259.345.842.825Mhz24.310.444.341.3	Working tempera	itures		-20~60°C			
1Mhz20265.362.34Mhz234.156.353.38Mhz24.55.851.348.810Mhz256.550.347.316Mhz258.247.344.320Mhz259.345.842.825Mhz24.310.444.341.3	1 3	RL	/(dB)	ATT(dB/100)	Next (dB	)	P.S. NEXT (dB)
4Mhz234.156.353.38Mhz24.55.851.348.810Mhz256.550.347.316Mhz258.247.344.320Mhz259.345.842.825Mhz24.310.444.341.3	0.772		20	1.8	67		64
8Mhz24.55.851.348.810Mhz256.550.347.316Mhz258.247.344.320Mhz259.345.842.825Mhz24.310.444.341.3	1Mhz		20	2	65.3		62.3
10Mhz256.550.347.316Mhz258.247.344.320Mhz259.345.842.825Mhz24.310.444.341.3	4Mhz		23	4.1	56.3		53.3
16Mhz         25         8.2         47.3         44.3           20Mhz         25         9.3         45.8         42.8           25Mhz         24.3         10.4         44.3         41.3					51.3		
20Mhz         25         9.3         45.8         42.8           25Mhz         24.3         10.4         44.3         41.3	10Mhz	25		6.5	50.3		47.3
25Mhz 24.3 10.4 44.3 41.3					47.3		
					45.8		
31.25Mhz 23.3 11.7 42.9 39.9	25Mhz			10.4	44.3		
		23.3					
62.5Mhz 20.7 17 38.4 35.4							
100Mhz 19 22 35.3 32.3	100Mhz		19	22	35.3		32.3

Code	Description	Inner Conductor	Insulation	Pairs color code	Sheath
	FTP Cat5e	Pure copper	PE	Blue-blue/white	
				Orange-Orange/white	CM(CMG); CMR;
1322	4x2 24AWG/1	AWG 24		Green-green/white	LSOH ;
1422	4x2 34AWG/7	AWG 26		Brown-brown/white	



# TWISTED PAIR CABLES SFTP CATEGORY 5E LAN CABLE

General Specification and information

For fixed application, this cable is in 4-pair with conductors in 24AWG/32AWG\*7 pure copper conductor with insulation of HD polylefin, grouped under Polyester Tape and Al-foil/polyester tape + metal wire braid ,protected by athermoplastic and non flame propagating sheath colored according to customer's special request. This cable is used for high speed transmission of voice and data between central and peripheral system for frequencies up to 100 Mhz.

Standard			Application		
ISO/IEC 11801-	-2Ed		10/100BASE(TIEEE 802	2.3)	
ANSI TIA/EIA 568	8-B.2		PMD,ANSI X39T.5(TP),L		
EN 50173			ETHERNET, 1000BASE-	Т	
EN-50288-3-	1		GIGABIT-ETHERNET		
UL			Token Ring(IEEE802.5	)	
Electrical Specific	ations				2
Dielectric streng	gth:		2.5KV dc-2seconds		T.
Conductor resista	ance:	Ma	ax 9.38 ohm/100M at	20°C	ACCES 1
Max. ring resista			16.8 ohm/100 M at 20	0°C	
Max. mutual capac			560 pf/100M		ALC: N
Max. capacity unb			330 pf/100M		
Standard impeda		100±15	ohm between 1Mhz ar	nd 100Mhz	
	1inimum bending radius		50mm		
Working temperatures			-20~60°C		
Frequency (Mhz)	RL	/(dB)	ATT(dB/100)	Next (dB)	P.S. NEXT (dB)
0.772		20	1.8	67	64
1Mhz		20	2	65.3	62.3
4Mhz		23	4.1	56.3	53.3
8Mhz	24.5		5.8	51.3	48.8
10Mhz	25		6.5	50.3	47.3
16Mhz	25		8.2	47.3	44.3
20Mhz	25		9.3	45.8	42.8
25Mhz	24.3		10.4	44.3	41.3
31.25Mhz		3.3	11.7	42.9	39.9
62.5Mhz	2	0.7	17	38.4	35.4

#### Manufacturing Specifications

19

100Mhz

Code	Description	Inner Conductor	Insulation	Pairs color code	Sheath
	SFTP Cat5e	Pure copper	PE	Blue-blue/white	
				Orange-Orange/white	CM(CMG); CMR;
1323	4x2 24AWG/1	AWG 24		Green-green/white	LSOH ;
1423	4x2 34AWG/7	AWG 26		Brown-brown/white	

22

35.3

32.3



# TWISTED PAIR CABLES UTP CATEGORY 6 LAN CABLE

General Specification and information

For fixed application, this cable is in 4-pair with conductors in 23AWG/32AWG\*7 pure copper conductor with insulation of HD polyolefin., grouped with cross slot to make stable structure, protected by a thermoplastic and non-flame propagating sheath colored according to customer's special request.

This cable is used for high speed transmission of voice and data between central and peripheral system for frequencies up to 250Mhz.

Standard	Application
ISO/IEC 11801-2Ed	10/100BASE(TIEEE 802.3)
ANSI TIA/EIA 568-B.2	ATM,TP-PMD,ANSI X39T.5(TP),LSDN,TP-DDI
EN 50173	ETHERNET, 1000BASE-T
EN-50288-3-1	GIGABIT-ETHERNET
UL	Token Ring(IEEE802.5)

#### Electrical Specifications

Dielectric strength:	2.5KV dc-2seconds
Conductor resistance:	Max 7.0 ohm/100M at 20°C
Max. ring resistance	16.8 ohm/100 M at 20°C
Max. mutual capacitance	560 pf/100M
Max. capacity unbalance	330 pf/100M
Standard impedance	100±15 ohm between 1Mhz and 100Mhz
Minimum bending radius	60mm
Working temperatures	-20~60°C

Frequency (Mhz)	Impedance	RL (dB)	ATT (dB/100)	Next (dB)	P.S. NEXT (dB)	ELFEXT (dB)	PS- ELFEXT (dB)
772KHz	100+15	19.44	1.84	76	74	70	67
1MHz	100±15	20	2.04	74.3	72.3	67.8	64.8
4MHz	100+15	23.01	3.81	65.3	63.3	55.8	52.8
8MHz	100±15	24.52	5.35	60.8	58.8	49.7	46.7
10MHz	100+15	25	5.99	59.3	57.3	47.8	44.8
16MHz	100+15	25	7.6	56.2	54.2	43.7	40.7
20MHz	100+15	25	8.52	54.8	52.8	41.8	38.8
25MHz	100+15	24.32	9.57	53.3	51.3	39.8	36.8
31.25MHz	100+15	23.64	10.74	51.9	49.9	37.9	34.9
62.3MHz	100+15	21.54	15.48	47.4	45.4	31.9	28.9
100MHz	100±15	20.1	19.92	44.3	42.3	27.8	24.8
125MHz	100+22	19.42	22.49	42.8	40.8	25.9	22.9
200MHz	100+22	18	29.15	39.8	37.8	21.8	18.8
250MHz	100 ±32	17.32	33.04	38.3	36.3	19.8	16.8

Code	Description	Inner Conductor	Insulation	Pairs color code	Sheath
	UTP Cat6	Pure copper	PE	Blue-blue/white	CM(CMG);
1331	4x2 23AWG/1	AWG 23		Orange-Orange/white	CIVI(CIVIC) ; CMR ;
1431	4x2 32AWG/7	AWG 24		Green-green/white	LSOH ;
1431	4x2 34AWG/7	AWG 26		Brown-brown/white	L3011 ,



#### TWISTED PAIR CABLES FTP CATEGORY 6 LAN CABLE

General Specification and information

For fixed application, this cable is in 4-pair with conductors in 23AWG/32AWG\*7 pure copper conductor with insulation of HD polyolefin., grouped with cross slot with drain wire under Polyester tape and Al-foil/polyester tape to make stable structure, protected by a thermoplastic and non-flame propagating sheath colored according to customer's special request.

This cable is used for high speed transmission of voice and data between central and peripheral system for frequencies up to 250Mhz.

Standard	Application
ISO/IEC 11801-2Ed	10/100BASE(TIEEE 802.3)
ANSI TIA/EIA 568-B.2	ATM,TP-PMD,ANSI X39T.5(TP),LSDN,TP-DDI
EN 50173	ETHERNET, 1000BASE-T
EN-50288-3-1	GIGABIT-ETHERNET
UL	Token Ring(IEEE802.5)

#### Electrical Specifications

Dielectric strength:	2.5KV dc-2seconds
Conductor resistance:	Max 7.0 ohm/100M at 20°C
Max. ring resistance	16.8 ohm/100 M at 20°C
Max. mutual capacitance	560 pf/100M
Max. capacity unbalance	330 pf/100M
Standard impedance	100±15 ohm between 1Mhz and 100Mhz
Minimum bending radius	60mm
Working temperatures	-20~60°C



Frequency (Mhz)	Impedance	RL (dB)	ATT (dB/100)	Next (dB)	P.S. NEXT (dB)	ELFEXT (dB)	PS- ELFEXT (dB)
772KHz	100+15	19.44	1.84	76	74	70	67
1MHz	100±15	20	2.04	74.3	72.3	67.8	64.8
4MHz	100+15	23.01	3.81	65.3	63.3	55.8	52.8
8MHz	100±15	24.52	5.35	60.8	58.8	49.7	46.7
10MHz	100+15	25	5.99	59.3	57.3	47.8	44.8
16MHz	100+15	25	7.6	56.2	54.2	43.7	40.7
20MHz	100+15	25	8.52	54.8	52.8	41.8	38.8
25MHz	100+15	24.32	9.57	53.3	51.3	39.8	36.8
31.25MHz	100+15	23.64	10.74	51.9	49.9	37.9	34.9
62.3MHz	100+15	21.54	15.48	47.4	45.4	31.9	28.9
100MHz	100±15	20.1	19.92	44.3	42.3	27.8	24.8
125MHz	100+22	19.42	22.49	42.8	40.8	25.9	22.9
200MHz	100+22	18	29.15	39.8	37.8	21.8	18.8
250MHz	100 ±32	17.32	33.04	38.3	36.3	19.8	16.8

Code	Description	Inner Conductor	Insulation	Pairs color code	Sheath
	FTP Cat6	Pure copper	PE	Blue-blue/white	CM(CMG);
1331	4x2 23AWG/1	AWG 23		Orange-Orange/white	CIVI(CIVIC) ; CMR ;
1431	4x2 32AWG/7	AWG 26		Green-green/white	LSOH ;
1431	4x2 34AWG/7	AWG 27		Brown-brown/white	LJOH ,



# TWISTED PAIR CABLES SFTP CATEGORY 6 LAN CABLE

General Specification and information

For fixed application, this cable is in 4-pair with conductors in 23AWG/32AWG\*7 pure copper conductor with in sulation of Foamed polyolefin, every pair is shielded with Al-foil tape. grouped under metal wire braiding. protected by a thermoplastic and non-flame propagating sheath colored according to customer's special request. This cable is used for high speed transmission of voice and data between central and peripheral system for frequencies up to 250Mhz.

Standard	Application
ISO/IEC 11801-2Ed	10/100BASE(TIEEE 802.3)
ANSI TIA/EIA 568-B.2	ATM,TP-PMD,ANSI X39T.5(TP),LSDN,TP-DDI
EN 50173	ETHERNET, 1000BASE-T
EN-50288-3-1	GIGABIT-ETHERNET
UL	Token Ring(IEEE802.5)

#### Electrical Specifications

Dielectric strength:	2.5KV dc-2seconds
Conductor resistance:	Max 7.0 ohm/100M at 20°C
Max. ring resistance	16.8 ohm/100 M at 20°C
Max. mutual capacitance	560 pf/100M
Max. capacity unbalance	330 pf/100M
Standard impedance	100±15 ohm between 1Mhz and 100Mhz
Minimum bending radius	60mm
Working temperatures	-20~60°C



Frequency (Mhz)	Impedance	RL (dB)	ATT (dB/100)	Next (dB)	P.S. NEXT (dB)	ELFEXT (dB)	PS- ELFEXT (dB)
1MHz	100+15	20	1.9	80.3	77.3	70.8	67.8
10MHz	100±15	25	5.7	65.3	62.3	50.8	47.8
31.3MHz	100+15	25	10.2	57.9	54.9	40.9	37.9
62.5MHz	100±15	25	14.7	53.4	50.4	34.9	31.9
100MHz	100+15	25	18.9	50.3	47.3	30.8	27.8
155MHz	100+15	22.8	23.9	47.5	44.5	27	24
200MHz	100+15	21.7	27.5	45.8	42.8	24.7	21.7
250MHz	100+15	20.5	31.2	44.3	41.3	22.8	19.8

Code	Description	Inner Conductor	Insulation	Pairs color code	Sheath
	SFTP Cat6	Pure copper	PE	Blue-blue/white	
1343	4x2 23AWG/1	AWG 23		Orange-Orange/white	FR-PVC;
1443	4x2 34AWG/7	AWG 26		Green-green/white	LOSH
1443	4x2 36AWG/7	AWG 27		Brown-brown/white	



# TWISTED PAIR CABLES FTP CATEGORY 6A LAN CABLE

General Specification and information

For fixed application, this cable is in 4-pair with conductors in 23AWG/32AWG\*7 pure copper conductor with insulation of Foam PE, grouped with cross slot to make stable Structure, protected by a thermoplastic and non-flame propagating sheath colored according to customers special request.

This cable is used for high speed transmission of voice and data between central and peripheral system for frequencies up to 500Mhz, for A class application in structured cabling system for buildings, specification checked up to 500Mhz.

Standard	Application
ISO/IEC 11801-2Ed	10/100BASE(TIEEE 802.3)
ANSI TIA/EIA 568-B.2	ATM,TP-PMD,ANSI X39T.5(TP),LSDN,TP-DDI
EN 50173	ETHERNET, 1000BASE-T
EN-50288-3-1	GIGABIT-ETHERNET
UL	Token Ring(IEEE802.5)

#### **Electrical Specifications**

F

Dielectric strength:	2.5KV dc-2seconds
Conductor resistance:	Max 9.38 ohm/100M at 20°C
Max. ring resistance	16.8 Ohm/100 M at 20°C
Max. mutual capacitance	560 pf/100M
Max. capacity unbalance	330 pf/100M
Standard impedance	100±15 ohm between 1Mhz and 100Mhz
Minimum bending radius	60mm
Working temperatures	-20~60°C
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			0011111				
Working	temperatures		-20~60°C				
Frequency (Mhz)	Impedance	RL (dB)	ATT (dB/100)	Next (dB)	P.S. NEXT (dB)	ELFEXT (dB)	PS- ELFEXT (dB)
0.772	-	-	1.8	79	77	73	69
1	100+15	20	2	77	75	71	68
4	100+15	23	3.8	68	66	59	56
8	100±15	24.5	5.3	64	62	53	50
10	100±15	25	6	62	60	51	48
16	100±15	25	7.6	59	57	47	44
20	100±15	25	8.5	58	56	45	42
25	100+15	24.32	9.5	56	54	43	40
31.25	100+15	23.64	10.7	55	53	41	38
62.5	100+15	21.54	15.4	50	48	35	32
100	100±15	20.1	9.8	47	45	31	28
155	100±15	19.42	25.2	44	42	27	24
200	100+15	18	29	43	41	25	22
250	100+15	17.32	32.8	41	39	23	20
300	100+15	16.8	36.4	40	38	21	18
350	100±15	16.3	39.8	39	37	20	17
400	100±15	15.9	43	38	36	19	16
450	100±15	15.5	46	38	36	18	15
500	$100 \pm 15$	15.2	48.9	37	35	17	14

Code	Description	Inner Conductor	Insulation	Pairs color code	Sheath
	UTP Cat6A	Pure copper	Foam PE	Blue-blue/white	CM(CMG);
				Orange-Orange/white	CMR ;
1341	4*2 23AWG/1	AWG 23		Green-green/white	LSOH ;
1441	4*2 32AWG/7	AWG 24		Brown-brown/white	



# TWISTED PAIR CABLES SFTP CATEGORY 7 LAN CABLE

General Specification and information

For fixed application, this cable is in 4-pair with conductors in 23AWG/32AWG\*7 pure copper conductor with insulation of Foamed polyolefin, every pair is heath with AI-foil tape. grouped under metal wire braiding. protected by a thermoplastic and non-flame propagating sheath colored according to customer's special request. This cable is used for high speed transmission of voice and data between central and peripheral system for frequencies up to 600Mhz.

Standard	Application
ISO/IEC 11801-2Ed	10/100BASE(TIEEE 802.3)
ANSI TIA/EIA 568-B.2	ATM,TP-PMD,ANSI X39T.5(TP),LSDN,TP-DDI
EN 50173	ETHERNET,1000BASE-T
EN-50288-3-1	GIGABIT-ETHERNET
UL	Token Ring(IEEE802.5)

#### Electrical Specifications

	F
Dielectric strength:	2.5KV dc-2seconds
Conductor resistance:	Max 7.0 ohm/100M at 20°C
Max. ring resistance	16.8 ohm/100 M at 20°C
Max. mutual capacitance	560 pf/100M
Max. capacity unbalance	330 pf/100M
Standard impedance	100±15 ohm between 1Mhz and 100Mhz
Minimum bending radius	60mm
Working temperatures	-20~60°C



Frequency (Mhz)	RL / return loss dB/100 mt	Attenuation dB/100 mt	Next (dB)	P.S. NEXT (dB)	P.S. NEXT dB
1MHz	/	2	80.3	99.4	/
10MHz	/	5.9	65.3	84.4	72.3
31.25MHz	23.6	10.4	57.9	77	62.4
62.5MHz	21.5	14.9	53.4	72.5	56.4
100MHz	20.1	19	50.3	69.4	52.3
155MHz	18.8	24	47.5	66.6	48.5
200MHz	18	27.5	45.8	64.9	46.3
250MHz	17.3	31	44.3	63.4	44.3
350MHz	16.3	37.2	40.2	61.2	41.4
400MHz	15.9	40	39.3	60.4	40.3
500MHz	15.2	45.3	37.8	58.9	38.3
550MHz	14.9	47.7	37.2	58.3	37.5
600MHz	14.7	50.1	36.6	57.7	36.7

Code	Description	Inner Conductor	Insulation	Pairs color code	Sheath
	SFTP CAT7	Pure copper	Foam PE	Blue-blue/white	
1341	4*2 23AWG/1	AWG 23		Orange-Orange/white	FR-PVC;
1441	4*2 32AWG/7	AWG 24		Green-green/white	LOSH
				Brown-brown/white	





NYLON CABLE SERIES



WIRE/CABLE STRAP STAINLESS STEEL CABLE TIES



NAIL CABLE CLIPS SERIES



WIRING ACCESSORIES & ELECTRICAL CONNECTOR SERIES



# NYLON CABLE SERIES







MAKER TIES



MOUNTABLE HEAD TIES



NYLON CABLE TIES



CARD BAND



MARKER TIES



- RELEASABLE CABLE TIE









RELEASABLE CABLE TIE



Releasable lashing Cable Tie



MOUNTABLE CAR HEAD TIES





MOUNTABLE HEAD TIES MOUNTABLE HEAD TIES



PUSHMOUNT TIES



PUSHMOUNT TIES



PUSHMOUNT TIES

TRAPEZOID TIE

(BALL TYPE)



CABLE TIES





DOUBLE HEAD CABLE TIES



PACKING OF SERIES B PACKING OF SERIES B



KNOT TIE(BALL TYPE)





FISSION STYLE CABLE TIE



73

PACKING OF SERIES A



# WIRE/CABLE STRAP STAINLESS STEEL CABLE TIES







#### TIE GUN



HOOK & LOOP CABLE TIES(VELCRO)



WIRE/CABLE STRAP SERIES



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STAINLESS STEEL **BAND CLAMPS** 



UNIVERSAL CLAMPING

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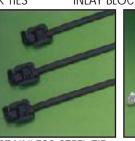
STAINLESS STEE BAND



**INLAY BLOCK TIES** 



NYLON STAINLESS STEEL NYLON STAINLESS STEEL INLAY BLOCK TIES



STAINLESS STEEL TIE WITH NYLON COATING



ZD HOSE CLAMP

# NAIL CABLE CLIPS SERIES



CIRCLE CABLE CLIPS



DOUBLE NAIL FLAT CABLE CLIPS





PACKING OF SERIES E

PACKING OF SERIES F

HOOK CABLE CLIPS









#### **R TYPE CABLE CLAMPS**



SADDLE TYPE TIE MOUNTS



#### **K TYPE CABLE CLAMPS**

PACKING OF SERIES H

CABLE TIE MOUNTS

#### WIRING ACCESSORIES SERIES









#### SPIRAL WRAPPING BAND



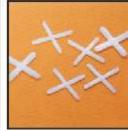
CABLE TIE MOUNTS



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PLASTIC CROSS



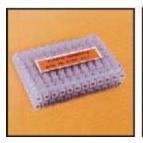
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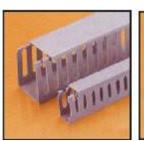


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