



Engineered To Make Your Network Better

A blue-tinted photograph of a network switch port with several white fiber optic cables plugged in. The cables are bundled together and extend from the port.

 Fiber Optic Connectivity

A red-tinted photograph of a network switch port with several white copper Ethernet cables plugged in. The cables are bundled together and extend from the port.

 Copper Connectivity

A yellow-tinted photograph of several yellow Ethernet cables plugged into a network switch port. The cables are bundled together and extend from the port.

 Cable

A green-tinted photograph of a network rack cabinet. The left side shows a perforated metal door, and the right side shows a solid metal door with a handle.

 Rack Cabinet

PRODUCT OVERVIEW  
2019



Fiber Optic Connectivity



Copper Connectivity



Cable



Rack Cabinet

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# INTRODUCTION

Upcom® is a global organization providing connectivity and infrastructure solutions for all size of organizations. Upcom® provides complete networking solutions within the industry. Upcom was established in 2018 with its headquarters in Istanbul in Turkey.

Upcom® is a platform where you can find Fiber Optic Connectivity Product, Copper connectivity product, Cable & Rack Cabinet since 2018, based in Turkey. It provides a broad range of products and enrich the variety of products that is available at the stock in each and every day. Upcom's mission is to provide its customers with reliable, modern and cost effective networking solutions.

Upcom is aggressive, straightforward oriented global supplier of networking solutions and committed to provide its customers with cost effective and reliable networking solutions that keeps them step forward from their competitors and puts them one step closer to future.

Upcom has presence in most sophisticated global markets, in Europe and Middle East.

Upcom is focused on providing quality proven and certified products by UL, ETL, CPR, CE, REACH & RoHS. Connection technology components are in compliance with international standards and meet the highest standards and are used worldwide.



Upcom consolidates complex material requirements from multiple manufacturers under a single purchase order.

For large scale projects materials can be staged and delivered on a schedule to help better manage cash flow.

We maintain multiple suppliers to minimize lead times and ensure high quality solutions at competitive prices.

We listen, learn, and implement processes that helps both Upcom and our customers improve purchase order accuracy, forecast requirements and reduce project risks.

## STRENGTHS

What is more,

- ✓ 25 Years warranty
- ✓ Full Fiber Optic and Copper Connectivity Solutions
- ✓ UL, ETL, CPR, REACH, CE & RoHS certified products
- ✓ Tested and Quality proven products
- ✓ Stock Availability
- ✓ Solution Oriented Approach
- ✓ Solid Partnership



Upcom provides only the best performed connectivity products, end to end, connectivity solutions featuring a full range of innovative products engineered to make your network better, over its whole life.

Our components are manufactured in TURKEY with state of the art approved facilities to meet and even exceed the customer expectations by the latest international standards as published by organisations such as IEC, ISO/IEC, TIA/EIA, ITU-T and Telcordia GR-326-Core.



# WARRANTY

We offer a 25 year product and application warranty as standard on all installations completed by an accredited Upcom Partner.

Our warranty covers all Upcom copper connectivity products, fibre optic connectivity products, Cables & Rack Cabinet systems when installed as part of an end to end Upcom Solution.





## FIBER OPTIC CONNECTIVITY PRODUCTS



Upcom optical cable assemblies provide the vital connectivity links and patching for your network. Our in-house designed and specified assemblies provide 1 to 288 fibres featuring IEC compliant components and a choice of performance levels to suit your network needs.



## FC Adaptor

### DESCRIPTION

The FC adapters are mainly used for single mode applications where precision is required. There are many kinds of fiber optic adapters, including SC, FC, LC, MU, ST and MTRJ. With its simple to use locking thread mechanism preventing accidental disconnection, this provides a very secure connection.

### FEATURES

- Thread and integration structure with reliable connector;
- Square and round flange
- High return loss, Low insertion loss
- Push-and-pull structure, convenient for operation;
- Split zirconia (ceramic) ferrule is adopted.
- Used to mate two connectors together.
- Usually mounted in a distribution panel or wall box.
- FC adapter is available for all standard connector types in both single mode and multimode.
- The adapters are color coded allowing easy identification of the adapter type.
- Available with single-core & multi-core patch cords and pigtails.

### APPLICATION

- Fiber optic transmission system
- CATV networks
- LAN
- Testing/measurement instruments
- Fiber distribution frame, mounts in fiber optic wall mount and rack mount cabinets

### SPECIFICATION

| Parameter                | FC/PC     | FC/UPC | FC/APC |
|--------------------------|-----------|--------|--------|
| Working Temperature (°C) | -40 — +80 |        |        |
| Insertion Loss (dB)      | ≤0.20     | ≤0.20  | ≤0.20  |
| Return Loss( dB)         | ≤45       | ≤50    | ≤60    |



## LC Adaptor

### DESCRIPTION

The LC adaptor set the standard for small optical fiber interconnects. LC small-form-factor adapters are available as duplex, enabling two connectors to be used in the same footprint.

### FEATURES

- Double the capacity, perfect space saving solution
- Small size, large capacity
- Bayonet structure, convenient for installation.
- High return loss, Low insertion loss
- Push-and-pull structure, convenient for operation;
- Split zirconia (ceramic) ferrule is adopted.
- Used to mate two connectors together.
- Usually mounted in a distribution panel or wall box.
- LC adapter is available for all standard connector types in both single mode and multimode.
- The adapters are color coded allowing easy identification of the adapter type.
- Available with single-core & multi-core patch cords and pigtails.

### APPLICATION

- Fiber optic transmission system
- CATV networks
- LAN
- Testing/measurement instruments
- Fiber distribution frame, mounts in fiber optic wall mount and rack mount cabinets

### SPECIFICATION

| Parameter                | LC/PC     | LC/UPC | LC/APC |
|--------------------------|-----------|--------|--------|
| Working Temperature (°C) | -25 — +75 |        |        |
| Insertion Loss (dB)      | ≤0.20     | ≤0.20  | ≤0.20  |
| Return Loss( dB)         | ≤45       | ≤50    | ≤60    |



## SC Adaptor

### DESCRIPTION

The SC adapters are the most used set for modern day optical fiber systems. With the audible click locking mechanism and pull proof design this connector provides a secure interconnect.

### FEATURES

Double the capacity, perfect space saving solution

Small size, large capacity

Bayonet structure, convenient for installation.

High return loss, Low insertion loss

Push-and-pull structure, convenient for operation;

Split zirconia (ceramic) ferrule is adopted.

Used to mate two connectors together.

Usually mounted in a distribution panel or wall box.

Upcom's LC adapter is available for all standard connector types in both single mode and multimode.

The adapters are color coded allowing easy identification of the adapter type.

Available with single-core & multi-core patch cords and pigtails.

### APPLICATION

Fiber optic transmission system

CATV networks

LAN

Testing/measurement instruments

Fiber distribution frame, mounts in fiber optic wall mount and rack mount cabinets

### SPECIFICATION

| Parameter                | SC/PC     | SC/UPC | SC/APC |
|--------------------------|-----------|--------|--------|
| Working Temperature (°C) | -25 — +75 |        |        |
| Insertion Loss (dB)      | ≤0.20     | ≤0.20  | ≤0.20  |
| Return Loss( dB)         | ≤45       | ≤50    | ≤60    |



## ST Adaptor

### DESCRIPTION

The ST adapter set the standard for optical fiber interconnects. Bayonet locking mechanism can prevent accidental disconnection. With the precision housing this adapter gives the very best of performance.

### FEATURES

- Rotary bayonet structure, convenient for operation;
- Phosphor bronze and split zirconia (ceramic) ferrules can be selected.
- High return loss, Low insertion loss
- Push-and-pull structure, convenient for operation;
- Split zirconia (ceramic) ferrule is adopted.
- Used to mate two connectors together.
- Usually mounted in a distribution panel or wall box.
- Upcom's ST adapters are available for all standard connector types in both single mode and multimode.
- The adapters are color coded allowing easy identification of the adapter type.
- Available with single-core & multi-core patch cords and pigtails.

### APPLICATION

- Premise installations
- Telecommunication networks
- Metro networks
- Local Area Networks (LANs)
- Data processing networks
- Instrumentation

### SPECIFICATION

| Parameter                | ST/PC     | ST/UPC | ST/APC |
|--------------------------|-----------|--------|--------|
| Working Temperature (°C) | -40 — +80 |        |        |
| Insertion Loss (dB)      | ≤0.20     | ≤0.20  | ≤0.20  |
| Return Loss( dB)         | ≤45       | ≤50    | ≤60    |



## MPO/MTP Adaptor

### DESCRIPTION

MTP/MPO fiber optic adapter enable quick and easy connections of single-mode and multimode fibers. Fiber optic adapters are used to provide a cable to cable or cable to equipment fiber optic connection. There are many kinds of fiber optic adapters, including MTP/MPO, FC, SC, LC, MU, ST, and MTRJ. With its simple to use locking thread mechanism preventing accidental disconnection, this provides a very secure connection.

### FEATURES

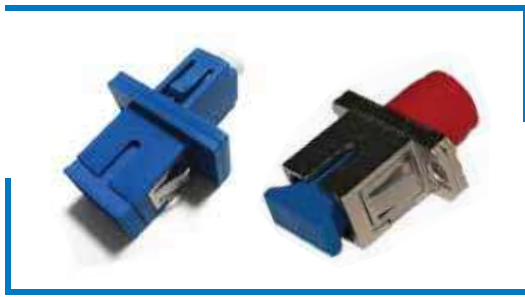
- MTP/MPO to MTP/MPO style
- Use in Singlemode or Multimode applications
- Free-hanging or panel-mount design
- A cable to cable fiber optic connection
- Cable to equipment fiber optic connection
- Dust caps protect against debris and contamination
- Material: Plastic
- RoHS Compliant

### APPLICATION

- Datacentre networks
- Telecommunications networks
- Data processing networks
- Cable television
- FTTH) Fiber-To-The-Home
- Premises distribution

### TECHNICAL SPECIFICATIONS

|                       |                            |                             |
|-----------------------|----------------------------|-----------------------------|
| Insertion Loss (dB)   | $\leq 0.20\text{dB}$       |                             |
| Durability            | SM STANDARD                | MM STANDARD                 |
|                       | <0.30dB change 500 matings | <0.20dB change 1000 matings |
| Operating Temperature | -40°C to +85°C             |                             |



## Hybrid Adaptor (Female to Female)

### DESCRIPTION

We supply various kinds of hybrid fiber optic adapters, including the FC, ST, SC, LC, MU, DIN series. These hybrid fiber adapters are single mode and multimode types, with PC or APC sleeves, in simplex and duplex style. They are widely used in the fiber optic links.

The fiber optic adapter provided can be divided into SC, FC, LC, MU, ST, MTRJ. The number of fiber optics they can be divided into single channel and double channels and multiply channels (SC, LC, MU). All fiber optic adapters meet IEC standard.

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. Hybrid fiber adapters use high precision ceramic sleeves which enable reliable ferrule mating and ensure low insertion loss and return loss during the linking.

### FEATURES

- Complies with IEC, TIA/EIA, Telecordia standards.
- High precision alignment sleeve
- Low insertion loss and high reconnectability
- RoHS, REACH SvHC
- Available in plastic or metal body
- Available in blue for singlemode and in beige for multimode

### APPLICATION

- Telecommunications networks
- Local area networks
- Data processing networks
- Cable television
- Premises distribution
- Test and laboratory equipment
- Industrial and military applications

|                            | SINGLE MODE<br>PC APC                   | MULTIMODE | CONFORMANCE    |
|----------------------------|---|-----------|----------------|
| Insertion Loss (Typ)       | <0.25 dB                                | <0.20 dB  | IEC 61300-3-4  |
| Mating Durability          | 500                                     |           | IEC 61300-2-2  |
| Receptacle Retention Force | 2 N – 5.9 N (2.5mm), 1 N - 3 N (1.25mm) |           | IEC 61754      |
| Operating Temperature      | -25 to +70 °C, 12 cycles                |           | IEC 61300-2-22 |



## Hybrid Adaptor (Male to Female)

### DESCRIPTION

We supply various kinds of hybrid fiber optic adapters, including the FC, ST, SC, LC, MU, DIN series. These hybrid fiber adapters are single mode and multimode types, with PC or APC sleeves, in simplex and duplex style. They are widely used in the fiber optic links.

The fiber optic adapter provided can be divided into SC, FC, LC, MU, ST, MTRJ. The number of fiber optics they can be divided into single channel and double channels and multiply channels (SC, LC, MU). All fiber optic adapters meet IEC standard.

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. Hybrid fiber adapters use high precision ceramic sleeves which enable reliable ferrule mating and ensure low insertion loss and return loss during the linking.

### FEATURES

- Complies with IEC, TIA/EIA, Telecordia standards.
- High precision alignment sleeve
- Low insertion loss and high reconnectability
- RoHS, REACH SvHC
- Available in plastic or metal body
- Available in blue for singlemode and in beige for multimode

### APPLICATION

- Telecommunications networks
- Local area networks
- Data processing networks
- Cable television
- Premises distribution
- Test and laboratory equipment
- Industrial and military applications

|                            | SINGLE MODE<br>PC APC          | MULTIMODE | CONFORMANCE    |
|----------------------------|--------------------------------|-----------|----------------|
| Insertion Loss (Typ)       | <0.25 dB                       | <0.20 dB  | IEC 61300-3-4  |
| Mating Durability          | 500                            |           | IEC 61300-2-2  |
| Receptacle Retention Force | 2 N – 5.9 N (2.5mm), 1 N - 3 N |           | IEC 61754      |
| Force                      | (1.25mm)                       |           |                |
| Operating Temperature      | -25 to +70 °C, 12 cycles       |           | IEC 61300-2-22 |



## ORDERING INFORMATION

### Standard Adaptors Ordering Information

| Type |    | Mode                    |     | Form    |    | Mode |     | Product |   | Flange     |    |
|------|----|-------------------------|-----|---------|----|------|-----|---------|---|------------|----|
| LC   | LC | Ultra Physical Contact  | UPC | Simplex | SX | SM   | OS1 | Adaptor | A | Flange     |    |
| SC   | SC | Angled Physical Contact | APC | Duplex  | DX | OM1  | OM1 |         |   | Flangeless | FL |
| ST   | ST | Physical Contact        | PC  | Quad    | QA | OM2  | OM2 |         |   |            |    |
| FC   | FC |                         |     |         |    | OM3  | OM3 |         |   |            |    |
|      |    |                         |     |         |    | OM4  | OM4 |         |   |            |    |
|      |    |                         |     |         |    | OM5  | OM5 |         |   |            |    |

## Hybrid Adaptors Ordering Information

| Supplier Code |    | Product Code |                | Male End |           | Female End |        | Structure |                | Mode |         | Zirconia Sleeve and Metal Housing |
|---------------|----|--------------|----------------|----------|-----------|------------|--------|-----------|----------------|------|---------|-----------------------------------|
| UP            | UP | HAR          | Hybrid Adaptor | FC       | FC        | FC         | FC     | MF        | Male to Female | 9    | OS1/OS2 | Z1N                               |
|               |    |              |                | FCA      | FC APC    | FCA        | FC APC | FM        | Female to Male | 62   | OM1     |                                   |
|               |    |              |                | LC       | LC        | LC         | LC     |           |                | 50   | OM2     |                                   |
|               |    |              |                | LCA      | LC APC    | LCA        | LC APC |           |                | OM3  | OM3     |                                   |
|               |    |              |                | SC       | SC        | SC         | SC     |           |                |      |         |                                   |
|               |    |              |                | SCA      | SC APC    | SCA        | SC APC |           |                |      |         |                                   |
|               |    |              |                | ST       | ST        | ST         | ST     |           |                |      |         |                                   |
|               |    |              |                | STA      | ST APC    | STA        | ST APC |           |                |      |         |                                   |
|               |    |              |                | E2       | E2000     |            |        |           |                |      |         |                                   |
|               |    |              |                | E2A      | E2000 APC |            |        |           |                |      |         |                                   |
|               |    |              |                | SMA      | SMA       |            |        |           |                |      |         |                                   |

### ORDER CODE STUDY CASE

|    |     |    |    |    |   |     |
|----|-----|----|----|----|---|-----|
| UP | HAR | FC | LC | MF | 9 | Z1N |
|----|-----|----|----|----|---|-----|

Meaning that: Hybrid Adaptor, FC LC Type, Male to Female, OS1/OS2, Zirconia Sleeve and Metal Housing



## FC Attenuator

### DESCRIPTION

Fiber Optic attenuator is used to reduce the optical power level of a communication signal, in an optical fiber used in a fiber optic communication link. They use different principles of functioning like gap-loss, absorptive or reflective techniques. Three basic types of Fiber optical attenuators are step wise variable, continuously variable and fixed.

### FEATURES

- Plug-in type package
- Accurate attenuation
- Ultra-low back reflection
- Broad wavelength band
- Flat response over all wavelengths
- Environmentally stable

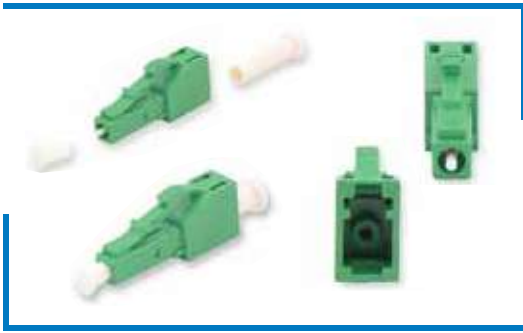
### APPLICATION

- Telecommunication networks
- Fibre optic sensors
- Test and measurement
- CATV
- LAN and WAN
- FTTX

### SPECIFICATIONS

#### Parameter

|                                |   |
|--------------------------------|---|
| Available Range of Attenuation | 1 to 30 dB with 1 dB increments             |
| Operating Wavelength           | 1310 and 1550 nm (or single wavelength)     |
| Operating Band Pass            | Dual Window 1310 and 1550 nm ( $\pm 25$ nm) |
| Attenuators $\leq 10$ dB       | $\pm 0.5$ dB                                |
| Attenuators 11 to 30 dB        | $\pm 1$ dB                                  |
| Reflectance                    | UPC = 50 dB APC = 60 dB                     |
| International Standard         | Telcordia GR-910-CORE                       |



## LC Attenuator

### DESCRIPTION

Fiber Optic attenuator is used to reduce the optical power level of a communication signal, in an optical fiber used in a fiber optic communication link. They use different principles of functioning like gap-loss, absorptive or reflective techniques. Three basic types of Fiber optical attenuators are step wise variable, continuously variable and fixed.

### FEATURES

- Plug-in type package
- Accurate attenuation
- Ultra-low back reflection
- Broad wavelength band
- Flat response over all wavelength
- Environmentally stable

### APPLICATION

- Telecommunication networks
- Fibre optic sensors
- Test and measurement
- CATV
- LAN and WAN
- FTTX

### SPECIFICATIONS

#### Parameter

|                                |   |
|--------------------------------|---|
| Available Range of Attenuation | 1 to 30 dB with 1 dB increments             |
| Operating Wavelength           | 1310 and 1550 nm (or single wavelength)     |
| Operating Band Pass            | Dual Window 1310 and 1550 nm ( $\pm 25$ nm) |
| Attenuators $\leq 10$ dB       | $\pm 0.5$ dB                                |
| Attenuators 11 to 30 dB        | $\pm 1$ dB                                  |
| Reflectance                    | UPC = 50 dB APC = 60 dB                     |
| International Standard         | Telcordia GR-910-CORE                       |



## SC Attenuator

### DESCRIPTION

Fiber Optic attenuator is used to reduce the optical power level of a communication signal, in an optical fiber used in a fiber optic communication link. They use different principles of functioning like gap-loss, absorptive or reflective techniques. Three basic types of Fiber optical attenuators are step wise variable, continuously variable and fixed.

### FEATURES

- Plug-in type package
- Accurate attenuation
- Ultra-low back reflection
- Broad wavelength band
- Flat response over all wavelengths
- Environmentally stable

### APPLICATION

- Telecommunication networks
- Fibre optic sensors
- Test and measurement
- CATV
- LAN and WAN
- FTTX

### SPECIFICATIONS

#### Parameter

|                                |   |
|--------------------------------|---|
| Available Range of Attenuation | 1 to 30 dB with 1 dB increments             |
| Operating Wavelength           | 1310 and 1550 nm (or single wavelength)     |
| Operating Band Pass            | Dual Window 1310 and 1550 nm ( $\pm 25$ nm) |
| Attenuators $\leq 10$ dB       | $\pm 0.5$ dB                                |
| Attenuators 11 to 30 dB        | $\pm 1$ dB                                  |
| Reflectance                    | UPC = 50 dB APC = 60 dB                     |
| International Standard         | Telcordia GR-910-CORE                       |



## ST Attenuator

### DESCRIPTION

Fiber Optic attenuator is used to reduce the optical power level of a communication signal, in an optical fiber used in a fiber optic communication link. They use different principles of functioning like gap-loss, absorptive or reflective techniques. Three basic types of Fiber optical attenuators are step wise variable, continuously variable and fixed.

### FEATURES

- Plug-in type package
- Accurate attenuation
- Ultra-low back reflection
- Broad wavelength band
- Flat response over all wavelengths
- Environmentally stable

### APPLICATION

- Telecommunication networks
- Fibre optic sensors
- Test and measurement
- CATV
- LAN and WAN
- FTTX

### SPECIFICATIONS

#### Parameter

|                                |   |
|--------------------------------|---|
| Available Range of Attenuation | 1 to 30 dB with 1 dB increments             |
| Operating Wavelength           | 1310 and 1550 nm (or single wavelength)     |
| Operating Band Pass            | Dual Window 1310 and 1550 nm ( $\pm 25$ nm) |
| Attenuators $\leq 10$ dB       | $\pm 0.5$ dB                                |
| Attenuators 11 to 30 dB        | $\pm 1$ dB                                  |
| Reflectance                    | UPC = 50 dB APC = 60 dB                     |
| International Standard         | Telcordia GR-910-CORE                       |



## MU Attenuator

### DESCRIPTION

Fiber Optic attenuator is used to reduce the optical power level of a communication signal, in an optical fiber used in a fiber optic communication link. They use different principles of functioning like gap-loss, absorptive or reflective techniques. Three basic types of Fiber optical attenuators are step wise variable, continuously variable and fixed.

### FEATURES

- Plug-in type package
- Accurate attenuation
- Ultra-low back reflection
- Broad wavelength band
- Flat response over all wavelengths
- Environmentally stable

### APPLICATION

- Telecommunication networks
- Fibre optic sensors
- Test and measurement
- CATV
- LAN and WAN
- FTTX

### SPECIFICATIONS

#### Parameter

|                                |   |
|--------------------------------|---|
| Available Range of Attenuation | 1 to 30 dB with 1 dB increments             |
| Operating Wavelength           | 1310 and 1550 nm (or single wavelength)     |
| Operating Band Pass            | Dual Window 1310 and 1550 nm ( $\pm 25$ nm) |
| Attenuators $\leq 10$ dB       | $\pm 0.5$ dB                                |
| Attenuators 11 to 30 dB        | $\pm 1$ dB                                  |
| Reflectance                    | UPC = 50 dB APC = 60 dB                     |
| International Standard         | Telcordia GR-910-CORE                       |

## ORDERING INFORMATION

| Supplier Code |    | Product Code       |     | Mode                    | Type |       | Attenuation |      | Wave Length |                 | Length |         |    |
|---------------|----|--------------------|-----|-------------------------|------|-------|-------------|------|-------------|-----------------|--------|---------|----|
| UP            | UP | Plug-in Attenuator | PIA | Ultra Physical Contact  | UPC  | LC    | LC          | 1dB  | 1           | 1310nm & 1550nm | A      | 60cm.   | 06 |
|               |    | Adaptor Attenuator | AA  | Angled Physical Contact | APC  | SC    | SC          | 2dB  | 2           | 1240 1600nm     | B      | 1 meter | 10 |
|               |    | In-Line Attenuator | ILA | Physical Contact        | PC   | ST    | ST          | 5dB  | 5           |                 |        |         |    |
|               |    |                    |     |                         |      | FC    | FC          | 10dB | 10          |                 |        |         |    |
|               |    |                    |     |                         |      | MU    | MU          | 15dB | 15          |                 |        |         |    |
|               |    |                    |     |                         |      | E2000 | E2          | 20dB | 20          |                 |        |         |    |
|               |    |                    |     |                         |      | MTRJ  | MT          |      |             |                 |        |         |    |

## ORDER CODE STUDY CASE

|    |    |   |    |   |   |
|----|----|---|----|---|---|
| UP | AR | U | LC | S | S |
|----|----|---|----|---|---|

|    |     |     |    |   |   |    |
|----|-----|-----|----|---|---|----|
| UP | ILA | UPC | LC | 1 | A | 06 |
|----|-----|-----|----|---|---|----|

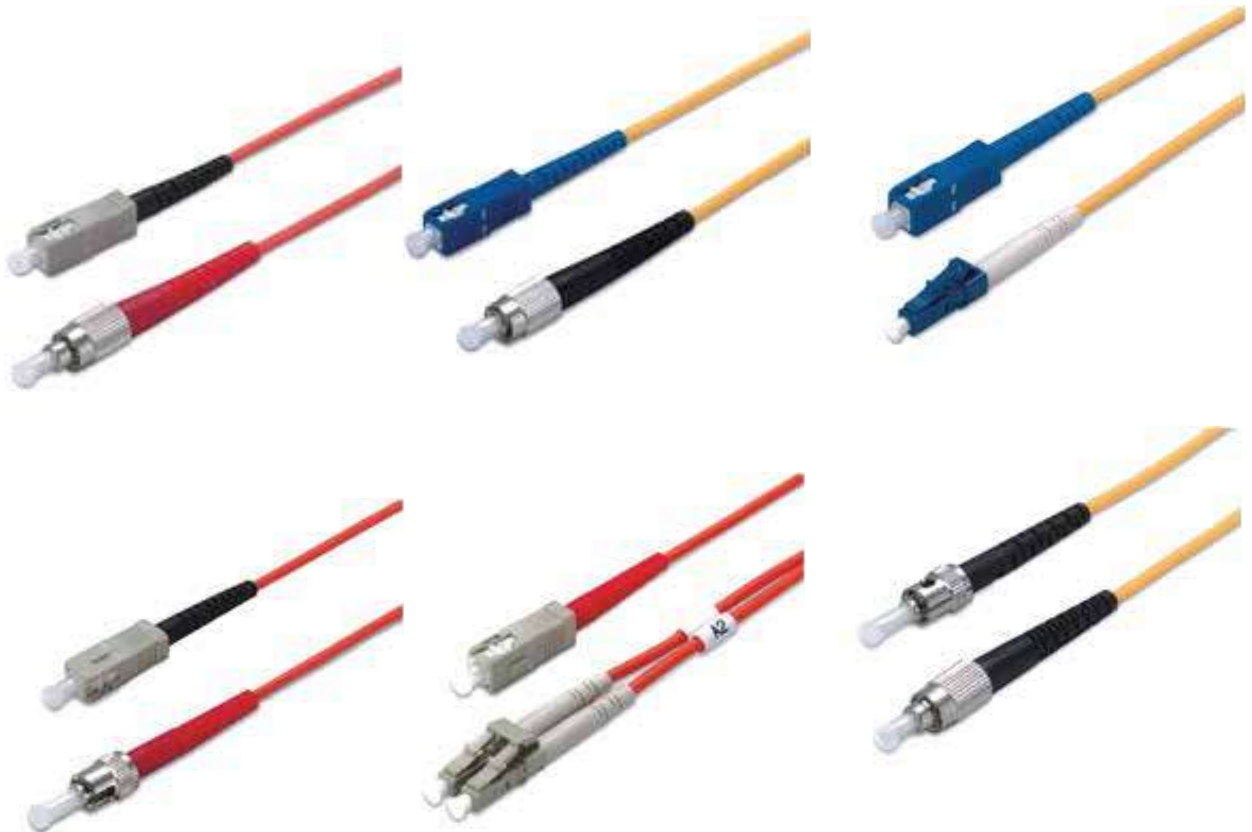
Means that In-Line Attenuator, Ultra Physical Contact Mode, LC Type 1dB Attenuation, 1310nm & 1550nm Wave Length, Cable Length is 60cm





## PATCH CORDS

A Fiber optic patch cord is a fiber optic cable having connectors at the end that allow it to be rapidly and conveniently connected to an optical switch, CATV or other telecommunication equipments. Patch cords are made from either single or multi-fiber cables either single fiber or multiple-fiber connector. The connectors are selected to mate with the interfacing equipment or cable connectors. Patch Cord cables (Sometime called Patch lead as well) cable has a connector at each end. The buffering type can be either tight or loose. The cable diameters are varying from 1.2 mm to 3.0 mm.





## DESCRIPTION

We have standard range of patch cords that provide an optimised and cost effective solution for most applications including enterprise, Local Area Network and Wide Area Network (LAN and WAN), Community Antenna Television Network (CATV Network) and Datcom. The patch cords provide flexible interconnection to active equipment, passive optical devices and cross-connects. The patch cords are terminated with our optimised range of physical contact (single mode & multimode) zirconia ceramic ferrule connectors. These are manufactured with precision factory mounting and polishing techniques which guarantee a high transmission quality.

## OS2 9/125 Single Mode Simplex Patch Cords

## FEATURES

- High quality zirconia ferrules.
- Good repeatability and interchange.
- Flame-retardant, rugged and durable jacket.  
Printing helps clarify and recognize different cables.
- Factory terminated and tested for insertion loss, return loss and end face.
- Standard connectors LC, SC, ST, FC, LSH, MTRJ, MU are available.
- Singlemode (OS2) and multimode (OM1, OM2, OM3, OM4, OM5) are available.

## APPLICATION

- Enterprise
- Datacom
- FTTX
- Broadband network
- Local Area Network and Wide Area Network (LAN and WAN)
- Community Antenna Television Network (CATV Network)
- Telecommunications Network

### Optic Fiber Connector Types

#### 1 LC

Long Form  
Lucent Connector  
Little Connector  
Local Connector

#### Typical Applications

High-density connections, SFP and SFP+ transceivers, XFP transceivers

#### 2 SC

Long Form  
Subscriber Connector/Square  
Connector/Standard Connector

#### Typical Applications

Datacom and telecom, GPON, EPON, GBIC

#### 3 ST

Long Form  
Straight Tip

#### Typical Applications

Datacom

#### 4 FC

Long Form  
Ferrule Connector or Fiber Channel

#### Typical Applications

Datacom, telecom, measurement equipment, single - mode lasers



## DESCRIPTION

We have standard range of patch cords that provide an optimised and cost effective solution for most applications including enterprise, Local Area Network and Wide Area Network (LAN and WAN), Community Antenna Television Network (CATV Network) and Datacom. The patch cords provide flexible interconnection to active equipment, passive optical devices and cross-connects. The patch cords are terminated with our optimised range of physical contact (single mode & multimode) zirconia ceramic ferrule connectors. These are manufactured with precision factory mounting and polishing techniques which guarantee a high transmission quality.

## FEATURES

- High quality zirconia ferrules.
- Good repeatability and interchange.
- Flame-retardant, rugged and durable jacket.
- Printing helps clarify and recognize different cables.
- Factory terminated and tested for insertion loss, return loss and end face.
- Standard connectors LC, SC, ST, FC, LSH, MTRJ, MU are available.
- Singlemode (OS2) and multimode (OM1, OM2, OM3, OM4, OM5) are available.

## APPLICATION

- Enterprise
- Datacom
- FTTX
- Broadband network
- Local Area Network and Wide Area Network (LAN and WAN)
- Community Antenna Television Network (CATV Network)
- Telecommunications Network

## OS2 9/125 Single Mode Duplex Patch Cords

### Optic Fiber Connector Types

#### 1 LC

Long Form  
Lucent Connector  
Little Connector  
Local Connector

##### Typical Applications

High-density connections, SFP and SFP+ transceivers, XFP transceivers

#### 2 SC

Long Form  
Subscriber Connector/Square Connector/Standard Connector

##### Typical Applications

Datacom and telecom, GPON, EPON, GBIC

#### 3 ST

Long Form  
Straight Tip

##### Typical Applications

Datacom

#### 4 FC

Long Form  
Ferrule Connector or Fiber Channel

##### Typical Applications

Datacom, telecom, measurement equipment, single - mode lasers



## OM1 62.5/125 Multimode Patch Cords

### DESCRIPTION

We have standard range of patch cords that provide an optimised and cost effective solution for most applications including enterprise, Local Area Network and Wide Area Network (LAN and WAN), Community Antenna Television Network (CATV Network) and Datacom. The patch cords provide flexible interconnection to active equipment, passive optical devices and cross-connects. The patch cords are terminated with our optimised range of physical contact (single mode & multimode) zirconia ceramic ferrule connectors. These are manufactured with precision factory mounting and polishing techniques which guarantee a high transmission quality.

### FEATURES

- High quality zirconia ferrules.
- Good repeatability and interchange.
- Flame-retardant, rugged and durable jacket.
- Printing helps clarify and recognize different cables.
- Factory terminated and tested for insertion loss, return loss and end face.
- Standard connectors LC, SC, ST, FC, LSH, MTRJ, MU are available.
- Singlemode (OS2) and multimode (OM1, OM2, OM3, OM4, OM5) are available.

### APPLICATION

- Enterprise
- Datacom
- FTTX
- Broadband network
- Local Area Network and Wide Area Network (LAN and WAN)
- Community Antenna Television Network (CATV Network)
- Telecommunications Network

#### Optic Fiber Connector Types

##### 1 LC

Long Form  
Lucent Connector  
Little Connector  
Local Connector

##### Typical Applications

High-density connections, SFP and SFP+ transceivers, XFP transceivers

##### 2 SC

Long Form  
Subscriber Connector/Square  
Connector/Standard Connector

##### Typical Applications

Datacom and telecom, GPON, EPON, GBIC

##### 3 ST

Long Form  
Straight Tip

##### Typical Applications

Datacom

##### 4 FC

Long Form  
Ferrule Connector or Fiber Channel

##### Typical Applications

Datacom, telecom, measurement equipment, single - mode lasers



## OM2 50/125 Multimode Patch Cords

### DESCRIPTION

We have standard range of patch cords that provide an optimised and cost effective solution for most applications including enterprise, Local Area Network and Wide Area Network (LAN and WAN), Community Antenna Television Network (CATV Network) and Datacom. The patch cords provide flexible interconnection to active equipment, passive optical devices and cross-connects. The patch cords are terminated with our optimised range of physical contact (single mode & multimode) zirconia ceramic ferrule connectors. These are manufactured with precision factory mounting and polishing techniques which guarantee a high transmission quality.

### FEATURES

- High quality zirconia ferrules.
- Good repeatability and interchange.
- Flame-retardant, rugged and durable jacket.
- Printing helps clarify and recognize different cables.
- Factory terminated and tested for insertion loss, return loss and end face.
- Standard connectors LC, SC, ST, FC, LSH, MTRJ, MU are available.
- Singlemode (OS2) and multimode (OM1, OM2, OM3, OM4, OM5) are available.

### APPLICATION

- Enterprise
- Datacom
- FTTX
- Broadband network
- Local Area Network and Wide Area Network (LAN and WAN)
- Community Antenna Television Network (CATV Network)
- Telecommunications Network

#### Optic Fiber Connector Types

##### 1 LC

Long Form  
Lucent Connector  
Little Connector  
Local Connector

##### Typical Applications

High-density connections, SFP and SFP+ transceivers, XFP transceivers

##### 2 SC

Long Form  
Subscriber Connector/Square  
Connector/Standard Connector

##### Typical Applications

Datacom and telecom, GPON, EPON, GBIC

##### 3 ST

Long Form  
Straight Tip

##### Typical Applications

Datacom

##### 4 FC

Long Form  
Ferrule Connector or Fiber Channel

##### Typical Applications

Datacom, telecom, measurement equipment, single - mode lasers



## OM3 10Gb 50/125 Multimode Patch Cords

### DESCRIPTION

We have standard range of patch cords that provide an optimised and cost effective solution for most applications including enterprise, Local Area Network and Wide Area Network (LAN and WAN), Community Antenna Television Network (CATV Network) and Datacom. The patch cords provide flexible interconnection to active equipment, passive optical devices and cross-connects. The patch cords are terminated with our optimised range of physical contact (single mode & multimode) zirconia ceramic ferrule connectors. These are manufactured with precision factory mounting and polishing techniques which guarantee a high transmission quality.

### FEATURES

- High quality zirconia ferrules.
- Good repeatability and interchange.
- Flame-retardant, rugged and durable jacket.
- Printing helps clarify and recognize different cables.
- Factory terminated and tested for insertion loss, return loss and end face.
- Standard connectors LC, SC, ST, FC, LSH, MTRJ, MU are available.
- Singlemode (OS2) and multimode (OM1, OM2, OM3, OM4, OM5) are available.

### APPLICATION

- Enterprise
- Datacom
- FTTX
- Broadband network
- Local Area Network and Wide Area Network (LAN and WAN)
- Community Antenna Television Network (CATV Network)
- Telecommunications Network

#### Optic Fiber Connector Types

##### 1 LC

Long Form  
Lucent Connector  
Little Connector  
Local Connector

##### Typical Applications

High-density connections, SFP and SFP+ transceivers, XFP transceivers

##### 2 SC

Long Form  
Subscriber Connector/Square  
Connector/Standard Connector

##### Typical Applications

Datacom and telecom, GPON, EPON, GBIC

##### 3 ST

Long Form  
Straight Tip

##### Typical Applications

Datacom

##### 4 FC

Long Form  
Ferrule Connector or Fiber Channel

##### Typical Applications

Datacom, telecom, measurement equipment, single - mode lasers



## OM4 40 100Gb 50/125 Multimode Patch Cords

### DESCRIPTION

We have standard range of pigtailed that provide an optimised and cost effective solution for most applications including enterprise, Local Area Network and Wide Area Network (LAN and WAN), Community Antenna Television Network (CATV Network) and Datacom. The pigtailed provide 900 µm buffered fibre for ease of handling in fibre management such as panels, splice cassettes and wall boxes. The pigtailed are terminated with our optimised range of physical contact (single mode & multimode) zirconia ceramic ferrule connectors. These are manufactured with precision factory mounting and polishing techniques which helps assure high transmission quality.

### FEATURES

- High quality zirconia ferrules.
- Good repeatability and interchange.
- Flame-retardant, rugged and durable jacket.
- Printing helps clarify and recognize different cables.
- Factory terminated and tested for insertion loss, return loss and end face.
- Standard connectors LC, SC, ST, FC are available.
- Singlemode (OS2) and multimode (OM1, OM2, OM3, OM4, OM5) are available.

### APPLICATION

- Enterprise
- Datacom
- FTTX
- Broadband network
- Local Area Network and Wide Area Network (LAN and WAN)
- Community Antenna Television Network (CATV Network)
- Telecommunications Network

#### Optic Fiber Connector Types

##### 1 LC

Long Form  
Lucent Connector  
Little Connector  
Local Connector

##### Typical Applications

High-density connections, SFP and SFP+ transceivers, XFP transceivers

##### 2 SC

Long Form  
Subscriber Connector/Square  
Connector/Standard Connector

##### Typical Applications

Datacom and telecom, GPON, EPON, GBIC

##### 3 ST

Long Form  
Straight Tip

##### Typical Applications

Datacom

##### 4 FC

Long Form  
Ferrule Connector or Fiber Channel

##### Typical Applications

Datacom, telecom, measurement equipment, single - mode lasers



## OM5 40G 100G 50/125 Multimode Patch Cords

### DESCRIPTION

We have standard range of patch cords that provide an optimised and cost effective solution for most applications including enterprise, Local Area Network and Wide Area Network (LAN and WAN), Community Antenna Television Network (CATV Network) and Datacom. The patch cords provide flexible interconnection to active equipment, passive optical devices and cross-connects. The patch cords are terminated with our optimised range of physical contact (single mode & multimode) zirconia ceramic ferrule connectors. These are manufactured with precision factory mounting and polishing techniques which guarantee a high transmission quality.

### FEATURES

- High quality zirconia ferrules.
- Good repeatability and interchange.
- Flame-retardant, rugged and durable jacket.
- Printing helps clarify and recognize different cables.
- Factory terminated and tested for insertion loss, return loss and end face.
- Standard connectors LC, SC, ST, FC, LSH, MTRJ, MU are available.
- Singlemode (OS2) and multimode (OM1, OM2, OM3, OM4, OM5) are available.

### APPLICATION

- Enterprise
- Datacom
- FTTX
- Broadband network
- Local Area Network and Wide Area Network (LAN and WAN)
- Community Antenna Television Network (CATV Network)
- Telecommunications Network

#### Optic Fiber Connector Types

##### 1 LC

Long Form  
Lucent Connector  
Little Connector  
Local Connector

##### Typical Applications

High-density connections, SFP and SFP+ transceivers, XFP transceivers

##### 2 SC

Long Form  
Subscriber Connector/Square  
Connector/Standard Connector

##### Typical Applications

Datacom and telecom, GPON, EPON, GBIC

##### 3 ST

Long Form  
Straight Tip

##### Typical Applications

Datacom

##### 4 FC

Long Form  
Ferrule Connector or Fiber Channel

##### Typical Applications

Datacom, telecom, measurement equipment, single - mode lasers





## Tailor Made Standard Patch Cords

### » DESCRIPTION

We have standard range of patch cords that provide an optimised and cost effective solution for most applications including enterprise, Local Area Network and Wide Area Network (LAN and WAN), Community Antenna Television Network (CATV Network) and Datacom. The patch cords provide flexible interconnection to active equipment, passive optical devices and cross-connects. The patch cords are terminated with our optimised range of physical contact (single mode & multimode) zirconia ceramic ferrule connectors. These are manufactured with precision factory mounting and polishing techniques which guarantee a high transmission quality.

### » FEATURES

- High quality zirconia ferrules.
- Good repeatability and interchange.
- Flame-retardant, rugged and durable jacket.
- Printing helps clarify and recognize different cables.
- Factory terminated and tested for insertion loss, return loss and end face.
- Standard connectors LC, SC, ST, FC, LSH, MTRJ, MU are available.
- Singlemode (OS2) and multimode (OM1, OM2, OM3, OM4, OM5) are available.

### » APPLICATION

- Enterprise
- Datacom
- FTTX
- Broadband network
- Local Area Network and Wide Area Network (LAN and WAN)
- Community Antenna Television Network (CATV Network)
- Telecommunications Network



## Electrical Parameters for Patch Cords

### SPECIFICATION

| OPTICAL FIBER<br>PERFORMANCE           | SINGLE<br>MODE | MULTIMODE | In compliance with |
|--|----------------|-----------|--------------------|
| Insertion Lost (Max. - factory tested) | 0.30 dB        | 0.30 dB   | IEC 61300-3-4      |
| Average/Random                         | 0.30 dB        | 0.25 dB   | IEC 61300-3-34     |
| Return Loss (Min.)                     | 50 dB          | 20 dB*    | IEC 61300-3-6      |

\*Return Loss data related to a randomly picked sample data

| CHARACTERISTICS   | UNITS | SIMPLEX                       | DUPLEX (ZIP design) |
|---|-------|-------------------------------|---------------------|
| Cable Jacket Material   |       | LSZH                          | LSZH                |
| Strength Member   |       | Aramid Yarn                   | Aramid Yarn         |
| Crush Resistance  | N     | 1000                          | 1000                |
| Operating Temperature   | °C    | -20 to +60                    | -20 to +60          |
| Minimum Bending Radius<br>(for non-circular cables, the cable<br>diameter is the minor dimension) | mm    | 10D (Dynamic) 20D<br>(Static) | 10D (Dynamic) 20D   |

### ADDITIONAL INFORMATION

| MECHANICAL PROPERTIES | REFERENCE                | In compliance with |
|-----------------------|--------------------------|--------------------|
| Mechanical endurance  | 500 matings              | IEC 61300-2-2      |
| Vibration             | 10-55 Hz, 0.75 amplitude | IEC 61300-2-1      |
| Drop                  | Drop height 1m, 5 drops  | IEC 61300-2-12     |
| Cable retention       | Magnitude 50 N           | IEC 61300-2-4      |

## ORDERING INFORMATION

| Supplier Code |    | Product Code |    | Connector End Face A |    | Connector End Face B |    | Fiber Optic Core Type |         | Cable Form |              | Cable Colour* |              | Cable Diameter |     | Cable Length |          |
|---------------|----|--------------|----|----------------------|----|----------------------|----|-----------------------|---------|------------|--------------|---------------|--------------|----------------|-----|--------------|----------|
| FCB           | UP | Patch Cord   | PC | FC                   | FC | FC                   | FC | 9                     | OS1/OS2 | D          | Duplex LSZH  | YE            | Yellow       | 2mm            | 2mm | 1            | 1 metre  |
|               |    |              |    | LC                   | LC | LC                   | LC | OM1                   | OM1     | S          | Simplex LSZH | OR            | Orange       | 3mm            | 3mm | 2            | 2 metre  |
|               |    |              |    | SC                   | SC | SC                   | SC | OM2                   | OM2     |            |              | AQ            | Aqua         |                |     | 3            | 3 metre  |
|               |    |              |    | ST                   | ST | ST                   | ST | OM3                   | OM3     |            |              | EV            | Erika Violet |                |     | 5            | 5 metre  |
|               |    |              |    |                      |    |                      |    | OM4                   | OM4     |            |              |               |              |                |     | 10           | 10 metre |
|               |    |              |    |                      |    |                      |    |                       |         |            |              |               |              |                |     | xxx          | Other    |

## ORDER CODE STUDY CASE

Means that: PC-LC Type Patch Cord, with OM3 Optic Core Type, Cable Form Doublex with Aqua Colored, LSZH Jacket with a thickness of 2mm and 5m long

|    |    |    |    |     |   |    |     |   |
|----|----|----|----|-----|---|----|-----|---|
| UP | PC | LC | SC | OM3 | D | AQ | 2MM | 5 |
|----|----|----|----|-----|---|----|-----|---|



## Single Mode Pigtails

### DESCRIPTION

We have standard range of pigtails that provide an optimised and cost effective solution for most applications including enterprise, Local Area Network and Wide Area Network (LAN and WAN), Community Antenna Television Network (CATV Network) and Datacom. The patch cords provide flexible interconnection to active equipment, passive optical devices and cross-connects. The patch cords are terminated with our optimised range of physical contact (single mode & multimode) zirconia ceramic ferrule connectors. These are manufactured with precision factory mounting and polishing techniques which guarantee a high transmission quality.

### FEATURES/BENEFITS

- High quality zirconia ferrules.
- Good repeatability and interchange.
- Flame-retardant, rugged and durable jacket.
- Printing helps clarify and recognize different cables.
- Factory terminated and tested for insertion loss, return loss and end face.
- Standard connectors LC, SC, ST, FC are available.
- Singlemode (OS2) and multimode (OM1, OM2, OM3, OM4, OM5) are available.

### APPLICATION

- Patch panels, wall boxes, ODFs and splice cassettes
- Enterprise
- Datacom
- LAN and WAN
- FTTX
- Broadband network

#### Optic Fiber Connector Types

##### 1 LC

Long Form  
Lucent Connector  
Little Connector  
Local Connector

##### Typical Applications

High-density connections, SFP and SFP+ transceivers, XFP transceivers

##### 2 SC

Long Form  
Subscriber Connector/Square  
Connector/Standard Connector

##### Typical Applications

Datacom and telecom, GPON, EPON, GBIC

##### 3 ST

Long Form  
Straight Tip

##### Typical Applications

Datacom

##### 4 FC

Long Form  
Ferrule Connector or Fiber Channel

##### Typical Applications

Datacom, telecom, measurement equipment, single - mode lasers



## Multimode Pigtails

### DESCRIPTION

We have standard range of pigtails that provide an optimised and cost effective solution for most applications including enterprise, Local Area Network and Wide Area Network (LAN and WAN), Community Antenna Television Network (CATV Network) and Datacom. The patch cords provide flexible interconnection to active equipment, passive optical devices and cross-connects. The patch cords are terminated with our optimised range of physical contact (single mode & multimode) zirconia ceramic ferrule connectors. These are manufactured with precision factory mounting and polishing techniques which guarantee a high transmission quality.

### FEATURES/BENEFITS

- High quality zirconia ferrules.
- Good repeatability and interchange.
- Flame-retardant, rugged and durable jacket.
- Printing helps clarify and recognize different cables.
- Factory terminated and tested for insertion loss, return loss and end face.
- Standard connectors LC, SC, ST, FC are available.
- Singlemode (OS2) and multimode (OM1, OM2, OM3, OM4, OM5) are available.

### APPLICATION

- Patch panels, wall boxes, ODFs and splice cassettes
- Enterprise
- Datacom
- LAN and WAN
- FTTX
- Broadband network

#### Optic Fiber Connector Types

1 LC

Long Form  
Lucent Connector  
Little Connector  
Local Connector

Typical Applications

High-density connections, SFP and SFP+ transceivers, XFP transceivers

2 SC

Long Form  
Subscriber Connector/Square  
Connector/Standard Connector

Typical Applications

Datacom and telecom, GPON, EPON, GBIC

3 ST

Long Form  
Straight Tip

Typical Applications

Datacom

4 FC

Long Form  
Ferrule Connector or Fiber Channel

Typical Applications

Datacom, telecom, measurement equipment, single - mode lasers



## Fan-out Pigtails

### DESCRIPTION

Fan out fiber optic pigtails are usually 1XN structure, at the N end of the fan out fiber pigtail, it can be terminated with different kinds of connectors. Fiber optic fan-outs are designed for patch panels or cable ducts where space-saving is required. typical connectors used are SC/ST/FC/LC, single mode or multimode, UPC/APC/PC polished types, at the other end of the fan out fiber optic pigtail, sometimes there is MTP/MPO connectors, sometimes without termination of fiber optic connectors. The patch panels have either array fusion splicing (between outside plant cables and bare ribbon pigtails) or array interconnections (MPO/MTP fan-out). For cables that run from patch panels to equipment or patch panels to patch panels, the fan-out cords with either ribbon cables or distribution cables can save space for cable ducts. Distribution cables are more rugged than ribbon cables. Most popular connectors, such as SC, FC, ST, LC, E2000, MU, DIN, D4, and MPO/MTP are available. A fan-out cord can have MPO/MTP at one end, and fan-out terminated with single fiber connectors at the other end. The fan-out tube has a choice of 900um or 2mm.

### FEATURES/BENEFITS

- 4, 6, 8 and 12-fiber available
- Save the space in duct and shorten the installation time
- 900um, or 2mm fan-out Tube available
- Jacketed ribbon cables, bare ribbons, or distribution cables
- Low insertion loss High return loss High stability and reliability
- High temperature stability
- In compliance with Telcordia GR-326-CORE

### APPLICATION

- Telecommunication networking
- Long haul networks
- CATV networks
- Building interconnections
- Data transmission networks
- Computer networks
- Cabling system
- Interconnection of fiber optic transmission equipments
- ODF of optical transmission systems
- FTTX applications

#### Optic Fiber Connector Types

##### 1 LC

Long Form  
Lucent Connector  
Little Connector  
Local Connector

##### Typical Applications

High-density connections, SFP and SFP+ transceivers, XFP transceivers

##### 2 SC

Long Form  
Subscriber Connector/Square Connector/Standard Connector

##### Typical Applications

Datacom and telecom, GPON, EPON, GBIC

##### 3 ST

Long Form  
Straight Tip

##### Typical Applications

Datacom

##### 4 FC

Long Form  
Ferrule Connector or Fiber Channel

##### Typical Applications

Datacom, telecom, measurement equipment, single - mode lasers



## Electrical Parameters for Pigtaills

### SPECIFICATION

| OPTICAL FIBER<br>PERFORMANCE           | SINGLE<br>MODE | MULTIMODE | In compliance with |
|--|----------------|-----------|--------------------|
| Insertion Lost (Max. - factory tested) | 0.20 dB        | 0.20 dB   | IEC 61300-3-4      |
| Average/Random                         | 0.30 dB        | 0.20 dB   | IEC 61300-3-34     |
| Return Loss (Min.)                     | 50 dB          | 20 dB*    | IEC 61300-3-6      |

\*Return Loss data related to a randomly picked sample data

| CHARACTERISTICS                 | UNITS    | SIMPLEX     |
|---------------------------------|----------|-------------|
| Crush                           | N/100 mm | 500         |
| Operating Temperature           | °C       | -20 to 60   |
| Stripping Length - Easy Strip   | m        | 1.5 minimum |
| Stripping Length - Tight buffer | mm       | 30 nominal  |
| Nominal buffer Diameter         | µm       | 900 ± 50    |
| Max Tensile Load                | N        | 6           |

| Supplier Code |    | Product Code |     | Connector End Face |    | Fiber Optic Core Type |         | Cable Length |         | Cable Form |                               |
|---------------|----|--------------|-----|--------------------|----|-----------------------|---------|--------------|---------|------------|-------------------------------|
| UP            | UP | Patch Cord   | PGT | FC                 | FC | 9                     | OS1/OS2 | 1            | 1 metre | TB         | Tight Buffer                  |
|               |    |              |     | LC                 | LC | OM1                   | OM1     | 2            | 2 metre | E-12/1B    | Easy strip Pack of 12 colours |
|               |    |              |     | SC                 | SC | OM2                   | OM2     |              |         |            |                               |
|               |    |              |     | ST                 | ST | OM3                   | OM3     |              |         |            |                               |
|               |    |              |     |                    |    | OM4                   | OM4     |              |         |            |                               |

### ORDER CODE STUDY CASE

|    |     |    |     |   |    |
|----|-----|----|-----|---|----|
| UP | PGT | LC | OM3 | 1 | TB |
|----|-----|----|-----|---|----|

Means that: Pigtail with LC Type Connector, OM3 Type Optic Core,  
1 Meter length, Tight Buffered



# MEDIA CONVERTERS & CHASSIS



## COPPER TO FIBER MEDIA CONVERTER FAST ETHERNET MEDIA

- 10/100Base-TX to 100Base-BX 20km Single Fiber WDM Media Converter
- 10/100Base-TX to 100Base-BX 40km Single Fiber WDM Media Converter
- 10/100/1000Base-T to 1000Base-BX 80km Single Fiber WDM Media Converter
- 10/100Base-TX to 100Base-FX Multimode 2km Fiber Media Converter
- 10/100Base-TX to 100Base-FX SFP Fiber Media Converter
- 10/100Base-TX to 100Base-FX Single-mode 100km Fiber Media Converter
- 10/100Base-TX to 100Base-FX Single-mode 120km Fiber Media Converter
- 10/100Base-TX to 100Base-FX Single-mode 20km Fiber Media Converter
- 10/100Base-TX to 100Base-FX Single-mode 40km Fiber Media Converter
- 10/100Base-TX to 100Base-FX Single-mode 80km Fiber Media Converter



## GIGABIT ETHERNET MEDIA

- 10/100/1000Base-T to 1000Base-BX 20km Single Fiber WDM Media Converter
- 10/100/1000Base-T to 1000Base-BX 40km Single Fiber WDM Media Converter
- 10/100/1000Base-T to 1000Base-BX 80km Single Fiber WDM Media Converter
- 10/100/1000Base-T to 1000Base-EX Single-mode 40km Fiber Media Converter
- 10/100/1000Base-T to 1000Base-EZX Single-mode 100km Fiber Media Converter
- 10/100/1000Base-T to 1000Base-LX Single-mode 20km Fiber Media Converter
- 10/100/1000Base-T to 1000Base-SX Multimode 550m Fiber Media Converter
- 10/100/1000Base-T to 1000Base-SX/LX/EX/ZX SFP Media Converter
- 10/100/1000Base-T to 1000Base-ZX Single-mode 80km Fiber Media Converter



## MINI MEDIA CONVERTER

- 10/100Base-TX to 100Base-FX Multimode 2km Mini Media Converter

The full range of Media Converters and technical specifications may seen on our website.





## 10/100Base-TX to 100Base-BX 20km Single Fiber WDM Media Converter

### COPPER TO FIBER MEDIA CONVERTER FAST ETHERNET MEDIA

#### DESCRIPTION

The FEM 20x Series is a Fast Ethernet media converter designed to convert 10/100BASE-TX copper to 100BASE-BX single fiber. This media converter uses Wavelength-Division Multiplexing (WDM) technology, enabling Bi-Directional communication over a single fiber, doubling the capacity of your existing fiber infrastructure without having to install new cabling.

Engineered with high-quality fiber optical transceiver, which provides a good electrical characteristics to ensure reliable data transmission and long working life. 6 Group LED indicated lights could fully monitor the working conditions of Media Converters. It is easy for end-users to observe network operation. This media converter provide external power as default, it can be as a stand-alone unit, or inserted into Upcom's low-cost 14-slot Media Converter Rack Chassis that allows all the media converters to be powered by a single internal power supply.

The FEM 20x series 10/100BASE-TX to 100BASE-BX WDM media converter provides 20 km(12.4 miles) transmit distance over single fiber at wavelength of Tx1310nm/Rx1550nm or Tx1550nm/RX1310nm. It is provided with SC, ST and FC connector option for different users.

#### FEATURES

- Auto negotiation function allows UTP port to auto select 10M or 100M, and Full Duplex or Half Duplex
- UTP port supports MDI/MDI-X auto crossover
- Indicator function of link fault (LFP): When optical fiber or UTP is at fault, the converter could stop all the link
- Multiple Optical Transceiver could be chosen: SC, ST or FC
- Adopts WDM technology, transmitting and receiving data on one single fiber
- Easy-to-view LED indicators provide monitoring of network system easily
- Compliant with IEEE 802.3 10Base-T and IEEE 802.3u 100Base-TX, 100Base-BX Standards
- Internal Circuit of prevented thunder could greatly reduce damage of the converter caused by thunderbolt induction
- ROHS compliant and Lead Free



## 10/100Base-TX to 100Base-BX 20km Single Fiber WDM Media Converter

### SPECIFICATION

|                    |  |                         |   |
|--------------------|--|-------------------------|---|
| Product Series     | WDM Fiber Media Converter  | Standards and Protocols | IEEE 802.3, IEEE 802.3u, IEEE 802.3x  |
| Ports              | 1 x 10/100BASE-TX RJ45 port  | Network Media           | 10Base-T: Cat 5 UTP (maximum 100m)  |
|                    | 1 x 10/100BASE-BX Single SC port (ST or FC also available)               |                         | 100Base-T: Cat 5 UTP (maximum 100m)<br>100Base-BX: Single-mode Fiber Cable (maximum 20km) |
| Flow control       | Full Duplex: IEEE802.3x<br>Half Duplex: back pressure                    | LED indicator           | Power, FX 100, FX Link/Act<br>TX 100, TX FDX, TX Link/Act                                 |
| Buffer space       | 128KB  | MAC address             | 1K  |
| Wavelength         | 1310 nm or 1550nm  | Fiber Type              | Single Fiber  |
| Transmitter Power  | -14 ~ -3 dBm   | Receiver Sensitivity    | < -34 dBm   |
| Power Supply       | External Power Adapter<br>Input: AC 100~240V 50/60Hz<br>Output: DC 5V 1A | Power Consumption       | 2.5W  |
| Dimensions (WxDxH) | 26x70x93mm   | Gross Weight            | 0.5 kg  |
| Environment        | Operating: 0°C to 50°C, 10~90% RH<br>Storage: -40°C to 70°C, 5~90% RH    | Compliance              | FDA IEC/EN 60825-1<br>ROHS, CE  |



## 10/100/1000Base-T to 1000Base-BX 20km Single Fiber WDM Media Converter



### GIGABIT ETHERNET MEDIA

#### DESCRIPTION

The GEM-x20x Series is a Gigabit Ethernet media converter designed to convert 10/100/1000BASE-T copper to 1000BASE-BX single fiber. This media converter uses Wavelength-Division Multiplexing (WDM) technology, enabling Bi-Directional communication over a single fiber and doubling the capacity of your existing fiber infrastructure network without having to install new cabling.

The MC-GSB11-x20x series WDM media converter provides 20 km(12.4 miles) transmit distance over single fiber at wavelength of TX1310nm/RX1550nm or TX1550nm/RX1310nm. It is provided with SC, ST and FC connector option for different users.

The GEM-x20x is engineered with high-quality fiber optical transceiver, which provides a good electrical characteristics to ensure reliable data transmission and long working life. 6 Group LED indicated lights could fully monitor the working conditions of media converter. It is easy for end-users to observe network operation. This WDM media converter provide external power as default, it can be as a stand-alone unit, or inserted into Upcom's low-cost 14-slot Media Converter Rack Chassis that allows all the media converters to be powered by a single internal power supply.

#### FEATURES

- Cost-effective migration from Gigabit copper to Gigabit fiber
- Auto negotiation function allows UTP ports to auto select 10/100/1000M and Full Duplex or Half Duplex
- The UTP port supports the connection of MDI/MDI-X auto crossover
- Multiple fiber port could be chosen: SC, ST or FC
- Adopts WDM technology,transmitting and receiving data on a single fiber
- Single strand of single-mode Fiber: the max distance up to 20km
- Supporting flow control
- Easy-to-view LED indicators provide status to monitor network activity easily
- Compacts size for easy installation and working with Upcom 14-Slot Rack-mount Chassis UP-RACK-14
- ROHS compliant and Lead Free

## SPECIFICATION

|                    |  |                         |  |
|--------------------|--|-------------------------|--|
| Product Series     | WDM Fiber Media Converter  | Standards and Protocols | IEEE 802.3, IEEE 802.3u, IEEE802.3ab, IEEE802.3z   |
| Ports              | 1 x10/100/1000BASE-T RJ45 port   | Network Media           | 10/100/1000Base-T: Cat 5 UTP (maximum100m)   |
|                    | 1 x 1000BASE-BX SC port (ST or FC also available)                        |                         | 100Base-T: Cat 5 UTP (maximum 100m)<br>100Base-BX: Single-mode Fiber Cable (maximum 20km)  |
| Flow control       | Full Duplex: IEEE802.3x<br>Half Duplex: back pressure                    | LED indicator           | POWER (power)<br>FX LINK (fiber link action)<br>TP LINK1000 (twisted pair connection 1000M)<br>TP LINK100 (twisted pair connection 100M)<br>TP ACT (twisted pair packet forwarding action)<br>FDX (Ethernet interface mode indicator,ON:Full duplex<br>OFF: Half duplex) |
| Buffer space       | 256 KB   | MAC address             | 4K   |
| Wavelength         | 1310 nm or 1550nm  | Fiber Type              | Single Fiber   |
| Transmitter Power  | -9 ~ -3 dBm  | Receiver Sensitivity    | < -22 dBm  |
| Power Supply       | External Power Adapter<br>Input: AC 100~240V 50/60Hz<br>Output: DC 5V 1A | Power Consumption       | 2.5W   |
| Dimensions (WxDxH) | 26x70x93mm   | Gross Weight            | 0.5 kg   |
| Environment        | Operating: 0°C to 50°C, 10~90% RH<br>Storage: -40°C to 70°C, 5~90% RH    | Compliance              | FDA IEC/EN 60825-1<br>ROHS, CE   |



## 10/100Base-TX to 100Base-FX Multimode 2km Mini Media Converter

### MINI MEDIA CONVERTER

#### » DESCRIPTION

The MFEM 02x series is a Micro Mini Fast Ethernet Media Converter designed for desktop and mobile applications that require light weight, compact size, and low power. This Mini media converter provides cost-effective, entry-level media conversion between 10/100BASE-TX copper to 100BASE-FX fiber. The compact media converter provides with a small size which is ideal for locations where space is limited. The converter is plug-and-play with an RJ-45 port that supports auto-negotiation with speed, duplex mode, and crossover functions for PCs with 10BASE-T and 100BASE-TX Ethernet. The 100BASE-FX fiber port operates at the 1310nm wavelength over multi-mode fiber and support distances up to 2 km(1.2 miles), and available in SC, ST or FC fiber connectors.

#### » FEATURES

- Auto-negotiation function allows UTP port to auto select 10M or 100M, and Full Duplex or Half Duplex
- UTP port supports MDI/MDI-X auto crossover
- Multiple fiber connectors could be chosen: SC, ST or FC
- LED indicators for power, RJ-45, and fiber port status
- Compliant with IEEE 802.3 10Base-T and IEEE 802.3u 100Base-TX, 100Base-FX Standards
- Internal Circuit of prevented thunder could greatly reduce damage to the converter caused by thunderbolt induction
- Small and light, weighs only 90 grams

## SPECIFICATION

|                    |  |                         |   |
|--------------------|--|-------------------------|---|
| Product Series     | Mini Media Converter   | Standards and Protocols | IEEE 802.3, IEEE 802.3u, IEEE 802.3x  |
| Ports              | 1 x10/100/1000BASE-TX RJ45 port<br><br>1 x 10/100BASE-FX SC port (ST or FC also available) | Network Media           | 10Base-T: Cat 5 UTP (maximum 100m)<br>100Base-T: Cat 5 UTP (maximum 100m)<br>100Base-FX: Multi-mode Fiber Cable (maximum 2km) |
| Flow control       | Full Duplex: IEEE802.3x<br>Half Duplex: back pressure                                      | LED indicator           | Power, FX 100, FX Link/Act<br>TX 100, TX FDX, TX Link/Act   |
| Buffer space       | 128 KB   | MAC address             | 1K  |
| Wavelength         | 1310 nm  | Fiber Type              | Multi-mode Fiber  |
| Transmitter Power  | -19 ~ -10 dBm  | Receiver Sensitivity    | < -30 dBm   |
| Power Supply       | External Power Adapter<br>Input: AC 100~240V 50/60Hz<br>Output: DC 5V 1A                   | Power Consumption       | < 2.0W  |
| Dimensions (WxDxH) | 23x50x54mm   | Gross Weight            | 0.25 kg   |
| Environment        | Operating: 0°C to 50°C, 10~90% RH<br>Storage: -40°C to 70°C, 5~90% RH                      | Compliance              | FDA IEC/EN 60825-1<br>ROHS, CE  |

## ORDERING INFORMATION

| Supplier Code |      | Type             |   | Speed        |   | Wavelength  |    | Connector    |   | Distance            |    | Power Adaptor |   | Power Supply |    |              |    |         |    |         |
|---------------|------|------------------|---|--------------|---|-------------|----|--------------|---|---------------------|----|---------------|---|--------------|----|--------------|----|---------|----|---------|
| UP            | MCF  | MC Fast Ethernet | 2 | 10/100/1000M | M | Multimode   | SC | SC connector | 1 | 550 Metre 850 nm MM | EU | Euro Type     | E | External     |    |              |    |         |    |         |
|               | MMCF | Mini MC          |   |              | S | Single mode | LC | LC connector | 2 | 2km 1300nm MM       | US | US Type       | I | Internal     |    |              |    |         |    |         |
|               |      |                  |   |              |   |             |    |              |   |                     |    |               |   |              | FC | FC connector | 20 | 20km SM | UK | UK Type |
|               |      |                  |   |              |   |             |    |              |   |                     |    |               |   |              |    |              |    |         |    |         |
|               | 60   | 80km SM          |   |              |   |             |    |              |   |                     |    |               |   |              |    |              |    |         |    |         |
|               | 80   | 100km SM         |   |              |   |             |    |              |   |                     |    |               |   |              |    |              |    |         |    |         |
|               | 100  | 120km SM         |   |              |   |             |    |              |   |                     |    |               |   |              |    |              |    |         |    |         |
|               | 120  |                  |   |              |   |             |    |              |   |                     |    |               |   |              |    |              |    |         |    |         |

### ORDER CODE STUDY CASE

UP MCF 2 M SC 2 EU E

Means that: Singlemode Gigabit RJ45 - SC Euro Power 1Gbs Media Converter 2km with an external power supply



# 14-Slot Media Converter Rack-mount Chassis with Dual Power Supply

## CHASSIS

### DESCRIPTION

The 14-Slot Media Converter Rack-mount Chassis is specially designed to accommodate Upcom Media Converters for central power supply, saving space and power cables. The great choice of Media Converters ensures the highest flexibility. Redundant, fan-cooled load-sharing power supplies can be hot-swapped to ensure system uptime. This 14-Slot media converter chassis can work with FEM and GEM series fiber media converters.

### FEATURES

- Dual independent hot plug power modules as default
- Supports 14 media converters
- Supplying the converters or powers to be plugged and played
- 2U high: 19-inch standard design
- Stable performance, large capacity of power supply, and ease of management and maintenance
- Completely status LED indicator, easy to install and maintain

### SPECIFICATION

| Product Series    | Media Converter Rack-mount Chassis                                    | Capacity          | 14-slot  |
|-------------------|---|-------------------|----------|
| Power Supply      | Dual Power Supply<br>Input: AC 100~240V 50/60Hz<br>Output: DC 5V 12A  | Power Consumption | 60W      |
| Dimensions        | 485(wide) x 245(length) x 90(high) mm                                 | Gross Weight      | 6.5 kg   |
| Environment       | Operating: 0°C to 50°C, 10~90% RH<br>Storage: -40°C to 70°C, 5~90% RH | Compliance        | ROHS, CE |
| Upcom Part Number | Description   |                   |          |
| UP-RACK-14        | 14-Slot Media Converter Rack-mount Chassis for Stand-alone Converters |                   |          |





# 16-Slot Media Converter Rack-mount Chassis with Dual Power Supply

## CHASSIS

### DESCRIPTION

The 16-Slot Rack-mount Chassis is specially designed to accommodate Upcom card-type media converters for central power supply, saving space and power cables. The 16-Slot Rack-mount Chassis is acceptable for the most 16 sets of different Media Converter Cards within a rack-mountable chassis which is supplied with unified power. Installing at the center of network, it can not only reduce the links, simplify the structure, but also ease for management and maintenance. The 16-Slot Chassis can work with single power supply or dual power supply as users wish, when the power supply should be maintained or changed, it is not necessary to pull-out the converters, this makes the maintenance easy. With all these advantages, this option can supply users with an effective solution of networks.

The 16-Slot media converter chassis can be tidily placed at any network environment. The external form of RACK is simple and tidy. It is ready for 10/100Mbps, 10/100/1000Mbps Converter Card to be plugged in, and will be the best solution of network connections for the continuous development of network. This option supports hot-swap convert modules.

### FEATURES

- Dual independent hot plug power modules as default
- Supports 16 card-type media converters
- Supplying the converters or powers to be plugged and played
- 2U high: 19 inch standard design
- Stable performance, large capacity of power supply, and ease for management and maintenance
- Completely status LED indicator, easy to install and maintain

### SPECIFICATION

| Product Series    | Media Converter Rack-mount Chassis                                  | Capacity          | 16-slot  |
|-------------------|---|-------------------|----------|
| Power Supply      | Dual Power Supply   |                   |          |
|                   | Input: AC 100~240V 50/60Hz  | Power Consumption | 60 W     |
|                   | Output: DC 5V 12A   |                   |          |
| Dimensions        | 485(wide) x 245(length) x 90(high) mm                               | Gross Weight      | 6.5 kg   |
| Environment       | Operating: 0°C to 50°C, 10~90% RH                                   | Compliance        | ROHS, CE |
|                   | Storage: -40°C to 70°C, 5~90% RH                                    |                   |          |
| Upcom Part Number | Description   |                   |          |
| UP-RACK-16        | 16-Slot Media Converter Rack-mount Chassis for Card-Type Converters |                   |          |



## MPO Cassette



**MPO Fiber Optic Cassette**  
**2 x MPO-12 Male to 6 x**  
**Quad LC, 50/125**  
**Multimode OM3, 24 Fiber**

### DESCRIPTION

Upcom MPO Fiber Optic Cassette Module are designed for secure transition between MPO and LC discrete connectors. It's suitable for high-density back plane and data center cabling which offers excellent benefits in terms on-site installation time and space saving. This Fiber Optic Cassette Module kit includes two pre-terminated MPO to 12 x LC multimode 10G OM3 fiber optic harness cable, two MPO adapter in back, 6 x LC quad adapters in the front and the cassette module that the fiber is routed and connected inside of it. The MPO cassette module is built with high quality components to ensure overall network reliability. This compact and modular MPO cassette module provide you a quick, reliably, high performance and efficient way to deploy up to 6 x LC quad fiber ports pairs in a single module, allowing for maximum density in limited spaces. The cassette module can be mounted in 1U, 2U, 3U or 4U 19" multi-slot MPO/MTP fiber panel or enclosure.

### FEATURES

- Factory-terminated provide consistent quality, high performance and reduce installation time
- 100% tested for low insertion loss performance and high return loss
- Simplifies cable management and allows for higher density
- Cassettes can be easily mounted on the patch panel, designed for MPO/MTP ultra high density panel system
- Laser-Optimized multimode 10G OM3 fiber
- Dual MPO adapter, male (with pins)
- 6x Quad LC adapters in the front, 24 Fiber
- RoHS Compliant

### SPECIFICATION

|                    |  |                 |   |
|--------------------|--|-----------------|---|
| Fiber Type         | 50/125µm Multimode OM3                             | Fiber Count     | 24-Fiber  |
| Connector Type     | Front: 6 Quad LC, Rear: 2 MPO Male                 | Polish          | PC to PC  |
| Dimensions (WxDxH) | 130x112x30mm                                       | Test Wavelength | 850 nm  |
| Insertion Loss     | MPO≤0.6dB, LC≤0.3dB                                | Return Loss     | ≥20dB   |
| Polarity           | Type A   | Durability      | ≥500 times  |
| Jacket Material    | PVC  | Jacket Color    | N/A   |
| Environment        | Operating: -20°C to 70°C<br>Storage: -40°C to 85°C | Application     | Data Centre Infrastructure<br>Fiber Optic Network Infrastructure<br>High Density Fiber Management |



## MPO Male to 6xLC Duplex 50/125 Multimode OM3 Fiber Optic Cassette

### MPO Cassette

#### DESCRIPTION

Upcom MPO Fiber Optic Cassette Module are designed for secure transition between MPO and LC discrete connectors. It's suitable for high-density back plane and data center cabling which offers excellent benefits in terms on-site installation time and space saving. This Fiber Optic Cassette Module kit includes a pre-terminated MPO to 6 x LC duplex multimode 10G OM3 fiber optic harness cable, a MPO adapter in back, 6 x LC duplex adapters in the front and the cassette module that the fiber is routed and connected inside of it. The MPO cassette module is built with high quality components to ensure overall network reliability. This compact and modular MPO cassette module provide you a quick, reliably, high performance and efficient way to deploy up to 6 x LC duplex fiber ports pairs in a single module, allowing for maximum density in limited spaces. The cassette module can be mounted in 1U, 2U, 3U or 4U 19" multi-slot MPO/MTP fiber panel or enclosure.

#### FEATURES

- Factory-terminated provide consistent quality, high performance and reduce installation time
- 100% tested for low insertion loss performance and high return loss
- Simplifies cable management and allows for higher density
- Suitable for MPO application
- Laser-Optimized multimode OM3 fiber
- Cassettes can be easily mounted on the patch panel, designed for MPO/MTP ultra high density panel system
- Optimized performance – available in elite MPO
- RoHS Compliant

#### SPECIFICATION

|                    |  |                 |   |
|--------------------|--|-----------------|---|
| Fiber Type         | 50/125µm Multimode OM3                             | Fiber Count     | 12-Fiber  |
| Connector Type     | Front: 6xLC Duplex, Rear: 1 MPO Male               | Polish          | PC to PC  |
| Dimensions (WxDxH) | 130x112x30mm                                       | Test Wavelength | 850 nm  |
| Insertion Loss     | MPO≤0.6dB, LC≤0.3dB                                | Return Loss     | ≥20dB   |
| Polarity           | Type A   | Durability      | ≥500 times  |
| Jacket Material    | PVC  | Jacket Color    | N/A   |
| Environment        | Operating: -20°C to 70°C<br>Storage: -40°C to 85°C | Application     | Data Centre Infrastructure<br>Fiber Optic Network Infrastructure<br>High Density Fiber Management |



## MPO Male to 6xLC Duplex 9/125 Singlemode OS2 Fiber Optic Cassette

### MPO Cassette

#### DESCRIPTION

Upcom MPO Fiber Optic Cassette Module are designed for secure transition between MPO and LC discrete connectors. It's suitable for high-density back plane and data center cabling which offers excellent benefits in terms on-site installation time and space saving. This Fiber Optic Cassette Module kit includes a pre-terminated MPO to 6 x LC duplex 9/125 singlemode OS2 fiber optic harness cable, a MPO adapter in back, 6 x LC duplex adapters in the front and the cassette module that the fiber is routed and connected inside of it. The MPO cassette module is built with high quality components to ensure overall network reliability. This compact and modular MPO cassette module provide you a quick, reliably, high performance and efficient way to deploy up to 6 x LC duplex fiber ports pairs in a single module, allowing for maximum density in limited spaces. The cassette module can be mounted in 1U, 2U, 3U or 4U 19" multi-slot MPO/MTP fiber panel or enclosure.

#### FEATURES

- Factory-terminated provide consistent quality, high performance and reduce installation time
- 100% tested for low insertion loss performance and high return loss
- Simplifies cable management and allows for higher density
- Suitable for MPO application
- 9/125 singlemode OS2 fiber
- Cassettes can be easily mounted on the patch panel, designed for MPO/MTP ultra high density panel system
- Optimized performance – available in elite MPO
- RoHS Compliant

#### SPECIFICATION

|                    |  |                 |   |
|--------------------|--|-----------------|---|
| Fiber Type         | 9/125µm Singlmode OS2                              | Fiber Count     | 12-Fiber  |
| Connector Type     | Front: 6xLC Duplex, Rear: 1 MPO Male               | Polish          | PC to PC  |
| Dimensions (WxDxH) | 130x112x30mm                                       | Test Wavelength | 1310 nm   |
| Insertion Loss     | MPO≤0.6dB, LC≤0.3dB                                | Return Loss     | ≥55dB   |
| Polarity           | Type A   | Durability      | ≥500 times  |
| Jacket Material    | PVC  | Jacket Color    | N/A   |
| Environment        | Operating: -20°C to 70°C<br>Storage: -40°C to 85°C | Application     | Data Centre Infrastructure<br>Fiber Optic Network Infrastructure<br>High Density Fiber Management |



## MPO Male to 6xSC Duplex 50/125 Multimode OM3 Fiber Optic Cassette

### MPO Cassette

#### DESCRIPTION

Upcom MPO Fiber Optic Cassette Module are designed for secure transition between MPO and SC discrete connectors. It's suitable for high-density back plane and data center cabling which offers excellent benefits in terms on-site installation time and space saving. This Fiber Optic Cassette Module kit includes a pre-terminated MPO to 6 x SC duplex multimode 10G OM3 fiber optic harness cable, a MPO adapter in back, 6 x SC duplex adapters in the front and the cassette module that the fiber is routed and connected inside of it. The MPO cassette module is built with high quality components to ensure overall network reliability. This compact and modular MPO cassette module provide you a quick, reliably, high performance and efficient way to deploy up to 6 x SC duplex fiber ports pairs in a single module, allowing for maximum density in limited spaces. The cassette module can be mounted in 1U, 2U, 3U or 4U 19" multi-slot MPO/MTP fiber panel or enclosure.

#### FEATURES

- Factory-terminated provide consistent quality, high performance and reduce installation time
- 100% tested for low insertion loss performance and high return loss
- Simplifies cable management and allows for higher density
- Suitable for MPO application
- Laser-Optimized multimode OM3 fiber
- Cassettes can be easily mounted on the patch panel, designed for MPO/MTP ultra high density panel system
- Optimized performance – available in elite MPO
- RoHS Compliant

#### SPECIFICATION

|                    |  |              |  |
|--------------------|--|--------------|--|
| Fiber Type         | 50/125µm Multimode OM3                             | Fiber Count  | 12-Fiber   |
| Connector Type     | Front: 6xSC Duplex, Rear: 1 MPO Male               | Polish       | PC to PC   |
|                    |  | Test         |  |
| Dimensions (WxDxH) | 130×112×30mm                                       | Wavelength   | 850 nm   |
| Insertion Loss     | MPO≤0.6dB, LC≤0.3dB                                | Return Loss  | ≥20dB  |
| Polarity           | Type A   | Durability   | ≥500 times   |
| Jacket Material    | PVC  | Jacket Color | N/A  |
| Environment        | Operating: -20°C to 70°C<br>Storage: -40°C to 85°C | Application  | Data Centre Infra-structure<br>Fiber Optic Network<br>Infrastructure<br>High Density Fiber<br>Management |



## 50/125 Multimode OM4 MPO Fiber Optic Trunk Cable 12 Fiber, Female to Female Polarity A, LSZH

### MPO/MTP TRUNK CABLES

#### DESCRIPTION

The requirements for data center infrastructures are increasing as the rapid growth in worldwide IT usage continues. As an experienced and innovative fiber optic patch cable manufacturer, Upcom supplies complete MPO trunk fiber optic cabling solutions for high-density optical connectivity in the modern data center. Compared with the traditional fiber optic cabling solutions, this high-density fiber optic solution offers higher flexibility and space saving while support very high data rates, such as 40-Gigabit Ethernet and 100-Gigabit Ethernet.

Upcom's 50/125 Multimode OM4 MPO Fiber Optic Trunk Cable, 12 Fiber, Female to Female, Polarity A, LSZH is factory pre-terminated 50/125 Multimode OM4 MPO trunk cable, offering user the advantage of consistent quality, much faster installation and simpler cable management. The MPO fiber optic trunk cable is manufactured with multiple, 12-strand MPO female to female connectors and 12 core laser-optimized OM4 fiber optic cables. The trunk cable is conform to Method A (Straight) polarity, and MTP connector is available upon request. This OM4 MPO trunk cable is suitable for used in MPO fiber optic cassette connection.

#### FEATURES

- Factory-terminated provide consistent quality, high performance and reduce installation time
- 100% tested for low insertion loss performance and high back reflection
- Fiber Count: 12 fiber trunk cable
- Suitable for MPO cassette application
- Laser-Optimized multimode OM4 fiber
- Type A polarity for fiber patch panel connection
- Optimized performance – available in elite MTP and discrete premium connector upon request
- Comply with IEC 61754-7, TIA/EIA 604-5, Telcordia GR-1435-CORE and RoHS
- LSZH Jacket by Default

#### SPECIFICATION

|                 |  |                 |   |
|-----------------|--|-----------------|---|
| Fiber Type      | 50/125µm Multimode OM4                             | Fiber Count     | 12-Fiber  |
| Connector Type  | MPO Female to MPO Female                           | Polish          | PC to PC  |
| Cable Length    | 1m, 2m, 3m ... 400m or Customize                   | Test Wavelength | 3.0 mm  |
| Insertion Loss  | ≤0.6dB   | Return Loss     | ≥20dB   |
| Polarity        | Type A (Straight)                                  | Durability      | ≥200 times  |
| Jacket Material | LSZH   | Jacket Color    | Aqua  |
| Environment     | Operating: -20°C to 70°C<br>Storage: -40°C to 85°C | Application     | Optical switching<br>interframe connections<br>High density fiber card<br>edge access<br>Array trunk cables |



## 50/125 Multimode OM4 MPO Fiber Optic Trunk Cable 12 Fiber, Female to Female Polarity B, LSZH

### MPO/MTP TRUNK CABLES

#### DESCRIPTION

The requirements for data center infrastructures are increasing as the rapid growth in worldwide IT usage continues. As an experienced and innovative fiber optic patch cable manufacturer, Upcom supplies complete MPO trunk fiber optic cabling solutions for high-density optical connectivity in the modern data center. Compared with the traditional fiber optic cabling solutions, this high-density fiber optic solution offers higher flexibility and space saving while support very high data rates, such as 40-Gigabit Ethernet and 100-Gigabit Ethernet.

Upcom's 50/125 Multimode OM4 MPO Fiber Optic Trunk Cable, 12 Fiber, Female to Female, Polarity B, LSZH factory pre-terminated 50/125 Multimode OM4 MPO trunk cable, offering user the advantage of consistent quality, much faster installation and simpler cable management. The MPO fiber optic trunk cable is manufactured with multiple, 12-strand MPO female to female connectors and 12 core laser-optimized OM4 fiber optic cables. The trunk cable is conform to Method B (Cross-Connect) polarity, and MTP® connector is available upon request. This OM4 MPO trunk cable is suitable for used in QSFP SR4, QSFP eSR4 and 100G QSFP28 SR4 optics connection.

#### FEATURES

- Factory-terminated provide consistent quality, high performance and reduce installation time
- 100% tested for low insertion loss performance and high back reflection
- Fiber Count: 12 fiber trunk cable
- Suitable for MPO application
- Laser-Optimized multimode OM4 fiber
- Type B polarity, used for 40G QSFP eSR4 and 100G QSFP28 SR4 optics
- Optimized performance – available in elite MTP and discrete premium connector upon request
- Comply with IEC 61754-7, TIA/EIA 604-5, Telcordia GR-1435-CORE and RoHS
- LSZH Jacket by Default

#### SPECIFICATION

|                 |  |                 |   |
|-----------------|--|-----------------|---|
| Fiber Type      | 50/125µm Multimode OM4                             | Fiber Count     | 12-Fiber  |
| Connector Type  | MPO Female to MPO Female                           | Polish          | PC to PC  |
| Cable Length    | 1m, 2m, 3m ... 400m or Customize                   | Test Wavelength | 3.0 mm  |
| Insertion Loss  | ≤0.6dB   | Return Loss     | ≥20dB   |
| Polarity        | Type B (Straight)                                  | Durability      | ≥200 times  |
| Jacket Material | LSZH   | Jacket Color    | Aqua  |
| Environment     | Operating: -20°C to 70°C<br>Storage: -40°C to 85°C | Application     | Optical switching<br>interframe connections<br>High density fiber card<br>edge access<br>Array trunk cables |





## 9/125 Single Mode OS2 MPO Fiber Optic Trunk Cable 12 Fiber, Female to Female Polarity A, LSZH

### MPO/MTP TRUNK CABLES

#### DESCRIPTION

The requirements for data center infrastructures are increasing as the rapid growth in worldwide IT usage continues. As an experienced and innovative fiber optic cable manufacturer, Upcom supplies complete MPO trunk fiber optic cabling solutions for high-density optical connectivity in the modern data center. Compared with the classical fiber optic cabling solutions, this high-density fiber optic solution offers higher flexibility and space saving while support very high data rates, such as 40-Gigabit Ethernet and 100-Gigabit Ethernet.

Upcom's 9/125µm OS2 Single Mode MPO Fiber Optic Trunk Cable, 12 Fiber, Female to Female, Polarity A, LSZH is factory pre-terminated 9/125 OS2 Single Mode MPO trunk cable, which offers user the advantage of consistent quality, much faster installation and simpler cable management. The MPO fiber optic trunk cable is manufactured with multiple, 12-strand MPO female to female connectors to give 12 core fiber cables. The trunk cable is conform to Method A (Straight) polarity, and MTP® connector is available upon request. This MPO trunk cable is suitable for used in patch panel connection.

#### FEATURES

- Factory-terminated provide consistent quality, high performance and reduce installation time
- 100% tested for low insertion loss performance and high back reflection
- Fiber Count: 12 fiber trunk cable
- Suitable for MPO application
- Singlemode OS2 fiber
- Type A polarity for fiber patch panel connection
- Optimized performance – available in elite MTP and discrete premium connector upon request
- Comply with IEC 61754-7, TIA/EIA 604-5, Telcordia GR-1435-CORE and RoHS
- LSZH Jacket by Default

#### SPECIFICATION

|                 |  |                 |   |
|-----------------|--|-----------------|---|
| Fiber Type      | 9/125µm Singlemode OS2                             | Fiber Count     | 12-Fiber  |
| Connector Type  | MPO Female to MPO Female                           | Polish          | APC to APC  |
| Cable Length    | 1m, 2m, 3m ... 500m or Customize                   | Test Wavelength | 3.0 mm  |
| Insertion Loss  | ≤0.7dB   | Return Loss     | ≥55dB   |
| Polarity        | Type A (Straight)                                  | Durability      | ≥200 times  |
| Jacket Material | LSZH   | Jacket Color    | Yellow  |
| Environment     | Operating: -20°C to 70°C<br>Storage: -40°C to 85°C | Application     | Optical switching<br>interframe connections<br>High density fiber card<br>edge access<br>Array trunk cables |





## 9/125 Single Mode OS2 MPO Fiber Optic Trunk Cable 12 Fiber, Female to Female Polarity B, LSZH

### MPO/MTP TRUNK CABLES

#### DESCRIPTION

The requirements for data center infrastructures are increasing as the rapid growth in worldwide IT usage continues. As an experienced and innovative fiber optic patch cable manufacturer, Upcom supplies complete MPO trunk fiber optic cabling solutions for high-density optical connectivity in the modern data center. Compared with the classical fiber optic cabling solutions, this high-density fiber optic solution offers higher flexibility and space saving while support very high data rates, such as 40-Gigabit Ethernet and 100-Gigabit Ethernet.

Upcom's 9/125µm Single Mode OS2 MPO Fiber Optic Trunk Cable, 12 Fiber, Female to Female, Polarity B, LSZH is factory pre-terminated 9/125µm Single Mode OS2 MPO trunk cable, which offers user the advantage of consistent quality, much faster installation and simpler cable management. The MPO fiber optic trunk cable is manufactured with multiple, 12-strand MPO female to female connectors to give 12 core fiber cables. The trunk cable is conform to Method B (Cross-Connect) polarity, and MTP® connector is available upon request. This MPO trunk cable is suitable for used in 40G PSM parallel optics connection.

#### FEATURES

- Factory-terminated provide consistent quality, high performance and reduce installation time
- 100% tested for low insertion loss performance and high back reflection
- Fiber Count: 12 fiber trunk cable
- Suitable for MPO application
- Singlemode OS2 fiber
- Available in polarity type A, B or C
- Optimized performance – available in elite MTP and discrete premium connector upon request
- Comply with IEC 61754-7, TIA/EIA 604-5, Telcordia GR-1435-CORE and RoHS
- LSZH Jacket by Default

#### SPECIFICATION

|                 |  |                 |   |
|-----------------|--|-----------------|---|
| Fiber Type      | 9/125µm Singlemode OS2                             | Fiber Count     | 12-Fiber  |
| Connector Type  | MPO Female to MPO Female                           | Polish          | APC to APC  |
| Cable Length    | 1m, 2m, 3m ... 500m or Customize                   | Test Wavelength | 3.0 mm  |
| Insertion Loss  | ≤0.7dB   | Return Loss     | ≥55dB   |
| Polarity        | Type B (Crossover)                                 | Durability      | ≥200 times  |
| Jacket Material | LSZH   | Jacket Color    | Yellow  |
| Environment     | Operating: -20°C to 70°C<br>Storage: -40°C to 85°C | Application     | Optical switching<br>interframe connections<br>High density fiber card<br>edge access<br>Array trunk cables |



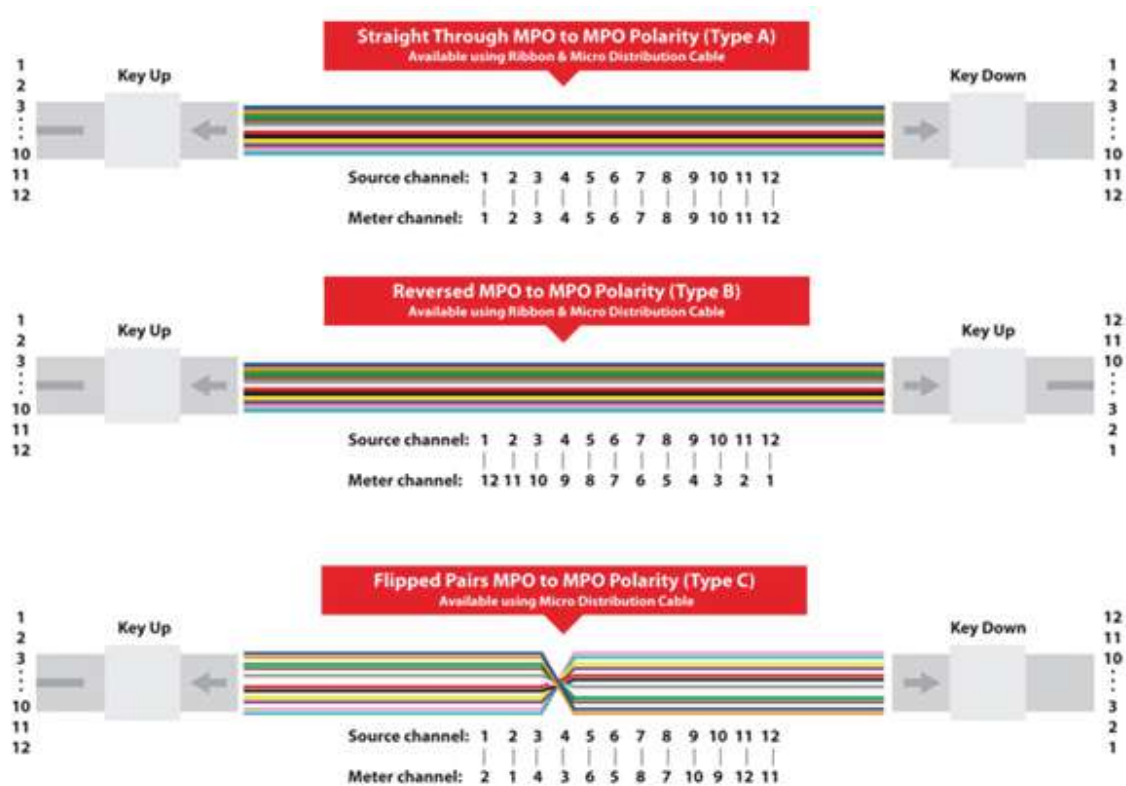
## MPO System

MPO is a high-density, space saving optical fiber connection which has been designed to maximize space and provide high bandwidth links. The plug-and-play system is pre-measured and pre-terminated at the factory.

MPO system solutions allow users to achieve complete end-to-end cabling in keeping with the new standard for data centers. In the IEEE 802.3 standard, 40 Gb/s and 100Gb/s were defined with MPO connector technology. MPO connectors enable parallel transmission, as the multi-gigabit transmission signals are split across parallel fibers and aggregated by the electronic equipment.

MPO cable is connected with MPO couplers, one of the MPO (Multi-Fiber Push On) connectors must have pins, need to be male type. These pins precisely align the mating fibers in the MPO connectors.

## POLARITY CHART





# SPLITTERS

## FBT Coupler Splitters

## PLC Splitters

Upcom offers a variety of box and cassette type splitter modules and products. PLC (1U Rack Mount PLC Splitter, ABS PLC Splitter, Bare PLC Splitter, Blockless PLC Splitter, Mini Plug-in Type PLC Splitter) & FBT Splitter Modules are available in the form of either plastic module cassette (an ABS box) with ruggedized fiber jackets of 2mm and up to 3mm, or LGX metal box for plug and play splitter applications. The Upcom PLC splitter family features the whole series of 1 x N and 2 x N splitter boxes and modules that are tailored for specific applications. All splitters provide excellent optical performance and reliability that meet GR-1221-CORE and GR-1209-CORE specifications.



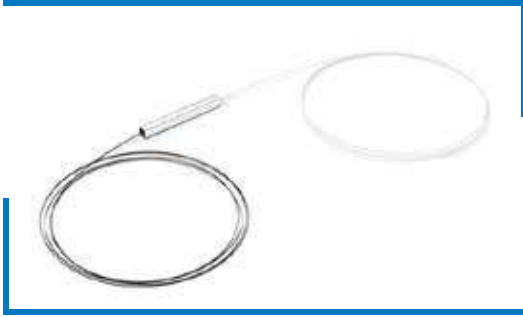


ABS Box FBT  
Couplers Splitters  
LC/SC/FC - MxN  
Singlemode





## Bare PLC Splitter



### ❖ DESCRIPTION

Bare Fiber PLC Splitter is the most common splitter type in FTTx applications to realize optical signal power splitting. Bare fiber are left on all its end. In this way it enables you to splice as per your application.

Bare fiber PLC Splitters are suitable for PON networks that can be in the pigtail cassette, test instrument and WDM system, which requires the least space during cabling. It is relatively fragile on fiber protection and need a complete protection design on carrying box body and device.



# BLOCKLESS PLC SPLITTERS

## DESCRIPTION

Blockless fiber PLC splitters split one wavelength into many by using PLC (Planar lightwave circuit) technology. It's engineered using silica optical waveguide technology to split and distribute the optical lightwave from Center to several locations.

Operating at wavelength range from 1260 to 1650nm. As this type of splitters have no fan-out block, you can save space and achieve smaller splitter modules.

Blockless PLC splitters are featuring a stronger splice protection compared to bare fiber splitter, which is a miniaturization result of cassette splitter. It's mainly used for various connection and distribution boxes or network cabinets.

1\*N PLC splitter module and 2\*N PLC splitter module are available.



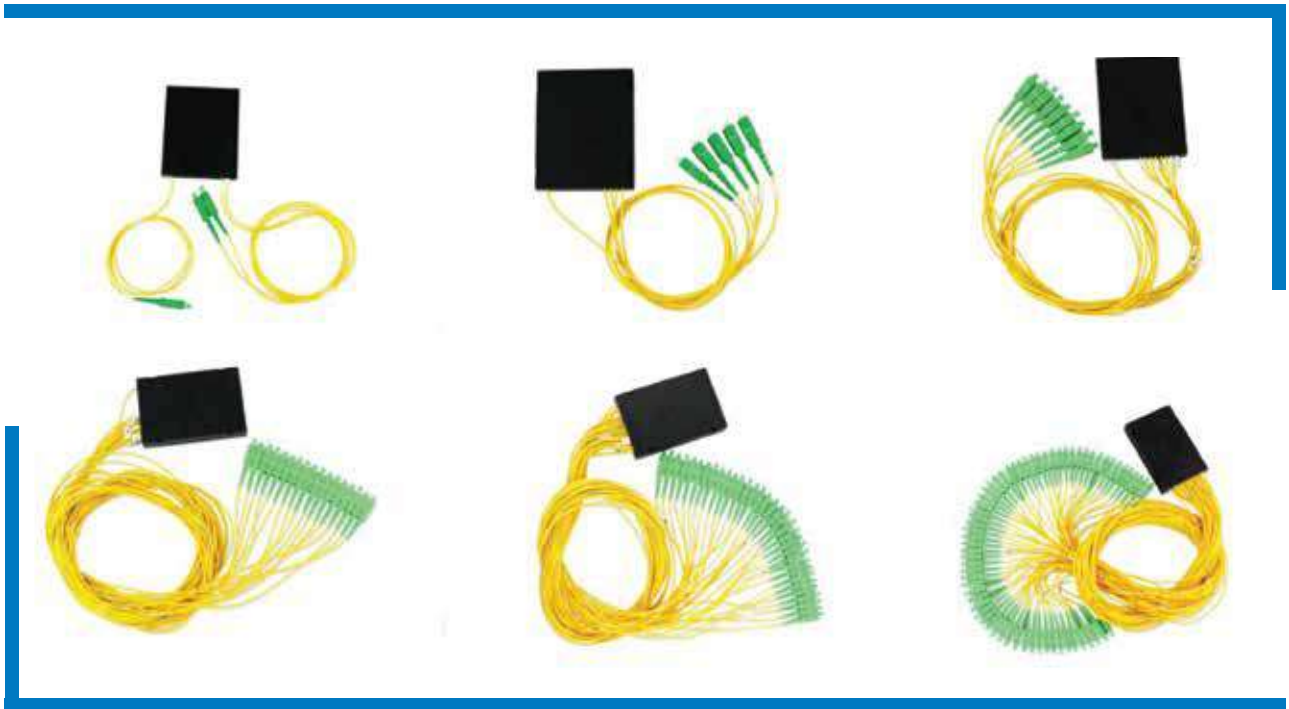


## ABS BOX PLC SPLITTER

### DESCRIPTION

ABS Box PLC splitters split one wavelength into many by using PLC (Planar lightwave circuit) technology. It's engineered using silica optical waveguide technology to split and distribute the optical lightwave from Center to several locations.

1\*N PLC splitter module and 2\*N PLC splitter module are available.





# LGX BOX PLC SPLITTER

## DESCRIPTION

LGX Box PLC Splitters split one wavelength into many by using PLC (Planar lightwave circuit) technology. It's engineered using silica optical waveguide technology to split and distribute the optical lightwave from Central to several locations.

LGX Box PLC Splitters are provide a cost cutting advantage and occupies a small space comparing to similar products. It can correspond to your ever changing networking requirements. Thanks to its compact design and size, they can be used in in-ground and aerial and also 19" rack systems.







## MINI PLUG-IN TYPE PLC SPLITTER

### DESCRIPTION

Mini Plug-in Type PLC Splitters split one wavelength into many by using PLC (Planar lightwave circuit) technology. It's engineered using silica optical waveguide technology to split lightwaves.

Mini plug-in PLC type splitter has small compact design but strong protection. Suitable to FTTH wall mount box and fiber distribution box for fiber optic signal distribution.

Mini Plug-in Type PLC Splitters provide a cost cutting advantage provides a various of 1xN and 2xN PLC splitters, including 1x2 to 1x64 and 2x2 to 2x64 Mini Plug-in type fiber PLC splitters. They are all with superior optical performance, high stability and high reliability to meet various application requirements.



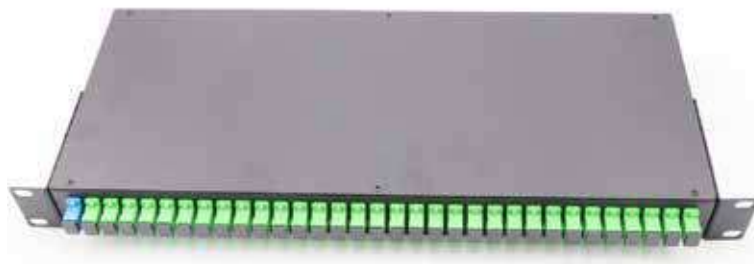


# 1U RACK MOUNT PLC SPLITTER

## DESCRIPTION

Rack Mount PLC Splitter split one wavelength into many by using Planar lightwave circuit called PLC technology. It's engineered using silica optical waveguide technology to split lightwaves.

The PLC Modules feature low insertion loss, low polarization dependent loss, and high port uniformity. The Splitter Modules are available 1xN and 2xN PLC splitters, including 1x2 to 1x64 and 2x2 to 2x64.





Dome Closure  
In-line Closure  
Wall-Outlet Boxes  
Splice Tray  
Termination Boxes  
Accessories  
Fusion Splice Protectors  
Fiber Pedestal and Anchoring Clamps












### ❖ Heat Shrinkable Sealing Dome Closures

The heat shrinkable seal dome closures combine proven fiber management with highly reliable sealing system and able to withstand harsh conditions.

### ❖ The Mechanical Sealing Dome Enclosures

The mechanical sealing dome enclosures that we supply you is suitable for aerial, underground, wall-mounting, manhole mounting and duct-mount applications. Engineered from injection moulded, high-strength engineering PC plastic, it is robust and resistant to physical strike caused by extreme temperatures, oxygen and ultraviolet radiation. Having a compartment tray to store excess fiber. A variety of port configurations available, each made from high quality of raw material and products are UL listed.

| Product Name                                 | Dome Closure  |   |   |   |   |
|--|---|---|---|---|---|
| Upcom Model                                  | UP-DC-209A  | UP-DC-204A/B  | UP-DC-P204A/B   | UP-DC-221C  | UP-DC-360A/B  |
| Picture                                      |  |  |  |  |  |
| LxWxH  | 288mm x 178 mm<br>(11.3 x 7")   | 450mm x 230 mm<br>(17.7 x 9")   | 450mm x 230 mm<br>(17.7 x 9")   | 450mm x 230mm<br>(9 x 17.7")  | 450mm x 230 mm<br>(17.7 x 9")   |
| Tray Splice Capacity<br>(Max) - 24C Per Tray | 48 fibers / 4 trays   | 144 fibers / 6 trays  | 144 fibers / 6 trays  | 120 fibers / 24 trays   | 144 fibers / 6 trays  |
| Splice Tray                                  | UP-TRAY-037   | UP-TRAY-204A,<br>max 6 trays  | UP-TRAY-204A,<br>max 6 trays  | UP-TRAY-204A,<br>max 4 trays  | UP-TRAY-204A,<br>max 6 trays  |
|  |   | UP-TRAY-204B,<br>max 7 trays  | UP-TRAY-204B,<br>max 7 trays  | UP-TRAY-204B,<br>max 5 trays  | UP-TRAY-204B,<br>max 7 trays  |
|  |   |   |   | UP-TRAY-204C,<br>max 5 trays  |   |
| Port Capacity                                | 1x round, loop cable<br>with max $\phi$ 21mm.                                     | 1x oval: loop cable<br>$\phi$ 24mm max  | 1x oval: loop cable<br>$\phi$ 24mm max  | 1x oval: loop cable<br>$\phi$ 24mm max  | 1x round, loop cable<br>with max $\phi$ 16mm.                                       |
|  | 3 round, drop cable<br>with max 16mm.   | 4x round: drop<br>cable $\phi$ 17.5mm max.  | 4x round: drop<br>cable $\phi$ 17.5mm max.  | 4x round: drop<br>cable $\phi$ 17.5mm max.  | 4x round: drop<br>cable $\phi$ 17.5mm max.  |
| Basic Items<br>(Included)                    | Dome  | Dome  | Dome  | Dome  | Dome  |
|  | Base  | Base  | Base  | Base  | Base  |
|  | Clamp   | Clamp   | Clamp   | Clamp   | Clamp   |
|  | O-ring  | O-ring  | O-ring  | O-ring  | O-ring  |
|  | Heat Shrink Sealing<br>Tubes  | Heat Shrink Sealing<br>Tubes  | Heat Shrink Sealing<br>Tubes  | Heat Shrink Sealing<br>Tubes  | Heat Shrink Sealing<br>Tubes  |
|  | Installation Manual   | Installation Manual   | Installation Manual   | Installation Manual   | Installation Manual   |
| Optional Accessories (Excluded)              |   |   |   |   |   |
| Application<br>Optional<br>Accessories       | Wall mount kit  | Wall mount kit  | Wall mount kit  | Wall mount kit  | Wall mount kit  |
|  | Pole mount kit  | Pole mount kit  | Pole mount kit  | Pole mount kit  | Pole mount kit  |
|  | Aerial mounting kit   | Aerial mounting kit   | Aerial mounting kit   | Aerial mounting kit   | Aerial mounting kit   |
|  | Air valve   | Air valve   | Air valve   | Air valve   | Air valve   |
|  | Grounding device  | Grounding device  | Grounding device  | Grounding device  | Grounding device  |
| Grommets                                     |   |   |   |   | 9x cables dia. $\phi$ 2x5mm   |
|  |   |   |   |   | 9x cable dia. $\phi$ 3.1x2,<br>$\phi$ 3 mm  |
|  |   |   |   |   | 4x cable dia. $\phi$ 7mm  |
|  |   |   |   |   | 1x cable, $\phi$ 17.5mm   |
| Misc   |   |   |   |   |   |






| Product Name                              | Dome Closure  |   |  |   |
|---|---|---|--|---|
| Upcom Model                               | UP-DC-306A/B-32SC   | UP-DC-220A/B/C-BC6  | UP-DC-220D/E-BD6   | UP-DC-222   |
| Picture                                   |  |  |  |  |
| LxWxH                                     | 450mm x 230 mm (17.7 x 9")  | 488mm x 285mm (19 x 11.2")  | 566mm x 285mm (22x11.2")   | 566mm x 285mm (22x11.2")  |
| Tray Splice Capacity (Max) - 24C Per Tray | 72 fibers / 3 trays   | 288 fibers / 12 trays   | 288 fibers / 12 trays  | 864 fibers / 12 trays   |
| Splice Tray                               | UP-TRAY-204A, max 2 trays   | UP-TRAY-204A, max 12 trays  | UP-TRAY-102A, max 12 trays   | UP-TRAY-222, max 12 trays   |
|   | UP-TRAY-204B, max 3 trays   | UP-TRAY-204B, max 12 trays  | UP-TRAY-102B, max 12 trays   |   |
|   |   | UP-TRAY-204C, max 12 trays  |  |   |
| Port Capacity                             | 1x round, loop cable with max $\phi$ 16mm   | 1x oval - loop cable with max $\phi$ 30 mm.                                       | 1x oval: loop cable $\phi$ 30mm max.   | 1x oval: loop cable $\phi$ 30mm max.  |
|   | 4x round: drop cable $\phi$ 17.5mm max.   | 6x round - drop cable with max $\phi$ 30mm.                                       | 6x round - drop cable with max $\phi$ 30mm.  | 6x round - drop cable with max $\phi$ 30mm.   |
| Basic Items (Included)                    | Dome  | Dome  | Dome   | Dome  |
|   | Base  | Base  | Base   | Base  |
|   | Clamp   | Clamp   | Clamp  | Clamp   |
|   | O-ring  | O-ring  | O-ring   | O-ring  |
|   | Heat Shrink Sealing Tubes   | Heat Shrink Sealing Tubes   | Heat Shrink Sealing Tubes  | Heat Shrink Sealing Tubes   |
|   | Installation Manual   | Installation Manual   | Installation Manual  | Installation Manual   |
|   | Optional Accessories (Excluded)   |   |  |   |
| Application Optional Accessories          | Wall mount kit  | Wall mount kit  | Wall mount kit   | Wall mount kit  |
|   | Pole mount kit  | Pole mount kit  | Pole mount kit   | Pole mount kit  |
|   | Aerial mounting kit   | Aerial mounting kit   | Aerial mounting kit  | Aerial mounting kit   |
|   | Air valve   | Air valve   | Air valve  | Air valve   |
|   | Grounding device  | Grounding device  | Grounding device   | Grounding device  |
| Grommets                                  | 9x cables dia. $\phi$ 2x5mm   |   |  |   |
|   | 9x cable dia. $\phi$ 3.1x2, $\phi$ 3 mm   |   |  |   |
|   | 4x cable dia. $\phi$ 7mm  |   |  |   |
|   | 1x cable, $\phi$ 17.5mm   |   |  |   |
| Misc                                      | SC/PC adapter, Simplex  |   |  |   |
|   | SC/APC adapter, Simplex   |   |  |   |







## IN LINE CLOSURES

Fiber Optic Inline Splice closures are engineered to protect splices and ensure reliability. Can be placed in aerial, underground, wall mounting, and duct mounting locations. Suitable to protect fiber cable splices in straight through and branching applications. Its well-engineered injection molded outer body makes it impenetrable to the elements. You can find a wide variety of In Line closures here.

The full range of Standard In Line Closures and technical specifications may seen on our website

| Product Name                           | In Line Closure   |   |  |   |   |
|--|---|---|--|---|---|
| Upcom Model                            | UP-ILC-F02  | UP-ILC-F01  | UP-ILC-102   | UP-ILC-106  | UP-ILC-101  |
| Picture                                |  |  |  |  |  |
| LxWxH                                  | 179mm x 72mm x 26mm   | 300mm x 107mm x 38 mm   | 400mm x 185mm x 90 mm  | 432mm x 186 mm x 100mm  | 280 mm x 200mm x 90mm   |
| Splice Capacity                        | 4 fibers  | 12 fibers   | 96 fibers  | 96 fibers / 4 trays   | 96 fibers / 4 trays   |
| Splice Tray                            |   |   |  | UP-TRAY-X3  | UP-TRAY-023   |
| Port Capacity                          | 2 x round : cable for<br>φ6mm max.  | 4x round : cable<br>φ10mm max.  | 2x round : cable<br>φ 16mm max.<br>4x round : cable<br>φ 13mm max.                 | 4x round : cable<br>φ 16mm max.   | 2x round : cable<br>φ 14 mm max.  |
| Basic Items<br>(Included)              | In line closure set Tools<br>Installation manual                                  | In line closure set Tools<br>Installation manual                                  | In line closure set Tools<br>Installation manual                                   | In line closure set<br>Installation manual  | In line closure set<br>Installation manual  |
|  |   | Optional Accessories (Excluded)   |  |   |   |
| Application<br>Optional<br>Accessories |   | Hanging hook  | Hanging hook   | Hanging hook  | Hanging hook  |
|  |   |   |  |   | Wall mounting kit   |
| Misc                                   |   |   | Air valve  | Air valve   | Air valve   |
|  |   |   | Grounding device   | Grounding device  | Grounding device  |



| Product Name                           | In Line Closure   |   |  |   |
|--|---|---|--|---|
| Upcom Model                            | UP-ILC-F02  | UP-ILC-F01  | UP-ILC-102   | UP-ILC-106  |
| Picture                                |  |  |  |  |
| LxWxH                                  | 323 mm x 202 mm x 86mm  | 323 mm x 202 mm X 86mm  | 420mm x 127mm x 72mm   | 643mm x 175mm x 76mm  |
| Splice Capacity                        | 96 fibers / 8 trays   | 48 fibers / 4 trays   | 48 fibers / 2 trays  | 8 fibers  |
| Splice Tray                            | UP-TRAY-023   | UP-TRAY-037   |  |   |
| Port Capacity                          | 2 x round : cable for<br>φ 20mm max.  | 2 x round : cable for<br>φ 20mm   | 4 ports:1 cable with max φ6 mm   | 4 ports:1 cable with max φ6 mm  |
|  | 2 x round : cable for<br>φ 16mm max.  | 2 x round : cable for<br>φ 16mm   |  | 4 ports:1 cable with max φ8 mm  |
|  | 2 x round : cable for<br>φ 13mm max.  | 2 x round : cable for<br>φ 13mm   |  | 8 ports:φ 3 mm or 3x2 drop cable  |
| Basic Items                            | In line closure set Installation manual   | In line closure set Installation manual   | In line closure set Installation manual  | In line closure set Installation manual   |
|  | Optional Accessories (Excluded)   |   |  |   |
| Application<br>Optional<br>Accessories | Hanging hook  | Hanging hook  | Hanging hook   | Hanging hook  |
|  | Pole mounting kit   | Pole mounting kit   |  |   |
|  | Wall mounting kit   | Wall mounting kit   | Wall mounting kit  | Wall mounting kit   |
| Misc                                   | Air valve   | Air valve   | Air valve  | Air valve   |
|  | Grounding device  | Grounding device  | Grounding device   | Grounding device  |
|  |   | SC adaptor plate  |  | SC adaptor plate  |
|  |   | SC/PC adapter, Simplex  |  | SC/PC adapter, Simplex  |
|  |   | SC/APC adapter, Simplex   |  | SC/APC adapter, Simplex   |



## FTTH BOXES & OUTLES

Fiber Optic Termination Box are used to joint fiber cable and pigtails and to to protects fiber optic splices for a proper distribution. The termination box is wall-mounting and is mainly used in telecommunication and network equipment rooms. The fiber termination box is of a fiber optic manager that is used to distribute and protect the optical fiber links in FTTH application. Available for the distribution and terminal connection of various kinds of optical fiber system. These units are available in sizes that fit the most common distribution requirements.

The full range of Standard Wall Outlets and technical specifications may seen on our website





| Product Name                  | Wall outlets (FTTH Boxes)   |   |  |   |
|-------------------------------|---|---|--|---|
| Upcom Model                   | UP-FTTH-001   | UP-FTTH-308   | UP-FTTH-408  | UP-FTTH-508   |
| Picture                       |  |  |  |  |
| Dimension                     | 86 mm x 86 mm x19mm   | 108.5mm x85mmx 27mm   | 86mm x86mmx 30.5mm   | 108.5mm x85mmx 27mm   |
| Max. capacity of fiber splice | 2 fibers  | 4 fibers  | 2 fibers   | 4 fibers  |
| Port capacity                 |   | 3 ports, each port for 1 cable with max Ø10mm                                     | 4 ports, 1SC adaptor, 1 RJ45 and 1 RJ11.   | 2 ports, each port for 1 cable with max Ø10.5mm.                                    |
|                               |   |   |  | 4 ports, each port for 1 cable with max Ø5mm.                                       |
| Basic Items                   | Termination box Installation manual   | Termination box Installation manual   | Termination box Installation manual  | Termination box Installation manual   |
|                               | Optional Accessories (Excluded)   |   |  |   |
| Misc                          |   |   | RJ45 or RJ11.  |   |
|                               | SC/PC adapter, simplex  | SC/PC adapter, Simplex  | SC/PC adapter, Simplex   | SC/PC adapter, Simplex  |
|                               | SC/APC adapter, simplex   | SC/APC adapter, Simplex   | SC/APC adapter, Simplex  | SC/APC adapter, Simplex   |
|                               | LC/PC adapter, duplex   | LC/PC adapter, duplex   | LC/PC adapter, duplex  | LC/PC adapter, duplex   |
|                               | LC/APC adapter, duplex  | LC/APC adapter, duplex  | LC/APC adapter, duplex   | LC/APC adapter, duplex  |



## FIBER OPTIC TERMINATION BOXES



Fiber Optic Termination Box are used to joint fiber cable and pigtails and to to protects fiber optic splices for a proper distribution. The termination box is wall-mounting and is mainly used in telecommunication and network equipment rooms. The fiber termination box is of a fiber optic manager that is used to distribute and protect the optical fiber links in FTTH application. Available for the distribution and terminal connection of various kinds of optical fiber system. These units are available in sizes that fit the most common distribution requirements.

The full range of Standard Termination Boxes and technical specifications may seen on our website

| Product Name                  | Termination Box   |   |  |   |
|-------------------------------|---|---|--|---|
| Upcom Model                   | UP-TB-001   | UP-TB-001-8SC   | UP-TB-002  | UP-TB-008   |
| Picture                       |  |  |  |  |
| Dimension                     | 264 mm x 154 mm x 56mm  | 264 mm x 154 mm x 56mm  | 197 mm x 110 mm x 44 mm  | 183 mm x 169 mm x 19 mm   |
| Max. capacity of fiber splice | 48 fibers / 4 trays   | 12 fibers / 1 tray  | 12 fibers / 2 trays  | 6 fibers  |
| Splice Tray                   | UP-TRAY-09  | UP-TRAY-09  | UP-TRAY-037  |   |
| Port capacity                 | 2 ports, each port for 1 cable with max Ø16mm.                                    | 1 ports, each port for 1 cable with max Ø16mm.                                    | 2 ports, each port for 1 cable with max Ø16mm.                                     | 2 ports, each port for 1 cable with max Ø10mm.                                      |
|                               | 24 ports, each port for 1 cable with max Ø3mm.                                    | 2 ports, each port for 1 cable with max Ø11mm.                                    |  |   |
| Basic Items                   | Termination box Installation manual   | Termination box Installation manual   | Termination box Installation manual  | Termination box Installation manual   |
|                               | Optional Accessories (Excluded)   |   |  |   |
| Mouting Kit                   | Wall mount kit  | Wall mount kit  | Wall mount kit   | Wall mount kit  |
| Misc                          |   | SC/PC adapter, simplex  |  | SC/PC adapter, simplex  |
|                               |   | SC/APC adapter, simplex   |  | SC/APC adapter, simplex   |
|                               |   |   |  | LC/PC adapter, duplex   |
|                               |   |   |  | LC/APC adapter, duplex  |

| Product Name                  | Termination Box   |   |  |   |
|-------------------------------|---|---|--|---|
| Upcom Model                   | UP-TB-X20A/B  | UP-TB-X21A/B  | UP-TB-X21D   | UP-TB-X30A/B  |
| Picture                       |  |  |  |  |
| Dimension                     | 260mm x 320mm x 90mm  | 315mm x 236mm x 100mm   | 315mm x 236mm x 100mm  | 200 x 215 x 54mm/247 x 204x70mm   |
| Max. capacity of fiber splice | 16 fibers   | 16 fibers   | 16 fibers  | 8 fibers  |
| Splice Tray                   | UP-TRAY-09  | UP-TRAY-09  | UP-TRAY-037  |   |
| Port capacity                 | 2 cable ports, each port for 1 cable with max Ø12mm.                              | 2 cable ports, each port for 1 cable with max Ø12mm.                              | 2 cable ports, each port for 1 cable with max Ø16mm.                               | 3 cable ports, each port for 1 cable with max Ø12mm.                                |
|                               | 16 ports, each port for 1 cable with max Ø3mm.                                    | 16 ports, each port for 1 cable with max Ø3mm.                                    | 16 ports, each port for 1 cable with max Ø3mm.                                     | 8 ports, each port for 1 cable with max Ø3mm.                                       |
| Basic Items                   | Termination box Installation manual   | Termination box Installation manual   | Termination box Installation manual  | Termination box Installation manual   |
|                               | Optional Accessories (Excluded)   |   |  |   |
| Mouting Kit                   | Wall mount kit  | Wall mount kit  | Wall mount kit   | Wall mount kit  |
| Misc                          | Pole mount kit  | Pole mount kit  | Pole mount kit   | Pole mount kit  |
|                               | SC/PC adapter, simplex  | SC/PC adapter, simplex  | SC/PC adapter, simplex   | SC/PC adapter, simplex  |
|                               | SC/APC adapter, simplex   | SC/APC adapter, simplex   | SC/APC adapter, simplex  | SC/APC adapter, simplex   |

| Product Name                  | Termination Box   |   |   |
|-------------------------------|---|---|---|
| Upcom Model                   | UP-TB-X30C  | UP-TB-X48A  | UP-TB-Y24   |
| Picture                       |  |  |  |
| Dimension                     | 233mm x 204mm x 77mm  | 398 mm x 327 mm x 118 mm  | 306.7mmx245mmx81mm  |
| Max. capacity of fiber splice | 8 fibers  | 144 fibers / 6 trays  | 96 fibers / 4 trays   |
| Splice Tray                   |   |   |   |
| Port capacity                 | 3 cable ports, each port for 1 cable with max Ø14mm.                              | 2 ports, each port for 2 cable with max Ø20mm.                                    | 3 ports, each port for 2 cable with max Ø20mm.                                      |
|                               | 8 ports, each port for 1 cable with max Ø3mm.                                     | 12 ports, each port for 4 cable with max Ø3mm.                                    | 24 ports, each port for cable with max Ø3mm.  |
| Basic Items                   | Termination box Installation manual   | Termination box Installation manual   | Termination box Installation manual   |
|                               | Optional Accessories (Excluded)   |   |   |
| Mouting Kit                   | Wall mount kit  | Wall mount kit  | Wall mount kit  |
| Misc                          | Pole mount kit  | Pole mount kit  | Pole mount kit  |
|                               | SC/PC adapter, simplex  | SC/PC adapter, simplex  | SC/PC adapter, simplex  |
|                               | SC/APC adapter, simplex   | SC/APC adapter, simplex   | SC/APC adapter, simplex   |

| Product Name        | Fiber Pedestal  | Anchoring clamps  |
|---------------------|---|---|
| Upcom Model         | -TB-X30C  | U-Clamp/S-Clamp   |
| Picture             |    |   |
| H x Dia.            | 835mmx 280mm  |   |
| Material of Housing | HDPE  |   |
| Description         | <p>Designed specifically for housing passive equipment, these special pedestals feature direct-bury bases with a high rib design that do not require stakes for installation. The direct-bury pedestal bases result in a more uniform and secure installation and are less likely to lean or tilt.</p> <p>An optional stake mounting provision is available for joint trench or other special applications.</p> <p>A special self-locating cover security feature ensures that the pedestals lock properly without requiring special alignment.</p> | <p>The main application is for anchoring self-support cable on pole with protection from cable tension, and also can be used for fastening drop cable near to the resident along with the overhead cable.</p> |





## FUSION SPLICE PROTECTOR

### 40mm Heat Shrinkable Protection Sleeve

#### ❖ DESCRIPTION

Fusion Splice Heat Shrink Protector Sleeves allow you to quickly and reliably terminate your splices. Fiber Optic Splice Protection Sleeve-Single Fiber 40mm with stainless steel rod as the strengthen member.

Protection sleeves for single fiber

Size: 1.5x40mm

Single stainless steel needle

Outer Dia. after shrinking:  $2.9 \pm 0.1$  mm

Dia. of steel needle: 1.5mm

Inner dia. of hot-melt tube:  $1.3 \pm 0.05$  mm

### 45mm Heat Shrinkable Protection Sleeve

#### ❖ DESCRIPTION

Fusion Splice Heat Shrink Protector Sleeves allow you to quickly and reliably terminate your splices. Fiber Optic Splice Protection Sleeve-Single Fiber 45mm with stainless steel rod as the strengthen member.

Protection sleeves for single fiber

Size: 1.5x45mm

Single stainless steel needle

Outer Dia. after shrinking:  $2.9 \pm 0.1$  mm

Dia. of steel needle: 1.5mm

Inner dia. of hot-melt tube:  $1.3 \pm 0.05$  mm



## FUSION SPLICE PROTECTOR

### 60mm Heat Shrinkable Protection Sleeve

#### DESCRIPTION

Fusion Splice Heat Shrink Protector Sleeves allow you to quickly and reliably terminate your splices. Fiber Optic Splice Protection Sleeve-Single Fiber 60mm with stainless steel rod as the strengthen member.

Protection sleeves for single fiber

Size: 1.5x60mm

Single stainless steel needle

Outer Dia. after shrinking:  $2.9 \pm 0.1$  mm

Dia. of steel needle: 1.5mm





Inner dia. of hot-melt tube:  $1.3 \pm 0.05$  mm





| Ordering Code | Description  |
|---------------|--|
| UP-HSPS-40    | Heat Shrinkable Protection Sleeves for single fiber - 1.5x40mm |
| UP-HSPS-45    | Heat Shrinkable Protection Sleeves for single fiber - 1.5x45mm |
| UP-HSPS-60    | Heat Shrinkable Protection Sleeves for single fiber - 1.5x60mm |



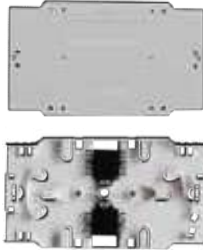








## SPLICE TRAY

Upcom's Optical Splice Trays Fiber Optic Splice Trays offer a variety of unique, flexible splice and storage possibilities. They are in a big variety and compatible to our enclosures and to the products in the industry. These optical splice trays protect the splice points and organize the fiber splices.

| Product Name    | Splice Tray  |  |   |  |
|-----------------|--|--|---|--|
| Upcom Model     | UP-TRAY- 09  | UP-TRAY-023  | UP-TRAY-037   | UP-TRAY-101B   |
| Picture         |  |  |  |  |
| Splice Capacity | 12/24C   | 6/12C  | 12/24C  | 12/24C   |
| LxWxD           | 6/12C  | 12/24C   | 6/12C   | 12/24C   |
| Dome            |  |  | UP-DC-209A  | JB-101   |
|                 |  |  |   | JB-101-8ports  |
|                 |  | UP-ILC-101   | UP-ILC-502  | UP-DC-220  |
| In - Line       |  | UP-ILC-103   |   |  |
| Termination     | UP-TB-001  |  | UP-TB-002   |  |

| Product Name    | Splice Tray   |   |   |   |
|-----------------|---|---|---|---|
| Upcom Model     | UP-TRAY-204A  | UP-TRAY-204B  | UP-TRAY-204C  | UP-TRAY-222   |
| Picture         |  |  |  |  |
| Splice Capacity | 12/24C  | 12/24C  | 36/72C  | 12/24C  |
| LxWxD           | 12/24C  | 12/24C  | 12/24C  | 36/72C  |
| Dome            | UP-DC-204A  | UP-DC-204B  | UP-DC-221   | UP-DC-222   |
|                 | UP-DC-P204A   | UP-DC-P204B   | UP-DC-220C-BC6  |   |
|                 | UP-DC--306A   | UP-DC--306B   |   |   |
|                 | UP-DC-306A-32SC   | UP-DC-306B-32SC   |   |   |
|                 | UP-DC-220A-BC6  | UP-DC-220B-BC6  |   |   |
| In - Line       |   |   |   |   |
| Termination     |   |   |   |   |

| Product Name    | Splice Tray   |   |  |   |
|-----------------|---|---|--|---|
| Upcom Model     | UP-TRAY-102A  | UP-TRAY-102B  | UP-TRAY-X1   | UP-TRAY-X2  |
| Picture         |  |  |  |  |
| Splice Capacity | 12/24C  | 12/24C  | 12/24C   | 24C   |
| LxWxD           | 12/24C  | 320x100x10mm  | 225x105x10mm   | 225x105x10mm  |
| Dome            | UP-ILC-102A   | UP-ILC-102B   |  |   |
|                 | UP-ILC-102A-8ports  | UP-ILC-SC-102B-8ports   |  |   |
|                 | UP-DC-220D-BD6  | UP-DC-220B-BD6  |  |   |
| In - Line       |   |   |  | UP-ILC-106  |
| Termination     |   |   |  |   |

| Product Name    | Splice Tray   |   |  |   |   |
|-----------------|---|---|--|---|---|
| Upcom Model     | UP-TRAY-X3  | UP-TRAY-X4-1  | UP-TRAY-X4-2   | UP-TRAY-X4-3  | UP-TRAY-X4-4  |
| Picture         |  |  |  |  |  |
| Splice Capacity | 24C   | 24C   | 12C/Adaptor/PLC  | 12C/PLC Splitter  | 12C/PLC Splitter  |
| LxWxD           | 180x100x10mm  | 155x106x14mm  | 155x106x14mm   | 155x106x14mm  | 155x106x14mm  |
| Dome            |   |   |  |   |   |
| In - Line       | UP-106  |   |  |   |   |
|                 |   |   |  |   |   |
| Termination     |   | UP-TB-X48A/UP-TBY24   | UP-TB-X48A/UP-TBY24  | UP-TB-X48A/UP-TB-Y24  | UP-TB-X48A/UP-TB-Y24  |



# COPPER CONNECTIVITY PRODUCT



Upcom optical cable assemblies provide the vital connectivity links and patching for your network. Our in-house designed and specified assemblies provide 1 to 288 fibres featuring IEC compliant components and a choice of performance levels to suit your network needs.



## Modular Plugs & Boots



### CAT 5e UTP RJ45

#### DESCRIPTION

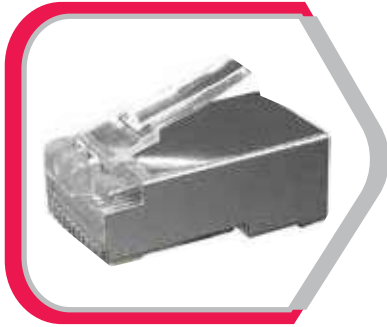
Cat5e 8P8C RJ45 male connector is mainly used for twisted pair network cable applications, following FCC standard. When terminating Cat5e male connector, there are two wire schemes to follow: T568A or T568B pin / pair assignment as per ANSI/TIA-568-C.2 standard. Our plugs are compliant with PoE Plus application and certified by REACH and RoHS.

#### FEATURES

- RoHS compliant.
- Meet reliability test based on IEC 60603-7.

#### ELECTRICAL FEATURES

- UL Applications: 250 Volts Acmax., AT 2 Amps.
- Dielectric Withstanding Voltage: 500 Volts AC.
- Insulation Resistance: 100 MΩ.
- Termination: Resistance 20mΩ Max After
- Environmental Testing.



## CAT 5e FTP RJ45

### DESCRIPTION

Cat5e FTP 8p8c Modular Plug RJ45 Connector

The Cat5e plugs are commonly used in computer networking and other telephone applications. They are fit to both solid or stranded cables. The plug housing 94V2 or 94V0 is optional. All our modular plugs follow FCC standard. When terminating the Cat. 5e RJ45 connector, follow the T568A or T568B pin / pair assignment as per ANSI / TIA-568-C.2 standard.

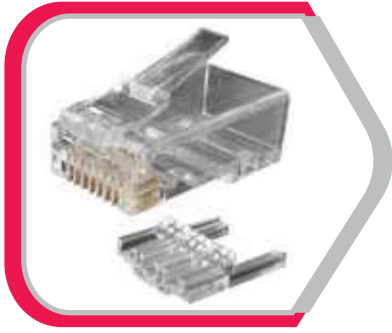
### FEATURES

- RoHS compliant.
- Follow FCC Part 68 standard; meet reliability test based on IEC 60603-7.

### ELECTRICAL FEATURES

- UL Applications: 250 Volts Acmax., AT 2 Amps.
- Dielectric Withstanding Voltage: 500 Volts AC.
- Insulation Resistance: 100 MΩ.
- Termination: Resistance 20mΩ Max After
- Environmental Testing.





## CAT 6 UTP RJ45

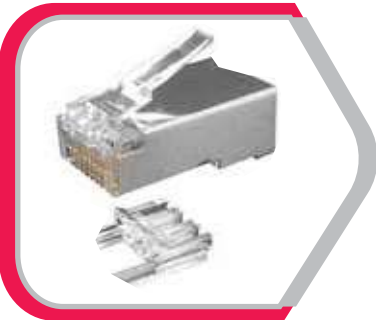
### DESCRIPTION

Cat6 UTP 8P8C Modular Plug RJ45 Connector

Cat6 8P8C RJ45 male connector is mainly used for twisted pair network cable applications, following FCC standard. When terminating Cat6 RJ45 connector, we use the T568A or T568B pin / pair assignment as per ANSI / TIA-568-C.2 standard. Our plugs are compliant with PoE Plus application and certified by REACH and RoHS.

### ELECTRICAL FEATURES

- UL Applications: 250 Volts Acmax., AT 2 Amps.
- Dielectric Withstanding Voltage: 500 Volts AC.
- Insulation Resistance: 100 MΩ.
- Termination: Resistance 20mΩ Max After
- Environmental Testing.



## CAT 6 FTP RJ45

### DESCRIPTION

Cat6 Shielded 8P8C Modular Plug RJ45 Connector

CAT6 STP RJ45 connectors are fit to both stranded and solid wire. The smart wire position 6up / 2down design bring superior performance when assembly with cat6 shielded cables. All Cat6 plugs we provide 3 to 50U" gold plating thickness. The plugs are commonly used in computer networking and other telephone applications.



## Modular Plugs & Boots

UP-PG8001



UP-PG8002



UP-PG8005



UP-PG8008



UP-PG8021



UP-PG8025



UP-PG8015



UP-PG8022



UP-PG8025



UP-PG8026



# Lan Cable Testers

-CT-005



#### Lan cable tester

- Testing RJ11/12/RJ45 cable
- Testing open, short, cross circuit and cable assignment
- Individual LED to show the defective core
- Each individual core is automatically scanned
- Low/high scan speed adjustable

UP-CT-006



#### Lan cable tester

- Testing RJ11/12/RJ45 and coaxial cable
- Testing open, short, cross circuit and cable assignment
- Individual LED for PIN1-8 and ground offered
- Each individual core is automatically scanned
- Low/high scan speed adjustable

UP-CT-007



#### Lan cable tester

- Testing RJ11/12/RJ45 and coaxial cable
- Testing open, short, cross circuit and cable assignment
- Individual LED to show the defective core
- Each individual core is automatically scanned
- Automatic and manual control options

UP-CT-009



#### 4 in 1 Cable tester

- For testing network and modular cable with RJ11/15/BNC/USB connector
- Open/Short wiring test
- Connected wires display
- No wire or termination indication
- Wrong connection or Non-parallel connection display
- Ethernet 10BASE-T/10BASE-S termination value detection

UP-CT-010



#### 5 in 1 Cable tester

- For testing network and modular cable with RJ11/15/BNC/USB, IEEE1594 connector
- Open/Short wiring test
- Connected wires display
- No wire or termination indication
- Wiring connection or Non-parallel connection display
- Ethernet 10BASE-T/10BASE-S termination value detection

UP-CT-014



#### Lan cable tester

- Testing open circuit, short circuit, jumper wire or cross-talk interference for CAT5E, CAT6, coaxial and telephone cable
- Measuring cable length and locating the position of open circuit and short circuit
- Dynamically calibrates cable length to makes length measurement as accurate as 95%
- Simply and easily using, big screen to display testing results
- Portable unit with long battery life (10 hours)
- Automatically time-delay shut off
- Self-checking function and automatically compensates any change in battery capacity or ambient temperature

UP-CT-015



#### Lan cable tester

- Testing open circuit, short circuit, jumper wire or cross-talk interference for CAT5E, CAT6, coaxial and telephone cable
- Measuring cable length and locating the position of open circuit and short circuit
- Dynamically calibrates cable length to makes length measurement as accurate as 95%

UP-CT-018



#### Lan cable tester

- Testing open circuit, short circuit, jumper wire or cross-talk interference for CAT5E, CAT6, coaxial and telephone cable
- Simply and easily using, big screen to display testing results
- Portable unit with long battery life (10 hours)
- Automatically time-delay shut off
- Self-checking function and automatically compensates any change in battery capacity or ambient temperature

UP-CT-019



#### Wire tracker

- Line DC detecting anode and cathode determinant
- Open, short and cross testing for RJ45, RJ11 cable
- Easily tracking the correspondent cable
- Earphone offered can be used to prevent interference from the outside
- Easily work as usual while putting on the light switch in the dark environment

UP-CT-020



#### Wire tracker

- Line DC detecting anode and cathode determinant
- Open, short and cross testing for RJ45, RJ11 cable
- Easily tracking the correspondent cable
- Earphone offered can be used to prevent interference from the outside
- Easily work as usual while putting on the light switch in the dark environment

UP-CT-021



#### Wire tracker

- Line DC detecting anode and cathode determinant
- Testing open, short and cross for RJ45, RJ11 cable easily tracking the correspondent cable
- Earphone offered can be used to prevent interference from the outside
- Easily work as usual while putting on the light switch in the dark environment

UP-CT-022



#### HDMI cable tester

- Testing HDMI cable
- Testing open, short, cross circuit and cable assignment
- Each individual core is automatically scanned
- Individual LED to show the defective core
- Automatic and manual control options

# Keystone Jack

UP-KJ5-05 | UP-KJ6-02



UP-KJ5-05 **UTP Cat.5e keystone jack**

- 110 IDC type, 90 Degree
- With dust cover

UP-KJ6-02 **UTP Cat.6 keystone jack**

- 110 IDC type, 90 Degree
- With dust cover

UP-KJ5-01 | UP-KJ6-25



UP-KJ5-01 **UTP Cat.5e keystone jack**

- 110 IDC type, 90 degree

UP-KJ6-025 **UTP Cat.6 keystone jack**

- 110 IDC type, 90 degree

UP-KJ5-06-C5E | UP-KJ6-06-C6  
UP-KJ6A-06-C6A



UP-KJ5-06-C5E **UTP CAT5e keystone jack**

UP-KJ6-06-C6 **UTP CAT6 keystone jack**

UP-KJ6A-06-C6A **UTP CAT6a keystone jack**

UP-KJ5-04 | UP-KJ6-01



UP-KJ5-04 **UTP Cat.5e keystone jack**

- Dual IDC type, 90 degree

UP-KJ6-01 **UTP Cat.6 keystone jack**

- Dual IDC type, 90 degree

UP-KJ5-16 | UP-KJ6-10



UP-KJ5-16 **UTP Cat.5e keystone jack**

- Toolless type, 90 Degree

UP-KJ6-10 **UTP Cat.6 keystone jack**

- Toolless type, 90 Degree

UP-KJ5-06 | UP-KJ6-05



UP-KJ5-06 **UTP Cat.5e keystone jack**

- Dual IDC type, 180 degree
- With dust cover

UP-KJ6-05 **UTP Cat.6 keystone jack**

- Dual IDC type, 180 degree
- With dust cover

UP-KJ5-32 | UP-KJ6-14



UP-KJ5-32 **STP Cat.5e keystone jack**

- Dual IDC type, 180 degree

UP-KJ6-14 **STP Cat.6 keystone jack**

- Dual IDC type, 180 degree

UP-KJ5-31 | UP-KJ6-11



UP-KJ5-31 **STP Cat.5e keystone jack**

- Dual IDC type, 90 degree

UP-KJ5-11 **STP Cat.6 keystone jack**

- Dual IDC type, 90 degree

UP-KJ5-01 | UP-KJ6-25



UP-KJ5-01 **UTP Cat.5e keystone jack**

- Dual IDC type, 90 degree
- With dust cover

UP-KJ5-25 **UTP Cat.6 keystone jack**

- Dual IDC type, 90 degree
- With dust cover

# Keystone Jack

UP-KJ5-51

UP-KJ6-04

UP-KJ6A-04



UP-KJ5-51

**UTP Cat.5e keystone jack**

- Toolless type, 180 Degree

UP-KJ6-04

**UTP Cat.6 keystone jack**

- Toolless type, 180 Degree

UP-KJ6-04

**UTP Cat.6A keystone jack**

- Toolless type, 180 Degree

UP-KJ6S-04

UP-KJ6AS-04



UP-KJ6S-04

**STP Cat.6 keystone jack.**

- Toolless type, 180 Degree

UP-KJ6AS-04

**STP Cat.6A keystone jack.**

- Toolless type, 180 Degree

UP-KJ5-50

UP-KJ6-50

UP-KJ6A-02



UP-KJ5-50

**UTP Cat.5e keystone jack**

- Toolless type, 180 degree

UP-KJ6-50

**UTP Cat.6 keystone jack**

- Toolless type, 180 degree

UP-KJ6A-02

**UTP Cat.6A keystone jack**

- Toolless type, 180 Degree

UP-KJ5-43

UP-KJ6-16

UP-KJ6A-01



UP-KJ5-43

**STP Cat.5E keystone Jack**

- Toolless type
- Dual IDC type, 180 degree

UP-KJ6-16

**STP Cat.6 keystone Jack**

- Toolless type
- Dual IDC type, 180 degree

UP-KJ6A-01

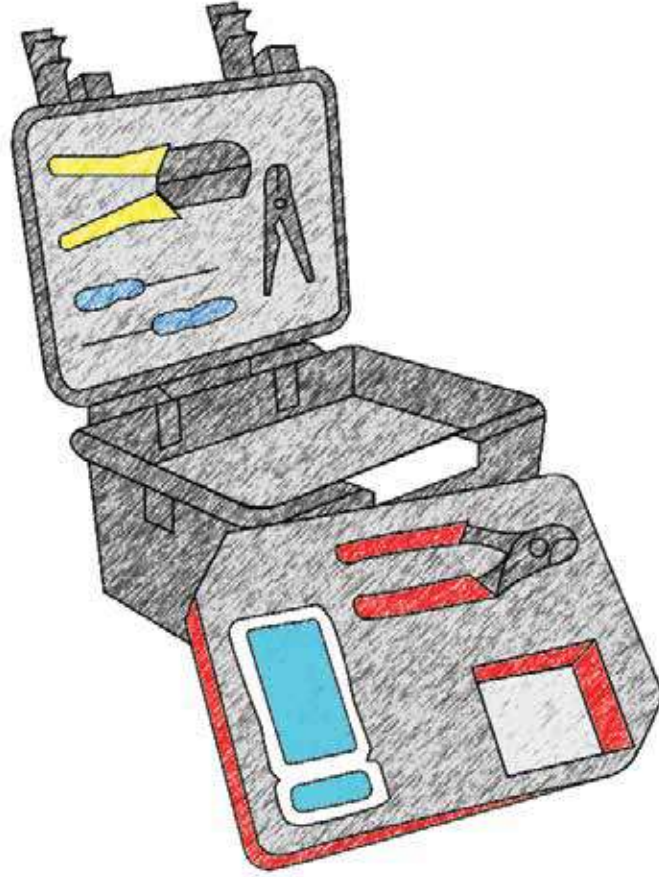
**STP Cat.6A keystone Jack**

- Toolless type
- Dual IDC type, 180 degree





## Copper Installers Tool Kit



The full range of Copper Installers Tool Kit and technical specifications may be seen on our website.

# Crimping Tools

UP- T210N



#### Crimping Tool

- For crimping 8P8C/RJ45 modular plug
- For stripping round cable
- For cutting cable

UP- T568B



#### Crimping Tool

- Option 1: 8P+6P
- Option 2: 6P+4P
- For cutting the cable
- With ratchet

UP-T5684R



#### Crimping Tool

- For crimping 8P/6P/4P modular plug
- For cutting the cable
- With double color handle
- With ratchet

UP-T2180



#### Crimping Tool

- Option 1: 8P+6P
- Option 2: 6P+4P
- For cutting the cable
- With double color handle

UP-TH510B



#### Crimping Tool

- For crimping F, BNC, RCA, right angled and keystone module compression connectors
- With adjustment for crimping different length of connectors
- With double color handle • With ratchet

UP-T106



#### Crimping Tool

- For crimping cable of RG6,11,58,59,62,213
- For crimping ST,SC connector

# Stripping Tools

UP-T1660



**Cable stripping tool**

- For stripping round cable from 4.5-10mm
- With lock

UP-T501A



**Cutter & Stripper**

- For cutting or stripping UTP/STP or flat cable from 3.2 mm-9 mm

UP-T332



**Coaxial Cable Stripper**

- For stripping RG58/59/62/6/6QS/3C/4C/5C
- With 2 Blades

UP-T302A



**Coaxial Cable Stripper**

- For stripping RG59/62/6/4C/5C
- With 2 blades

UP-T312B



**Coaxial Stripper**

- For stripping RG58/59/62/3C/4C
- With 3 blades

UP-T2022



**Punch Down Tool**

- With 110 blade
- With adjustable knob for fitting different pressure



# Punch Down Tools

UP-T3141N



**Punch Down Tool**

- With 110 blade
- With adjustable knob for fitting different pressure

UP-T2023



**Punch Down Tool**

- With adjustable impact pressure control
- Blades are interchangeable and reversible

UP-T2024



**Punch Down Tool**

- With 110 blade

UP-T2020B



**Punch Down Tool**

- For impact krone modules
- With lock

UP-T2020



**Punch Down Tool**

- For impact krone modules
- With lock

UP-T2021



**Punch Down Tool**

- For impact krone modules
- With hook



## PATCH PANELS



### Cat3 25 Port Voice Panel Krone Type

#### DESCRIPTION

The 1U voice patch panel is for use with multi-pair voice cables. Features a smooth sliding mechanism that significantly improves the ease of installation. The Patch Panel is 19" rack mounted, available in 25 and 50 ports. All ports are numbered and is suitable for voice applications.

#### FEATURES

- Designed to fit all standard 19" racks and cabinets.
- 90 degree Krone Type.
- Contact Gold Plating 3-50U".

#### SPECIFICATION

- Insulation Resistance: 500 MΩ.
- Dielectric Withstanding Voltage: 1000 V AC.
- DC Current Rating: 1.5 Amps.
- DC Resistance: 0.1Ω.
- Contact Resistance: 20mΩ.
- Insertion Life: 750 Mating Cycles With FCC Compliant RJ-45 Plug.
- Contact Force: 100 Grams With FCC Compliant RJ-45 Plug.
- Plug Retention Force: 11 LBF MIN.
- Durability: 200 Termination Cycles.
- Contact Compatibility: Accommodates 26 to 28 AWG.
- Operating Temperature Range: -10°C To 60°C.
- Storage Temperature Range: -40°C To 68°C.
- Humidity: 10% ~ 90% RH.



## PATCH PANELS



### Cat3 25 Port Voice Panel Toolless Type

#### DESCRIPTION

The 1U voice patch panel is for use with multi-pair voice cables. Features a smooth sliding mechanism that significantly improves the ease of installation. The Voice Patch Panel is 19" rack mounted, available in 25 and 50 ports. All ports are numbered and is suitable for voice applications.

#### FEATURES

- Designed to fit all standard 19" racks and cabinets.
- 180 degree Toolless Type.
- UL Certified & RoHS Compliant.
- Contact Gold Plating 3-50U".

#### SPECIFICATION

- Insulation Resistance: 500 MΩ.
- Dielectric Withstanding Voltage: 1000 V AC.
- DC Current Rating: 1.5 Amps.
- DC Resistance: 0.1Ω.
- Contact Resistance: 20mΩ.
- Insertion Life: 750 Mating Cycles With RJ-45 Plug.
- Contact Force: 100 Grams With RJ-45 Plug.
- Plug Retention Force: 11 LBF MIN.
- Durability: 200 Termination Cycles.
- Contact Compatibility: Accommodates 26 to 28 AWG.
- Operating Temperature Range: -10°C To 60°C.
- Storage Temperature Range: -40°C To 68°C.
- Humidity: 10% ~ 90% RH.



## PATCH PANELS



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- Insertion Life: 750 Mating Cycles With RJ-45 Plug.
- Contact Force: 100 Grams With RJ-45 Plug.
- Plug Retention Force: 11 LBF MIN.
- Durability: 200 Termination Cycles.
- Contact Compatibility: Accommodates 26 to 28 AWG.
- Operating Temperature Range: -10°C To 60°C.
- Storage Temperature Range: -40°C To 68°C.
- Humidity: 10% ~ 90% RH.



## PATCH PANELS



### Cat5e UTP Patch Panel 1U 24Port 110 Punch Down Patch Panel With Cable Management Bar

#### DESCRIPTION

Designed for Fast Ethernet applications. Easy to management and conserves data center rack space. Compatible with any brand. Each panel comes with 110-type termination, meeting and exceeding EIA/TIA TSB-40 Cat5e specifications. Color coded for both EIA/TIA 568A & 568B installations. 24 ports ensure a wide range of plug-n-play options. The clear numbering on both the front and back of each panel gives you a quick and easy way to identify cable runs. The high density 19inch panel design will save your valuable space on the 19 rack application.

#### FEATURES

- Cat5e
- Ports clearly numbered both on front and back
- Labels on front enable each port to be named
- Metal frame
- EIA/TIA 2/32 spacing
- 110 IDC (punch down) type termination
- TIA/EIA T568A and T568B wiring options

# PATCH PANELS



CAT 5e 6 & 6A Patch  
Panel UTP FTP STP 1U  
24PORT ANGLED V Shapped  
TOOLESS KEYSTONE JACK WITH  
CABLE MANAGEMENT BAR

## DESCRIPTION

Unloaded/Empty patch panels are ready to snap in by Cat. 5e and cat6 and Cat 6A keystone jacks or couplers. Label and inlaid marks are available for the identification of cabling management. 1U, 24 port. Snap-in structure, easy to install and unload the module. V Shap snap in panel: provide angled for easy handling the cables  
19 inch – 1U

## FEATURES

- Available; UTP, FTP & STP Type
- Providing a high density connectivity.
- Angelled Patch Panels allow the cables to flow into the Vertical Cable Managements, Reducing the demand for horizontal cable management.
- Support Bar.
- 1 Unit Height.
- Clear label reduces installation time..

# PATCH PANELS



CAT6 UTP Patch Panel 1U 4x6  
Toolless Keystone Jack with  
Cable Manager

## DESCRIPTION

Fit for 10Gigabit Applications, for the datacenter and for Server cabinets where the space is at priority. Removable plug and play modular cassettes suitable for both on and off site termination assembly Integral cable management to provide strain relief Compatible with standard 19" racks and cabinets Flexible solution - panel can be deployed in either a conventional installation or the module used as a consolidation point Supplied with panel mounting accessory kit.

## APPLICATION

- Apply to install standard 19" equipment bracket, case and wall mounted tow rack;
- Various information modules provide more choice for cabling system operation;
- Universal sequence-T568A and T568B color sequence labeled on modules clearly;
- The design of other information modules goes beyond expected grade demand;
- Label and embedded icons are convenient to label and manage;
- Single-cord and multi-line pair impact tools are available.

## STANDARDS

- Meet TIA/EIA-568-A and TIA/EIA-568-B Category 5E requirements;
- Meet TIA/EIA TSB-40;
- Meet ISO/IEC Generic Cabling Standard 11801;
- Meet CENELEC Generic Cabling Standard EN50173.

# PATCH PANELS

## CAT6 FTP Patch Panel 1U 4x6, 24port Toolless Keystone With Cable with Management Bar

### DESCRIPTION

Engineered to meet the transmission performance requirements of IEC and TIA for Category 6 systems and also to provide the mechanical and electrical durability, by using high quality material, to produce a convenient patch panel which promise you a consistent high level of systems performance engineered for CLASS E/Category 6 applications.

### APPLICATION

- Apply to install standard 19" equipment bracket, case and wall mounted tow rack.
- Various information modules provide more choice for cabling system operation.
- Universal sequence-T568A and T568B color sequence labeled on modules clearly.
- The design of other information modules goes beyond expected grade demand.
- Label and embedded icons are convenient to label and manage.
- Single-cord and multi-line pair impact tools are available.

### STANDARDS

- TIA/EIA-568-A and TIA/EIA-568-B Category 5E requirements;
- TIA/EIA TSB-40;
- ISO/IEC Generic Cabling Standard 11801;
- CENELEC Generic Cabling Standard EN50173.

### SPECIFICATION

Insulation Resistance: 500 MΩ.

Dielectric Withstanding Voltage: 1000 V AC.

DC Current Rating: 1.5 Amps.

DC Resistance: 0.1Ω.

Contact Resistance: 20mΩ.

Suitable Impact Tool: 110 Style Punch Down Tool.

Insertion Life: 750 Mating Cycles With FCC Compliant 8P Plug.

Contact Force: 100 Grams With FCC Compliant 8P Plug.

Plug Retention Force: 11 LBF MIN.

Durability: 200 Termination Cycles.

Contact Compatibility: Accommodates 22 to 24 Awg Solid.

Operating Temperature Range: -10 °C To 60 °C.

Storage Temperature Range: -40 °C To 68 °C.

Humidity: 10% ~ 90% RH.



# PATCH PANELS

UP-PP06-UTP-C5E-48P



- |                                |                                     |
|--------------------------------|-------------------------------------|
| UP-PP06-UTP-C6a-48P            | UTP CAT5e patch panel, 48 ports, 2U |
| UP-PP06-UTP-C6a-48P            | UTP CAT5e patch panel, 48 ports, 2U |
| <b>KD-PP06-UTP-C5e-48P</b>     | <b>UTP CAT5e patch panel</b>        |
| • 48 x unshielded RJ45 jacks   | • 6 ports as an unit                |
| • 2U, 19" krone B 110 dual IDC |                                     |

UP-PP06-UTP-C5E-48P



- |                              |  |
|------------------------------|--|
| UP-PP07-UTP-C5e-24P          | UTP CAT5e patch panel, 24 ports, with cable management, 1U |
| UP-PP07-UTP-6-24P            | UTP CAT6 patch panel, 24 ports, with cable management, 1U  |
| • 24 x unshielded RJ45 jacks | • With cable management                                    |
| • 6 ports as an unit         | • 1U, 19" krone B 110 dual IDC                             |

UP-PP30-STP-C5e-24P



- |                            |                                     |
|----------------------------|-------------------------------------|
| UP-PP06-UTP-C6a-48P        | STP CAT5e patch panel, 24 ports, 1U |
| UP-PP30-STP-C6-24P         | STP CAT6 patch panel, 24 ports, 1U  |
| UP-PP30-STP-C6a-24P        | STP CAT6 patch panel, 24 ports, 1U  |
| • 24 x shielded RJ45 jacks | • 8 ports as an unit                |
| • 1U, 19" krone type IDC   |                                     |

UP-PP15-25P



- |  |                      |
|--|----------------------|
| <b>Telephone patch panel, 25 ports</b> |                      |
| • 25x unshielded 8P4C jacks            | • 5 ports as an unit |
| • 1U, 19" krone type IDC               |                      |

UP-PP01-UTP-C5e-12P



- |                              |   |
|------------------------------|---|
| UP-PP01-UTP-C5e-12P          | 10" UTP CAT5e patch panel, 12 ports, 1U     |
| UP-PP01-UTP-C6-12P           | 10" UTP CAT6 patch panel, 12 ports, 1U      |
| <b>KD-PP01-UTP-C5e-12P</b>   | <b>Mini UTP CAT5e patch panel, 12 ports</b> |
| • 12 x unshielded RJ45 jacks | • 1U, 10" 110 8 krone type IDC              |

UP-PP16-50P



- |  |                      |
|--|----------------------|
| <b>Telephone patch panel, 50 ports</b> |                      |
| • 50x unshielded 8P4C jacks            | • 5 ports as an unit |
| • 2U, 19" krone type IDC               |                      |



# PATCH PANELS

## KD-PP29-STP-C6a-12P



- |                     |                                      |
|---------------------|--------------------------------------|
| UP-PP06-UTP-C6a-48P | Mini STP CAT6a patch panel, 12 ports |
| KD-PP29-STP-C6-12P  | Mini STP CAT6 patch panel, 12 ports  |
| KD-PP29-STP-C5e-12P | Mini STP CAT5e patch panel, 12 ports |
- 12x fully shielded RJ45 jacks
  - Metal housing
  - Size: 254(W)x44.5(H)x130mm(D)

## UP-PP28-STP-C5e-8P



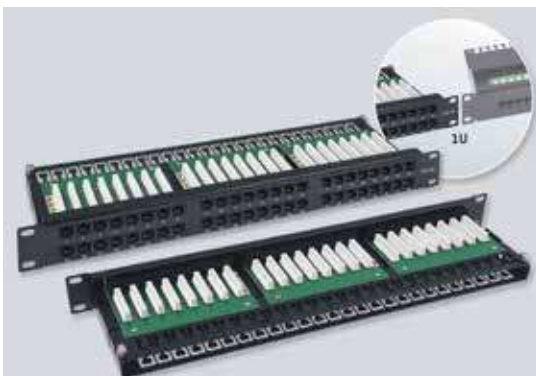
- |                    |   |
|--------------------|---|
| UP-PP28-STP-C5e-8P | Mini STP CAT5e patch panel, 8 ports, 1U |
| UP-PP28-STP-C6-8P  | Mini STP CAT6 patch panel, 8 ports, 1U  |
- 8x fully shielded RJ45 jacks
  - Metal housing
  - Size: 162(W)x44.5(H)x112mm(D)

## UP-PP10-UTP-C5e-12P



- |                     |   |
|---------------------|---|
| UP-PP10-UTP-C5e-12P | 10" UTP CAT5e patch panel, 12 ports wall mounted type |
| UP-PP10-UTP-C6-12P  | 10" UTP CAT6 patch panel, 12 ports wall mounted type  |
- 12 x unshielded RJ45 jacks
  - Install on wall mount rack
  - 110 6 krone type IDC
  - 254(W)x81.2(H)x47.5mm(D)

## UP-PP37-UTP-C5e-48P



- |                     |                                |                     |                                 |
|---------------------|--------------------------------|---------------------|---------------------------------|
| UP-PP10-UTP-C5e-12P | UTP CAT6 patch panel, 48 ports | KD-PP37-UTP-C5e-48P | UTP CAT5e patch panel, 48 ports |
|---------------------|--------------------------------|---------------------|---------------------------------|
- 48 x unshielded RJ45 jacks
  - 8 ports per row
  - 110 6 krone type IDC
  - 254(W)x81.2(H)x47.5mm(D)

## UP-PP23-UTP-BK-12P



- 10" Blank patch panel, 12 ports**
- For installing 12xUTP keystone jacks
  - With cable management
  - 254(W)x44.45(H)x83mm(D)



## PATCH PANELS

UP-PP23-UTP-BK-24P



UP-PP23-UTP-BK-24P 9" Blank patch panel for UTP keystone jacks

UP-PP23-STP-BK-24P 9" Blank patch panel for STP keystone jacks

- 24 ports for keystone jacks
- With cable management

UP-PP21-STP-BK-24P



19" Blank patch panel

- With 24 ports for UTP keystone jacks

UP-PP25-STP-BK-24P



19" Blank patch panel, 24 ports

- For installing 24xSTP keystone jacks
- With cable management

UP-PP25-UTP-BK-24P



19" Blank patch panel, 24 ports

- For installing 24xUTP keystone jacks
- With cable management

# FACE PLATES

UP-FP01



**Face plate**

- Single port with shutter
- Size: 86X86mm

UP-FP02



**Face plate**

- Dual ports with shutters
- Size: 86X86mm

UP-FP05



**Face plate**

- Single port with shutter
- Size: 86X86mm

UP-FP06



**Face plate**

- Dual ports with shutters
- Size: 86X86mm

UP-FP07



**Face plate**

- Single port with shutter
- Size: 86X86mm

UP-FP08



**Face plate**

- Dual ports with shutters
- Size: 86X86mm

UP-FP10



**Face plate**

- Dual ports with shutters
- Size: 86X86mm

UP-FP11



**Face plate**

- Single port with shutter
- Size: 86X86mm

UP-FP46



**Face plate**

- Dual ports with shutters
- UK type
- Size: 86X86mm

# FACE PLATES

UP-FP13



## Face plate

- Single angled port with shutter
- Size: 86X86mm

UP-FP14



## Face plate

- Dual angled ports with shutters
- Size: 86X86mm

UP-FP60



## Face plate

- Shielded for STP keystone jack, single port
- German type
- Size: 80X80mm

UP-FP61



## Face plate

- Shielded for STP keystone jack, dual ports
- German type
- Size: 80X80mm

UP-FP62



## Face plate

- Shielded for STP keystone jack, 3 ports
- German type
- Size: 80X80mm

UP-FP63



## Face plate

- For simplex SC adaptor, single angled port
- Size: 80X80mm

UP-FP64



## Face plate

- For duplex SC adaptor, single angled port
- Size: 80X80mm

UP-FP16



## Face plate

- Single port
- Size: 70X115mm

UP-FP17



## Face plate

- Dual ports
- Size: 70X115mm

# FACE PLATES

UP-FP18



**Face plate**

- 3 ports
- Size: 70X115mm

UP-FP40



**Face plate**

- 4 ports
- UK type
- Size: 86X146mm

UP-FP41



**Face plate**

- 4 ports
- UK type
- Size: 86X146mm

UP-FP39



**Face plate**

- Dual ports
- UK type
- Size: 86X86mm

UP-FP36



**Face plate**

- Single port
- UK type
- Size: 86X86mm

UP-FP37



**Face plate**

- Dual ports
- UK type
- Size: 86X86mm

UP-FP53



**Face plate**

- French type
- Suitable for 45X45mm or double 45X22.5mm face plate,
- Size: 80X80mm

UP-FP72



**Mini face plate**

- Single port
- Size: 33.2X67.9mm

UP-FP73



**Mini face plate**

- Dual ports
- Size: 33.2X67.9mm

# FACE PLATES

UP-FP74



**Mini face plate**

- 3 ports
- Size: 33.2X67.9mm

UP-FP75



**Mini face plate**

- 4 ports
- Size: 33.2X67.9mm

UP-FP49



**Mini face plate**

- Single port
- French type
- Size: 45X45mm

UP-FP48



**Mini face plate**

- Single port
- French type
- Size: 45X22.5mm

UP-FP76



**Mini face plate**

- Single port
- Size: 45X45mm
- With dust cover
- French type

UP-FP77



**Mini face plate**

- Single port
- Size: 45X22.5mm
- With dust cover
- French type

UP-FP78



**Mini face plate**

- Dual ports
- Size: 45X45mm
- French type
- With dust cover

UP-FP50



**Mini face plate**

- Dual ports
- French type
- Size: 45X45mm



# FACE PLATES

UP-FP51



## Mini face plate

- Dual ports
- Size: 45X45mm
- With dust cover
- French type

UP-FP19



## Face plate

- 4 ports
- Size: 70X115mm

UP-FP20



## Face plate

- 6 ports
- Size: 70X115mm

UP-FP21



## Face plate

- Single port
- Size: 70X115mm

UP-FP22



## Face plate

- Dual ports
- Size: 70X115mm

UP-FP23



## Face plate

- 3 ports
- Size: 70X115mm

UP-FP24



## Face plate

- 4 ports
- Size: 70X115mm

UP-FP25



## Face plate

- 6 ports
- Size: 70X115mm

UP-FP65



## Face plate

- Dual ports for RCA/F adaptor
- Size: 70X115mm



# FACE PLATES

UP-FP66



#### Face plate

- 3 ports for RCA/F adaptor
- Size: 70X115mm

UP-FP67



#### Face plate

- 4 ports for RCA/F adaptor
- Size: 70X115mm

UP-FP69



#### Face plate

- 8 ports for RCA/F adaptor
- Size: 70X115mm

UP-FP68



#### Face plate

- 6 ports for RCA/F adaptor
- Size: 70X115mm

## SURFACE MOUNT BOX

UP-WP6038-C5e / UP-WP6038-C6e  
UP-WP6038-C6a



#### UP-WP6038-C5e

- UTP CAT5e Surface mount box, Single Port

#### UP-WP6038-C6

- UTP CAT6 Surface mout box, Single Port

#### UP-WP6038-C6a

- UTP CAT6a Surface mout box, Single Port

UP-WP6039-C5e / UP-WP6039-C6  
UP-WP6039-C6a



#### UP-WP6039-C5e

- UTP CAT5e Surface mout box, Dual Ports

#### UP-WP6039-C6

- UTP CAT6 Surface mout box, Dual Ports

#### UP-WP6039-C6a

- UTP CAT6a Surface mout box, Dual Ports

UP-WP6040-C5e / UP-WP6040-C6  
UP-WP6040-C6a



#### UP-WP6040-C5e

- STP CAT5e Surface mout box, Single Port

#### UP-WP6040-C6

- STP CAT6 Surface mout box, Single Port

#### UP-WP6040-C6a

- STP CAT6a Surface mout box, Single Port

UP-WP6041-C5e / UP-WP6041-C6  
UP-WP6041-C6a



#### UP-WP6041-C5e

- STP CAT5e Surface mout box, Dual Ports

#### UP-WP6041-C6

- STP CAT6 Surface mout box, Dual Ports

#### UP-WP6041-C6a

- STP CAT6a Surface mout box, Dual Ports

UP-WP6034-C5e / UP-WP6034-C6



#### KD-WP6034-C5e

#### UTP Cat5e Surface box

- Single RJ45 port
- With PCB

#### KD-WP6034-C6

#### UTP Cat6 Surface box

- Single RJ45 port
- With PCB



# SURFACE MOUNT BOX

UP-WP6036-C5e / UP-WP6036-C6



- |   |   |
|---|---|
| <b>KD-WP6036-C5e</b><br>STP Cat5e Surface box | <b>KD-WP6036-C6</b><br>STP Cat6 Surface box |
| • Single RJ45 port                            | • Single RJ45 port                          |
| • With PCB                                    | • With PCB                                  |

UP-WP6035-C5e / UP-WP6035-C6



- |   |   |
|---|---|
| <b>KD-WP6035-C5e</b><br>UTP Cat5e Surface box | <b>KD-WP6035-C6</b><br>UTP Cat6 Surface box |
| • Dual RJ45 ports                             | • Dual RJ45 ports                           |
| • With PCB                                    | • With PCB                                  |

UP-WP6037-C5e / UP-WP6037-C6



- |   |   |
|---|---|
| <b>KD-WP6037-C5e</b><br>STP Cat5e Surface box | <b>KD-WP6037-C6</b><br>STP Cat6 Surface box |
| • Dual RJ45 ports                             | • Dual RJ45 ports                           |
| • With PCB                                    | • With PCB                                  |

KD-WP01-A / KD-WP01-B



- |   |
|---|
| <b>KD-WP01-A</b>                                  |
| • Surface box, single port, with keystone jack    |
| <b>KD-WP01-B</b>                                  |
| • Surface box, single port, without keystone jack |

KD-WP02-A / KD-WP02-B



- |  |
|--|
| <b>KD-WP02-A</b>                                 |
| • Surface box, dual ports, with keystone jack    |
| <b>KD-WP02-B</b>                                 |
| • Surface box, dual ports, without keystone jack |

KD-WP04-A / KD-WP04-B



- |  |
|--|
| <b>KD-WP04-A</b>                                 |
| • Surface box, dual ports, with keystone jack    |
| <b>KD-WP04-B</b>                                 |
| • Surface box, dual ports, without keystone jack |

KD-WP05-A / KD-WP05-B



- |   |
|---|
| <b>KD-WP05-A</b>                                  |
| • Surface box, single port, with keystone jack    |
| <b>KD-WP05-B</b>                                  |
| • Surface box, single port, without keystone jack |

KD-WP06-A / KD-WP06-B



- |  |
|--|
| <b>KD-WP06-A</b>                                 |
| • Surface box, dual ports, with keystone jack    |
| <b>KD-WP06-B</b>                                 |
| • Surface box, dual ports, without keystone jack |

KD-WP07-A / KD-WP07-B



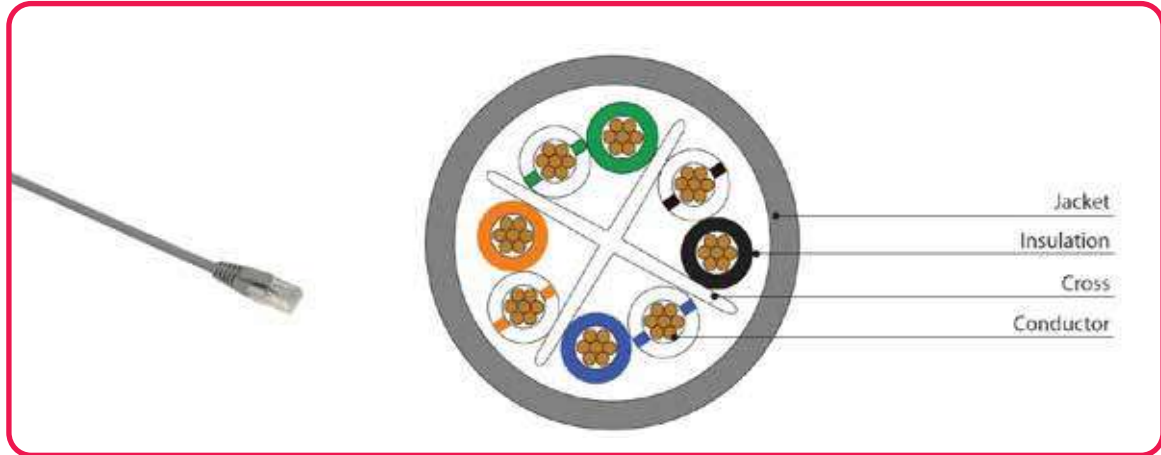
- |   |
|---|
| <b>KD-WP07-A</b>                              |
| • Surface box, 4 ports, with keystone jack    |
| <b>KD-WP07-B</b>                              |
| • Surface box, 4 ports, without keystone jack |



## PATCH CORDS



### Cat 5e U/UTP Patch Cord LSZH



#### DESCRIPTION

Category 5e unscreened (Cat5 U/UTP) patch cord are engineered to meet and exceed the IEC and TIA for CLASS D/Cat-egory 5 systems performance requirements. The patch cords are engineered to be robust and reliable, using high quality of raw-materials and quality oriented production processes, to provide a patch cord solution which provides a high level of performance. The colored moulded snagless boot latching allows the patch cords to be deployed within even the most densely populated network installations.

#### FEATURES

- Complying 100MHz
- LS0H
- Snagless colored moulded boot
- 3-50u"gold plated contact pins
- 6 standard colours

## APPLICATION

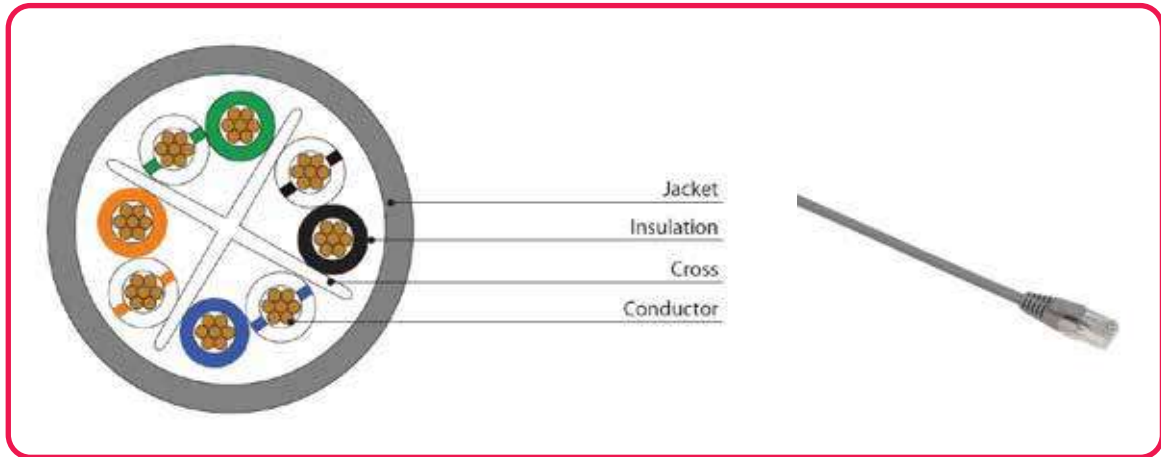
- ATM 155
- 100BASE-Tx
- IEC 61935-2
- ISO/IEC 11801
- 1000BASE-T
- 1G FCBASE-T
- Class D/category 5e standards compliant

## SPECIFICATION

| Structure         | Reference               | Value        |
|-------------------|-------------------------|--------------|
| Conductors        | AWG                     | 24           |
|                   | Size                    | 7x0,20       |
| Insulation        | Material                | Bare Copper  |
|                   | Diameter                | 0.95mm       |
|                   | Material                | HDPE         |
|                   | External Outer Diameter | 5.4 ± 0.2mm  |
| Jacket            | Thickness mm            | 0.51mm       |
|                   | Material                | LSZH         |
| Pulling Tension   | Max.50N                 |              |
| Bending Radius    | Min. 8 x Cable Diameter |              |
| Temperature Range | Storage Temperature     | -20 to 70 °C |
|                   | Operation Temperature   | -20 to 60 °C |



## Cat 5e F/UTP Patch Cord LSZH



### DESCRIPTION

Category 5e screened (Cat5e F/UTP) patch cord are engineered to meet and exceed the IEC and TIA for CLASS D/Category 5 systems performance requirements. The patch cords are engineered to be robust and reliable, using high quality of raw-materials and quality oriented production processes, to provide a patch cord solution which provides a high level of performance. The colored moulded snagless boot latching allows the patch cords to be deployed within even the most densely populated network installations.

### FEATURES

- Complying 100MHz
- LS0H
- Snagless colored moulded boot
- 3-50u"gold plated contact pins
- 6 standard colours

## APPLICATION

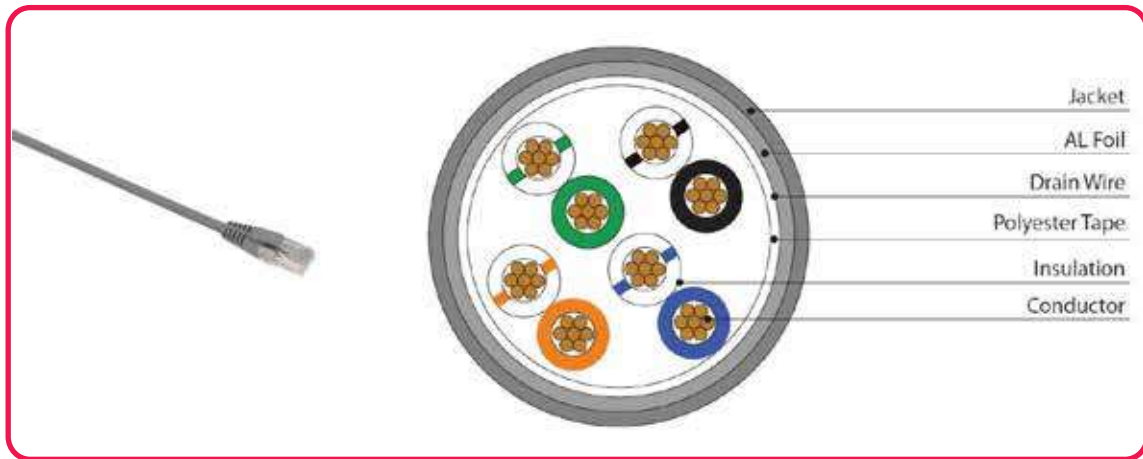
- ATM 155
- 100BASE-Tx
- IEC 61935-2
- ISO/IEC 11801
- 1000BASE-T
- 1G FCBASE-T
- Class D/category 5e standards compliant

## SPECIFICATION

| Structure         | Reference               | Value        |
|-------------------|-------------------------|--------------|
| Conductors        | AWG                     | 24           |
|                   | Size                    | 7x0,20       |
| Insulation        | Material                | Bare Copper  |
|                   | Diameter                | 0.86mm       |
|                   | Material                | HDPE         |
|                   | External Outer Diameter | 5.3 ± 0.2mm  |
| Jacket            | Thickness mm            | 0.51mm       |
|                   | Material                | LSOH         |
| Pulling Tension   | Max.50N                 |              |
| Bending Radius    | Min. 8 x Cable Diameter |              |
| Temperature Range | Storage Temperature     | -20 to 70 °C |
|                   | Operation Temperature   | -20 to 60 °C |



## Cat 5e F/UTP Patch Cord PVC



### DESCRIPTION

Category 5e screened (Cat5e F/UTP) patch cord are engineered to meet and exceed the IEC and TIA for CLASS D/Category 5 systems performance requirements. The patch cords are engineered to be robust and reliable, using high quality of raw-materials and quality oriented production processes, to provide a patch cord solution which provides a high level of performance. The colored moulded snagless boot latching allows the patch cords to be deployed within even the most densely populated network installations.

### FEATURES

- Complying 100MHz
- PVC
- Snagless colored moulded boot
- 3 to 50u"gold plated contact pins
- 6 standard colours

## APPLICATION

- ATM 155
- 100BASE-Tx
- IEC 61935-2
- ISO/IEC 11801
- 1000BASE-T
- 1G FCBASE-T
- Class D/category 5e standards compliant

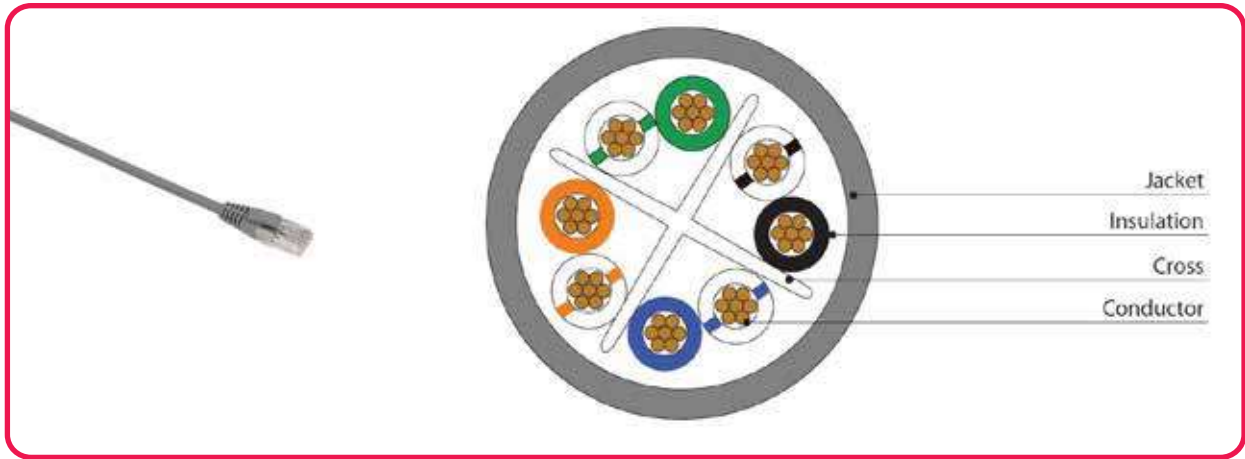
## SPECIFICATION

| Structure         | Reference               | Value        |
|-------------------|-------------------------|--------------|
| Conductors        | AWG                     | 24           |
|                   | Size                    | 7x0,20       |
| Insulation        | Material                | Bare Copper  |
|                   | Diameter                | 0.86mm       |
|                   | Material                | HDPE         |
|                   | External Outer Diameter | 5.3 ± 0.2mm  |
| Jacket            | Thickness mm            | 0.51mm       |
|                   | Material                | PVC          |
| Pulling Tension   | Max.50N                 |              |
| Bending Radius    | Min. 8 x Cable Diameter |              |
| Temperature Range | Storage Temperature     | -20 to 70 °C |
|                   | Operation Temperature   | -20 to 60 °C |





## Cat 5e U/UTP Patch Cord PVC



### DESCRIPTION

Category 5e unscreened (Cat6 U/UTP) patch cord are engineered to meet and exceed the IEC and TIA for CLASS D/Cat-egory 5 systems performance requirements. The patch cords are engineered to be robust and reliable, using high quality of raw-materials and quality oriented production processes, to provide a patch cord solution which provides a high level of performance. The colored moulded snagless boot latching allows the patch cords to be deployed within even the most densely populated network installations.

### FEATURES

- Complying 100MHz
- LS0H
- Snagless colored moulded boot
- 3 to 50u"gold plated contact pins
- 6 standard colours

## APPLICATION

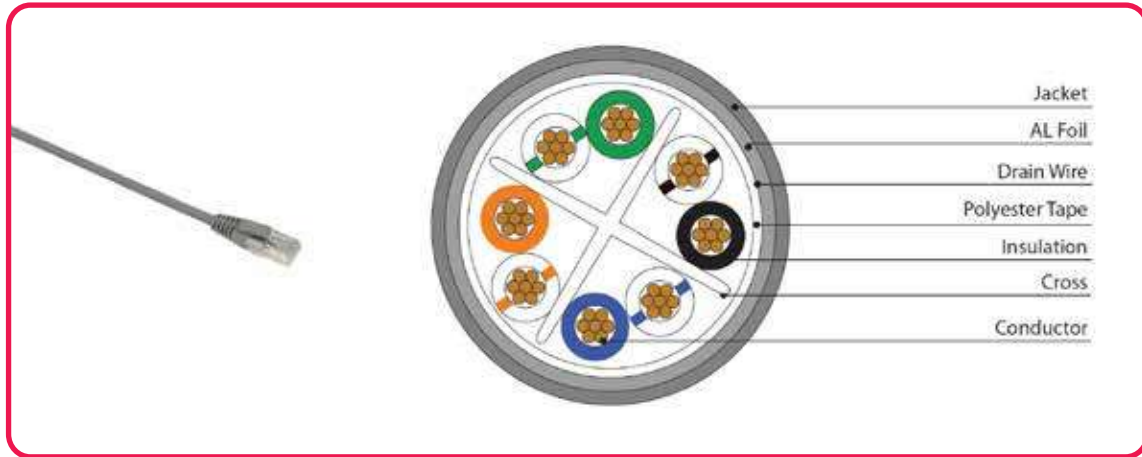
- ATM 155
- 100BASE-Tx
- IEC 61935-2
- ISO/IEC 11801
- 1000BASE-T
- 1G FCBASE-T
- Class D/category 5e standards compliant

## SPECIFICATION

| Structure         | Reference               | Value        |
|-------------------|-------------------------|--------------|
| Conductors        | AWG                     | 24           |
|                   | Size                    | 7x0,20       |
| Insulation        | Material                | Bare Copper  |
|                   | Diameter                | 0.95mm       |
|                   | Material                | HDPE         |
|                   | External Outer Diameter | 5.4 ± 0.2mm  |
| Jacket            | Thickness mm            | 0.51mm       |
|                   | Material                | LSZH         |
| Pulling Tension   | Max.50N                 |              |
| Bending Radius    | Min. 8 x Cable Diameter |              |
| Temperature Range | Storage Temperature     | -20 to 70 °C |
|                   | Operation Temperature   | -20 to 60 °C |



## Cat 6 F/UTP Patch Cord LSZH



### DESCRIPTION

Category 6 unscreened (Cat6 F/UTP) patch cords are engineered to meet and exceed the IEC and TIA for CLASS E/Category 6 systems performance requirements. The patch cords are engineered to be robust and reliable, using high quality of raw-materials and quality oriented production processes, to provide a patch cord solution which provides a high level of performance. The colored moulded snagless boot latching allows the patch cords to be deployed within even the most densely populated network installations.



### FEATURES

- Complying 250MHz
- Low Smoke Zero Halogen
- Snagless colored moulded boot
- 3 to 50u"gold plated contact pins
- 6 standard colours

## APPLICATION

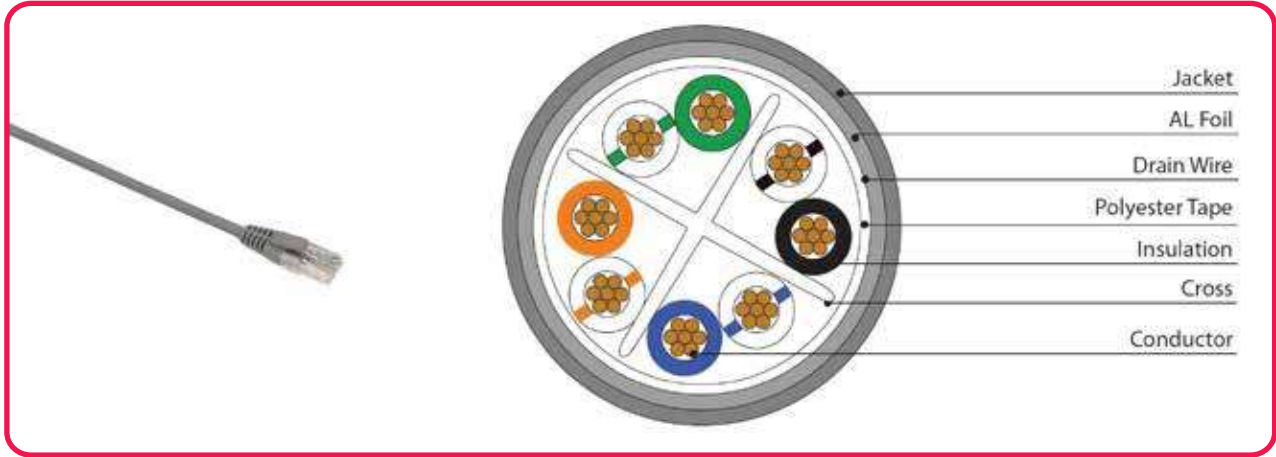
- IEC 61935-2
- ISO/IEC 11801
- ATM 1200
- 1000BASE-T (
- 1G FCBASE-T
- REACH compliant
- Class E/category 6 standards compliant

## SPECIFICATION

| Structure         | Reference               | Value        |
|-------------------|-------------------------|--------------|
| Conductors        | AWG                     | 24           |
|                   | Size                    | 7x0,20       |
| Insulation        | Material                | Bare Copper  |
|                   | Diameter                | 0.86mm       |
|                   | Material                | HDPE         |
|                   | External Outer Diameter | 5.9 ± 0.2mm  |
| Jacket            | Thickness mm            | 0.51mm       |
|                   | Material                | LSZH         |
| Pulling Tension   | Max.50N                 |              |
| Bending Radius    | Min. 8 x Cable Diameter |              |
| Temperature Range | Storage Temperature     | -20 to 70 °C |
|                   | Operation Temperature   | -20 to 60 °C |



## Cat 6 F/UTP Patch Cord PVC



### DESCRIPTION

Category 6 unscreened (Cat6 F/UTP) patch cord are engineered to meet and exceed the IEC and TIA for CLASS E/Category 6 systems performance requirements. The patch cords are engineered to be robust and reliable, using high quality of raw-materials and quality oriented production processes, to provide a patch cord solution which provides a high level of performance. The colored moulded snagless boot latching allows the patch cords to be deployed within even the most densely populated network installations.



### FEATURES

- Complying 250MHz
- PVC
- Snagless colored moulded boot
- 3 to 50u"gold plated contact pins
- 6 standard colours

## APPLICATION

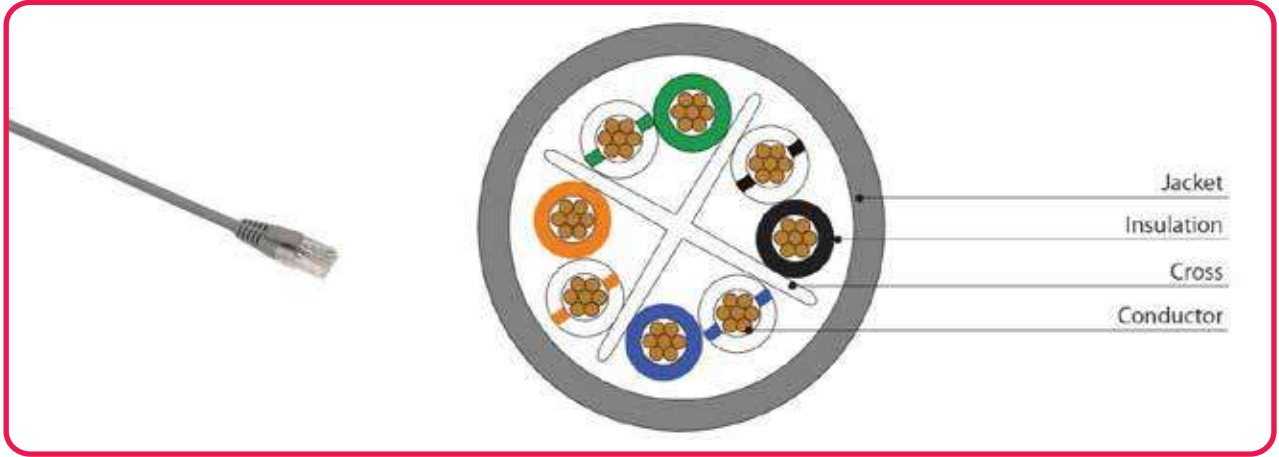
- IEC 61935-2
- ISO/IEC 11801
- ATM 1200
- 1000BASE-T (
- 1G FCBASE-T
- REACH compliant
- Class E/category 6 standards compliant

## SPECIFICATION

| Structure         | Reference               | Value        |
|-------------------|-------------------------|--------------|
| Conductors        | AWG                     | 24           |
|                   | Size                    | 7x0,20       |
| Insulation        | Material                | Bare Copper  |
|                   | Diameter                | 0.86mm       |
|                   | Material                | HDPE         |
|                   | External Outer Diameter | 5.8 ± 0.2mm  |
| Jacket            | Thickness mm            | 0.51mm       |
|                   | Material                | PVC          |
| Pulling Tension   | Max.50N                 |              |
| Bending Radius    | Min. 8 x Cable Diameter |              |
| Temperature Range | Storage Temperature     | -20 to 70 °C |
|                   | Operation Temperature   | -20 to 60 °C |



## Cat 6 U/UTP Patch Cord LSZH



### DESCRIPTION

Category 6 unscreened (Cat6 U/UTP) patch cord are engineered to meet and exceed the IEC and TIA for CLASS E/Category 6 systems performance requirements. The patch cords are well-engineered to be robust and reliable, using high quality of raw-materials and quality oriented production processes, to provide a patch cord solution which provides a high level of performance. The colored moulded snagless boot latching allows the patch cords to be deployed within even the most densely populated network installations.

### FEATURES

- Complying 250MHz
- Low Smoke Zero Halogen
- Snagless colored moulded boot
- 3 to 50u"gold plated contact pins
- 6 standard colours

## APPLICATION

- IEC 61935-2
- ISO/IEC 11801 (2nd Edition): 2010
- ATM 1200
- 1000BASE-T (Gigabit Ethernet)
- 1G FCBASE-T
- REACH / SVHC compliant regulation (EC) No. 1907/2006
- Class E/category 6 standards compliant

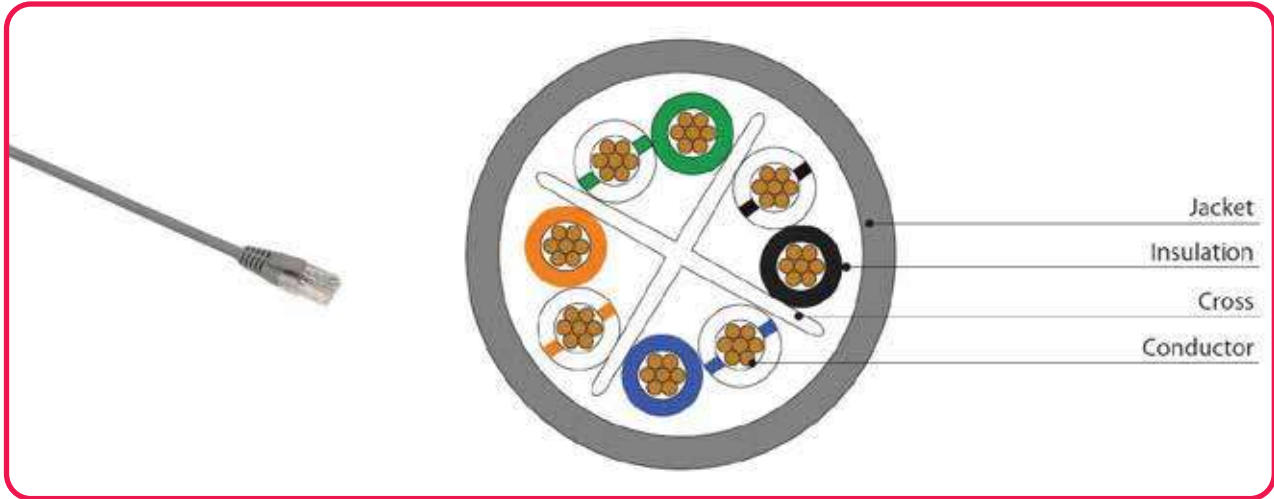
## SPECIFICATION

| Structure         | Reference               | Value        |
|-------------------|-------------------------|--------------|
| Conductors        | AWG                     | 24           |
|                   | Size                    | 7x0,20       |
| Insulation        | Material                | Bare Copper  |
|                   | Diameter                | 0.98mm       |
|                   | Material                | HDPE         |
|                   | External Outer Diameter | 5.8 ± 0.2mm  |
| Jacket            | Thickness mm            | 0.51mm       |
|                   | Material                | LSZH         |
| Pulling Tension   | Max.50N                 |              |
| Bending Radius    | Min. 8 x Cable Diameter |              |
| Temperature Range | Storage Temperature     | -20 to 70 °C |
|                   | Operation Temperature   | -20 to 60 °C |





## Cat 6 U/UTP Patch Cord LSZH



### DESCRIPTION

Category 6 unscreened (Cat6 U/UTP) patch cord are engineered to meet and exceed the IEC and TIA for CLASS E/Category 6 systems performance requirements. The patch cords are engineered to be robust and reliable, using high quality of raw-materials and quality oriented production processes, to provide a patch cord solution which provides a high level of performance. The colored moulded snagless boot latching allows the patch cords to be deployed within even the most densely populated network installations.



### FEATURES

- Complying 250MHz
- PVC
- Snagless colored moulded boot
- 3 to 50u"gold plated contact pins
- 6 standard colours

## APPLICATION

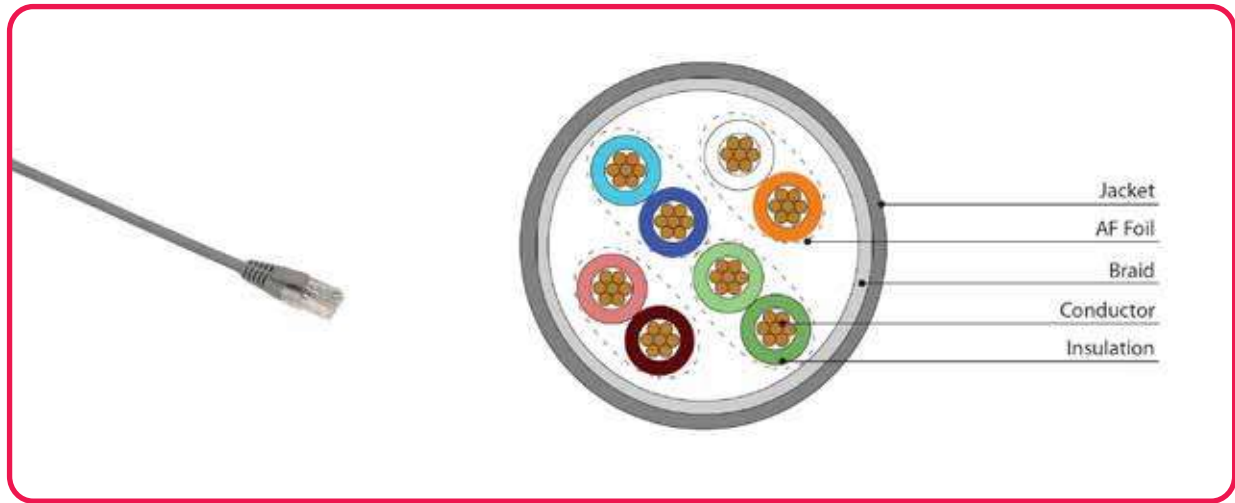
- IEC 61935-2
- ISO/IEC 11801 (2nd Edition): 2010
- ATM 1200
- 1000BASE-T (Gigabit Ethernet)
- 1G FCBASE-T
- REACH / SVHC compliant regulation (EC) No. 1907/2006
- Class E/category 6 standards compliant

## SPECIFICATION

| Structure         | Reference               | Value        |
|-------------------|-------------------------|--------------|
| Conductors        | AWG                     | 24           |
|                   | Size                    | 7x0,20       |
| Insulation        | Material                | Bare Copper  |
|                   | Diameter                | 0.86mm       |
|                   | Material                | HDPE         |
|                   | External Outer Diameter | 5.8 ± 0.2mm  |
| Jacket            | Thickness mm            | 0.51mm       |
|                   | Material                | PVC          |
| Pulling Tension   | Max.50N                 |              |
| Bending Radius    | Min. 8 x Cable Diameter |              |
| Temperature Range | Storage Temperature     | -20 to 70 °C |
|                   | Operation Temperature   | -20 to 60 °C |



## Cat 6A S/FTP Patch Cord LSZH



### DESCRIPTION

Category 6 unscreened (Cat 6A S/FTP) patch cord are engineered to meet and exceed the IEC and TIA for CLASS E/Cat-egory 6A systems performance requirements. The patch cords are engineered to be robust and reliable, using high quality of raw-materials and quality oriented production processes, to provide a patch cord solution which provides a high level of performance. The colored moulded snagless boot latching allows the patch cords to be deployed within even the most densely populated network installations.

### FEATURES

- Complying 500MHz
- LS0H
- Snagless colored moulded boot
- 3 to 50u"gold plated contact pins
- 6 standard colours

## APPLICATION

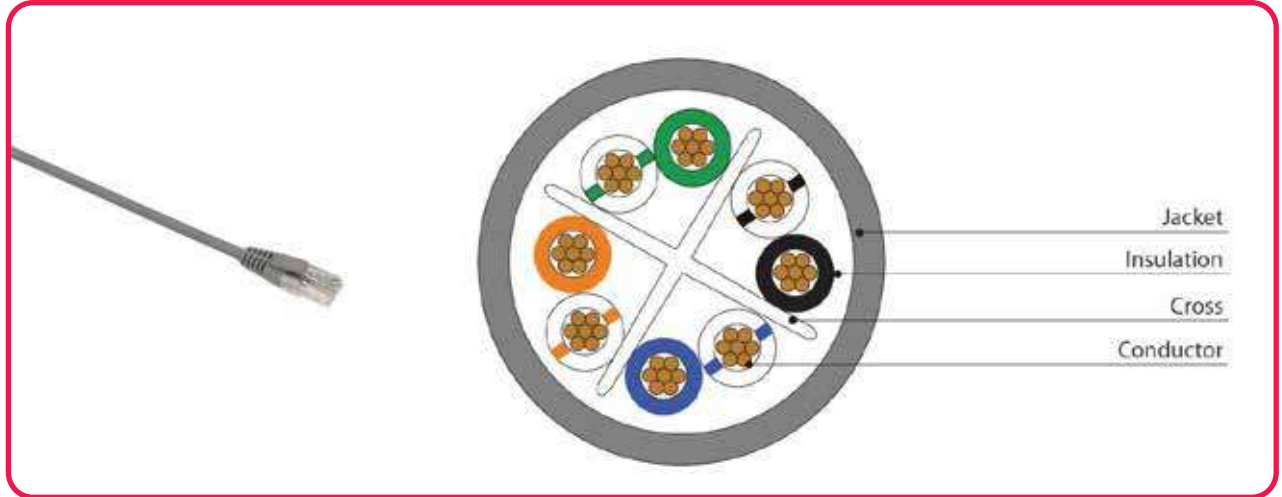
- IEC 61935-2
- ISO/IEC 11801
- ATM 1200
- 1G FCBASE-T
- 10G BASE-T (10G Ethernet)
- 1000BASE-T (Gigabit Ethernet)
- Class EA/category 6A
- REACH compliant

## SPECIFICATION

| Structure         | Reference               | Value             |
|-------------------|-------------------------|-------------------|
| Conductors        | AWG                     | 24                |
|                   | Size                    | 7x0,20            |
| Insulation        | Material                | Bare Copper       |
|                   | Diameter                | 1.01mm $\pm$ 0.05 |
|                   | Material                | Foam PE           |
|                   | External Outer Diameter | 6.0 $\pm$ 0.2mm   |
| Jacket            | Thickness mm            | 0.55mm            |
|                   | Material                | LSOH              |
| Pulling Tension   | Max.50N                 |                   |
| Bending Radius    | Min. 8 x Cable Diameter |                   |
| Temperature Range | Storage Temperature     | -20 to 70 °C      |
|                   | Operation Temperature   | -20 to 60 °C      |



## Cat 6A U/UTP Patch Cord LSZH



### DESCRIPTION

Category 6 unscreened (Cat 6A U/UTP) patch cord are engineered to meet and exceed the IEC and TIA for CLASS E/Category 6A systems performance requirements. The patch cords are engineered to be robust and reliable, using high quality of raw-materials and quality oriented production processes, to provide a patch cord solution which provides a high level of performance. The colored moulded snagless boot latching allows the patch cords to be deployed within even the most densely populated network installations.

### FEATURES

- Complying 500MHz
- LS0H
- Snagless colored moulded boot
- 3 to 50u"gold plated contact pins
- 6 standard colours

## APPLICATION

- IEC 61935-2
- ISO/IEC 11801
- ATM 1200
- 1G FCBASE-T
- 10G BASE-T (10G Ethernet)
- 1000BASE-T (Gigabit Ethernet)
- Class EA/category 6A
- REACH compliant

## SPECIFICATION

| Structure         | Reference               | Value             |
|-------------------|-------------------------|-------------------|
| Conductors        | AWG                     | 24                |
|                   | Size                    | 7x0,20            |
| Insulation        | Material                | Bare Copper       |
|                   | Diameter                | 0.95mm $\pm$ 0.05 |
|                   | Material                | Polyolefin        |
|                   | External Outer Diameter | 5.8 $\pm$ 0.2mm   |
| Jacket            | Thickness mm            | 0.6mm             |
|                   | Material                | LSOH              |
| Pulling Tension   | Max.50N                 |                   |
| Bending Radius    | Min. 8 x Cable Diameter |                   |
| Temperature Range | Storage Temperature     | -20 to 70 °C      |
|                   | Operation Temperature   | -20 to 60 °C      |

# PATCH CORDS (CCA)

## UP-PAUT6XXX-YY



**Cat6,U/UTP Patch cable**

- Made by U/UTP Cat6 cable
- 2xUnshielded RJ45 plug
- TIA/EIA 568B coded

**Order information**

- PAUT6XXX-YY, XXX=Meters, YY=Color



## UP-PAUT7XXX-YY



**Cat6,F/UTP Patch cable**

- Made by F/UTP Cat6 cable
- 2xShielded RJ45 plug
- TIA/EIA 568B coded

**Order information**

- PAFT7XXX-YY, XXX=Meters, YY=Color



## UP-PAUT8XXX-YY



**Cat6,SF/UTP Patch cable**

- Made by SF/UTP Cat6 cable
- 2xShielded RJ45 plug
- TIA/EIA 568B coded

**Order information**

- PASFT8XXX-YY, XXX=Meters, YY=Color



## UP-PAUT9XXX-C-6A-YY



**Cat6a,SF/UTP Patch cable**

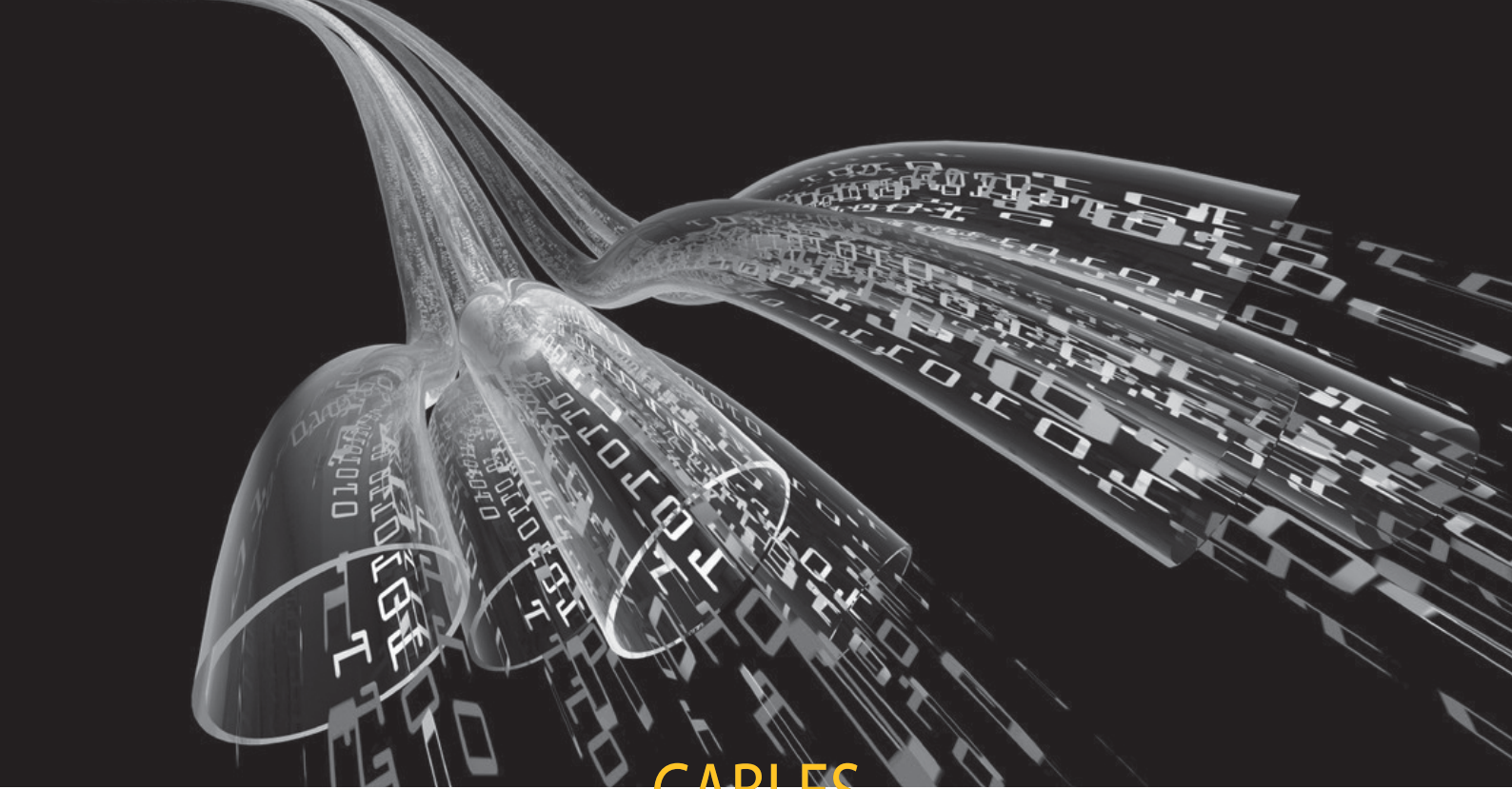
- Made by SF/UTP Cat6a cable
- 2xShielded RJ45 plug
- TIA/EIA 568B coded

**Order information**

- PASFT9XXX-C6a-YY, XXX=Meters, YY=Color







# CABLES



Upcom optical cable assemblies provide the vital connectivity links and patching for your network. Our in-house designed and specified assemblies provide 1 to 288 fibres featuring IEC compliant components and a choice of performance levels to suit your network needs.





# CAT 5E U/UTP CABLE PVC

## Category 5e Unshielded Twisted Pair U/UTP Installation cable



### DESCRIPTION

Category 5 cables are capable of operating up to 100MHz. Produced according to ISO/IEC 11801 requirements, the U/UTP cable is the best option to support all Class E applications such as Ethernet, Fast Ethernet, Gigabit Ethernet. The Cat 5 U/UTP cables are applicable for basic voice and data installations up to 100 MHz.

Manufactured according to ISO / IEC 11801-2, ISO / IEC 64156-5, EIA / TIA 568B, EN-50173



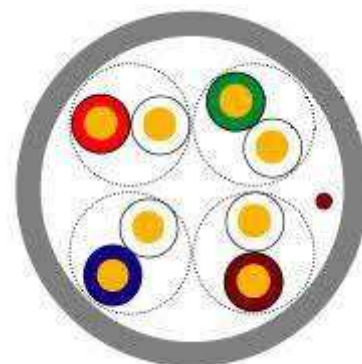
### APPLICATION

Cable for data transmission in structured cabling networks (LAN), horizontal and secondary facilities.



### TECHNICAL SPECIFICATIONS

|                         |                                  |              |
|-------------------------|----------------------------------|--------------|
| Conductor               | Bare copper                      | 0.50±0.01 mm |
| Insulation              | HDPE                             | 0.90±0.05 mm |
| Identification of pairs |                                  |              |
| 1 pair                  | Blue - White / Blue              |              |
| 2 pair                  | Orange - White / Orange          |              |
| 3 pair                  | Green - White / Green            |              |
| 4 pair                  | Brown - White / Brown            |              |
| Ripcord                 | Yes                              |              |
| Sheath                  | PVC                              |              |
| Color                   | Gray (other option is available) |              |
| Bending radius          | ≥ 8 x Diameter (mm) Installation |              |
| Storage temperature     | -15 C—+70 C                      |              |



### ELECTRICAL CHARACTERISTICS

| No. of Pairs.xΦ (mm) | Conductor Resistance (Ω/km) | Resistance Unbalance | Cap. Between cond. Pair (nF / 100m) | Velocity of Propagation (%) | Impedance (Ω) | ΦExt. (Appvox) (mm) |
|----------------------|-----------------------------|----------------------|-------------------------------------|-----------------------------|---------------|---------------------|
| 4x2x0.51             | Max.91.5                    | Max.4%               | 5.6                                 | 69                          | 100±15        | 5.0±0.2             |
| Frequency (MHz)      | RL ≥dB                      | ATT ≤dB/100m         | NEXT ≥dB                            | DELAY ≤ns/100m              | PS NEXT ≥dB   | PS EL FEXT ≥dB/100m |
| 4                    | 23.0                        | 4.1                  | 56.3                                | 552.0                       | 53.3          | 49.0                |
| 8                    | 24.5                        | 5.8                  | 51.8                                | 547.0                       | 48.8          | 42.9                |
| 10                   | 25.0                        | 6.5                  | 50.3                                | 545.0                       | 47.3          | 41.0                |
| 16                   | 25.0                        | 8.2                  | 47.2                                | 543.0                       | 44.2          | 36.9                |
| 20                   | 25.0                        | 9.3                  | 45.8                                | 542.0                       | 42.8          | 35.0                |
| 25                   | 24.3                        | 10.4                 | 44.3                                | 541.0                       | 41.3          | 33.0                |
| 31.25                | 23.6                        | 11.7                 | 42.9                                | 540.0                       | 39.9          | 31.1                |
| 62.5                 | 21.5                        | 17.0                 | 38.4                                | 539.0                       | 35.4          | 25.1                |
| 100                  | 20.1                        | 22.0                 | 35.3                                | 538.0                       | 32.3          | 21.0                |



# CAT 5E U/UTP CABLE LSZH

Category 5e Unshielded Twisted Pair U/UTP Installation cable.



## DESCRIPTION

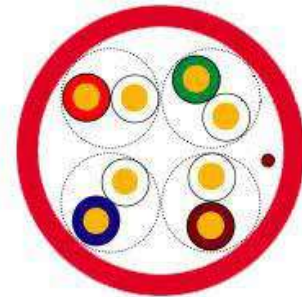
U/UTP Category 5 cables are capable of operating up to 100MHz. Produced according to ISO/IEC 11801 requirements, the U/UTP cable is the best option to support all Class E applications such as Ethernet, Fast Ethernet, Gigabit Ethernet. The Cat 5 U/UTP cables are applicable for basic voice and data installations up to 100 MHz.

Manufactured according to ISO / IEC 11801, EIA / TIA-568-C.2, EN-50173.



## TECHNICAL SPECIFICATIONS

|                         |                                  |              |
|-------------------------|----------------------------------|--------------|
| Conductor               | Bare copper                      | 0.50±0.01 mm |
| Insulation              | HDPE                             | 0.90±0.05 mm |
| Identification of pairs |                                  |              |
| 1 pair                  | Blue - White / Blue              |              |
| 2 pair                  | Orange - White / Orange          |              |
| 3 pair                  | Green - White / Green            |              |
| 4 pair                  | Brown - White / Brown            |              |
| Ripcord                 | Yes                              |              |
| Sheath                  | LSZH                             |              |
| Color                   | Red (other option is available)  |              |
| Bending radius          | ≥ 8 x Diameter (mm) Installation |              |
| Storage temperature     | -15 C—+70 C                      |              |



## ELECTRICAL CHARACTERISTICS

| No. of Pairs.xΦ (mm) | Conductor Resistance (Ω/km) | Resistance Unbalance | Cap. Between cond. Pair (nF / 100m) |                | Velocity of Propagation (%) | Impedance (Ω)    | ΦExt. (Appvox) (mm) |
|----------------------|-----------------------------|----------------------|-------------------------------------|----------------|-----------------------------|------------------|---------------------|
| 4x2x0.50             | Max.95                      | Max.4%               | 5.6                                 |                | 69                          | 100±15           | 5.0±0.3             |
| Frequency (MHz)      | RL ≥dB                      | ATT ≤dB/100m         | NEXT ≥dB                            | DELAY ≤ns/100m | PS NEXT ≥dB                 | EL FEXT ≥dB/100m | PS EL FEXT ≥dB/100m |
| 4                    | 23.0                        | 4.1                  | 56.3                                | 552.0          | 53.3                        | 52.0             | 49.0                |
| 8                    | 24.5                        | 5.8                  | 51.8                                | 547.0          | 48.8                        | 45.9             | 42.9                |
| 10                   | 25.0                        | 6.5                  | 50.3                                | 545.0          | 47.3                        | 44.0             | 41.0                |
| 16                   | 25.0                        | 8.2                  | 47.2                                | 543.0          | 44.2                        | 39.9             | 36.9                |
| 20                   | 25.0                        | 9.3                  | 45.8                                | 542.0          | 42.8                        | 38.0             | 35.0                |
| 25                   | 24.3                        | 10.4                 | 44.3                                | 541.0          | 41.3                        | 36.0             | 33.0                |
| 31.25                | 23.6                        | 11.7                 | 42.9                                | 540.0          | 39.9                        | 34.1             | 31.1                |
| 62.5                 | 21.5                        | 17.0                 | 38.4                                | 539.0          | 35.4                        | 28.1             | 25.1                |
| 100                  | 20.1                        | 22.0                 | 35.3                                | 538.0          | 32.3                        | 24.0             | 21.0                |



# CAT 5E F/UTP CABLE PVC

Category 5e shielded Twisted Pair F/UTP Installation cable.



## DESCRIPTION

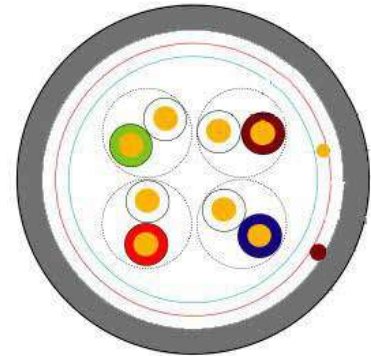
F/UTP Category 5 cables are capable of operating up to 100MHz. Produced according to ISO/IEC 11801 requirements, the F/UTP cable is the best option to support all Class E applications such as Ethernet, Fast Ethernet, Gigabit Ethernet. The Cat 5 F/UTP cables are applicable for basic voice and data installations up to 100 MHz.

Manufactured according to ISO / IEC 11801, EIA / TIA-568-C.2, EN-50173.



## TECHNICAL SPECIFICATIONS

|                         |                                  |              |
|-------------------------|----------------------------------|--------------|
| Conductor               | Bare copper                      | 0.50±0.01 mm |
| Insulation              | HDPE                             | 0.90±0.05 mm |
| Identification of pairs |                                  |              |
| 1 pair                  | Blue - White / Blue              |              |
| 2 pair                  | Orange - White / Orange          |              |
| 3 pair                  | Green - White / Green            |              |
| 4 pair                  | Brown - White / Brown            |              |
| Shield                  | PET FOIL + AL Foil               |              |
| Ripcord                 | Yes                              |              |
| Sheath                  | PVC                              |              |
| Color                   | Gray (other option is available) |              |
| Bending radius          | ≥ 8 x Diameter (mm) Installation |              |
| Storage temperature     | -15 °C—+70 °C                    |              |



## ELECTRICAL CHARACTERISTICS

| No. of Pairs.xΦ (mm) | Conductor Resistance (Ω/km) | Resistance Unbalance | Cap. Between cond. Pair (nF / 100m) |                | Velocity of Propagation (%) | Impedance (Ω)    | ΦExt. (Appvox) (mm) |
|----------------------|-----------------------------|----------------------|-------------------------------------|----------------|-----------------------------|------------------|---------------------|
| 4x2x0.51             | Max.91.5                    | Max.2%               | 5.6                                 |                | 67                          | 100±15           | 5.0±0.2             |
| Frequency (MHz)      | RL ≥dB                      | ATT ≤dB/100m         | NEXT ≥dB                            | DELAY ≤ns/100m | PS NEXT ≥dB                 | EL FEXT ≥dB/100m | PS EL FEXT ≥dB/100m |
| 1                    | 20.0                        | 2.0                  | 65.3                                | 570.00         | 62.3                        | 63.8             | 60.8                |
| 4                    | 23.0                        | 4.1                  | 56.3                                | 552.00         | 53.3                        | 51.8             | 48.8                |
| 8                    | 24.5                        | 5.8                  | 51.8                                | 546.73         | 48.8                        | 45.7             | 42.7                |
| 10                   | 25.0                        | 6.5                  | 50.3                                | 545.38         | 47.3                        | 43.8             | 40.8                |
| 16                   | 25.0                        | 8.2                  | 47.2                                | 543.00         | 44.4                        | 39.7             | 36.7                |
| 20                   | 25.0                        | 9.3                  | 45.8                                | 542.05         | 42.8                        | 37.8             | 34.8                |
| 25                   | 24.3                        | 10.4                 | 44.3                                | 541.20         | 41.3                        | 35.8             | 32.8                |
| 31.25                | 23.6                        | 11.7                 | 42.9                                | 540.44         | 39.9                        | 33.9             | 30.9                |
| 62.5                 | 21.5                        | 17.0                 | 38.4                                | 538.55         | 35.4                        | 27.9             | 24.9                |
| 100                  | 20.1                        | 22.0                 | 35.3                                | 537.60         | 32.3                        | 23.8             | 20.8                |



# CAT6 F/UTP CABLE LSZH

Category 6 shielded Twisted Pair F/UTP Installation cable.



## DESCRIPTION

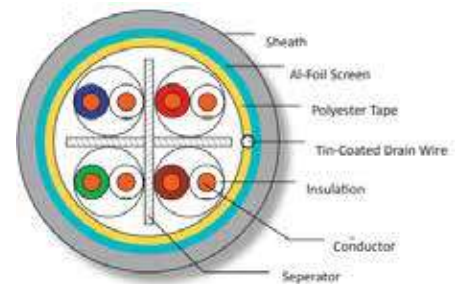
F/UTP Category 6 cables are capable of operating up to 250MHz. Produced according to ISO/IEC 11801 requirements, the F/UTP cable is the best option to support all Class E applications such as Ethernet, Fast Ethernet, Gigabit Ethernet. The Cat 6 F/UTP cables are applicable for basic voice and data installations up to 250 MHz.

Manufactured according to ISO / IEC 11801, EIA / TIA-568-C.2, EN-50173



## TECHNICAL SPECIFICATIONS

|                         |   |              |
|-------------------------|---|--------------|
| Conductor               | Bare copper                               | 0.56±0.01 mm |
| Insulation              | HDPE                                      | 1.09±0.05 mm |
| Identification of pairs |   |              |
| 1 pair                  | Blue - White / Blue                       |              |
| 2 pair                  | Orange - White / Orange                   |              |
| 3 pair                  | Green - White / Green                     |              |
| 4 pair                  | Brown - White / Brown                     |              |
| Screen Material         | Polyester Tape / Aluminum Foil / TC drain |              |
| Filler                  | Yes                                       |              |
| Ripcord                 | Yes                                       |              |
| Sheath                  | PVC                                       |              |
| Color                   | Gray (other option is available)          |              |
| Bending radius          | ≥ 8 x Diameter (mm) Installation          |              |
| Storage temperature     | -15 ℃—+70 ℃                               |              |



## ELECTRICAL CHARACTERISTICS

| No. of Pairs.xΦ (mm) | Conductor Resistance (Ω/km) | Resistance Unbalance | Cap. Between cond. Pair (nF / 100m) |                | Velocity of Propagation (%) | Impedance (Ω)    | ΦExt. (Appvox) (mm) |
|----------------------|-----------------------------|----------------------|-------------------------------------|----------------|-----------------------------|------------------|---------------------|
| 4x2x0.51             | Max.91.5                    | Max.2%               | 5.6                                 |                | 67                          | 100±15           | 6.20±0.2            |
| Frequency (MHz)      | RL ≥dB                      | ATT ≤dB/100m         | NEXT ≥dB                            | DELAY ≤ns/100m | PS NEXT ≥dB                 | EL FEXT ≥dB/100m | PS EL FEXT ≥dB/100m |
| 1                    | 20.0                        | 2.03                 | 74.3                                | 570.00         | 72.3                        | 67.8             | 64.8                |
| 4                    | 23.0                        | 3.78                 | 65.3                                | 552.0          | 63.3                        | 55.8             | 52.8                |
| 8                    | 24.5                        | 5.32                 | 60.8                                | 546.73         | 58.8                        | 49.7             | 46.7                |
| 10                   | 25.0                        | 5.95                 | 59.3                                | 545.38         | 57.3                        | 47.8             | 44.8                |
| 16                   | 25.0                        | 7.55                 | 56.2                                | 543.00         | 54.2                        | 43.7             | 40.7                |
| 20                   | 25.0                        | 8.47                 | 54.8                                | 542.05         | 52.8                        | 41.8             | 38.8                |
| 25                   | 24.3                        | 9.51                 | 53.3                                | 541.20         | 41.3                        | 39.8             | 36.8                |
| 31.25                | 23.6                        | 10.67                | 51.9                                | 540.44         | 49.9                        | 37.9             | 34.9                |
| 62.5                 | 21.5                        | 15.38                | 47.7                                | 538.55         | 45.4                        | 31.9             | 28.9                |
| 100                  | 20.1                        | 19.80                | 44.3                                | 537.60         | 42.3                        | 27.8             | 24.8                |
| 200                  | 18.0                        | 28.98                | 39.8                                | 536.54         | 37.8                        | 21.8             | 18.8                |
| 250                  | 17.3                        | 32.85                | 38.3                                | 536.27         | 36.3                        | 19.8             | 16.8                |



# CAT6 U/UTP CABLE PVC

Category 6 Unshielded Twisted Pair U/UTP Installation cable.



## DESCRIPTION

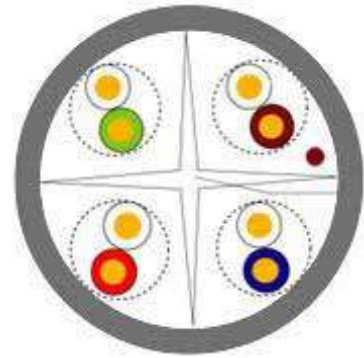
U/UTP Category 6 cables are capable of operating up to 250MHz. Produced according to ISO/IEC 11801 requirements, the U/UTP cable is the best option to support all Class E applications such as Ethernet, Fast Ethernet, Gigabit Ethernet. The Cat 6 U/UTP cables are applicable for basic voice and data installations up to 250 MHz.

Manufactured according to ISO / IEC 11801-2, ISO / IEC 64156-5, EIA / TIA 568B, EN 50173.



## TECHNICAL SPECIFICATIONS

|                         |                                  |              |
|-------------------------|----------------------------------|--------------|
| Conductor               | Bare copper                      | 0.56±0.01 mm |
| Insulation              | HDPE                             | 0.97±0.05 mm |
| Identification of pairs |                                  |              |
| 1 pair                  | Blue - White / Blue              |              |
| 2 pair                  | Orange - White / Orange          |              |
| 3 pair                  | Green - White / Green            |              |
| 4 pair                  | Brown - White / Brown            |              |
| Filler                  | Yes                              |              |
| Ripcord                 | Yes                              |              |
| Sheath                  | PVC                              |              |
| Color                   | Gray (other option is available) |              |
| Bending radius          | ≥ 8 x Diameter (mm) Installation |              |
| Storage temperature     | -15 C—+70 C                      |              |



## ELECTRICAL CHARACTERISTICS

| No. of Pairs.xΦ (mm) | Conductor Resistance (Ω/km) | Resistance Unbalance | Cap. Between cond. Pair (nF / 100m) |                | Velocity of Propagation (%) | Impedance (Ω)    | ΦExt. (Appvox) (mm) |
|----------------------|-----------------------------|----------------------|-------------------------------------|----------------|-----------------------------|------------------|---------------------|
| 4x2x0.56             | Max.75                      | Max.5%               | 56                                  |                | 69                          | 100±15           | 6.10±0.3            |
| Frequency (MHz)      | RL ≥dB                      | ATT ≤dB/100m         | NEXT ≥dB                            | DELAY ≤ns/100m | PS NEXT ≥dB                 | EL FEXT ≥dB/100m | PS EL FEXT ≥dB/100m |
| 1                    | 20.0                        | 2.03                 | 74.3                                | 570.00         | 72.3                        | 67.8             | 64.8                |
| 4                    | 23.0                        | 3.78                 | 65.3                                | 552.0          | 63.3                        | 55.8             | 52.8                |
| 8                    | 24.5                        | 5.32                 | 60.8                                | 546.73         | 58.8                        | 49.7             | 46.7                |
| 10                   | 25.0                        | 5.95                 | 59.3                                | 545.38         | 57.3                        | 47.8             | 44.8                |
| 16                   | 25.0                        | 7.55                 | 56.2                                | 543.00         | 54.2                        | 43.7             | 40.7                |
| 20                   | 25.0                        | 8.47                 | 54.8                                | 542.05         | 52.8                        | 41.8             | 38.8                |
| 25                   | 24.3                        | 9.51                 | 53.3                                | 541.20         | 41.3                        | 39.8             | 36.8                |
| 31.25                | 23.6                        | 10.67                | 51.9                                | 540.44         | 49.9                        | 37.9             | 34.9                |
| 62.5                 | 21.5                        | 15.38                | 47.7                                | 538.55         | 45.4                        | 31.9             | 28.9                |
| 100                  | 20.1                        | 19.80                | 44.3                                | 537.60         | 42.3                        | 27.8             | 24.8                |
| 200                  | 18.0                        | 28.98                | 39.8                                | 536.54         | 37.8                        | 21.8             | 18.8                |
| 250                  | 17.3                        | 32.85                | 38.3                                | 536.27         | 36.3                        | 19.8             | 16.9                |



# CAT6 U/UTP CABLE LSZH

Category 6 Unshielded Twisted Pair U/UTP Installation cable.



## DESCRIPTION

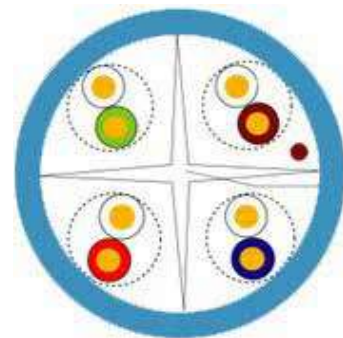
U/UTP Category 6 cables are capable of operating up to 250MHz. Produced according to ISO/IEC 11801 requirements, the U/UTP cable is the best option to support all Class E applications such as Ethernet, Fast Ethernet, Gigabit Ethernet. The Cat 6 U/UTP cables are applicable for basic voice and data installations up to 250 MHz.

Manufactured according to ISO / IEC 11801-2, ISO / IEC 64156-5, EIA / TIA 568B, EN 50173.



## TECHNICAL SPECIFICATIONS

|                         |                                  |              |
|-------------------------|----------------------------------|--------------|
| Conductor               | Bare copper                      | 0.56±0.01 mm |
| Insulation              | HDPE                             | 0.97±0.05 mm |
| Identification of pairs |                                  |              |
| 1 pair                  | Blue - White / Blue              |              |
| 2 pair                  | Orange - White / Orange          |              |
| 3 pair                  | Green - White / Green            |              |
| 4 pair                  | Brown - White / Brown            |              |
| Filler                  | Yes                              |              |
| Ripcord                 | Yes                              |              |
| Sheath                  | LSZH                             |              |
| Color                   | Blue (other option is available) |              |
| Bending radius          | ≥ 8 x Diameter (mm) Installation |              |
| Storage temperature     | -15 °C—+70 °C                    |              |



## ELECTRICAL CHARACTERISTICS

| No. of Pairs.xΦ (mm) | Conductor Resistance (Ω/km) | Resistance Unbalance | Cap. Between cond. Pair (nF / 100m) |                | Velocity of Propagation (%) | Impedance (Ω)    | ΦExt. (Appvox) (mm) |
|----------------------|-----------------------------|----------------------|-------------------------------------|----------------|-----------------------------|------------------|---------------------|
| 4x2x0.56             | Max.75                      | Max.5%               | 56                                  |                | 69                          | 100±15           | 6.10±0.3            |
| Frequency (MHz)      | RL ≥dB                      | ATT ≤dB/100m         | NEXT ≥dB                            | DELAY ≤ns/100m | PS NEXT ≥dB                 | EL FEXT ≥dB/100m | PS EL FEXT ≥dB/100m |
| 1                    | 20.0                        | 2.03                 | 74.3                                | 570.00         | 72.3                        | 67.8             | 64.8                |
| 4                    | 23.0                        | 3.78                 | 65.3                                | 552.0          | 63.3                        | 55.8             | 52.8                |
| 8                    | 24.5                        | 5.32                 | 60.8                                | 546.73         | 58.8                        | 49.7             | 46.7                |
| 10                   | 25.0                        | 5.95                 | 59.3                                | 545.38         | 57.3                        | 47.8             | 44.8                |
| 16                   | 25.0                        | 7.55                 | 56.2                                | 543.00         | 54.2                        | 43.7             | 40.7                |
| 20                   | 25.0                        | 8.47                 | 54.8                                | 542.05         | 52.8                        | 41.8             | 38.8                |
| 25                   | 24.3                        | 9.51                 | 53.3                                | 541.20         | 41.3                        | 39.8             | 36.8                |
| 31.25                | 23.6                        | 10.67                | 51.9                                | 540.44         | 49.9                        | 37.9             | 34.9                |
| 62.5                 | 21.5                        | 15.38                | 47.7                                | 538.55         | 45.4                        | 31.9             | 28.9                |
| 100                  | 20.1                        | 19.80                | 44.3                                | 537.60         | 42.3                        | 27.8             | 24.8                |
| 200                  | 18.0                        | 28.98                | 39.8                                | 536.54         | 37.8                        | 21.8             | 18.8                |
| 250                  | 17.3                        | 32.85                | 38.3                                | 536.27         | 36.3                        | 19.8             | 16.9                |



# CAT6A U/UTP CABLE LSZH

Category 6A Unshielded Twisted Pair U/UTP Installation cable.



## DESCRIPTION

Manufactured according to ISO / IEC 11801-2, ISO / IEC 64156-5, EIA / TIA 568-C.2, EN 50173.



## TECHNICAL SPECIFICATIONS

|                         |                                  |              |
|-------------------------|----------------------------------|--------------|
| Conductor               | Bare copper                      | 0.56±0.01 mm |
| Insulation              | HDPE                             | 1.03±0.05 mm |
| Identification of pairs |                                  |              |
| 1 pair                  | Blue - White / Blue              |              |
| 2 pair                  | Orange - White / Orange          |              |
| 3 pair                  | Green - White / Green            |              |
| 4 pair                  | Brown - White / Brown            |              |
| Filler                  | Yes                              |              |
| Ripcord                 | Yes                              |              |
| Sheath                  | LSZH                             |              |
| Color                   | Blue (other option is available) |              |
| Bending radius          | ≥ 8 x Diameter (mm) Installation |              |
| Storage temperature     | -15 °C—+70 °C                    |              |



## ELECTRICAL CHARACTERISTICS

| No. of Pairs.xΦ (mm) | Conductor Resistance (Ω/km) | Resistance Unbalance | Cap. Between cond. Pair (nF / 100m) |                | Velocity of Propagation (%) | Impedance (Ω)    | ΦExt. (Appvox) (mm) |
|----------------------|-----------------------------|----------------------|-------------------------------------|----------------|-----------------------------|------------------|---------------------|
| 4x2x0.56             | Max.75                      | Max.5%               | 56                                  |                | 69                          | 100±15           | 7.50±0.3            |
| Frequency (MHz)      | RL ≥dB                      | ATT ≤dB/100m         | NEXT ≥dB                            | DELAY ≤ns/100m | PS NEXT ≥dB                 | EL FEXT ≥dB/100m | PS EL FEXT ≥dB/100m |
| 1                    | 20.0                        | 2.1                  | 74.3                                | 570.00         | 72.3                        | 67.8             | 64.8                |
| 4                    | 23.0                        | 3.8                  | 65.3                                | 552.0          | 63.3                        | 55.8             | 52.8                |
| 8                    | 24.5                        | 5.3                  | 60.8                                | 546.7          | 58.8                        | 49.7             | 46.7                |
| 10                   | 25.0                        | 5.9                  | 59.3                                | 545.4          | 57.3                        | 47.8             | 44.8                |
| 16                   | 25.0                        | 7.5                  | 56.2                                | 543.00         | 54.2                        | 43.7             | 40.7                |
| 20                   | 25.0                        | 8.4                  | 54.8                                | 542.1          | 52.8                        | 41.8             | 38.8                |
| 25                   | 24.3                        | 9.4                  | 53.3                                | 541.2          | 41.3                        | 39.8             | 36.8                |
| 31.25                | 23.6                        | 10.5                 | 51.9                                | 540.4          | 49.9                        | 37.9             | 34.9                |
| 62.5                 | 21.5                        | 15.0                 | 47.4                                | 538.6          | 45.4                        | 31.9             | 28.9                |
| 100                  | 20.1                        | 19.1                 | 44.3                                | 537.6          | 42.3                        | 27.8             | 24.8                |
| 200                  | 18.0                        | 27.6                 | 39.8                                | 536.5          | 37.8                        | 21.8             | 18.8                |
| 250                  | 17.3                        | 31.1                 | 38.3                                | 536.3          | 36.3                        | 19.8             | 16.8                |
| 300                  | 16.8                        | 34.3                 | 37.1                                | 536.1          | 35.1                        | 18.3             | 15.3                |
| 500                  | 15.2                        | 45.3                 | 33.8                                | 535.6          | 31.9                        | 13.8             | 10.8                |





# CAT7 S/FTP CABLE LSZH

Category 7 shielded Twisted Pair S/FTP Installation cable.



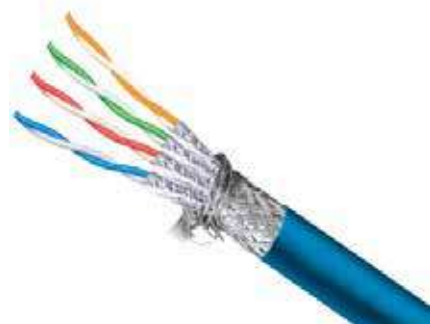
## DESCRIPTION

Manufactured according to ISO / IEC 11801-2, ISO / IEC 64156-5, EIA / TIA 568-C.2, EN 50173.



## TECHNICAL SPECIFICATIONS

|                         |                                  |              |
|-------------------------|----------------------------------|--------------|
| Conductor               | Bare copper                      | 0.58±0.01 mm |
| Insulation              | HDPE                             | 1.35±0.05 mm |
| Identification of pairs |                                  |              |
| 1 pair                  | Blue - White / Blue              |              |
| 2 pair                  | Orange - White / Orange          |              |
| 3 pair                  | Green - White / Green            |              |
| 4 pair                  | Brown - White / Brown            |              |
| Inner screening         | Aluminum foil                    |              |
| Outer screening         | Tinned copper braid ≥40%         |              |
| Ripcord                 | Yes                              |              |
| Sheath                  | LSOH                             |              |
| Color                   | Blue (other option is available) |              |
| Bending radius          | ≥ 8 x Diameter (mm) Installation |              |
| Storage temperature     | -15 ℃—+70 ℃                      |              |



Lorem ipsum

## ELECTRICAL CHARACTERISTICS

| No. of Pairs.xΦ (mm) | Conductor Resistance (Ω/km) | Resistance Unbalance | Cap. Between cond. Pair (nF / 100m) |                | Velocity of Propagation (%) | Impedance (Ω)    | ΦExt. (Appvox) (mm) |
|----------------------|-----------------------------|----------------------|-------------------------------------|----------------|-----------------------------|------------------|---------------------|
| 4x2x0.58             | Max.71                      | Max.147              | 40                                  |                | 74                          | 100±15           | 7.50±0.3            |
| Frequency (MHz)      | RL ≥dB                      | ATT ≤dB/100m         | NEXT ≥dB                            | DELAY ≤ns/100m | PS NEXT ≥dB                 | EL FEXT ≥dB/100m | PS EL FEXT ≥dB/100m |
| 1                    | 20.0                        | 2.0                  | 78.0                                | 570.0          | 75.0                        | 78.0             | 75.0                |
| 4                    | 23.0                        | 3.74                 | 78.0                                | 552.0          | 75.0                        | 78.0             | 75.0                |
| 8                    | 24.5                        | 5.24                 | 78.0                                | 546.7          | 75.0                        | 75.9             | 72.9                |
| 10                   | 25.0                        | 5.86                 | 78.0                                | 545.4          | 75.0                        | 74.0             | 71.0                |
| 16                   | 25.0                        | 7.41                 | 78.0                                | 543.00         | 75.0                        | 69.9             | 66.9                |
| 20                   | 25.0                        | 8.29                 | 78.0                                | 542.0          | 75.0                        | 68.0             | 65.0                |
| 25                   | 24.3                        | 9.29                 | 78.0                                | 541.2          | 75.0                        | 66.0             | 63.0                |
| 31.25                | 23.6                        | 10.41                | 78.0                                | 540.4          | 75.0                        | 64.1             | 61.1                |
| 62.5                 | 21.5                        | 14.88                | 75.5                                | 538.6          | 72.5                        | 58.1             | 55.1                |
| 100                  | 20.1                        | 19.02                | 72.4                                | 537.6          | 69.4                        | 54.0             | 51.0                |
| 150                  | 18.9                        | 23.56                | 69.8                                | 536.9          | 66.8                        | 50.2             | 47.2                |
| 200                  | 18.0                        | 27.47                | 67.9                                | 536.5          | 64.9                        | 48.0             | 45.0                |
| 250                  | 17.3                        | 30.97                | 66.4                                | 536.3          | 63.4                        | 46.0             | 43.0                |
| 300                  | 17.3                        | 34.19                | 65.2                                | 536.1          | 62.2                        | 44.5             | 41.5                |
| 600                  | 17.3                        | 50.10                | 60.7                                | 535.5          | 57.7                        | 38.4             | 35.4                |

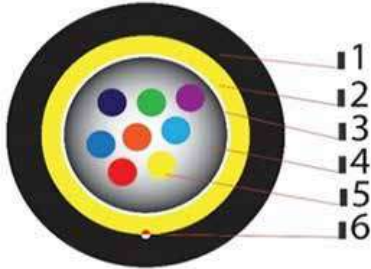




# U-DQ(BN)H



## INDOOR LOOSE TUBE 2 TO 12 FIBERS



1. Outer Sheath (HFFR)
2. Glass Yarn (Aramid as Option)
3. Central Loose Tube
4. Filling Material (Thixotropic Jelly)
5. Optical Fibers
6. Rip Cords

### DESCRIPTION

U-DQ(BN)H type Loose Tube fiber optic cables are engineered to meet and to exceed the (IEC 60794) requirements and used for General purpose Indoor / Outdoor fiber optic cabling, Networking & Lan Cabling FTTH / FTTx applications, trunk cabling voice or data transmission requirements.

### STANDARDS

IEC 60754-1, IEC 61034-1&2, IEC 60332-1, IEC 60794-1&2

### FEATURES

- Non-metallic Armoring
- Low Smoke Zero Halogen
- Loose Tube
- Jelly Filled Tube construction
- 4-12 Core
- Anti Rodent
- UV Resistant
- EU CPR certification Class C & Class D available

### SPECIFICATION

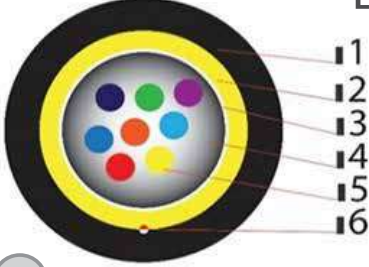
| Fiber Count               | 2                                   | 4        | 6        | 8        | 12         |
|---------------------------|-------------------------------------|----------|----------|----------|------------|
| Loose Tube Diameter       | 2.8 mm                              |          |          |          |            |
| Loose Tube Cladding       | PBT                                 |          |          |          |            |
| Strength Member           | Water Blocking Glass Yarn           |          |          |          |            |
| Outer Jacket              | LSZH                                |          |          |          |            |
| Weight (kg/km)            | 46                                  |          |          |          |            |
| Outer Diameter(mm)        | 6,0                                 |          |          |          |            |
| Tensile Strength (lt/st)N | 800/1200                            |          |          |          |            |
| IEC-60794-1-E1            |                                     |          |          |          |            |
| Optical Characteristic    | MM/OM1                              | MM/OM2   | MM/OM3   | MM/OM4   | SM G 652D1 |
| Bandwith (nm)             | 850/1300                            | 850/1300 | 850/1300 | 850/1300 | 1310/1550  |
| Attenuation (db/km)       | 3.2/1.2                             | 3.0/1.0  | 2.8/1.8  | 2.7/0.7  | 0.35/0.22  |
| Crush Strength (N)        | 1500 (IEC 60794-1-2 E3)             |          |          |          |            |
| Working Temperature       | -30 °C to +70 °C (IEC 60794-1-2 F1) |          |          |          |            |
| Bending Radius            | 20 x Outer Ø (IEC 60794-1-2 E11)    |          |          |          |            |

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.



# A-DQ(BN)2Y

## PE JACKET-NON-METALLIC ARMORED LOOSE TUBE 2 TO 12 FIBERS



1. Outer Sheath (PE )
2. Glass Yarn (Aramid as Option)
3. Central Loose Tube
4. Filling Material (Thixotropic Jelly)
5. Optical Fibers
6. Rip Cords



### APPLICATION

- Inter Building and Intrabuilding Voice or Data Communication Networks
- General Purpose
- Installed in Ducts & Conduits
- Secondary Distribution
- LAN
- FTTB Cabling,
- Campus Cabling
- Indoor and Outdoor (Universal Use)
- Telecommunication Data Trunk Systems
- Interconnection of Distribution Boxes, Distribution Frames and the Panels at Customer Side



### FEATURES

- Compact
- Waterproof
- Non-Metallic Armored
- Jelly Filled Tube
- UV- Resistant
- All Dielectric
- Light Weight
- Enforcement with Non-Metallic Strength Members
- Rodent Resistant



### SPECIFICATION

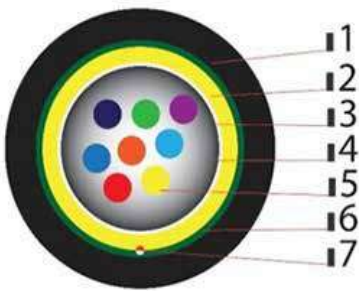
| Fiber Count               | 2                                   | 4        | 6        | 8        | 12         |
|---------------------------|-------------------------------------|----------|----------|----------|------------|
| Loose Tube Diameter       | 2.8 mm                              |          |          |          |            |
| Loose Tube Cladding       | PBT                                 |          |          |          |            |
| Strength Member           | Water Blocking Glass Yarn           |          |          |          |            |
| Outer Jacket              | LSZH                                |          |          |          |            |
| Weight (kg/km)            | 42                                  |          |          |          |            |
| Outer Diameter(mm)        | 6,2                                 |          |          |          |            |
| Tensile Strength (lt/st)N | 800/1200N                           |          |          |          |            |
| IEC-60794-1-E1            |                                     |          |          |          |            |
| Optical Characteristic    | MM/OM1                              | MM/OM2   | MM/OM3   | MM/OM4   | SM G 652D1 |
| Bandwith (nm)             | 850/1300                            | 850/1300 | 850/1300 | 850/1300 | 1310/1550  |
| Attenuation (db/km)       | 3.2/1.2                             | 3.0/1.0  | 2.8/1.8  | 2.7/0.7  | 0.35/0.22  |
| Crush Strength (N)        | 1500 (IEC 60794-1-2 E3)             |          |          |          |            |
| Working Temperature       | -30 °C to +70 °C (IEC 60794-1-2 F1) |          |          |          |            |
| Bending Radius            | 20 x Outer Ø (IEC 60794-1-2 E11)    |          |          |          |            |

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.



# A-DQ(BN)(SR)2Y

## OUTDOOR-PE JACKETED-LOOSE TUBE CABLE 2 TO 12 FIBERS



1. Outer Sheath PE (LSZH as option)
2. Glass Yarn (Aramid as option)
3. Central Loose Tube
4. Filling Material (Thixotropic Jelly)
5. Optical Fibers
6. Corrugated Steel Tape Armor
7. Rip Cord



### DESCRIPTION

A-DQ(BN)(SR)2Y/H type Loose Tube fiber optic cables are engineered to meet and to exceed the (IEC 60794-1&2) requirements and used for Heavy Duty Condition Indoor / Outdoor fiber optic cabling, Direct Burial requirements, Networking & Lan Cabling, FTTx applications, trunk cabling voice or data transmission requirements.



### STANDARDS

IEC 60754-1, IEC 61034-1&2, IEC 60794-1&2



### SPECIFICATION

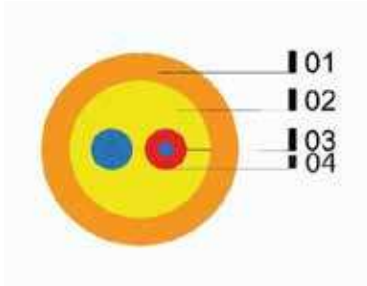
| Fiber Count                                | 2  | 4        | 6        | 8        | 12         |              |
|--|--|----------|----------|----------|------------|--------------|
| Loose Tube Diameter^                       | 2.8 mm   |          |          |          |            |              |
| Loose Tube Cladding                        | PBT  |          |          |          |            |              |
| Strength Member                            | Water Blocking Glass Yarn (Aramid yarn Optional) |          |          |          |            |              |
| Outer Jacket                               | HDPE (LSZH Optional)                             |          |          |          |            |              |
| Armor                                      | Corrugated Steel Tape                            |          |          |          |            |              |
| Weight (kg/km)                             | 62   |          |          |          |            |              |
| Outer Diameter(mm)                         | 7,5  |          |          |          |            |              |
| Tensile Strength (lt/st)N IEC – 60794-1-E1 | 1200/1600  |          |          |          |            |              |
| Optical Characteristic                     | MM/OM1   | MM/OM2   | MM/OM3   | MM/OM4   | SM G 652D1 | SM G657A1/A2 |
| Bandwith (nm)                              | 850/1300   | 850/1300 | 850/1300 | 850/1300 | 1310/1550  | 1310/1550    |
| Attenuation (db/km)                        | 3.2/1.2  | 3.0/1.0  | 2.8/1.8  | 2.7/0.7  | 0.35/0.22  | 0.35/0.22    |
| Crush Strength (N)                         | 2000 (IEC 60794-1-2 E3)                          |          |          |          |            |              |
| Working Temperature                        | -30 °C to +70 °C (IEC 60794-1-2 F1)              |          |          |          |            |              |
| Bending Radius                             | 20 x Outer Ø (IEC 60794-1-2 E11)                 |          |          |          |            |              |

Standard Cable Jacket Color, Cable Marking, Packing Lenght info is available at our website.



# I-V(ZN)H

## INDOOR DROP CABLE 1 TO 4 FIBERS



1. 250 micron Fiber
2. 900micron Tight Buffer
3. Aramid Yarn
4. LSZH Sheath



### DESCRIPTION

I-V(ZN)H type tight buffered fiber optic cables are engineered to meet and to exceed the (IEC 60794) requirements and used for Drop Cabling for FTTH / FTTx applications, direct connection to terminal equipments, riser cabling, voice or data transmission requirements.



### STANDARDS

DIN VDE 0888 Part 6; IEC 61034; IEC 60332-2; IEC 60754-2; IEC 60794-1&2



### FEATURES

- Easy to Strip
- Direct Termination
- Enforced with Non-Metallic Strength Members
- Complete Dry Design
- All Dielectric
- Halogen Free Fire Retardant / Low Smoke Zero
- Halogen
- Flexible
- Small Diameter
- Light Weight



### SPECIFICATION

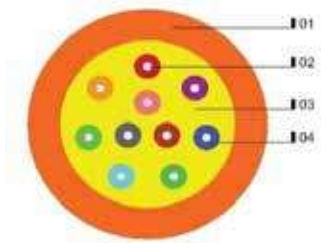
| Fiber Count                  | 1   | 2             | 4              |
|------------------------------|---|---------------|----------------|
| Strength Member              | Aramid Yarns  |               |                |
| Tight Jacket                 | HFFR  |               |                |
| Outer Jacket                 | HFFR  |               |                |
| Tight Buffer Jacketø (μ)     | 900±50  |               |                |
| Optical Characteristic       | 9/125 G.652-D   | 9/125 G.657A1 | 9/125 G.657A.2 |
| Bandwith (nm)                | 1310/1550   | 1310/1550     | 1310/1550      |
| Attenuation (max dB/km)      | 0.35/0.25   | 0.35/0.22     | 0.35/0.22      |
| Weight (Kg/km)               | 4.4   | 9.5           | 13.5           |
| Outer ø(mm)                  | 2.40  | 3.00          | 3.5            |
| Tensile Load Perm / Inst (N) | 150/300   | 200/400       | 300/600        |
| Crush Strength (N/10cm)      | 200 (IEC 60794-1-2 E3)                                |               |                |
| Temperature Range            | -10 °C to +60 °C (IEC 60794-1-2 F1)                   |               |                |
| Min. Bending Radius          | 20 x Outer Ø (IEC 60794-1-2 E11) (10x Outer for G657) |               |                |

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.



# I-V(ZN)H MINI

## MINI BREAKOUT CABLE WITH ARAMID YARN STRENGTH MEMBER



1. Outer Sheath
  2. Optical Fiber
  3. Aramid Yarn
  4. 900 micron Tight Buffer
- \* Rip Cord on both side will be applied



### DESCRIPTION

I-V(ZN)H Mini fiber optic cables are engineered to meet and to exceed the (IEC 60794) requirements and used for General purpose Indoor fiber optic cabling, Networking & Lan Cabling, FTTH / FTTx applications, Interconnection of Distribution Boxes, Distribution Frames and Customer Equipment and between the floors.

### STANDARDS

DIN VDE 0888 Part 6; IEC 61034; IEC 60332-2; IEC 60754-2; IEC 60794-1&2

### FEATURES

- Easy to Strip
- Direct Termination
- Enforced with Non-Metallic Strength Members
- Complete Dry Design
- All Dielectric
- Halogen Free Fire Retardant Low Smoke Zero Halogen
- Flexible
- Low Installation Cost
- Non Metallic Design
- All Dielectric
- Halogen Free Fire Retardant Low Smoke Zero Halogen
- Flexible
- Low Installation Cost
- Non Metallic Design

### SPECIFICATION

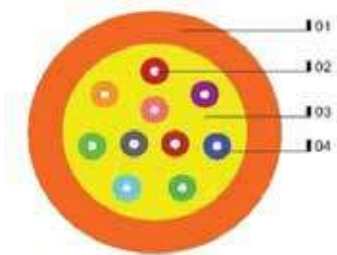
| Fiber Count                  | 2   | 4       | 6          | 8          | 12         | 16            | 24           |
|------------------------------|---|---------|------------|------------|------------|---------------|--------------|
| Strength Member              | Aramid Yarns  |         |            |            |            |               |              |
| Tight Bufferø (μ)            | 900±50  |         |            |            |            |               |              |
| Tight Buffer Jacket          | LSZH  |         |            |            |            |               |              |
| Identification               | Color Coded up to 12 and Black Ring Coded 12-24Fibers |         |            |            |            |               |              |
| Outer Jacket                 | LSZH  |         |            |            |            |               |              |
| Weight (kg/Km)               | 26  | 31      | 42         | 48         | 54         | 67            | 85           |
| Outer ø(mm)                  | 4.5   | 5.5     | 6.0        | 6.8        | 7.2        | 8.0           | 8.6          |
| Tensile Load Perm / Inst (N) | 400/600   | 400/600 | 600/1000   | 600/1000   | 800/1200   | 800/1200      | 1000/1600    |
| Optical Characteristic       | 62,5/125 OM1  |         | 50/125 OM2 | 50/125 OM3 | 50/125 OM4 | 9/125 G.652-D | 9/125 G.657A |
| Bandwith (nm)                | 850/1300  |         | 850/1300   | 850/1300   | 850/1300   | 1310/1550     | 1310/1550    |
| Attenuation (max dB/km)      | 3.2/1.2   |         | 3.0/1.0    | 2.8/0.8    | 2.7/0.7    | 0.35/0.22     | 0.35/0.22    |
| Weight (Kg/km)               | 4.4   |         |            | 9.5        |            | 13,5          |              |
| Crush Strength (N/10cm)      | 1000 (IEC 60794-1-2 E3)                               |         |            |            |            |               |              |
| Temperature Range            | -20 °C to +60 °C (IEC 60794-1-2 F1)                   |         |            |            |            |               |              |
| Min. Bending Radius          | 20 x Outer Ø (IEC 60794-1-2 E11)                      |         |            |            |            |               |              |

Standard Cable Jacket Color, Cable Marking, Packing Lenght info is available at our website.



# I-V(BN)H MINI

## MINI BREAKOUT CABLE WITH GLASS YARN STRENGTH MEMBER



1. Outer Sheath
  2. Optical Fiber
  3. Glass Yarn
  4. 900 micron Tight Buffer
- \* Rip Cord on both side will be applied



### DESCRIPTION

I-V(BN)H mini fiber optic cables are engineered to meet and to exceed the (IEC 60794) requirements and used for General purpose Indoor fiber optic cabling, Networking & Lan Cabling, FTTH / FTTx applications, Interconnection of Distribution Boxes, Distribution Frames and Customer Equipment and between the floors.

### STANDARDS

DIN VDE 0888 Part 6; IEC 61034; IEC 60332-2; IEC 60754-2; IEC 60794-1&2

### FEATURES

- Easy to Strip
- Direct Termination
- Enforced with Non-Metallic Strength Members
- Complete Dry Design
- All Dielectric
- Halogen Free Fire Retardant Low Smoke Zero Halogen
- Flexible
- Low Installation Cost
- Non Metallic Design

### SPECIFICATION

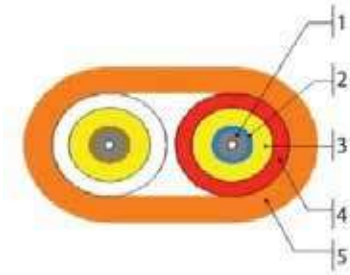
| Fiber Count                  | 2   | 4       | 6          | 8          | 12         | 16            | 24           |
|------------------------------|---|---------|------------|------------|------------|---------------|--------------|
| Strength Member              | Glass Yarns   |         |            |            |            |               |              |
| Tight Bufferø (μ)            | 900±50  |         |            |            |            |               |              |
| Tight Buffer Jacket          | LSZH  |         |            |            |            |               |              |
| Identification               | Color Coded up to 12 and Black Ring Coded 12-24Fibers |         |            |            |            |               |              |
| Outer Jacket                 | LSZH  |         |            |            |            |               |              |
| Weight (kg/Km)               | 26  | 31      | 42         | 48         | 54         | 67            | 85           |
| Outer ø(mm)                  | 4.5   | 5.5     | 6.0        | 6.8        | 7.2        | 8.0           | 8.6          |
| Tensile Load Perm / Inst (N) | 400/600   | 400/600 | 600/1000   | 600/1000   | 800/1200   | 800/1200      | 1000/1600    |
| Optical Characteristic       | 62,5/125 OM1  |         | 50/125 OM2 | 50/125 OM3 | 50/125 OM4 | 9/125 G.652-D | 9/125 G.657A |
| Bandwith (nm)                | 850/1300  |         | 850/1300   | 850/1300   | 850/1300   | 1310/1550     | 1310/1550    |
| Attenuation (max dB/km)      | 3.2/1.2   |         | 3.0/1.0    | 2.8/0.8    | 2.7/0.7    | 0.35/0.22     | 0.35/0.22    |
| Weight (Kg/km)               | 4.4   |         |            | 9.5        |            | 13,5          |              |
| Crush Strength (N/10cm)      | 1000 (IEC 60794-1-2 E3)                               |         |            |            |            |               |              |
| Temperature Range            | -20 °C to +60 °C (IEC 60794-1-2 F1)                   |         |            |            |            |               |              |
| Min. Bending Radius          | 20 x Outer Ø (IEC 60794-1-2 E11)                      |         |            |            |            |               |              |

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.



# I-V(ZN)HH 2x1

## FLAT DUBLEX



1. Optical Fiber
2. 900 mic Tight Buffer
3. Aramid Yarn
4. Sub-Unit (Simplex)
5. Outer Sheath



### DESCRIPTION

I-V(ZN)HH 2x1 - BREAKOUT CABLE fiber optic cables are engineered to meet and to exceed the (IEC 60794) requirements and used for patch & break-out connections, LAN applications, FAN OUT and FTTH cabling applications.



### STANDARDS

DIN VDE 0888 Part 6; IEC 61034; IEC 60332-1&2; IEC 60754-2; IEC 60794-1&2



### FEATURES

- Easy to Strip
- Direct Termination
- Enforced with Non-Metallic Strength Members
- Complete Dry Design
- All Dielectric
- Halogen Free Fire Retardant Low Smoke Zero Halogen
- Flexible



### SPECIFICATION

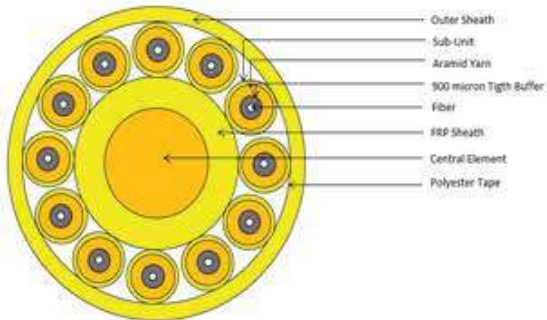
|                              |   |            |            |            |               |              |
|------------------------------|---|------------|------------|------------|---------------|--------------|
| Fiber Count                  | 2   |            |            |            |               |              |
| Strength Member              | Aramid Yarns  |            |            |            |               |              |
| Subcable Jacket              | LSZH  |            |            |            |               |              |
| Outer Jacket                 | LSZH  |            |            |            |               |              |
| Subcables Ø (mm)             | 2.0   |            |            | 2.8        |               |              |
| Weight (kg/Km)               | 24  |            |            | 32         |               |              |
| Outer Ø (mm)                 | 3.0x6.0   |            |            | 3.8x5.6    |               |              |
| Tensile Load Perm / Inst (N) | 300/500   |            |            | 400/700    |               |              |
| Optical Characteristic       | 62,5/125 OM1  | 50/125 OM2 | 50/125 OM3 | 50/125 OM4 | 9/125 G.652-D | 9/125 G.657A |
| Bandwidth (nm)               | 850/1300  | 850/1300   | 850/1300   | 850/1300   | 1310/1550     | 1310/1550    |
| Attenuation (max dB/km)      | 3.2/1.2   | 3.0/1.0    | 2.8/0.8    | 2.7/0.7    | 0.35/0.22     | 0.35/0.22    |
| Crush Strength (N/10cm)      | 600 (IEC 60794-1-2 E3)                                |            |            |            |               |              |
| Temperature Range            | -20 °C to +60 °C (IEC 60794-1-2 F1)                   |            |            |            |               |              |
| Min. Bending Radius          | 20 x Outer Ø (IEC 60794-1-2 E11) (10x Outer for G657) |            |            |            |               |              |

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.



# I-V(ZN)HH

## Breakout - Tight Buffer - 2.0mm - Simplex SZ Stranded - HFFR Jacket



### DESCRIPTION

I-V(ZN)HH - Breakout Cable fiber optic cables are engineered to meet and to exceed the (IEC 60794) requirements, to be installed into ducts and conduits and used for FTTx cabling, Vertical Riser and General Horizontal Applications, Inter Building and Intrabuilding Voice or Data Communication Networks and Breakout Design Permitting Routing to Different Locations and Direct Termination of the Fibers in the Field. The individual 2.0 mm-breakout elements consist of 900µm tight buffers surrounded by aramid yarn.



### STANDARDS

DIN VDE 0888 Part 6; IEC 61034; IEC 60332-1&2; IEC 60754-2; IEC 60794-1&2





# I-V(ZN)HH



## FEATURES

- Easy to Strip
- Direct Termination
- Reduced Diameter
- Complete Dry Design
- All Dielectric
- Halogen Free Fire Retardant
- Flexible
- Rodent Resistant and Termit Protection can be applied.
- Enforcement with Non-Metallic Strength Members
- Non Metallic Design
- Low Cast



## SPECIFICATION

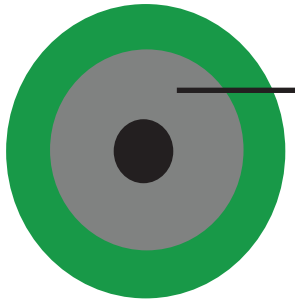
| Fiber Count  | 2   | 4        | 6          | 8          | 12         | 16            | 24           |
|--|---|----------|------------|------------|------------|---------------|--------------|
| Strength members   | Aramid Yarn   |          |            |            |            |               |              |
| Subcables Ø (mm)   | 2.0 mm  |          |            |            |            |               |              |
| Subcables jacket   | LSZH  |          |            |            |            |               |              |
| Identification   | Number Coded (Color Code Option is available upon request.  |          |            |            |            |               |              |
| Outer jacket   | LSZH  |          |            |            |            |               |              |
| Weight (Kg/Km)   | 45  | 52       | 70         | 90         | 115        | 125           | 140          |
| Outer Ø (mm)   | 6.6   | 6.8      | 9.0        | 10.5       | 11.5       | 13.0          | 14.0         |
| Tensile Load Perm / Inst (N)                                     | 600/1000  | 800/1350 | 1200/2050  | 1600/2700  | 2400/3500  | 3200/3500     | 3500/4500    |
| Optical Charactestic<br>Bandwith (nm)<br>Attenuation (max dB/km) | 62,5/125 OM1  |          | 50/125 OM2 | 50/125 OM3 | 50/125 OM4 | 9/125 G.652-D | 9/125 G.657A |
|  | 850/1300  |          | 850/1300   | 850/1300   | 850/1300   | 1310/1550     | 1310/1550    |
|  | 3.2/1.2   |          | 3.0/1.0    | 2.8/0.8    | 2.7/0.7    | 0.35/0.22     | 0.35/0.22    |
| Crush (N)  |   |          |            |            |            |               |              |
| Temperature Range  | 2000 (IEC 60794-1-2 E3)                                     |          |            |            |            |               |              |
| Min. Bending Radius  | -20 °C to +60 °C (IEC 60794-1-2 F1)                         |          |            |            |            |               |              |
|  | 20 x Outer Ø (IEC 60794-1-2 E11) (10 Outer Sheath for G657) |          |            |            |            |               |              |

Standard Cable Jacket Color, Cable Marking, Packing Lenght info is available at our website.



## J-VH PIGTAIL

### Breakout - Tight Buffer - 2.0mm - Simplex SZ Stranded - HFFR Jacket



- 01 1. 900 micron HFFR Sheat
- 02 2. 250 mic. Optical Fiber Coating and Color
- 03 3. 9/50/62,5 micron Optical Fiber Core



#### DESCRIPTION

J-H type (pigtail) fiber optic cables are used for pigtail & Jumper connections, indoor interconnect and patch applications.



#### STANDARDS

DIN VDE 0888 Part 2; IEC 61034; IEC 60332-1; IEC 60754-2



#### FEATURES

- Easy to Strip
- Easy and Direct Termination
- Low Installation Cost
- Dry Design
- All Dielectric
- LSZH Jacket



#### SPECIFICATION

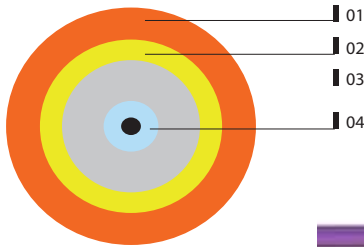
|                           |   |
|---------------------------|---|
| Fibers                    | 1   |
| Outer Jacket              | LSZH  |
| Colour                    | Orange (OM1) / Blue (OM2) / Aqua (OM3) / Violet (OM4) / Yellow (SM) |
| Weight (kg/km)            | 0,9   |
| Outer Ø (mm)              | 900 ±50   |
| Tensile Load Perm/Inst(N) | 10  |
| Max. Length (m)           | 8000  |
| Temperature Range         | -10 °C to +60 °C (IEC 60794-1-2 F1)                                 |
| Min. Bending Radius       | 20 x Outer Ø (IEC 60794-1-2 E11)                                    |

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.



# J-V(ZN)H 1x1

## Simplex Zipcord Patch Cable



1. HFFR Sheath
2. Aramid Yarn
3. 900 micron Tight Buffer
4. Optical Fiber



### DESCRIPTION

J-V(ZN)H 1x1 Simplex Zipcord Patch fiber optic cables are used for pigtail and jumper connections, patching applications, direct connection to terminal equipments, Drop & FTTx cabling, ODF cabling.



### STANDARDS

DIN VDE 0888 Part 4; IEC 61034; IEC 60332-1&2; IEC 60754-2; IEC 60794-1&2



### FEATURES

- Easy to Strip
- Direct Termination
- Small Diameter
- Complete Dry Design
- All Dielectric
- Halogen Free Fire Retardant / Low Smoke Zero Halogen
- Flexible
- Enforced with Non-Metallic Strength Members



### SPECIFICATION

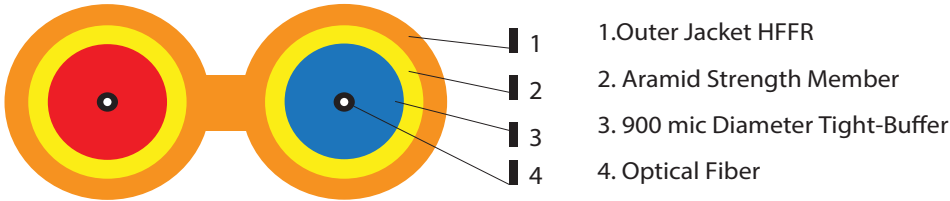
|                            |                                     |            |            |            |               |              |
|----------------------------|-------------------------------------|------------|------------|------------|---------------|--------------|
| Fiber Count                | 1                                   |            |            |            |               |              |
| Strength members           | Aramid Yarns                        |            |            |            |               |              |
| Tight jacket               | LSZH                                |            |            |            |               |              |
| Outer jacket               | LSZH                                |            |            |            |               |              |
| Tight Buffer Jacket Ø (µ)  | 650±50                              |            |            | 900±50     |               |              |
| Optical Characteristic     | 62,5/125 OM1                        | 50/125 OM2 | 50/125 OM3 | 50/125 OM4 | 9/125 G.652-D | 9/125 G.657A |
| Bandwith (nm)              | 850/1300                            | 850/1300   | 850/1300   | 2.7/0.7    | 1310/1550     | 1310/1550    |
| Attenuation (max dB/km)    | 3.2/1.2                             | 3.0/1.0    | 2.8/0.8    | 2.8/0.8    | 0.35/0.22     | 0.35/0.22    |
| Weight (Kg/Km)             | 2,8                                 | 3,3        | 4,2        | 5,8        | 8,4           | 9,5          |
| Outer Ø (mm)               | 1,6                                 | 1,8        | 2          | 2,4        | 2,8           | 3            |
| Tensile Load Perm/Inst (N) | 60/110                              | 60/110     | 75/150     | 75/150     | 100/220       | 100/220      |
| Crush (N/10cm)             | 100 (IEC 60794-1-2 E3)              |            |            |            |               |              |
| Temperature Range          | -10 oC to +60 oC (IEC 60794-1-2 F1) |            |            |            |               |              |
| Min. Bending Radius        | 20 x Outer Ø (IEC 60794-1-2 E11)    |            |            |            |               |              |

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.



# J-V(ZN)H 2x1

## Dublex Zipcord Patch Cable



### DESCRIPTION

J-V(ZN)H 2x1 Dublex Zipcord Patch fiber optic cables are used for pigtail and jumper connections, patching applications, direct connection to terminal equipments, Drop & FTTx cabling, ODF cabling.



### STANDARDS

DIN VDE 0888 Part 4; IEC 61034; IEC 60332-1&2; IEC 60754-2; IEC 60794-1&2



### FEATURES

- Easy to Strip
- Direct Termination
- Small Diameter
- Complete Dry Design
- All Dielectric
- Halogen Free Fire Retardant / Low Smoke Zero Halogen
- Flexible
- Enforced with Non-Metallic Strength Members



# J-V(ZN)H 2x1

## Dublex Zipcord Patch Cable



### SPECIFICATION

|                              |  |            |            |            |               |              |
|------------------------------|--|------------|------------|------------|---------------|--------------|
| Fiber Count                  | 2  |            |            |            |               |              |
| Strength Member              | Aramid Yarn  |            |            |            |               |              |
| Subcable Jacket              | LSZH   |            |            |            |               |              |
| Outer Jacket                 | LSZH   |            |            |            |               |              |
| Tight Buffer Jacket Ø (µ)    | 650±50   |            |            | 900±50     |               |              |
| Weight (kg/Km)               | 5.5  | 6.5        | 8.4        | 11.5       | 16.0          | 19.0         |
| Outer Ø (mm)                 | 1.6x3.2  | 1.8x3.6    | 2.0x4.1    | 2.4x4.9    | 2.8x5.9       | 3.0x6.2      |
| Tensile Load Perm / Inst (N) | 100/200  | 100/200    | 150/300    | 150/300    | 200/400       | 200/400      |
| Optical Characteristic       | 62,5/125 OM1   | 50/125 OM2 | 50/125 OM3 | 50/125 OM4 | 9/125 G.652-D | 9/125 G.657A |
| Bandwith (nm)                | 850/1300   | 850/1300   | 850/1300   | 850/1300   | 1310/1550     | 1310/1550    |
| Attenuation (max dB/km)      | 3.2/1.2  | 3.0/1.0    | 2.8/0.8    | 2.7/0.7    | 0.35/0.22     | 0.35/0.22    |
| Crush Strength (N/10cm)      | 200 (IEC 60794-1-2 E3)                                 |            |            |            |               |              |
| Temperature Range            | -20 °C to +60 °C (IEC 60794-1-2 F1)                    |            |            |            |               |              |
| Min. Bending Radius          | 20 x Outer Ø (IEC 60794-1-2 E11) - 10 x Outer for G657 |            |            |            |               |              |

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.



## I-N(ZM)H w FRP (Drop)

### INDOOR DROP CABLE WITH FRP STRENGTH MEMBER



1. HFFR Outer Sheath
2. Optical Fiber
3. FRP Strength Member



### APPLICATION

- FFTA Applications
- Aerial (Lashed)
- Direct Connection to Terminal Equipments
- LAN
- Drop Cabling
- WAN
- VInterbuilding and Intrabuilding Voice or Data Communication Networks
- Indoor and Outdoor Interconnect and Patchcord Applications



# I-N(ZM)H w FRP (Drop)

## INDOOR DROP CABLE WITH FRP STRENGTH MEMBER



### FEATURES

- Easy to Strip
- Easy and Direct Termination
- Enforced with Non-Metallic Strength Members
- Complete Dry Design
- Small Diameter
- Low Cost
- Perfect Solution for Subscriber Cabling
- Halogen Free Fire Retardant / Low Smoke Zero Halogen

EN 50173-1, IEC 60754-2, IEC 60794-1&2, IEC 60793-1&2, IEC 60332-1 & 2



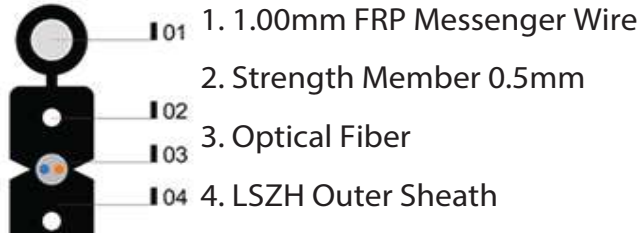
### SPECIFICATION

| Fiber                        | 1   | 2             | 4            |
|------------------------------|---|---------------|--------------|
| Strength members             | 0.5mm FRP Strength Member / Steel Strength Member is optional |               |              |
| Outer jacket                 | LSZH  |               |              |
| Jacket Ø (mm)                | 3.2x2.0   |               |              |
| Optical Characteristic       | 9/125 G.652-D   | 9/125 G.657A1 | 9/125 G.657A |
| Bandwith (nm)                | 1310/1550   | 1310/1550     | 1310/1550    |
| Attenuation (max dB/km )     | 0.35/0.25   | 0.34/0.24     | 0.34/0.22    |
| Weight (Kg/Km)               | 9   | 9             | 9            |
| Tensile Load Perm / Inst (N) | 100/200   | 100/200       | 100/200      |
| Crush (N/10cm)               | 200 (IEC 60794-1-2 E3)  |               |              |
| Temperature Range            | -10 °C to +60 °C (IEC 60794-1-2 F1)                           |               |              |
| Min. Bending Radius          | 15 x Outer Ø  | 10 x Outer Ø  |              |



## A-N(ZM)H-SH

### Aerial Indoor Drop Cable with Messenger Wire (FRP - Non-Metallic)



#### FEATURES

- Easy to Strip
- Easy and Direct Termination
- Enforced with Non-Metallic Strength Members
- Complete Dry Design
- Small Diameter
- Low Cost
- Perfect Solution for Subscriber Cabling
- Halogen Free Fire Retardant / Low Smoke Zero Halogen

EN 50173-1, IEC 60754-2, IEC 60794-1&2, IEC 60793-1&2, IEC 60332-1 & 2



#### SPECIFICATION

| Fiber                        | 1   | 2             | 4             |
|------------------------------|---|---------------|---------------|
| Strength members             | 0.5mm FRP Strength Member / Steel Strength Member is optional |               |               |
| Outer jacket                 | LSZH  |               |               |
| Jacket Ø (mm)                | 5.2x2.0   |               |               |
| Optical Characteristic       | 9/125 G.652-D   | 9/125 G.657A1 | 9/125 G.657A2 |
| Bandwidth (nm)               | 1310/1550   | 1310/1550     | 1310/1550     |
| Attenuation (max dB/km)      | 0.35/0.25   | 0.34/0.22     | 0.35/0.22     |
| Weight (Kg/Km)               | 21  | 21            | 21            |
| Tensile Load Perm / Inst (N) | 400/600   | 400/600       | 400/600       |
| Crush (N/10cm)               | 200 (IEC 60794-1-2 E3)  |               |               |
| Temperature Range            | -10 °C to +60 °C (IEC 60794-1-2 F1)                           |               |               |
| Min. Bending Radius          | 15 x Outer Ø  | 10 x Outer Ø  |               |





# OPTICAL FIBER SPECIFICATIONS

## G.657 A1

ITU-T recommendation G.657.A Bending intensive Single Mode;  
IEC 60793-2-50 type B1.3

| Geometric/mechanical properties      | Units             | Specified Values |
|--------------------------------------|-------------------|------------------|
| Cladding diameter                    | ( $\mu\text{m}$ ) | $125 \pm 0.7$    |
| Cladding non-circularity             | (%)               | $\leq 0.7$       |
| Coating diameter                     | ( $\mu\text{m}$ ) | $242 \pm 7$      |
| Coating-cladding concentricity error | (%)               | $\leq 12.0$      |
| Cladding non-circularity             | (%)               | $\leq 5.0$       |
| Core non-circularity                 | ( $\mu\text{m}$ ) | $\leq 5.0$       |
| Core/cladding concentricity error    | ( $\mu\text{m}$ ) | $\leq 0.5$       |
| Curl (radius)                        | m                 | $\geq 4$         |

|                                |       |                                    |  |
|--------------------------------|-------|------------------------------------|--|
| Macro-Bend induced attenuation | dB    | $\leq 0.25$                        | 10 turns around a madrel of 15 mm Diameter; 1550nm |
|                                | dB    | $\leq 0.75$                        | 1 turn around a madrel of 10 mm Diameter; 1550nm   |
|                                | dB    | $\leq 1.5$                         | 1 turn around a madrel of 10mm Diameter; 1625nm    |
| Proof test                     | N     | $\geq 0.7$                         | 100 kpsi; 1% strain equivelant                     |
| Coating Strip Force            | N     | $\geq 1 \leq 3$                    | typical average force                              |
|                                | N     | $\geq 1.2 \leq 8.9$<br>$\leq 0.05$ | Peak strip force                                   |
| Temperature Cycling            | dB/km |                                    | 1310nm, 1550nm,1625nm; -60°C to +85°C              |

| Optical Characteristics             | Units             | Specified Values |                |             |
|-------------------------------------|-------------------|------------------|----------------|-------------|
| Wavelength                          | (nm)              | 1310             | 1550           | 1625        |
| Attenuation max.                    | (dB/km)           | $\leq 0.35$      | $\leq 0.21$    | $\leq 0.23$ |
| Mode Field Diameter                 | ( $\mu\text{m}$ ) | $9.0 \pm 0.4$    | $10.1 \pm 0.5$ |             |
| Effective Group Index of Refraction |                   | 1.467            | 1.468          | 1.468       |



# OPTICAL FIBER SPECIFICATIONS

## G.657.A2

ITU-T recommendation G.657.A2 BendBright Single Mode; IEC  
60793-2-50 type B1.3

| Geometric/mechanical properties      | Units             | Specified Values |
|--------------------------------------|-------------------|------------------|
| Cladding diameter                    | ( $\mu\text{m}$ ) | $125 \pm 0.7$    |
| Cladding non-circularity             | (%)               | $\leq 0.7$       |
| Coating diameter                     | ( $\mu\text{m}$ ) | $242 \pm 7$      |
| Coating-cladding concentricity error | ( $\mu\text{m}$ ) | $\leq 12.0$      |
| Cladding non-circularity             | (%)               | $\leq 5.0$       |
| Core non-circularity                 | (%)               | $\leq 5.0$       |
| Core/cladding concentricity error    | ( $\mu\text{m}$ ) | $\leq 0.5$       |
| Curl (radius)                        | m                 | $\geq 4$         |

|                                |       |                     |  |
|--------------------------------|-------|---------------------|--|
| Macro-Bend induced attenuation | dB    | $\leq 0.03$         | 10 turns around a madrel of 15 mm Diameter; 1550nm |
|                                | dB    | $\leq 0.1$          | 1 turn around a madrel of 10 mm Diameter; 1550nm   |
|                                | dB    | $\leq 0.5$          | 1 turn around a madrel of 10mm Diameter; 1550nm    |
| Proof test                     | N     | $\geq 0.7$          | 100 kpsi; 1% strain equivalent                     |
| Coating Strip Force            | N     | $\geq 1 \leq 3$     | typical average force                              |
|                                | N     | $\geq 1.2 \leq 8.9$ | Peak strip force                                   |
| Temperature Cycling            | dB/km | $\leq 0.05$         | 1310nm, 1550nm, 1625nm; -60°C to +85°C             |

| Optical Characteristics             | Units             | Specified Values |               |             |
|-------------------------------------|-------------------|------------------|---------------|-------------|
| Wavelength                          | (nm)              | 1310             | 1550          | 1625        |
| Attenuation max.                    | (dB/km)           | $\leq 0.35$      | $\leq 0.20$   | $\leq 0.21$ |
| Mode Field Diameter                 | ( $\mu\text{m}$ ) | $8.8 \pm 0.4$    | $9.8 \pm 0.5$ |             |
| Effective Group Index of Refraction |                   | 1.467            | 1.467         | 1.468       |



# OPTICAL FIBER SPECIFICATIONS

## G.652-D

ITU-T recommendation G.657.A2 BendBright Single Mode; IEC 60793-2-50 type B1.3

| Geometric/mechanical properties      | Units             | Specified Values |
|--------------------------------------|-------------------|------------------|
| Cladding diameter                    | ( $\mu\text{m}$ ) | $125 \pm 0.7$    |
| Cladding non-circularity             | (%)               | $\leq 0.7$       |
| Coating diameter                     | ( $\mu\text{m}$ ) | $242 \pm 5$      |
| Coating-cladding concentricity error | ( $\mu\text{m}$ ) | $\leq 12.0$      |
| Cladding non-circularity             | (%)               | $\leq 6.0$       |
| Core non-circularity                 | (%)               | $\leq 1.0$       |
| Core/cladding concentricity error    | ( $\mu\text{m}$ ) | $\leq 0.5$       |
| Curl (radius)                        | m                 | $\geq 4$         |

|                                |       |                 |   |
|--------------------------------|-------|-----------------|---|
| Macro-Bend induced attenuation | dB    | $\leq 0.05$     | 1 turns around a madrel of 32 mm Diameter; 1550nm       |
|                                | dB    | $\leq 0.05$     | 100 turn around a madrel of 50 mm Diameter; 1310&1550nm |
|                                | dB    | $\leq 0.05$     | 100 turn around a madrel of 60mm Diameter; 1625nm       |
| Proof test                     | N     | $\geq 9.0$      | 100 kpsi; 1% strain equivalent                          |
| Coating Strip Force            | N     | 1.7             | typical average force                                   |
|                                | N     | $\geq 1.3 \leq$ | Peak strip force  |
| Temperature Cycling            | dB/km | 8.9             | 1310nm, 1550nm, 1625nm; -60°C to +85°C                  |

| Optical Characteristics             | Units             | Specified Values |             |             |
|-------------------------------------|-------------------|------------------|-------------|-------------|
| Wavelength                          | (nm)              | 1310             | 1550        | 1625        |
| Attenuation max.                    | (dB/km)           | $\leq 0.33$      | $\leq 0.19$ | $\leq 0.23$ |
| Dispersion coefficient              | ( $\mu\text{s}$ ) | $\leq -3.5$      | $\leq 17$   | $\leq 0.22$ |
| Mode Field Diameter                 |                   | 8.6~9.6          | 9.9~10.9    |             |
| Effective Group Index of Refraction |                   | 1.466            | 1.467       |             |



# OPTICAL FIBER SPECIFICATIONS

## OM1

G62.5/125 OM1 Multimode Fiber (IEC 60793-2-10 type A1b)

| Geometric/mechanical properties      | Units             | Specified Values   |
|--------------------------------------|-------------------|--|
| Core diameter                        | ( $\mu\text{m}$ ) | $62,5 \pm 2.5$   |
| Cladding diameter                    | ( $\mu\text{m}$ ) | $125 \pm 1.0$  |
| Coating diameter                     | ( $\mu\text{m}$ ) | $242 \pm 5$  |
| Core non-circularity                 | (%)               | $\leq 5$   |
| Cladding non-circularity             | (%)               | $\leq 0.7$   |
| Core/cladding concentricity error    | ( $\mu\text{m}$ ) | $\leq 1.0$   |
| Coating-cladding concentricity error | ( $\mu\text{m}$ ) | $\leq 10$  |
| Proof test                           | Gpa               | $>0.7$ Off line  |
| Coating Strip Force                  | N                 | 1 to 3 Average strip force, unaged and aged                            |
|                                      | N                 | 1.3 to 8.9 Peak strip force, unaged and aged                           |
| Temperature Cycling                  | dB/km             | 850nm, 1300nm; $-60^{\circ}\text{C}$ to $\leq 0.1 +85^{\circ}\text{C}$ |

| Transmission properties             | Units      | OM1               |            |
|-------------------------------------|------------|-------------------|------------|
| Wavelength                          | (nm)       | 850               | 1300       |
| Attenuation max.                    | (dB/km)    | $\leq 2.3$        | $\leq 0.6$ |
| Fiber Capacity 10GBASE-SR           | mt         | $\leq 300$        |            |
| Bandwidth min. OFL                  | (MHz · km) | $\geq 1500$       | $\geq 500$ |
| Group Index of Refraction (Typical) |            | 1.482             | 1.472      |
| Numerical Aperture                  |            | $0.200 \pm 0.015$ |            |



# OPTICAL FIBER SPECIFICATIONS

## OM3

G50.5/125 OM3 Multimode Fiber (IEC 60793-2-10 type A1a)

| Geometric/mechanical properties      | Units             | Specified Values   |
|--------------------------------------|-------------------|--|
| Core diameter                        | ( $\mu\text{m}$ ) | $50 \pm 2$   |
| Cladding diameter                    | ( $\mu\text{m}$ ) | $125 \pm 1.0$  |
| Coating diameter                     | ( $\mu\text{m}$ ) | $242 \pm 5$  |
| Core non-circularity                 | (%)               | $\leq 5$   |
| Cladding non-circularity             | (%)               | $\leq 0.7$   |
| Core/cladding concentricity error    | ( $\mu\text{m}$ ) | $\leq 1.0$   |
| Coating-cladding concentricity error | ( $\mu\text{m}$ ) | $\leq 10$  |
| Proof test                           | Gpa               | $>0.7$ Off line  |
| Coating Strip Force                  | N                 | 1 to 3 Average strip force, unaged and aged                              |
|                                      | N                 | 1.3 to 8.9 Peak strip force, unaged and aged                             |
| Temperature Cycling                  | dB/km             | 850nm, 1300nm; $-60^{\circ}\text{C}$ to $\leq 0.1$ $+85^{\circ}\text{C}$ |

| Transmission properties             | Units      | OM3               |            |
|-------------------------------------|------------|-------------------|------------|
| Wavelength                          | (nm)       | 850               | 1300       |
| Attenuation max.                    | (dB/km)    | $\leq 2.3$        | $\leq 0.6$ |
| Fiber Capacity 10GBASE-SR           | mt         | $\leq 300$        |            |
| Bandwidth min. OFL                  | (MHz · km) | $\geq 1500$       | $\geq 500$ |
| Group Index of Refraction (Typical) |            | 1.482             | 1.472      |
| Numerical Aperture                  |            | $0.200 \pm 0.015$ |            |



## RACK CABINET



Upcom optical cable assemblies provide the vital connectivity links and patching for your network. Our in-house designed and specified assemblies provide 1 to 288 fibres featuring IEC compliant components and a choice of performance levels to suit your network needs.

## W-LINE WALL MOUNTED RACK CABINET



### DESCRIPTION

The W-Line wall mounting 19" rack cabinets are suitable in the offices for limited U height is required. W-Line 19" cabinets are protected by IP20. W-Line have two 19" adjustable mounting angles in depth. Additional mounting rails can be ordered as accessory. Front door with glass door and perforated metal door option is available. Having removable and lockable 2 side panels and metal rear panel. Load carrying capacity is 50 kg in case used as a wall mounting cabinet and load carrying capacity can go up to 200 kg in case used as a free standing cabinet. Colour options are RAL 9005 Black, and RAL 7035 Light Grey, with fine wrinkle soft touch paint.

Vented top cover provides passive air circulation via convection. There is a double vented fan hole suitable for optimum cooling of fan. Two 19" adjustable angled mounting rails could be moved forward and backward. Door is having a glass door. It is lockable and removable. Side Panels are removable and lockable. Enabling you to easy access to equipment and gives better look and improved security Back Panel; could be removable and be mountable on the wall easily. There are two brushed cable entry at W-Line cabinet 1 on Bottom 1 on Top.

Heights : 4U, 7U, 9U, 12U, 16U, 20U

Depth : 450mm & 600mm

Width : 550mm

### CONSTRUCTION

Door : Front door with glass door and perforated metal door option is available.

Material : A1 quality steel HDG, body thickness is 2 mm, mounting rails are 1,5 mm thick.

Cable Entry : On Top and bottom cable brushed entry.

Mounting Rail : 2 pcs of 19" adjustable mounting rails. Compatible with standard international 19 inch standard.

Side Panels : Opening, lockable.

Painting : Impact-resistant, Electrostatic powder painting. Color options are RAL 9005 Black & RAL 7035 White.

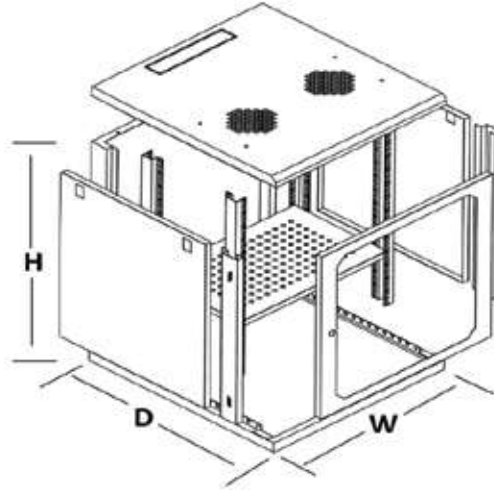
Rear Panel : Can be removable and be mountable on the wall easily. W-Line Wall mounting cabinets can easily be transformed to double sectioned cabinet in a second with the help of its well-engineered construction. You shall order the rear section for that option.

IP 20 rating : IP20 according to EN61587-1, IEC60529. Protected against solid objects larger than 12,5 mm in diameter.

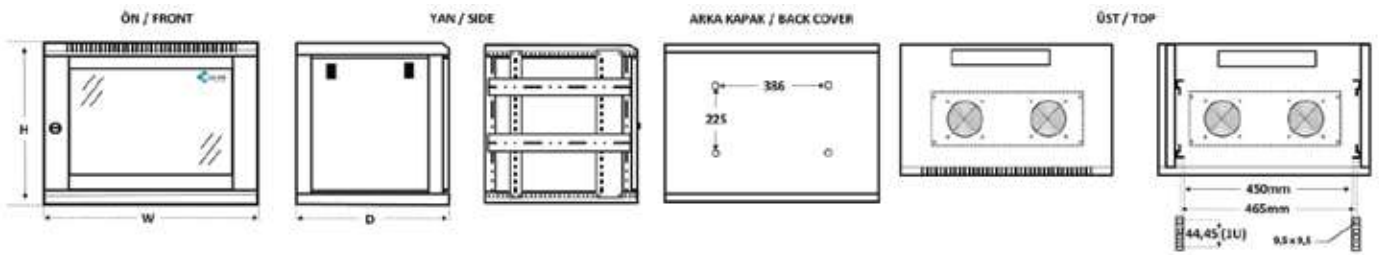


## W-LINE WALL MOUNTED RACK CABINET

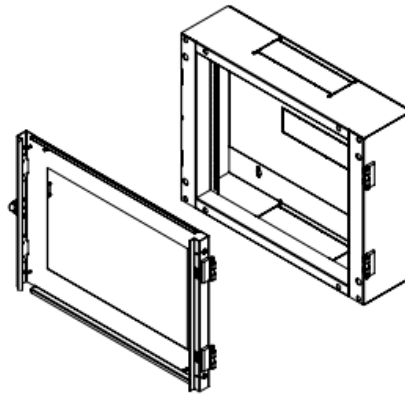
### DRAWINGS



Exploded View



Rear Section





## W-LINE WALL MOUNTED RACK CABINET



- 19" mounting to IEC 297-1
- EN 61587-1 mechanical structures (cabinets for electronic equipment)
- Overall cabinet dimensions for IEC 297-2 EN 61587 -1:2012 Mechanical Structures for Electronic Equipment
- IEC 297-1, 19" mounting
- IEC 297-2 Overall cabinet dimensions
- Corrosion Resistance: ISO9227 and ASTM B 117-85



ISO 9001:2008 Quality Management System



ISO 14001 Environmental Management System  
%100 Recyclable Material



CE conform to EN 60950-1:2006  
Information Technology Equipment – Safety – Part-1-



RoHS Compliance



| Ordering Code     | Description                           | Gross Weight in kg |
|-------------------|---------------------------------------|--------------------|
| UP-4UDVT-550X450  | 4U 550x450 Wall Mounted Rack Cabinet  | 10                 |
| UP-4UDVT-550X600  | 4U 550x600 Wall Mounted Rack Cabinet  | 14                 |
| UP-7UDVT-550X450  | 7U 550x450 Wall Mounted Rack Cabinet  | 14                 |
| UP-7UDVT-550X600  | 7U 550x600 Wall Mounted Rack Cabinet  | 19                 |
| UP-9UDVT-550X450  | 9U 550x450 Wall Mounted Rack Cabinet  | 17                 |
| UP-9UDVT-550X600  | 9U 550x600 Wall Mounted Rack Cabinet  | 21                 |
| UP-12UDVT-550X450 | 12U 550x450 Wall Mounted Rack Cabinet | 22                 |
| UP-12UDVT-550X600 | 12U 550x600 Wall Mounted Rack Cabinet | 25,5               |
| UP-15UDVT-550X450 | 15U 550x450 Wall Mounted Rack Cabinet | 26                 |
| UP-15UDVT-550X600 | 15U 550x600 Wall Mounted Rack Cabinet | 29                 |
| UP-19UDVT-550X450 | 19U 550x450 Wall Mounted Rack Cabinet | 30                 |
| UP-19UDVT-550X600 | 19U 550x600 Wall Mounted Rack Cabinet | 32                 |
| UP-20UDVT-550X450 | 20U 550x450 Wall Mounted Rack Cabinet | 32                 |
| UP-20UDVT-550X600 | 20U 550x600 Wall Mounted Rack Cabinet | 34                 |

## W-LINE WALL MOUNTED RACK CABINET ACCESSORIES

### FAN MODULES



### DESCRIPTION

Single and Double Fan module are available and compatible. Digital Thermostat is available at fan modules. Compatible with all model and brands of cabinets. Plug and play with on/off switches and plugs. Air removal capacity is 2.3-3 m3/minutes.

Colour : RAL 9005 Black & RAL 7035 White.

### TECHNICAL SPECIFICATION

- 13,8/11,8W, 220/240 VAC
- 50/60 Hz, 0,07/0,06A, 2550/2750 rpm
- 42-47 dB noise level,
- Product Life 50.000 hours (40 C):
- Operating temperature range -10 C°~ +70 C °

| Ordering Code     | Description                      |
|-------------------|----------------------------------|
| U P - F M D F 1 T | 1xFan Module Digital Thermostat  |
| U P - F M D F 2 T | 2x Fan Module Digital Thermostat |
| U P - F M D F 4 T | 4x Fan Module Digital Thermostat |
| U P - F M O N F 1 | 1xFan Module with On/Switch      |
| U P - F M O N F 2 | 2xFan Module with On/Switch      |
| U P - F M O N F 4 | 4xFan Module with On/Switch      |

## W-LINE WALL MOUNTED RACK CABINET ACCESSORIES

### POWER DISTRIBUTION UNITS (PDUs)



#### DESCRIPTION

Upcom's W-Line serie of PDUs range is engineered for simple, reliable and cost-effective power distribution, All ECO serie PDUs come in both horizontal and vertical type. 1U,2U, 19" 16A with an of/off lighting switched, in black color, aluminium Housing. Horizontal PDUs mount easily in any standard EIA 19-inch rack, while vertical PDUs are ideal for mounting within a cabinet's Zero-U space.

| Ordering Code | Description   |
|---------------|---|
| UP-PRZ-PW3    | 3 Way PDU, Cct breaker, 1x16A, 250V, 4000W, Halogenfree, Aluminium Housing, 2m Cable  |
| UP-PRZ-PW6    | 6 Way PDU, Cct breaker, 1x16A, 250V, 4000W, Halogenfree, Aluminium Housing, 2m Cable  |
| UP-PRZ-PW8    | 8 Way PDU, Cct breaker, 1x16A, 250V, 4000W, Halogenfree, Aluminium Housing, 2m Cable  |
| UP-PRZ-PW9    | 9 Way PDU, Cct breaker, 1x16A, 250V, 4000W, Halogenfree, Aluminium Housing, 2m Cable  |
| UP-PRZ-PW12   | 12 Way PDU, Cct breaker, 1x16A, 250V, 4000W, Halogenfree, Aluminium Housing, 2m Cable |

## W-LINE WALL MOUNTED RACK CABINET ACCESSORIES

### FIXED & SLIDING SHELVES



### DESCRIPTION

19" shelves are the ideal accessory for your server and network installations. Made of steel with a thickness of 1,2 mm. Surface finish: degreasing, etching, phosphating, powder coating. Protected against rust, oxidation, scratches and corrosion. Compliant with ANSI/EIA RS-310-D, DIN41491 PART1, IEC297-2, DIN41494 PART7, and GB/T3047.2-92 standards. Compatible with metric ETSI and 19-inch international standards. Fixing points at the sides of rear and front 19" mounting angles. Vented for air circulation. Adjustable depth. Made of steel sheet. Load carrying capacity is 50 kg for fixed shelves, 25 kg for sliding shelves. Compatible with all brand cabinets. Color options are RAL 9005 Black & RAL 7035 White.

| Ordering Code | Dimensions (WxD) | Description                               |
|---------------|------------------|---|
| UP-RF-SAR250  | 47 x 25          | Fixed Shelf 250 mm for D:400mm. Cabinets  |
| UP-RF-YSBR600 | 47 x 30          | Fixed Shelf 300 mm for D:600mm Cabinets   |
| UP-RF-HR600   | 47 x 30          | Sliding Shelf 300 mm for D:600mm Cabinets |

## W-LINE WALL MOUNTED RACK CABINET ACCESSORIES

### HORIZONTAL CABLE MANAGER



#### DESCRIPTION

The range is suitable for all 19" applications. Made of sheet steel, easy to install and mount. Having 5 rings at each.

| Ordering Code | Description                     |
|---------------|---------------------------------|
| UP-ORG1U      | 1U Cable Organizer with 5 Rings |
| UP-ORG2U      | 2U Cable Organizer with 5 Rings |

### BLANK PANEL

#### DESCRIPTION

Blank panel is the perfect option to block the unused rack space and to improve both cooling efficiency and prevent air re-circulation. Fits for standard EIA-310-D compliant rails. Blank panel is for a Rack Panel made of 14-gauge steel with glossy Black or White finish.



| Ordering Code | Description                     |
|---------------|---------------------------------|
| UP-KPP1U      | 1U 19" Blank Panel Screwed Type |
| UP-KPP2U      | 2U 19" Blank Panel Screwed Type |

## W-LINE WALL MOUNTED RACK CABINET ACCESSORIES

### CASTORS & LEVELLING FEET



#### DESCRIPTION

Ball bearing, swivel and hard composition wheels. They can move any direction you like to drive. 2 ea. front are lockable. Load capacity for each castor is for fixed 50 kg and moving 25kg. Load capacity for each levelling feet is 250 kg. Levelling feets allowing you to adjust height of the feet.

| Ordering Code | Description                |
|---------------|----------------------------|
| UP-WM-LF-4G   | Leveling Feet 1 set(4 pcs) |
| UP-WM-CS-4G   | Castors Set 1 set(4 pcs)   |

#### FIXINGS

Cage Nut Set 20pcs each set including Screws, Nuts, Plastic Washers M6. Suitable for rack mount fixing the patch panels, switches, PDU on cabinet.



| Ordering Code | Description   |
|---------------|---|
| UP-CNS-20P    | Fixings: Screw 20pcs,<br>Washer 20pcs, Cage nut 20pcs |

## FS-LINE FREE STANDING RACK CABINET

### DESCRIPTION

FS-Line 19" free standing rack cabinets provide a robust, cost-effective enclosure solution. PDU mounting or connectivity on both the front and rear of the cabinet. The FS-Line cabinet is ideal for high-density data center environments, enabling increased cabling and equipment density while providing excellent accessibility and thermal efficiency. All of these features are integrated into a full-featured modular enclosure that is equally effective as a standalone network and server cabinet.



### CONSTRUCTION

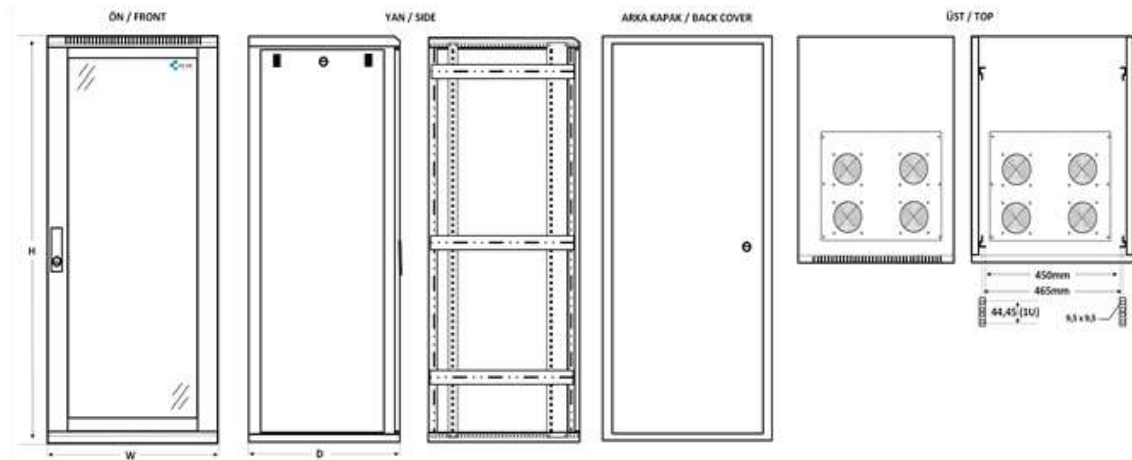
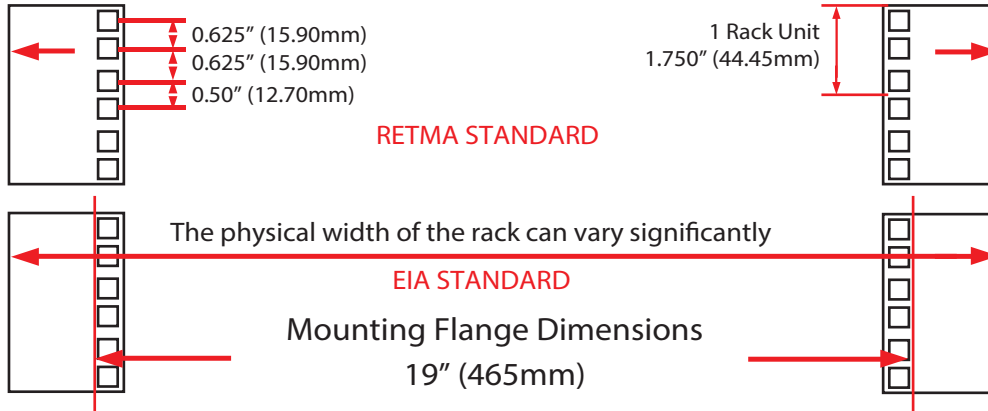
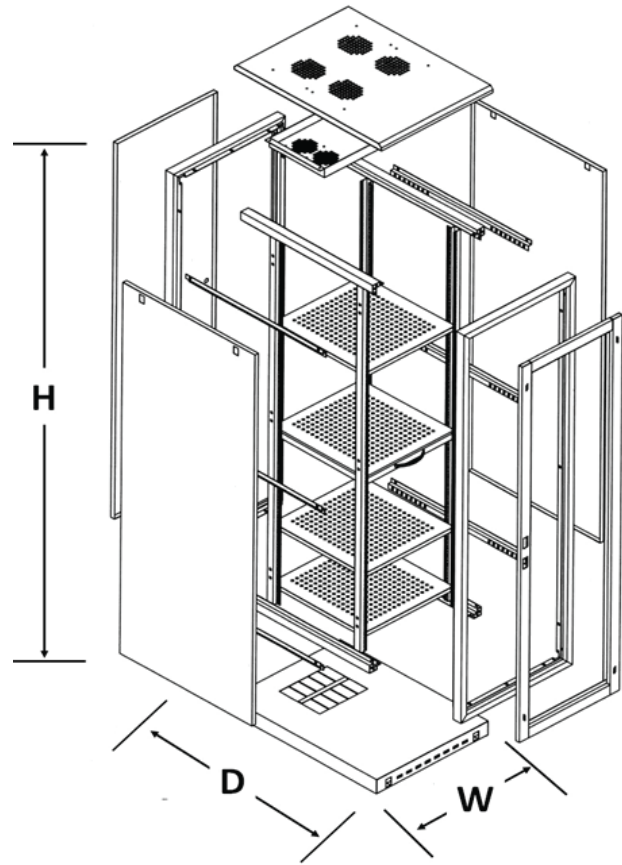
- Door : Front door with glass door and perforated metal door option is available.
- Material : A1 quality steel HDG, carriers are 2 mm, mounting, the poles 1,5 mm.
- Cable Entry : On Top and bottom cable entry. Multiple cable entry points provide maximum versatility.
- Mounting Rail : 4 pcs of 19" adjustable mounting rails. Compatible with standard international 19 inch standard.
- Side Panels : Opening & lockable.
- Painting : Impact-resistant, Electrostatic powder painting. Color options are RAL 9005 Black & RAL 7035 White.
- Rear Panel : Can be removable and be mountable easily.
- IP 20 rating : IP20 according to EN61587-1, IEC60529. Protected against solid objects larger than 12,5 mm in diameter.

Heights : 12U, 15U, 16U, 19U, 20U, 25U, 27U, 30U 33U 35U 37U 39U 42U 45U

Width & Depth : 600x600mm  
600x800mm  
600x1000mm  
800x800mm  
800x1000mm

# FS-LINE FREE STANDING RACK CABINET

## DRAWINGS





## FS-LINE FREE STANDING RACK CABINET



- ISO 9001:2000 TSE:EN 61587-1 Mechanical Structures For Electronic Equipment - Tests For IEC 60917 And IEC 60297
- Climatic and Environment: EN 61587-1/4.2, IEC60068-2-1, IEC60068-2-2, IEC60068-2-30,
- Static Mechanical Load Lifting: EN61587-1/5.2.1
- Static Mechanical Load Stiffness: EN61587-1/5.2.2
- Dynamic Mechanical Load Vibration and Shock, Impact: EN61587-1/5.3.1, EN61587-1/5.3.3, IEC60068-2-6, IEC60068-2-27,
- Earth Bond: EN61587-1/6.2
- Flammability: EN61587-1/6.3
- Degrees Of Protection Provided By Enclosures (Ip Code): IP20 or IP55, EN61587-1/6.4
- Load Carrying Capacity: 600 kg
- Surface Treatment: Fosfat coating
- Corrosion Resistance: ISO9227 and ASTM B 117-85
- Painting: Ral7035 / Ral9005



ISO 9001:2008 Quality  
Management System



ISO 14001 Environmental  
Management System  
%100 Recyclable Material



CE conform to EN 60950-1:2006  
Information Technology  
Equipment – Safety – Part-1-



RoHS Compliance

## FS-LINE FREE STANDING RACK CABINET



| Ordering Code      | Description                             | Gross Weight in kg |
|--------------------|---|--------------------|
| UP-16UYRT-600X600  | 16U-600X600-19" Free Standing Cabinets  | 47                 |
| UP-16UYRT-600X800  | 16U-600X800-19" Free Standing Cabinets  | 60                 |
| UP-16UYRT-600X1000 | 16U-600X1000-19" Free Standing Cabinets | 66                 |
| UP-16UYRT-800X800  | 16U-800X800-19" Free Standing Cabinets  | 70                 |
| UP-16UYRT-800X1000 | 16U-800X1000-19" Free Standing Cabinets | 83                 |
| UP-20UYRT-600X600  | 20U-600X600-19" Free Standing Cabinets  | 54                 |
| UP-20UYRT-600X800  | 20U-600X800-19" Free Standing Cabinets  | 65,2               |
| UP-20UYRT-600X1000 | 20U-600X1000-19" Free Standing Cabinets | 69,5               |
| UP-20UYRT-800X800  | 20U-800X800-19" Free Standing Cabinets  | 73                 |
| UP-20UYRT-800X1000 | 20U-800X1000-19" Free Standing Cabinets | 92                 |
| UP-25UYRT-600X600  | 25U-600X600 -19" Free Standing Cabinets | 60                 |
| UP-25UYRT-600X800  | 25U-600X800 -19" Free Standing Cabinets | 72                 |
| UP-25UYRT-600X1000 | 25U-600X1000-19" Free Standing Cabinets | 80,5               |
| UP-25UYRT-800X800  | 25U-800X800-19" Free Standing Cabinets  | 84                 |
| UP-25UYRT-800X1000 | 25U-800X1000-19" Free Standing Cabinets | 105                |
| UP-27UYRT-600X600  | 27U-600X600-19" Free Standing Cabinets  | 62,7               |
| UP-27UYRT-600X800  | 27U-600X800-19" Free Standing Cabinets  | 74,5               |
| UP-27UYRT-600X1000 | 27U-600X1000-19" Free Standing Cabinets | 86                 |
| UP-27UYRT-800X800  | 27U-800X800-19" Free Standing Cabinets  | 91                 |
| UP-27UYRT-800X1000 | 27U-800X1000-19" Free Standing Cabinets | 110                |
| UP-30UYRT-600X600  | 30U-600X600-19" Free Standing Cabinets  | 66,9               |
| UP-30UYRT-600X800  | 30U-600X800-19" Free Standing Cabinets  | 78,5               |
| UP-30UYRT-600X1000 | 30U-600X1000-19" Free Standing Cabinets | 93                 |
| UP-30UYRT-800X800  | 30U-800X800-19" Free Standing Cabinets  | 98                 |
| UP-30UYRT-800X1000 | 30U-800X1000-19" Free Standing Cabinets | 118                |
| UP-33UYRT-600X600  | 33U-600X600-19" Free Standing Cabinets  | 70,8               |
| UP-33UYRT-600X800  | 33U-600X800-19" Free Standing Cabinets  | 82,5               |
| UP-33UYRT-600X1000 | 33U-600X1000-19" Free Standing Cabinets | 100                |
| UP-33UYRT-800X800  | 33U-800X800-19" Free Standing Cabinets  | 105                |
| UP-33UYRT-800X1000 | 33U-800X1000-19" Free Standing Cabinets | 125                |
| UP-37UYRT-600X600  | 37U-600X600-19" Free Standing Cabinets  | 76,2               |
| UP-37UYRT-600X800  | 37U-600X800-19" Free Standing Cabinets  | 87,5               |
| UP-37UYRT-600X1000 | 37U-600X1000-19" Free Standing Cabinets | 109                |
| UP-37UYRT-800X800  | 37U-800X800-19" Free Standing Cabinets  | 114                |
| UP-37UYRT-800X1000 | 37U-800X1000-19" Free Standing Cabinets | 133                |
| UP-39UYRT-600X600  | 39U-600X600-19" Free Standing Cabinets  | 78,9               |
| UP-39UYRT-600X800  | 39U-600X800-19" Free Standing Cabinets  | 90                 |
| UP-39UYRT-600X1000 | 39U-600X1000-19" Free Standing Cabinets | 114                |
| UP-39UYRT-800X800  | 39U-800X800-19" Free Standing Cabinets  | 119                |
| UP-39UYRT-800X1000 | 39U-800X1000-19" Free Standing Cabinets | 140                |
| UP-42UYRT-600X600  | 42U-600X600-19" Free Standing Cabinets  | 83                 |
| UP-42UYRT-600X800  | 42U-600X800-19" Free Standing Cabinets  | 94                 |
| UP-42UYRT-600X1000 | 42U-600X1000-19" Free Standing Cabinets | 121                |
| UP-42UYRT-800X800  | 42U-800X800-19" Free Standing Cabinets  | 126                |
| UP-42UYRT-800X1000 | 42U-800X1000-19" Free Standing Cabinets | 137                |
| UP-45UYRT-600X600  | 45U-600X600-19" Free Standing Cabinets  | 88                 |
| UP-45UYRT-600X800  | 45U-600X800-19" Free Standing Cabinets  | 98                 |
| UP-45UYRT-600X1000 | 45U-600X1000-19" Free Standing Cabinets | 128                |
| UP-45UYRT-800X800  | 45U-800X800 -19" Free Standing Cabinets | 133                |
| UP-45UYRT-800X1000 | 45U-800X1000-19" Free Standing Cabinets | 143                |

## FS-LINE FREE STANDING RACK CABINET ACCESSORIES

### FAN MODULES



#### DESCRIPTION

Single and Double Fan module are available and compatible. Digital Thermostat is available at fan modules. Compatible with all model and brands of cabinets. Plug and play with on/off switches and plugs. Air removal capacity is 2.3-3 m3/minutes.

Colour : RAL 9005 Black & RAL 7035 White.

#### TECHNICAL SPECIFICATION

- 13,8/11,8W, 220/240 VAC
- 50/60 Hz, 0,07/0,06A, 2550/2750 rpm
- 42-47 dB noise level,
- Product Life 50.000 hours (40 C):
- Operating temperature range -10 C°~ +70 C °

| Ordering Code | Description                     |
|---------------|---------------------------------|
| UP - FMDF 1 T | 1xFan Module Digital Thermostat |
| UP - FMDF 2 T | 2xFan Module Digital Thermostat |
| UP - FMDF 4 T | 4xFan Module Digital Thermostat |
| UP - FMONF 1  | 1xFan Module with On/Switch     |
| UP - FMONF 2  | 2xFan Module with On/Switch     |
| UP - FMONF 4  | 4xFan Module with On/Switch     |

## FS-LINE FREE STANDING RACK CABINET ACCESSORIES

### POWER DISTRIBUTION UNITS (PDUs)



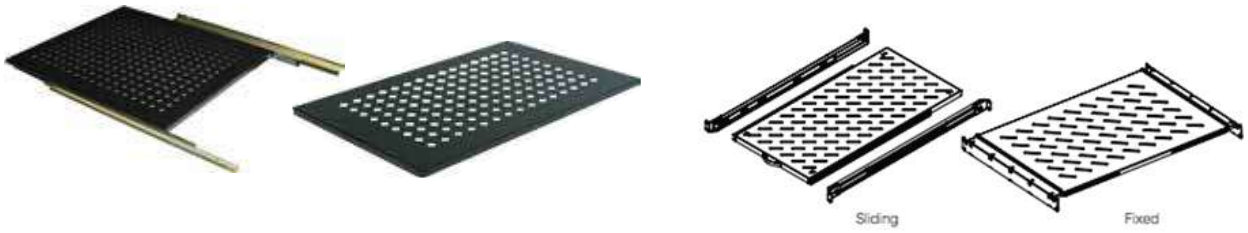
#### DESCRIPTION

Upcom's W-Line serie of PDUs range is engineered for simple, reliable and cost-effective power distribution, All ECO serie PDUs come in both horizontal and vertical type. 1U,2U, 19" 16A with an of/off lighting switched, in black color, aluminium Housing. Horizontal PDUs mount easily in any standard EIA 19-inch rack, while vertical PDUs are ideal for mounting within a cabinet's Zero-U space.

| Ordering Code | Description   |
|---------------|---|
| UP-PRZ-PW3    | 3 Way PDU, Cct breaker, 1x16A, 250V, 4000W, Halogenfree, Aluminium Housing, 2m Cable  |
| UP-PRZ-PW6    | 6 Way PDU, Cct breaker, 1x16A, 250V, 4000W, Halogenfree, Aluminium Housing, 2m Cable  |
| UP-PRZ-PW8    | 8 Way PDU, Cct breaker, 1x16A, 250V, 4000W, Halogenfree, Aluminium Housing, 2m Cable  |
| UP-PRZ-PW9    | 9 Way PDU, Cct breaker, 1x16A, 250V, 4000W, Halogenfree, Aluminium Housing, 2m Cable  |
| UP-PRZ-PW12   | 12 Way PDU, Cct breaker, 1x16A, 250V, 4000W, Halogenfree, Aluminium Housing, 2m Cable |

## FS-LINE FREE STANDING RACK CABINET ACCESSORIES

### FIXED & SLIDING SHELVES



### DESCRIPTION

19" shelves are the ideal accessory for your server and network installations. Made of steel with a thickness of 1,2 mm. Surface finish: degreasing, etching, phosphating, powder coating. Protected against rust, oxidation, scratches and corrosion. Compliant with ANSI/EIA RS-310-D, DIN41491 PART1, IEC297-2, DIN41494 PART7, and GB/T3047.2-92 standards. Compatible with metric ETSI and 19-inch international standards. Fixing points at the sides of rear and front 19" mounting angles. Vented for air circulation. Adjustable depth. Made of steel sheet. Load carrying capacity is 50 kg for fixed shelves, 25 kg for sliding shelves. Compatible with all brand cabinets.

Color options are RAL 9005 Black & RAL 7035 White.

| Ordering Code  | Description   |
|----------------|---|
| UP-RF-YSBR600  | Fixed Shelf - 300 mm. for Cabinets having D:600mm.  |
| UP-RF-YSBR800  | Fixed Shelf - 500 mm. or Cabinets having D:800mm.   |
| UP-RF-YSBR1000 | Fixed Shelf - 720 mm. or Cabinets having D:1000mm.  |
| UP-RF-HR600    | Sliding Shelf 300 mm. For Cabinets having D:600mm.  |
| UP-RF-HR800    | Sliding Shelf 500 mm. For Cabinets having D:800mm.  |
| UP-RF-HR1000   | Sliding Shelf 720 mm. For Cabinets having D:1000mm. |

## FS-LINE FREE STANDING RACK CABINET ACCESSORIES

### HORIZONTAL CABLE MANAGER



#### DESCRIPTION

The range is suitable for all 19" applications. Made of sheet steel, easy to install and mount. Having 5 rings at each.

| Ordering Code | Description                     |
|---------------|---------------------------------|
| UP-ORG1U      | 1U Cable Organizer with 5 Rings |
| UP-ORG2U      | 2U Cable Organizer with 5 Rings |

### BLANK PANEL

#### DESCRIPTION

Blank panel is the perfect option to block the unused rack space and to improve both cooling efficiency and prevent air re-circulation. Fits for standard EIA-310-D compliant rails. Blank panel is for a Rack Panel made of 14-gauge steel with glossy Black or White finish.



| Ordering Code | Description                     |
|---------------|---------------------------------|
| UP-KPP1U      | 1U 19" Blank Panel Screwed Type |
| UP-KPP2U      | 2U 19" Blank Panel Screwed Type |

## FS-LINE FREE STANDING RACK CABINET ACCESSORIES

### CASTORS & LEVELLING FEET



#### DESCRIPTION

Ball bearing, swivel and hard composition wheels. They can move any direction you like to drive. 2 ea. front are lockable. Load capacity for each castor is for fixed 50 kg and moving 25kg. Load capacity for each levelling feet is 250 kg. Levelling feets allowing you to adjust height of the feet.

| Ordering Code | Description                |
|---------------|----------------------------|
| UP-WM-LF-4G   | Leveling Feet 1 set(4 pcs) |
| UP-WM-CS-4G   | Castors Set 1 set(4 pcs)   |

#### FIXINGS

Cage Nut Set 20pcs each set including Screws, Nuts, Plastic Washers M6. Suitable for rack mount fixing the patch panels, switches, PDU on cabinet.



| Ordering Code | Description   |
|---------------|---|
| UP-CNS-20P    | Fixings: Screw 20pcs,<br>Washer 20pcs, Cage nut 20pcs |