PRODUCT CATALOGUE

KSA **2021**

Amwaj

Telecommunication

Mfg. Co.

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المملكة العربية السعودية

KINGDOM OF SAUDI ARABIA

Manufacturing Facilities (KSA & Jordan) In Snapshots .

Product Range at a Glance

Product Range at a Glance

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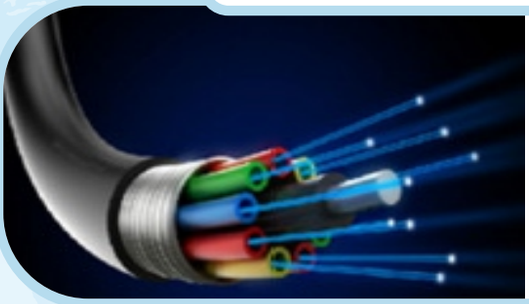

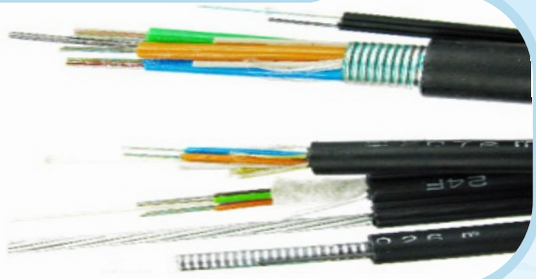

Fiber Optic Passive Components (B 1 - B 9)

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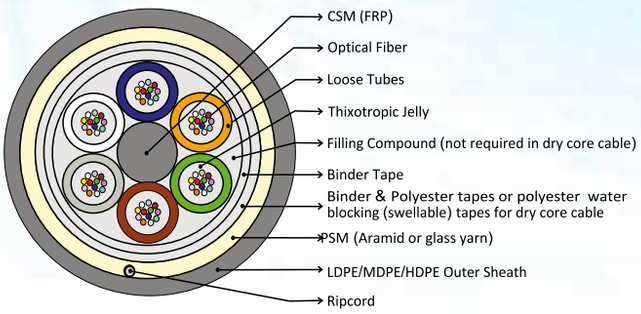
Specialized Products (K 1 - K 2)

Cable Construction

Cable cross-section



Cable structure and parameter

No. of Fibers	Max Fiber Per tube	No. of Loose Tubes	Cable Outer Sheath Thickness mm
4	4	1	1.5 ± 0.2
8	8	1	1.5 ± 0.2
12	12	1	1.5 ± 0.2
24	12	2	1.5 ± 0.2
36	12	3	1.5 ± 0.2
48	12	4	1.5 ± 0.2
96	12	8	1.5 ± 0.2
144	12/24	12/6	1.5 ± 0.2
192	12/24	16/8	1.5 ± 0.2
288	12/24	24/12	1.5 ± 0.2

Cable Design

Fiber: The Cable can be based on Multimode OM1,OM2 OM3 or Single Mode Fiber as per ITU-T G.652.D, G657, G655, or Combination specifications (Hybrid Cable).

CSM: Fiber Reinforced Plastic is used as Central Strength Member.

Loose Tube: Polybutylene Terephthalate (PBT).

Filling Compound: Loose Tube is filled with Thixotropic Jelly, the filling compound gives protection to the fiber in case of strains etc.

Stranding: The Loose Buffer Tubes are stranded around the Central Strength Member through SZ Stranding which is a reverse lay method i.e. the direction of stranding reverses after a predetermined no. of revolutions, at the reverse points, the elements are parallel to the axis of cable, a binding yarn is wound around the elements to retain and keep them in proper position.

Peripheral Strength: Glass Yarns will be used to give extra strength to the cable.

Outer Sheath: HDPE.

Application: Inter Office, Data, Voice & video transmission, Security & control systems having light weight & flexible characteristics for inside duct installation.

Further details of the fiber material and mechanical/environmental characteristics are also available in the Catalogue.

Fiber Color Code is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

If 24 Fiber tube required, ring marked fibers will be used.

Color Code for Loose Tube (LT) is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Any other specific color coding can also be used as per customer requirement.

Printing / Marking

Sheath Marking as below or as required.

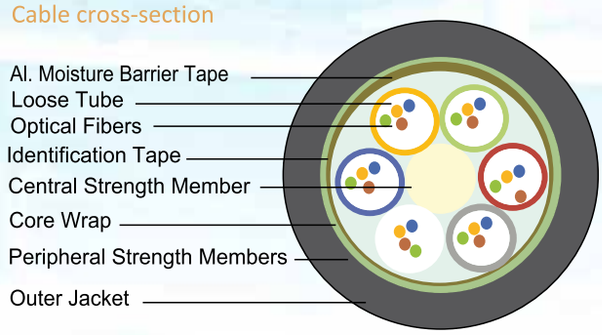
ATC - YEAR - XXXXX - XX FIBER XX DUCT OFC - XXXX	
SM DUCT OFC	: Single Mode Duct Type Optical Fiber Cable
XXXX	: Length of Marking (* The Marking is Printed every 1 meter)
XXX	: Number of Fibers
XXXXX	: Customer Name

The color of marking is **White / Yellow**.

The both cable ends are sealed with heat shrinkable end caps to prevent water ingress.

Cable Construction

Cable cross-section



Cable structure and parameter

No. of Fibers	Max Fiber Per tube	No. of Loose Tubes	Cable Outer Sheath Thickness mm
4	4	1	1.5 ± 0.2
8	8	1	1.5 ± 0.2
12	12	1	1.5 ± 0.2
24	12	2	1.5 ± 0.2
36	12	3	1.5 ± 0.2
48	12	4	1.5 ± 0.2
96	12	8	1.5 ± 0.2
144	12/24	12/6	1.5 ± 0.2
192	12/24	16/8	1.5 ± 0.2
288	12/24	24/12	1.5 ± 0.2

Cable Design

Fiber:	The Cable can be based on Multimode OM1,OM2 OM3 or Single Mode Fiber as per ITU-T G.652.D, G657, G655, or Combination specifications (Hybrid Cable).
CSM:	Fiber Reinforced Plastic is used as Central Strength Member.
Loose Tube:	Polybutylene Terephthalate (PBT).
Moisture barrier:	Aluminum Moisture Barrier Tape.
Flooding Compound:	Interstices all filled with gel to protect ingress of water (Not required in dry cable).
Filling Compound:	Loose Tube is filled with Thixotropic Jelly, the filling compound gives protection to the fiber in case of strains etc.
Stranding:	The Loose Buffer Tubes are stranded around the Central Strength Member through SZ Stranding which is a reverse lay method i.e. the direction of stranding reverses after a predetermined no. of revolutions, at the reverse points, the elements are parallel to the axis of cable, a binding yarn is wound around the elements to retain and keep them in proper position.
Peripheral Strength:	Glass Yarns will be used to give extra strength to the cable.
Outer Sheath:	HDPE.
Application:	Inter Office, Data, Voice & video transmission, Security & control systems having light weight & flexible characteristics for inside duct installation.

Further details of the fiber material and mechanical/environmental characteristics are also available in the Catalogue.

Fiber Color Code is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

If 24 Fiber tube required, ring marked fibers will be used.

Color Code for Loose Tube (LT) is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Any other specific color coding can also be used as per customer requirement.

Printing / Marking

Sheath Marking as below or as required.

ATC - YEAR - XXXXX - XX FIBER XX DUCT (Metallic) OFC - XXXX	
SM/MM DUCT Metallic OFC	: Multi Mode or Single Mode Duct Metallic Type Optical Fiber Cable
XXXX	: Length of Marking (* The Marking is Printed every 1 meter)
XXX	: Number of Fibers
XXXXX	: Customer Name

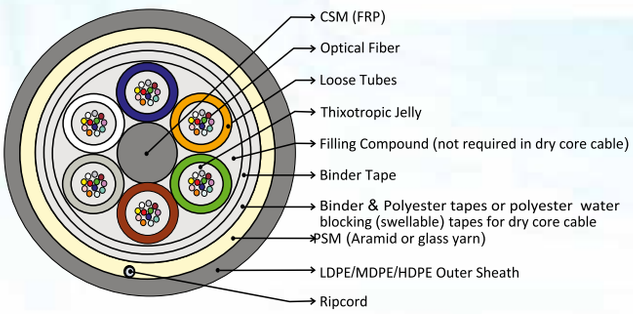
The color of marking is **White / Yellow**.

The both cable ends are sealed with heat shrinkable end caps to prevent water ingress.

Duct Mini (Non-Metallic) Optical Fiber Cable

Cable Construction

Cable cross-section



Cable structure and parameter

No. of Fibers	Max Fiber Per tube	No. of Loose Tubes	Cable Outer Sheath Thickness mm
4	4	1	1.5 ± 0.2
8	8	1	1.5 ± 0.2
12	12	1	1.5 ± 0.2
24	12	2	1.5 ± 0.2
36	12	3	1.5 ± 0.2
48	12	4	1.5 ± 0.2
96	12	8	1.5 ± 0.2
144	12/24	12/6	1.5 ± 0.2
192	12/24	16/8	1.5 ± 0.2
288	12/24	24/12	1.5 ± 0.2

Cable Design

Fiber: The Cable can be based on Multimode OM1,OM2 OM3 or Single Mode Fiber as per ITU-T G.652.D, G657, G655, or Combination specifications (Hybrid Cable).

CSM: Fiber Reinforced Plastic is used as Central Strength Member.

Loose Tube: Polybutylene Terephthalate (PBT) Loose Tube is filled with Thixotropic Jelly, the filling compound gives protection to the fiber in case of strains etc.

Dry Core: A combination of water swell able tapes and yarms will be used to stop the ingress of water inside the cable.

Stranding: The Loose Buffer Tubes are stranded around the Central Strength Member through SZ Stranding which is a reverse lay method i.e. the direction of stranding reverses after a predetermined no. of revolutions, at the reverse points, the elements are parallel to the axis of cable, a binding yarn is wound around the elements to retain and keep them in proper position.

Peripheral Strength: Glass Yarns will be used to give extra strength to the cable.

Outer Sheath: HDPE.

Application: Inter Office, Data, Voice & video transmission, Security & control systems having light weight & flexible characteristics for inside duct installation.

Further details of the fiber material and mechanical/environmental characteristics are also available in the Catalogue.

Fiber Color Code is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

If 24 Fiber tube required, ring marked fibers will be used.

Color Code for Loose Tube (LT) is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Any other specific color coding can also be used as per customer requirement.

Printing / Marking

Sheath Marking as below or as required.

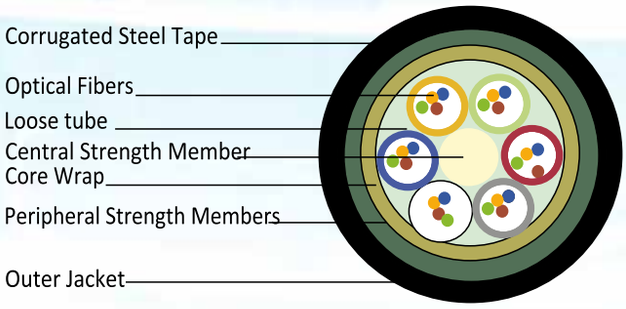
ATC - YEAR - XXXXX - XX FIBER XX Mini DUCT OFC - XXXX	
SM M-DUCT OFC	: Single Mode MINI Duct Type Optical Fiber Cable
XXXX	: Length of Marking (* The Marking is Printed every 1 meter)
XXX	: Number of Fibers
XXXXX	: Customer Name

The color of marking is **White / Yellow**.

The both cable ends are sealed with heat shrinkable end caps to prevent water ingress.

Cable Construction

Cable cross-section



Cable structure and parameter

No. of Fibers	Max Fiber Per tube	No. of Loose Tubes	Cable Outer Sheath Thickness mm
4	4	1	1.5 ± 0.2
8	8	1	1.5 ± 0.2
12	12	1	1.5 ± 0.2
24	12	2	1.5 ± 0.2
36	12	3	1.5 ± 0.2
48	12	4	1.5 ± 0.2
96	12	8	1.5 ± 0.2

Cable Design

Fiber:	The Cable can be based on Multimode OM1,OM2 OM3 or Single Mode Fiber as per ITU-T G.652.D, G657, G655, or Combination specifications (Hybrid Cable).
CSM:	Fiber Reinforced Plastic is used as Central Strength Member.
Loose Tube:	Polybutylene Terephthalate (PBT).
Flooding Compound:	Jelly filled Construction with core wrap or water swell able Tape to stop ingress of water.
Armoring:	Corrugated Steel Tapes helps to give cable ruggedness and rodent protection with direct buried Installation.
Filling Compound:	Loose Tube is filled with Thixotropic Jelly, the filling compound gives protection to the fiber in case of strains etc.
Stranding:	The Loose Buffer Tubes are stranded around the Central Strength Member through SZ Stranding which is a reverse lay method i.e. the direction of stranding reverses after a predetermined no. of revolutions, at the reverse points, the elements are parallel to the axis of cable, a binding yarn is wound around the elements to retain and keep them in proper position.
Peripheral Strength:	Glass Yarns will be used to give extra strength to the cable.
Outer Sheath:	HDPE.
Application:	Data, Voice & Video transmission with rodent protection and direct buried installation.

Further details of the fiber material and mechanical/environmental characteristics are also available in the Catalogue.

Fiber Color Code is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

If 24 Fiber tube required, ring marked fibers will be used.

Color Code for Loose Tube (LT) is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Any other specific color coding can also be used as per customer requirement.

Printing / Marking

Sheath Marking as below or as required.

ATC - YEAR - XXXXX - XX FIBER XX STASS OFC - XXXX	
STASS OFC	: Multi Mode or Single Mode sheath steel tape armored Type Optical Fiber Cable
XXXX	: Length of Marking (* The Marking is Printed every 1 meter)
XXX	: Number of Fibers
XXXXX	: Customer Name

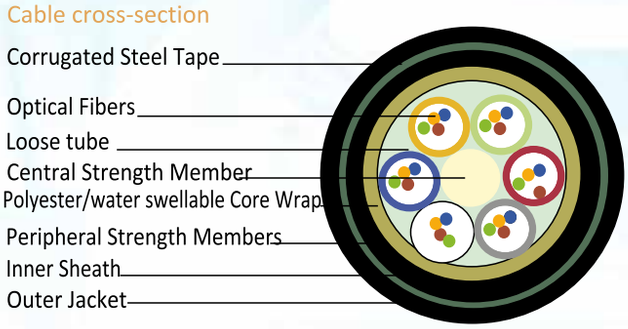
The color of marking is **White / Yellow**.

The both cable ends are sealed with heat shrinkable end caps to prevent water ingress.

Steel Tape Armored Type (Dual Sheath) Optical Fiber Cable

Cable Construction

Cable cross-section



Cable structure and parameter

No. of Fibers	Max Fiber Per tube	No. of Loose Tubes	Cable Inner Sheath Thickness mm	Cable Outer Sheath Thickness mm
4	4	1	1 ± 0.2	1.5 ± 0.2
8	8	1	1 ± 0.2	1.5 ± 0.2
12	12	1	1 ± 0.2	1.5 ± 0.2
24	12	2	1 ± 0.2	1.5 ± 0.2
36	12	3	1 ± 0.2	1.5 ± 0.2
48	12	4	1 ± 0.2	1.5 ± 0.2
96	12	8	1 ± 0.2	1.5 ± 0.2

Cable Design

Fiber:	The Cable can be based on Multimode OM1,OM2 OM3 or Single Mode Fiber as per ITU-T G.652.D, G657, G655, or Combination specifications (Hybrid Cable).
CSM:	Fiber Reinforced Plastic is used as Central Strength Member.
Loose Tube:	Polybutylene Terephthalate (PBT).
Flooding Compound:	Jelly filled Construction with core wrap or water swell able Tape to stop ingress of water.
Armoring:	Corrugated Steel Tapes helps to give cable ruggedness and rodent protection with direct buried Installation.
Filling Compound:	Loose Tube is filled with Thixotropic Jelly, (Not required in dry cable) the filling compound gives protection to the fiber in case of strains etc.
Stranding:	The Loose Buffer Tubes are stranded around the Central Strength Member through SZ Stranding which is a reverse lay method i.e. the direction of stranding reverses after a predetermined no. of revolutions, at the reverse points, the elements are parallel to the axis of cable, a binding yarn is wound around the elements to retain and keep them in proper position.
Peripheral Strength:	Glass Yarns will be used to give extra strength to the cable.
Inner Sheath:	LDPE/MDPE.
Outer Sheath:	HDPE.
Application:	Data, Voice & Video transmission with rodent protection and direct buried installation.

Further details of the fiber material and mechanical/environmental characteristics are also available in the Catalogue.

Fiber Color Code is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

If 24 Fiber tube required, ring marked fibers will be used.

Color Code for Loose Tube (LT) is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Any other specific color coding can also be used as per customer requirement.

Printing / Marking

Sheath Marking as below or as required.

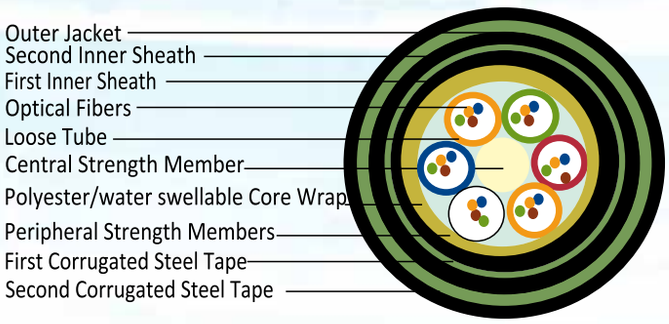
ATC - YEAR - XXXXX - XX FIBER XX STADS OFC - XXXX	
STADS OFC	: Multi Mode or Single Mode sheath steel tape armored Type Optical Fiber Cable
XXXX	: Length of Marking (* The Marking is Printed every 1 meter)
XXX	: Number of Fibers
XXXXX	: Customer Name

The color of marking is **White / Yellow**.

The both cable ends are sealed with heat shrinkable end caps to prevent water ingress.

Cable Construction

Cable cross-section



Cable structure and parameter

No. of Fibers	Max Fiber Per tube	No. of Loose Tubes	Cable Inner Sheath Thickness	Cable Outer Sheath Thickness
			mm	mm
4	4	1	1 ± 0.2	1.5 ± 0.2
8	8	1	1 ± 0.2	1.5 ± 0.2
12	12	1	1 ± 0.2	1.5 ± 0.2
24	12	2	1 ± 0.2	1.5 ± 0.2
36	12	3	1 ± 0.2	1.5 ± 0.2
48	12	4	1 ± 0.2	1.5 ± 0.2
96	12	8	1 ± 0.2	1.5 ± 0.2

Cable Design

Fiber:	The Cable can be based on Multimode OM1,OM2 OM3 or Single Mode Fiber as per ITU-T G.652.D, G657, G655, or Combination specifications (Hybrid Cable).
CSM:	Fiber Reinforced Plastic is used as Central Strength Member.
Loose Tube:	Polybutylene Terephthalate (PBT).
Flooding Compound:	Jelly Filled construction with core wrap or water swellable tape to stop ingress of water.
Armoring:	Two Corrugated Steel Tapes helps to give cable more ruggedness and extra rodent protection.
Filling Compound:	Loose Tube is filled with Thixotropic Jelly, the filling compound gives protection to the fiber in case of strains etc.
Stranding:	The Loose Buffer Tubes are stranded around the Central Strength Member through SZ Stranding which is a reverse lay method i.e. the direction of stranding reverses after a predetermined no. of revolutions, at the reverse points, the elements are parallel to the axis of cable, a binding yarn is wound around the elements to retain and keep them in proper position.
Peripheral Strength:	Glass Yarns will be used to give extra strength to the cable.
Inner Sheath:	LDPE / MDPE
Outer Sheath:	HDPE.
Application:	Data, Video & voice transmission with extra rodent protection and strength.

Further details of the fiber material and mechanical/environmental characteristics are also available in the Catalogue.

Fiber Color Code is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

If 24 Fiber tube required, ring marked fibers will be used.

Color Code for Loose Tube (LT) is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Any other specific color coding can also be used as per customer requirement.

Printing / Marking

Sheath Marking as below or as required.

ATC - YEAR - XXXXX - XXX FIBER XX ST DOUBLE ARMORED OFC - XXXX	
ST DOUBLE ARMORED OFC	: Multi Mode or Single Steel tape Double armored Type Optical Fiber Cable
XXXX	: Length of Marking (* The Marking is Printed every 1 meter)
XXX	: Number of Fibers
XXXXX	: Customer Name

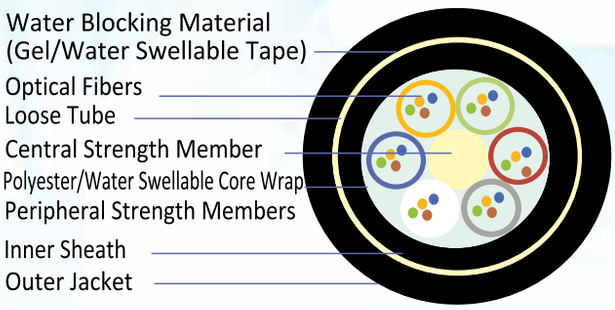
The color of marking is **White / Yellow**.

The both cable ends are sealed with heat shrinkable end caps to prevent water ingress.

Direct Buried (Non Metallic) Optical Fiber Cable

Cable Construction

Cable cross-section



Cable structure and parameter

No. of Fibers	Max Fiber Per tube	No. of Loose Tubes	Cable Outer Sheath Thickness mm
4	4	1	1.5 ± 0.2
8	8	1	1.5 ± 0.2
12	12	1	1.5 ± 0.2
24	12	2	1.5 ± 0.2
36	12	3	1.5 ± 0.2
48	12	4	1.5 ± 0.2
96	12	8	1.5 ± 0.2
144	12/24	12/6	1.5 ± 0.2

Cable Design

Fiber:	The Cable can be based on Multimode OM1,OM2 OM3 or Single Mode Fiber as per ITU-T G.652.D, G657, G655, or Combination specifications (Hybrid Cable).
CSM:	Fiber Reinforced Plastic is used as Central Strength Member.
Loose Tube:	Polybutylene Terephthalate (PBT).
Flooding Compound:	Jelly filled Construction with wrap (Not required in dry cable) or water swell able blocking Tape to stop ingress of water.
Filling Compound:	Loose Tube is filled with Thixotropic Jelly, the filling compound gives protection to the fiber in case of strains etc.
Stranding:	The Loose Buffer Tubes are stranded around the Central Strength Member through SZ Stranding which is a reverse lay method i.e. the direction of stranding reverses after a predetermined no. of revolutions, at the reverse points, the elements are parallel to the axis of cable, a binding yarn is wound around the elements to retain and keep them in proper position.
Peripheral Strength:	Glass Yarns will be used to give extra strength to the cable.
Inner Sheath:	LDPE/MDPE.
Outer Sheath:	HDPE.
Application:	Suitable for Junction communication system, Data, Voice transmission & Subscriber Network system for direct buried Installation.

Further details of the fiber material and mechanical/environmental characteristics are also available in the Catalogue.

Fiber Color Code is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

If 24 Fiber tube required, ring marked fibers will be used.

Color Code for Loose Tube (LT) is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Any other specific color coding can also be used as per customer requirement.

Printing / Marking

Sheath Marking as below or as required.

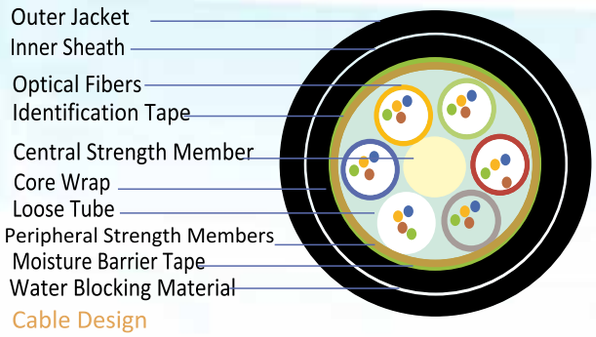
ATC - YEAR - XXXXX - XX FIBER XX DB (Non Metallic) OFC - XXXX	
DB OFC	: Multi Mode or Single Mode Direct buried Non metallic Type Optical Fiber Cable
XXXX	: Length of Marking (* The Marking is Printed every 1 meter)
XXX	: Number of Fibers
XXXXX	: Customer Name

The color of marking is **White / Yellow**.

The both cable ends are sealed with heat shrinkable end caps to prevent water ingress.

Cable Construction

Cable cross-section



Cable structure and parameter

No. of Fibers	Max Fiber Per tube	No. of Loose Tubes	Cable Outer Sheath Thickness mm
4	4	1	1.5 ± 0.2
8	8	1	1.5 ± 0.2
12	12	1	1.5 ± 0.2
24	12	2	1.5 ± 0.2
36	12	3	1.5 ± 0.2
48	12	4	1.5 ± 0.2
96	12	8	1.5 ± 0.2
144	12/24	12/6	1.5 ± 0.2

Cable Design

Fiber:	The Cable can be based on Multimode OM1,OM2 OM3 or Single Mode Fiber as per ITU-T G.652.D, G657, G655, or Combination specifications (Hybrid Cable).
CSM:	Fiber Reinforced Plastic is used as Central Strength Member.
Loose Tube:	Polybutylene Terephthalate (PBT).
Flooding Compound:	Jelly filled Construction with wrap or water swell able blocking Tape to stop ingress of water.
Moisture Barrier:	Aluminum moisture barrier for extra added protection against ingress of water.
Filling Compound:	Loose Tube is filled with Thixotropic Jelly, (Not required in dry cable) the filling compound gives protection to the fiber in case of strains etc.
Stranding:	The Loose Buffer Tubes are stranded around the Central Strength Member through SZ Stranding which is a reverse lay method i.e. the direction of stranding reverses after a predetermined no. of revolutions, at the reverse points, the elements are parallel to the axis of cable, a binding yarn is wound around the elements to retain and keep them in proper position.
Peripheral Strength:	Glass Yarns will be used to give extra strength to the cable.
Inner Sheath:	LDPE/MDPE.
Outer Sheath:	HDPE.
Application:	Suitable for Junction communication system, Data, Voice transmission & Subscriber Network system for direct buried Installation.

Further details of the fiber material and mechanical/environmental characteristics are also available in the Catalogue.

Fiber Color Code is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

If 24 Fiber tube required, ring marked fibers will be used.

Color Code for Loose Tube (LT) is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Any other specific color coding can also be used as per customer requirement.

Printing / Marking

Sheath Marking as below or as required.

ATC - YEAR - XXXXX - XX FIBER XX DB (Metallic) OFC - XXXX	
DB OFC	: Multi Mode or Single Mode Direct buried metallic Type Optical Fiber Cable
XXXX	: Length of Marking (* The Marking is Printed every 1 meter)
XXX	: Number of Fibers
XXXXX	: Customer Name

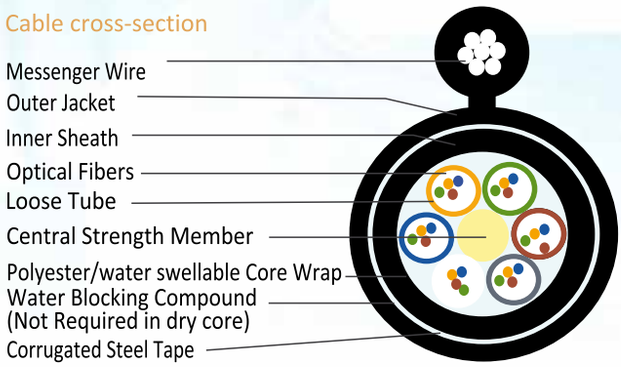
The color of marking is **White / Yellow**.

The both cable ends are sealed with heat shrinkable end caps to prevent water ingress.

Steel Tape Armored Aerial " Fig 8 " Optical Fiber Cable

Cable Construction

Cable cross-section



Cable structure and parameter

No. of Fibers	Max Fiber Per tube	No. of Loose Tubes	Cable Outer Sheath Thickness mm
4	4	1	1.5 ± 0.2
8	8	1	1.5 ± 0.2
12	12	1	1.5 ± 0.2
24	12	2	1.5 ± 0.2
36	12	3	1.5 ± 0.2
48	12	4	1.5 ± 0.2

Cable Design

Fiber: The Cable can be based on Multimode OM1,OM2 OM3 or Single Mode Fiber as per ITU-T G.652.D, G657, G655, or Combination specifications (Hybrid Cable).

CSM: Fiber Reinforced Plastic is used as Central Strength Member.

Loose Tube: Polybutylene Terephthalate (PBT).

Messenger wire: 7 wire strand to make it self-supporting figure 8" Type cable suitable for aerial application with high mechanical strength characteristics

Flooding Compound: Jelly Filled construction with Core wrap or water swellable tape to stop ingress of water.

Armoring: Two Corrugated Steel Tapes helps to give cable more ruggedness and extra rodent protection.

Filling Compound: Loose Tube is filled with Thixotropic Jelly, the filling compound gives protection to the fiber in case of strains etc.

Stranding: The Loose Buffer Tubes are stranded around the Central Strength Member through SZ Stranding which is a reverse lay method i.e. the direction of stranding reverses after a predetermined no. of revolutions, at the reverse points, the elements are parallel to the axis of cable, a binding yarn is wound around the elements to retain and keep them in proper position.

Peripheral Strength: Glass Yarns will be used to give extra strength to the cable.

Outer Sheath: HDPE.

Application: Data, Video & voice transmission with extra rodent protection and strength.

Further details of the fiber material and mechanical/environmental characteristics are also available in the Catalogue.

Fiber Color Code is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

If 24 Fiber tube required, ring marked fibers will be used.

Color Code for Loose Tube (LT) is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Any other specific color coding can also be used as per customer requirement.

Printing / Marking

Sheath Marking as below or as required.

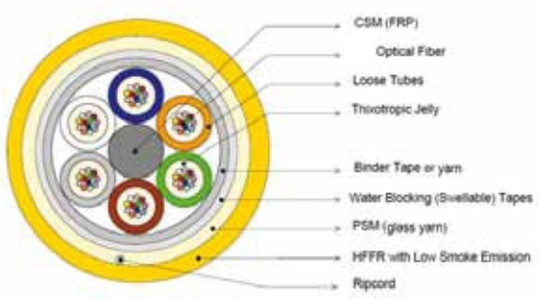
ATC – YEAR – XXXXX – XXX FIBER XX AERIAL F8 OFC – XXXX	
AERIAL F8 OFC	: Multi Mode or Single Mode aerial figure 8 Type Optical Fiber Cable
XXXX	: Length of Marking (* The Marking is Printed every 1 meter)
XXX	: Number of Fibers
XXXXX	: Customer Name

The color of marking is **White / Yellow**.

The both cable ends are sealed with heat shrinkable end caps to prevent water ingress.

Cable Construction

Cable cross-section



Cable structure and parameter

No. of Fibers	Max Fiber Per tube	No. of Loose Tubes	Cable Outer Sheath Thickness mm
4	4	1	1.5 ± 0.2
8	8	1	1.5 ± 0.2
12	12	1	1.5 ± 0.2
24	12	2	1.5 ± 0.2
36	12	3	1.5 ± 0.2
48	12	4	1.5 ± 0.2
96	12	8	1.5 ± 0.2
144	12/24	12/6	1.5 ± 0.2
192	12/24	16/8	1.5 ± 0.2
288	12/24	24/12	1.5 ± 0.2

Cable Design

Fiber: The Cable can be based on Multimode OM1,OM2 OM3 or Single Mode Fiber as per ITU-T G.652.D, G657, G655, or Combination specifications (Hybrid Cable).

CSM: Fiber Reinforced Plastic is used as Central Strength Member.

Loose Tube: Polybutylene Terephthalate (PBT).

Ingress Protection: Dry Core design with the help of Water Swellable Tapes & Yarns.

Filling Compound: Loose Tube is filled with Thixotropic Jelly Filled, the filling compound gives protection to the fiber in case of strains etc.

Stranding: The Loose Buffer Tubes are stranded around the Central Strength Member through SZ Stranding which is a reverse lay method i.e. the direction of stranding reverses after a predetermined no. of revolutions, at the reverse points, the elements are parallel to the axis of cable, a binding yarn is wound around the elements to retain and keep them in proper position.

Peripheral Strength: Glass Yarns will be used to give extra strength to the cable (if required).

Outer Sheath: HFFR / LSZH.

Further details of the fiber material and mechanical/environmental characteristics are also available in the Catalogue.

Fiber Color Code is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

If 24 Fiber tube required, ring marked fibers will be used.

Color Code for Loose Tube (LT) is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Any other specific color coding can also be used as per customer requirement.

Printing / Marking

Sheath Marking as below or as required.

ATC – YEAR – XXXXX – XXX FIBER XX INDOOR OFC – XXXX	
SM INDOOR OFC	: Single Mode Indoor Type Optical Fiber Cable
XXXX	: Length of Marking (* The Marking is Printed every 1 meter)
XXX	: Number of Fibers
XXXXX	: Customer Name

The color of marking is **White / Yellow**.

The both cable ends are sealed with heat shrinkable end caps to prevent water ingress.

Indoor Riser / Breakout Cable

Cable Construction

Cable Design

Amwaj Telecommunication indoor cables can be deployed indoor as building backbone (riser) cabling as well as for the cabling between floor distributors.
The tight-buffered construction facilitates easier termination for low-fiber-count applications in the local area network (LAN) and eliminates need for fan-out kits.
The cables can be installed in conduits and shafts inside buildings.

All-dielectric cable construction
Requires no grounding or bonding

Small diameter and bend radius
Easy installation in space-constrained areas

TB3 tight buffered construction
Easy and consistent stripping over 10cm

Standards

Flame test method

Flame retardant according to IEC 60332-3-24 and EN 50266-2-4
Low smoke according to IEC 61034 and EN 50268
Halogen-free (LSZH)

Specifications

General Specifications	
Environment	Indoor
Application	Vertical Riser, General Purpose Horizontal, Indoor Horizontal, General building applications
Cable Type	Tight-Buffered
Product Type	Dielectric
Flame Rating	LSZH
Fiber Category	50 µm MM (Om3)

Temperature Range	
Installation and assembly	-5 °C to 50 °C
Operation	-20 °C to 60 °C
Storage	-25 °C to 70 °C

Construction Parameters	
Central element	Dielectric
Central element diameter	2 mm
Fiber Count	6
Buffering Diameter	900 µm
Tight buffer type	TB3 (easy strip up to 10 cm)
Tight buffer color subunits	Blue, white, white, white, white, white
Fibers per Subunit	1
Number of Subunits	6
Subunit Diameter	2 mm
Subunit Tensile Strengths Elements Armoring	Aramid yarn strength members
Subunit J acket material	Flame-retardant, low-smoke, zero-halogen
Subunit Jacket nominal thickness	0.35 mm
Subunit Colour	Orange with printed subunit number
Number of Ripcords	1
Outer jacket material	Flame-retardant, low-smoke, zero-halogen
Outer jacket colour	Orange
Outer jacket nominal thickness	0.8 mm
Nominal Outer Diameter	7.8 mm
Weight	58 kg/km
Min. Bend Radius Installation	135 mm
Min. Bend Radius Operation	115 mm
Max. tensile strength for installation	1200 N

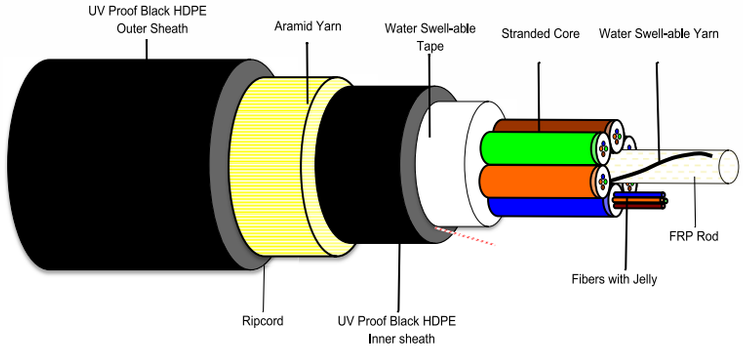
CABLE & FIBER TECHNOLOGY

All direct self supporting (ADSS) Cable an advanced loose tube optical cable with SZ stranded core and fiber with outstanding optical and geometrical properties. Cables are fully water-blocked.

CABLE APPLICATION

Primary use is for self-supporting aerial applications for span lengths 80 meters depending on local loading conditions. OFO can design ADSS for both low voltage distribution systems and high voltage power transmission systems. The cable can also be pulled through ducts, direct buried in some types of soil, lashed to a messenger or placed in outdoor cable trays.

DRY CORE VERSION (TYPICAL)



Design Construction

Sr. No.	Cable Construction Details	Material Specification
1	Central Strength Element	Fiber Reinforced Plastic (FRP) Rod 2.5mm Nominal
2	Loose Tube	Poly-butylene Terephthalate (PBTP) with Thixotropic gel, 2.3mm Nominal
3	Filler Color. No. Of Filler	Natural No. Based on design, mention in physical Specification
4	Stranded Cable Core	Loose Tubes with Fibers & Fillers Stranded Around FRP Rod
5	Water Blocking Element	Water swell able yarn helically applied over FRP Rod
6	Core Wrapping	Water swell able Tape with Binders
7	Core Type	Dry Core
8	Rip Cord	Below Inner Sheath
9	Inner Sheath	UV Proof Black High Density Polyethylene (HDPE) 1.2mm Nominal
10	Dielectric Strength Member	Water Blocking Type Aramid Yarns
11	Ripcord	Below Outer Sheath
12	Outer sheath	UV Proof Black High Density Polyethylene (HDPE) 1.5mm Nominal

PHYSICAL SPECIFICATION

CABLE CONSTRUCTION

Fiber Count	Standard Tube Layup (Others On Request)	No. of Fillers	Cable Weight kg/km (Nom inal)	Cable Dia meter mm (N ominal)
48F	Four Loose Tube / 12-Fibers per tube	2	135	13.5
96F	Eight Loose Tube / 12-Fibers per tube	0	158	15.0

Position holder y is for fiber type. (U = G. 652 standard single mode)

ADSS - Arial Fiber Optic Cable

The physical specifications for the ADSS cable itself and required fi tting & vibration dampers are dependent on the following key parameters. Please provide these details to OFO for specific cable, fitting and vibration damper recommendations.

- Maximum span length - 80 meter
- Installation sag requirement (typically 2%)
- Wind 75 Meter/Second and ice loading, Nil
- 33 KV
- Local wind conditions- Moderate
- Level of airborne pollution- Moderate
- Tensile Load – 2700 N Max

COLOR CODE (As Per EIA /TIA -598)

Loose Tube No.	Color	Fiber No.	Color	Fiber No.	Color
1	Blue	1	Blue	7	Red
2	Orange	2	Orange	8	Black
3	Green	3	Green	9	Yellow
4	Brown	4	Brown	10	Violet
5	Filler	5	Slate	11	Pink
6	Filler	6	White	12	Aqua

Standard Cable Printing at 1 Meter Interval -

Cable printing Details	48F SM G652D ADSS FIBER OPTIC CABLE OMAN FIBER OPTIC 2017 XXXXm
Embossing Color	White

XXXXX = sequential meter marks

Printing is done with hot stamp/tape transfer method for excellent abrasion resistance.

OPTICAL, MECHANICAL AND QUALITY INFORMATION

CABLE WITH SINGLEMODE G.652D

PARAMETER	Units	G.652D
Fiber Type		ITU-T-G.652 D
Average Cable Atte nuation Coeff icient at 1310 nm	dB/Km	0.36
Average Cable Atte nuation Coeff icient at 1550 nm	dB/Km	0.22
Mode field diameter at 1310 nm	µm	9.3 +/– 0.5
Mode field diameter at 1550 nm	µm	10.4 +/– 0.5
Cladding Diameter	µm	125.0 +/–1.0
Mode field Concentricity Error	µm	1.0
Cladding non -circularity	%	1.0
Eff ective group index of refraction at 1310 nm		1.466
Eff ective group index of refraction at 1550 nm		1.467
Cable cut -off wavelength	nm	1260
Zero dispersion Wavelength	nm	1300 – 1324
Zero dispersion slope	ps/nm².km	0.089
Chromatic Dispersion at 1285 -1330 nm	ps/nm.km	3.5
Chromatic Dispersion at 1550 nm	ps/nm.km	17.5
PMD Coefficient	ps/ km	0.2
Coating Diameter	µm	245 +/–10
Fiber Proof Test stress	%	1

MECHANICAL INFORMATION (IEC -60794-1)

PARAMETER	SPECIFICATION	UNITS
Tensile Strength IEC 60794-1-2-E1	Load : 2700 Newton	No Change in attenuation < 0.1dB/Km @1550nm
	Length of cable : about 145 meter	No fiber break and no sheath damage.
	Load time : 1 minute	
Crush Test IEC 60794-1-2-E3	Short Term : 3000 Newton / 10 cm	No Change in attenuation < 0.1dB/Km @1550nm
	Load time : 10 min	No fiber break and no sheath damage.
Impact Test IEC 60794-1-2-E4	Points of impact : 3	No Change in attenuation < 0.1dB/Km @1550nm
	Times of per point : 1	No fiber break and no sheath damage.
	Load :15 Nm, 300 mm Radius	
Repeated Bending IEC 60794-1-2-E6	Bending radius :15x cable diameter	No Change in attenuation < 0.1dB/Km @1550nm
	No. of cycle : 10, 100N load	No fiber break and no sheath damage.
Torsion IEC 60794-1-2-E7	Length : 1 meter	No Change in attenuation < 0.1dB/Km @1550nm
	Twist angle : ±180°	No fiber break and no sheath damage.
	No. of cycle : 5, 100 N Load	
Cable bend IEC 60794-1-2-E11	Bending radius :10x cable diameter	No Change in attenuation < 0.1dB/Km @1550nm
	Number of turns : 1	No fiber break and no sheath damage.
	Number of cycles : 5	
Water Penetration IEC 60794-1-2-F5B	Height of water : 1 meter	No water leak from the cable core of the opposite end
	Sample length : 3 meter	
	Time : 24 hours	
Temperature Cycling IEC 60794-1-2-F1	Temperature : -40< to +70<	No Change in attenuation < 0.1dB/Km @1550nm
	Time of each step : 4 hours	No fiber break and no sheath damage.
	Number of cycle : 2	
Cable Design	25	Years Lifetime
Packing Lengths	4.0 ± 5%	Km

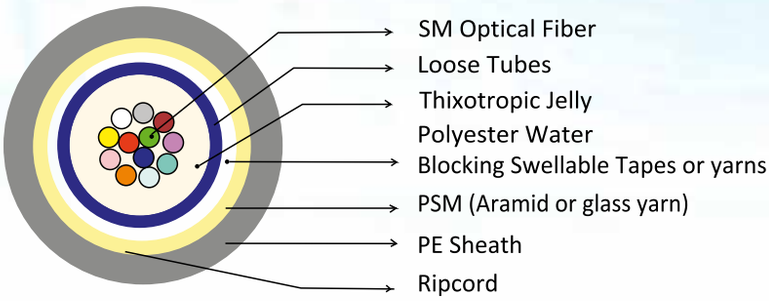
GENERAL INFORMATION

FEATURES & ADVANTAGES

- Extraordinarily robust construction
- Easy cable preparation, even in mid-span
- Dry water blocking for increased craft productivity
- SZ strand for easy mid span splicing
- Flexible buffer tubes provide easy fiber routing inside closure
- No preferential bend axis for easy cable handling, coil storage, figure-eights, etc.

Cable Construction

Cable cross-section



Cable structure and parameter

No. of Fibers	Cable Outer Sheath Thickness
	mm
4	1.5 ± 0.2
8	1.5 ± 0.2
12	1.5 ± 0.2
24	1.5 ± 0.2

Cable Design

Fiber:	The Cable is based on Multimode OM1,OM2 OM3 or Single Mode Fiber as per ITU-T G.652.D, G657, G655 specifications, (Hybrid Cable)
Loose Tube:	Polybutylene Terephthalate (PBT)
Filling Compound:	Loose Tube is filled with Thixotropic Jelly Filled in each tube, the filling compound gives protection to the fiber in case of strains etc
Peripheral Strength:	Glass Yarns or aramid yarns will be used to give extra strength to the cable
Outer Sheath:	HDPE/MDPE

Further details of the fiber material and mechanical/environmental characteristics are also available in the Catalogue.

Fiber Color Code is as per given specification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

If 24 Fiber tube required, ring marked fibers will be used.

Color Code for Loose Tube (LT) is as per given specification

No.	1
Color	Any Standard color tube

Any other specific color coding can also be used as per customer requirement.

Printing / Marking

Sheath Marking as below or as required.

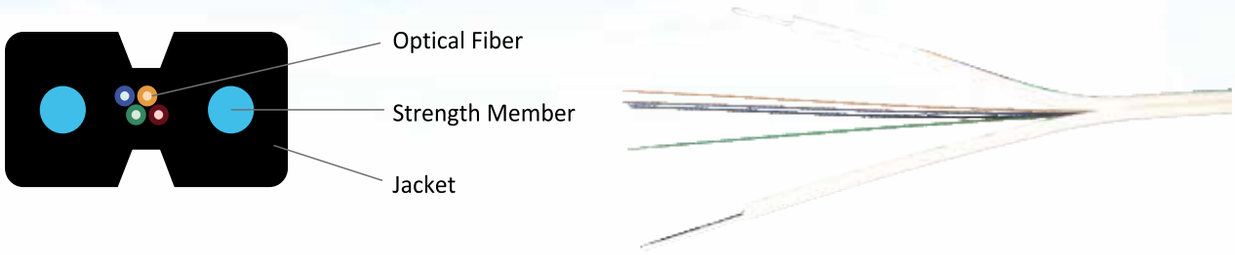
ATC – YEAR – XXXXX – XXX FIBER XX MONO-TUBE OFC – XXXX	
Mono Tube OFC	: Multimode or Single Mode MONO TUBE Type Optical Fiber Cable
XXXX	: Length of Marking (* The Marking is Printed every 1 meter)
XXX	: Number of Fibers
XXXXX	: Customer Name

The color of marking is **White / Yellow**.

The both cable ends are sealed with heat shrinkable end caps to prevent water ingress.

Cable Construction

Cable cross-section



Cable Design

ATC drop flat cable is constructed with Two or Four single mode fiber (ITU-T G.657A) protected by dielectric strength member made of fiberglass reinforced plastic (FRP) and a LSZH outer jacket.

Ideal for use in FTTx applications between the building's main telecommunications room and the apartment/o ffice consolidation point.

Utilizing a 250mm fiber, the cable unit is suitable for use with industry standard connector.

PRIMARY COATING WITH COLOR LAYER	250 ± 15um
DI-ELECTRIC STRENGTH MEMBER	FRP
OUTER JACKET	LSZH
Color	Black or Ivory

MECHANICAL / ENVIRONMENTAL PROPERTIES:

- Robust and lightweight.
- Color coded fibers for easy identification.
- LSZH jacket for internal use.
- Standard cable length of 1 km.

Storage Temperature	-10 to 75℃
Operating Temperature	-10 to 75℃
Fire Performance	IEC 332-1

Fiber Count	Diameter	Weight	Maximum Tensile Load		Minimum Bend Radius	
			Short Term	Long Term	Loaded	Installed
2	3.0 mm x 2.0 mm Flat	8 Kg/Km	100N	33N	6 mm	15 mm
4	3.0 mm x 2.0 mm Flat	8 Kg/Km	100N	33N	6 mm	15 mm

Mechanical & Environmental Characteristics

Cable Bending Radius 10 x cable diameter (No Load) 20 x cable diameter (Full Load)

Operating temperature range - 10 ℃ to +70 ℃

Mechanical & Environmental Characteristics Test Standards

No	Item	IEC Standard
1	Tensile Strength	IEC 60794-1-E1
2	Crush Test	IEC 60794-1-E3
3	Impact Test	IEC 60794-1-E4
4	Repeated Bending	IEC 60794-1-E6
5	Torsion	IEC 60794-1-E7
6	Water Penetration	IEC 60794-1-F5

The cable is fully compliant with ITU-T G.652.D, G655 or G657 Fiber specifications and other relevant specifications such as IEC 60793 and IEC 60794 for the Fiber and construction parameter/tests

Packing and Marking

Packing

Each Single length of cable shall be reeled on Fumigated Wooden Drum suitable for long distance shipment.
Covered by plastic buffer sheet.
Sealed by strong wooden battens.
At least 1 m of inside end of cable will be reserved for testing.
Drum length : Nominal drum length is 3 Km or 6 Km ± 3% or as agreed.

Cable Identification documents

Test report to be provided with each drum.

Drum Marking

Cable Drum

Manufacturer's Name.
Roll-direction arrow.
Cable outer end position indicating arrow.
Optical Fiber Cable - Not to be laid flat.
Caution plate indicating the correct method for loading, unloading.
Other customer information such as contract no. project no. and delivery destination (if needed).

Marking Plate

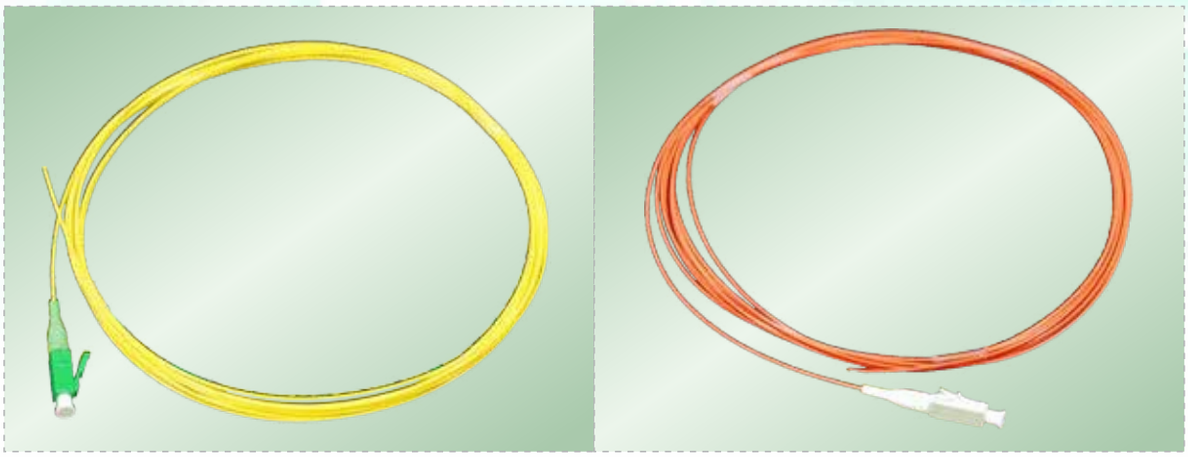
Product Name
Cable type and size
Drum length
Gross / Net weight in kilograms
Drum number in meters
Manufacturer's name
Manufacturing year and month
Project number, contract number or purchase order number (if needed)

Fiber Optic Cable	FOC

CABLE TYPE	Code
DUCT NON METALLIC	01
DUCT METALLIC WITH ALUMINUM MOISTURE BARRIER	02
MINI DUCT DRY CORE CABLE	03
DIRECT BURIED NON METALLIC	04
DIRECT BURIED METALLIC WITH ALUMINUM MOSITURE BARRIER	05
FLAT DROP CABLE	06
MONO TUBE DROP CABLE	07
STEEL TAPE ARMORED SINGLE SHEATH	08
STEEL TAPE ARMORED DOUBLE SHEATH	09
STEEL TAPE DOUBLE ARMORED	10
AERIAL ARMORED FIGURE "8" CABLE	11
ALL DIELECTRIC SELF SUPPORTING CABLE	12
Steel Tape Armored MONO TUBE DROP CABLE	13
FIBER TYPE	Code
SINGLE MODE	SM
MULTIMODE	MM
FIBER CORE	Code
G652D	01
G657A1	02
G657A2	03
G655	04
SM G656	05
OM1 (62.5/125)	06
MM OM2 (50/125)	07
OM3 (50/125)	08
HYBRID CABLE (G652 & G655)	98
HYBRID CABLE (G652 & G656)	99
Number Of Fiber	Code
4 Fiber Cable	004
6 Fiber Cable	006
8 Fiber Cable	008
12 Fiber Cable	012
24 Fiber Cable	024
36 Fiber Cable	036
48 Fiber Cable	048
72 Fiber Cable	072
96 Fiber Cable	096
144 Fiber Cable	144
192 Fiber Cable	192
288 Fiber Cable	288

Example:

Fiber Optic Cable , Duct Non Metallic Single Mode G652D 144 Fiber
FOC-01-SM-01-144



Features :

- Different fiber connectors for selection
- Connector Types - FC / SC / LC / ST / D4 / MU
- Outer Jacket - PVC / Riser / Plenum / OFNR /OFNP & LSZH available on request
- ATC Standard is Plenum Grade for outer Jackets
- Superior Polishing offered in PC / UPC /APC
- Used for Ethernet , FDDI ,Fiber optic system , Video transmission , CATV and Cable TV etc

Ordering Information :

Example: FOPT-SM-06-D-09-Y-02

Description: FOPT-SM Single Mode Pigtail, with LC/APC Connector and SM G657-A Fiber, 0.9 mm , yellow color, 2 meter length

FOPT SM/MM-XX-X-XX-X-XX

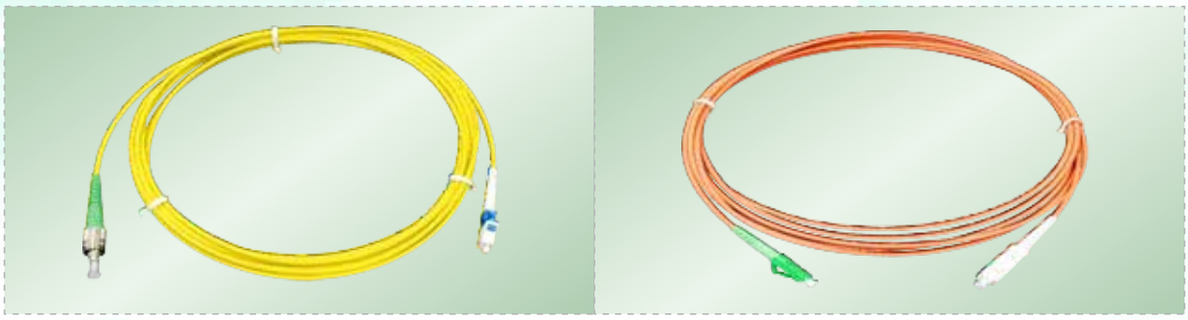
Connector End1	
01	FC/PC
02	FC/APC
03	SC/PC
04	SC/APC
05	LC/PC
06	LC/APC
07	ST/UPC
08	MU/PC

Fiber Type	
A	SM G652-D
B	SM G655
C	SM G656
D	SM G657-A
E	MM 62.5 um (OM1)
F	MM 50 um (OM2)
G	MM 50 um (OM3)
H	MM 50 um (OM4)

Cable Dia	
09	0.9 mm
16	1.6 mm
20	2.0 mm
28	2.8 mm
30	3.0 mm

Cord color	
Y	Yellow
B	Blue
O	Orange
A	Aqua
X	Customer Specified

Cable Length (m)	
01	1 meter
02	2 meter
03	3 meter
05	5 meter
10	10 meter
15	15 meter
X	Customer Specified



Features :

- Simplex or Duplex Cables for selection
- Different fiber connectors for selection
- Connector Types - FC / SC / LC / ST / D4 / MU
- Outer Jacket - PVC / Riser / Plenum / OFNR /OFNP & LSZH available on Request
- ATC Standard is Plemum Grade for outer Jackets
- Polishing offered in PC / UPC for FC / SC / ST / MU
- Polishing offered in APC for SC / FC / LC
- Used for Ethernet , FDDI ,Fiber optic system , Video transmission , CATV and Cable TV etc

Ordering Information :

Example: FOPD-SM-0606-SX-D-20-Y-02

Description: FOPD-SM Single Mode Patch Cord, with LC/APC Connector, Simplex, SM G657-A Fibers, 2.0 mm dia , yellow color and 2.0 meter length

01	FC/PC
02	FC/APC
03	SC/PC
04	SC/APC
05	LC/PC
06	LC/APC
07	ST/UPC
08	MU/PC

Connector End2

A	SM G652-D
B	SM G655
C	SM G656
D	SM G657-A
E	MM 62.5 um (OM1)
F	MM 50 um (OM2)
G	MM 50 um (OM3)
H	MM 50 um (OM4)

Fiber Type

Y	Yellow
B	Blue
O	Orange
A	Aqua
X	Customer Specified

Cord color

FOPD-SM/MM XX-XX-XX-X-XX-X-XX

Connector End1

01	FC/PC
02	FC/APC
03	SC/PC
04	SC/APC
05	LC/PC
06	LC/APC
07	ST/UPC
08	MU/PC

Cable Configuration

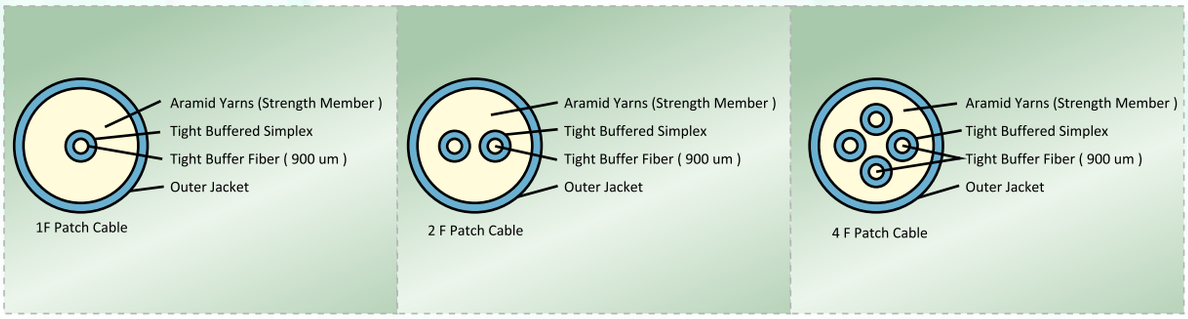
SX	Simplex
DX	Duplex

Cable Dia

16	1.6 mm
20	2 mm
28	2.8 mm
30	3.0 mm

Cable Length (m)

01	1 meter
02	2 meter
03	3 meter
05	5 meter
10	10 meter
15	15 meter
X	Customer Specified



Cable Design Features :

1 - Optical Fiber - Choice of Fiber SM -ITU-T (G652 -D / G655 / G656 / G657-A) MM (OM1/OM2/OM3/OM4)

2 - Tight Buffer - 0.9 mm

3 - Aramid Yarns - As strength Member

4 - Outer Jacket - Choice of PVC / Low smoke Zero Halogen LSZH

5 - Easy to strip with choice of Jacket Color (ATC Standard - Blue)

6 - Outer diameter - 4.5 mm (1F) 7 mm (2 F / 4 F)

Main Application:

As building to building connecting cables

As Indoor cable along the wall ceiling and between layers and in ducts .

ASTRA-SM/MM XX-XX-XX-X-X-XX

Connector End1	
01	FC/PC
02	FC/APC
03	SC/PC
04	SC/APC
05	LC/PC
06	LC/APC
07	ST/UPC
08	MU/PC

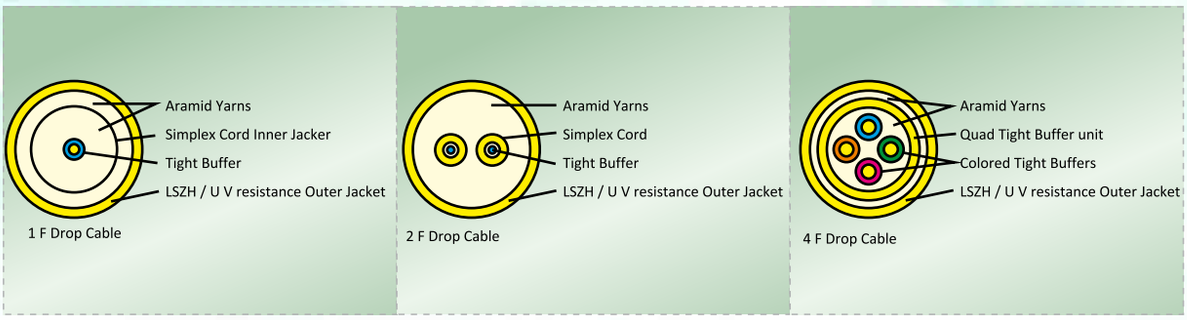
Connector End2	
01	FC/PC
02	FC/APC
03	SC/PC
04	SC/APC
05	LC/PC
06	LC/APC
07	ST/UPC
08	MU/PC

Cable Configuration	
01	1 Fiber
02	2 Fiber
04	4 Fiber

Fiber Type	
A	SM G652-D
B	SM G655
C	SM G656
D	SM G657-A
E	MM 62.5 um (OM1)
F	MM 50 um (OM2)
G	MM 50 um (OM3)
H	MM 50 um (OM4)

Cord color	
Y	Yellow
B	Blue
O	Orange
A	Aqua
X	Customer Specified

Cable Length (m)	
01	1 meter
02	2 meter
03	3 meter
05	5 meter
10	10 meter
15	15 meter
X	Customer Specified



Cable Design Features

- Optical Fiber - SM-ITU-T G 657-A
- Tight Buffer Diameter - 0.9 mm
- Aramid Yarns - As strength Member
- Outer Jacket - Low smoke Zero Halogen LSZH - UV Resistant
- Jacket Color choice available - (ATC Standard - yellow)
- Outer Diameter: 4.5 mm (1F) 7mm (2F/4F) .

Main Application:

Used as Indoor/Outdoor application. Drop in the room especially for FTT-x Applications

Mechanical Specification:

Long Term Tensile strength (N)	:	30 N
Short Term Tensile strength (N)	:	100 N
Short Term Crush resistance	:	300 N
Long Term Bend radius	:	10 X D (D = diameter of cable)
Short Term Bend radius	:	20 X D (D = diameter of cable)

Ordering Information:

Example: ULTRA-SM-0808-02-A-Y-05

Description: ULTRA-SM Single Mode Drop Cable, with LC/APC-LC/APC Connectors, 2 Fibers, SM G657-A Fiber, Yellow color and 5 meters Length.

ULTRA-SM-XX-XX-XX-X-X-XX

Connector End1	
00	No Connector
01	FC/PC
02	FC/APC
03	SC/PC
04	SC/APC
05	MU/PC
06	MU/UPC
07	LC/PC
08	LC/APC

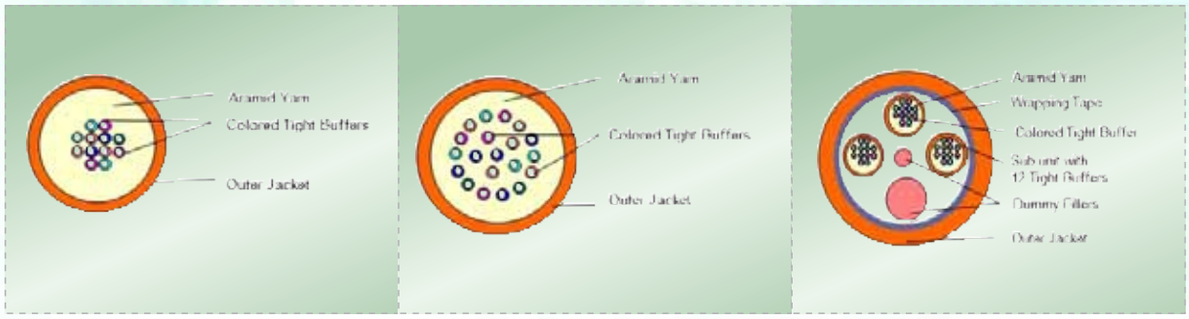
Connector End2	
00	No Connector
01	FC/PC
02	FC/APC
03	SC/PC
04	SC/APC
05	MU/PC
06	MU/UPC
07	LC/PC
08	LC/APC

Cable Configuration	
01	1 Fiber
02	2 Fiber
04	4 Fiber

Fiber Type	
A	SM G657-A

Cord color	
Y	Yellow
B	Blue
O	Orange
K	Special

Cable Length (m)	
01	1 meter
02	2 meter
03	3 meter
05	5 meter
10	10 meter
15	15 meter



Description :

This cable has several tightbuffered fibers (0.9 mm Diameter) bundled under the same Jacket with aramid strength members for giving the tensile strength to the cable and prevent kinking .The cables are small in size and are used for dry conduit runs .

Main Application:

* Cables are rugged , and maily used for inside plant installation .
* LAN Network
* FTTH Network
* CATV & CCTV High speed transmission systems
* Fiber optic sensors
* Used in Indoor cabling especially as Distribution cables
* As Indoor cable along the wall ceiling and between layers and in ducts .

Ordering Information :

Example: ASTRA-FAN-01-05-01-05-01-05

Description: ASTRA-FAN FC/PC - FC/PC with 0.5 meter fanout open length at both sides , Orange Color & 5 meter Length.

ASTRA-FAN X-XX-XX-XX-XX-XX-XX-XX

Fiber Type	
A	SM G652-D
B	SM G655
C	SM G656
D	SM G657-A
E	MM 62.5 um (OM1)
F	MM 50 um (OM2)
G	MM 50 um (OM3)
H	MM 50 um (OM4)

Fiber Capacity	
01	12 Fiber
02	16 Fiber
03	18 Fiber
04	24 Fiber

Connector End1	
00	without
01	FC/PC
02	FC/APC
03	SC/PC
04	SC/APC
05	LC/PC
06	LC/APC
07	ST/UPC
08	MU/PC

Fanout Length End 1 (m)	
05	0.5 meter
10	1 meter
15	1.5 meter

Connector End2	
00	without
01	FC/PC
02	FC/APC
03	SC/PC
04	SC/APC
05	LC/PC
06	LC/APC
07	ST/UPC
08	MU/PC

Fanout Length End 2 (m)	
05	0.5 meter
10	1 meter
15	1.5 meter

Cable Color	
01	Orange
XX	Customer Specify

Cable Length (m)	
01	1 meter
02	2 meter
03	3 meter
05	5 meter
10	10 meter
15	15 meter

Features :

- Telcordia, TIA/EIA and JIS compliance
- Available as FC , SC , ST , LC , MTRJ , E2000
- Choice of Simplex , Duplex and Hybrid version
- High precision Zirconia or standard Phosphor bronze
- Sleeves alignment
- Choice of Metal or Plastic Housing
- Low insertion loss
- High repeatibility and stability with easy installation

Application:

- Fiber distribution
- LAN / WAN / Metro and Data processing networks
- FTTX Applications
- CATV
- Testing Instruments
- Telecommunications systems

Temperature Cycling: (61300-2-18) - 40 to + 75 Deg C (≤ 0.2 dB Change)	Vibration (Mated pair): (61300-2-1) 10 55 Hz 1.5 mm P to P (≤ 0.2 dB Change)	Damp Heat: (61300-2-19) +40 Deg C at 93% RH for 96 hrs (≤ 0.4 dB Change)
High Temperature: (61300-2-18) +70 Deg C for 96 hrs (≤ 0.4 dB Change)	Mating Durability: (61300-2-2) 500 Mating cycles , clean every 25 (≤ 0.2 dB Change)	Operating Temperature: -40 to +85 Deg C

Ordering Information:

Example: ATAD-01-SX-SM

Description: ATAD FC/PC, Simplex, SM adaptor.

ATAD-XX-XX-XX

Connector Type	
01	FC/PC
02	FC/APC
03	SC/PC
04	SC/APC
05	LC/PC
06	LC/APC
07	ST/PC
08	MTRJ
09	MU
10	FC/ST
11	SC/LC
12	SC/ST

Adapter Configuration	
SX	Simplex
DX	Duplex

Fiber Type	
SM	Single mode
MM	Multimode

Adopting advanced attenuation fixed technology , plug in fixed value attenuators features high power endurance and low backreflection , suitable for high speed digital transmission and analog application .It is available in Single mode and Multimode ,

Features:

Avalaible as FC , SC, ST , LC , and MU

Complies to Telcordia GR-910 Core

1 to 30 dB (or as per customer's requirement)

1310 and 1550 nm (or Single wavelength)

Single window - 1280 ~ 1340 nm or 1510 ~ 1590 nm

Dual window - 1310 and 1550 nm (± 25 nm)

Single window - 850 nm or 1300 nm (for Multimode fiber)

Low PDL (≤ 0.1 dB)

Application:

Telecommunication Networks

CATV & LAN

Passive Optical Networks

Reflectance:

UPC ≥ 55 dB (For Single Mode)

APC ≥ 60 dB (For Single Mode)

UPC ≥25 dB (For Multi Mode)

Ordering Information:

Example: RLAT-01-SM-05

Description: RLAT Attenuators FC/PC Single mode, 5 dB Attenuations

RLAT-XX-XX-XX

Connector End	
01	FC/PC
02	FC/APC
03	SC/PC
04	SC/APC
05	LC/PC
06	LC/APC
07	ST/PC
08	MTRJ
09	MU
10	FC/ST
11	SC/LC
12	SC/ST

Fiber Type	
SM	Single mode
MM	Multi mode

Attenuation	
01	1 dB
05	5 dB
10	10 dB
15	15 dB
20	20 dB
25	25 dB

Note: Other Attenuators available on request

Description: The Fiber optic connectors are mainly used in the telecommunications market due to precision interconnect and secure connection . These connector can be seen in every area of the communication environment .
The connectors are supplied with the best quality components complying to standards like EIA-TIA-568
Termination procedure follows with Cable end preparation followed with epoxy - curing and polishing .
Connectors are available with 2 mm / 3 mm cable and 900 Micron buffered fiber

Single Mode Connector (Insertion Loss / Return Loss)

All the Optical Tests are performed at 1310 & 1550 ± 10nm.
Insertion Loss / Return Loss for Single mode connectors as per table Below:

Type	Connector End Face Condition								
	" PC " Polished			" UPC " Polished			" APC " Polished		
	IL (Typical) dB	IL (Max) dB	RL (Min) dB	IL (Typical) dB	IL (Max) dB	RL (Min) dB	IL (Typical) dB	IL (Max) dB	RL (Min) dB
FC	0.25	0.45	45	0.20	0.30	55	0.25	0.40	60
SC	0.25	0.45	45	0.20	0.30	55	0.25	0.40	60
LC	0.25	0.45	45	0.20	0.30	55	0.25	0.40	60
ST	0.25	0.45	45	0.20	0.30	55	0.25	0.40	60
MU	0.25	0.45	45	0.20	0.30	55	X	X	X

Multi Mode Connector (Insertion Loss / Return Loss)

All the Optical Tests are performed at 850 & 1300 ± 20nm.
Insertion Loss / Return Loss for Multi mode connectors as per table Below:

	" PC/UPC " Polished		
	IL (Typical) dB	IL (Max) dB	RL (Min) dB
FC	0.25	0.45	25
SC	0.25	0.45	25
LC	0.20	0.45	25
ST	0.25	0.45	25

Ordering Information:

Example: ATCS-01-01-SX-SM-02-01
Description: ATCS FC/PC Simplex, Single Mode, Connector with 2 mm, Boot Size and Blue Boot Color.

ATCS-XX XX-XX-XX-XX-XX

Connector	
01	FC
02	SC
03	LC
04	ST
05	MU
06	MTRJ
07	D4
08	E2000

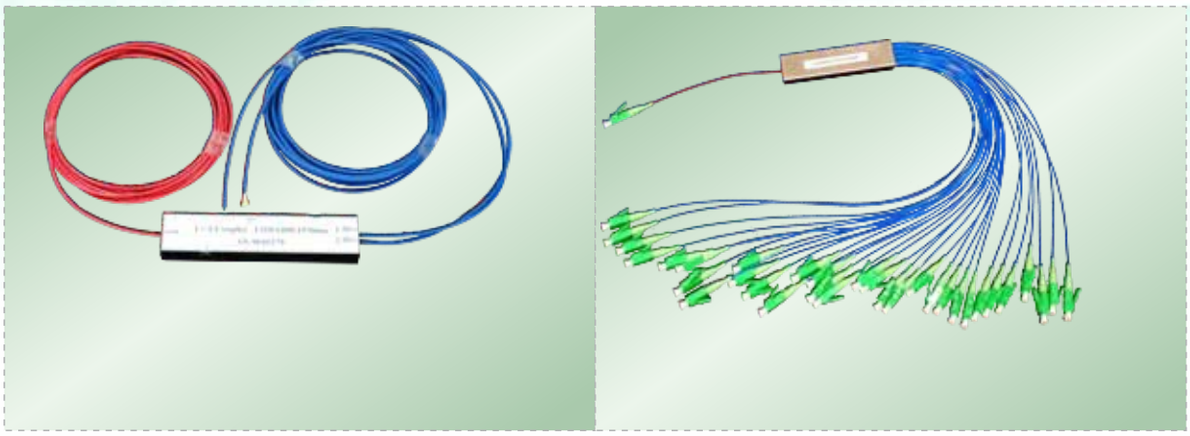
Polishing	
01	PC
02	UPC
03	APC

Type	
SX	Simplex
DX	Duplex

Fiber	
SM	Single Mode
MM	Multi Mode

Boot Size	
01	0.9 mm
02	2 mm
03	3.0 mm

Boot color	
01	Blue
02	Black
03	White
04	Green
05	Red
06	Beige
07	Customer Specified



Specifications:

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

ATC provides whole series of 1 x N and 2 x N splitter products that are tailored to specific applications The splitters meet Telcordia 1209 and 1221 requirements.

Ordering Information:

Example: FOPS-9-10-10-01

Description: Fiber optic splitter 1x32 split ratio with 1.0 meter input Fiber Length , 1.0 meter output Fiber Length and LC/APC Connectors

FOPS-X-XX-XX-X

Splitter Type	
1	PLC 1 : 2
2	PLC 2 : 2
3	PLC 1 : 4
4	PLC 2 : 4
5	PLC 1 : 8
6	PLC 2 : 8
7	PLC 1 : 16
8	PLC 2 : 16
9	PLC 1 : 32
10	PLC 2 : 32

Input fiber Length	
05	0.5 Meter
10	1.0 Meter
12	1.2 Meter

Output fiber Length	
05	0.5 Meter
10	1.0 Meter
12	1.2 Meter

Connector Type	
00	No Connector
01	LC/APC
02	LC/PC
03	SC/APC
04	SC/PC
05	FC/APC
06	FC/PC

Note : ATC -PLC Splitters have SM G657A 0.9mm Pigtails with Red color Input & Blue color outputs.

Promex-HD/UHD-RA Fiber Distribution Terminal Cabinets enables telecom operator & service providers to maintain and manage the distribution of the connection in a disciplined manner for small and large scale FTTX networks.

These cabinets are specially designed and fabricated for outdoor operations provided to bear extreme weather conditions and provide well organized and centralized distribution of the connections. Promex-HD/UHD-RA Cabinet are equipped with HD-OSF (High Density Optical Splitter Frame) and HD-ODF (High Density Optical Distribution Frame) .

Promex-HD/UHD-RA Cabinet are designed and equipped with different capacities to cover small and large scale FTTX networks with different operating functionalities. Promex-HD/UHD-RA Cabinet are provided as pre-connectorised for splitter inputs and outputs up to the splice trays and in between testing points are available. As per the functionality Promex-HD/UHD-RA is offered in all front operation designs.

Model No.Promex-UHD-RA 480

Model No.Promex-HD-RA 768

Ordering Information:

Example : Promex-HD-RA-E2-04-24-L1-ML

Description : Promex-HD-RA 768 Cabinet Pre-loaded with 2:32 @ 24 Splitters and fully loaded with LC/APC Adaptors

Build your Design

Promex-HD/UHD-RA XX - XX - XX - XX - XX

Model No.	
E1	Promex-HD-RA 384
E2	Promex-HD-RA 768
E3	Promex-UHD-RA 480

Splitter Type	
01	1:8
02	2:8
03	1:32
04	2:32

No. of Splitters	
08	8 Splitters
10	10 Splitters
12	12 Splitters
16	16 Splitters
24	24 Splitters
30	30 Splitters
45	45 Splitters
60	60 Splitters
XX	XX Splitters

Connector/Adaptor Type	
L1	LC/APC
L2	LC/PC

Loaded Adaptors	
SL	Splitter Capacity loaded
ML	Maximum Capacity Loaded

Application

The outdoor Patching on Demand Fiber Distribution Terminal (POD-FDT) cabinet for up to 288 end users is designed to handle fiber optic terminations. It is also for Point to Point (P2P). The Patching-FDT is used as a demarcation point between the feeder network and the distribution network and provides quick and easy incremental installation of distribution cable. This cabinet can handle both air-blown fiber in micro ducts, micro cables as well as drop cables and other fiber optic cables.

The Patching-FDT is intended for outdoor installations but can also be mounted indoors, floor standing e.g. for use in a basement of a Multi Dwelling Unit.

Design

This cabinet is designed with management for easy handling and identification of output fibers inside the cabinets. This excludes the need for external manholes and splice boxes and therefore reduces installation time and installation cost. In addition to easy cable installation, the cabinet is designed for installation cross connections which enables better consumer connection management and additional cost savings. The product is equipped with a distribution panels for up to 288 end-user connections and up to 288 feeder cable, bypass and spare feeder terminations.

The cabinet is equipped with heavy duty lockable front doors with hexagonal key lock. The feeder cable and distribution cable management and routing is also provided with self-protecting rubber to retain the cabinet IP rating after installation as well.

.

Features

For PON and P2P applications

In-cabinet splicing, no splicing in manhole

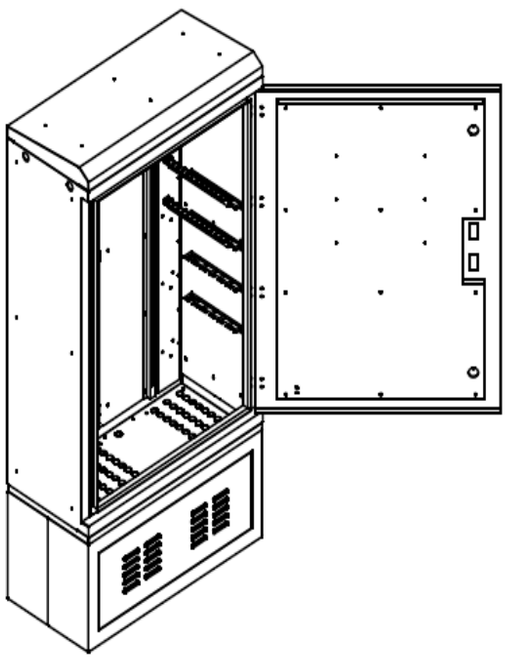
Up to 288 terminated patching on demand drops

Up to 39 input and 24 output positions for cable entries

IP 55 rated Metallic Outer body

Material

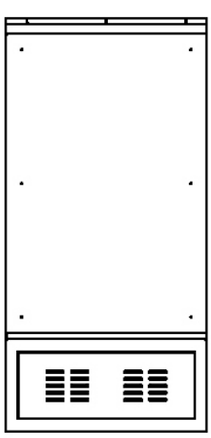
The housing is made of GI steel powder coated that provides excellent mechanical strength at a very low weight in combination with highest corrosion resistance. Other metallic parts such as screws, micro duct and cable holders etc. are made of stainless steel. The door gaskets are of EPDM material. Fiber adapter trays are of plastic. All materials are very high in quality.



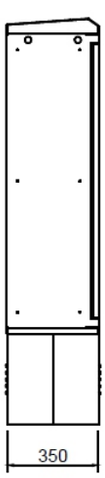
Weight, Size and Color

Weight: 130 kg (approx.)
Dimensions (HxWxD):1551mm X 750mm X 350mm
Color: Light grey (RAL 7035)
*Height including base.

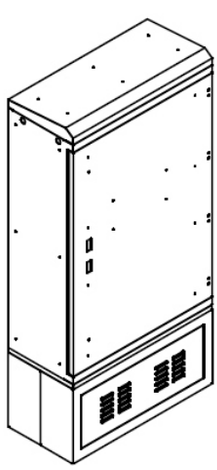
REAR VIEW



SIDE VIEW



ISOMETRIC VIEW

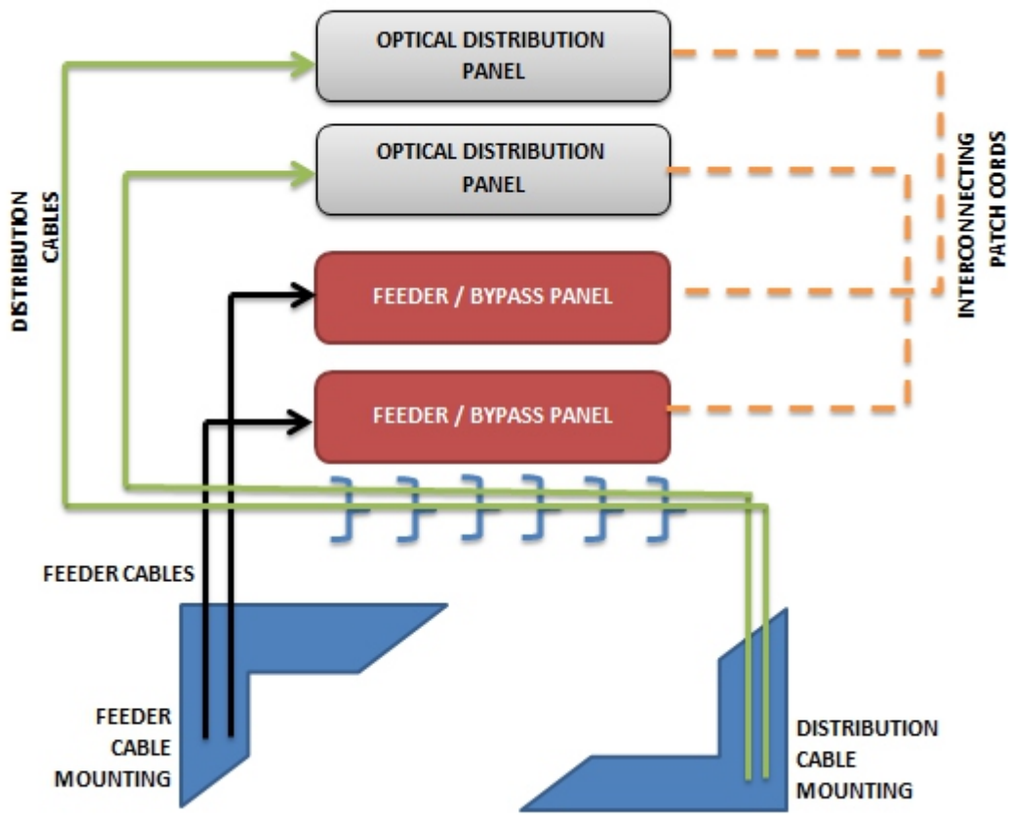


Configuration

A standard configuration of Patching on demand FDT, the main components are as follows:

- Feeder/ Bypass Panel
- Optical Distribution Panels

Pigtails splice sleeves, protection tubes etc are optional accessories available with the cabinet.



Optical Characteristics

ODF Pigtails :

Parameters	Specifications
Insertion Loss	Maximum 0.30 dB Typical: 0.15 ~ 0.20 dB.
Return Loss	Minimum 60 dB for APC
Operating Temperature	- 10 ° C to + 75° C
Fiber / Pigtail Standard	Fiber SM ITUT –G657A1 , Pigtail Ø 0.9 mm
Connector /Adapter Standard	EIA / TIA and IEC Compliance

Product Categorization

Model No	Maximum Capacity	Loaded Capacity	Adapter Type	Dimensions with Base (H x W x D) mm
ATC-Patching-FDT-288-Ports	288	288	* LC/APC	1551 x 750 x 360

*ATC standard Adapter is offered as LC/APC or as customer specified.

Application

The outdoor Patching on Demand Fiber Distribution Terminal (POD-FDT) cabinet for up to 768 end users is designed to handle fiber optic terminations and passive optical splitters in PON FTTx networks. It can also be used for Point to Point (P2P) applications or combinations of the both. The POD-FDT is used as a demarcation point between the feeder network and the distribution network and provides quick and easy incremental installation of distribution cable terminations and fiber optic splitters. This cabinet can handle both air-blown fiber in micro ducts, micro cables as well as drop cables and other fiber optic cables.

The POD-FDT is intended for outdoor installations but can also be mounted indoors, floor standing or wall mounted e.g. for use in a basement of a Multi Dwelling Unit.

Design

This cabinet is designed with the unique feature of modular splitter panels each can accommodate 12 spli©er modules pre-connectorised in a very efficient manner with management for easy handling and identification of output fibers inside the cabinets. This excludes the need for external manholes and splice boxes and therefore reduces installation time and installation cost. In addition to easy cable installation, the cabinet is designed for installation patching on demand which enables better consumer connection management and additional cost savings. The product is equipped with a distribution panels for up to 768 end-user connections and up to 144 feeder cable, bypass and spare feeder terminations. There is 192 ports Parking Panel which is used to hold the point to multipoint connections in idle state parked till it was connected.

Features

- **For PON and P2P applications**
- **In-cabinet splicing, no splicing in manhole**
- **Up to 768 terminated patching on demand drops**
- **Up to 24 positions for mounting of splitter modules**
- **IP 55 rated Metallic Outer body**

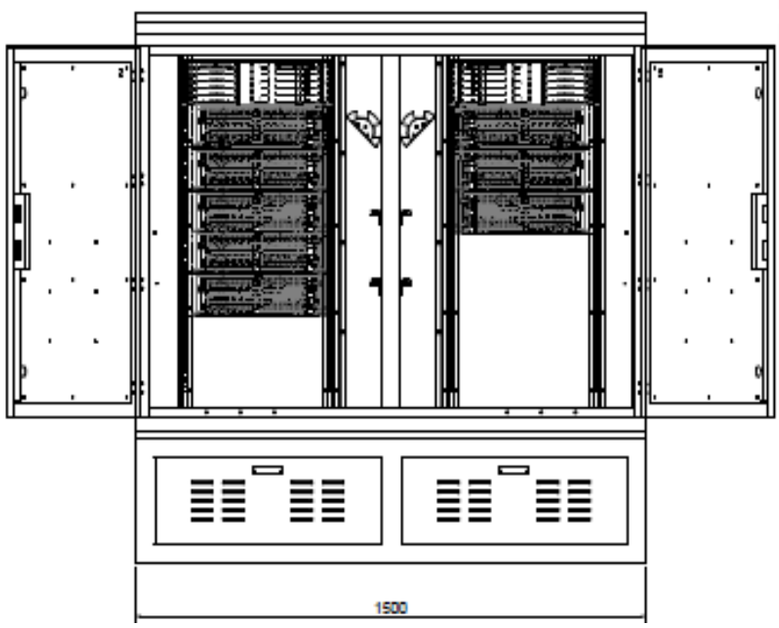
The cabinet is equipped with heavy duty lockable front doors with hexagonal key lock. The feeder

cable and distribution cable management and routing is also provided with self-protecting rubber to retain the cabinet IP rating after installation as well.

Typical Data

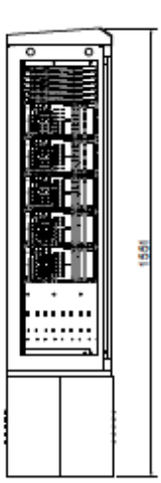
Material

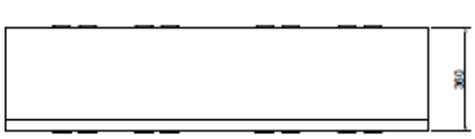
The housing is made of GI steel powder coated that provides excellent mechanical strength at a very low weight in combination with highest corrosion resistance. Other metallic parts such as screws, micro duct and cable holders etc. are made of stainless steel. The door gaskets are of EPDM material. Fiber adapter trays are of plastic. All materials are very high in quality.

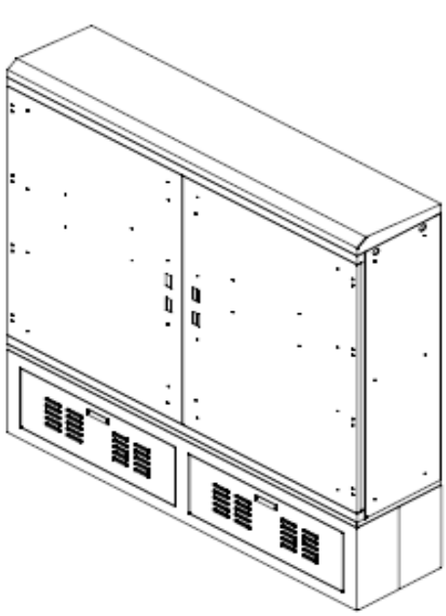


Weight, Size and Color

Weight: 280 kg (approx.)
Dimensions (HxWxD):1551mm X 1500mm X 360mm
Color: Light grey (RAL 7035)
*Height including base.





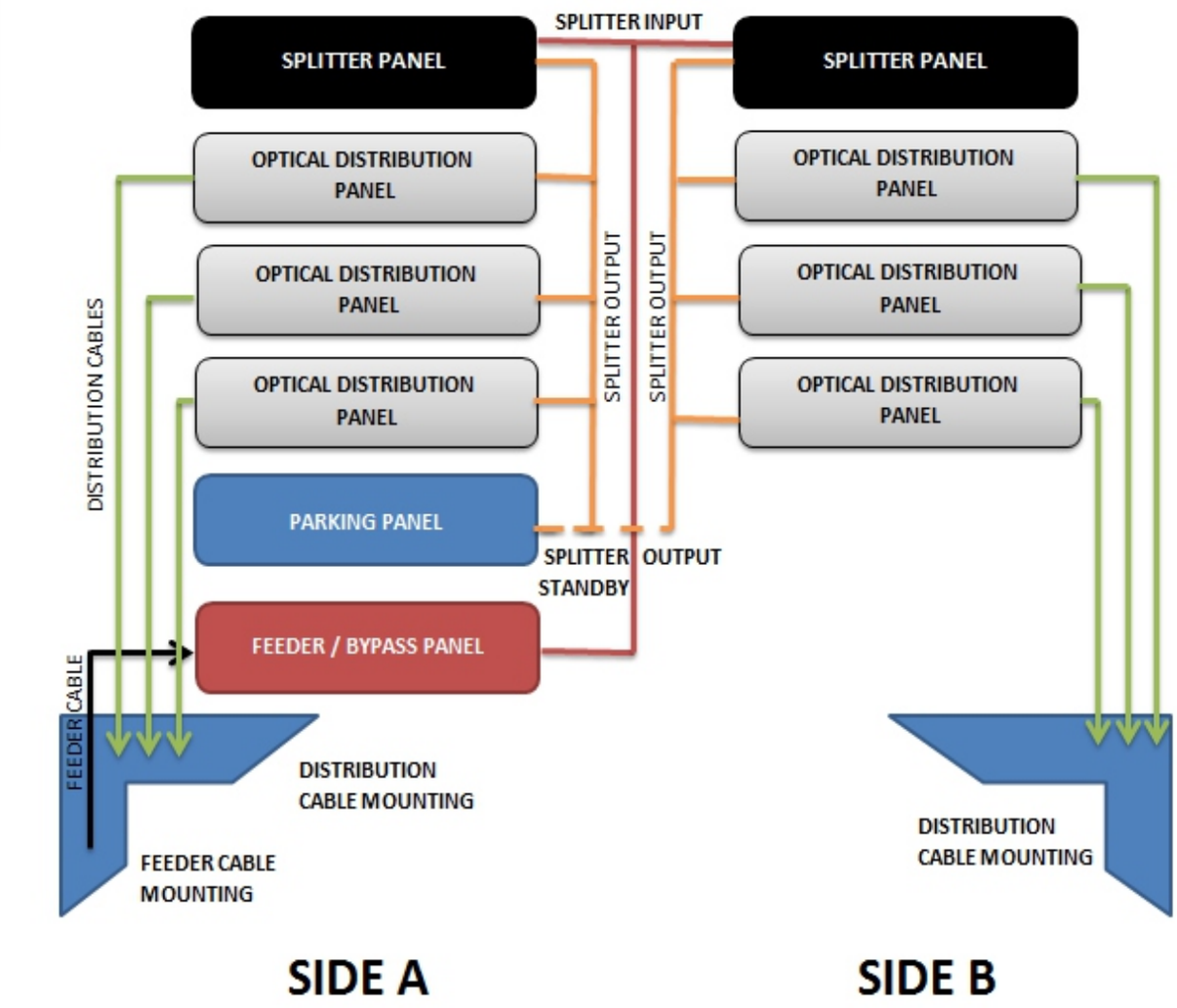


Configuration

A standard configuration of Patching on demand FDT, the main components are as follows:

- Feeder/ Bypass Panel
- Parking Panel for standby connections.
- Optical Distribution Panels
- Modular Splitter Management Panel

Pigtails splice sleeves, protection tubes etc are optional accessories available with the cabinet.



Optical Characteristics

ODF Pigtails :

Parameters	Specifications
Return Loss	Minimum 60 dB for APC
Operating Temperature	10 - ° C to + 75° C
Fiber / Pigtail Standard	Fiber SM ITUT – G657A1 , Pigtail Ø 0.9 mm
Connector /Adapter Standard	EIA / TIA and IEC Compliance

Splitter:

Specifications:		1 x 2 50/50	2 x 2 50/50	1 x 4	2 x 4	1 x 8	2 x 8	1 x 16	2 x 16	1 x 32	2 x 32
Operating Wavelength		1260- 1620 nm									
Fiber Type		Single Mode ITU-T G657-A									
* Insertion Loss (dB)	Typical	--	--	--	--	--	--	--	--	16.2	17.2
	Max	--	--	--	--	--	--	--	--	17.0	17.5
Return Loss (dB) Min		--	--	--	--	--	--	--	--	55/50	
PDL (dB)	Typical	--	--	--	--	--	--	--	--	0.2	0.2
	Max	--	--	--	--	--	--	--	--	0.3	0.3
Directivity (dB)		--	--	--	--	--	--	--	--	55	
Wavelength Dependent Loss (dB)	Typical	--	--	--	--	--	--	--	--	0.3	0.3
	Max	--	--	--	--	--	--	--	--	0.5	0.5
Temperature Stability	Typical	--	--	--	--	--	--	--	--	0.4	0.4
(-40 °C ~ + 85 °C)	Max	--	--	--	--	--	--	--	--	0.5	0.5

Product Categorization

Model No	PLC Splitter Type * (N –X)	No of Splitters	Maximum Capacity	Loaded Capacity	Adapter Type	Dimensions with Base (H x W x D) mm
ATC-POD-FDT-768-232-24	2: 32	24	768	768	* LC/APC	1551 x 1500 x 360
ATC-POD-FDT-384-232-12	2: 32	12	384	384	* LC/APC	1551 x 750 x 360

*N = Splitter Input 1.6 mm loose buffer, Red color.
*X= Splitter Output 1.6 mm loose buffer, Yellow color.
*ATC standard Adapter is offered as LC/APC or as customer specified.

Fiber Distribution Terminal	FDT

Product	Code
Double Door (Max upto 576 ports)	DD
Single Door (Max upto 288 ports)	SD
High Density Double Door)Max upto 768 ports)	HDDD
High Density Single Door (Max upto 384 ports)	HDSD
Patching On Demand Ultra High Density Double Door (Max upto 768 ports)	UHDPODDD
Patching On Demand Ultra High Density Single Door (Max upto 384 ports)	UHDPODSD
No Of Connections	Code
288	0288
576	0576
768	0768
384	0384
Splitter Type	Code
2:32	SP232
1:32	SP132
No. Of Splitter	Code
Fully Loaded	FL
2	NS02
4	NS04
6	NS06
12	NS12
16	NS16
Adaptor	Code
LC/APC	L01
LC/PC	L02
SC/APC	S01
SC/PC	S02
Fiber Type	Code
Single Mode	SM
Fiber Core	Code
G652D	01
G657A1	02
G657A2	03

Example:

Fiber Distribution Terminal Patching on Demand Ultra High Density 768 2:32 splitter fully loaded LC/APC SM G657A1
UHDPODDD-0768-SP232-FL-L01-SM-02

The Fiber Distribution Point provides everything necessary to manage distribution fibers for an outside plant FTTx application on the street.

The Fiber Distribution Terminal Pedestal accommodates two 2:32 fiber optic splitter inside of the metallic box .

It protects the splicing point from outside environment.

The design and layout of the cable guides promote an efficient and ordered positioning of the cable with main body. Placement of the incoming cables allows convenient access for installation, maintenance and subsequent termination of additional secondary cable.

All components of the Distribution Point will be of high quality design, workmanship and finish.

Features:

- Intelligent design.
- 64 shared connections
- Simple and clearly arranged cable management.
- Outdoor Pedestal.

Recommended Application:

- Outdoor installation
- On the ground
- Distribution point for subscriber
- FTTH (Fiber To The Home)
- Data communications

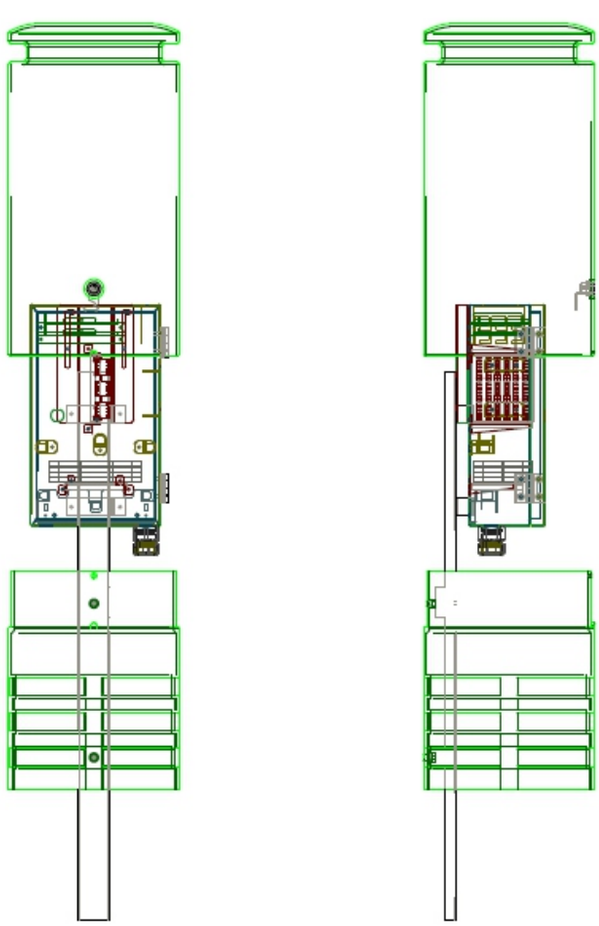
Performance

- **Material:** HDPE, wet-proof/ water-proof/ dust-proof/ anti-aging, protection level up to IP 54/
- **Working temperature:** -10 to +70 Degree,
- **Insertion loss** ≤0.2dB
- **UPC return loss** ≥50dB
- **APC return loss** ≥60dB

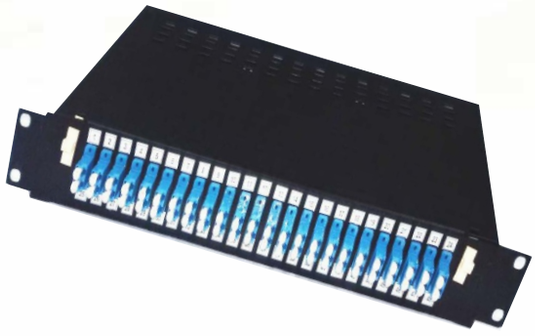
Product Categorization:

Dimensions (mm)		Product Code
Diameter	Height	
289	835	ATC-FDTP-23264

Product Drawings:

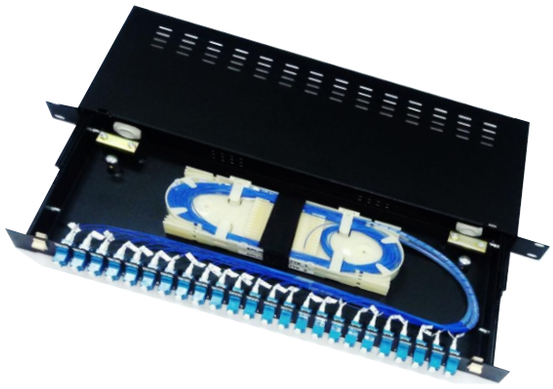


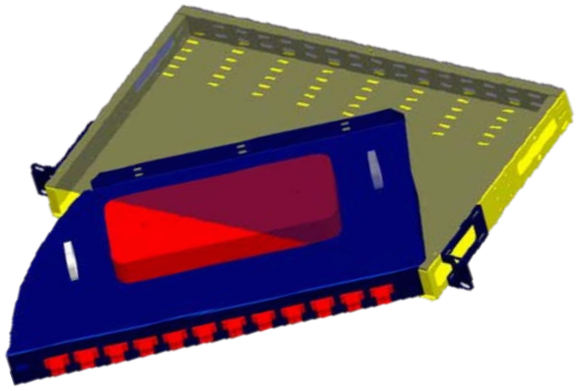
ODF-FSTP FA Series Fiber Optic Enclosure are offered as an Optical Distribution Frame (ODF) which are with high quality & mountable on 19'' or 21''Standard frame for termination/Distribution of fibers in optical fiber networks including FTTX networks.
Our FA series ODF-FSTP are Interface point between termination of outside plant (OSP) /Feeder Cables and Fiber optic Transmission Equipment. FA series ODF-FSTP Enclosures are applicable to be installed as Indoor / in building premises (Mounted inside Fiber distribution Frames (FDF) / ETSI Racks or in Racks / cabinets with standard mounting angles) and facilitates combination of three functions Optical Splicing, Management, and Distribution/Termination.



Description:

- Swing type & Slide with rail Type for ease of work and handling of fiber connections. (Upto 2U height).
- Front Patching for Easy Installation.
- Stylish and innovative design that can serve the need for today's advanced networks and settings.
- plice trays, facilitating network technicians to perform easy fiber splicing, termination and management
- High Quality Polycarbonate molded Plastic Parts and Galvanized Powder Coated Steel Sheets for metal Parts.
- Splice trays are easily removable for ease of operation and up gradation.
- Multiple mounting bracket position for 19” and 21” rack and cabinet installation.
- Available for LC, SC ,FC & ST adapters (PC & APC Polishing).
- UL Approved (Complies to IEC 60068)





Recommended Application:

- Telecom Rooms
- Data Centers
- Entrance facility
- Racks, Cabinets & FDFs

Optical Characteristics:

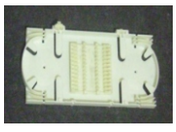
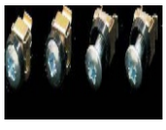
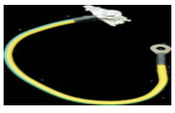
Single-Mode ODF-FSTP

Parameters	Specifications
Optical Wavelength	1260 nm to 1650 nm (Typical: 0.20dB)
Insertion Loss	Maximum 0.30 dB
Return Loss	Min. 50 dB for PC type Adapters , Min. 60 dB for APC type Adapters
Operating Temperature	- 10 C to + 60 C
Pigtail Standard	SM (G.652-D, G.656 & G.657A)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

Multi-Mode ODF-FSTP

Parameters	Specifications
Optical Wavelength	850 nm to 1300 nm
Insertion Loss	Maximum 0.30 dB (Typical: 0.20dB)
Return Loss	Minimum 20 dB for PC type Adapters
Operating Temperature	- 10 C to + 60 C
Pigtail Standard	MM (OM1 /OM2 /OM3 and OM4)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

Accessories :

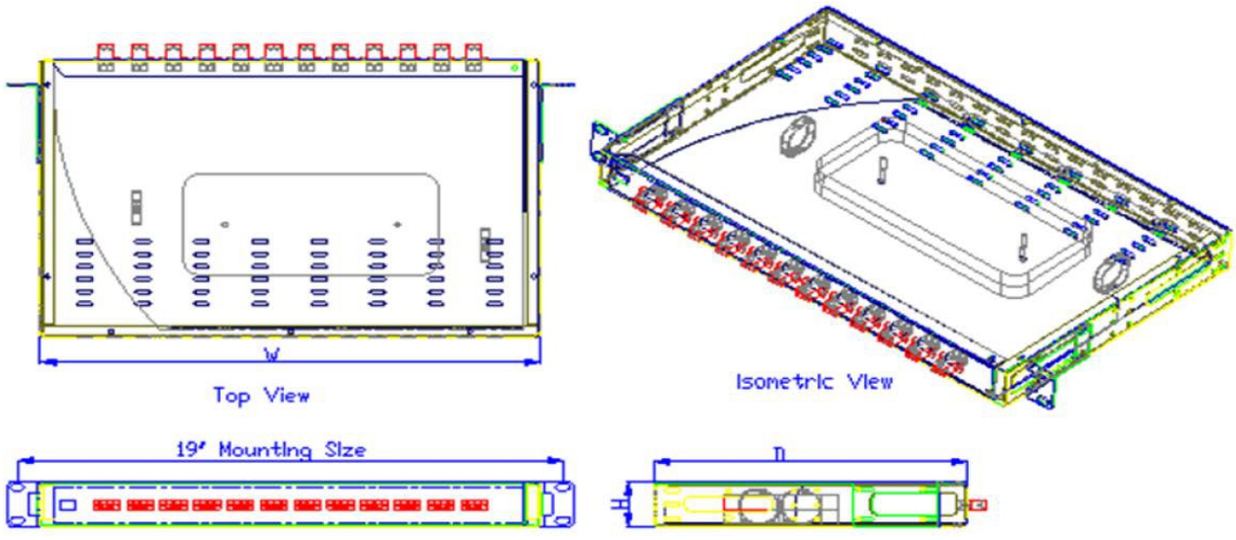
Fiber Splice Tray	Cage Nuts	FRP Holder	Cable Ties
			
Cable Clamp	**Earthing Wire**	**Splice Sleeve 60mm**	**FRP Holder (optional)**
			

Product Categorization :

No. Of Connections	Height (U)	Dimensions		Connector Type
		Width	Depth	
6	**1U**	19" / 21"	270mm	LC (Dx)
6	**1U**	19" / 21"	270mm	SC ,FC or ST (Sx)
12	**1U**	19" / 21"	270mm	LC (Dx)
12	**1U**	19" / 21"	270mm	SC ,FC or ST (Sx)
24	**1U**	19" / 21"	270mm	LC (Dx)
24	**1U**	19" / 21"	270mm	SC ,FC or ST (Sx)
48	**1U**	19" / 21"	270mm	LC (Dx)
48	**2U**	19" / 21"	270mm	SC ,FC or ST (Sx)
96	**2U**	19" / 21"	270mm	LC (Dx)

* Polishing can be UPC, PC or APC as required

Product Drawings:



ODF-FSTP Fiber Optic Enclosure is offered as an Optical Distribution Frame (ODF) which has a high quality mountable on 19'' or 21''Standard frame for termination/Distribution of fibers in optical fiber networks including FTTX networks.

ODF-FSTP Enclosures are Interface point between termination of outside plant (OSP) /Feeder Cables and Fiber optic Transmission Equipment. ODF-FSTP Enclosures are applicable to be installed as Indoor / in building premises (Mounted inside Fiber distribution Frames (FDF) / ETSI Racks or in Racks / cabinets with standard mounting angles) and facilitates combination of three functions Optical Splicing, Management, and Distribution/Termination.

Description:

- Swing type for ease of work and handling of fiber connections.
- Stylish and innovative design that can serve the need for today's advanced networks and settings.
- Swing type splice trays, facilitating network technicians to perform easy fiber splicing, termination and management
- Front door, hinged type which open 180 degrees down.
- Use of special adapter mounting plates.
- Use of Polycarbonate molded Plastic Parts and Galvanized Powder Coated Steel Sheets for metal Parts.
- Splice trays are easily removable for ease of operation and up gradation.
- Front door is hinged type and can easily be detached.
- Multiple mounting bracket position for 19” and 21” rack and cabinet installation.
- Available for LC, SC ,FC & ST adapters (PC & APC Polishing).
- UL Approved (Complies to IEC 60068)

Recommended Application:

- Telecom Rooms
- Data Centers
- Entrance facility
- Racks, Cabinets & FDFs

Optical Characteristics:

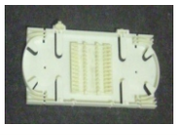
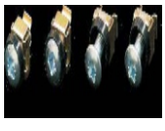
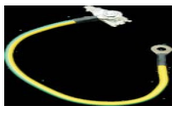
Single-Mode ODF-FSTP

Parameters	Specifications
Optical Wavelength	1260 nm to 1650 nm (Typical: 0.20dB)
Insertion Loss	Maximum 0.30 dB
Return Loss	Min. 50 dB for PC type Adapters , Min. 60 dB for APC type Adapters
Operating Temperature	- 10ζC to + 60ζC
Pigtail Standard	SM (G.652-D, G.656 & G.657A)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

Multi-Mode ODF-FSTP

Parameters	Specifications
Optical Wavelength	850 nm to 1300 nm
Insertion Loss	Maximum 0.30 dB (Typical: 0.20dB)
Return Loss	Minimum 20 dB for PC type Adapters
Operating Temperature	- 10ζC to + 60ζC
Pigtail Standard	MM (OM1 /OM2 /OM3 and OM4)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

Accessories :

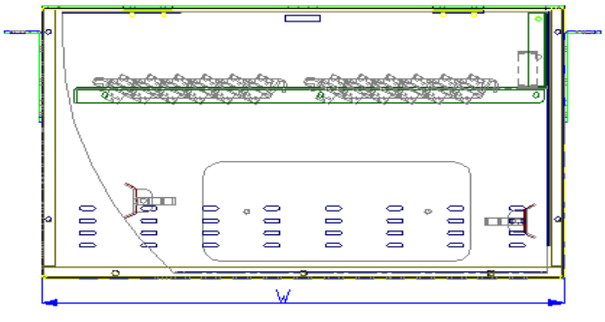
Fiber Splice Tray	Cage Nuts	FRP Holder	Cable Ties
			
Cable Clamp	**Earthing Wire**	**Splice Sleeve 60mm**	**FRP Holder (optional)**
			

Product Categorization:

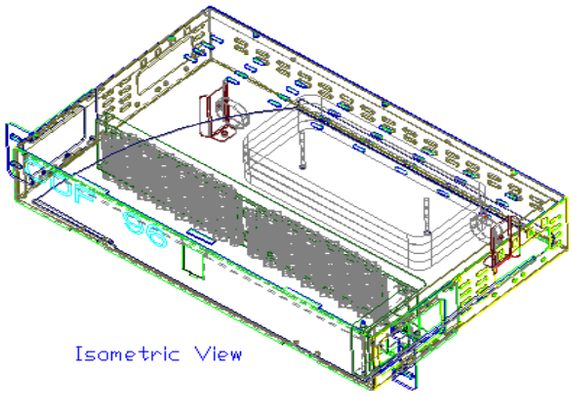
No. Of Connections	Height (U)	Dimensions		Connector Type
		Width	Depth	
12	**1U**	19" / 21"	270mm	LC (Dx)
12	**1U**	19" / 21"	270mm	SC ,FC or ST (Sx)
24	**1U**	19" / 21"	270mm	LC (Dx)
24	**1U**	19" / 21"	270mm	SC ,FC or ST (Sx)
48	**1U**	19" / 21"	270mm	LC (Dx)
48	**2U**	19" / 21"	270mm	SC ,FC or ST (Sx)
96	**2U**	19" / 21"	270mm	LC (Dx)
96	**4U**	19" / 21"	270mm	SC ,FC or ST (Sx)
144	**3U**	19" / 21"	270mm	LC (Dx)
288	**4U**	19" / 21"	270mm	LC (Quad)

*288 port ODF will be with Straight Quad adaptors in Metal Plate UHD type configuration.

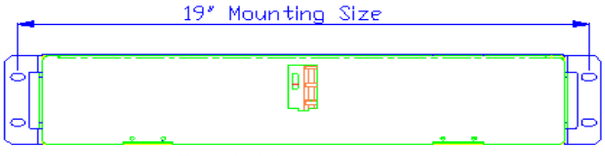
Product Drawings:



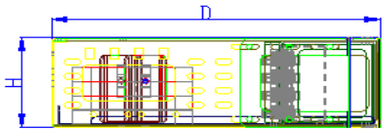
Top View



Isometric View

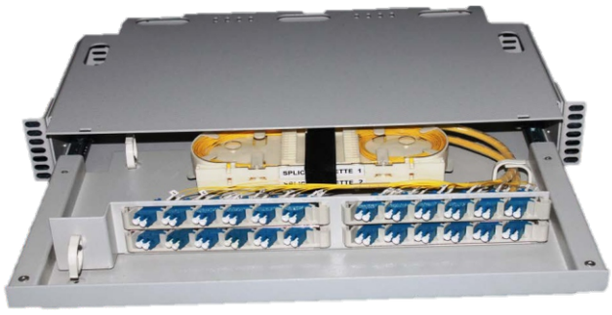


Front View



Side View

ODF-FSTP FS Series Fiber Optic Enclosure are offered as an Optical Distribution Frame (ODF) which are with high quality & mountable on 19'' or 21''Standard frame for termination/Distribution of fibers in optical fiber networks including FTTX networks.
Our FS series ODF-FSTP are Interface point between termination of outside plant (OSP) /Feeder Cables and Fiber optic Transmission Equipment. FS series ODF-FSTP Enclosures are applicable to be installed as Indoor / in building premises (Mounted inside Fiber distribution Frames (FDF) / ETSI Racks or in Racks / cabinets with standard mounting angles) and facilitates combination of three functions Optical Splicing, Management, and Distribution/Termination.



Description:

- Slide with rail Type for ease of work and handling of fiber connections.
- Stylish and innovative design that can serve the need for today's advanced networks and settings.
- Splice trays, facilitating network technicians to perform easy fiber splicing, termination and management
- High Quality Polycarbonate molded Plastic Parts and Galvanized Powder Coated Steel Sheets for metal Parts.
- Splice trays are easily removable for ease of operation and up gradation.
- Multiple mounting bracket position for 19” and 21” rack and cabinet installation.
- Available for LC, SC ,FC & ST adapters (PC & APC Polishing).
- UL Approved (Complies to IEC 60068)

Recommended Application:

- Telecom Rooms
- Data Centers
- Entrance facility
- Racks, Cabinets & FDFs

Optical Characteristics:

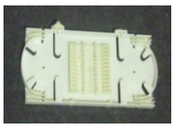
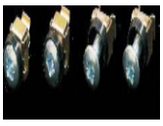
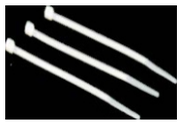
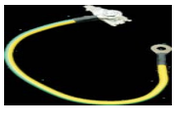
Single-Mode ODF-FSTP

Parameters	Specifications
Optical Wavelength	1260 nm to 1650 nm (Typical: 0.20dB)
Insertion Loss	Maximum 0.30 dB
Return Loss	Min. 50 dB for PC type Adapters , Min. 60 dB for APC type Adapters
Operating Temperature	- 10 C to + 60 C
Pigtail Standard	SM (G.652-D, G.656 & G.657A)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

Multi-Mode ODF-FSTP

Parameters	Specifications
Optical Wavelength	850 nm to 1300 nm
Insertion Loss	Maximum 0.30 dB (Typical: 0.20dB)
Return Loss	Minimum 20 dB for PC type Adapters
Operating Temperature	- 10 C to + 60 C
Pigtail Standard	MM (OM1 /OM2 /OM3 and OM4)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

Accessories :

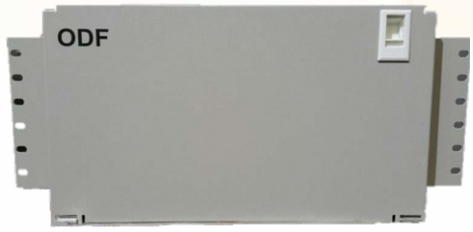
Fiber Splice Tray	Cage Nuts	FRP Holder	Cable Ties
			
Cable Clamp	**Earthing Wire**	**Splice Sleeve 60mm**	**FRP Holder (optional)**
			

Product Categorization:

No. Of Connections	Height (U)	Dimensions		Connector Type
		Width	Depth	
12	**1U**	19" / 21"	270mm	LC (Dx)
12	**1U**	19" / 21"	270mm	SC ,FC or ST (Sx)
24	**1U**	19" / 21"	270mm	LC (Dx)
24	**1U**	19" / 21"	270mm	SC ,FC or ST (Sx)
48	**1U**	19" / 21"	270mm	LC (Dx)
48	**2U**	19" / 21"	270mm	SC ,FC or ST (Sx)
96	**2U**	19" / 21"	270mm	LC (Dx)
96	**4U**	19" / 21"	270mm	SC ,FC or ST (Sx)
144	**4U**	19" / 21"	270mm	LC (Dx)
144	**5U**	19" / 21"	270mm	SC ,FC or ST (Sx)

Product Drawings:

ODF-FSTP Fiber Optic Enclosure is offered as an Optical Distribution Frame (ODF) which has a high quality mountable on 19'' or 21''Standard frame for termination/Distribution of fibers in optical fiber networks including FTTX networks.
ODF-FSTP Enclosures are Interface point between termination of outside plant (OSP) /Feeder Cables and Fiber optic Transmission Equipment. ODF-FSTP Enclosures are applicable to be installed as Indoor / in building premises (Mounted inside Fiber distribution Frames (FDF) / OFMR / ETSI Racks or in Racks / cabinets with standard mounting angles) and facilitates combination of three functions Optical Splicing, Management, and Distribution/Termination.



Description:

- Swing type for ease of work and handling of fiber connections.
- Stylish and innovative design that can serve the need for today's advanced networks and settings.
- Slide in/out type splice trays, facilitating network technicians to perform easy fiber splicing, management termination and
- Front door, hinged type which open 180 degrees down.
- Use of special adapter mounting plates.
- Use of Polycarbonate molded Plastic Parts and Aluminum Powder Coated Steel Sheets for metal Parts.

- Front door is hinged type and can easily be detached.
- Front door is available with latch locking system or key locking system
- Multiple mounting bracket position for 19” and 21” rack and cabinet installation.
- Side cable routing space for better organization.
- Available for LC, SC ,FC & ST adapters (PC & APC Polishing).

Recommended Application:

- Telecom Rooms
- Data Centers
- Entrance facility
- Racks, Cabinets, OFMR & FDFs

Optical Characteristics:

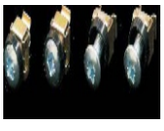
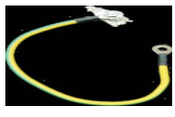
Single-Mode ODF-FSTP

Parameters	Specifications
Optical Wavelength	1260 nm to 1650 nm (Typical: 0.20dB)
Insertion Loss	Maximum 0.30 dB
Return Loss	Min. 50 dB for PC type Adapters , Min. 60 dB for APC type Adapters
Operating Temperature	- 10ζC to + 60ζC
Pigtail Standard	SM (G.652-D, G.656 & G.657A)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

Multi-Mode ODF-FSTP

Parameters	Specifications
Optical Wavelength	850 nm to 1300 nm
Insertion Loss	Maximum 0.30 dB (Typical: 0.20dB)
Return Loss	Minimum 20 dB for PC type Adapters
Operating Temperature	- 10ζC to + 60ζC
Pigtail Standard	MM (OM1 /OM2 /OM3 and OM4)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

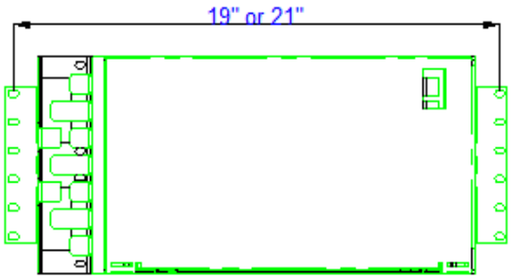
Accessories :

Fiber Splice Tray	Cage Nuts	FRP Holder	Cable Ties
			
Cable Clamp	Earthing Wire	Splice Sleeve 60mm	FRP Holder (optional)
			

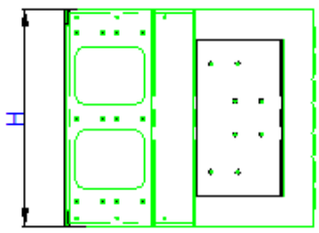
Product Categorization:

No. Of Connections	Height (U)	Dimensions		Connector Type
		Width	Depth	
12	**2.5U**	19" / 21"	270mm	LC (Dx)
12	**2.5U**	19" / 21"	270mm	SC ,FC or ST (Sx)
24	**2.5U**	19" / 21"	270mm	LC (Dx)
24	**4U**	19" / 21"	270mm	SC ,FC or ST (Sx)
48	**4.5U**	19" / 21"	270mm	LC (Dx)
48	**4U**	19" / 21"	270mm	SC ,FC or ST (Sx)
96	**4.5U**	19" / 21"	270mm	LC (Dx)
96	**7U**	19" / 21"	270mm	SC ,FC or ST (Sx)
144	**7U**	19" / 21"	270mm	LC (Dx)

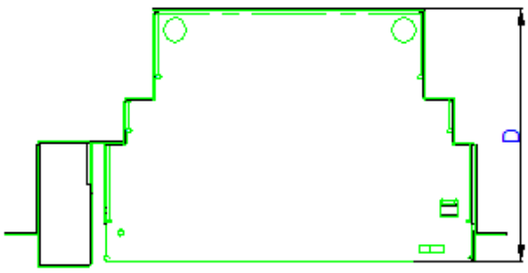
Product Drawings:



Front View



Side View



Top View

Optical Distribution Frames	ODF/FSTP

Models	Code
Swing Type	FS
Slide Type	SL
Front Adaptor	FA
WRI	WRI
Modular	MD
Adaptor	Code
LC/APC	L01
LC/PC	L02
SC/APC	S01
SC/PC	S02
FC/APC	F01
FC/PC	F02
ST/APC	S03
ST/PC	S04
Adaptor Configuration	Code
Simplex	Sx
Duplex	Dx
Quad	Qx
Fiber Type	Code
Single Mode	SM
Multimode	MM
Fiber Core	Code
G652D	01
G657A1	02
G657A2	03
G655	04
SM G656	05
OM1 (62.5/125)	06
MM OM2 (50/125)	07
OM3 (50/125)	08
Number of Port**s**	Code
12	O12
24	O24
48	O48
72	O72
96	O96
144	144
288	288

Example:

Optical Distribution Frame, Swing Type, LC/APC ,Duplex, Single Mode,G657A1,12
ODF/FSTP-FS-L01-Dx-SM-02-012

PP-FTM FA Series Fiber Optic Enclosure are offered patch panel which are with high quality & mountable on 19'' or 21''Standard frame for termination/Distribution of fibers in optical fiber networks including FTTX networks. Our PP-FTM FA Series is Interface point between termination of outside plant (OSP) /Feeder Cables and Fiber optic Transmission Equipment. FA series PP-FTM Enclosures are applicable to be installed as Indoor / in building premises (Mounted inside Fiber distribution Frames (FDF) / ETSI Racks or in Racks / cabinets wit standard mounting angles) and facilitates combination of three functions Optical Splicing, Management, and Distribution/Termination.

Description:

- Slide with rail Type for ease of work and handling of fiber connections. (Upto 2U height).
- Stylish and innovative design that can serve the need for today's advanced networks and settings.
- Splice trays, facilitating network technicians to perform easy fiber splicing, termination and management
- High Quality Polycarbonate molded Plastic Parts and Galvanized Powder Coated Steel Sheets for metal Parts.
- Splice trays are easily removable for ease of operation and up gradation.
- Multiple mounting bracket position for 19” and 21” rack and cabinet installation.
- Available for LC, SC ,FC & ST adapters (PC & APC Polishing).
- UL Approved (Complies to IEC 60068)

Recommended Application:

- Telecom Rooms
- Data Centers
- Entrance facility
- Racks, Cabinets & FDFs

Optical Characteristics:

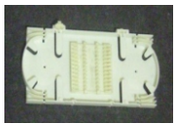
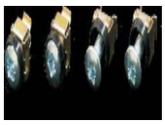
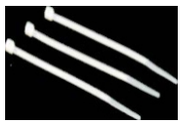
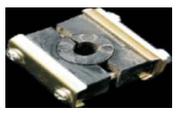
Single-Mode PP-FTM

Parameters	Specifications
Optical Wavelength	1260 nm to 1650 nm (Typical: 0.20dB)
Insertion Loss	Maximum 0.30 dB
Return Loss	Min. 50 dB for PC type Adapters , Min. 60 dB for APC type Adapters
Operating Temperature	- 10˚C to + 60˚C
Pigtail Standard	SM (G.652-D, G.656 & G.657A)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

Multi-Mode PP-FTM

Parameters	Specifications
Optical Wavelength	850 nm to 1300 nm
Insertion Loss	Maximum 0.30 dB (Typical: 0.20dB)
Return Loss	Minimum 20 dB for PC type Adapters
Operating Temperature	- 10˚C to + 60˚C
Pigtail Standard	MM (OM1 /OM2 /OM3 and OM4)
Connector /Adapter Standard	Telc ordia, EIA / TIA and IEC Compliance

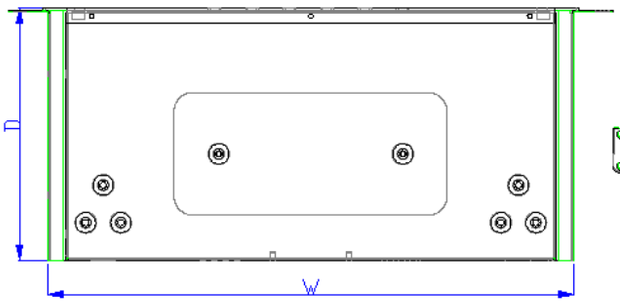
Accessories :

Fiber Splice Tray	Cage Nuts	FRP Holder	Cable Ties
			
Cable Clamp	Earthing Wire	Splice Sleeve 60mm	FRP Holder (optional)
			

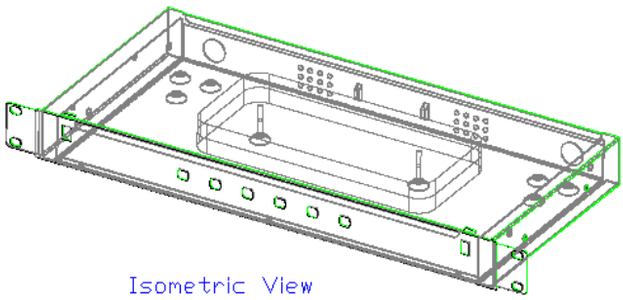
Product Categorization:

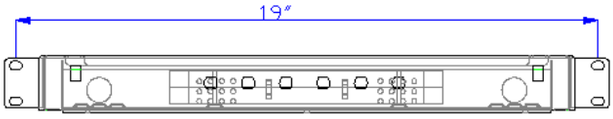
No. Of Connections	Height (U)	Dimensions		Connector Type
		Width	Depth	
6	**1U**	19 / "21 "	210mm	LC (Dx)
6	**1U**	19 / "21 "	210mm	SC ,FC or ST (Sx)
12	**1U**	19 / "21 "	210mm	LC (Dx)
12	**1U**	19 / "21 "	210mm	SC ,FC or ST (Sx)
24	**1U**	19 / "21 "	210mm	LC (Dx)
24	**1U**	19 / "21 "	210mm	SC ,FC or ST (Sx)
48	**1U**	19 / "21 "	210mm	LC (Dx)
48	**2U**	19 / "21 "	210mm	SC ,FC or ST (Sx)
96	**3U**	19 / "21 "	210mm	LC (Dx)
96	**4U**	19 / "21 "	210mm	SC ,FC or ST (Sx)

Product Drawings:



Top View


Isometric View



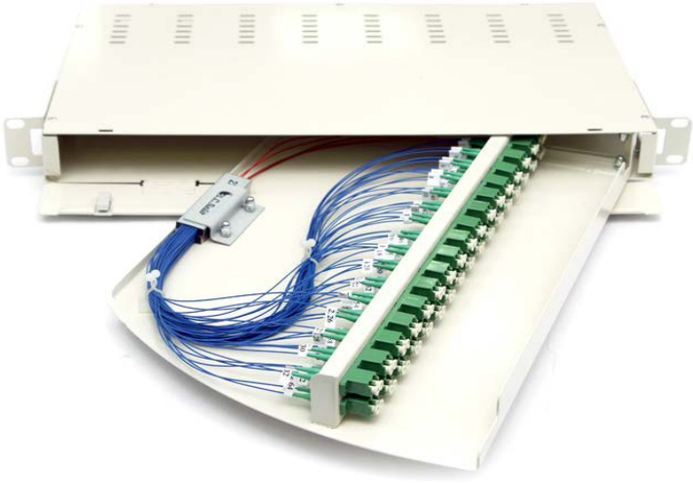
Front View

Side View

OSF Swing Series Fiber Optic Enclosures offered are high quality 19 “/21” standard frame for termination / splitting of fibers in FTTH/FTTB/FTTP networks.
OSF Swing Series enclosures provide in building optical splitting and routing facility. It is ideal for small to big fiber splitting / termination inside building/offices / and central offices.
OSF Swing Series enclosures are user friendly, with flexible installation from front and back side.
.

Description:

- Stylish and innovative design that can serve the need for today’s advanced network use.
- Facilitates Splitting and termination purposes.
- Excellent routing, storage, protection and management functions
- Suitable for organization and administration for splitting /Termination of fiber optic cables and Patching of patch cords to the system.
- Manufactured from Galvanized Steel Sheets with Powder Coated Gray Color RAL 7035 /7032 or customer specific.
- Accommodates standard LC connector and adapters.



Recommended Application:

- Telecom Rooms
- Data Centers
- Entrance facility
- Racks, Cabinets & FDFs

Optical Characteristics:

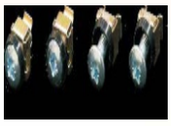
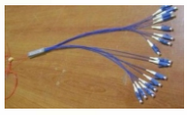
Single-Mode OSF

Parameters	Specifications
Optical Wavelength	1260 nm to 1650 nm (Typical: 0.20dB)
Insertion Loss	Maximum 0.30 dB
Return Loss	Min. 50 dB for PC type Adapters , Min. 60 dB for APC type Adapters
Operating Temperature	- 10 C to + 60 C
Pigtail Standard	SM (G.652-D, G.656 & G.657A)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

PLC Splitters

Specifications:		1 x 2 50/50	2 x 2 50/50	1 x 4	2 x 4	1 x 8	2 x 8	1 x 16	2 x 16	1 x 32	2 x 32
Operating Wavelength		1260 - 1620 nm									
Fiber Type		Single Mode ITU-T G657-A									
*Insertion Loss (dB)	Typical	3.6		6.8		10.2		13.2		16.2	17.2
	Max	3.8		7.2	7.8	10.6	11.2	13.8	14.6	17.0	17.5
Return Loss (dB) Min		55/50	55/50	55/50	55/50	55/50	55/50	55/50	55/50	55/50	55/50
PDL (dB)	Typical	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.3
	Max	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.4
Directivity (dB)		55	55	55	55	55	55	55	55	55	55
Wavelength Dependant Loss (dB)	Typical	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3
	Max	0.3	0.3	0.3	0.5	0.3	0.5	0.5	0.5	0.5	0.5
Temperature Stability	Typical	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4
(-40 °C ~ + 85 °C)	Max	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

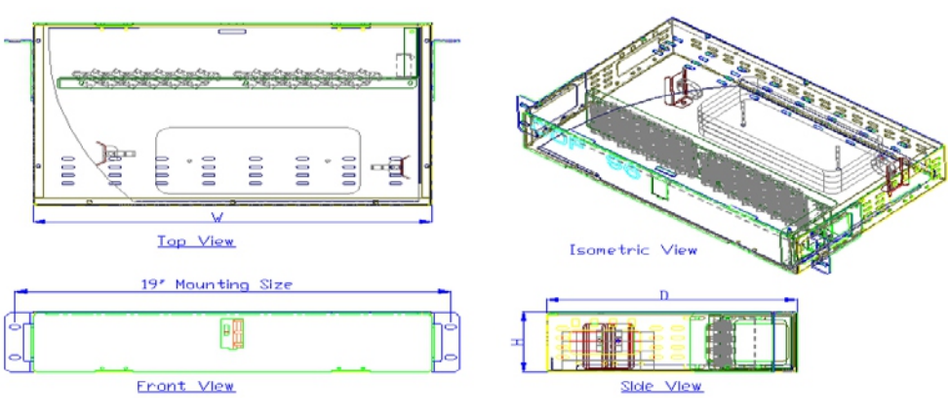
Accessories :

Cable Ring Holders	Cage Nuts	Fiber Splitter	Cable Ties
			

Product Categorization:

Splitter Type	No. of Splitters	*Adapter Type	Dimensions (H x W x D) mm
1: 2	4	LC/APC	45 x 445 x 250
1: 2	8	LC/APC	45 x 445 x 250
1: 2	16	LC/APC	45 x 445 x 250
2: 2	4	LC/APC	45 x 445 x 250
2: 2	8	LC/APC	45 x 445 x 250
1: 4	4	LC/APC	45 x 445 x 250
1: 4	8	LC/APC	45 x 445 x 250
2: 4	4	LC/APC	45 x 445 x 250
2: 4	8	LC/APC	45 x 445 x 250
1: 8	2	LC/APC	45 x 445 x 250
1: 8	4	LC/APC	45 x 445 x 250
2: 8	2	LC/APC	45 x 445 x 250
2: 8	4	LC/APC	45 x 445 x 250
1: 16	2	LC/APC	45 x 445 x 250
2: 16	2	LC/APC	45 x 445 x 250
1: 32	1	LC/APC	45 x 445 x 250
2: 32	1	LC/APC	45 x 445 x 250

Product Drawings:



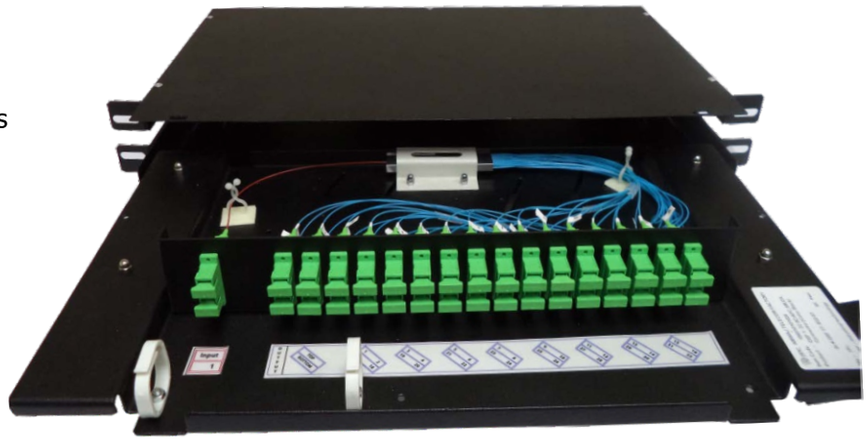
OSF Slide Series Fiber Optic Enclosures offered are high quality 19 “/21” standard frame for termination / splitting of fibers in FTTH/FTTB/FTTP networks.
OSF Slide Series enclosures provide in building optical splitting and routing facility. It is ideal for small to big fiber splitting / termination inside building/offices / and central offices.
OSF Slide Series enclosures are user friendly, with flexible installation from front and back side.

Description:

- Stylish and innovative design that can serve the need for today’s advanced network use.
- Facilitates Splitting and termination purposes.
- Excellent routing, storage, protection and management functions
- Suitable for organization and administration for splitting /Termination of fiber optic cables and Patching of patch cords to the system.
- Manufactured from Galvanized Steel Sheets with Powder Coated Gray Color RAL 7035 /7032 or customer specific.
- Accommodates standard LC connector and adapters.

Recommended Application:

- Telecom Rooms
- Data Centers
- Entrance facility
- Racks, Cabinets & FDFs



Optical Characteristics:

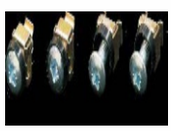
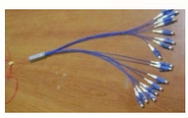
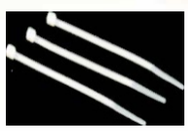
Single-Mode OSF

Parameters	Specifications
Optical Wavelength	1260 nm to 1650 nm (Typical: 0.20dB)
Insertion Loss	Maximum 0.30 dB
Return Loss	Min. 50 dB for PC type Adapters , Min. 60 dB for APC type Adapters
Operating Temperature	- 10ζC to + 60ζC
Pigtail Standard	SM (G.652-D, G.656 & G.657A)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

PLC Splitters

Specifications:		1 x 2 50/50	2 x 2 50/50	1 x 4	2 x 4	1 x 8	2 x 8	1 x 16	2 x 16	1 x 32	2 x 32
Operating Wavelength		1260 - 1620 nm									
Fiber Type		Single Mode ITU-T G657-A									
*Insertion Loss (dB)	Typical	3.6		6.8		10.2		13.2		16.2	17.2
	Max	3.8		7.2	7.8	10.6	11.2	13.8	14.6	17.0	17.5
Return Loss (dB) Min		55/50	55/50	55/50	55/50	55/50	55/50	55/50	55/50	55/50	55/50
PDL (dB)	Typical	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.3
	Max	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.4
Directivity (dB)		55	55	55	55	55	55	55	55	55	55
Wavelength Dependant Loss (dB)	Typical	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3
	Max	0.3	0.3	0.3	0.5	0.3	0.5	0.5	0.5	0.5	0.5
Temperature Stability	Typical	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4
(-40 °C ~ + 85 °C)	Max	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

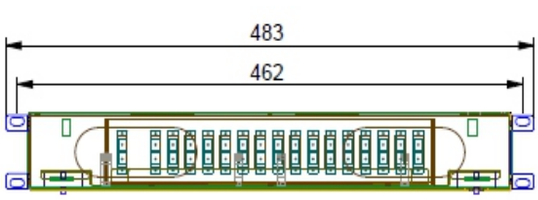
Accessories :

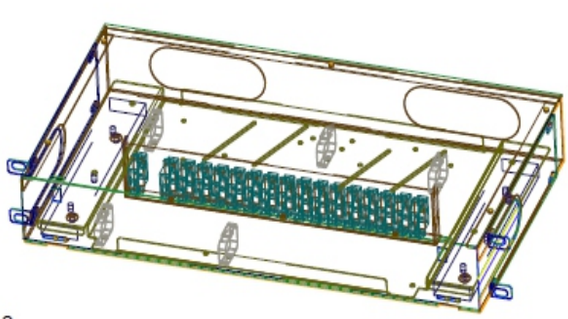
Cable Ring Holders	Cage Nuts	Fiber Splitter	Cable Ties
			

Product Categorization:

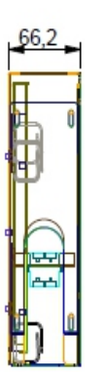
Splitter Type	No. of Splitters	*Adapter Type	Dimensions (H x W x D) mm
1: 32	1	SC/APC	66.2 x 462 x 250
2: 32	1	SC/APC	66.2 x 462 x 250

Product Drawings:





SCALE 0,250



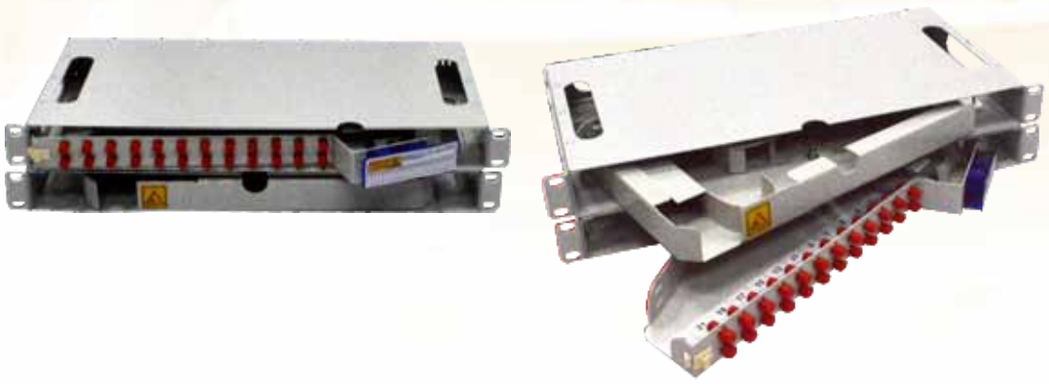
SCALE 0,250

Optical Splitter Frames	OSF

Models	**Code**
Swing Type	FS
Slide Type	SL
Front Adaptor	FA
Adaptor	**Code**
LC/APC	L01
LC/PC	L02
SC/APC	S01
SC/PC	S02
FC/APC	F01
FC/PC	F02
ST/APC	S03
ST/PC	S04
Adaptor Configuration	**Code**
Simplex	Sx
Duplex	Dx
Quad	Qx
Fiber Type	**Code**
Single Mode	SM
Fiber Core	**Code**
G652D	01
G657A1	02
G657A2	03
Splitter Configuration	**Code**
1:2	SP12
2:2	SP22
1:4	SP14
2:4	SP24
1:8	SP18
2:8	SP28
1:16	SP116
2:16	SP216
1:32	SP132
2:32	SP232
Number of Splitters	**Code**
1	NS01
2	NS02
4	NS04
8	NS08
16	NS16

Example:

OPTICAL SPLITTER FRAME, SLIDE TYPE, SC/APC, SIMPLEX, SINGLE MODE G657A2, 2:32, 2 SPLITTERS
OSF-SL-S01-Sx-SM-03-SP232-NS02



MIRA -FTMP is offered as Optical Distribution Fiber Termination and Management Panel which is high quality mountable on 19 " standard frame for Termination/Management of fibers in optical fiber networks . It consists of 2 panels . (a) ODF Fiber Termination (b) ODF Fiber Management .

MIRA- FTMP enclosures are applicable to be installed as Indoor /in- building premises ETSI racks with 19 " standard mounting angles and they facilitates combination of three functions " Optical Termination , management and distribution " .

Design Features:

- ODF-Fiber Termination Panel with swing out drawer (Left to right) has 24 ports with FC Adapters
- ODF-Fiber Management Panel with swing out drawer (Left to right) is used for management of cables
- The universal plug-ins accommodates FC-SX Adapters (PC/APC)
- Use of Galvanised Powder coated steel for metal parts .
- Specially designed for organizing (routing /slack storage) and Management functions with bend radius protection to guarantee optimum interconnectivity performance.

Ordering Information:

Example : MIRA-FTMP-24-01

Description : Optical Distribution Fiber Termination with 24 Ports FC/PC SX Adapters and Management Panel, with 19 " Mounting .

MIRA - XX - XX

Model Size
MIRA-FTP –24
MIRA-FMP –24
MIRA-FTMP –24

Adaptor Type	
01	FC/PC SX
02	FC/APC SX

Build your Design

MIRA-FOB is offered as Fiber Outlet Box .The Innovative Design of it allows easy removal of its cover to access fiber connections without disturbing the fiber connections .

MIRA-FOB is the solution for bringing fiber to in-building premises for FTTx and other types of Fiber network ONU/ONT .

Design Features:

- Small size, light weight, and Good in appearance.
- Front removable cover .
- Enable Splice and termination .
- Use of angle adaptor mounting plates and adoption of special design features maintain correct fiber bend radii.
- The Pigtails incorporate Bend-insensitive single mode optical fiber conforming to ITU-T G657A recommendation thus minimizing micro-bending losses to optical signals .

Ordering Information:

Example : MIRA-FOB2-5001 - 02-01-F4-P1

Description : MIRA-FOB2 Fiber Outlet Box , pre-connecterised with 2 F with LC/APC Adaptors and SM G657A Blue Pigtails

Build your Design

MIRA-FOB XX - XX - XX - XX - XX

Model Size
MIRA-FOB2-5001
MIRA-FOB2-5002
MIRA-FOB1-5111
MIRA-FOB1-5112

No. of Fibers	
02	2 Fibers
02	2 Fibers
01	1 Fiber
01	1 Fiber

Adaptor Type	
01	LC/APC, DX
02	LC/PC, DX
03	SC/APC, SX
04	SC/PC, SX

Fiber Type	
F1	SM G652-D
F2	SM G655
F3	SM G656
F4	SM G657-A
F5	MM 62.5 um (OM1)
F6	MM 50 um (OM2)
F7	MM 50 um (OM3)
F8	MM 50 um (OM4)

Pigtail Color	
P1	Blue
P2	Yellow
P3	Orange
P4	12 Colors
X	Customer Specified

OTB-NMB Series Fiber Optical enclosures are offered as Optical Termination Box (OTB), used in the end termination of residential buildings and villas, to fix and splice with pigtails.
OTB-NMB Series Boxes with capacities from 12 to 24 optical connectors are provided for indoor or outdoor use. These Boxes are wall mounted. All Models of these Boxes are manufactured and equipped with leading and storage elements for patch cords and optical cables, with splice tray, Inlet /Outlet Ports.

Description:

- Compact sizes, light weight and Good in appearance.
- Applicable for Indoor or Outdoor use.
- Wall Mount with 4 mounting bolts.
- Grommet entry holes for cable / patch cords are provided at the bottom.
- Front cover Swing type with hexagonal screw type lock.
- Optical splice capability.
- Water proof and Dust proof Lockable box. IP-54
- Available for FC, SC & LC adapters (PC & APC Polishing).
- All Plastic Parts are made from Polycarbonate and ABS Material.
- Operating Temperature Range is - 10 C to + 60 C.
- UL Approved (Complies IEC 60068-2-78 & IEC 60068-2-14)
- Color RAL 7035 or RAL 9002
- Compatibility with all type of incoming optical characteristics.

Recommended Application:

- Splicing and Termination Outside Buildings
- FTTH Network Termination

Optical Characteristics:

Single-Mode OTB-NMB

Parameters	Specifications
Optical Wavelength	1260 nm to 1650 nm (Typical: 0.20dB)
Insertion Loss	Maximum 0.30 dB
Return Loss	Min. 50 dB for PC type Adapters , Min. 60 dB for APC type Adapters
Operating Temperature	- 10 C to + 60 C
Pigtail Standard	SM (G.652-D, G.656 & G.657A)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

Multi-Mode OTB-NMB

Parameters	Specifications
Optical Wavelength	850 nm to 1300 nm
Insertion Loss	Maximum 0.30 dB (Typical: 0.20dB)
Return Loss	Minimum 20 dB for PC type Adapters
Operating Temperature	- 10 C to + 60 C
Pigtail Standard	MM (OM1 /OM2 /OM3 and OM4)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

Product Categorization :

No. Of Connections	Dimensions			Connector Type
	Width	Depth	Height	
12	**210**	**65**	**230**	**LC (Dx)**
12	**210**	**65**	**230**	**SC ,FC or ST (Sx)**
24	**210**	**65**	**230**	**LC (Dx)**

OTB-NMB 8F Series Fiber Optical enclosures are offered as Optical Termination Box (OTB), used in the end termination of residential buildings and villas, to fix and splice with pigtails.
OTB-NMB Series Boxes with capacities from 1 to 8 optical connectors are provided for indoor or outdoor use. These Boxes are wall mounted. All of these Boxes are manufactured and equipped with leading and storage elements for patch cords and optical cables, with splice tray, Inlet /Outlet Ports.

Description:

- Compact sizes, light weight and Good in appearance.
- Applicable for Indoor or Outdoor use.
- Wall Mount with 4 mounting bolts.
- Cable Glands entry holes for cable / patch cords are provided at the bottom
- Excellent cable gripping & Dust and water Ingress Protection with Mechanical cable glands.
- Front cover Swing type with hexagonal screw type lock.
- Optical splice capability.
- Water proof and Dust proof Lockable box. (IP-54)
- Available for FC, SC & LC adapters (PC & APC Polishing).
- All Plastic Parts are made from Polycarbonate Material.
- Operating Temperature Range is - 10 C to + 70 C.
- UL Approved (Complies IEC 60068-2-78 & IEC 60068-2-14)
- Color RAL 7035 or RAL 9002
- Compatibility with all type of incoming optical characteristics.

Recommended Application:

- Splicing and Termination Outside Buildings
- FTTH Network Termination

Optical Characteristics:

Single-Mode OTB-NMB

Parameters	Specifications
Optical Wavelength	1260 nm to 1650 nm (Typical: 0.20dB)
Insertion Loss	Maximum 0.30 dB
Return Loss	Min. 50 dB for PC type Adapters , Min. 60 dB for APC type Adapters
Operating Temperature	- 10 C to + 60 C
Pigtail Standard	SM (G.652-D, G.656 & G.657A)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

Multi-Mode OTB-NMB

Parameters	Specifications
Optical Wavelength	850 nm to 1300 nm
Insertion Loss	Maximum 0.30 dB (Typical: 0.20dB)
Return Loss	Minimum 20 dB for PC type Adapters
Operating Temperature	- 10 C to + 60 C
Pigtail Standard	MM (OM1 /OM2 /OM3 and OM4)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

Product Categorization :

No. Of Connections	Dimensions			Connector Type
	Width	Depth	Height	
2	**185**	**50**	**205**	**LC (Dx)**
2	**185**	**50**	**205**	**SC ,FC or ST (Sx)**
4	**185**	**50**	**205**	**LC (Dx)**
4	**185**	**50**	**205**	**SC ,FC or ST (Sx)**
8	**185**	**50**	**205**	**LC (Dx)**

Optical Termination Box	OTB

Models	
Single Door	SD
Adaptor	**Code**
LC/APC	L01
LC/PC	L02
SC/APC	S01
SC/PC	S02
Adaptor Configuration	**Code**
Simplex	Sx
Duplex	Dx
Fiber Type	**Code**
Single Mode	SM
Multimode	MM
Fiber Core	**Code**
G652D	01
G657A1	02
G657A2	03
G655	04
SM G656	05
OM1 (62.5/125)	06
OM2 (50/125)	07
OM3 (50/125)	08
Number of Ports	**Code**
2	002
4	004
6	006
8	008
12	012
24	024

Example:

Optical Terminal Box, Single Door,LC/APC, Duplex, Single Mode, G 657A1, 4 Fiber
OTB-SD-L01-DX-SM-02-004

ODB-MB Series Enclosures have been developed to address the key requirement of fiber termination from distribution to drop cable in FTTX networks. The high quality enclosure terminates and splices up to 96 fibers. ODB-MB Series Enclosures can also be used in metro outside plant (OSP) networks. These enclosures protects fiber cable and connections through use of patented angled adapter and design features that maintain correct bend radii throughout the box. Wall mount type box provides excellent termination requirements.

Description:

- Swing Front Door enables full access during installation and maintenance
- Excellent routing, storage, protection and management functions
- Optical splice capability
- Wall Mounted Facility with 4 Mounting Screws & Fishers
- Water proof and dust proof Lockable box with Protection Degree IP54
- Provided with Top & Bottom Cable Glands for Cable Entries
- Manufactured from G.I sheet.
- Color coated with Powder coating RAL 7035 or as required RAL shade.
- Accommodates standard connectors /adapters types , SC, LC , ST , FC

ecommended Application:

- Splicing and Termination Outside Buildings
- FTTH Network Termination

Optical Characteristics:

Single-Mode ODB

Parameters	Specifications
Optical Wavelength	1260 nm to 1650 nm (Typical: 0.20dB)
Insertion Loss	Maximum 0.30 dB
Return Loss	Min. 50 dB for PC type Adapters , Min. 60 dB for APC type Adapters
Operating Temperature	- 10 C to + 60 C
Pigtail Standard	SM (G.652-D, G.656 & G.657A)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

Multi-Mode ODB

Parameters	Specifications
Optical Wavelength	850 nm to 1300 nm
Insertion Loss	Maximum 0.30 dB (Typical: 0.20dB)
Return Loss	Minimum 20 dB for PC type Adapters
Operating Temperature	- 10 C to + 60 C
Pigtail Standard	MM (OM1 /OM2 /OM3 and OM4)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

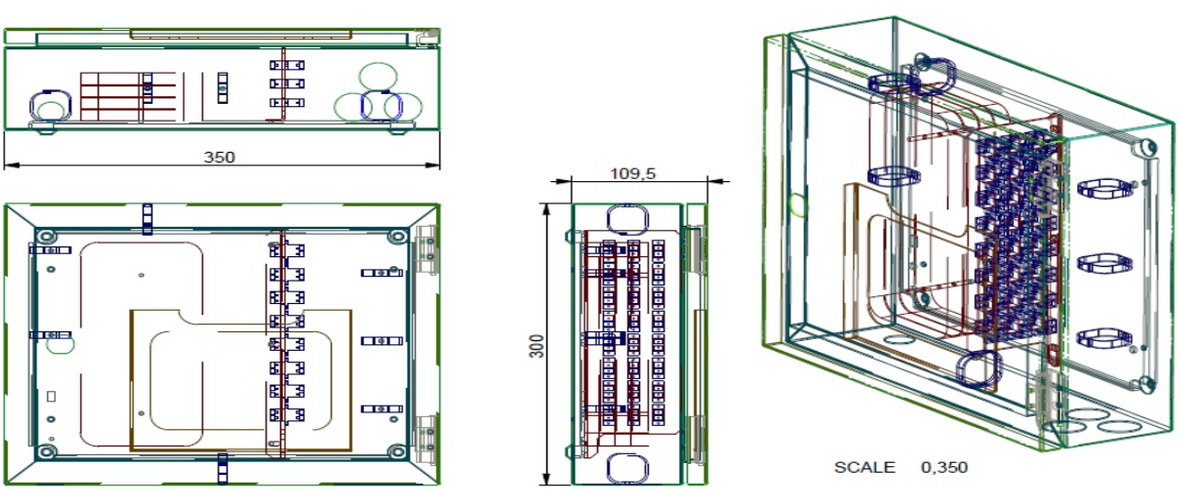
Accessories:

Cable Holding Gland	Cable Holding Gland	Splice Tray	FRP Holder
			
Hexagonal L-Key Lock	**Cable Holder**	**Splice Sleeve**	**Protection Tube**
			

Product Categorization :

No. Of Connections	Dimensions			Connector Type
	Height	Depth	Width	
12	300	110	350	LC (D)
12	300	110	350	SC ,FC or ST (S)
24	300	110	350	LC (D)
24	300	110	350	SC ,FC or ST (S)
36	300	110	350	LC (D)
36	300	110	350	SC ,FC or ST (S)
48	300	110	350	LC (D)
48	400	150	400	SC ,FC or ST (S)
72	400	150	400	LC (D)
72	400	150	400	SC ,FC or ST (S)
96	400	150	400	LC (D)

Product Drawings:



ODB-Junction Box Series Enclosures have been developed to address the key requirement of fiber splicing & termination from distribution to drop cable in FTTX networks. The high quality enclosure terminates and splices up to 24 fibers. This unique designed ODB-Junction Box Series Enclosures can also be used with splitter 1:8 & 1:16 split ratio. These enclosures protect incoming and outgoing fiber cable and connections through use of specialized splice trays and adaptors. Wall mount type box provides excellent termination requirements.

Description:

- Swing Front Door enables full access during installation and maintenance
- Excellent routing, storage, protection and management functions
- Light weight.
- Optical splice capability for incoming and outgoing fibers.
- Wall Mounted Facility with 4 Mounting Screws & Fishers
- Water proof and dust proof Lockable box with Protection Degree IP54
- Provided with Bottom Cable Glands for Cable Entries
- Manufactured from 1.2mm G.I sheet.
- Color coated with Powder coating RAL 7035 or as required RAL shade.
- Accommodates standard connectors /adapters types LC/APC.
- Can be used with splitters 1:8 & 1:16 split ratios.

Recommended Application:

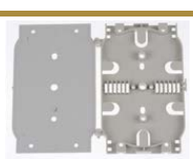
- Splicing and Termination Outside Buildings
- FTTH Network Termination

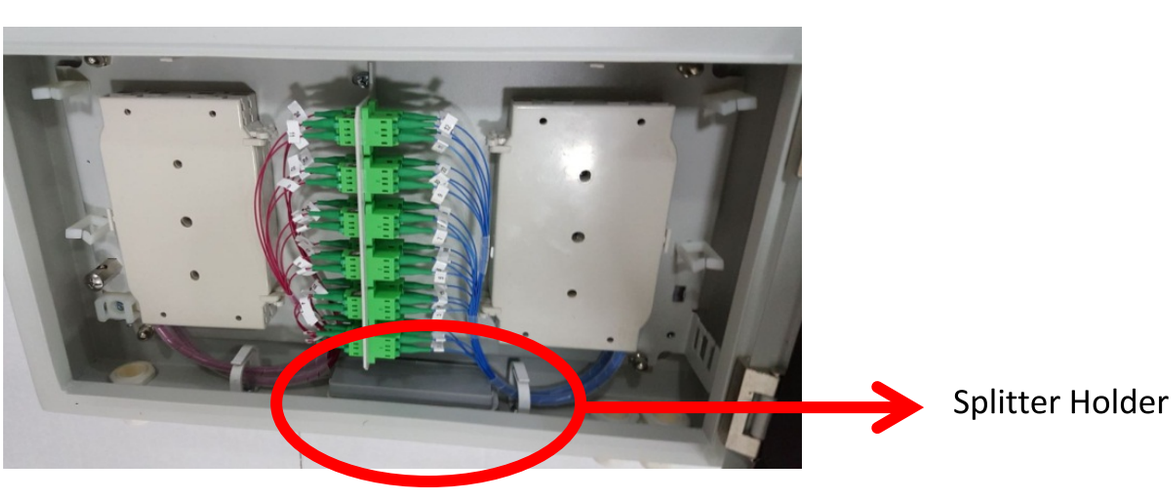
Optical Characteristics:

Single-Mode ODB

Parameters	Specifications
Optical Wavelength	1260 nm to 1650 nm (Typical: 0.20dB)
Insertion Loss	Maximum 0.30 dB
Return Loss	Min. 50 dB for PC type Adapters , Min. 60 dB for APC type Adapters
Operating Temperature	- 10ζC to + 60ζC
Pigtail Standard	SM (G.652-D, G.656 & G.657A)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

Accessories:

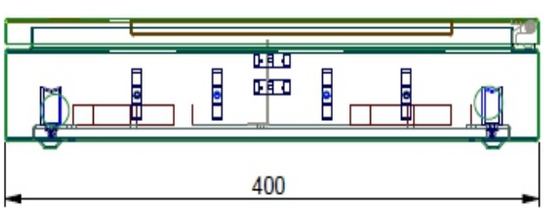
Cable Holding Gland	Splitter Holder	Splice Tray	FRP Holder
			
Hexagonal L-Key Lock	**Cable Holder**	**Splice Sleeve**	**Protection Tube**
			

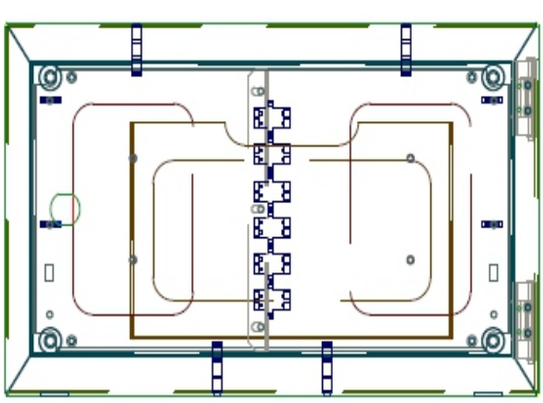


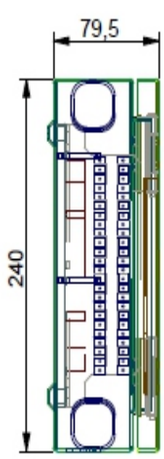
Product Categorization :

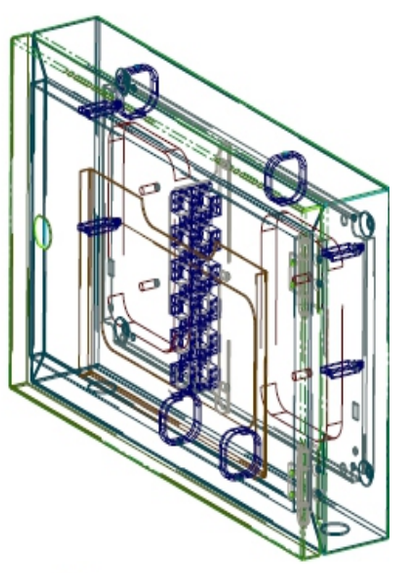
No. Of Connections	Dimensions			Connector Type
	Height	Depth	Width	
12	240	79.5	400	LC/APC (Dx)
24	240	79.5	400	LC/APC (Dx)
4 with 1:8 splitter	240	79.5	400	LC/APC (Dx)
8 with 1:16 splitter	240	79.5	400	LC/APC (Dx)

Product Drawings:









Optical Distribution Box	ODB

Models	**Code**
Single Door	SD
Double Door	DD
Double Splice Junction	JS
Adaptor	**Code**
LC/APC	L01
LC/PC	L02
SC/APC	S01
SC/PC	S02
FC/APC	F01
FC/PC	F02
ST/APC	S03
ST/PC	S04
Adaptor Configuration	**Code**
Simplex	Sx
Duplex	Dx
Quad	Qx
Fiber Type	**Code**
Single Mode	SM
Multimode	MM
Fiber Core	**Code**
G652D	01
G657A1	02
G657A2	03
G655	04
SM G656	05
OM1 (62.5/125)	06
OM2 (50/125)	07
OM3 (50/125)	08
Number of Ports	**Code**
12	O12
24	O24
48	O48
72	O72
96	O96
144	144

Example:

Optical Distribution Box, Single D oor,LC/APC, Duplex,Multimode, OM 2(50/125), 48
ODB-SD-L01-Dx-MM-07-048

OSB-MB Series optical Splitter Boxes enables customers to accelerate their FTTx deployments more effectively and is an ideal solution when deploying FTTx networks for non-residential and residential applications.
OSB-MB Series optical Splitter wall mounted boxes provide a small footprint for splitting, splicing and terminating and are environmentally rated for outdoor and indoor use.
Each enclosure is equipped with fiber splice trays allowing input splicing option. OSB-MB Series optical Splitter Boxes accept standard plug and play (PNP) splitters .Splitters can be easily added after the wall mounting of the boxes. OSB-MB Series optical Splitter Boxes can accommodate Nx4 , Nx8 , N x 16 , N x 32 Splitters (N : Input 1 or 2)

Description:

- Applicable for indoor or outdoor use.
- Rated IP 54 for Ingress Protection.
- Wall Mounted Facility with 4 Mounting Screws & Fishers.
- Splitter can be easily installed (Plug & Play).
- Swing Double Front Door enables full access during installation and maintenance.
- Excellent routing, storage, protection and management functions
- Optical splice capability
- Provided with Top & Bottom Cable Glands for Cable Entries.
- Manufactured from Galvanized Steel Sheets
- Powder Coated Gray Color RAL 7035 or any RAL shade as required.

- An angle of 30 degree between the adapter and the front end of the module protects direct exposure to eyes.
- Splitter output capacity is maximum 64 fibers (2 splitters with 1:32 or 2:32 Split ratio)
- Accommodates standard LC connector and adapters.

Recommended Application:

- Wall mounted Termination Outside Buildings
- FTTH Network Termination

Optical Characteristics:

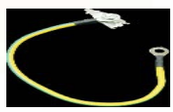
Single-Mode OSF Pigtails & Adaptors

Parameters	Specifications
Optical Wavelength	1260 nm to 1650 nm (Typical: 0.20dB)
Insertion Loss	Maximum 0.30 dB
Return Loss	Min. 50 dB for PC type Adapters , Min. 60 dB for APC type Adapters
Operating Temperature	- 10 C to + 60 C
Pigtail Standard	SM (G.652-D, G.656 & G.657A)
Connector /Adapter Standard	Telcordia, EIA / TIA and IEC Compliance

PLC Splitters

Specifications:		1 x 2 50/50	2 x 2 50/50	1 x 4	2 x 4	1 x 8	2 x 8	1 x 16	2 x 16	1 x 32	2 x 32
Operating Wavelength		1260- 1620 nm									
Fiber Type		Single Mode ITU-T G657-A									
Insertion Loss (dB)	Typical	3.6		6.8		10.2		13.2		16.2	17.2
	Max	3.8		7.2	7.8	10.6	11.2	13.8	14.6	17.0	17.5
Return Loss (dB) Min		55/50	55/50	55/50		55/50		55/50		55/50	
PDL (dB)	Typical	0.1	0.1	0.1		0.1		0.2		0.2	
	Max	0.2	0.2	0.2		0.2		0.3		0.3	
Directivity (dB)		55	55	55		55		55		55	
Wavelength Dependant Loss (dB)	Typical	0.2	0.2	0.2		0.2		0.3		0.3	
	Max	0.3	0.3	0.3		0.3		0.5		0.5	
Temperature Stability	Typical	0.3	0.3	0.3		0.3		0.4		0.4	
(-40 °C ~ + 85 °C)	Max	0.5	0.5	0.5		0.5		0.5		0.5	

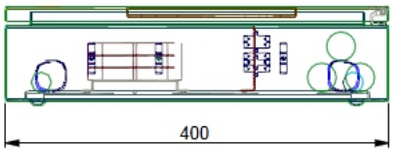
Accessories:

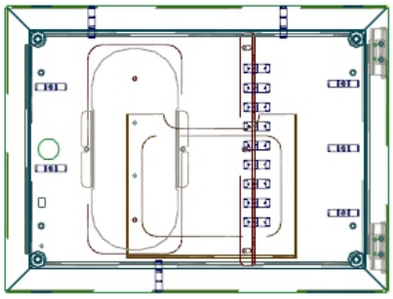
Cable Holding Gland	Cable Holding Gland	Earthing wire	FRP Holder
			
Hexagonal L-Key Lock	**Protection Tube**	**Splice Tray**	**Splice Sleeve**
			

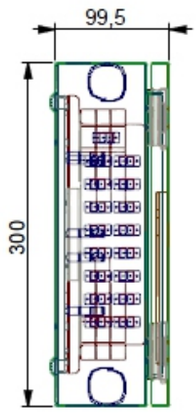
Product Categorization :

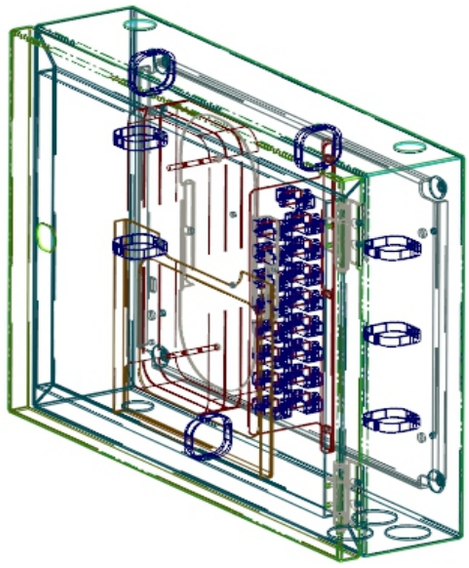
No. Of Connections	Dimensions			Connector Type
	Height	Depth	Width	
2: 8	400	100	300	LC (Dx)
2: 16	400	100	300	LC (Dx)
2: 32	400	100	300	LC (Dx)

Product Drawings:









Optical Splitter Box	OSB

Models	Code
Single Door	SD
Double Door	DD
Double Splice Junction	JS
Adaptor	Code
LC/APC	L01
LC/PC	L02
SC/APC	S01
SC/PC	S02
FC/APC	F01
FC/PC	F02
ST/APC	S03
ST/PC	S04
Adaptor Configuration	Code
Simplex	Sx
Duplex	Dx
Quad	Qx
Fiber Type	Code
Single Mode	SM
Fiber Core	Code
G652D	01
G657A1	02
G657A2	03
Splitter Configuration	Code
1:2	SP12
2:2	SP22
1:4	SP14
2:4	SP24
1:8	SP18
2:8	SP28
1:16	SP116
2:16	SP216
1:32	SP132
2:32	SP232
Number of Splitters	Code
1	NS01
2	NS02
4	NS04
8	NS08
16	NS16

Example:

OPTICAL SPLITTER BOX, SINGLE DOOR, LC/APC, DUPLEX, SINGLE MODEG657A1,1:16, 1 SPLITTER
OSB-SD-L01-DX-SM-02-SP116-NS01

ATC-JC Series Fiber Joint Closures enables telecom operator & service providers to secure and manage the fiber joints and connections in Outside Plant (OSP) for FTTx networks.
These joint closures are specially designed and fabricated for outdoor operations for both underground and aerial installation provided to bear extreme weather conditions and provide well secured cable jointing mechanism up to environmental rating of IP-68.
ATC-JC Series Joint Closures are designed and equipped for different capacities of Gaskets and splice trays to cover small and large scale cable entering spilling & jointing for any kind of Telecom networks. ATC-JC Series Closures covers a range from 12 Fiber to 288 fiber Joint closures.

Description:

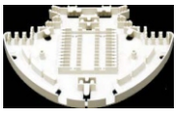
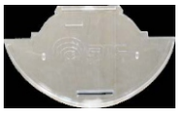
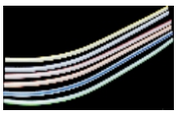
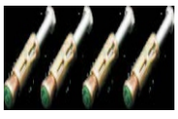
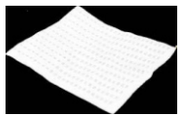
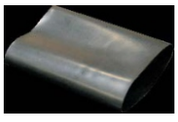
- Accommodates up to 288 splices.
- Closures are provided with excellent sealing and cable holding mechanism.
- Easy re-entry and closing by using mechanical plastic locking clamp.
- Water proof and dust proof Lockable complying rated IP-68.
- Installation, Opening & Closing of Closures require simple hand Tools.
- Resistant to Chemicals and Corrosive atmosphere.
- Specially designed for a Suitable space for Splice Trays and storage of excess uncut loose buffer tubes.
- Ribs are designed on the Body to provide extra strength.
- Provision for Mounting Pressure Valve.
- Joint closures are provided with special sealing material to make it re-useable.
- Housing is Made of Polypropylene material.

- Splice / management trays are made of polycarbonate material.
- Splice trays designed to ensure bend radius > 30 mm.
- Operating Temperature Range is - 10ζC to +60ζC.
  Provided with 4 Round Cable Ports with Inner Diameter 20 mm and 2 Oval Cable Ports.
- Accommodates entry of uncut fiber cable through the big Oval cable inlet Port and have the facility to store uncut loose tubes of this cable inside it.
- UL Tested (Complies IEC 60068 / IEC 600529 & IEC 60950)

Recommended Application:

- Buried applications
- Underground applications
- Aerial applications.

Accessories:

ISA-R Splice Tray	ISA-R Splice Tray Cover	ISA-R Splicing Port	Cable Clamp Divider (2Pcs)
			
Protection Tube	Fixing Bolts	Numbering Sheet	Cable Tie
			
UC Clamp 2.0 mm	Heat Shrink 75 / 25 ,	Heat Shrink Oblong , 33/ 8	Cable holder
			

Product Categorization:

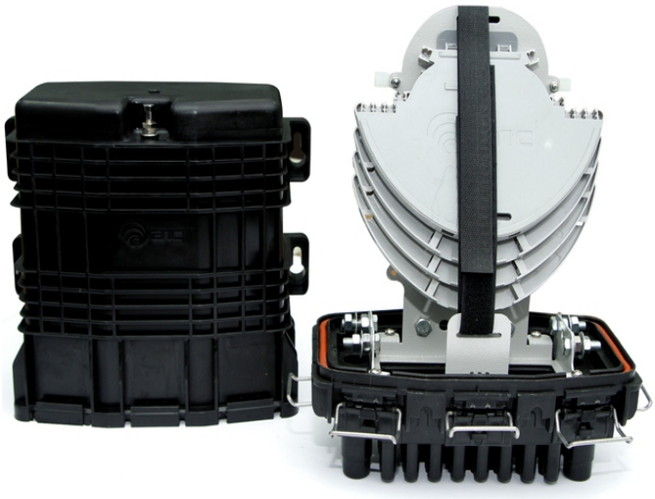
No. Of Connections	Dimensions		
	Height	Depth	Width
12	265	160	350
24	265	160	350
36	265	160	350
48	265	160	350
72	265	160	350
96	265	160	450
144	265	160	450
288	265	160	450

Product Pictures:

Fiber Access Terminal Joint Closure-FATJC enables telecom operator & service providers to secure and manage the fiber joints and connections in Outside Plant (OSP) for FTTH networks.
Fiber Access Terminal is specially designed and fabricated for drop cable distribution among single and multi-dwelling units and can be used both underground and aerial installations. It can bear extreme weather conditions and provide well secured cable jointing mechanism.

Description:

- Accommodates up to 144 splices.
- Splitter equipped with maximum of 2:32 also available.
- Closures are provided with excellent sealing and cable holding mechanism.
- Easy re-entry and closing by using mechanical plastic locking clamp.
- Water proof and dust proof Lockable complying rated IP68.
- Installation, Opening & Closing of Closures require simple hand Tools.
- Resistant to Chemicals and Corrosive atmosphere.
- Specially designed for a Suitable space for Splice Trays and storage of excess uncut loose buffer tubes.
- Ribs are designed on the Body to provide extra strength.
- Provision for Mounting Pressure Valve.
- PROISA-DT Joint closure is provided with special sealing material to make it re-useable.
- Housing is Made of Polypropylene material.

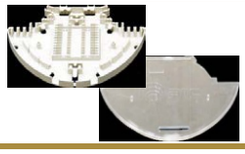
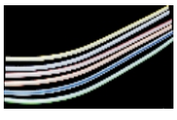
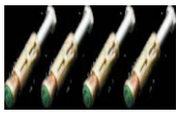
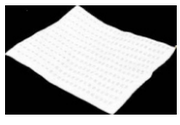
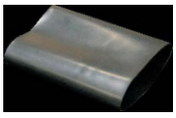


- Splice / management trays are made of polycarbonate material.
- Splice trays designed to ensure bend radius > 30 mm.
- Operating Temperature Range is - 10 C to + 60 C.
- Provided with main 4 Round Cable Ports with Inner Diameter 20 mm and 1 Oval Cable Port.
- 24 drop cable ports with diameter 11mm.
- Accommodates entry of uncut fiber cable through the big Oval cable inlet Port and have the
- facility to store uncut loose tubes of this cable inside it.
- UL Tested (Complies IEC 60068 / IEC 600529 & IEC 60950)

Recommended Application:

- Buried applications
- Underground applications
- Aerial applications.

Accessories:

Splice Tray with cover	Heat Shrink 16/5	ISA-R Splicing Port	Cable Clamp Divider (2Pcs)
			
Protection Tube	Fixing Bolts	Numbering Sheet	Cable Tie
			
UC Clamp 2.0 mm	Heat Shrink 75 / 25 ,	Heat Shrink Oblong , 33/ 8	Cable holder
			

Product Categorization:

No. Of Connections	Drop Cable Entries	Splitters	No. Of splice Trays	Dimensions		
				Width	Depth	Height
96	24		8	265	160	450
144	24		12	265	160	450
144	24	1:2 Splitter	12	265	160	450
144	24	1:4 Splitter	12	265	160	450
144	24	1:8 Splitter	12	265	160	450
144	24	1:16 Splitter	12	265	160	450
144	24	1:32 Splitter	12	265	160	450
144	24	2:32 Splitter	12	265	160	450

Product Pictures:

Fiber Access Terminal Joint Closure-FATJC enables telecom operator & service providers to secure and manage the fiber joints and connections in Outside Plant (OSP) for FTTH networks.
Fiber Access Terminal is specially designed and fabricated for drop cable distribution among single and multi dwelling units and can be used both underground and aerial installations. It can bear extreme weather conditions and provide well secured cable jointing mechanism.

Description:

- Water-proof design with IP-68 Protection level.
- Integrated with flap-up splice cassette and adaptor holder.
- Impact test: IK10, Pull Force: 100N,Full rugged design
- All stainless metal plate and anti-rusting bolts,nuts.
- Fiber bends radius control more than 40mm.
- Suitable for the fusion splice or mechanical splice.
- 1:16f Splitter can be installed as an option.
- Mechanical sealing structure and mid span cable entry.
- Accommodates up to 144 splices.
- Closures are provided with excellent sealing and cable holding mechanism.
- Easy re-entry and closing by using mechanical plastic locking system.
- Water proof and dust proof Lockable complying rated IP68.
- Installation, Opening & Closing of Closures require simple hand Tools.
- 4-7mm cable port suitable for 2x3mm indoor FTTH drop cable and outdoor figure 8 FTTH self-supporting drop cable
- Resistant to Chemicals and Corrosive atmosphere.
- Specially designed for a Suitable space for Splice Trays and storage of excess uncut loose buffer tubes.
- Ribs are designed on the Body to provide extra strength.
- Provision for Mounting Pressure Valve.
- Housing is Made of Polypropylene material.
- Splice / management trays are made of polycarbonate material. .

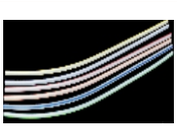
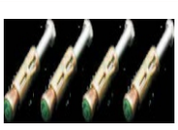
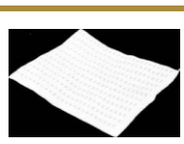
- Operating Temperature Range is - 10° C to + 60° C.
- 24 drop cable ports with diameter 11mm.
- Accommodates entry of uncut fiber cable through the big Oval cable inlet Port and have the facility to store uncut loose tubes of this cable inside it.
- UL Tested (Complies IEC 60068 / IEC 600529 & IEC 60950)

Recommended Application:

- Buried applications
- Underground applications
- Aerial applications.

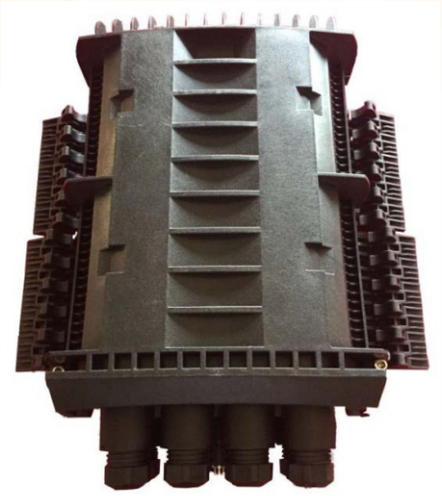
Accessories:

- Splice cassette and cable management tool, installation nuts and bolts, protection sleeves, hose clamp, cable tube, wreach, cover holder, rubber seal for cable entrance.

Splice Tray with cover	UC Clamp 2.0 mm	Cable holder	Cable Clamp Divider (2Pcs)
			
Protection Tube	Fixing Bolts	Numbering Sheet	Cable Tie
			

Product Categorization:

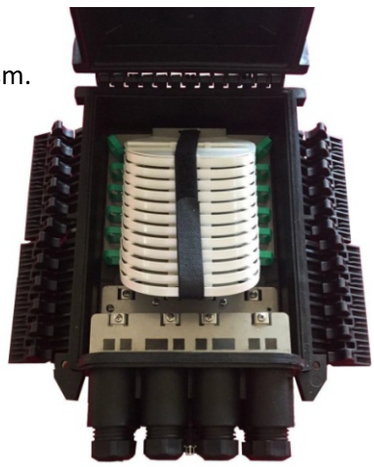
No. Of Connections	Drop Cable Entries	Splitters	No. Of splice Trays	Dimensions		
				Width	Depth	Height
96	24		8	245	155	385
144	24		12	245	155	385
144	24	1:2 Splitter	12	245	155	385
144	24	1:4 Splitter	12	245	155	385
144	24	1:8 Splitter	12	245	155	385
144	24	1:16 Splitter	12	245	155	385



ATC-JCI Series Fiber Joint Closures enables telecom operator & service providers to secure and manage the fiber joints and connections in Outside Plant (OSP) for FTTx networks.
These joint closures are specially designed and fabricated for outdoor operations for both underground and aerial installation provided to bear extreme weather conditions and provide well secured cable jointing mechanism up to environmental rating of IP-68.
ATC-JCI Series Joint Closures are designed and equipped for different capacities of Gaskets and splice trays to cover small and large scale cable entering spilling & jointing for any kind of Telecom networks. ATC-JCI Series Closures covers a range from 12 Fiber to 288 fiber Joint closures.

Description:

- Accommodates up to 288 splices.
- Stainless Steel Tray Holder and internal parts.
- Closures are provided with excellent sealing and cable holding mechanism.
- Easy re-entry and closing by using mechanical plastic locking clamp.
- Water proof and dust proof Lockable complying rated IP-68.
- Installation, Opening & Closing of Closures require simple hand Tools.
- Resistant to Chemicals and Corrosive atmosphere.
- Specially designed for a Suitable space for Splice Trays and storage of excess uncut loose buffer tubes.
- Ribs are designed on the Body to provide extra strength.
- Housing is Made of Polypropylene material.
- Splice / management trays are made of polycarbonate material.
- Splice trays designed to ensure bend radius > 30 mm.
- Operating Temperature Range is - 10ζC to +60ζC.
- Water-proof design with IP-68 Protection level.
- Rotatable and dis-mountable splice tray for easy splicing.
- Integrated 12pcs flap-up splice tray.
- Impact test: IK10, Pull Force: 100N,Full rugged design.
- Mechanical sealing structure and mid-span cable entry.
- 1uncut port for un-cut cable and 6round ports.



Recommended Application:

- Buried applications
- Underground applications
- Aerial applications.

Accessories:

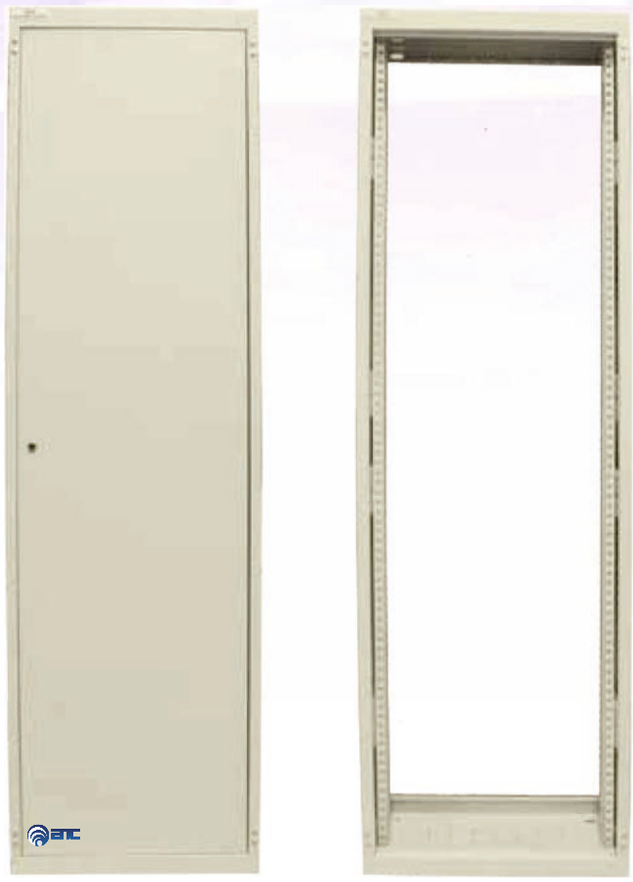
Splice cassette and cable management tool, installation nuts and bolts, protection sleeves, hose clamp, cable tube, wrench, cover holder, rubber seal for cable entrance.

Optional Accessories:

Pole ring

Configuration:

Dimension	385*245*130mm
Material	Strengthen Polymer Plastic (PP)
Capacity	Upto 288 fibers
Splice tray qty	12pcs /24fiber tray
Cable port	1 uncut port, 6 round port
Cable diameter	Uncut port: 10-17.5mm, round ports: 8-17.5mm
Net weight	4kg
Gross weight	5kg



Standards:

Comply with ETSI Standards (European Telecommunication Standard Institute).

Features:

- Flexible Design with precise dimension for all Telecommunication applications.
- Meeting requirements of under-Base Cable entry ventilation and prevention.
- Can be equipped with Mounting Angles in both Designs 19" and Metric Holes Standards.
- Mounting Angles are Full Height and can be adjusted in the Depth.
- If required , additional Mounting Angles can be also added at the rear.
- ETSI Rack is offered with Standard Dimensions of the Rack : 600 Width x 300 Depth .
- Easy removable Side Doors for better Cable accessibility .
- Side Doors equipped with Dual Locks.

Loading Capacity:

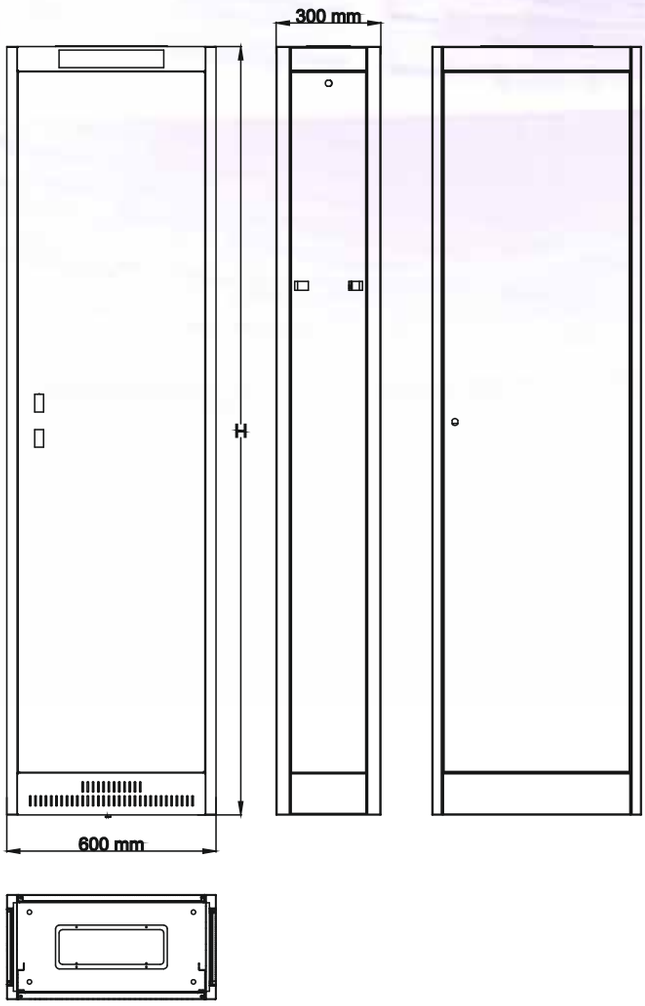
Static Loading: 500 Kg

Material:

Cold Rolled Steel 2.0 mm for main frame and 1.2 mm for others

Surface Finish:

Power coated with different RAL Color



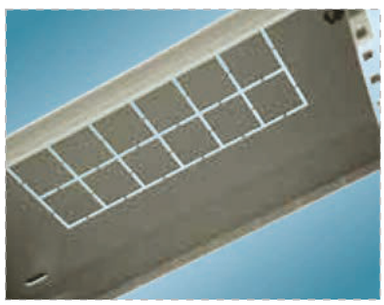
STANDARD SIZE AVAILABILITY:

Cabinet Sizes	Height "H" (mm)	Model No.
21U	1028	ETSI-21-XX-X
24U	1161	ETSI-24-XX-X
27U	1294	ETSI-27-XX-X
36U	1694	ETSI-36-XX-X
42U	1960	ETSI-42-XX-X
47U	2183	ETSI-47-XX-X

Basic Configuration of Rack:	
Rigid Main Frame, Spray finished in any RAL	○
1 Front door made from steel with security lock	○
1 Back door made from steel with security lock	○
2 Side panels with Plastic Latches	○
2 Pair of 19" mounting angles, mounted front and can be adjusted on any depth as required	○
1 Solid roof plate with Knockout Holes for easy cable access	○
1 Solid Base plate including gland plates for cable entry	○

ETSI Rack is offered in the following Model		
ETSI-XX-0A.X	**Front Door**	Front Door is not provided
	Back Door	Back Door is not provided
	Top Plate	Solid Plate with Knockout Holes
	Bottom Plate	Solid Plate with Knockout Holes
ETSI-XX-0B.X	**Front Door**	Solid steel door
	Back Door	Solid steel door
	Top Plate	Solid Plate with Knockout Holes
	Bottom Plate	Solid Plate with Knockout Holes
ETSI-XX-0D.X	**Front Door**	Fully Perforated Door
	Back Door	Fully Perforated Door
	Top Plate	Solid Plate with Knockout Holes
	Bottom Plate	Solid Plate with Knockout Holes
ETSI-XX-0E.X	**Front Door**	Fully Perforated Door
	Back Door	Solid steel Door with Bottom Perforated Holes
	Top Plate	Solid Plate with Knockout cable inlet hole
	Bottom Plate	Solid Plate with Knockout Holes
ETSI-XX-0H.X	**Front Door**	Solid steel Door with Bottom Perforated Holes
	Back Door	Solid steel Door with Bottom Perforated Holes
	Top Plate	Solid Plate with Knockout holes
	Bottom Plate	Solid Plate with Knockout holes

Surface finish available colors		
Model No.	Color Codes	Samples
ETSI-XX-XX.0	Light Gray Color RAL 7035	
ETSI-XX-XX.1	Dark Gray Color RAL 7044	
ETSI-XX-XX.2	Black Color RAL 9005	



Features:

- Flexible Design with precise dimension for all Telecommunication applications.
- Superior solution for Fiber Cables Management.
- Extremely high packaging density & efficient cable management.
- Fiber management is provided on both sides of the Mounting Angles.
- Wide Range of Splice , Patch & Cable Storage Options.
- Meeting requirements of under-Base Cable entry ventilation and prevention.
- Can be equipped with Mounting Angles in both Designs 19" and Metric Holes Standards.
- Mounting Angles are Full Height and can be adjusted in position to accommodate 19" instruments or 21" instruments.
- FMG Rack is offered with Standard Dimensions of the Rack : 900 Width x 300 Depth .
- Easy removable Side Doors for better Cable accessibility .
- Side Doors equipped with Dual Locks.

Loading Capacity:

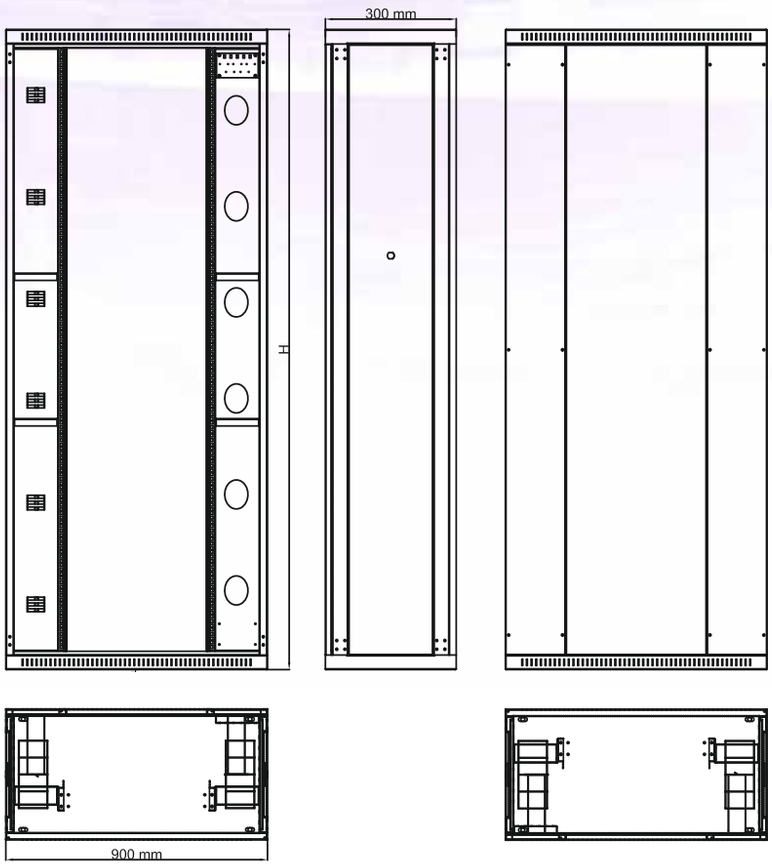
Static Loading: 500 Kg

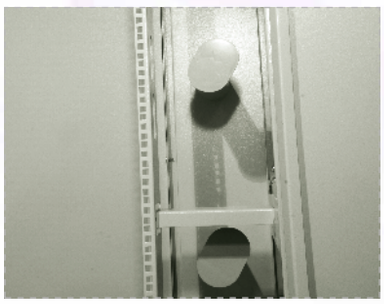
Material:

Cold Rolled Steel 2.0 mm for main frame and 1.2 mm for others

Surface Finish:

Power coated with different RAL Color





Standard size availability:

Cabinet Sizes	Height "H" (mm)	Model No.
36U	1694	FMG-36-XX-X
42U	1960	FMG-42-XX-X
47U	2183	FMG-47-XX-X

Surface finish available colors		
Model No.	Color Codes	Samples
FMG-XX-XX.0	Light Gray Color RAL 7035	
FMG-XX-XX.1	Dark Gray Color RAL 7044	
FMG-XX-XX.2	Black Color RAL 9005	

Ordering Example:

Example: FMG- 47- 0B.0

Description: FMG Rack 47U provided with Solid Steel Front & Back doors , and it has Gray RAL 7035 Color.

19" Distribution Telecommunication and Data Racks are designed for installing patch panels, active components, servers, etc.

Description:

Produced in sizes 21~48U
Width 600 or 800 mm
Depth 600, 800, 1000mm
Frame construction; 1.5 mm, 2 mm sheet steel
Color powder coated RAL (standard RAL 7035, 9005)
Door with swivel handle lock (single or multipoint); other locks on request
Doors: perforated steel, vertically double doors.
Rear panel with bottom perforation as standard; optionally can be replaced by full range of doors.
Reversible door - easy re-hanging to open on right or left (at installation site)
Door opening angle 180°
Removable side panels with lock; easy access to installed devices, security, and fast installation and dismantling
Bottom frame with openings for cable entry (220x100 mm) covered with removable blank panels; racks 800 mm wide have four additional covered cable entry openings (220x100 mm)
Top frame perforated for effective ventilation
Ventilation unit can be installed in top frame
Four sliding 19" vertical Mounting angles
Possibility to adapt 800 mm wide racks for installation of 21" equipment (on request)
Adaptor used for modification of 19" accessories for 21" mounting
Adjustable feet as standard; castor wheels, lockable castor wheel, plinth, optionally
GND/earthing kit
Load rating max. 400 kg balanced load; 600 kg optionally
Standard protection rating IP30; optionally IP41, IP20 when perforated doors used

Standard equipment:

2 pairs of 19" sliding vertical extrusions (Mounting Angles)
1 pair of side panels with lock
Perforated front Double Door with swivel handle lock
4 adjustable feet
Rear panel with bottom perforation
GND/Earthing kit
4 caster wheels

Code	Load Capacity in kg	Height (U)	Dimensions in mm				Gross weight in kg
			Height	Width	Depth	Useful depth	
CABFS-21-60/60	300	21	1006	600	600	590	58
CABFS-24-60/60	300	24	1150	600	600	590	63
CABFS -27-60/60	300	27	1283	600	600	590	68.5
CABFS -33-60/60	300	33	1550	600	600	590	77
CABFS -36-60/60	400	36	1683	600	600	590	83
CABFS -42-60/60	500	42	1950	600	600	590	91
CABFS -45-60/60	500	45	2083	600	600	590	96
CABFS -48-60/60	500	47	2206	600	600	590	101
CABFS -21-60/80	300	21	1006	600	800	790	68
CABFS -24-60/80	300	24	1150	600	800	790	72
CABFS -27-60/80	300	27	1283	600	800	790	78
CABFS -33-60/80	300	33	1550	600	800	790	91
CABFS -36-60/80	400	36	1683	600	800	790	96
CABFS -42-60/80	500	42	1950	600	800	790	105.5
CABFS -45-60/80	500	45	2083	600	800	790	112
CABFS -48-60/80	500	48	2206	600	800	790	116
CABFS -21-60/100	300	21	1006	600	1000	990	89
CABFS -24-60/100	300	24	1150	600	1000	990	94
CABFS -27-60/100	300	27	1283	600	1000	990	102
CABFS -33-60/100	300	33	1550	600	1000	990	111
CABFS -36-60/100	400	36	1683	600	1000	990	115
CABFS -42-60/100	500	42	1950	600	1000	990	127.5
CABFS -45-60/100	500	45	2083	600	1000	990	135
CABFS -48-60/100	500	48	2206	600	1000	990	140
CABFS -21-80/80	300	24	1006	800	800	790	85
CABFS -24-80/80	300	24	1150	800	800	790	90
CABFS -27-80/80	300	27	1283	800	800	790	94.5
CABFS -33-80/80	300	33	1550	800	800	790	107
CABFS -36-80/80	400	36	1683	800	800	790	116
CABFS -42-80/80	500	42	1950	800	800	790	127
CABFS -45-80/80	500	45	2083	800	800	790	134
CABFS -48-80/80	500	48	2206	800	800	790	140
CABFS -21-80/100	300	24	1006	800	1000	990	98
CABFS -24-80/100	300	24	1150	800	1000	990	101
CABFS -27-80/100	300	27	1283	800	1000	990	117
CABFS -33-80/100	300	33	1550	800	1000	990	135
CABFS -36-80/100	400	36	1683	800	1000	990	143
CABFS -42-80/100	500	42	1950	800	1000	990	150
CABFS -45-80/100	500	45	2083	800	1000	990	159
CABFS -48-80/100	500	48	2206	800	1000	990	165

Accessories:

Ventilation Units

- Two to six fans Possible to install:
- Rack only ventilation units with 2 to 6 fans
- Screw set for ventilation unit is needed when installing in top or bottom frame
- Thermostat in the range 0°C - 60°C (Optional)
- Voltage range 230V/60Hz
- Standard color black RAL 9005, Grey 7035 or upon requests other colors from RAL spectrum catalog

19 "Cable Management/Tray Panels Vertical

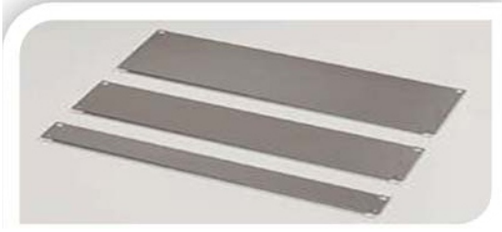
- Produced in heights 24U to 48U
- Front cover removable with latches or lock
- Plastic or Metal hooks on each side
- Standard color black RAL 9005, Grey 7035 or upon request other colors from RAL spectrum catalog

19 "Cable Management Panels Horizontal

- Produced in heights 1U or 2U
- Front only or both sides manageable
- Plastic or Metal hooks on each side
- Standard color black RAL 9005, Grey 7035 or upon request other colors from RAL spectrum catalog

19 "Blank Panels

- Produced in sizes 1, 2, 3, and 5U
- Standard color black RAL 9005, Grey 7035 or upon requests other colors from RAL spectrum catalog



19 "Shelves

- Types of multi depth shelves:
  a) Fixed
  b) Sliding
- Suitable for 600, 800 and 1000 depth
- Made from 1.2~2.0 mm sheet steel as requested
- Whole surface is perforated for effective ventilation
- Load rating is 30~60 kg
- Standard color black RAL 9005, Grey 7035 or upon requests other colors from RAL spectrum catalog

Socket panels

- Types: 19" mounting
- Used for connecting active devices to power source 220V/60Hz
- Power output: max. 13A, 230V
- Socket Available as UK Type and universal Type

Free Stand Cabinet	CABFS

Height (U)	Code
21 Rack Unit	21
24 Rack Unit	24
27 Rack Unit	27
33 Rack Unit	33
36 Rack Unit	36
42 Rack Unit	42
45 Rack Unit	45
47 Rack Unit	47
48 Rack Unit	48
Width & Depth	Code
600x600	6x6
600x800	6x8
600x1000	6x10
800x800	8x8
800x1000	8x10
1000x1000	10x10
Front Door type	Code
Glass	GD01
Full Perforated Round	FP01
Half Perforated Round	HP01
Full Perforated Honey	FP02
Half Perforated Honey	HP02
Full Metal No Perforation	FM01
Back Door type	Code
No Door	ND01
Full Perforated Round	FP01
Half Perforated Round	HP01
Full Perforated Honey	FP02
Half Perforated Honey	HP02
Full Metal No Perforation	FM01
Standing	Code
Wheels	W01
Leveling Feet	L01
Both	B01
Color	Code
Grey	RAL 7035
Black	RAL 9005
Mild Grey	RAL 7038
Mounting Profile	Code
19 Inch	MP1
21 Inch	MP2
23 Inch	MP3
Fans	Code
4 Fans	F4
6 Fans	F6

Example:

Free Stand Cabinet , 42 Rack Unit Height, 600x600 width and depth, Glass front door, No Back door,Leveling feet, Grey,19” mouting, 6Fans
CABFS-42-6X6-GD01-ND01-L01-RAL7035-MP1-F4

19" Distribution Telecommunication and Data Racks are designed for installing patch panels, active components, servers, etc.

Description:

- Produced in sizes 3U~21U
- Single Section / Double Section
- Width 600mm
- Depth 500, 550, 600mm or 450+100 and 500+100mm
- Frame construction; 1.2 mm sheet steel
- Color powder coated RAL (standard RAL 7035, 9005)
- Door with Single point lock; other locks on request
- Wide variety of doors: Tempered security glass door (as standard front door); optionally solid steel, perforated steel, vertically double doors etc.
- Solid Rear panel with hanging holes
- Reversible door - easy re-hanging to open on right or left (at installation site)
- Door opening angle 180°
- Removable side panels with plastic latch lock; easy access to installed devices, security, and fast installation and dismantling
- Top/Bottom plates with knock out openings for cable entry
- Top frame perforated for effective ventilation
- Ventilation unit can be installed in top frame
- Four sliding 19" vertical Mounting angles
- Possibility to adapt 800 mm wide racks for installation of 21" equipment (on request)
- Adaptor used for modification of 19" accessories for 21" mounting
- GND/Earthing kit
- One standard 19” shelf
- Load rating max. 200 kg balanced load; 300 kg optionally
- Standard protection rating IP30; optionally IP41, IP20 when perforated doors used

Standard equipment:

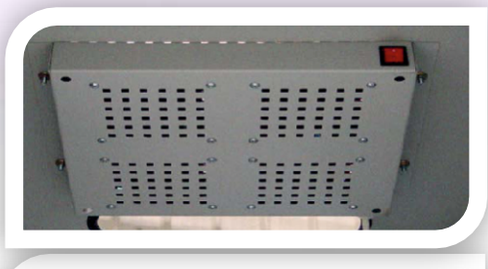
- 2 pairs of 19" sliding vertical extrusions (Mounting Angles)
- 1 pair of side panels with plastic latch lock
- Tempered security glass front door with single point locking system
- Rear panel with Hanging holes
- GND/Earthing kit
- One fixed 19” shelf
- Power distribution unit

Code	Load Capacity in kg	Height (U)	Dimensions in mm				Gross weight in kg
			Height	Width	Depth	Useful depth	
CABWM-03-60/40	150	03	214	600	400	390	7.5
CABWM-03-60/50	150	03	214	600	500	490	8
CABWM-03-60/60	150	03	214	600	600	590	8.5
CABWM-03-60/60	150	03	214	600	500+100	590	9.25
CABWM-04-60/40	175	04	260	600	400	390	8
CABWM-04-60/50	175	04	260	600	500	490	8.5
CABWM-04-60/60	175	04	260	600	600	590	9.5
CABWM-04-60/60	175	04	260	600	500+100	590	10.25
CABWM-06-60/40	200	06	350	600	400	390	11.5
CABWM-06-60/50	200	06	350	600	500	490	12.25
CABWM-06-60/60	200	06	350	600	600	590	13
CABWM-06-60/60	200	06	350	600	500+100	590	4.25
CABWM-09-60/40	200	09	485	600	400	390	14.5
CABWM-09-60/50	200	09	485	600	500	490	15
CABWM-09-60/60	200	09	485	600	600	590	15.75
CABWM-09-60/60	200	09	485	600	500+100	590	16.5
CABWM-12-60/40	200	12	618	600	400	390	20
CABWM-12-60/50	200	12	618	600	500	490	24
CABWM-12-60/60	200	12	618	600	600	590	27
CABWM-12-60/60	200	12	618	600	500+100	590	28.5
CABWM-15-60/50	250	15	750	600	500	490	25
CABWM-15-60/60	250	15	750	600	600	590	28
CABWM-15-60/60	250	15	750	600	500+100	590	30
CABWM-18-60/50	300	18	888	600	500	490	27
CABWM-18-60/60	300	18	888	600	600	590	30
CABWM-18-60/60	300	18	888	600	500+100	590	32
CABWM-21-60/50	300	21	1025	600	500	490	31
CABWM-21-60/60	300	21	1025	600	600	590	33
CABWM-21-60/60	300	21	1025	600	500+100	590	35

Accessories:

Ventilation Units

- Two to six fans Possible to install:
- Rack only ventilation units with 2 to 6 fans
- Screw set for ventilation unit is needed when installing in top or bottom frame
- Thermostat in the range 0°C - 60°C (Optional)
- Voltage range 230V/60Hz
- Standard color black RAL 9005, Grey 7035 or upon requests other colors from RAL spectrum catalog

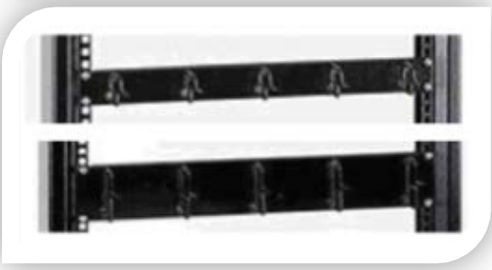


19" Cable Management/Tray Panels Vertical

- Produced in heights 24U to 48U
- Front cover removable with latches or lock
- Plastic or Metal hooks on each side
- Standard color black RAL 9005, Grey 7035 or upon request other colors from RAL spectrum catalog

19" Cable Management Panels Horizontal

- Produced in heights 1U or 2U
- Front only or both sides manageable
- Plastic or Metal hooks on each side
- Standard color black RAL 9005, Grey 7035 or upon request other colors from RAL spectrum catalog

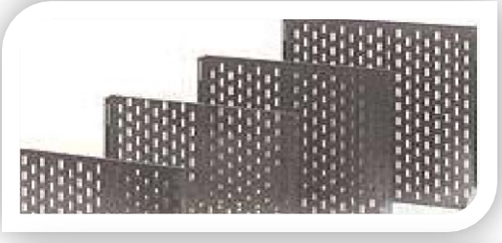


19" Blank Panels

- Produced in sizes 1, 2, 3, and 5U
- Standard color black RAL 9005, Grey 7035 or upon requests other colors from RAL spectrum catalog

19" Shelves

- Types of multi depth shelfs:
  a) Fixed
  b) Sliding
- Suitable for 600, 800 and 1000 depth
- Made from 1.2~2.0 mm sheet steel as requested
- Whole surface is perforated for effective ventilation
- Load rating is 30~60 kg
- Standard color black RAL 9005, Grey 7035 or upon requests other colors from RAL spectrum catalog



Socket panels

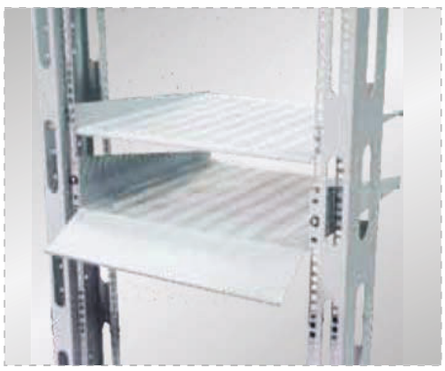
- Types: 19" mounting
- Used for connecting active devices to power source 220V/60Hz
- Power output: max. 13A, 230V
- Socket Available as UK Type and universal Type

Wall Mount Cabinet	CABWM

Height (U)	Code
3 Rack Unit	03
4 Rack Unit	04
6 Rack Unit	06
9 Rack Unit	09
12 Rack Unit	12
15 Rack Unit	15
18 Rack Unit	18
21 Rack Unit	21
Width & Depth	Code
600x400	6x4
600x500	6x5
600x600	6x6
600x500+100	6x51
Sections	Code
Single Section	SS
Double Section	DS
Front Door type	Code
Glass	GD01
Full Perforated Round	FP01
Half Perforated Round	HP01
Full Perforated Honey	FP02
Half Perforated Honey	HP02
Full Metal No Perforation	FM01
Color	Code
Grey	RAL 7035
Black	RAL 9005
Mild Grey	RAL 7038
Mounting Profile	Code
19 Inch	MP1
21 Inch	MP2
Fans	Code
2 Fans	F2
4 Fans	F4

Example:

Wall Mount Cabinet,4 Rack unit height,600x500 width and depth, Single section, honey comb full perforated, black,19inch mounting, 4 Fans
CABWM-04-6X5-SS-FP02-RAL9005-MP1-F4



Features:

- Innovative Design for Complex Cable management.
- Frame is designed to be rigid and light Weight .
- Large Cut outs are provided in the Frame to enable easy cable management through them.
- Mounting angles provided with 19" universal Hole Pattern.
- RS Rack is offered in 3 designs ; Fixed Frame , Single Frame & Double Frame .
- Frame is manufactured from 1.5 mm Steel Sheets for main frame and 3.0 mm for Base.
- Frame is electrostatic powder coated in different RAL Colors.

Loading Capacity:

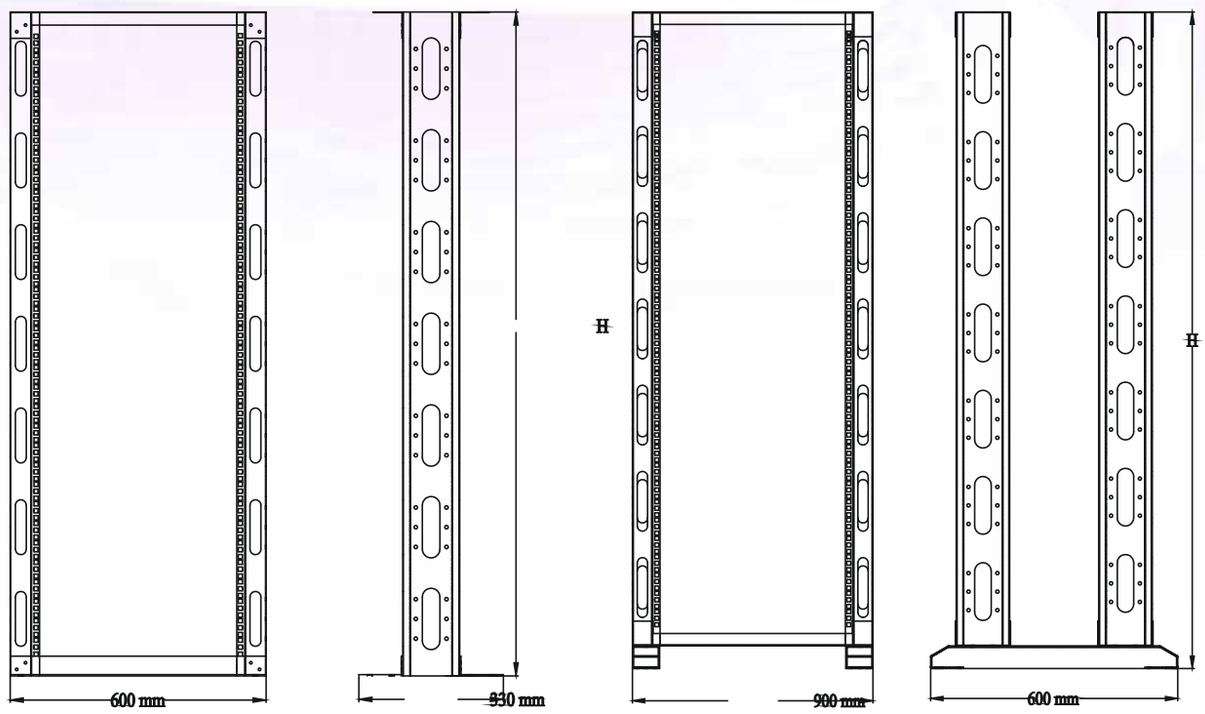
Static Loading: 500 Kg

Material:

Cold Rolled Steel 1.5 ~ 3.0 mm

Surface Finish:

Power coated with different RAL Color



Standard Size Availability:

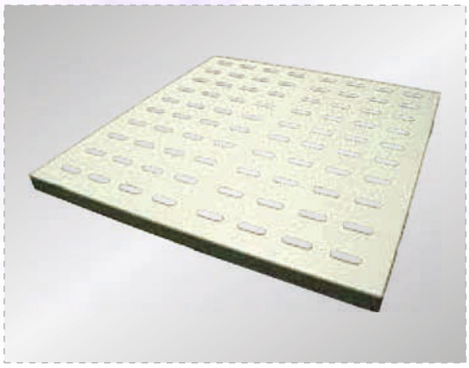
Height	Model No.		
	Fixed Frame	Single Frame	Double Frame
36U (1744 mm)	RS-OPF-36.X	RS-OPS-36.X	RS-OPDS-36.X
42U (2011 mm)	RS-OPF-42.X	RS-OPS-42.X	RS-OPDS-42.X
47U (2233 mm)	RS-OPF-47.X	RS-OPS-47.X	RS-OPDS-47.X

Surface finish available colors		
Model No.	Color Codes	Samples
RS-XX-XX.0	Light Gray Color RAL 7035	
RS-XX-XX.1	Dark Gray Color RAL 7044	
RS-XX-XX.2	Black Color RAL 9005	

Ordering Example:

Example: RS-OPDS-47.0

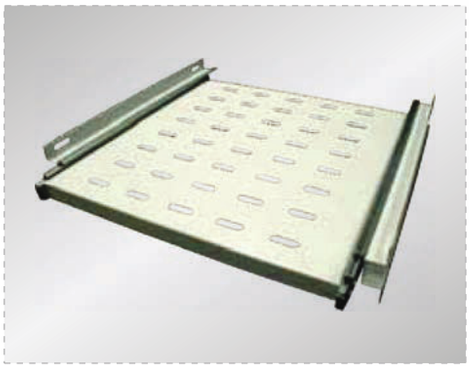
Description: Double frame RS Rack with light gray RAL 7035 color.



19" Fixed Shelf:

1 - Provided with ventilation slots
2 - Maximum Static load 100 kg
3 - Material : CRS Steel
4 - Finish : Electrostatic Powder paint
5- Color : Gray RAL7035

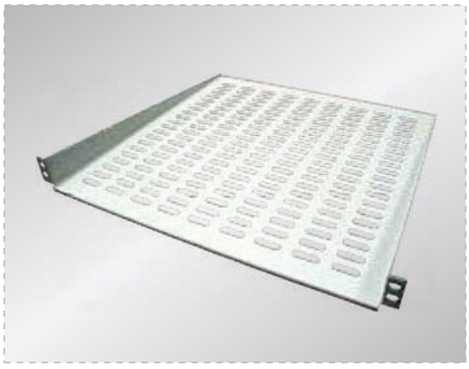
Cabinet Depth (mm)	Product No.
600	SLF-04
800	SLF-05
1000	SLF-06



19" Sliding Shelf:

1 - Provided with ventilation slots
2 - 2/3 Extended rails
3 - Maximum Static load 35 kg
4 - Material : CRS Steel
5 - Finish : Electrostatic Powder paint
6- Color : Gray RAL7035

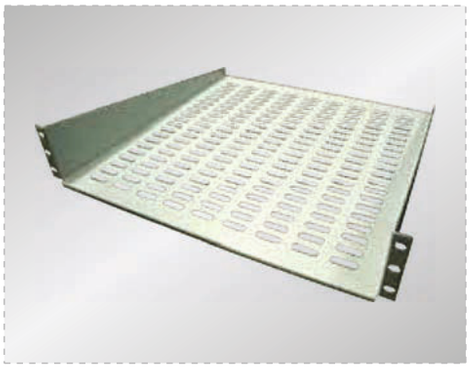
Cabinet Depth (mm)	Product No.
600	SLFSL-06
800	SLFSL-08
1000	SLFSL-10



19" 1U Cantilever Shelf:

1 - Provided with ventilation slots
2 - Maximum static load 45 kg
3 - Height = 1U
4 - Material : CRS Steel
5 - Finish : Electrostatic Powder paint
6- Color : Gray RAL7035

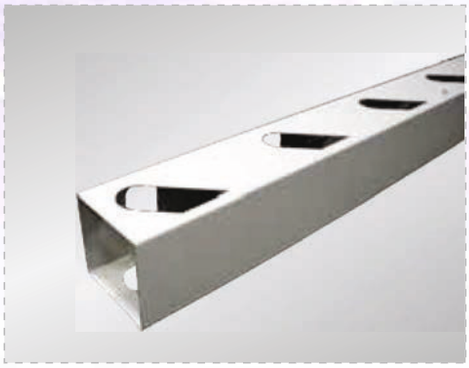
Height	Product No.
1U	SLFA-01



19" 2U Cantilever Shelf:

1 - Provided with ventilation slots
2 - Maximum static load 65 kg
3 - Height = 2U
4 - Material : CRS Steel
5 - Finish : Electrostatic Powder paint
6- Color : Gray RAL7035

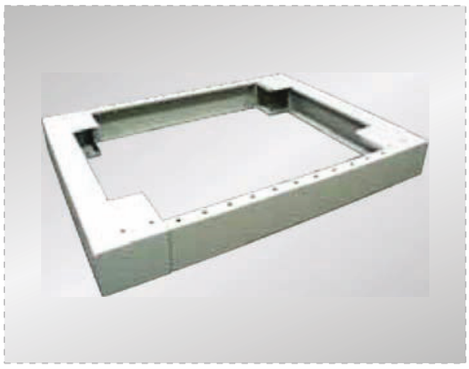
Height	Product No.
2U	SLFB-02



19" Vertical Cable Organizer:

1 - Easy assembled front cover
2 - Protect and manages the cables
3 - Fits to 800 mm and 1000 mm Depth Cabinets
3 - Material : CRS Steel
4 - Finish : Electrostatic Powder paint
5- Color : Any RAL.

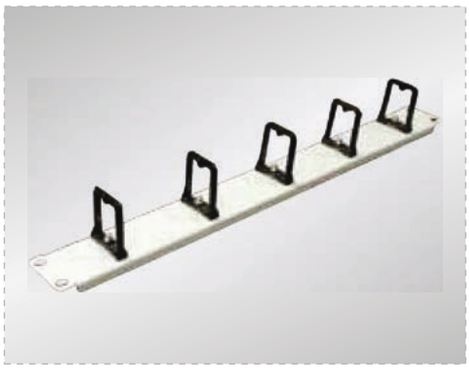
Height	19" Holes Pitch	Universal Holes Pitch
21U	MNGA-21	MNGB-21
24U	MNGA-22	MNGB-22
27U	MNGA-27	MNGB-27
36U	MNGA-36	MNGB-36
42U	MNGA-42	MNGB-42
47U	MNGA-47	MNGB-47



Cabinet Plinth:

1 - Solid Steel Plinth Base.
2 - Material : 2.0 mm CRS Steel.
3 - Finish: Electrostatic Powder Paint
4- Color : Any RAL.

Depth (mm)	600 mm width	800 mm width
21U	MNGA-21	MNGB-21
24U	MNGA-22	MNGB-22
27U	MNGA-27	MNGB-27
36U	MNGA-36	MNGB-36
42U	MNGA-42	MNGB-42
47U	MNGA-47	MNGB-47



PL Cable Organizer:

1 - For Cable Organizing using Plastic Hooks.
2 - Easy Cable inlet entry in and out.
3 - Material : Steel & Plastic.
4 - Height : 1U.
5 - Finish : Electrostatic Powder paint.
6 - Color : Any RAL.

Model No.	SLFKB-109

ST Cable Organizer:

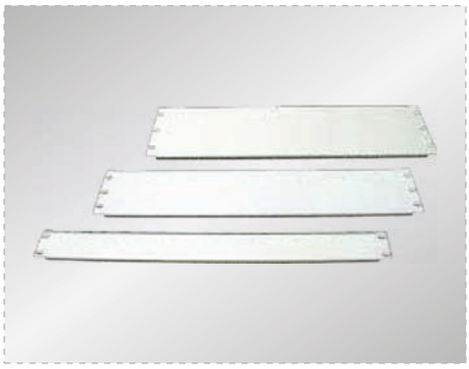
1 - For Cable Organizing using Steel Hooks.
2 - Easy Cable inlet entry in and out.
3 - Material : Steel.
4 - Finish : Electrostatic Powder paint.
5 - Color : Any RAL.

Height (mm)	Model No.
1 U	ST - ORG - 1001
2 U	ST - ORG - 1002
3 U	ST - ORG - 1003

Power Strip:

1 - Mounting to 19" mounting angles horizontally
2 - 16 A Circuit breaker
3 - 6 Way Sockets
4 - Material of Frame : CRS Steel
5 - Finish : Electrostatic Powder paint
6 - Colors : Any RAL.

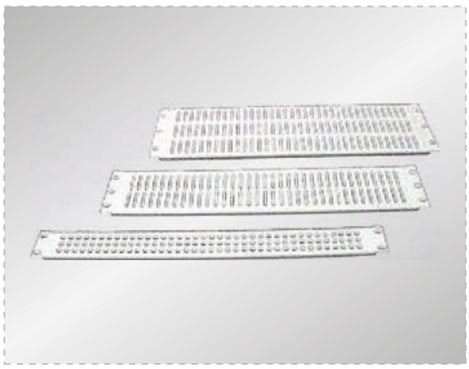
Product No.	PWR-109



19" Solid Front Panel:

1 - Closing the empty front opening in 19" Racks.
2 - Easy for installation.
3 - Material : Steel.
4 - Finish : Electrostatic Powder paint.
5 - Color : Any RAL.

Height (mm)	Model No. for Gray Color	Model No. for Black Color
1 U	SFP-5201.1	SFP-5201.2
2 U	SFP-5202.1	SFP-5202.2
3 U	SFP-5203.1	SFP-5203.2



19" Ventilated Front Panel:

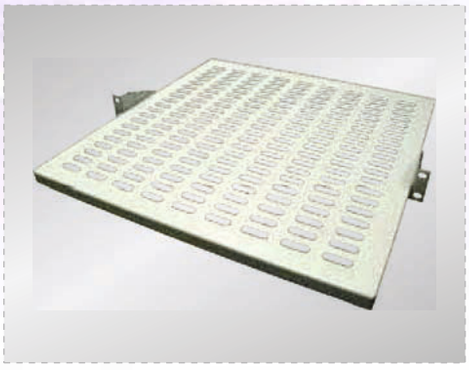
1 - Closing the empty front opening in 19" Racks.
2 - Easy Air Ventilation.
3 - Easy for installation.
4 - Material : Steel.
5 - Finish : Electrostatic Powder paint.
6 - Color : Any RAL.

Height (mm)	Model No. for Gray Color	Model No. for Black Color
1 U	VENFP-5201.1	VENFP-5201.2
2 U	VENFP-5202.1	VENFP-5202.2
3 U	VENFP-5203.1	VENFP-5203.2

Earthing Bar:

1 - Can be assembled in all Types of Racks & Cabinets
2 - Installed Vertically.
3 - Material : Copper.
4 - Main Earth is provided by M6.

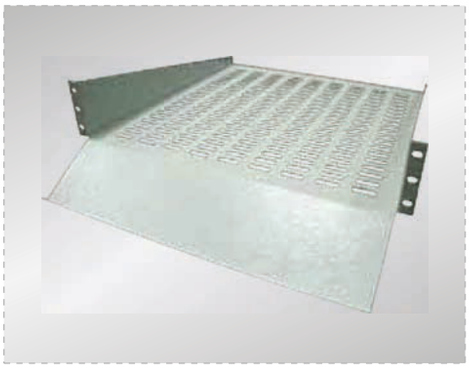
Height (mm)	Model No.
21 U	ERB-5221
24 U	ERB-5224
27 U	ERB-5227
36 U	ERB-5236
42 U	ERB-5242
47 U	ERB-5247



19" Adjustable Shelf:

1 - Standard Ventilation Slots.
2 - Maximum Static Load 20 Kg
3 - Material: CRS Steel.
4 - Finishing: Powder Coated.
5- Color : Any RAL

Height	Product No.
1U	Adjshlf-1U
2U	Adjshlf-2U



19" KeyBoard Shelf:

1 - Provided with Ventilation slots.
2 - Easy to Install.
3 - Facility to keep key Board.
4 - Static Load : 40 kg (Maximum)0
5 - Material : CRS Steel.
6 - Finish Electrostatic Powder paint.
7- Color : Any RAL

Model No.	SLFKB-109

Fan Tray:

1 - Easy to be assembled to the Top Sheet
2 - Long life, quite and reliable
3 - Fully assembled and wired
4 - Circuit's breaker and On-Off switch
5 - Material : CRS Steel
6 - Finish : Electrostatic Powder Paint
7 - Colors : Any RAL

Number of Fans	Product No.
2	FANA-02
4	FANA-04
6	FANA-06
8	FANA-08

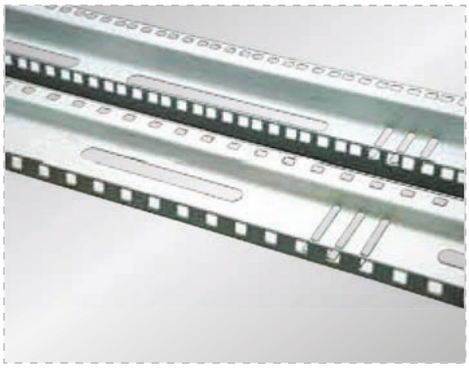
19" Ventilation Panel:

1 - 1U Height
2 - Easy for Mounting
3 - Long Life, quite and reliable
4 - Circuit's breaker and On-Off switch
5 - Material : CRS Steel
6 - Finish : Electrostatic Powder paint
7 - Colors : Any RAL

Number of Fans	Product No.
2	FANVE-02
4	FANVE-04
6	FANVE-06

Thermostat for Cooling Fan:

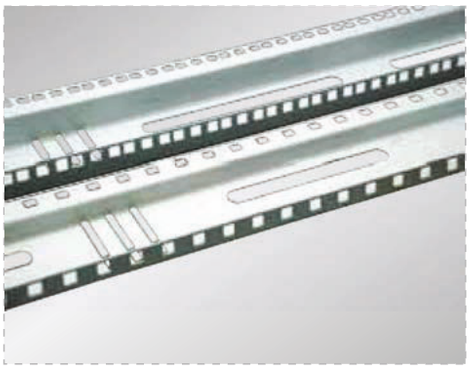
1 - Digital display thermostat to stablize cabiner temperature.
2 - Color : Any RAL.



FS Mounting Angles:

1 - Designed to be used for ETSI Racks.
2 - Available to accommodate 19" & 21" Instruments.
3 - 19" Mounting Angles can be assembled with Magna & Echo Cabinets.
4 - Available in both Universal Holes Pitch & Metric Holes Pitch.
5 - Pack Quantity : 2 Pc's (Left & Right).
6 - Finish : Electrostatic Powder Paint.
7 - Color : Any RAL.

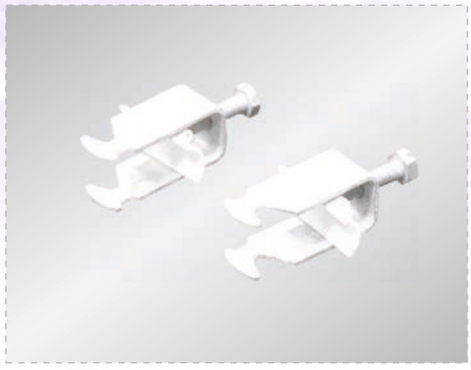
Height	19" Rack/Unv. Holes	21" Rack/Unv. Holes	19" Rack/Metric Holes	21" Rack/Metric Holes
21U	MTG-19-921	MTG-21-921	MTGMT-19-921	MTGMT-21-921
24U	MTG-19-924	MTG-21-924	MTGMT-19-924	MTGMT-21-924
27U	MTG-19-927	MTG-21-927	MTGMT-19-927	MTGMT-21-927
36U	MTG-19-936	MTG-21-936	MTGMT-19-936	MTGMT-21-936
42U	MTG-19-942	MTG-21-942	MTGMT-19-942	MTGMT-21-942
47U	MTG-19-947	MTG-21-947	MTGMT-19-947	MTGMT-21-947



MW Mounting Angles:

1 - Designed to be used for wall Mounted Cabinets.
2 - Available to accommodate 19" Instruments.
3 - Available in both Universal Holes Pitch & Metric Holes Pitch.
4 - Packaging Quantity : 2 Pc's (Left & Right).
5 - Finish : Electrostatic Powder Paint.
6 - Color : Any RAL.

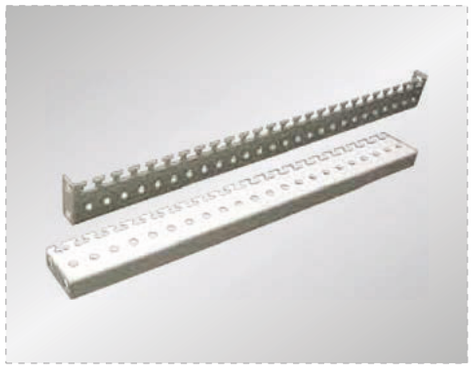
Height	Unv. Holes	Metric Holes
6U	WM-9006	WM-9206
9U	WM-9009	WM-9209
12U	WM-9012	WM-9212
15U	WM-9015	WM-9215
18U	WM-9018	WM-9218
21U	WM-9021	WM-9221



Cable Clamp:

1 - For cable fastening to C-Rail.
2 - Material : Plastic.

Model No.	CCL-703



Cable Clamp Rail:

1 - For fastening Cables in the Cabinets.
2 - Material : Steel.
3 - Finish : Electrostatic Power paint.
4 - Color : Any RAL.

Cabinet Depth	Model No.
600 cm	CRL-6221
800 cm	CRL-6222
1000 cm	CRL-6223

C Rail RS:

1 - For fastening Cables in the Cabinets.
2 - Material : Steel.
3 - Easy installation in depth wise of Cabinet.
4 - Finish : Electrostatic Powder paint.
5 - Color : Any RAL.

Cabinet Depth	Model No.
600 cm	CRS-6224
800 cm	CRS-6225
1000 cm	CRS-6226

C Rail RL:

1 - For fastening Cables in the Cabinets.
2 - Material : Steel.
3 - Easy installation in depth wise of Cabinet.
4 - Finish : Electrostatic Powder paint.
5 - Color : Any RAL.

Cabinet Depth	Model No.
600 cm	CRL-6224
800 cm	CRL-6225
1000 cm	CRL-6226

Earthing Kit:

1 - For earting of all Cabinets panels on the Cabinets Frame.
2 - 20 cm Length Wire.
3 - Pack Quantity : 2 Earthing Kit + 4 Screws.

Model No.	CCL-703

Ventilation FAN:

1 - Operating Voltage : 220 V.
2 - Working Temperature : 20 deg C to 80 deg C.
3 - Speed : 72 CFM.
4 - Noise : 45 dba

Model No.	VFAN-801

RS Security Lock:

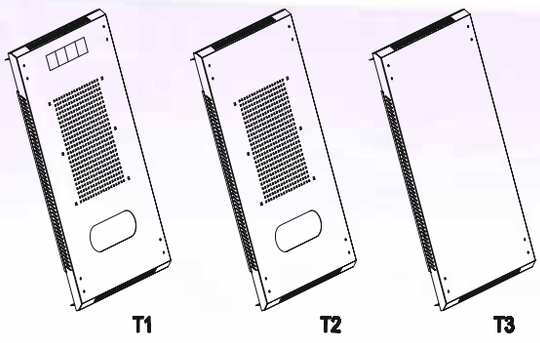
1 - Function : Rotation adjustable 90 deg or 180 deg.
2 - Material : Zink alloy housing.
3 - Finishing : Bright chrome plated.

Model No.	LK-902

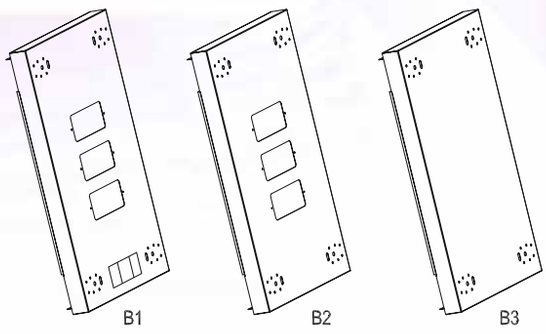
CB Security Lock:

1 - Functional Rotation 90 deg.
2 - Material : Zink alloy body & MS Zink plated cam.
3 - Finishing : Black Coated.
4 - Structure : Left & Right hand use can be realized by changing the cam position.
5 - Accessories : Two keys.

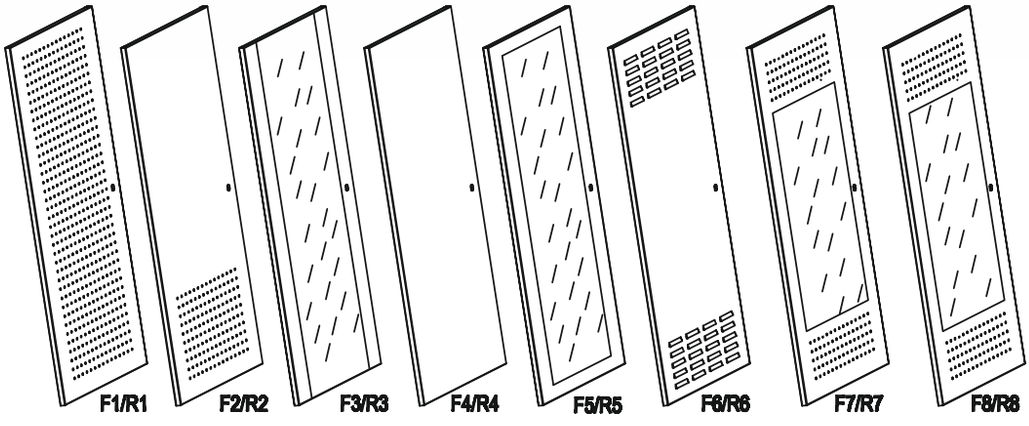
Model No.	LK-903



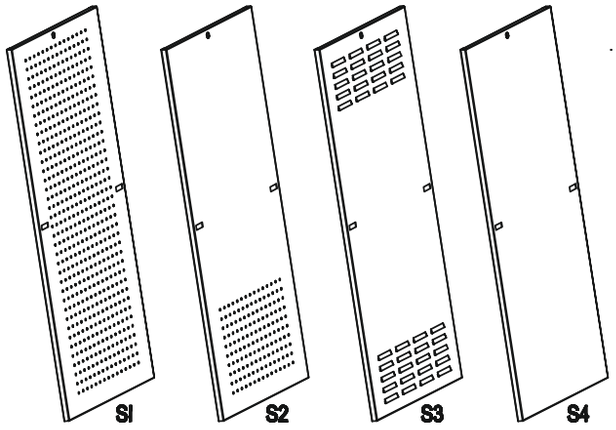
Top Plate Profiles



Bottom Plate Profiles



Front & Back Doors Profiles



Side Doors Profiles

High Quality Cat3 UTP Cable

Description:

TechLine CAT3 the ideal choice for LAN Transmission with specified bandwidth up to 16 MHz these cable are used for voice and data communications and handle application bandwidths up to 16 MHz Other uses for these cable include indoor use on customer premises for the interconnection of telephone key systems these cables exceed performance requirements specified by the TIA/EIA-568-B.2

Application:

- 4 Mbps token ring (IEEE 802.5)
- Analog voice
- 10 Mbps 10BASE-T Ethernet (IEEE 802.3)
- Telecommunications closet wiring

Standard:

TIA/EIA-568-B.2, UL 444, Flame retardant to IEC60332-1.

Construction Characteristics:

conductor	Material	Solid Bare Copper
	Size	24AWG X 2P
	Construction	1/0.505 ± 0.010
Insulation	Material	HDPE
	Nom. Thickness	0.18 mm
	Colors	Blue- White/Blue
		Orange-White/Orange
Jacket	Material	PVC
	Min. Thickness	0.55mm
	AVG. Thickness	0.60mm
	Rip Cord	Nylon
	Color	Per request

Electrical & Physical Characteristics:

Operating Temperature Range	-20 ºC + 70º C
Conductor Resistance	Max 91.8 ohm/km at 20º C
Max. Operating voltage – UL	300 V RMS
DC Resistance Unbalance	Max 5 %
Characteristic Impedance	100 ± 15 0HM
Nominal Velocity of Propagation (%)	69 ~70
Nominal Delay	Max 1.5ns/FIT

Characteristics 100m @ 20 °C – 3 °C (68 °F – 5.5°F):

Frequency (MHz)	Insertion Loss (dB/100m)	NEXT (dB)
0.772	2.2	43
1	2.6	41.3
4	5.6	32.3
8	8.5	27.8
10	9.7	26.3
16	13.1	23.2

ORDERING INFORMATION:

TLC3U- X1-X2

G	*Grey*	**R**	*Red*	**Br**	*Brown*
B	*Blue*	**A**	*Aqua*	**Wh**	*White*
Y	*Yellow*	**G**	*Green*	**Bl**	*Black*
O	*Orange*	**N**	*Navy Blue*	**Cu**	*Custom*
P	*Pink*	**V**	*Violet*		

Length
please specify a number in meter

Note: Cable reel comes in a standard length of 305m or 500m

Description:

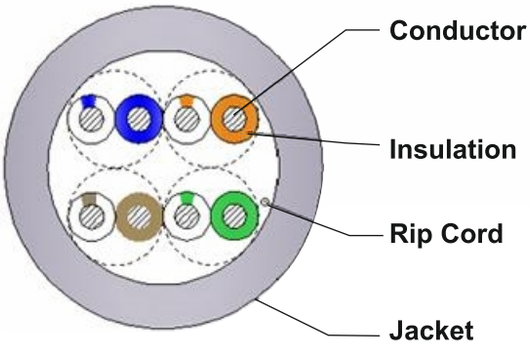
TECHLINE Cat-5e UTP Copper Solid cable transmits data over local area Networks (LANs).
These cables exceed performance requirements specified by TIA/EIA-568C.2. B.2
As streaming video and multimedia over LAN are gaining popularity, users demand faster data transmission and reduced waiting time.

Application:

These cables are used in the tertiary, but also in the secondary level of a network. They are characterized by large performa nce reserves and outstanding perform ance. They can be used to implement services such as Fast Ethernet. These cables are made using 24 gauge (AWG) copper wires with about three twists per inch enabling them to transmit data at 1000 Mbps (~1 Gigabit per second) with a frequency of 100 MHz They are suitable for 10BASE-T, 100BASE-TX . They support a higher signal - to - noise ratio, providing better reliability for current applications and higher data rates for future applications. The mechanical characteristics are perfectly suited for the application in tight cable channels and platforms due to their optimized construction.

Standard:

TIA/EIA 568-B.2 and ISO/IEC 11801, UL 444 Flame retardant to IEC60332-1 ,Smoke density acc.to IEC61034,Halogen-Free acc. To IEC60754-2.



Construction Characteristics:

conductor	Material	Solid Bare Copper
	Size	24AWG X 4P
	Construction	1/0.505 ± 0.010
Insulation	Material	HDPE
	Min. Thickness	0.180 mm
	AVG. Thickness	0.20mm
	Diameter	0.93 ± 0.05
	Colors	Blue- White/Blue
		Orange-White/Orange
		Green- White/Green
		Brown – White/Brown
Jacket	Material	PVC / LSZH
	Min. Thickness	0.55mm
	AVG. Thickness	0.60mm
	Diameter	5.4 ± 0.20
	Rip Cord	Nylon
	Color	Per request

Electrical & Physical Characteristics:

Operating Temperature Range	-20 °C + 75° C
Conductor Resistance	Max 93.8 ohm/km at 20° C
Dielectric Strength	Min DC 2.5 KV (2 sec)
Spark Test	3.0KV (max)
DC Resistance Unbalance	Max 5 %
Pair-to-Ground Capacitance Unbalance	Max 3300pF/km
Characteristic Impedance	100 ± 15 Ohm
Nominal Velocity of Propagation (%)	69
Propagation Delay	Max 536ns/100m
Delay Skew	Max 45ns/100m

CHARACTERISTICS PER 100M @ 20 °C – 3 °C (68 °F – 5.5°F).

Frequency (MHz)	Insertion Loss (dB/100m)	Return Loss (dB)	NEXT (dB)	PSNEXT (dB)	ELFEXT (dB)	PSELFEXT (dB)	ACR (dB)	PS ACR (dB)
1	2.0	20.0	65.3	62.3	63.8	60.8	63.3	60.3
4	4.1	23.0	56.3	53.3	51.8	48.8	52.2	49.2
8	5.8	24.5	51.8	48.8	45.7	42.7	46.0	43.0
10	6.5	25.0	50.3	47.3	43.8	40.8	43.8	40.8
16	8.2	25.0	47.3	44.2	39.7	36.7	39.0	36.0
20	9.3	25.0	45.8	42.8	37.8	34.8	36.5	33.5
25	10.4	24.2	44.3	41.3	35.8	32.8	33.9	30.9
31.25	11.7	23.3	42.9	39.9	33.9	30.9	31.2	28.2
62.5	17.0	20.7	38.4	35.4	27.9	24.9	21.4	18.4
100	22.0	19.0	35.3	32.3	23.8	20.8	13.3	10.3

PATCH CORD:

SPECIFICATION INTRODUCTION

- 4 Pairs Unshielded Stranded Twisted Pair (UTP) Cable
- Conductor Metal: Bare Copper
- Conductor: 24 AWG
- Insulation Material: HD-PE
- Jacket Material: PVC / LSZH
- Heat-resistant: 60°C minimum (Temperature limited)

APPLICATION

These cables exceed performance requirements specified by the TIA/EIA-568B.2 / TIA/EIA-568C.2

- 10BASE-T, 100BASE-TX Fast Ethernet, 1000BASE-T (IEEE802.3)
- 100VG-AnyLAN (IEEE802.12)
- 550 MHz Broadband Video
- Voice, T1, ISDN
- 155/ 622 Mbps ATM
- Power over Ethernet (POE)

MODULAR CONNECTOR/PLUG

- RJ-45 8P for Transparence color
- Gold plated: 30U"
- Contact blade: Phosphor Bronze
- Temperature range: -10 ~ 80° C
- Dielectric withstanding voltage: 500V AC
- Insulation resistance: 35M Ohm (max.)
- Durability: 750 matching cycles
- Cable-to-plug tensile strength: 20lbs (89N) (min.)

ORDERING INFORMATION:

TLC5EU- X1-X2-X3

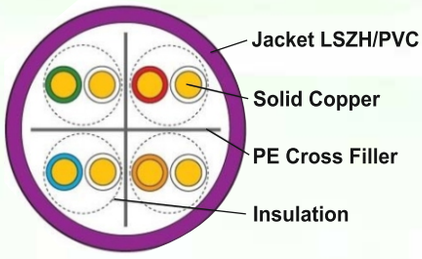
C	*Cable*
P	*Patch cord*

G	*Grey*	**R**	*Red*	**Br**	*Brown*
B	*Blue*	**A**	*Aqua*	**Wh**	*White*
Y	*Yellow*	**G**	*Green*	**Bl**	*Black*
O	*Orange*	**N**	*Navy Blue*	**Cu**	*Custom*
P	*Pink*	**V**	*Violet*		

Length
please specify a number in meter

Note: Cable reel comes in a standard length of 305m or 500m

High Quality Cat6 UTP 24 AWG Cable



Description:

TechLine CAT6 UTP Copper Solid cable transmits data over local area Networks (LANs). These cables exceed performance requirements.

Application:

As streaming video and multimedia over LAN are gaining popularity, users demand faster data transmission and reduced waiting time. The superior insulation around the 24 AWG copper wires attribute to the increased performance, These cables are used in the tertiary, but also in the secondary level of a network. They are characterized by large performance reserves and outstanding performance. They can be used to implement services such as GigabitEthernet. They can transmit data at 1000 Mbps (~1 Gigabit per second) with a frequency of 250 MHz and suitable for 10BASE-T, 100BASE-TX Fast Ethernet and 1000BASE-T/1000BASE-TX (Gigabit Ethernet). Enhanced performance cable for transmission of high speed data, digital and analogue voice and video (RGB) signals on LANs. Supports Gigabit Ethernet (1000 baseT) standard. Operates at bandwidth of 250MHz, The mechanical characteristics are perfectly suited for the application in tight cable channels and platforms due to their optimized construction.

Standard:

TIA/EIA 568-B.2-1 and ISO/IEC 11801, UL 444, Flame retardant to IEC60332-1 ,Smoke density acc.to IEC61034,Halogen-Free acc. To IEC607542.

Construction Characteristics:

Conductor	Material	Solid Bare Copper
	Size	24AWG X 4P
	Construction	1/0.51 +/ - 0.010
Insulation	Material	HDPE
	Min. Thickness	0.180 mm
	AVG. Thickness	0.220mm
	Diameter	0.94+/ -0.05
	Colors	Blue- White/Blue
		Orange-White/Orange
		Green- White/Green
		Brown – White/Brown
Jacket	Material	PVC / LSZH
	Min. Thickness	0.55mm
	AVG. Thickness	0.60mm
	Diameter	5.9 +/ - 0.20
	Rip Cord	Nylon
	Color	Per request
Filler	Filler	PVC / MDPE

Electrical & Physical Characteristics:

Operating Temperature Range	-20C + 75 C
Conductor Resistance	Max 93.8 ohm/km at 20 C
Dielectric Strength	Min AC 1.7KV
Spark Test	2.0KV (max)
DC Resistance Unbalance	Max 5 %
Pair-to-Ground Capacitance Unbalance	Max 3300pF/km
Characteristic Impedance	100 +/- 15 Ohm
Nominal Velocity of Propagation (%)	69
Propagation Delay	Max 536ns/100m
Delay Skew	Max 45ns/100m

Characteristics per 100m @ 20 °C – 3 °C (68 °F – 5.5°F).

Frequency (MHz)	Insertion Loss (dB/100m)	RL (dB)	NEXT (dB)	PSNEXT (dB)	ELFEXT (dB)	PSELFEXT (dB)	ACR (dB)	PSACR (dB)
1	2.0	19.0	74.3	72.3	67.8	64.8	72.3	70.3
4	3.8	19.0	65.3	63.3	55.8	52.8	61.5	59.5
8	5.3	19.0	60.8	58.8	49.7	46.7	55.5	53.5
10	6.0	19.0	59.3	57.3	47.8	44.8	53.3	51.3
16	7.6	18.0	56.2	54.2	43.7	40.7	48.6	46.6
20	9.4	17.5	54.8	52.8	41.8	38.8	46.3	44.3
25	11.4	17.0	53.3	51.3	39.8	36.8	43.8	41.8
31.25	10.7	16.5	51.9	49.9	37.9	34.9	41.2	39.2
62.5	15.4	14.0	47.4	45.4	31.9	28.9	32.0	30.0
100	19.8	12.0	44.3	42.3	27.8	24.8	24.5	22.5
200	30.0	11.0	39.8	37.8	21.8	18.8	10.8	8.8
250	33.8	10.0	38.3	36.3	19.8	16.8	5.5	3.5

PATCH CORD:

SPECIFICATION INTRODUCTION

- 4 Pairs Unshielded Stranded Twisted Pair (UTP) Cable
- Conductor Metal: Bare Copper
- Conductor: 24 AWG
- Insulation Material: HD-PE
- Jacket Material: PVC / LSZH
- Heat-resistant: 60°C minimum (Temperature limited)

APPLICATION

These cables exceed performance requirements specified by

UL 444, TIA/EIA 568-B.2-1 and ISO/IEC 11801

- 10BASE-T, 100BASE-TX Fast Ethernet, 1000BASE-T (IEEE802.3)
- 100VG-AnyLAN (IEEE802.12)
- 550 MHz Broadband Video
- Voice, T1, ISDN
- 155/ 622 Mbps ATM
- Power over Ethernet (POE)

MODULAR CONNECTOR/PLUG

- RJ-45 8P for Transparence color
- Gold plated: 30U"
- Contact blade: Phosphor Bronze
- Temperature range: -10 ~ 80° C
- Dielectric withstanding voltage: 500V AC
- Insulation resistance: 35M Ohm (max.)
- Durability: 750 matching cycles
- Cable-to-plug tensile strength: 20lbs (89N) (min.)

ORDERING INFORMATION:

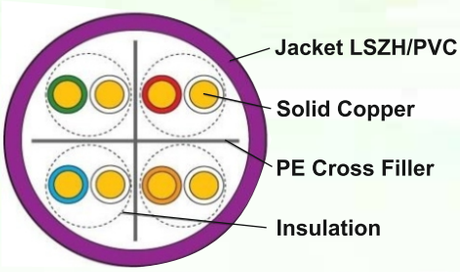
TLC6U- X1-X2-X3

X1	
C	*Cable*
P	*Patch cord*

X2					
G	*Grey*	**R**	*Red*	**Br**	*Brown*
B	*Blue*	**A**	*Aqua*	**Wh**	*White*
Y	*Yellow*	**G**	*Green*	**Bl**	*Black*
O	*Orange*	**N**	*Navy Blue*	**Cu**	*Custom*
P	*Pink*	**V**	*Violet*		

Length
please specify a number in meter

Note: Cable reel comes in a standard length of 305m or 500m



Description:

TechLine CAT6 UTP Copper Solid cable transmits data over local area Networks (LANs). These cables exceed performance requirements.

Application:

As streaming video and multimedia over LAN are gaining popularity, users demand faster data transmission and reduced waiting time. The superior insulation around the 23 AWG copper wires attribute to the increased performance, These cables are used in the tertiary, but also in the secondary level of a network. They are characterized by large performance reserves and outstanding performance. They can be used to implement services such as Gigabit Ethernet. They can transmit data at 1000 Mbps (~1 Gigabit per second) with a frequency of 250 MHz and suitable for 10BASE-T, 100BASE-TX Fast Ethernet and 1000BASE-T/1000BASE-TX (Gigabit Ethernet). Enhanced performance cable for transmission of high speed data, digital and analogue voice and video (RGB) signals on LANs. Supports Gigabit Ethernet (1000 base-T) standard. Operates at bandwidth of 250 MHz, The mechanical characteristics are perfectly suited for the application in tight cable channels and platforms due to their optimized construction.

Standard:

TIA/EIA 568-B.2-1 and ISO/IEC 11801, UL 444, Flame retardant to IEC60332-1 ,Smoke density acc.to IEC61034,Halogen-Free acc. To IEC607542.

Construction Characteristics:

Conductor	Material	Solid Bare Copper
	Size	23AWG X 4P
	Construction	1/0.57 +/- 0.005
Insulation	Material	HDPE
	Min. Thickness	0.180 mm
	AVG. Thickness	0.220mm
	Diameter	1.00+/-0.05
	Colors	Blue- White/Blue
		Orange-White/Orange
		Green- White/Green
		Brown – White/Brown
Jacket	Material	PVC / LSZH
	Min. Thickness	0.55mm
	AVG. Thickness	0.60mm
	Diameter	6.3 +/- 0.20
	Rip Cord	Nylon
	Color	Per request
Filler	Filler	PVC / MDPE

Electrical & Physical Characteristics:

Operating Temperature Range	-20 °C + 75 ° C
Conductor Resistance	Max 72.2ohm/km at 20° C
Dielectric Strength	Min AC 1.7KV
Spark Test	3.0KV (max)
DC Resistance Unbalance	Max 5 %
Pair-to-Ground Capacitance Unbalance	Max 3300pF/km
Characteristic Impedance	100 +/- 15 Ohm
Nominal Velocity of Propagation (%)	69
Propagation Delay	Max 536ns/100m
Delay Skew	Max 45ns/100m

Characteristics per 100m @ 20 °C – 3 °C (68 °F – 5.5°F).

Frequency (MHz)	Insertion Loss (dB/100m)	RL (dB)	NEXT (dB)	PSNEXT (dB)	ELFEXT (dB)	PSELFEXT (dB)	ACR (dB)	PSACR (dB)
1	2.0	20.0	74.3	72.3	67.8	64.8	72.3	70.3
4	3.8	23.0	65.3	63.3	55.8	52.8	61.5	59.5
8	5.3	24.5	60.8	58.8	49.7	46.7	55.5	53.5
10	6.0	25.0	59.3	57.3	47.8	44.8	53.3	51.3
16	7.6	25.0	56.2	54.2	43.7	40.7	48.6	46.6
20	8.5	25.0	54.8	52.8	41.8	38.8	46.3	44.3
25	9.5	24.3	53.3	51.3	39.8	36.8	43.8	41.8
31.25	10.7	23.6	51.9	49.9	37.9	34.9	41.2	39.2
62.5	15.4	21.5	47.4	45.4	31.9	28.9	32.0	30.0
100	19.8	20.1	44.3	42.3	27.8	24.8	24.5	22.5
200	29.8	18.0	39.8	37.8	21.8	18.8	10.8	8.8
250	32.8	17.3	38.3	36.3	19.8	16.8	5.5	3.5

PATCH CORD:

SPECIFICATIONS INTRODUCTION

- 4 Pairs Unshielded Stranded Twisted Pair (UTP) Cable
- Conductor Metal: Bare Copper
- Conductor: 23 AWG
- Insulation Material: HD-PE
- Jacket Material: PVC / LSZH
- Heat-resistant: 60°C minimum (Temperature limited)

APPLICATION

These cables exceed performance requirements specified by

UL 444, TIA/EIA 568-B.2-1 and ISO/IEC 11801

- 10BASE-T, 100BASE-TX Fast Ethernet, 1000BASE-T (IEEE802.3)
- 100VG -AnyLAN (IEEE802.12)
- 550 MHz Broadband Video
- Voice, T1, ISDN
- 155/ 622 Mbps ATM
- Power over Ethernet (POE)

MODULAR CONNECTOR/PLUG

- RJ-45 8P for Transparence color
- Gold plated: 30U"
- Contact blade: Phosphor Bronze
- Temperature range: -10 ~ 80° C
- Dielectric withstanding voltage: 500V AC
- Insulation resistance: 35M Ohm (max.)
- Durability: 750 matching cycles
- Cable-to-plug tensile strength: 20lbs (89N) (min.)

ORDER INFORMATION:

TLC6U- X1-X2-X3

C	*Cable*
P	*Patch cord*

G	*Grey*	**R**	*Red*	**Br**	*Brown*
B	*Blue*	**A**	*Aqua*	**Wh**	*White*
Y	*Yellow*	**G**	*Green*	**Bl**	*Black*
O	*Orange*	**N**	*Navy Blue*	**Cu**	*Custom*
P	*Pink*	**V**	*Violet*		

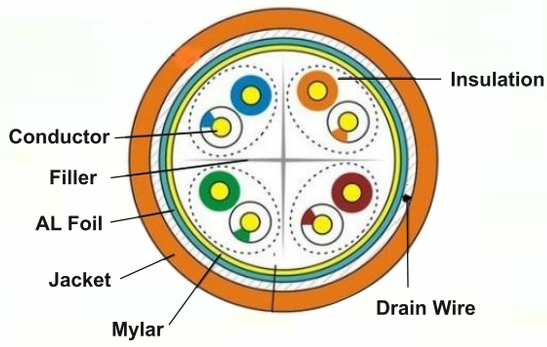
Length
please specify a number in meter

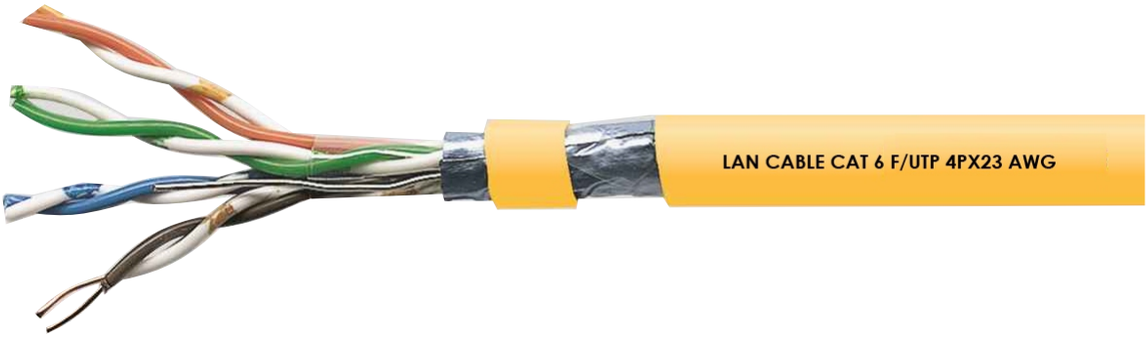
Note: Cable reel comes in a standard length of 305m or 500m

Application:

CAT6 F/UTP cables reduce crosstalk and system noise. The superior insulation around the 23 AWG copper wires attribute to the increased performance, These cables are used in the tertiary, but also in the secondary level of a network. They are characterized by large performance reserves and outstanding performance.

They can be used to implement services such as Gigabit Ethernet. They can transmit data at 1000 Mbps (~1 Gigabit per second) with a frequency of 250 MHz and suitable for 10BASE-T, 100BASE-TX Fast Ethernet and 1000BASE-T/1000BASE-TX (Gigabit Ethernet). Enhanced performance cable for transmission of high speed data, digital and analogue voice and video (RGB) signals on LANs. Supports Gigabit Ethernet (1000 base-T) standard. Operates at bandwidth of 250 MHz, The mechanical characteristics are perfectly suited for the application in tight cable channels and platforms due to their optimized construction.





Standard:

TIA/EIA 568-B.2-1 and ISO/IEC 11801, UL 444,Flame retardant to IEC60332-1 ,Smoke density acc.to IEC61034.

Construction Characteristics:

conductor	Material	Solid Bare Copper
	Size	23AWG X 4P
	Construction	1/0.57 ± 0.008
Insulation	Material	HDPE
	Min. Thickness	0.20 mm
	AVG. Thickness	0.220mm
	Diameter	1.05 ± 0.05
	Colors	Blue- White/Blue
		Orange-White/Orange
		Green- White/Green
		Brown – White/Brown
Shield Coverage %		Tape Aluminum 100 %
Jacket	Material	PVC / LSZH
	Min. Thickness	0.55mm
	AVG. Thickness	0.60mm
	Diameter	6.6 ± 0.30
	Rip Cord	Nylon
	Color	Per request
Filler	Filler	MDPE

Electrical & Physical Characteristics:

Operating Temperature Range	-20 °C + 75° C
Conductor Resistance	Max 72.2 Ohm/km at 20° C
Dielectric Strength	Min AC 1.7KV
Spark Test	3.0KV (max)
DC Resistance Unbalance	Max 5 %
Pair-to-Ground Capacitance Unbalance	Max 3300pF/km
Characteristic Impedance	100 ± 15 Ohm
Nominal Velocity of Propagation (%)	67 ~69
Propagation Delay	Max 536ns/100m
Delay Skew	Max 45ns/100m

Characteristics per 100m @ 20 °C – 3 °C (68 °F – 5.5°F).

Frequency (MHz)	Insertion Loss (dB/100m)	Return Loss (dB)	NEXT (dB)	PS NEXT (dB)	ELFEXT (dB)	PS ELFEXT (dB)	ACR (dB)	PS ACR (dB)
1	2.0	20.0	74.3	72.3	67.8	64.8	72.3	70.3
4	3.8	23.0	65.3	63.3	55.8	52.8	61.5	59.5
8	5.3	24.5	60.8	58.8	49.7	46.7	55.5	53.5
10	6.0	25.0	59.3	57.3	47.8	44.8	53.3	51.3
16	7.6	25.0	56.2	54.2	43.7	40.7	48.6	46.6
20	8.5	25.0	54.8	52.8	41.8	38.8	46.3	44.3
25	9.5	24.3	53.3	51.3	39.8	36.8	43.8	41.8
31.25	10.7	23.6	51.9	49.9	37.9	34.9	41.2	39.2
62.5	15.4	21.5	47.4	45.4	31.9	28.9	32.0	30.0
100	19.8	20.1	44.3	42.3	27.8	24.8	24.5	22.5
200	29.8	18.0	39.8	37.8	21.8	18.8	10.8	8.8
250	32.8	17.3	38.3	36.3	19.8	16.8	5.5	3.5

ORDERING INFORMATION:

TLC6FU- X1-X2

G	*Grey*	**R**	*Red*	**Br**	*Brown*
B	*Blue*	**A**	*Aqua*	**Wh**	*White*
Y	*Yellow*	**G**	*Green*	**Bl**	*Black*
O	*Orange*	**N**	*Navy Blue*	**Cu**	*Custom*
P	*Pink*	**V**	*Violet*		

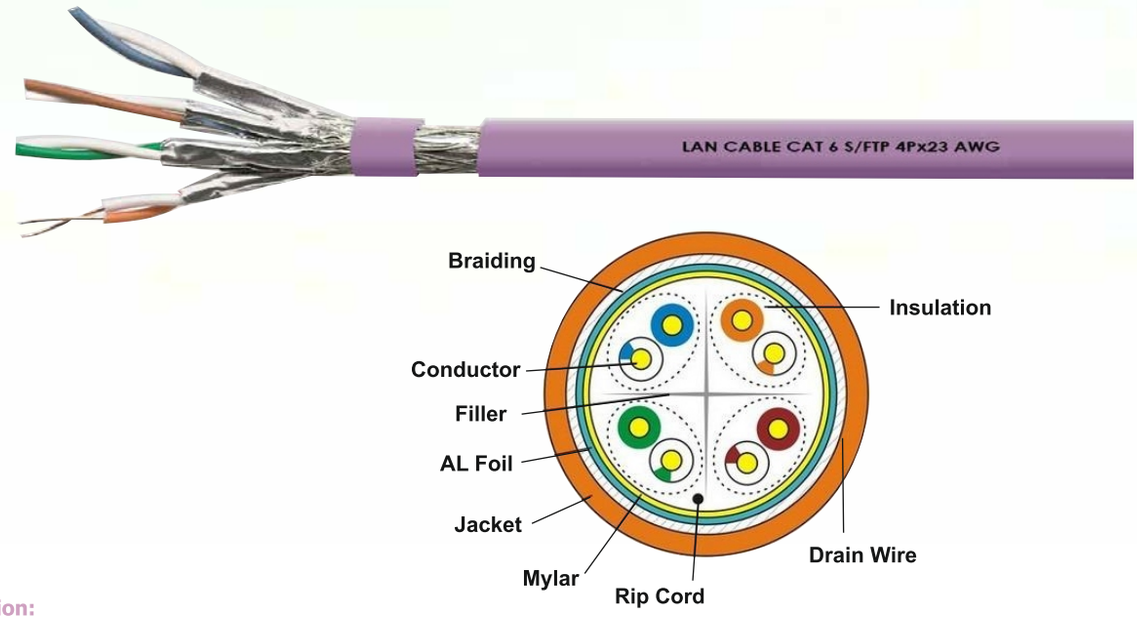
Length

please specify a number in meter

Note: Cable reel comes in a standard length of 305m or 500m

Description:

TechLine CAT6 SFTP Copper Solid cable transmits data over local area Networks (LANs).
These cables exceed performance requirements specified by the TIA/EIA 568-B.2-1



Application:

CAT6 SFTP Cable with aluminum polyester foil plus tinned copper braid overall screening gives protection against dyEMI and avoid signal loss and high ACR values- providing low BER (Bit-Erase-rater). The superior insulation around the 23 AWG copper wires attribute to the increased performance, These cables are used in the tertiary, but also in the secondary level of a network. They are characterized by large performance reserves and outstanding performance. They can be used to implement services such as Gigabit Ethernet. .They can transmit data at 1000 Mbps (~1 Gigabit per second) with a frequency of 250 MHz and suitable for 10BASE-T, 100BASE-TX Fast Ethernet and 1000BASE-T/1000BASE-TX (Gigabit Ethernet). Enhanced performance cable for transmission of high speed data, digital and analogue voice and video (RGB) signals on LANs. Supports Gigabit Ethernet (1000 base-T) standard. Operates at bandwidth of 250 MHz,The mechanical characteristics are perfectly suited for the application in tight cable channels and platforms due to their optimized construction.

Standard:

TIA/EIA 568-B.2-1 and ISO/IEC 11801, UL 444,Flame retardant to IEC60332-1 ,Smoke density acc.to IEC61034,Halogen-Free acc. To IEC60754-2.

Construction Characteristics:

conductor	Material	Solid Bare Copper
	Size	23AWG X 4P
	Construction	1/0.57 ± 0.008
Insulation	Material	HDPE
	Min. Thickness	0.22 mm
	AVG. Thickness	0.24 mm
	Diameter	1.0 ± 0.05
	Colors	Blue- White/Blue
		Orange-White/Orange
		Green- White/Green
		Brown – White/Brown
Inner Metal Shield		Tape Aluminum 100 %
Outer wire mesh shield		tinned Copper
Jacket	Material	PVC / LSZH
	Min. Thickness	0.55mm
	AVG. Thickness	0.60mm
	Diameter	7.2 ± 0.40
	Rip Cord	Nylon
	Color	Per request
Filler	Filler	PVC / MDPE

Electrical & Physical Characteristics:

Operating Temperature Range	-20 °C + 75 ° C
Conductor Resistance	Max 72.2ohm/km at 20° C
Dielectric Strength	Min AC 1.7KV
Spark Test	3 KV (Max)
DC Resistance Unbalance	Max 5 %
Pair-to-Ground Capacitance Unbalance	Max 3300pF/km
Characteristic Impedance	100 ± 15 Ohm
Nominal Velocity of Propagation (%)	67 ~69
Propagation Delay	Max 536ns/100m
Delay Skew	Max 45ns/100m

CHARACTERISTICS PER 100M

Frequency (MHz)	Insertion Loss (dB/100m)	Return Loss (dB)	NEXT (dB)	PS NEXT (dB)	ELFEXT (dB)	PS ELFEXT (dB)	ACR (dB)	PS ACR (dB)
1	2.0	20.0	74.3	72.3	67.8	64.8	72.3	70.3
4	3.8	23.0	65.3	63.3	55.8	52.8	61.5	59.5
8	5.3	24.5	60.8	58.8	49.7	46.7	55.5	53.5
10	6.0	25.0	59.3	57.3	47.8	44.8	53.3	51.3
16	7.6	25.0	56.2	54.2	43.7	40.7	48.6	46.6
20	8.5	25.0	54.8	52.8	41.8	38.8	46.3	44.3
25	9.5	24.3	53.3	51.3	39.8	36.8	43.8	41.8
31.25	10.7	23.6	51.9	49.9	37.9	34.9	41.2	39.2
62.5	15.4	21.5	47.4	45.4	31.9	28.9	32.0	30.0
100	19.8	20.1	44.3	42.3	27.8	24.8	24.5	22.5
200	29.8	18.0	39.8	37.8	21.8	18.8	10.8	8.8
250	32.8	17.3	38.3	36.3	19.8	16.8	5.5	3.5

ORDERING INFORMATION:

TLC6SU- X1-X2

G	*Grey*	**R**	*Red*	**Br**	*Brown*
B	*Blue*	**A**	*Aqua*	**Wh**	*White*
Y	*Yellow*	**G**	*Green*	**Bl**	*Black*
O	*Orange*	**N**	*Navy Blue*	**Cu**	*Custom*
P	*Pink*	**V**	*Violet*		

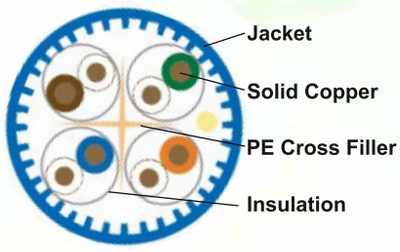
Length

please specify a number in meter

Note: Cable reel comes in a standard length of 305m or 500m

Description:

TechLine CAT6A UTP solid cables are the best twisted-pair cables in the market for transmitting data over local area Networks (LANs). These cables exceed performance requirements specified by the TIA/EIA-568-B.2-10



Application:

CAT 6A cable System complies with all of the performance requirements for current and proposed applications, the superior insulation around the 23 AWG copper wires attribute to the increased performance, these cables are used in the tertiary, but also in the secondary level of a network. They are characterized by large performance reserves and outstanding performance. They can be used to implement services such as 10 Gigabit Ethernet, Gigabit Ethernet with a frequency of 500 MHz and suitable for 10/100BASE-T, 1000BASE-TX.Enhanced performance cable for transmission of high speed data, , token ring, 155 Mbps ATM, 100 Mbps TPPMD, ISDN, analog and digital video and analog and digital voice (VoIP).Operates at bandwidth of 500 MHz, The mechanical characteristics are perfectly suited for the application in tight cable channels and platforms due to their optimized construction.

Standard:

TIA/EIA -B.2-10 and ISO/IEC 11801,UL 444, Flame retardant to IEC60332-1 ,Smoke density acc.to IEC61034,Halogen-Free acc. To IEC607542.

Construction Characteristics:

conductor	Material	Solid Bare Copper
	Size	23AWG X 4P
	Construction	1/0.574 ± 0.010
Insulation	Material	HDPE
	Min. Thickness	0.20 mm
	AVG. Thickness	0.23mm
	Diameter	1.02 ± 0.05
	Colors	Blue- White/Blue
		Orange-White/Orange
		Green- White/Green
		Brown – White/Brown
Jacket	Material	PVC / LSZH
	Min. Thickness	0.60mm
	AVG. Thickness	0.65mm
	Diameter	7.0 ± 0.30
	Rip Cord	Nylon
	Color	Per request
Filler	Filler	PVC / MDPE

Electrical & Physical Characteristics:

Operating Temperature Range	-20 °C + 75° C
Conductor Resistance	Max 72.2ohm/km at 20° C
Dielectric Strength	Min AC 1.7KV
Spark Test	3.0KV (max)
DC Resistance Unbalance	Max 5 %
Pair-to-Ground Capacitance Unbalance	Max 3300pF/km
Characteristic Impedance	100 ± 15 Ohm
Nominal Velocity of Propagation (%)	67 ~69
Propagation Delay	Max 536ns/100m
Delay Skew	Max 45ns/100m

CHARACTERISTICS PER 100M @ 20 °C – 3 °C (68 °F – 5.5°F).

Frequency (MHz)	Insertion Loss (dB/100m)	Return Loss (dB)	NEXT (dB)	PSNEXT (dB)	ELFEXT (dB)	PS ELFEXT (dB)	ACR (dB)	PS ACR(dB)
1	2.0	20.0	74.3	72.3	67.8	64.8	72.3	70.3
4	3.7	23.0	65.3	63.3	55.8	52.8	61.6	59.6
8	5.2	24.5	60.8	58.8	49.7	46.7	55.6	53.6
10	5.9	25.0	59.3	57.3	47.8	44.8	53.4	51.4
16	7.4	25.0	56.2	54.2	43.7	40.7	48.8	46.8
20	8.3	25.0	54.8	52.8	41.8	38.8	46.5	44.5
25	9.3	24.3	53.3	51.3	39.8	36.8	44	42
31.25	10.4	23.6	51.9	49.9	37.9	34.9	41.5	39.5
62.5	14.9	21.5	47.4	45.4	31.9	28.9	32.5	30.5
100	19.0	20.1	44.3	42.3	27.8	24.8	25.3	23.3
200	27.5	18.0	39.8	37.8	21.8	18.8	12.3	10.3
250	31	17.3	38.3	36.3	19.8	16.8	7.3	5.3
300	34.2	16.8	37.1	35.1	18.3	15.3	2.9	-0.9
400	40.0	15.9	35.3	33.3	15.8	12.8	-4.7	-6.7
500	45.3	15.2	33.8	31.8	13.8	10.8	-11.5	-13.5

PATCH CORD:

SPECIFICATION INTRODUCTION

- 4 Pairs Unshielded Stranded Twisted Pair (UTP) Cable
- Conductor Metal: Bare Copper
- Conductor: 23 AWG
- Insulation Material: HD-PE
- Jacket Material: PVC / LSZH
- Heat-resistant: 60°C minimum (Temperature limited)

APPLICATION

These cables exceed performance requirements specified by

TIA/EIA -B.2-10

- 10BASE-T, 100BASE-TX Fast Ethernet, 1000BASE-T (IEEE802.3)
- 100VG-AnyLAN (IEEE802.12)
- 550 MHz Broadband Video
- Voice, T1, ISDN
- 155/ 622 Mbps ATM
- Power over Ethernet (POE)

MODULAR CONNECTOR/PLUG

- RJ-45 8P for Transparence color
- Gold plated: 30U"
- Contact blade: Phosphor Bronze
- Temperature range: -10 ~ 80° C
- Dielectric withstanding voltage: 500V AC
- Insulation resistance: 35M Ohm (max.)
- Durability: 750 matching cycles
- Cable-to-plug tensile strength: 20lbs (89N) (min.)

ORDERING INFORMATION:

TLC6AU- X1-X2-X3

C	*Cable*
P	*Patch cord*

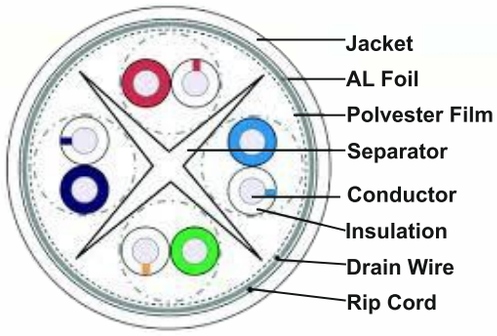
G	*Grey*	**R**	*Red*	**Br**	*Brown*
B	*Blue*	**A**	*Aqua*	**Wh**	*White*
Y	*Yellow*	**G**	*Green*	**Bl**	*Black*
O	*Orange*	**N**	*Navy Blue*	**Cu**	*Custom*
P	*Pink*	**V**	*Violet*		

Length
please specify a number in meter

Note: Cable reel comes in a standard length of 305m or 500m

Description:

TechLine CAT6A F/UTP Copper Solid cable transmits data over local area Networks (LANs).
These cables exceed performance requirements specified by the TIA/EIA 568-C.2



Application:

Techline Category 6A F/UTP cable supports channel performance exceeding ANSI/TIA-568-C.2 and ISO/IEC 11801 Class E A requirements. When combined with our screened Category 6A series connectivity, the result is a channel capable of supporting 10GBASE-T operation over 100-metre, 4-connector topologies. In addition the screened construction ensures virtually zero alien crosstalk. The Category 6A F/UTP cabling system supports emerging and converging IPapplications like Voice Over IP (VoIP), IP video and future 10 gigabit applications.

Standard:

TIA/EIA 568-C.2 and ISO/IEC 11801, UL 444, Flame retardant to IEC60332-1

High Quality Cat6A F/UTP Cable

Construction Characteristics:

conductor	Material	Solid Bare Copper
	Size	23AWG X 4P
	Construction	1/0.570 ± 0.010
Insulation	Material	HDPE
	Min. Thickness	0.23 mm
	AVG. Thickness	0.250mm
	Diameter	1.10 ±0.10
	Colors	Blue- White/Blue
		Orange-White/Orange
		Green- White/Green
		Brown – White/Brown
Shield Coverage %		Tape Aluminum 100
Drain Wire (Tinned Copper)		26 AWG
	Material	PVC / LSZH
	Min. Thickness	0.55mm
	AVG. Thickness	0.60mm
	Diameter	6.9 ±0.30
	Rip Cord	Nylon
	Color	Per request
	Filler	MDPE

Electrical & Physical Characteristics:

Operating Temperature Range	-20 ℃ + 75^0 C
Conductor Resistance	Max 72.2 Ohm/km at 20^0 C
Dielectric Strength	Min AC 1.7KV
Spark Test	3.0KV (max)
DC Resistance Unbalance	Max 5 %
Pair-to-Ground Capacitance Unbalance	Max 3300pF/km
Characteristic Impedance	100 ± 15 Ohm
Nominal Velocity of Propagation (%)	67 ~69
Propagation Delay	Max 536ns/100m
Delay Skew	Max 45ns/100m

Characteristics per 100m @20 °C

Frequency (MHz)	Insertion Loss (dB/100m)	Return Loss (dB)	NEXT (dB)	PSNEXT (dB)	TCL (dB)	ACRF (dB)	PS ACRF (dB)
1	2.0	20.0	74.3	73.3	40.0	67.8	64.8
4	3.8	23.0	65.3	63.3	40.0	55.8	52.8
8	5.3	24.5	60.8	58.8	40.0	49.7	46.7
10	6.0	25.0	59.3	57.3	40.0	47.8	44.8
16	7.6	25.0	56.2	54.2	38.0	43.7	40.7
20	8.5	25.0	54.8	52.8	37.0	41.8	38.3
25	9.5	24.3	53.3	51.3	36.0	39.8	36.8
31.25	10.7	23.6	51.9	49.9	35.1	37.9	34.9
62.5	15.4	21.5	47.4	45.4	32.0	31.9	28.9
100	19.8	20.1	44.3	42.3	30.0	27.8	24.8
200	29.8	18.0	39.8	37.8	27.0	21.8	18.8
250	32.8	17.3	38.3	36.3	26.0	19.8	16.8
300	34.3	16.8	37.1	35.1	25.2	18.3	15.3
400	40.1	15.9	35.3	33.3	24.0	15.8	12.8
500	45.3	15.2	35.0	32.8	23.0	13.8	10.8

ORDERING INFORMATION:

TLC6AFU- X1-X2-X3

X1	
C	*Cable*
P	*Patch cord*

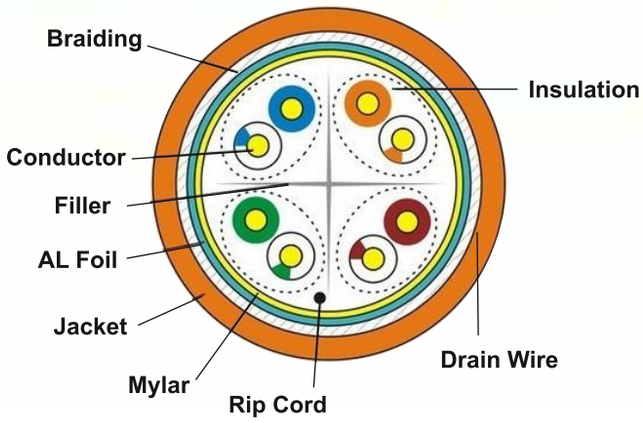
X2					
G	*Grey*	**R**	*Red*	**Br**	*Brown*
B	*Blue*	**A**	*Aqua*	**Wh**	*White*
Y	*Yellow*	**G**	*Green*	**Bl**	*Black*
O	*Orange*	**N**	*Navy Blue*	**Cu**	*Custom*
P	*Pink*	**V**	*Violet*		

X3
Length
please specify a number in meter

Note: Cable reel comes in a standard length of 305m or 500m

Description:

TechLine CAT6A cable is a 4pr S/FTP with individual pair foils and an overall braid offering superior performance in terms of ACR. It is fully compliant with the CAT6A standards and when installed together with the GG45 LANmark-7 connector as a system is guaranteed to exceed all channel requirements in all configuration scenarios (up to 4-connector channels).



Application:

CAT6A S/FTP Cable with aluminum polyester foil per each pair, plus tinned copper braid overall screening gives protection against dynamic noise between individual signals, EMI and avoid signal loss and high ACR values - providing low BER (Bit-Erase-rater).CAT6A cable System complies with all of the performance requirements for current and proposed applications, the superior insulation around the 23 AWG copper wires attribute to the increased performance, these cables are used in the tertiary, but also in the secondary level of a network. They are characterized by large performance reserves and outstanding performance. They can be used to implement services such as 10 Gigabit Ethernet, Gigabit Ethernet with a frequency of 500 MHz and suitable for 10/100BASE-T, 1000BASE-TX.Enhanced performance cable for transmission of high speed data,, token ring, 155 Mbps ATM, 100 Mbps TPPMD, ISDN, analog and digital video and analog and digital voice (VoIP). Operates at bandwidth of 500 MHz, The mechanical characteristics are perfectly suited for the application in tight cable channels and platforms due to their optimized construction.

Standard:

TIA/EIA -B.2-10 and ISO/IEC 11801,UL 444, Flame retardant to IEC60332-1 ,Smoke density acc.to IEC61034,Halogen-Free acc. To IEC60754-2.

High Quality Cat6A S/FTP Cable

Construction Characteristics:

conductor	Material	Solid Bare Copper
	Size	23AWG X 4P
	Construction	1/0.574 ± 0.008
Insulation	Material	HDPE
	Min. Thickness	0.3 mm
	AVG. Thickness	0.4 mm
	Diameter	1.20 ± 0.10
	Colors	Blue- White/Blue
		Orange-White/Orange
		Green- White/Green
		Brown – White/Brown
Shield Individual Pair Coverage %		Tape Aluminum 100 %
Shield Over All (optional)		Tined Copper
Jacket	Material	PVC / LSZH
	Min. Thickness	0.60mm
	AVG. Thickness	0.65mm
	Diameter	7 ± 0.30
	Rip Cord	Nylon
	Color	Per request

Electrical & Physical Characteristics:

Operating Temperature Range	-20 °C + 75° C
Conductor Resistance	Max 72.2ohm/km at 20 C
Dielectric Strength	Min 2.5 KV (DC)
Spark Test	3.0 KV (max)
DC Resistance Unbalance	Max 4 %
Pair-to-Ground Capacitance Unbalance	Max 3300pF/km
Nominal Velocity of Propagation (%)	78
Propagation Delay	Max 536ns/100m
Delay Skew	Max 25ns/100m

CHARACTERISTICS PER 100M @ 20 °C – 3 °C (68 °F – 5.5°F).

Frequency (MHz)	Insertion Loss (dB/100m)	Return Loss (dB)	NEXT (dB)	PSNEXT (dB)	ELFEXT (dB)	PS ELFEXT (dB)	ACR (dB)	PS ACR(dB)
1	2.0	20.0	74.3	72.3	67.8	64.8	72.3	70.3
4	3.7	23.0	65.3	63.3	55.8	52.8	61.6	59.6
8	5.2	24.5	60.8	58.8	49.7	46.7	55.6	53.6
10	5.9	25.0	59.3	57.3	47.8	44.8	53.4	51.4
16	7.4	25.0	56.2	54.2	43.7	40.7	48.8	46.8
20	8.3	25.0	54.8	52.8	41.8	38.8	46.5	44.5
25	9.3	24.3	53.3	51.3	39.8	36.8	44	42
31.25	10.4	23.6	51.9	49.9	37.9	34.9	41.5	39.5
62.5	14.9	21.5	47.4	45.4	31.9	28.9	32.5	30.5
100	19.0	20.1	44.3	42.3	27.8	24.8	25.3	23.3
200	27.5	18.0	39.8	37.8	21.8	18.8	12.3	10.3
250	31	17.3	38.3	36.3	19.8	16.8	7.3	5.3
300	34.2	16.8	37.1	35.1	18.3	15.3	2.9	-0.9
400	40.0	15.9	35.3	33.3	15.8	12.8	-4.7	-6.7
500	45.3	15.2	33.8	31.8	13.8	10.8	-11.5	-13.5

ORDERING INFORMATION:

TLC6ASF - X1-X2-X3

C	*Cable*
P	*Patch cord*

G	*Grey*	**R**	*Red*	**Br**	*Brown*
B	*Blue*	**A**	*Aqua*	**Wh**	*White*
Y	*Yellow*	**G**	*Green*	**Bl**	*Black*
O	*Orange*	**N**	*Navy Blue*	**Cu**	*Custom*
P	*Pink*	**V**	*Violet*		

Length

please specify a number in meter

Note: Cable reel comes in a standard length of 305m or 500m

Telecommunication Indoor Telephone Cables JE-YY

Application:

Used for voice, indoor installation and interconnection of transmission, telephone, telegraph and electronic equipment. Also it is used in local telephone networks as well as in private communication system.

Applicable Standards:

TechLine Indoor Telephone Cables are designed and tested according to meet or exceed the requirements of IEC 60198-1 and IEC 60189-2 standards. However, **TechLine** can also supply a range of alternative designs to meet customer-specification requirements.

Specification:

Conductor

Solid annealed copper conductor class 1 according to IEC 60228.

Insulation:

Solid extruded PVC insulation with rating 70 °C at normal operation as per IEC60189-2.

Twisted Pair :

Two insulated wires uniformly twisted together to form a pair with own lay length different from other pair to eliminate interferences.

Core Assembly:

The pairs are twisted together to form the cable core.

Sheath:

Solid extruded Flame Retardant PVC sheath with rating 90 °C at normal operation as per IEC 60189-2 .A rip cord is applied under outer jacket for easy stripping.

Packing

Available in standard length of 100 and 90 yard coils (Other lengths available on request)

Marking

TechLine Telephone Cable 2P*0.5MM CU/PVC/PVC IEC-189 .

Technical Data

No. of	Wire Diam.	Max. DC conductor Resistance.	Min. Insulation Thickness	Min. Sheathing Thickness	Nominal Outer Diameter	Approx.Net Weight	Ordering Information
Pair	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(MM)	(Kg/km)	Item Code
1	0.5	97.8	0.15	0.5	2.9	11.5	TEL01P05CPP
2	0.5	97.8	0.15	0.5	4.1	20.6	TEL02P05CPP
3	0.5	97.8	0.15	0.6	4.3	25.4	TEL03P05CPP
4	0.5	97.8	0.15	0.6	4.8	31.7	TEL04P05CPP
5	0.5	97.8	0.15	0.6	5.2	38.5	TEL05P05CPP
6	0.5	97.8	0.15	0.6	5.8	47.3	TEL06P05CPP
8	0.5	97.8	0.15	0.7	6.2	58.4	TEL08P05CPP
10	0.5	97.8	0.15	0.7	7	71.6	TEL10P05CPP
12	0.5	97.8	0.15	0.7	7.5	85.5	TEL12P05CPP

Jumper Wires

PE Insulated: The polyethylene insulated wires are used in cross connection cabinets between the primary and secondary terminal blocks

PVC Insulated: The PVC insulated jumper wires are used in main distribution frames in exchange MDF.

Conductor: Solid annealed plain copper conforming to ASTM B3.
Tinned copper wire conforming to ASTM B 33.

Insulation: 1. High density polyethylene conforming to ASTM D 1248, TYPE III, Category 4 or 5 , Grade E8 or E9
2. PVC compound conforming to BS EN 50363-3 / BS 7655-3.1 TYPE TI 1.

Color: ATC standard colors are:
White-Blue, White-Black, White-Orange, Yellow-Blue, Yellow- Yellow, Black-Red-Yellow & Black-Red-Yellow-White.
Other color combination can be provided upon the request of customer.

Assembly: Required number of insulated conductors shall be uniformly twisted together with maximum lay length of 50mm.

PVC INSULATED PLAIN COPPER CONDUCTOR

PRODUCT NUMBER	NUMBER OF CONDUCTORS	CONDUCTOR DIAMETER (mm)	DIAMETER (mm) (MAXIMUM)	APPROXIMATE WEIGHT (KG/KM)	STANDARD LENGTH M
TL-JWPVC-0205	2	0.5	2.4	6.0	500
TL-JWPVC-0305	3	0.5	2.6	9.0	500
TL-JWPVC-0405	4	0.5	2.9	12.0	500
TL-JWPVC-0206	2	0.6	2.6	8.0	500
TL-JWPVC-0207	2	0.7	2.9	10.0	500

HIGH DENSITY POLYETHYLENE INSULATED PLAIN COPPER CONDUCTOR

PRODUCT NUMBER	NUMBER OF CONDUCTORS	CONDUCTOR DIAMETER (mm)	DIAMETER (mm) (MAXIMUM)	APPROXIMATE WEIGHT (Kg/Km)	STANDARD LENGTH M
TL-JWPE-0205	2	0.5	2.4	5.2	250
TL-JWPE-0305	3	0.5	2.6	7.6	250
TL-JWPE-0405	4	0.5	2.9	10.1	250
TL-JWPE-0206	2	0.6	2.6	6.9	250
TL-JWPE-0207	2	0.7	2.9	9.1	250
TL-YYPE-0206	2	0.6	2.9	7.4	250

PVC INSULATED TINNED COPPER CONDUCTOR

PRODUCT NUMBER	NUMBER OF CONDUCTORS	CONDUCTOR DIAMETER (mm)	DIAMETER (mm) (MAXIMUM)	APPROXIMATE WEIGHT (KG/KM)	STANDARD LENGTH M
TL-JWPVC-0205TC	2	0.50	2.4	6.0	400
TL-JWPVC-0206TC	2	0.60	2.6	8.0	500
TL-JWPVC-0265TC	2	0.65	2.8	9.0	250

HIGH DENSITY POLYETHYLENE INSULATED TINNED COPPER CONDUCTOR

PRODUCT NUMBER	NUMBER OF CONDUCTORS	CONDUCTOR DIAMETER (mm)	DIAMETER (mm) (MAXIMUM)	APPROXIMATE WEIGHT (KG/KM)	STANDARD LENGTH M
TL-JWPE-0205 TC	2	0.50	2.4	5.2	250

ELECTRICAL AND TRANSMISSSION CHARACTERISTICS

CHARACTERISTIC	UNIT	High Density Polyethylene (HDPE)				Flame Retardant PVC			
		PLAIN COPPER CONDUCTOR		TINNED COPPER CONDUCTOR		PLAIN COPPER CONDUCTOR		TINNEDCOPPER CONDUCTOR	
		0.50 mm	0.60 Mm	0.50 mm	0.60 mm	0.50 mm	0.60 mm	0.50 mm	0.60 mm
Conductor Resistance (Maximum)	Ω/Km	96.0	67.0	97.0	68.0	96.0	67.0	97.0	68.0
Resistance Unbalance (Maximum)	%	2.5	2.0	2.5	2.0	2.5	2.0	2.5	2.0
Insulation Resistance (Minimum)	M.Ω.Km	10000	10000	10000	10000	500	500	500	500
Di-Electric Strength	DC V	1500	1500	1500	1500	1500	1500	1500	1500

PVC INSUALTION TEST

Test	Results @ Conditions
Tensile strength	Minimum 176 Kg/cm² @ 25°C ± 3°C
Elongation	Minimum 125%
Shrink back	Maximum 1.58mm 5 of 6 samples
Adhesion	Mximum 1.36Kg
Cold bend	Passed @ -10°C
Compression	Minimum 272 Kg @ 25°C±3°C

PVC INSUALTION TEST

Conductor	800Hz	300KHz
0.4	1.5	14
0.5	1.3	12
0.6	1.0	10

Modular Patch Panel

DESCRIPTION :

Techline Copper Patch Panels are modular and provide an aesthetically pleasing solution for housing modular jacks. These lightweight panels are compatible with all typical industry accepted modular jacks. 1RU, 24-port patch panels and 2RU, 48-port patch panel is available in a flat version.

All models include integral cable management.

BENEFITS :

- Modular Type
- Fast installation with screws
- Direct grounding on 19" mounting
- Clear Label Identification

CHARACTERISTICS

Dimensions	483mm x 44mm x 100mm
Foot print	Key Stone flush mounted
Fixing	19" with screws
Cable management	Integral rear Cable management

PROPERTIES

Electrical	Ground contact	Direct grounding with 19" mounting
Environmental	Operating Temperature	-10˚C to +70˚C

ORDERING INFORMATION

Item	Description	Packaging
TLPPAN1U	19" Patch Panel 24 port	Unit
TLPPAN2U	19" Patch Panel 48 port	Unit

BENEFITS

- **86 X 86mm to be loaded with keystone Jacks**
- **Elegant Design**
- **Translucide window and large labeling for better visibility**
- **Provided with screw**

CHARACTERISTICS		PROPERTIES	
DIMENSIONS	86x86mm (1 or 2 port)	**ENVIRONMENTAL**	Operating Temperature -5ζC to +55ζC
FEATURES	Interchangeable dust shutter flapping		Fire Rating UL94V0
LABELING	Large label holder		Protection Index IP20
MATERIAL	Polycarbonate UV resistant RAL 9010		Flame Retardant

ORDERING INFORMATION	
ITEM	**DESCRIPTION**
ATC1PFP	86 X 86 mm Face Plate with 1 connector
ATC2PFP	86 X 86 mm Face Plate with 2 connector

RG6/U Coaxial and Signal Cables

Compatible with Digital Cable TV, Cable Internet, and radio signals. Compatible with Antennas, Ham radios and other wide range wireless.

Application:

To meet the needs of today's sophisticated, high-speed, wide bandwidth electronics over long distances, with minimum signal loss or degradation, suitable for varied mechanical, thermal and electronic properties of Coaxial cables mean that they can be used up into the GHz levels, suitable for direct Broadcast Satellite (DBS),Analog, Digital and Hybrid Cable TV Systems and FM Broadcast.

Specification:

TechLine/Amwaj RG06/U cables are designed and tested according to MIL-C-17.

RG-6/U Cable:

R : Radio Frequency

G : Government

6 : Government-assigned approval number

U : Universal specification

Construction:

- Conductor

  Annealed solid copper clad steel (CCS) conductor.
- Insulation

  Physical cellular foam polyethylene.
- Shield

  Aluminum polyester tape with aluminum wire braids
- Sheath

  PVC flame retardant and sunlight resistant with temperature rating 70 °C at normal operation.

Packing:

Very modern packing available in standard length of 1000 and 300 feet coils

Marking:

TechLine COAXIAL CABLE RG6/U 75 OHM MIL-C-17 .

Technical Data:

Conductor diameter	Insulation diameter	Shielding	Outer diameter	Nominal impedance	Nominal capacitance	Nominal attenuation at 20 °C			Ordering Information
mm	mm	%	mm	Ω	Pf/M	MHz		dB/100M	Item code
1.02	4.79	100%AL/PET	6.9	75 ± 2	52 ± 2	100	≤	6.5	RG06AL78%P
		78% AL Briad				200	≤	9.1	
						400	≤	12.9	
						700	≤	17.2	
						900	≤	19	
						1000	≤	21	

* Available In Aluminum Shield 42% - - - Order Code RG06AL42%
* Available In Cca Shield 67% - - - Order Code RG06CCA67%

Compatible with Digital Cable TV, Cable Internet, and radio signals. Compatible with Antennas, Ham radios and other wide range wireless.

Application:

To meet the needs of today's sophisticated, high-speed, wide bandwidth electronics over long distances, with minimum signal loss or degradation, suitable for varied mechanical, thermal and electronic properties of Coaxial ,suitable for low power video signal and RF connection.

Specification:

TechLine/Amwaj RG59/U cables are designed and tested according to MIL-C-17.

RG-59/U Cable:

R : Radio Frequency

G : Government

6 : Government-assigned approval number

U : Universal specification

Construction:

Conductor

Annealed solid copper clad steel (CCS) conductor.

Insulation

Physical cellular foam polyethylene.

Shield

Aluminum polyester tape with aluminum wire braids

Sheath

PVC flame retardant and sunlight resistant with temperature rating 70 °C at normal operation.

Packing:

Very modern packing available in standard length of 1000 and 300 feet coils

Marking:

TechLine AMWAJ COAXIAL CABLE RG59/U 75 OHM MIL-C-17

Technical Data:

Conductor diameter	Insulation diameter	Shielding	Outer diameter	Nominal impedance	Nominal capacitance	Nominal attenuation at 20 °C			Ordering Information
mm	mm	%	mm	Ω	Pf/M	MHz		dB/100M	Item code
1.02	3.7	100%AL/PET 40% AL Briad	6.15	75 ± 2	52 ± 2	50	≤	8	RG59AL40%P
						100	≤	10	
						300	≤	16	
						450	≤	20	
						800	≤	25	
						1000	≤	29	

Description:

The cable consists of stranded multiwire copper conductors with glass-fiber tape and halogen free polymer material. The insulated conductors are twisted to form a pair or conductors form. The cable core consist of pairs or conductors laid up in concentric layers and a plastic tape is wrapped. Then a red LSZH sheath applied on the screened cable core.

Application:

These cables are used indoors as data transmission cables in automation systems and in the electronic control technology.

Technical data:

Installation Temperature -15°C - +70°C
Storage Temperature -30°C - +70°C

Electrical Characteristics:

Following values are guaranteed at +20°C

Cross section (mm²)	Nom. Insulation thickness (mm)	Max. conductor at 20°C M.Ω.km		Min insulation resistance at 20°C M.Ω.km	Test voltage Vaa (1minute)
0.75	0.4	25.4	26.0	100	1200
1.00		19.1	19.5		
1.50	0.5	13.0	13.3		2500
2.50		7.8	7.98		

Cable Core Construction:

Insulated conductors or pairs are laid up in layers according to following format and layers are stranded in the same direction.

Number of cores	1st Layer	2nd Layer
2	2	0
3	3	0
4	4	0
5	5	0
6	1	5
7	1	6
8	2	6
9	2	7
10	3	7
11	3	8
12	3	9
13	4	9

Color of insulation:

Number of cores	Color of insulation	
	Basic color	Code color
1	White	
2	Brown	
3	Green	
4	Yellow	
5	Gray	
6	Pink	
7	Blue	
8	Red	
9	Black	
10	Violet	
11	Gray	Pink
12	Red	Blue
13	White	Green
14	Brown	Green
15	White	Yellow
16	Yellow	Brown
17	White	Gray
18	Gray	Brown
19	White	Pink
20	Pink	Brown
21	White	Blue
22	Brown	Blue
23	White	Red
24	Brown	Red
25	White	Black

Note: Color or numbering is applicable.

ORDERING INFORMATION:

TLMP- X1-X2-X3-X4

- X1: Cross section diameter for each strand.
- X2: Number of cores.
- X3: Real length.
- X4: Outer jacket cable color.

Aerial Drop Wire "figur-8" Flat Type

Application: Drop Wire is installed overhead between aerial distribution points and subscriber premises.
General Specification: American National Standard Institution ANSI/ICEA S-89-648-993
Conductor: Copper Cladded Steel Wire with 40% Conductivity conforming to ASTM B 452 Hard Drawn Copper Conforming to ASTM B1
Insulation: Extruded in the form of "Figure 8" Flat type with:

1. HDPE conforming to ASTM D 1248, Type III, Class C, Category 4 or 5, Grade E8, or
2. Black PVC Flame Retardant Compound conforming to BS EN 50363-4-1 Type TM-1

ELECTRICAL AND TRANSMISSION CHARACTERISTICS

CHARACTERISTIC	UNIT	HIGH DENSITY POLYETHYLENE (HDPE)				FLAME RETARDANT PVC			
		COPPER CLAD STEEL WIRE		HARD DRAWN COPPER WIRE		COPPER CLAD STEEL WIRE		HARD DRAWN COPPER WIRE	
		0.8 mm	1.0 mm	0.8 mm	1.0 mm	0.8 mm	1.0 mm	0.8 mm	1.0 mm
Conductor Resistance (Maximum)	Ω/Km	92.0	80.3	36.0	24.0	92.0	80.3	36.0	24.0
Resistance Unbalance (Maximum)	%	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Insulation Resistance (Minimum)	M.Ω.Km	10000	10000	10000	10000	500	500	500	500
Di-Electric Strength	DC V	3000	5000	3000	5000	2000	4000	2000	4000
Mutual Capacitance (Maximum)	nF/Km	50	60	50	60	120	130	120	130
Breaking Load (Minimum)	N	1000	1200	300	500	1000	1200	300	500

COPPER CLAD STEEL WIRE WITH HIGH DENSITY POLYETHYLENE (HDPE)

ITEM CODE	NUMBER OF CONDUCTORS	CONDUCTOR DIAMETER (mm)	DIMENSION MAJOR X MINOR (mm)	APPROXIMATE WEIGHT (Kg/Km)	STANDARD LENGTH (M)
TLDW-PEF8-08CC	2	0.80	5.8 X 3.0	22.5	250
TLDW-PEF8-10CC	2	1.00	6.5 X 3.5	30.0	250

COPPER CLAD STEEL WIRE WITH FLAME RETARDANT PVC

ITEM CODE	NUMBER OF CONDUCTORS	CONDUCTOR DIAMETER (mm)	DIMENSION MAJOR X MINOR (mm)	APPROXIMATE WEIGHT (Kg/Km)	STANDARD LENGTH (M)
TLDW-PVCF8-08CC	2	0.80	5.4 X 2.5	24.0	250
TLDW-PVCF8-10CC	2	1.00	6.5 X 3.5	41	250

HARD DRAWN COPPER WITH HIGH DENSITY POLYETHYLENE (HDPE)

ITEM CODE	NUMBER OF CONDUCTORS	CONDUCTOR DIAMETER (mm)	DIMENSION MAJOR X MINOR (mm)	APPROXIMATE WEIGHT (Kg/Km)	STANDARD LENGTH (M)
TLDW-PEF8-08HDC	2	0.80	5.8 X 3.0	22.5	250
TLDW-PEF8-10HDC	2	1.00	6.1 X 3.0	29.0	250

HARD DRAWN COPPER WITH FLAME RETARDANT PVC

ITEM CODE	NUMBER OF CONDUCTORS	CONDUCTOR DIAMETER (mm)	DIMENSION MAJOR X MINOR (mm)	APPROXIMATE WEIGHT (Kg/Km)	STANDARD LENGTH (M)
TLDW-PVCF8-08HDC	2	0.80	5.4 X 2.5	32.0	250
TLDW-PVCF8-10HDC	2	1.00	6.1 X 3.0	39.0	250

AERIAL DROP WIRE "ROUND"

Application: Drop wire shall be used for outdoor installation between and aerial distribution point and the subscriber's terminal box.

Conductor: Solid annealed plain copper wire conforming to ASTM B 3.

Insulation: Each conductor shall be insulated with the solid layer of high density polyethylene conforming to ASTM D 1248, TYPE III, Category 4 & 5, Grade E8 or E9.

Insulation color: ONE PAIR: White & Blue.
TWO PAIR (QUAD): Blue, Orange, Green and Brown.

Assembly: Single pair drop wire two insulated conductors uniformly twisted together to form a pair. Two pair drop wire consists of four insulated conductors uniformly twisted together to form a quad.

Strength member: Armed cords, high tensile strength, high Young's modulus & low elongation strength members are embedded into the sheath to prevent the wire s and the sheath from being stressed during installation, service, operation and maintenance.

Sheath: Black Linear Low Density Polyethylene conforming to ASTM D 1248, TYPE 1 or 2, CLASS C Category 4 or 5, Grade J3.

AVAILABLE CABLE SPECIFICATIONS

PRODUCT NUMBER	NUMBER OF PAIRS	CONDUCTOR DIAMETER (mm)	DIAMETER (mm) (MAXIMUM)	APPROXIMATE WEIGHT (KG/KM)	STANDARD LENGTH M
TL-RDW0105	1	0.50	5.1	20.5	250
TL-RDW0205	2	0.50	5.3	25.0	250
TL-RDW0108	1	0.80	5.8	30.0	250
TL-RDW0208	2	0.80	6.0	41.0	250

ELECTRICAL AND TRANSMISSION CHARACTERISTICS

CHARACTERISTICS	UNIT	0.05 mm	0.80 mm
Conductor Resistance (Maximum)	Ω/Km	95.0	37.0
Resistance Unbalance (Maximum)	%	2.0	2.0
Insulation Resistance (Minimum)	MΩ.KM	10000	1000
Dielectric Strength	DC V	3000	3000
Mutual Capacitance (Maximum)	nF/Km	55	55
Breaking Load (Minimum)	Newton	1300	1300

Application:

General purpose wiring in accordance with the National Electrical Code, THHN 105 °C for dry locations, building wire, THWN 75 °C for wet locations, building wire, MTW 90 °C for dry locations and 80 °C wet locations, machine tool wire, AWM 105 °C for dry locations, appliance wire material, TFFN 105 °C for dry locations, flexible cord and fixture wire.

Applicable Standards:

THHN/THWN-TFFN-MTW& AWMare designed and tested according to the requirements of UL83, UL 1581, UL 1063, UL 62

Specification:

Conductor

Solid or stranded annealed copper according to UL1581.

Insulation:

Solid extruded PVC insulation with rating 105 °C, heat, moisture and flame retardant compound.

Jacket:

Polyamide Nylon jacket is provided to protect PVCinsulation against abrasions and scratches while pulling through conduits also it has well resistant against oil, gasoline and chemicals.

Colors:

Standard colors are available in black, white, red, blue, green, yellow, yellow/ green, pink, violet, orange, brown and gray.

Flame retardancy:

THHN/THWN-TFFN-MTW& AWMwires have been tested and approved with the flame performance standards according to UL 1581 ‹VW-1› Vertical Flame Test requirements.

Packing:

Available in standard length of 500, 300 and 250 feet on coil (Other lengths available on request)

Marking:

10AWGTHHN ORTHWN, OILAND GASOLINE RESISTANT,VW-1 600 V 105 °C

Technical Data:

Size	No. X Diam.	(ohm/km at 20C °c)	Insulation Thickness	Nylon Jacket Thickness	Nominal Outer Diameter	Approx. Net Weight	Current Carry Capacity at 30C ambient temperature THHN 105 C Dry		Current Carry Capacity at 30C ambient temperature THWN 75C Wet		Ordering Information
(AWG)	(No. x MM)	(ohm/km at 20C °c)	(MM)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Ampere (Air)	Ampere (Conduit)	Item Code
18*	19 x0.235	21	0.38	0.1	2.15	11.4	17	13	13	9	TFFN18ST-105C
16*	19 x0.296	13.7	0.38	0.1	2.49	16.9	21	16	16	11	TFFN16ST-105C
14	19 x0.37	8.62	0.38	0.1	2.89	23.8	36	26	31	21	THHN14ST-105C
12	19 x0.47	5.43	0.38	0.1	3.38	36.9	41	31	36	26	THHN12ST-105C
10	19 x0.59	3.409	0.51	0.1	4.18	58.8	56	41	51	36	THHN10ST-105C
8	19 x0.75	2.144	0.76	0.13	5.48	96.7	81	56	71	51	THHN08ST-105C
6	19 x0.944	1.348	0.76	0.13	6.37	194.8	106	76	96	66	THHN06ST-105C
14	1 x1.63	8.4	0.38	0.1	2.68	23.9	36	26	31	21	THHN14SO-105C
12	1 x2.05	5.3	0.51	0.1	3.08	35.9	41	31	36	26	THHN12SO-105C
10	1 x2.59	3.343	0.76	0.1	3.89	57.9	56	41	46	36	THHN10SO-105C

* Listed as TFFN

Application:

For indoor fixed installations in dry locations in switchboards and distributors. Should be installed in surface mounted or embedded conduits, or directly on suitably insulated objects.

Applicable Standards:

H05V-U cables are designed and tested according to the requirements of BS EN 50525-2-31 and IEC 60227-3 standard.

Specification:

Conductor

Solid annealed copper conductor class 1 according to BS EN 60228 and IEC 60228.

Insulation:

Solid extruded PVC insulation with rating 70 °C at normal operation according to BS EN 50363-3 type TI1.

Color:

Standard colors are available in black, white, red, blue, green, yellow, yellow/ green, pink, violet, orange, brown and gray.

Flame retardancy:

Solid wires have been tested and approved with the flame performance standards according to IEC 60332-1-2 and BS EN 60332-1.

Packing:

Available in standard length of 100 yards on coil (Other lengths available on request)

TECHNICAL DATA:

Size	Max. Wire Diam.	Max. DC conductor Resistance.	Insulation Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(MM2)	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
0.5	0.8	36	0.6	2	8.9	3	2.5	H05V-U-00.5-70C
0.75	0.98	24.5	0.6	2.18	11.9	6	5.5	H05V-U-00.75-70C
1	1.13	18.1	0.6	2.33	13.8	10	9.5	H05V-U-01.0-70C

Solid Single Core Non-Sheathed Cable (H07V-U) 450-750 V

Application:

For indoor fixed installations in dry locations in switchboards and distributors. Should be installed in surface mounted or embedded conduits, or directly on suitably insulated objects.

Applicable Standards:

H07V-U cables are designed and tested to meet or exceed the requirements of BS EN 50525-2-31 and IEC 60227-3 standards. However, can also supply a range of alternative designs to meet customer-specified requirements.

Specification:

Conductor

Solid annealed copper conductor class 1 according to BS EN 60228 and IEC 60228.

Insulation:

Solid extruded PVC insulation with rating 70 °C at normal operation according to BS EN 50363-3 type TI1.

Color:

Standard colors are available in black, white, red, blue, green, yellow, yellow/ green, pink, violet, orange, brown and gray.

Flame retardancy:

Solid wires have been tested and approved with the flame performance standards according to IEC 60332-1-2 and BS EN 60332-1.

Packing:

Available in standard length of 100 yards on coil (Other lengths available on request)

TECHNICAL DATA:

Size	Max. Wire Diam.	Max. DC conductor Resistance.	Insulation Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(MM2)	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
1.5	1.38	12.1	0.7	2.78	20	17	14.5	H07V-U-01.5-70C
2.5	1.78	7.41	0.8	3.38	31	24	19	H07V-U-02.5-70C
4	2.25	4.61	0.8	3.85	49	31	24	H07V-U-04.0-70C
6	2.76	3.08	0.8	4.36	67	40	31	H07V-U-06.0-70C
10	3.57	1.83	1	5.57	110	57	43	H07V-U-10.0-70C

Application:

For indoor fixed installations in dry locations in switchboards and distributors. Should be installed in surface mounted or embedded conduits, or directly on suitably insulated objects.

Applicable Standards:

H07V-R cables are designed and tested according to the requirements of of BS EN 50525-2-31 and IEC 60227-3 standards.

Specification:

Solid annealed copper conductor class 2 according to BS EN 60228 and IEC 60228.

Insulation:

Solid extruded PVC insulation with rating 70 °C at normal operation according to BS EN 50363-3 type TI1 and IEC 60227-1type PVC/C.

Colors:

Standard colors are available in black, white, red, blue, green, yellow, yellow/ green, pink, violet, orange, brown and gray.

Flame retardancy:

Solid wires have been tested and approved with the flame performance standards according to IEC 60332-1-2 and BS EN 60332-1

Packing:

Available in standard length of 100 yards on coil (Other lengths available on request)

Technical Data:

Size	Construction	Max. DC conductor Resistance.	Insulation Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(MM2)	No. X Diam.	(ohm/km at 20C °c)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
1.5	7 x 0.52	12.1	0.7	3	21.2	17	14.5	H07V-R-01.5-70C
2.5	7 x 0.67	7.41	0.8	3.6	33.7	24	19	H07V-R-02.5-70C
4	7 x 0.85	4.61	0.8	4.2	49.8	31	24	H07V-R-04.0-70C
6	7 x 1.04	3.08	0.8	4.8	70.21	40	31	H07V-R-06.0-70C
10	7 x 1.34	1.83	1	5.9	116.3	57	43	H07V-R-10.0-70C
16	7 x 1.68	1.15	1	7	174.8	75	55	H07V-R-16.0-70C
25	7 x 2.14	0.727	1.2	8.8	271.83	102	81	H07V-R-25.0-70C
35	7 x 2.52	0.524	1.2	9.9	369.4	126	101	H07V-R-35.0-70C
50	19 x 1.78	0.387	1.4	11.6	504.5	152	122	H07V-R-50.0-70C

Stranded Single Core and Insulated PVC 90˚C (H07V2-R) 450-750 V

Application:

For indoor fixed installations in dry locations in switchboards and distributors. Should be installed in surface mounted or embedded conduits, or directly on suitably conduits, or directly on suitably insulated objects.

Applicable Standards:

H07V2-R wires are designed and tested according to the requirements of BS EN 50525-2-3, IEC 60227-3 and SASO 1319/1320-1997 standards.

Specification:

Stranded annealed copper conductor class 2 according to BS EN 60228 and IEC 60228.

Insulation:

Solid extruded PVC insulation with rating 90 °C at normal operation according to as per BS EN 50363-3 type TI3 and IEC 60227-1type PVC/E.

Colors:

Standard colors are available in black, white, red, blue, green, yellow, yellow/ green, pink, violet, orange, brown and gray.

Flame retardancy:

Stranded wires have been tested and approved with the flame performance standards according to IEC 60332-1-2 and BS EN 60332-1

Packing:

Available in standard length of 100 yards on coil (Other lengths available on request)

Marking:

25 mm2 CU/PVC H07V2-R 450/750 V 90C IEC 60227 /BS EN 50525

Technical Data:

Size	Construction	Max. DC conductor Resistance.	Insulation Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(MM2)	No. X Diam.	(ohm/km at 20C °c)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
1.5	7 x 0.52	12.1	0.7	3	21	24	20	H07V2-R-01.5-70C
2.5	7 x 0.67	7.41	0.8	3.6	33.3	32	28	H07V2-R-02.5-70C
4	7 x 0.85	4.61	0.8	4.2	48	42	37	H07V2-R-04.0-70C
6	7 x 1.04	3.08	0.8	4.8	69	54	48	H07V2-R-06.0-70C
10	7 x 1.34	1.83	1	5.9	115	73	66	H07V2-R-10.0-70C
16	7 x 1.68	1.15	1	7	173	98	88	H07V2-R-16.0-70C
25	7 x 2.14	0.727	1.2	8.8	270	129	117	H07V2-R-25.0-70C
35	7 x 2.52	0.524	1.2	9.9	367	158	144	H07V2-R-35.0-70C
50	19 x 1.78	0.387	1.4	11.6	503	198	175	H07V2-R-50.0-70C

Application:

Wires are used to supply power for lighting and electric appliances for measuring, regulating and controlling, also suitable for internal wiring of electric motors and transformers.

Applicable Standards:

H05V-K wires are designed and tested according to BS EN 50525-2-31 and IEC 60227-3 standards. However, can also supply a range of alternative designs to meet customer-specified requirements.

Specification:

Conductor

Flexible annealed copper conductor class 5 according to BS EN 60228 and IEC 60228.

Insulation:

Solid extruded PVC insulation with rating 70 °C at normal operation according to BS EN 50363-3 type TI1 and IEC 60227-1type PVC/C.

Colors:

Standard H05V-K colors are available in black, white, red, blue, green, yellow, yellow/ green, pink, violet, orange, brown and gray.

Flame retardancy:

Flexible wires have been tested and approved with the flame performance standards according to IEC 60332-1-2 and BS EN 60332-1.

Packing:

Available in standard length of 100 yards on coil (Other lengths available on request)

Marking:

0.5 mm2 CU/PVC H05V-K 300/500 V IEC 60227/BS EN 50525

Technical Data:

Size	Max. Wire Diam.	Max. DC conductor Resistance.	Insulation Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(MM2)	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
0.5	0.21	39	0.6	2.1	9.8	3	2.5	H05V-K-00.5-70C
0.75	0.21	26	0.6	2.3	12.9	6	5.5	H05V-K-00.75-70C
1	0.21	19.5	0.6	2.5	15.8	10	9.5	H05V-K-01.0-70C

Flexible Single Core and Insulated PVC 90˚C (H05V2-K) 300-500 V

Application:

Wires are used to supply power for lighting and electric appliances for measuring, regulating and controlling, also suitable for internal wiring of electric motors and transformers.

Applicable Standards:

H05V2-K wires are designed and tested according to BS EN 50525-2-3, IEC 60227-3 and SASO 1319/1320-1997 standards. However, can also supply a range of alternative designs to meet customer-specified requirements.

Specification:

Conductor

Flexible annealed copper conductor class 5 according to BS EN 60228 and IEC 60228.

Insulation:

Solid extruded PVC insulation with rating 90 °C at normal operation according to as per BS EN 50363-3 type TI3 and IEC 60227-1type PVC/E.

Colors:

Standard H05V2-K colors are available in black, white, red, blue, green, yellow, yellow/green, pink, violet, orange, brown and gray.

Flame retardancy:

Flexible wires have been tested and approved with the flame performance standards according to IEC 60332-1-2 and BS EN 60332-1.

Packing:

Available in standard length of 100 yards on coil (Other lengths available on request).

Marking:

0.75 mm2 CU/PVC H05V2-K 300/500 V IEC 60227/BS EN 50525

Technical Data:

Size	Max. Wire Diam.	Max. DC conductor Resistance.	Insulation Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(MM2)	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
0.5	0.21	39	0.6	2.1	9.0	10	7	H05V2-K-00.5-90C
0.75	0.21	26	0.6	2.3	12.1	13	10	H05V2-K-00.75-90C
1	0.21	19.5	0.6	2.5	15	17	14	H05V2-K-01.0-90C

Application:

Wires are used to supply power for lighting and electric appliances for measuring, regulating and controlling, also suitable for internal wiring of electric motors and transformers.

Specification:

H07V-K wires are designed and tested according to BS EN 50525-2-31 and IEC 60227-3 standards. However, can also supply a range of alternative designs to meet alternative designs to meet customer-specified requirements.

Construction:

Conductor

Soft annealed copper as per BS EN 60228 and IEC 60228, flexible copper conductor class 5.

Insulation:

Thermoplastic Extruded layer of (PVC) insulation with temperature rating 70 °C at normal operation as per BS EN 50363-3 type TI1 and IEC 60227-1type PVC/C.

(PVC rated 85 °C available on request)

Flame retardancy:

Wires have been tested and approved with the flame performance standards IEC 60332-1-2 and BS EN 60332-1.

Colors:

Colors are available in black, white, red, blue, green, yellow, yellow/ green, pink, violet, orange, brown and gray.

Packing:

Very modern packing available in standard length of 100 yards on coil (Other lengths available on request).

Marking:

Amwaj 2.5 mm2 H07V-K BS EN 50525-2-31 / IEC 60227-3

Technical Data:

Size	Max. Wire Diam.	Max. DC conductor Resistance.	Insulation Thickness	Nominal Outer Diameter	Current Carry Capacity at 30C ambient temperature		Ordering Information
(MM2)	(MM)	(ohm/km at 20 C°)	(MM)	(MM)	Ampere (Air)	Ampere (Conduit)	Item Code
1.5	0.26	13.3	0.7	2.95	16.6	13.8	H07V-K-01.5-70C
2.5	0.26	7.98	0.8	3.6	23	18	H07V-K-02.5-70C
4	0.31	4.95	0.8	4.15	30	23	H07V-K-04.0-70C
6	0.31	3.3	0.8	4.7	39	30	H07V-K-06.0-70C
10	0.41	1.91	1	6.12	56	42	H07V-K-10.0-70C
16	0.41	1.21	1	7.2	74	54	H07V-K-16.0-70C
25	0.41	0.78	1.2	8.7	101	80	H07V-K-25.0-70C
35	0.41	0.554	1.2	9.7	125	100	H07V-K-35.0-70C
50	0.41	0.386	1.4	11.6	151	121	H07V-K-50.0-70C
70	0.41	0.272	1.4	13.5	192	154	H07V-K-70.0-70C

Flexible Single Core and Insulated PVC 90℃ (H07V2-K) 450-750 V

Application:

Wires are used to supply power for lighting and electric appliances for measuring, regulating and controlling, also suitable for internal wiring of electric motors and transformers.

Applicable Standards:

H07V2-K wires are designed and tested according to BS EN 50525-2-3, IEC 60227-3 and SASO 1319/1320-1997 standards. However, can also supply a range of alternative designs to meet customer-specified requirements. and SASO 1319/1320-1997 standards.

Specification:

Conductor

Flexible annealed copper conductor class 5 according to BS EN 60228 and IEC 60228.

Insulation:

Solid extruded PVC insulation with rating 90 °C at normal operation according to as per BS EN 50363-3 type TI3 and IEC 60227- 1type PVC/E.

Flame retardancy:

Flexible wires have been tested and approved with the flame performance standards according to IEC 60332-1-2 and BS EN 60332-1.

Colours:

Colours are available in black, white, red, blue, green, yellow, yellow/ green, pink, violet, orange, brown and gray.

Packing:

Very modern packing available in standard length of 100 yards on coil (Other lengths available on request).

Marking:

6 mm2 CU/PVC H07V2-K 450/750 V IEC 60227 /BS EN 50525

Technical Data:

Size	Max. Wire Diam.	Max. DC conductor Resistance.	Insulation Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(MM2)	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
1.5	0.26	13.3	0.7	2.95	20.2	24	20	H07V2-K-01.5-90C
2.5	0.26	7.98	0.8	3.6	32.1	32	28	H07V2-K-02.5-90C
4	0.31	4.95	0.8	4.15	48	42	37	H07V2-K-04.0-90C
6	0.31	3.3	0.8	4.7	69	54	48	H07V2-K-06.0-90C
10	0.41	1.91	1	6.12	114.5	73	66	H07V2-K-10.0-90C
16	0.41	1.21	1	7.2	170	98	88	H07V2-K-16.0-90C
25	0.41	0.78	1.2	8.7	266	129	117	H07V2-K-25.0-90C
35	0.41	0.554	1.2	9.7	362.3	158	144	H07V2-K-35.0-90C
50	0.41	0.386	1.4	11.6	522.3	198	175	H07V2-K-50.0-90C
70	0.41	0.272	1.4	13.5	707.1	245	222	H07V2-K-70.0-90C

Application:

Used for indoor fixed installation in dry location for lighting fittings inside electrical panels and connections for apparatuses, switch gears and control gears. It can be used in everything from automation and process control, building and construction to marine and defense, and transmission, distribution and power networks.

Applicable Standards:

Wire 600/1000V are designed and tested according to BS6231, can also supply a range of alternative designs to meet customer-specified requirements.

Specification:

Conductor

Flexible annealed copper conductor class 5 according to BS EN 60228 and IEC 60228. (We can produce Flexible tinned copper conductor class 5 to BS EN 60228 and IEC 60228 upon customer request but resistance will be increased accordingly.)

Insulation Type:

BK: Solid extruded PVC insulation Type TI1 with temperature rating 70 °C at normal operation as per BS EN 50363-3.

CK: Solid extruded PVC insulation Type TI3 with temperature rating 90 °C at normal operation as per BS EN 50363-3.

CK: Solid extruded PVC with temperature rating 105 °C at normal operation available on request.

Colors:

Standard colors are available in black, white, red, blue, green, yellow, yellow/green, pink, violet, orange, brown and gray.

Flame retardancy:

Flexible wires 600/1000V have been tested and approved with the flame performance standards according to IEC 60332-1-2 and BS EN 60332-1.

Packing:

Available in standard length of 100 yards on coil (Other lengths available on request)

Marking:

1 mm2 CU/PVC- Type CK 600/1000V BS6231

Technical Data:

BK

Size	Max. Wire Diam.	Max. DC conductor Resistance.	Insulation Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(MM2)	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
0.5	0.21	39	0.8	2.59	11.4	4	3.5	PVV1000FL-0.5-70C
0.75	0.21	26	0.8	2.79	14.5	7	6.5	PVV1000FL-0.75-70C
1	0.21	19.5	0.8	2.91	17.5	11	10	PVV1000FL-01.0-70C
1.5	0.26	13.3	0.8	3.15	22.8	18	16	PVV1000FL-01.5-70C
2.5	0.26	7.98	0.8	3.6	33	24	19	PVV1000FL-02.5-70C
4	0.31	4.95	0.8	4.15	49	31	24	PVV1000FL-04.0-70C
6	0.31	3.3	0.8	4.7	70	40	31	PVV1000FL-06.0-70C
10	0.41	1.91	1	6.12	116	57	43	PVV1000FL-10.0-70C
16	0.41	1.21	1	7.2	172	75	55	PVV1000FL-16.0-70C
25	0.41	0.78	1.2	8.7	268	102	81	PVV1000FL-25.0-70C
35	0.41	0.554	1.2	9.7	365	126	101	PVV1000FL-35.0-70C
50	0.41	0.386	1.4	11.6	526	152	122	PVV1000FL-50.0-70C
70	0.41	0.272	1.4	13.5	710	193	155	PVV1000FL-70.0-70C

CK

Size	Max. Wire Diam.	Max. DC conductor Resistance.	Insulation Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(MM2)	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
0.5	0.21	39	0.6	2.59	11	11	8	PVV1000FL-0.5-90C
0.75	0.21	26	0.6	2.79	14.1	14	11	PVV1000FL-0.75-90C
1	0.21	19.5	0.6	2.91	17	18	15	PVV1000FL-01.0-90C
1.5	0.26	13.3	0.7	3.15	21.5	25	21	PVV1000FL-01.5-90C
2.5	0.26	7.98	0.8	3.6	32.1	32	28	PVV1000FL-02.5-90C
4	0.31	4.95	0.8	4.15	48	42	37	PVV1000FL-04.0-90C
6	0.31	3.3	0.8	4.7	69	54	48	PVV1000FL-06.0-90C
10	0.41	1.91	1	6.12	114.5	73	66	PVV1000FL-10.0-90C
16	0.41	1.21	1	7.2	170	98	88	PVV1000FL-16.0-90C
25	0.41	0.78	1.2	8.7	266	129	117	PVV1000FL-25.0-90C
35	0.41	0.554	1.2	9.7	362.3	158	144	PVV1000FL-35.0-90C
50	0.41	0.386	1.4	11.6	522.3	198	175	PVV1000FL-50.0-90C
70	0.41	0.272	1.4	13.5	707.1	245	222	PVV1000FL-70.0-90C

Application:

Suitable for installation in areas with reduced risk of mechanical damage; on tray, in free air or clipped direct. Suitable also for conduit and wiring installations when mechanical protection is required.

Applicable Standards:

Stranded SC –XLPE-PVC are designed and testedaccording to the requirements of BS7889/IEC60502 -1. Flame propagation to BS EN 50265 /IEC 60332 standards.

Specification:

Conductor

Stranded annealed copper conductor class 2 according to BS EN 60228 and IEC 60228.

Insulation:

Cross linked polyethylene (XLPE) insulation rated 90 ؛C at normal operation according to BS7655-1.3 requirements for type GP8 and comply with IEC 60502-1.

Colors:

Standard colors (Blue, Brown, Black or Gray)

Sheathing:

Solid extruded PVC with temperature rating 90 °C at normal operation applied over the laid up assembled cores as per Type 9 according to BS7655-4.2 and ST2 to IEC 60502-1.

Flame retardancy:

Stranded SC –XLPE-PVC have been tested and approved with the flame performance standards according to BS EN 60332-1/IEC 60332.

Packing:

Available in standard length of 1000 meter on drum (Other lengths available on request)

Marking:

ELECTRIC CABLES 1x2.5 mm2 CU/XLPE/PVC 600/1000 V BS7889

Technical Data:

Size	Construction	Max. DC conductor Resistance.	Insulation Thickness	Sheathing Thickness	Nominal Outer Diameter	Approx. Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(MM2)	No. X Diam.	(ohm/km at 20C °c)	(MM)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Ground)	Item Code
1.5	7 x 0.52	12.1	0.7	1.4	5.76	49	29	22	P2XV1000ST- 1*1.5
2.5	7 x 0.67	7.41	0.7	1.4	6.21	62	38	30	P2XV1000ST- 1*2.5
4	7 x 0.85	4.61	0.7	1.4	6.75	79	51	43	P2XV1000ST- 1*4
6	7 x 1.04	3.08	0.7	1.4	7.15	101	64	55	P2XV1000ST- 1*6
10	7 x 1.34	1.83	0.7	1.4	8.22	151	86	72	P2XV1000ST- 1*10
16	7 x 1.68	1.15	0.7	1.4	9.22	207	121	93	P2XV1000ST- 1*16
25	7 x 2.14	0.727	0.9	1.4	11.1	312	150	118	P2XV1000ST- 1*25
35	7 x 2.52	0.524	0.9	1.4	12.1	402	190	146	P2XV1000ST- 1*35
50	19 x 1.78	0.387	1.0	1.4	13.2	517	232	175	P2XV1000ST- 1*50

Flexible Single Core and Insulated LSOH 90℃ (H07Z-K) 450-750 V

Application:

Suitable particularly for situations in which low emission of smoke and corrosive gases is required in the case of burning. Are intended for installation in surface mounted or embedded conduits, or similar closed systems. Suitable for fixed protected installation in, or on, lighting and control gear for voltages up to 1000 V a.c. or, up to 750V d.c .to ear

Specification:

H07Z-K wires are designed and tested according to the requirements of BS7211/BS EN 50268 (IEC 61034) and flame propagation to BS EN 50265 (IEC 60332) standards 50525-3-41. Acid gas emission to BS EN 50267 (IEC60754), smoke emission to BS EN

Specification:

Conductor

Flexible annealed copper conductor class 2 according to BS EN 60228 and IEC 60228.

Insulation:

Thermosetting low smoke zero halogen compound type EI5 acc. to EN 50363-5.

Colors:

Standard colors are available in black, white, red, blue, green, yellow, yellow/ green, pink, violet, orange, brown and gray.

Flame retardancy:

Flexible LSOH wires have been tested and approved with the flame performance standards according to BS EN 50265 (IEC 60332).

Packing:

Available in standard length of 100 yards on coil (Other lengths available on request)

Marking:

25 mm2 CU/LSOH H07Z-K 450/750 V 90C BS7211/BS EN 50525-3-41

Technical Data:

Size	Max. Wire Diam.	Max. DC conductor Resistance.	Insulation Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(MM2)	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
1.5	0.26	13.3	0.7	2.95	20.3	25	21	H07Z-K-01.5-90C
2.5	0.26	7.98	0.8	3.6	31.4	33	29	H07Z-K-02.5-90C
4	0.31	4.95	0.8	4.15	46.6	43	38	H07Z-K-04.0-90C
6	0.31	3.3	0.8	4.7	65.6	55	49	H07Z-K-06.0-90C
10	0.41	1.91	1	6.12	113	74	67	H07Z-K-10.0-90C
16	0.41	1.21	1	7.2	167	99	89	H07Z-K-16.0-90C
25	0.41	0.78	1.2	8.7	263	130	118	H07Z-K-25.0-90C
35	0.41	0.554	1.2	9.7	359	159	145	H07Z-K-35.0-90C
50	0.41	0.386	1.4	11.6	519	199	176	H07Z-K-50.0-90C
70	0.41	0.272	1.4	13.5	703	246	223	H07Z-K-70.0-90C

Application:

Suitable particularly for situations in which low emission of smoke and corrosive gases is required in the case of burning. Are intended for installation in surface mounted or embedded conduits, or similar closed systems. Suitable for fixed protected installation in, or on, lighting and control gear for voltages up to 1000 V a.c. or, up to 750V d.c .to earth

Applicable Standards:

H07Z-R wires are designed and tested according to the requirements of BS7211/BS EN 50525-3-41. Acid gas emission to BS EN 50267 (IEC60754), smoke emission to BS EN 50268.(IEC 61034) and flame propagation to BS EN 50265 (IEC 60332) standards

Specification:

Conductor

Stranded annealed copper conductor class 2 according to BS EN 60228 and IEC 60228.

Insulation:

Thermosetting low smoke zero halogen compound type EI5 acc. to EN 50363-5.

Colors:

Standard colors are available in black, white, red, blue, green, yellow, yellow/ green, pink, violet, orange, brown and gray.

Flame retardancy:

Stranded LSOH wires have been tested and approved with the flame performance standards according to BS EN 50265 (IEC 0332).

Packing:

Available in standard length of 100 yards on coil (Other lengths available on request)

Marking:

25 mm2 CU/LSOH H07Z-R 450/750 V 90C BS7211/BS EN 50525-3-41

Technical Data:

Size	Construction	Max. DC conductor Resistance.	Insulation Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(MM2)	No. X Diam.	(ohm/km at 20C °c)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
1.5	7 x 0.52	12.1	0.7	3	21.46	25	21	H07Z-R-01.5-90C
2.5	7 x 0.67	7.41	0.8	3.6	33.8	33	29	H07Z-R-02.5-90C
4	7 x 0.85	4.61	0.8	4.2	50.15	43	38	H07Z-R-04.0-90C
6	7 x 1.04	3.08	0.8	4.8	71	55	49	H07Z-R-06.0-90C
10	7 x 1.34	1.83	1	5.9	117	74	67	H07Z-R-10.0-90C
16	7 x 1.68	1.15	1	7	175	99	89	H07Z-R-16.0-90C
25	7 x 2.14	0.727	1.2	8.8	273	130	118	H07Z-R-25.0-90C
35	7 x 2.52	0.524	1.2	9.9	372	159	145	H07Z-R-35.0-90C
50	19 x 1.78	0.387	1.4	11.6	506	199	176	H07Z-R-50.0-90C

Application:

Harmonized cable is a medium duty flexible PVC insulated electrical cable commonly used in devices such as computers and office equipment, medical devices, heaters, cooking/baking/frying equipment, kitchen utensils, medical devices, and other medium duty electrical or electronic equipment designed for use.

Applicable Standards:

H05VV-F cables are designed and tested to according to BS EN 50525-2-11 standards. However, can also supply a range of alternative designs to meet customer-specified requirements.

Specification:

Conductor

Flexible annealed copper conductor class 5 according to BS EN 60228 and IEC 60228.

Insulation

Solid extruded PVC insulation with rating 70 °C at normal operation according to BS EN 50363-3 type TI1 and IEC 60227-1type PVC/C.

Assembly

The insulated cores are uniformly twisted together to form the cable core.

Core colors

Standard core color will be as follow:

Two cores : Blue and Brown

Three cores : Yellow/Green, Blue and Brown

Four cores : Yellow/Green, Black, Blue and Brown

Sheath

Solid extruded PVC with temperature rating 70 °C at normal operation applied over the laid up assembled cores according to BS EN 50363-4- 1 type TM2.

Flame retardancy

H05VV-K cables have been tested and approved with the flame performance standards according to IEC 60332-1-2 and BS EN 60332-1.

Packing

Available in standard length of 100 Yard air coil (Other lengths are available upon request).

Marking

Flexible cables 3*1.5 mm2 CU/PVC/PVC H05VV-K 300/500 V BS EN 50525-2-11

Technical Data

Number of cores	size	Max. diameter	(ohm/km at 20 °c)	Insulation Thickness	PVC Jacket Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
No.	(MM2)	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(MM)	(Kg/km)	Ampere Single Phase(AC)	Ampere Three Phase(AC)	Item Code
2	0.5	0.21	39	0.6	0.8	5.86	48	3	3	H05VV-F 2*0.5
3					0.8	6.2	56	3	3	H05VV-F 3*0.5
4					0.8	6.75	69	3	3	H05VV-F 4*0.5
2	0.75	0.21	26	0.6	0.8	6.27	57	6	6	H05VV-F 2*0.75
3					0.8	6.65	69	6	6	H05VV-F 3*0.75
4					0.8	7.25	84	6	6	H05VV-F 4*0.75
2	1.0	0.21	19.5	0.6	0.8	6.62	66	10	10	H05VV-F 2*1.0
3					0.8	7.03	80	10	10	H05VV-F 3*1.0
4					0.9	7.88	103	10	10	H05VV-F 4*1.0
2	1.5	0.26	13.3	0.7	0.8	7.47	86	17	17	H05VV-F 2*1.5
3					0.9	8.14	109	17	17	H05VV-F 3*1.5
4					1	9.1	139	17	17	H05VV-F 4*1.5
2	2.5	0.26	7.98	0.8	1	9.13	132	24	20	H05VV-F 2*2.5
3					1.1	9.9	166	24	20	H05VV-F 3*2.5
4					1.1	10.83	205	24	20	H05VV-F 4*2.5
2	4.0	0.31	4.95	0.8	1.1	10.42	182	31	24	H05VV-F 2*4
3					1.2	11.28	231	31	24	H05VV-F 3*4
4					1.2	12.34	287	31	24	H05VV-F 4*4
2	6.0	0.31	3.3	0.8	1.2	11.75	242	40	31	H05VV-F 2*6
3					1.4	12.89	315	40	31	H05VV-F 3*6
4					1.4	14.11	394	40	31	H05VV-F 4*6

Application:

Suitable for domestic and light industrial wiring and can be installed on tray, free air or clipped direct. It should be installed into areas where there is low risk of mechanical damage. Also used for transferring electrical signals among different control units and also used in alarm systems.

Applicable Standards:

Solid cables are designed and tested to meet or exceed the requirements of IEC 60227-4 standard. However, can also supply a range of alternative designs to meet customer-specified requirements.

Specification

Conductor

Solid annealed copper conductor class 1 according to IEC 60228.

Insulation:

Solid extruded PVC insulation with rating 70 °C at normal operation according to IEC 60227-1type PVC/C.

Assembly:

The insulated cores are uniformly twisted together to form the cable core.

Core colors:

Standard core color will be as follow:

Two cores: Red and Black

Three cores: Red, Yellow and Blue

Four cores: Red, Yellow, Blue and Black

Filling:

Solid extruded filling PVC.

Sheath:

Solid extruded PVC with temperature rating 70 °C at normal operation applied over the laid up assembled cores according to IEC 60227-1 type ST4.

Flame retardancy:

Solid cables 300/500 V have been tested and approved with the flame performance standards IEC 60332-1-2.

Packing:

Available in standard length of 500 or 1000 meters on wooden drum

(Other lengths are available upon request)

Marking:

Solid cables 3*1.5 mm2 CU/PVC/PVC 300/500 V IEC60227

Technical Data:

Number of cores	size	No.x diameter	(ohm/km at 20 °c)	Insulation Thickness	Inner Jacket Thickness	PVC Jacket Thickness	Nominal Outer Diameter	Approx. Net Weight	Current Rating			Ordering Information
No.	(MM2)	No. xMM	(ohm/km at 20C °c)	(MM)	(MM)	(MM)	(MM)	(Kg/km)	Laid Direct in ground (A)	Laid in Duct (A)	Laid in Free Air (A)	Item Code
2	1.5	1x1.38	12.1	0.7	0.4	1.2	8.76	113	31	25	25	PVV500SO- 2*1.5
3					0.4	1.2	9.2	134	27	23	20	PVV500SO- 3*1.5
4					0.4	1.2	9.93	162	27	23	20	PVV500SO- 4*1.5
2	2.5	1x1.78	7.41	0.8	0.4	1.2	9.96	154	39	33	33	PVV500SO- 2*2.5
3					0.4	1.2	10.5	186	35	30	26	PVV500SO- 3*2.5
4					0.4	1.2	11.38	228	35	30	26	PVV500SO- 4*2.5
2	4	1x2.25	4.61	0.8	0.4	1.2	10.9	200	52	42	46	PVV500SO- 2*4
3					0.4	1.2	11.52	246	46	39	36	PVV500SO- 3*4
4					0.4	1.4	12.92	317	46	39	36	PVV500SO- 4*4
2	6	1x2.76	3.08	0.8	0.4	1.2	11.92	258	65	53	60	PVV500SO- 2*6
3					0.4	1.4	13.02	336	58	47	46	PVV500SO- 3*6
4					0.6	1.4	14.55	431	58	47	46	PVV500SO- 4*6

Application:

Used for industrial and wiring purposes. Useable in the open environments in outdoor and indoor applications, as well as supplying power to electrical units and equipment in different projects.

Applicable Standards:

Stranded cables are designed and tested to meet or exceed the requirements of IEC 60227-4 standard. However, can also supply a range of alternative designs to meet customer-specified requirements.

Specification:

Conductor

Stranded annealed copper conductor class 2 according to BS EN 60228 and IEC 60228.

Insulation:

Solid extruded PVC insulation with rating 70 °C at normal operation according to IEC 60227-1type PVC/C.

Assembly:

The insulated cores are uniformly twisted together to form the cable core.

Core colors:

Standard core color will be as follow:

Two cores: Red and Black

Three cores: Red, Yellow and Blue

Four cores: Red, Yellow, Blue and Black

Sheath:

Solid extruded PVC with temperature rating 70 °C at normal operation applied over the laid up assembled cores according to IEC 60227-1 type ST4.

Flame retardancy:

Stranded cables have been tested and approved with the flame performance standards IEC 60332-1-2.

Packing:

Available in standard length of 500 or 1000 meters on wooden drum

(Other lengths are available upon request).

Marking:

Stranded cables 3*2.5 mm2 CU/PVC/PVC 300/500 V IEC60227

Technical Data:

Number of cores	size	No. x diameter	(ohm/km at 20 °c)	Insulation Thickness	Inner Jacket Thickness	PVC Jacket Thickness	Nominal Outer Diameter	Approx. Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
No.	(MM2)	No. x MM	(ohm/km at 20C °c)	(MM)	(MM)	(MM)	(MM)	(Kg/km)	Ampere Single Phase(AC)	Ampere Three Phase(AC)	Item Code
2	1.5	7x0.52	12.1	0.8	0.4	1.2	9.12	120	17	17	PVV500ST- 2*1.5
3					0.4	1.2	9.59	142	17	17	PVV500ST- 3*1.5
4					0.4	1.2	10.36	171	17	17	PVV500ST- 4*1.5
2	2.5	7x0.67	7.41	0.8	0.4	1.2	10.42	165	24	20	PVV500ST- 2*2.5
3					0.4	1.2	11	198	24	20	PVV500ST- 3*2.5
4					0.4	1.2	11.94	242	24	20	PVV500ST- 4*2.5
2	4	7x0.85	4.61	1	0.4	1.2	11.5	215	31	24	PVV500ST- 2*4
3					0.4	1.2	12.16	264	31	24	PVV500ST- 3*4
4					0.4	1.4	13.64	339	31	24	PVV500ST- 4*4
2	6	7x1.04	3.08	1	0.4	1.2	12.64	277	40	31	PVV500ST- 2*6
3					0.4	1.4	13.8	359	40	31	PVV500ST- 3*6
4					0.6	1.4	15.42	460	40	31	PVV500ST- 4*6

Application:

Harmonized cable is a medium duty flexible PVC insulated electrical cable commonly used in devices such as computers and office equipment, medical devices, heaters, cooking/baking/frying equipment, kitchen utensils, medical devices, and other medium duty electrical or electronic equipment designed for use.

Applicable Standards:

Flexible cables 600/1000 V are designed and tested to according to IEC60502-1 standards. However, can also supply a range of alternative designs to meet customer-specified requirements.

Construction:

Conductor

Flexible annealed copper conductor class 5 according to IEC 60228

Insulation

Solid extruded PVC insulation with rating 70 °C at normal operation according to as per IEC 60502-1 type PVC/A

Assembly:

The insulated cores are uniformly twisted together to form the cable core.

Core colors:

Standard core color will be as follow:

Two cores	:	Red and Black
Three cores	:	Red, Yellow and Blue
Four cores	:	Red, Yellow, Blue and Black

Sheath:

Solid extruded PVC with temperature rating 80 °C at normal operation applied over the laid up assembled cores according to IEC 60502-1 type ST1.

Flame retardancy:

Flexible cables 600/1000 V have been tested and approved with the flame performance standards according to IEC60332-1-2.

Packing:

Available in standard length of 1000 meters on wooden drum
(Other lengths are available upon request)

Marking:

Flexible cables 3*2.5 mm2 CU/PVC/PVC 600/1000 V iec60502-1

Technical Data:

Number of cores	size	Max. diameter	(ohm/km at 20 °c)	Insulation Thickness	PVC Jacket Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
No.	(MM2)	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(MM)	(Kg/km)	Ampere Single Phase(AC)	Ampere Three Phase(AC)	Item Code
2	1.5	0.26	13.3	0.8	1.8	9.87	135	17	17	PVV1000FL- 2*1.5
3					1.8	10.37	157	17	17	PVV1000FL- 3*1.5
4					1.8	11.12	188	17	17	PVV1000FL- 2*2.5
2	2.5	0.26	7.98	0.8	1.8	10.73	168	24	20	PVV1000FL- 3*2.5
3					1.8	11.3	200	24	20	PVV1000FL- 4*2.5
4					1.8	12.23	243	24	20	PVV1000FL- 2*4
2	4	0.31	4.95	1	1.8	12.62	241	31	24	PVV1000FL- 3*4
3					1.8	13.34	291	31	24	PVV1000FL- 4*4
4					1.8	14.51	356	31	24	PVV1000FL- 2*6
2	6	0.31	3.3	1	1.8	13.75	302	40	31	PVV1000FL- 3*6
3					1.8	14.56	370	40	31	PVV1000FL- 4*6
4					1.8	15.88	458	40	31	

Multicores Solid Copper Conductor PVC Insulated and PVC Sheathed (NYM) 600-1000 V

Application:

Used for industrial and wiring purposes. Useable in the open environments in outdoor and indoor applications, as well as supplying power to electrical units and equipment in different projects.

Applicable Standards:

Stranded cables are designed and tested to meet or exceed the requirements of IEC 60502-1 standard. However, can also supply a range of alternative designs to meet customer-specified requirements.

Specification

Conductor

Solid annealed copper conductor class 1 according to BS EN 60228 and IEC 60228.

Insulation:

Solid extruded PVC insulation with rating 70 °C at normal operation according to IEC 60502-1 type PVC/A.

Assembly:

The insulated cores are uniformly twisted together to form the cable core.

Core colors:

Standard core color will be as follow:

Two cores: Red and Black

Three cores: Red, Yellow and Blue

Four cores: Red, Yellow, Blue and Black

Filling:

Optional Solid extruded filling PVC if customer needed and depend on assembly process.

Sheath:

Solid extruded PVC with temperature rating 80 °C at normal operation applied over the laid up assembled cores according to IEC 60502-1 type ST1.

Flame retardancy:

Solid cables 600/1000 V have been tested and approved with the flame performance standards IEC 60332-1-2.

Packing:

Available in standard length of 500 or 1000 meters on wooden drum
(Other lengths are available upon request).

Marking:

Solid cables 3*2.5 mm2 CU/PVC/PVC 600/1000 V IEC60502-1

Technical Data:

Number of cores	size	No. x diameter	(ohm/km at 20 °c)	Insulation Thickness	PVC Jacket Thickness	Nominal Outer Diameter	Approx. Net Weight	Current Rating			Ordering Information
No.	(MM2)	No. x MM	(ohm/km at 20C °c)	(MM)	(MM)	(MM)	(Kg/km)	Laid Direct in ground (A)	Laid in Duct (A)	Laid in Free Air (A)	Item Code
2	1.5	1x1.38	12.1	0.8	1.8	10.76	166	33	27	27	PVV1000SO- 2*1.5
3					1.8	11.24	190	29	25	22	PVV1000SO- 3*1.5
4					1.8	12.01	223	29	25	22	PVV1000SO- 4*1.5
2	2.5	1x1.78	7.41	0.8	1.8	11.56	204	41	35	35	PVV1000SO- 2*2.5
3					1.8	12.1	237	37	32	28	PVV1000SO- 3*2.5
4					1.8	12.98	283	37	32	28	PVV1000SO- 4*2.5
2	4	1x2.25	4.61	1	1.8	13.3	285	55	45	49	PVV1000SO- 2*4
3					1.8	13.98	333	49	42	39	PVV1000SO- 3*4
4					1.8	15.09	402	49	42	39	PVV1000SO- 4*4
2	6	1x2.76	3.08	1	1.8	14.32	347	68	56	63	PVV1000SO- 2*6
3					1.8	15.08	418	61	50	49	PVV1000SO- 3*6
4					1.8	16.72	529	65	50	49	PVV1000SO- 4*6

Application:

Used for industrial and wiring purposes. Useable in the open environments in outdoor and indoor applications, as well as supplying power to electrical units and equipment in different projects.

Applicable Standards:

Stranded cables are designed and tested to meet or exceed the requirements of IEC 60502-1 standard. However, can also supply a range of alternative designs to meet customer-specified requirements.

Specification:

Conductor

Stranded annealed copper conductor class 2 according to BS EN 60228 and IEC 60228.

Insulation:

Solid extruded PVC insulation with rating 70 °C at normal operation according to IEC 60502-1 type PVC/ A.

Assembly:

The insulated cores are uniformly twisted together to form the cable core.

Core colors:

Standard core color will be as follow:

Two cores: Red and Black

Three cores: Red, Yellow and Blue

Four cores: Red, Yellow, Blue and Black

Filling:

Optional Solid extruded filling PVC if customer needed and depend on assembly process.

Sheath:

Solid extruded PVC with temperature rating 80 °C at normal operation applied over the laid up assembled cores according to IEC 60502-1 type ST1.

Flame retardancy:

Stranded cables 600/1000 V have been tested and approved with the flame performance standards IEC 60332-1-2.

Packing:

Available in standard length of 500 or 1000 meters on wooden drum
(Other lengths are available upon request).

Marking:

Stranded cables 3*2.5 mm2 CU/PVC/PVC 600/1000 V IEC60502

Technical Data:

Number of cores	size	No. x diameter	(ohm/km at 20 °c)	Insulation Thickness	PVC Jacket Thickness	Nominal Outer Diameter	Approx. Net Weight	Current Rating			Ordering Information
No.	(MM2)	No. x MM	(ohm/km at 20C °c)	(MM)	(MM)	(MM)	(Kg/km)	Laid Direct in ground (A)	Laid in Duct (A)	Laid in Free Air (A)	Item Code
2	1.5	7x0.52	12.1	0.8	1.8	11.12	175	33	27	27	PVV1000ST- 2*1.5
3					1.8	11.63	200	29	25	22	PVV1000ST- 3*1.5
4					1.8	12.45	235	29	25	22	PVV1000ST- 4*1.5
2	2.5	7x0.67	7.41	0.8	1.8	12.02	217	41	35	35	PVV1000ST- 2*2.5
3					1.8	12.6	252	37	32	28	PVV1000ST- 3*2.5
4					1.8	13.54	300	37	32	28	PVV1000ST- 4*2.5
2	4	7x0.85	4.61	1	1.8	13.9	306	55	45	49	PVV1000ST- 2*4
3					1.8	14.63	355	49	42	39	PVV1000ST- 3*4
4					1.8	15.81	429	49	42	39	PVV1000ST- 4*4
2	6	7x1.04	3.08	1	1.8	15.04	373	68	56	63	PVV1000ST- 2*6
3					1.8	15.86	447	61	50	49	PVV1000ST- 3*6
4					1.8	17.59	564	65	50	49	PVV1000ST- 4*6

Application:

For use indoors - in cable trenches or ducts; and outdoors - in power stations, industrial plants and switchgears if mechanical protection is not required, or in applications where the cable is not exposed to mechanical damage.

Applicable Standards:

Stranded cables are designed and tested to meet or exceed the requirements of IEC 60502-1 standard. However, can also supply a range of alternative designs to meet customer-specified requirements.

Specification:

Conductor

Stranded annealed copper conductor class 2 according to BS EN 60228 and IEC 60228.

Insulation:

Cross link polyethylene XLPE insulation with rating 90 °C at normal operation according to IEC 60502-1.

Assembly:

The insulated cores are uniformly twisted together to form the cable core.

Core colors:

Standard core color will be as follow:

Two cores: Red and Black

Three cores: Red, Yellow and Blue

Four cores: Red, Yellow, Blue and Black

Sheath:

Solid extruded PVC with temperature rating 90 °C at normal operation applied over the laid up assembled cores according to IEC 60502-1 type ST2.

Flame retardancy:

Stranded cables 600/1000 V have been tested and approved with the flame performance standards IEC 60332-1-2.

Packing:

Available in standard length of 1000 meters on wooden drum

(Other lengths are available upon request).

Marking:

4*6 mm2 CU/XLPE/PVC 0.6/1 kV IEC60502-1

Technical Data:

Number of cores	size	No. x diameter	(ohm/km at 20 °c)	XLPE Insulation Thickness	PVC Jacket Thickness	Nominal Outer Diameter	Approx. Net Weight	Current Rating			Ordering Information
No.	(MM2)	No. xMM	(ohm/km at 20C °c)	(MM)	(MM)	(MM)	(Kg/km)	Laid Direct in ground (A)	Laid in Duct (A)	Laid in Free Air (A)	Item Code
2	1.5	7x0.52	12.1	0.7	1.8	9.52	124	34	29	28	P2XV1000ST- 2*1.5
3					1.8	10.02	144	30	27	25	P2XV1000ST- 3*1.5
4					1.8	10.76	171	30	27	25	P2XV1000ST- 4*1.5
2	2.5	7x0.67	7.41	0.7	1.8	10.42	159	42	37	37	P2XV1000ST- 2*2.5
3					1.8	11.00	189	40	34	36	P2XV1000ST- 3*2.5
4					1.8	11.85	227	40	34	36	P2XV1000ST- 4*2.5
2	4	7x0.85	4.61	0.7	1.8	11.5	208	57	47	51	P2XV1000ST- 2*4
3					1.8	12.17	252	51	42	46	P2XV1000ST- 3*4
4					1.8	13.16	307	51	42	46	P2XV1000ST- 4*4
2	6	7x1.04	3.08	0.7	1.8	12.64	269	72	61	67	P2XV1000ST- 2*6
3					1.8	13.41	332	65	53	56	P2XV1000ST- 3*6
4					1.8	14.54	408	65	53	56	P2XV1000ST- 4*6

Application:

Used for power supply networks with light mechanical stress and suitable to nail with its PVC Bridge between cores. On or under plaster - In dry locations, Indoors - For power supply networks with light mechanical stress. - Suitable to nail with its PVC Bridge between cores.

Applicable Standards:

Flat cables are designed and tested to meet or exceed the requirements of BS 6004 standard. However, can also supply a range of alternative designs to meet customer requirements.

Specification:

Conductor

Stranded annealed copper conductor class 2 according to BS EN 60228

Insulation:

Solid extruded PVC insulation with rating 105 °C at normal operation according to BS EN 50363-3 type TI1.

Core Identification:

Core identification will be as follow:

Two cores : Red and Black

Three cores : Red, Yellow and Blue

Sheath:

Solid extruded Flame Retardant PVC sheath with rating 70 °C at normal operation according to BS 7655 PVC Type 6.

Flame retardancy:

Flat cables have been tested and approved with the flame performance standards BS EN 60332-1.

Packing:

Available in standard lengths of 100, 80 yards coils (Other lengths available on request)

Technical Data:

Number of cores	Size	Construction	Max. DC conductor Resistance.	Insulation Thickness	Sheath Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
No.	MM2	No. x MM	(ohm/km at 20C °c)	(MM)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
2	1.5	7 x 0.52	12.1	0.7	0.9	4.78 x 7.79	74	17	14	PVHV500ST-2*1.5
3					0.9	4.78 x 10.68	103			PVHV500ST-3*1.5
2	2.5	7 x 0.65	7.41	0.8	1.00	5.59 x 9.1	114	24	19	PVHV500ST-2*2.5
3					1.0	5.59 x 12.78	158			PVHV500ST-3*2.5
2	4	7 x 0.85	4.61	0.8	1.0	6.15 x 10.25	154	31	24	PVHV500ST-2*4
3					1.1	6.15 x 14.78	223			PVHV500ST-3*4
2	6	7 x 1.04	3.08	0.8	1.1	6.88 x 11.57	207	40	31	PVHV500ST-2*6
3					1.1	6.88 x 16.37	302			PVHV500ST-3*6

Application:

Used for interconnection of electrical devices within a security & fire protective signaling system.

For use in dry or damp locations.

Applicable Standards

TechLine/Amwaj Fire Alarm Unshielded Cables are designed and tested to meet or exceed the requirements of UL1424 standard. However, **TechLine/Amwaj** can also supply a range of alternative designs to meet customer-specified requirements.

Specification:

Conductor

Solid annealed copper conductor according to UL 1581.

Insulation:

Solid extruded PVC insulation with rating 105 °C at normal operation.

Core Identification:

The insulated cores will be Red and Black

Assembly:

The two insulated cores are uniformly twisted together to form the cable core.

Sheath:

Solid extruded Flame Retardant PVC sheath with rating 90 °C at normal operation with Red Color

Packing:

Available in standard length of 1000 meters on wooden drum

(Other lengths are available upon request)

Marking:

TechLine Fire alarm Unshielded Cable 2*14 AWG CU/PVC/PVC 300 V

TECHNICAL DATA:

Size	Wire Diam.	Max. DC conductor Resistance.	Insulation Thickness	Sheathing Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(AWG)	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
18	1.02	21.9	0.4	1.1	5.8	55	6	4	FLR2c18
16	1.29	13.7	0.4	1.1	6.4	68	8	6	FLR2c16
14	1.63	8.45	0.52	1.3	7.8	103	25	20	FLR2c14
12	2.05	5.31	0.52	1.3	8.5	116	30	25	FLR2c12

Fire Alarm Shielded Cables 300V - 105 ℃

Application:

Used for interconnection of electrical devices within a security & fire protective signaling system. For use in dry or damp locations.

APPLICABLE STANDARDS

TechLine/Amwaj Fire Alarm Shielded Cables are designed and tested to meet or exceed the requirements of UL1424 standard. However, **TechLine/Amwaj** can also supply a range of alternative designs to meet customer-specified requirements.

Specification:

Conductor

Solid annealed copper conductor according to UL 1581.

Insulation:

Solid extruded PVC insulation with rating 105 °C at normal operation.

Core Identification

The insulated cores will be Red and Black

Additional colors are made per request subject to factory minimum order quantities

Assembly

The two insulated cores are uniformly twisted together to form the cable core.

Shield

Shielded with Aluminum/Polyester foil with an overlap which provides 100 % cable coverage, necessary for electrostatic shield protection will apply on assembly cores, also more effective in RF ranges and reduction of crosstalk. The Aluminum/Polyester foil is in electrical contact with stranded tinned annealed copper drain which is used to make termination easily and to ground electrostatic discharges.

Sheath

Solid extruded Flame Retardant PVC sheath with rating 90 °C at normal operation with Red color (LSZH - available)

Packing

Available in standard length of 1000 meters on wooden drum

(Other lengths are available upon request)

Marking

TechLine Fire alarm Shielded Cable 2*14 AWGCU/PVC/OS/PVC 300 V

Technical Data:

Size	Max. Wire Diam.	Max. DC conductor Resistance.	Insulation Thickness	Sheathing Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(AWG)	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
18	1.02	21.9	0.4	1.1	6	60	6	4	FLR2c18
16	1.29	13.7	0.4	1.1	6.5	70	8	6	FLR2c16
14	1.63	8.45	0.52	1.3	7.8	110	25	20	FLR2c14
12	2.05	5.31	0.52	1.3	8.7	138	30	25	FLR2c12

Multicores Stranded copper conductor Mica Glass tape insulated XLPE 90°C&Sheating LSOH90°C 0.6/1kV

Application:

Fire safety is one of the top priorities in today's building infrastructure safety. A fire once spread out of control, can quickly cause extensive damage to the property and ultimately to human lives. Ideally, all measures should be in place to ensure that a fire never occurs, but in the event that a fire has been ignited, every precaution should already be in place to ensure that it is contained quickly. This is where TechLine/Amwaj Low Smoke Zero Halogen (LSZH), Flame Retardant and Fire Resistant Cables come into play.

Applicable Standards:

TechLine/Amwaj Stranded SC –Mica Glass Tape -XLPE-LSOH are designed and tested according to the following requirements standards:
Main construction: IEC60502-1
Circuit Integrity: BS 6387 Cat C.W.Z., IEC 60331
Flame Propagation: IEC 60332/ BS EN 50265
Acid Gas Emission: IEC 60754, BS EN 50267
Smoke Emission: IEC 61034, BS EN 61034

Specification:

Conductor

Stranded annealed copper conductor class 2 according to BS EN 60228 and IEC 60228.

Fire Resistant Barrier

Mica glass tape applied over the conductor.

Insulation

Cross linked polyethylene (XLPE) insulation rated 90 □C at normal operation according to BS7655-1.3 requirements for Type GP8 and comply with IEC 60502-1.

Assembly:

The insulated cores are uniformly twisted together to form the cable core.

Core colors:

Standard core color will be as follow:
Two cores: Red and Black
Three cores: Red, Yellow and Blue
Four cores: Red, Yellow, Blue and Black

Sheath:

Solid extruded low smoke zero halogen (LSOH) with temperature rating 90 °C at normal operation applied over the laid up assembled cores according to IEC 60502-

Flame retardancy:

Stranded cables 0.6/1 kV have been tested and approved with the flame performance standards IEC 60332/ BS EN 50265.

Packing:

Available in standard length of 1000 meters on wooden drum (Other lengths are available upon request).

Marking

TechLine/Amwaj 2*2.5 mm2 CU/MICA/XLPE/LSOH 0.6/1 kV IEC60502-1/ IEC 60332/IEC 60754/ IEC 61034

Technical Data:

Number of cores	size	No. x diameter	(ohm/km at 20 °c)	XLPE Insulation Thickness	PVC Jacket Thickness	Nominal Outer Diameter	Approx. Net Weight	Current Rating			Ordering Information
No.	(MM2)	No. xMM	(ohm/km at 20C °c)	(MM)	(MM)	(MM)	(Kg/km)	Laid Direct in ground (A)	Laid in Duct (A)	Laid in Free Air (A)	Item Code
2	1.5	7x0.52	12.1	0.7	1.8	11.6	185	35	30	29	Fire Proof 2c1.5
3					1.8	12.2	200	31	28	26	Fire Proof 3c1.5
4					1.8	13.0	240	31	28	26	Fire Proof 4c1.5
2	2.5	7x0.67	7.41	0.7	1.8	12.5	224	43	38	38	Fire Proof 2c2.5
3					1.8	13.1	250	41	35	37	Fire Proof 3c2.5
4					1.8	14.2	320	41	35	37	Fire Proof 4c2.5
2	4	7x0.85	4.61	0.7	1.8	13.5	280	58	48	52	Fire Proof 2c4
3					1.8	14.2	330	52	43	47	Fire Proof 3c4
4					1.8	15.3	390	52	43	47	Fire Proof 4c4
2	6	7x1.04	3.08	0.7	1.8	14.6	350	73	62	68	Fire Proof 2c6
3					1.8	15.5	415	66	54	57	Fire Proof 3c6
4					1.8	16.9	500	66	54	57	Fire Proof 4c6

Application:

Irrigation single conductor wire type UF is employed for direct burial use in commercial sprinkler and irrigation systems, Golf courses, Public parks, Plantations and commercial produce farms.

Specification:

TechLine/Amwaj IRRIGATION AMERICAN WIRE are designed and tested according to the requirements of UL493 standard. However, **TechLine/Amwaj** can also supply a range of alternative designs to meet customer-specified requirements.

Construction:

Conductor
Solid annealed copper conductor as per UL 1581.

Insulation:

Solid extruded PVC insulation with Rated 70 °C at normal operation.

Colors:

Colors are available in black, white, red, blue, green, yellow, yellow/green, pink, violet, orange, brown and gray.

Packing:

Very modern packing available in standard length of 2500 feet on plywood

(Other lengths available on request).

Marking:

TechLine IRRIGATION AMERICAN WIRES UF #14 AWG 600 V

TECHNICAL DATA:

Size	Wire Diam.	Max. DC conductor Resistance	Insulation Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(AWG)	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(Kg/2500 FEET)	Ampere (Air)	Ampere (Conduit)	Item Code
14	1.63	8.45	1.6	4.83	32	30	20	IRW-14AWG-600P
12	2.05	5.31	1.6	5.25	43	35	22	IRW-12AWG-600P
10	2.59	3.343	1.6	5.79	58	45	35	IRW-14AWG-600P

Photovoltaic (PV) Solar Cable 600/1000 V

Applications :

Solar cable intended for the interconnection within photovoltaic systems such as solar panel arrays. Suitable for fixed installations, internal and external, within conduit or systems, Our solar cable is ozone-resistant, UV resistant and is tested for durability, The cable is designed for installations where fire, smoke emissions and toxic fumes create a potential risk to life and equipment

Applicable Standards:

TechLine/Amwaj PV solar cable are designed and tested according to the requirements of IEC60502-1. Acid gas emission to IEC60754, smoke emission to IEC 61034 and flame propagation to IEC 60332-1, 2 standards.

Specification:

Conductor

Flexible plain annealed copper conductor class 5 according to IEC 60228.

Insulation

Thermosetting low smoke zero halogen compound type EI5 acc. to EN 50363-5.

Colors:

Standard colors are available in natural and other color is upon request.

Sheathing:

Thermosetting low smoke zero halogen compound type EI5 acc. to EN 50363-5.

Colors:

Standard colors are available in Black and other color is upon request.

Flame retardancy:

TechLine/Amwaj Stranded LSOH wires have been tested and approved with the flame performance standards according to BS EN 50265 (IEC 60332).

Packing:

Available in standard length of 100 yards on coil (Other lengths available on request)

Marking

TechLine/Amwaj 6 mm2 CU/LSOH/LSOH 600/1000 V 90C

Technical Data:

Size	Max. Wire Diam.	Max. DC conductor Resistance.	Insulation Thickness	Nominal Outer Diameter	Approx.Net Weight	Current Carry Capacity at 30C ambient temperature		Ordering Information
(MM2)	(MM)	(ohm/km at 20C °c)	(MM)	(MM)	(Kg/km)	Ampere (Air)	Ampere (Conduit)	Item Code
1.5	0.26	13.3	0.7	2.95	20.3	25	21	PV-ZZ-01.5-600V
2.5	0.26	7.98	0.8	3.6	31.4	33	29	PV-ZZ-02.5-600V
4	0.31	4.95	0.8	4.15	46.6	43	38	PV-ZZ-04.0-600V
6	0.31	3.3	0.8	4.7	65.6	55	49	PV-ZZ-06.0-600V
10	0.41	1.91	1	6.12	113	74	67	PV-ZZ-10.0-600V
								PV-ZZ-16.0-600V
								PV-ZZ-25.0-600V
								PV-ZZ-35.0-600V
								PV-ZZ-50.0-600V
								PV-ZZ-70.0-600V

Electrical Distribution Box

DIMENSION

- Size 1 - 4 Line: 150 x 125 x 70 mm.
- Size 5 - 8 Line: 200 x 180 x 70 mm.
- Size 9 -12 Line: 275 x 180 x 70 mm.

APPLICATIONS

- That box used in indoor applications.

SPECIAL FEATURES

- Strong
- Shiny
- UV material
- High impact

DIMENSION

- Size: 7 cm x 7 cm.
- Depth: 4 cm

APPLICATIONS

- That box used in indoor application.

SPECIAL FEATURES

- Strong
- Shiny
- UV material
- High impact
- Easy to use with PVC trunking.

1. Specialized Outdoor Cabinets for ATM Equipment Installation:

- IP Rated Outdoor Cabinet with high efficiency industrial cooling unit.
- Robust design as per customer requirement
- Insulated with high density Rockwool with one side Aluminum lining.

2. Specialized ATM KIOSKs for Banks :

- IP Rated Outdoor KIOSK with two compartments.
- KIOSK is installed with low maintenance, High efficiency industrial cooling units.
- Robust design as per customer requirement
- Insulated with high density Rockwool with o ne side Aluminum lining.
- Three point locking system.

3. Pole Mounted IP rated Cabinets

Outdoor cabinets (OCP) are designed to be mounted on various type poles. They are built of metal and designed for harsh weather conditions with IP-55 protection rating.

The designed Pole mounting is strong, secure and flexible enabling integrators to mount the cabinets on variety of poles with different shape or diameter.

Features:

- Internal dimensions:
- 1152 x 475 x 450mm (HxWxD)
- Galvanized Steel 2mm Thick strong structure with high load bearing capacity.
- 19” Vertical Mounting space.
- 3 point locking system.
- Insulated with high density Rockwool with one side Aluminum lining.
- Front access enclosure, Galvanized Steel, Double wall with one front door.
- Grounding bar in the equipment compartment.
- Color RAL 7035
- Protection category: IP55 to EN 60 529/10.91
- Cable Gland in the bottom of the cabinet for cable entry .

4. IP Rated Active Switching Outdoor Cabinet

- IP 56 rated.
- Tailored as per customer requirement.
- Installed with 24 fib er ODB.
- Heavy duty frame.
- Easy Installation and routing.

Certifications and Patents

- Quality Management System certified by Bureau Veritas (UKAS) from the year 2007 (ISO 9001 Certified)
- More Than 15 Fiber Optic Patents In Passive And FTTH Recorded at The GCC .

Products Certification, Testing, Listing and Memberships

Underwriters Laboratories

Intertek
Valued Quality. Delivered.

TUV NORD

IEEE ComSoc
IEEE Communications Society
Indonesia Chapter

The Fiber Optic Association, Inc.
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