

**MORRELL**®  
INNOVATIVE IDEAS

# CATALOG

- SWITCHES
- IP PBXs
- IPTV SYSTEM
- MULTISWICH SYSTEM
- CABLES
- FIBER OPTIC
- CABINETS

# INTRODUCTION

---

MORRELL is brand that takes good care of your network so you can manage your business freely.

MORRELL is to be considered as a leading company in modern networking by providing a quality that goes beyond customer expectations.

Our products are specifically tailored to fit all of your network needs.

That is by giving our fiber converters, ethernet switches, fiber optic cables and tools true parameters as stated in their datasheets.

Our converters and switches can handle a tremendous amount of data under the most severe operating conditions.

Our fiber optic cables meet the strictest standards to give their beyond expected performance without reaching their limits.

Our tools are specifically designed to fit the smallest details to link and form your network.

# TABLE OF CONTENT

---

4	COMPANY PROFILE
5	CERTIFICATE AND PATENT
<b>6</b>	<b>SWITCHES</b>
7	MANAGED SWITCHES
24	UNMANAGED SWITCHES
33	FTTX
39	MEDIA CONVERTERS
45	SFP MODULES
<b>47</b>	<b>IP PBXs</b>
<b>62</b>	<b>IPTV SYSTEM</b>
<b>71</b>	<b>MULTISWICH SYSTEM</b>
<b>78</b>	<b>COPPER CABLES</b>
79	CABLES
92	TOOLS & ACCESSORIES
<b>100</b>	<b>FIBER OPTIC</b>
101	CABLES
109	ACCESSORIES
134	TOOLS AND EQUIPMENT
<b>144</b>	<b>CABINETS</b>
145	AISLE CONTAINMENT
151	SRS SERIES SMART SERVER RACK
154	SRP SERIES STANDING SERVER RACK
158	SRF SERIES STANDING COLO SERVER RACK
161	SRF SERIES NETWORK OPEN CABINET
163	SRD SERIES STANDING SERVER RACK
167	SRX SERIES STANDING NETWORK CABINET
173	SRZ SERIES SERVER CABINET
177	WMC SERIES OUTDOOR CABINET
188	WMV SERIES SINGLE SECTION WALL MOUNTED CABINET
190	WMX SERIES SINGLE SECTION WALL MOUNTED CABINET
194	WMY SERIES SINGLE SECTION WALL MOUNTED CABINET
197	WMZ SERIES DOUBLE SECTION WALL MOUNTED CABINET
200	WMC SERIES SINGLE SECTION WALL MOUNTED CABINET
203	WMW SERIES SINGLE SECTION WALL MOUNTED CABINET
204	ACCESSORIES
209	MPP

## QUALITY ASSURANCE

---

Permanent improvement of our products, services, and internal process is guaranteed through reliable quality management thus having our partners benefit from the corresponding standards perfectly satisfying their expectations. Having this consistent quality philosophy gained us international recognition such as ISO 9001:2008 certification. Our careful handling of valuable natural resources and ensuring protection for the environment and public health contribute to the achievement of such international recognition.



## PROCESS CONTROL

---

A strictly controlled RoHS product management system was established from suppliers' management to product shipment and set up control positions such as IQC, IPQC, FQC, OQC.

Our QA/QC department, which comprises of QC engineers that is more than 10% among the total employees, performs the strict quality control on all purchasing materials, spare parts and the entire production process to ensure the high quality of our Products.



## INSPECT ABILITY

---

We have advanced testing equipment in our quality inspection lab to guarantee our products' excellent quality such as coat thickness testing machine, earth bonding tester, RoHS tester, color difference meter, and so on.

To ensure that our products meet our high standards and provide maximum for our customers, these products are being tested daily in our quality testing lab.

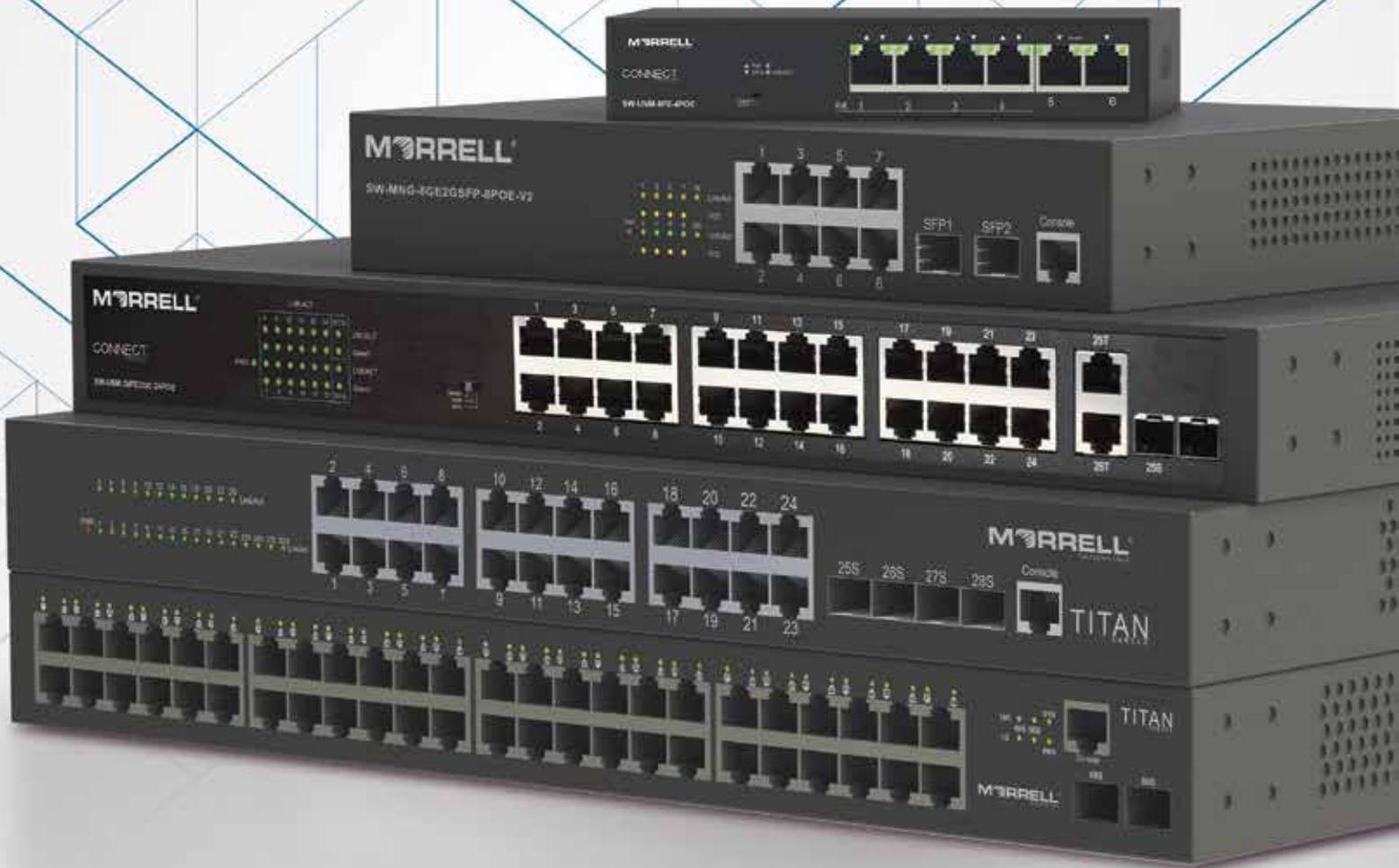


# CERTIFICATE AND PATENT

---

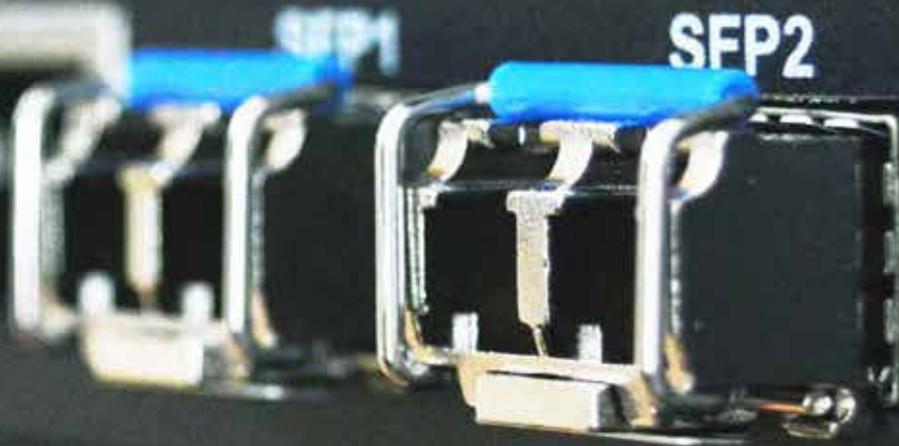


# SWITCHES



MANAGED  
SWITCHES

TITAN  
SERIES



SW-MNG-8GE2GSFP-8POE-V2



SW-MNG-8GE2GSFP



## FEATURES

### PoE Features:

Support active IEEE 802.3af/at for new POE devices and static mode for traditional POE devices.

POE overload and short circuit protection, sensitive POE ports.

### Layer 2 Features:

4K VLAN Table, 8K MAC table, QoS, port-isolation, link aggregation protocol, link layer discovery protocol, spanning tree protocol.

DHCP server/client.

### Multicast Management:

Support IGMP Snooping V1/V2/V3.

### Security Features:

Access list (L2-L4), port-security.

### Management:

Web-Based management supports.

Support SNMP/RMON/TELNET/SSH; Console port.

PoE Overload Protection	2 Years Warranty	PoE Short Circuit Protection	250m Transmission Distance	Giga Ethernet Switch
2SFP Slots	Web Management	Port Isolation	Bandwidth Control	24/7 Technical Support

## TECHNICAL SPECIFICATION

MODEL No.	SW-MNG-8GE2GSFP-8POE-V2	SW-MNG-8GE2GSFP
Product Description	Managed 8 Giga Ethernet Ports PoE + 2 Ports Giga SFP	Managed 8 Giga Ethernet Ports + 2 Ports Giga SFP
Chipsets Origin	Taiwanese	
10/100Mbps RJ45 Ports	NA	
10/100/1000Mbps RJ45 Ports	8	
1000Mbps SFP Ports	2	
Console Port	1	
PoE Ports	8	NA
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab, IEEE802.3af/at	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab
Switching Fabric Capacity	20Gbps	
MAC Address Table	8K	
Buffer	4.1Mb	
Jumbo Frame	10KByte	
IEEE802.3af	✓	NA
IEEE802.3at	✓	NA
Power Supply	AC 100V-240V 50/60HZ	
Operating Temperature	0°C ~50°C	
Max PoE Output Power	140W	NA
Housing	Rack Mount	
Material	Metal	
Dimensions	280 x 179 x 44.5 mm	

# Managed Switches

## FEATURES

### Layer 2 Features:

4K VLAN Table, 8K MAC table, QoS, port-isolation, link aggregation protocol, link layer discovery protocol, spanning tree protocol.

DHCP server/client.

### Multicast Management:

Support IGMP Snooping V1/V2/V3.

### Security Features:

Access list (L2-L4), port-security.

### Management:

Web-based management supports.

Support SNMP/RMON/TELNET/SSH; Console port.



Auto-Negotiation



2 Years Warranty



Qos (Quality of Service)



250m Transmission Distance



Giga Ethernet Switch



2SFP Slots



Web Management



Port Isolation



Bandwidth Control



24/7 Technical Support

SW-MNG-16GE2GSFP



SW-MNG-24GE2GSFP



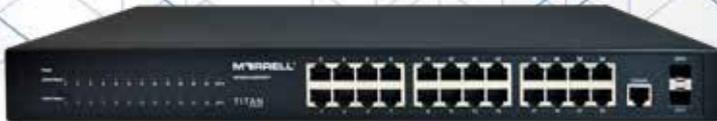
## TECHNICAL SPECIFICATION

MODEL No.	SW-MNG-16GE2GSFP	SW-MNG-24GE2GSFP
Product Description	Managed 16 Giga Ethernet Ports + 2 Port Giga SFP	Managed 24 Giga Ethernet Ports + 2 Ports Giga SFP
Chipsets Origin	Taiwanese	
10/100Mbps RJ45 Ports	NA	
10/100/1000Mbps RJ45 Ports	16	24
1000Mbps SFP Ports	2	
Console Port	1	
PoE Ports	NA	
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab	
Switching Fabric Capacity	36Gbps	52Gbps
MAC Address Table	8K	
Buffer	4.1Mb	
Jumbo Frame	10KByte	
IEEE802.3af	NA	
IEEE802.3at	NA	
Operating Temperature	0°C ~50°C	
Power Supply	AC 100V-240V 50/60HZ	
Max PoE Output Power	NA	
Housing	Rack Mount	
Material	Metal	
Dimensions	440 x 208 x 44mm	

SW-MNG-16GE2GSFP-16PoE



SW-MNG-24GE2GSFP-24PoE



## FEATURES

### PoE Features:

Support active IEEE 802.3af/at for new POE devices and static mode for traditional POE devices.

POE overload and short circuit protection, sensitive POE ports.

### Layer 2 Features:

4K VLAN Table, 8k MAC table, QoS, port-isolation, link aggregation protocol, link-layer discovery protocol, spanning tree protocol.

DHCP server/client.

### Multicast Management:

Support IGMP Snooping V1/V2/V3.

### Security Features:

Access list (L2-L4), port-security

### Management:

Web-based management supports.

Support SNMP/RMON/TELNET/SSH; Console port.



PoE Overload Protection



2 Years Warranty



PoE Short Circuit Protection



250m Transmission Distance



Giga Ethernet Switch



2Giga SFP Slots



Web Management



Port Isolation



Bandwidth Control



24/7 Technical Support

## TECHNICAL SPECIFICATION

MODEL No.	SW-MNG-16GE2GSFP-16PoE	SW-MNG-24GE2GSFP-24PoE
Product Description	Managed 16 Giga Ethernet PoE Ports + 2 Port Giga SFP	Managed 24 Giga Ethernet Ports POE+ 2 Ports Giga SFP
Chipsets Origin	Taiwanese	
10/100Mbps RJ45 Ports	NA	
10/100/1000Mbps RJ45 Ports	16	24
1000Mbps SFP Ports	2	
Console Port	1	
PoE Ports	16	24
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab, IEEE802.3af/at.	
Switching Fabric Capacity	36Gbps	52Gbps
MAC Address Table	8K	
Buffer	4.1Mb	
Jumbo Frame	10KByte	
IEEE802.3af	√	
IEEE802.3at	√	
Operating Temperature	0°C ~50°C	
Power Supply	AC 100V-240V 50/60HZ	
Max PoE Output Power	370W	
Housing	Rack Mount	
Material	Metal	
Dimensions	440 x 208 x 44mm	

# Managed Switches

## FEATURES

### PoE Features:

Support active IEEE 802.3af/at for new POE devices and static mode for traditional POE devices.

PoE overload and short circuit protection, sensitive POE ports.

### Layer 2 Features:

4K VLAN Table, 8K MAC table, QoS, port-isolation, link aggregation protocol, link-layer discovery protocol, spanning tree protocol.

DHCP server/client.

### Multicast Management:

Support IGMP Snooping V1/V2/V3.

### Security Features:

Access list (L2-L4), port-security

### Management:

Web-based management supports.

Support SNMP/RMON/TELNET/SSH; Console port.



PoE Overload Protection



2 Years Warranty



PoE Short Circuit Protection



250m Transmission Distance



Giga Ethernet Switch



4 Giga COMBO Ports



Web Management



Port Isolation



Bandwidth Control



24/7 Technical Support

SW-MNG-24GE4GC-24POE



## TECHNICAL SPECIFICATION

MODEL No.

SW-MNG-24GE4GC-24POE

Product Description

Managed 24 Giga Ethernet Ports POE+ 4 Giga combo Ports

Chipsets Origin	Taiwanese
10/100Mbps RJ45 Ports	NA
10/100/1000Mbps RJ45 Ports	24
1000Mbps Combo Ports	4
Console Port	1
PoE Ports	24
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab, IEEE802.3af/at
Switching Fabric Capacity	56Gbps
MAC Address Table	8K
Buffer	4.1Mb
Jumbo Frame	10KByte
IEEE802.3af	√
IEEE802.3at	√
Power Supply	AC 100V-240V 50/60HZ
Operating Temperature	0°C ~50°C
Max PoE Output Power	370W
Housing	Rack Mount
Material	Metal
Dimensions	440 x 208 x 44mm

# Managed Switches



SW-MNG-24GE4GSFP-24POE



## FEATURES

### PoE Features:

Support active IEEE 802.3af/at for new POE devices and static mode for traditional POE devices.

PoE overload and short circuit protection, sensitive POE ports.

### Layer 2 Features:

4K VLAN Table, 8K MAC table, QoS, port-isolation, link aggregation protocol, link-layer discovery protocol, spanning tree protocol.

DHCP server/client.

### Multicast Management:

Support IGMP Snooping V1/V2/V3.

### Security Features:

Access list (L2-L4), port-security

### Management:

Web-based management supports.

Support SNMP/RMON/TELNET/SSH; Console port.



PoE Overload Protection



2 Years Warranty



PoE Short Circuit Protection



250m Transmission Distance



Giga Ethernet Switch



4 Giga SFP Ports



Web Management



Port Isolation



Bandwidth Control



24/7 Technical Support

## TECHNICAL SPECIFICATION

MODEL No.	SW-MNG-24GE4GSFP-24POE
Product Description	Managed 24 Giga Ethernet Ports POE+ 4 Giga SFP Ports
Chipsets Origin	Taiwanese
10/100Mbps RJ45 Ports	NA
10/100/1000Mbps RJ45 Ports	24
1000Mbps SFP Ports	4
Console Port	1
PoE Ports	24
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab, IEEE802.3af/at
Switching Fabric Capacity	56Gbps
MAC Address Table	8K
Buffer	4.1Mb
Jumbo Frame	10KByte
IEEE802.3af	√
IEEE802.3at	√
Power Supply	AC 100V-240V 50/60HZ
Operating Temperature	0°C ~50°C
Max PoE Output Power	370W
Housing	Rack Mount
Material	Metal
Dimensions	440 x 220x 44mm

# Managed Switches

## FEATURES

### Layer 2 Features:

4K VLAN Table, 16K MAC table, QoS, port-isolation, link aggregation protocol, link-layer discovery protocol, spanning tree protocol.

DHCP server/client.

### Multicast Management:

Support IGMP Snooping V1/V2/V3.

### Layer 3 Features:

Routing between different subnets, different VLANs and static routing.

Routing Protocols: RIP, OSPF.

### Security Features:

Access list (L2-L4), port-security

### Management:

Web-based management supports.

Support SNMP/RMON/TELNET/SSH; Console port, stacking.



Auto-Negotiation



Giga Ethernet Switch



Port Isolation



250m Transmission Distance



2 Years Warranty



Web Management



QoS (Quality of service)



Bandwidth Control



10 Giga SFP



24/7 Technical Support

SW-3MNG-24GE4TGSFP



SW-MNG-48GE2TGSFP



## TECHNICAL SPECIFICATION

MODEL No.	SW-3MNG-24GE4TGSFP	SW-MNG-48GE2TGSFP
Product Description	Managed 24 Giga Ethernet Ports + 4 Ports 10 Giga SFP	Managed 48 Giga Ethernet Ports + 2 Port 10 Giga SFP
Chipsets Origin	Taiwanese	
10/100Mbps RJ45 Ports	NA	
10/100/1000Mbps RJ45 Ports	24	48
1000Mbps SFP Ports	NA	NA
10Gbps SFP ports	4	2
Console Port	1	
PoE Ports	NA	
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab, IEEE802.3ae	
Switching Fabric Capacity	128Gbps	136Gbps
MAC Address Table	16K	
Buffer	12Mb	
Jumbo Frame	12KBytes	
IEEE802.3af	NA	
IEEE802.3at	NA	
Operating Temperature	0°C ~50°C	
Power Supply	AC 100V-240V 50/60HZ	
Max PoE Output Power	NA	
Housing	Rack Mount	
Material	Metal	
Dimensions	440 x 208 x 44 mm	440 x 330 x 44 mm

# Managed Switches



SW-3MNG-24GSFP4TGSFP



## FEATURES

### Layer 2 Features:

4K VLAN Table, 16K MAC table, QoS, port-isolation, link aggregation protocol, link-layer discovery protocol, spanning tree protocol.

DHCP server/client.

### Multicast Management:

Support IGMP Snooping V1/V2/V3.

### Layer 3 Features:

Routing between different subnets, different VLANs and static routing.

RIP , OSPF options.

### Security Features:

Access list (L2-L4), port-security.

### Management:

Web-based management supports.

Support SNMP/RMON/TELNET/ /SSH; Console port.



Auto-Negotiation



2 Years Warranty



10 Giga SFP



24/7 Technical Support



Web Management



Qos (Quality of Service)



Port Isolation



Bandwidth Control

## TECHNICAL SPECIFICATION

MODEL No.

SW-3MNG-24GSFP4TGSFP

Product Description	Layer3 Managed 24 Giga SFP Ports + 4 Ports 10 Giga SFP
Chipsets Origin	Taiwanese
10/100Mbps RJ45 Ports	NA
10/100/1000Mbps RJ45 Ports	NA
1000Mbps SFP Ports	24
10Gbps SFP ports	4
Console Port	1
PoE Ports	NA
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab, IEEE802.3ae
Switching Fabric Capacity	128Gbps
MAC Address Table	16K
Buffer	12Mb
Jumbo Frame	9.216 KBytes
IEEE802.3af	NA
IEEE802.3at	NA
Operating Temperature	0°C ~50°C
Power Supply	100~240VAC,50/60HZ
Max PoE Output Power	NA
Housing	Rack Mount
Material	Metal
Dimensions	440 x 330 x 44 mm

# Industrial Switch

## FEATURES

### Layer 2 Features:

4K VLAN Table, 32K MAC table, QoS, port-isolation, link aggregation protocol, link-layer discovery protocol, spanning tree protocol. DHCP server/client.

### Multicast Management:

Support IGMP Snooping V1/V2/V3.

### Layer 3 Features:

Routing between different VLANs, static routing, and dynamic routing (RIP, OSPF).

### Security Features:

Access list (L2-L4), port-security.

### Management:

Web-based management supports.

Support SNMP/RMON/TELNET/SSH.

Console port.



Auto-Negotiation



2 Years Warranty



Giga Ethernet Switch



Half-Duplex & Full-Duplex Mode



10 Giga SFP



-40°C ~ 80°C Operating Temperature



Auto Detect MDI/MDIX



24/7 Technical Support

SW-3MNG-16GSFP8GC4TGSFP-IND



## TECHNICAL SPECIFICATION

MODEL No.	SW-3MNG-16GSFP8GC4TGSFP-IND
Interface	16-Port 10/100/1000Mbps SFP; 8-Port 10/100/1000Mbps RJ45 (combo) 4-Port 10G SFP+1-Port console
Performance Specification	Bandwidth(switch capacity): 128Gbps ; Packet Buffer Memory:32Mbit Packet Forwarding Rate:95.232Mpps; MAC Address Table: 32K
Installation	Bracket mounted
Maximum Frame Size	16360bytes
Flow Control	Back pressure for half duplex, IEEE 802.3x pause frame for full duplex
Enclosure	IP50 Aluminum housing
LED Indicator	Power: Red; Fiber: Link 2(Green); Ethernet: Yellow
Dual Power Input	36 to 72V DC
Power Consumption	< 45watts
Surge Protection	±4KV
Network Protocols	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab, IEEE802.3ae
Industry Standard (EMC 4)	FCC CFR47 Part 15, EN55022/CISPR22, Class A IEC61000-4-2 (ESD): ±8kV (contact), ±12kV (air) IEC61000-4-3 (RS): 10V/m (80~1000MHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)
Certification	CE, FCC, Rohs compliance
MTBF	>300,000hours
Working Environment	Working temperature: -40oC~80oC ; Storage temperature: -40oC~80oC; Relative Humidity: 5%~95 % (no condensation)
Dimensions (W x D x H)	442x325x44mm
Material	Metal
Weight	4Kgs



# Managed PoE Switch

SW-MNG-16GE8GSFP-16POE-IND



## FEATURES

- PoE Features:**
  - Support active IEEE 802.3af/at with 30W per port .
- Layer 2 Features:**
  - 4K VLAN Table, 8K MAC table, QoS, port-isolation, link aggregation protocol, link-layer discovery protocol, spanning tree protocol.
- Multicast Management:**
  - Support IGMP Snooping V1/V2/V3.
  - Web-based management supports.
  - Support SNMP/TELNET/SSH.
  - Console port.
  - 40°C to 80°C operating temperature.
  - IP40 Aluminum housing.
  - Supports 6KV DC Ethernet ESD protection.
  - Supports 6KV DC EFT protection for the power line.
  - Free Fall, Shock, and Vibration Stability.

PoE Overload Protection	Auto-Negotiation	Half-duplex & Full-duplex Mode	Giga Ethernet Switch	2 Years Warranty
8Port Giga SFP	250m Transmission Distance	-40°C ~ 80°C Operating Temperature	PoE Short Circuit Protection	24/7 Technical Support

## TECHNICAL SPECIFICATION

MODEL No.	SW-MNG-16GE8GSFP-16POE-IND
10/100/1000Base-TX Port	16-Port RJ-45 auto-MDI / MDI-X
	PoE Standard: IEEE802.3af/ IEEE802.3at
	PoE ports:1-16 port support PoE
	Power Output: Max. 15.4 watts (IEEE 802.3af) Max. 30 watts (IEEE 802.3at)
	PoE port Auto detect AF/AT devices Output Voltage: DC48V Power Pin Assignment:1/2+;3/6- Power Type: End-span( Mid-span optional)
1000Base-FX Port	8G SFP Slot
Performance Specification	Bandwidth: 48Gbps Packet Buffer Memory: 12Mbit Packet Forwarding Rate: 35.7Mpps MAC Address Table: 8K
Installation	DIN rail
Maximum Frame Size	10240 Bytes packet size
Flow Control	Back pressure for half duplex, IEEE 802.3x pause frame for full duplex
Enclosure	IP40 Aluminum housing
LED Indicator	Power: Red Fiber: Link 2(Green) Ethernet: Yellow
Power Input	48 to 57V DC redundant power
Power Consumption	< 10watts
Surge Protection	± 4KV

## ■ TECHNICAL SPECIFICATION

Network Protocols	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab, IEEE802.3af/at
Industry Standard	FCC CFR47 Part 15, EN55022/CISPR22, Class A IEC61000-4-2 (ESD): ±8kV (contact), ±12kV (air) IEC61000-4-3 (RS): 10V/m (80~1000MHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)
Certification	CE, FCC, Rohs compliance
MTBF	>300,000hours
Dimensions (W x D x H)	166×137×68.5mm
Weight	1.25KG
Material	Metal
Working Environment	Working temperature: -40°C~80°C; Storage temperature: -40°C~80°C Relative Humidity: 5%~95 % (no condensation)

# Network Switch

SW-3MNG-16GE2GSFP-16POE-IND



## FEATURES

### Layer 2 Features:

4K VLAN Table, 16K MAC table, QoS, port-isolation, link aggregation protocol, link layer discovery protocol, spanning tree protocol.

DHCP server/client.

### Layer 3 features:

Static Routing, and Routing Protocols (RIP OSPF);

### Multicast Management:

Support IGMP Snooping V1/V2/V3.

### Security Features:

Access list (L2-L4), port-security.

### Management:

Web-based management supports.

Support SNMP/RMON/TELNET/SSH; Console port.

-40°C to 75°C Operating temperature



PoE Overload Protection



250m Transmission Distance



-40°C ~ 75°C Operating Temperature



Giga Ethernet Switch



2 Years Warranty



PoE Short Circuit Protection



Web Management



Port Isolation



Bandwidth Control



24/7 Technical Support

## TECHNICAL SPECIFICATION

MODEL No.

SW-3MNG-16GE2GSFP-16POE-IND

Product Description

Layer 3 Managed Industrial POE switch with 16 GigaEthernet + 2 Giga SFP Ports

Chipsets Origin

Taiwanese

10/100Mbps RJ45 Ports

NA

10/100/1000Mbps RJ45 Ports

16

1000Mbps SFP Ports

2

Console Port

1

PoE Ports

16

Protection

Surge: 6KV, standard: IEC61000-4-5; ESD: 8KV: contact/15KV: air; standard: IEC61000-4-2

Standards

IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab, IEEE802.3af/at

Switching Fabric Capacity

36Gbps

MAC Address Table

16K

Buffer

4Mb

IEEE802.3af

√

IEEE802.3at

√

Working Temperature

-40°C ~ 75°C

Storage Temperature

-40°C ~ 85°C

Power Supply

DC 48~57V

Material

Aluminum

Housing

Din Rail

Net-weight

1kg

Dimensions

165 mm×115 mm×50 mm

# Network Switch

SW-3MNG-16GE32GSFP4TGSFP



## FEATURES

### Layer 2 Features:

4K VLAN Table, 16K MAC table, QoS, port-isolation, link aggregation protocol, link layer discovery protocol, spanning tree protocol.

DHCP server/client.

### Multicast Management:

Support IGMP Snooping V1/V2/V3.

### Layer 3 Features:

Routing between different subnets, different VLANs and static routing.

Routing protocols: RIP, OSPF.

### Security Features:

Access list (L2-L4), port-security.

### Management:

Web-based management supports.

Support SNMP/RMON/TELNET/SSH; Console port.



Auto-Negotiation



Qos (Quality of Service)



Bandwidth Control



32 Ports Giga SFP



2 Years Warranty



10 Giga SFP



Web Management



Port Isolation



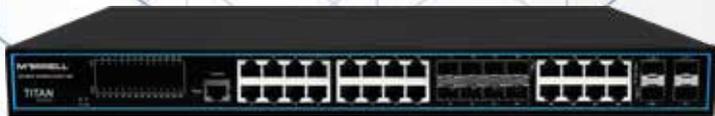
24/7 Technical Support

## TECHNICAL SPECIFICATION

MODEL No.	SW-3MNG-16GE32GSFP4TGSFP
Product Description	Layer 3, Managed 16 Giga Ethernet Ports + 32 Giga SFP Ports + 4 Ports 10 Giga SFP
Chipsets Origin	Taiwanese
10/100Mbps RJ45 Ports	NA
10/100/1000Mbps RJ45 Ports	16
1000Mbps SFP Ports	32
1000Mbps Combo Ports	NA
10Gbps SFP ports	4
PoE Ports	NA
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab, IEEE802.3ae
Switching Fabric Capacity	176Gbps
MAC Address Table	16K
Buffer	16M
Working Temperature	-10°C ~ 50°C
Storage Temperature	-40°C ~ 85°C
Power Supply	AC100-240V, 50/60Hz
Max PoE Output Power	NA
Material	Metal
Housing	Rackmount
Dimensions	442mm×350mm×44mm
Net-weight	6kg

# Network Switch

SW-MNG-16GE8GC4GSFP-IND



## FEATURES

### Layer 2 Features:

4K VLAN Table, 16K MAC table, QoS, port-isolation, link aggregation protocol, link layer discovery protocol, spanning tree protocol.

DHCP server/client.

### Multicast Management:

Support IGMP Snooping V1/V2/V3.

### Security Features:

Access list (L2-L4), port-security.

### Management:

Web-based management supports.

Support SNMP/RMON/TELNET/SSH; Console port.

-40°C to 75°C operating temperature



250m  
Transmission  
Distance



-40°C ~ 75°C  
Operating  
Temperature



Giga Ethernet  
Switch



2 Years  
Warranty



Web  
Management



Port  
Isolation



Bandwidth  
Control



24/7 Technical  
Support

## TECHNICAL SPECIFICATION

MODEL No.	SW-MNG-16GE8GC4GSFP-IND
Product Description	Managed 16 Giga Ethernet Ports + 8 Giga Combo + 4 Giga SFP
Chipsets Origin	Taiwanese
10/100Mbps RJ45 Ports	NA
10/100/1000Mbps RJ45 Ports	24
1000Mbps SFP Ports	12
Console Port	1
PoE Ports	NA
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab
Switching Fabric Capacity	56Gbps
MAC Address Table	16K
Buffer	4M
Working Temperature	-40°C ~ 75°C
Storage Temperature	-40°C ~ 85°C
Power Supply	AC100-240V, 50/60Hz, DC 36-75V
Max PoE Output Power	NA
Material	Metal
Dimensions	442mm×285mm×44mm

# Network Switch

SW-3MNG-16GSFP8GC4TGSFP



## FEATURES

### Layer 2 Features:

4K VLAN Table, 32K MAC table, QoS, port-isolation, link aggregation protocol, link layer discovery protocol, spanning tree protocol.

DHCP server/client.

### Multicast Management:

Support IGMP Snooping V1/V2/V3.

### Layer 3 Features:

Routing between different subnets, different VLANs and static routing.

Routing protocols: RIP, OSPF.

### Security Features:

Access list (L2-L4), port-security.

### Management:

Web-based management supports.

Support SNMP/RMON/TELNET/SSH; Console port.



Auto-Negotiation



2 Years Warranty



Qos (Quality of Service)



8 Giga COMBO Ports



16 Ports Giga SFP



10 Giga SFP



Web Management



Port Isolation



Bandwidth Control



24/7 Technical Support

## TECHNICAL SPECIFICATION

MODEL No.

SW-3MNG-16GSFP8GC4TGSFP

Product Description

Layer 3, Managed 16 Giga SFP Ports + 8 Giga combo Ports + 4 Ports 10 Giga SFP

Chipsets Origin

Taiwanese

10/100Mbps RJ45 Ports

NA

10/100/1000Mbps RJ45 Ports

NA

1000Mbps SFP Ports

16

1000Mbps Combo Ports

8

10Gbps SFP ports

4

PoE Ports

NA

Standards

IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab, IEEE802.3ae

Switching Fabric Capacity

128Gbps

MAC Address Table

32K

Buffer

4M

Working Temperature

-10°C ~ 50°C

Storage Temperature

-40°C ~ 85°C

Power Supply

AC100-240V, 50/60Hz

Max PoE Output Power

NA

Material

Metal

Housing

Rackmount

Dimensions

442mm×285mm×44mm

# Network Switch



SW-3MNG-24TGSFP-2HGSFP



## FEATURES

### Layer 2 Features:

4K VLAN Table, 16K MAC table, QoS, port-isolation, link aggregation protocol, link layer discovery protocol, spanning tree protocol.

DHCP server/client.

### Multicast Management:

Support IGMP Snooping V1/V2/V3.

### Layer 3 Features:

Routing between different subnets, different VLANs and static routing.

Routing protocols: RIP, OSPF.

### Security Features:

Access list (L2-L4), port-security.

### Management:

Web-based management supports.

Support SNMP/RMON/TELNET/SSH; Console port.



Auto-Negotiation



Qos (Quality of Service)



Bandwidth Control



Core Switch



2 Years Warranty



10 Giga SFP



100 Giga SFP



Web Management



Port Isolation



24/7 Technical Support

## TECHNICAL SPECIFICATION

MODEL No.	SW-3MNG-24TGSFP-2HGSFP
Product Description	Layer 3, Managed 24 Ten Giga Giga Ethernet Ports + 2 Ports 100 Giga SFP
Chipsets Origin	US
10/100/1000Mbps RJ45 Ports	NA
1000Mbps Combo Ports	NA
10Gbps SFP Ports	24
100Gbps SFP ports	2
PoE Ports	NA
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab, IEEE802.3ae, IEEE802.3bm
Switching Fabric Capacity	880Gbps
MAC Address Table	32K
Buffer	72Mbit
Working Temperature	-10°C ~ 50°C
Storage Temperature	-40°C ~ 85°C
Power Supply	AC100-240V, 50/60Hz
Max PoE Output Power	NA
Material	Metal
Housing	Rackmount
Dimensions	440mm*390mm*44mm

# Surveillance Box

## FEATURES

AC220V mains power input, 200W DC52V power module inside.  
With 8\*10/100/1000M PoE downlink ports and 2\*1000M SFP uplink  
6KV surge protection, 6KV contact / 8KV air ESD protection.

The box adopts waterproof (protection level IP55), anti-rust treatment, suitable for long-time outdoor use.

### Layer 2 Features:

4K VLAN Table, 8K MAC table, QoS, port-isolation, link aggregation protocol, link-layer discovery protocol, spanning tree protocol.

DHCP server/client.

### Management:

Web-based management supports.

Support SNMP/RMON/TELNET/SSH.

Console port.



PoE Overload Protection



Waterproof



Half-duplex & Full-Duplex Mode



Giga Ethernet Switch



2 Years Warranty



PoE Short Circuit Protection



250m Transmission Distance



-40°C ~ 70°C Operating Temperature



2 Port Giga SFP



24/7 Technical Support

SW-MNG-8GE2GSFP-8POE-IND-WP



## TECHNICAL SPECIFICATION

MODEL No.	SW-MNG-8GE2GSFP-8POE-IND-WP
Power Input	AC 100-240V, 50/60Hz
Consumption	Self-consumption<15W, PoE output 185W max
Downlink ports	1~8 ports: 10/100/1000Base-T 30W PoE RJ45(IEEE802.3af/at)
Reset key	Short press restart, >5s press recovery to default
Cable and distance	Use cat5e/6, 100m max.
Standard	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3az, IEEE802.1q, IEEE802.1p, IEEE802.1s, IEEE802.1d, IEEE802.1w, IEEE802.1x, IEEE802.1ad, IEEE802.1ab
Switch fabric	20Gbps
Through put	14.88Mpps
Buffer	1M
MAC address table	8K
Indicator	Power: 1 *red ; Downlink 1~8: On RJ45 green LEDs indicate Link/Act, yellow LEDs indicate PoE Uplink9, 10: On RJ45 green LEDs indicate Link/Act
Protection	Surge: 6KV, standard: IEC61000-4-5 ESD: 6KV: contact 8KV: air, standard:IEC61000-4-2
SPD	AC lightning arrester, 385v AC@20KA , 2p, - 40 ~ 70 °C, lower incoming line, dxh06-fcs / 2r40
Working temperature	-20°C~70°C
Storage temperature	-40°C~85°C
Humidity	0~95%(No condensation)
Dimensions(L×W×H)	280mm×200mm×260mm
Material	Metal
Colour	White
Net-weight	8Kg



UNMANAGED  
SWITCHES

CONNECT  
SERIES

# Unmanaged Switches

SW-UNM-8FE



## FEATURES

### Port Features:

Auto-negotiation and auto MDI/MDIX.

### Switching Features:

Store and forward switching method.

Full duplex flow control and half-duplex backpressure.

MAC address auto-learning and auto aging.

LED indicators for monitoring power, link/activity, speed.

Unmanaged (Plug and Play).



Auto-Negotiation



Auto detect MDI/MDIX



Half-Duplex & Full-Duplex Mode



24/7 Technical Support



150m Transmission Distance



PAP Switch (Plug and Play)



1 Year Warranty

## TECHNICAL SPECIFICATION

MODEL No.	SW-UNM-8FE
Product Description	SOHO 8 Fast Ethernet Ports
Chipsets Origin	Taiwanese
10/100Mbps RJ45 Ports	8
10/100/1000Mbps RJ45 Ports	NA
1000Mbps SFP Ports	NA
PoE Ports	NA
Console Port	NA
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x
Switching Fabric Capacity	1.6Gbps
MAC Address Table	1K
Buffer	448Kb
Jumbo Frame	1536Bytes
IEEE802.3af	NA
IEEE802.3at	NA
Operating Temperature	0°C ~50°C
Power Supply	DC 5V/0.5A
Max PoE Output Power	NA
Housing	Desktop
Material	Metal
Dimensions	140x76.7x28mm

# Unmanaged Switches



SW-UNM-8GE



## FEATURES

### Port Features:

Auto-negotiation and auto MDI/MDIX.

### Switching Features:

Store and forward switching method.

Full duplex flow control and half-duplex backpressure.

MAC address auto-learning and auto aging.

LED indicators for monitoring power, link/activity, speed.

Unmanaged (Plug and Play).



Auto-Negotiation



Auto detect MDI/MDIX



Half-duplex & Full-Duplex Mode



1 Year Warranty



150m Transmission Distance



PAP Switch (Plug and Play)



Giga Ethernet Switch



24/7 Technical Support

## TECHNICAL SPECIFICATION

MODEL No.	SW-UNM-8GE
Product Description	8 Ports Giga Ethernet Switch
Chipsets Origin	Taiwanese
Mode	Default, VLAN
10/100Mbps RJ45 Ports	NA
10/100/1000Mbps RJ45 Ports	8
1000Mbps SFP Ports	NA
Console Port	NA
PoE Ports	NA
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab
Switching Fabric Capacity	16Gbps
MAC Address Table	4K
Buffer	1.5Mb
Jumbo Frame	9.216KByte
IEEE802.3af	NA
IEEE802.3at	NA
Operating Temperature	0°C ~50°C
Power Supply	DC 12V/1A
Max PoE Output Power	NA
Housing	Desktop or Wall-Mount
Material	Metal
Dimensions	140x76.7x28mm

# Unmanaged Switches

SW-UNM-10FE-8POE



## FEATURES

### Port Features:

Auto-negotiation and auto MDI/MDIX.

### Switching Features:

Store and forward switching method.

Full-duplex flows control and half-duplex backpressure.

Mac addresses auto-learning and auto aging.

LED indicators for monitoring power, link/activity, speed.

Unmanaged (Plug and Play).



POE switch



Auto-Negotiation



Half-duplex & Full-duplex Mode



POE Overload Protection



24/7 Technical Support



CCTV Mode to 250m



PD Alive Check



PAP Switch (Plug and Play)



POE Short Circuit Protection



1 Year Warranty

## TECHNICAL SPECIFICATION

Model No.	SW-UNM-10FE-8POE
Product description	8 Fast Ethernet Ports PoE
Chipsets origin	Taiwanese
Mode	Default, VLAN, & CCTV Mode
10/100Mbps RJ45 Ports	10
10/100/1000Mbps RJ45 Ports	NA
1000Mbps SFP Ports	NA
Console Port	NA
PoE Ports	8
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3af, IEEE802.3at
Switching Fabric Capacity	2Gbps
Mac Address Table	4K
Packet Buffer	448K bit
IEEE802.3af	✓
IEEE802.3at	✓
Operating Temperature	0°C ~50°C
Power Supply	100V-240V, 50/60Hz (125W)
Max PoE Output Power	120W
Housing	Metal
Dimension	220 *150*44mm
Net Weight	1Kg



# Unmanaged Switches

SW-UNM-6FE-4POE



SW-UNM-10GE-8POE



## FEATURES

### Port Features:

Auto-negotiation and auto MDI/MDIX.

### Switching Features:

Store and forward switching method.

Full-duplex flows control and half-duplex backpressure.

MAC addresses auto-learning and auto aging.

LED indicators for monitoring power, link/activity, speed.

Unmanaged (Plug and Play).



POE Switch



Auto-Negotiation



PD Alive Check



PoE Overload Protection



24/7 Technical Support



CCTV Mode to 250m



Auto detect MDI/MDIX



PAP Switch (Plug and Play)



PoE Short Circuit Protection



1 Year Warranty

## TECHNICAL SPECIFICATION

MODEL No.	SW-UNM-6FE-4POE	SW-UNM-10GE-8POE
Product Description	6 Fast Ethernet Ports 4 Ports POE	10 Ports 10/100/1000Mbps -8Ports PoE
Chipsets Origin	Taiwanese	Taiwanese
Mode	Default, CCTV	Default, VLAN, & CCTV Mode
10/100Mbps RJ45 Ports	6	NA
10/100/1000Mbps RJ45 Ports	NA	10
1000Mbps SFP Ports		NA
Console Port		NA
PoE Ports	4	8
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3af, IEEE802.3at	IEEE802.3, IEEE802.3u, IEEE802.3ab, IEEE802.3az, IEEE802.3x, IEEE802.3af, IEEE802.3at
Switching Fabric Capacity	1.2G	20G
MAC Address Table	1K	2K
IEEE802.3af		✓
IEEE802.3at		✓
Operating Temperature	0°C ~50°C	0°C ~50°C
Power Supply	100V-240V 50/60HZ	100V-240V, 50/60Hz
Max PoE Output Power	65W	120W
Material		Metal
Dimensions	140*76.7*28mm	220 *150*44mm

# Unmanaged Switches

SW-UNM-8FE1GE1GSFP-8POE



## FEATURES

### Port Features:

Auto-negotiation and auto MDI/MDIX.

### Switching Features:

Store and forward switching method.

Full-duplex flows control and half-duplex backpressure.

Mac addresses auto-learning and auto aging.

LED indicators for monitoring power, link/activity, speed.

Unmanaged (Plug and Play).



POE switch



Auto-Negotiation



Half-duplex & Full-duplex Mode



POE Overload Protection



24/7 Technical Support



CCTV Mode to 250m



PD Alive Check



PAP Switch (Plug and Play)



POE Short Circuit Protection



1 Year Warranty

## TECHNICAL SPECIFICATION

Model No.	SW-UNM-8FE1GE1GSFP-8POE
Product description	8 Fast Ethernet Ports PoE + 1 Giga Ethernet +1 Giga SFP
Chipsets origin	Taiwanese
Mode	Default, VLAN, & CCTV Mode
10/100Mbps RJ45 Ports	8
10/100/1000Mbps RJ45 Ports	1
1000Mbps SFP Ports	1
Console Port	NA
PoE Ports	8
Standards	IEEE802.3, IEEE802.3u, IEEE802.3ab, IEEE802.3z, IEEE802.3x, IEEE802.3af, IEEE802.3at
Switching Fabric Capacity	5.6Gbps
Mac Address Table	4K
Packet Buffer	1.5Mb
IEEE802.3af	✓
IEEE802.3at	✓
Operating Temperature	0°C ~50°C
Power Supply	100V-240V, 50/60Hz (130W)
Max PoE Output Power	120W
Housing	Metal
Dimension	220 *150*44mm
Net Weight	1Kg



# Unmanaged Switches

SW-UNM-16FE2GC-16POE



SW-UNM-24FE2GC-24PoE



## FEATURES

### Port Features:

Auto-negotiation and auto MDI/MDIX.

### Switching Features:

Store and forward switching method.

Full duplex flow control and half-duplex backpressure.

MAC address auto-learning and auto aging.

LED indicators for monitoring power, link/activity, speed.

Unmanaged (Plug and Play).



PoE Short Circuit Protection



Auto-Negotiation



CCTV Mode



Giga Combo



PD Alive Check



PoE Overload Protection



Fast Ethernet Switch



PAP Switch (Plug and Play)



1 Year Warranty



24/7 Technical Support

## TECHNICAL SPECIFICATION

MODEL No.	SW-UNM-16FE2GC-16POE	SW-UNM-24FE2GC-24PoE
Product Description	16 Fast Ethernet PoE Ports + 2 Giga Combo	24 Fast Ethernet PoE Ports + 2 Giga Combo
Chipsets Origin	Taiwanese	
Mode	Default, VLAN, & CCTV Mode	
10/100Mbps RJ45 Ports	16	24
10/100/1000Mbps RJ45 Ports		2
1000Mbps SFP Ports		2
Console Port		NA
PoE Ports	16	24
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3az, IEEE802.3af & IEEE802.3at	
Switching Fabric Capacity	7.2Gbps	8.8Gbps
MAC Address Table		8K
Buffer		4.1Mb
Jumbo Frame		10KByte
IEEE802.3af		✓
IEEE802.3at		✓
Power Supply	AC 100V-240V 50/60HZ (390W)	
Operating Temperature	0°C ~50°C	
Max PoE Output Power	370W	
Housing	Rack Mount	
Material	Metal	
Dimensions	440 x 208 x 44 mm	

# Unmanaged Industrial Switches

SW-UNM-8GE2GSFP-8POE-IND



SW-UNM-4GE2GSFP-4POE-IND



## FEATURES

### Port Features:

Auto-negotiation and auto MDI/MDIX.

### Switching Features:

Store and forward switching method.

Full duplex flow control and half-duplex backpressure.

4KV Ethernet surge protection, adapt to a harsh outdoor environment.

Operating environment temperature: -40°C ~ 80°C.

Meet IP40 protection degree and EMC industrial, DIN rail installation.



PoE Overload Protection



Auto-Negotiation



Half-duplex & Full-Duplex Mode



Giga Ethernet Switch



1 Year Warranty



150m Transmission Distance



-40°C ~ 80°C Operating Temperature



2Port Giga SFP



PoE Short Circuit Protection



24/7 Technical Support

## TECHNICAL SPECIFICATION

MODEL No.	SW-UNM-8GE2GSFP-8POE-IND	SW-UNM-4GE2GSFP-4POE-IND
Product description	8 Giga Ethernet Ports PoE + 2port Giga SFP Industrial	4 Giga Ethernet PoE + 2 Giga SFP Industrial
10/100/1000Mbps RJ45 Ports	8	4
1000Mbps SFP Ports	2	2
PoE Ports	8	4
Standards	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3af/at	
IEEE802.3af	✓	
IEEE802.3at	✓	
Industrial Standards	EMI: FCC part15 subpart B class A, EN 55022 class A, EMS: EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 3, EN 61000-4-6 (CS) Level 3, EN 61000-4-8, Traffic control: NEMA-TS2, Vibration: IEC 60068-2-6, Freefall: IEC60068-2-32, Shock: IEC 60068-2-27, Rail Traffic: EN 50121-4	
Safety	CE Mark, commercial CE/LVD EN60950	
Power Supply	DC 12V - 48V	
Operating Temperature	-40°C ~ 80°C	
Dimensions	143.7 x 103 x 44.2 mm	
Housing	Din Rail	
Material	Metal	

# Surveillance Box



SW-UNM-8GE2GSFP-8POE-IND-WP



## FEATURES

Provide 1 channel AC 220V power input.

Provide a PoE-unmanaged switch, 8GE ports + 2gigabit SFP ports, with an uninterruptible power supply.

Built-in fiber tray, grounding row, etc.

The box body adopts waterproof (protection level IP55), anti-rust) treatment, suitable for long-time outdoor use.

Switch power supply, surge protector, circuit breaker, fiber pigtail, all in one outdoor waterproof box.

 PoE Switch	 Auto Negotiation	 PoE Overload Protection	 Giga Ethernet Switch	 1 Year Warranty
 -40°C ~ 70°C Operating Temperature	 2 Port Giga SFP	 PoE Short Circuit Protection	 24/7 Technical Support	

## TECHNICAL SPECIFICATION

MODEL No.	SW-UNM-8GE2GSFP-8POE-IND-WP
Power Input	AC 100-240V, 50/60Hz
Consumption	Self-consumption<15W, PoE output 115W max
Downlink Ports	1~8 ports: 10/100/1000Base-T 30W PoE RJ45(IEEE802.3af/at)
Reset Key	Short press restart, >5s press recovery to default
Cable and Distance	Use cat5e/6, 100m max.
Standard	IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z, IEEE802.3az, IEEE802.3af & IEEE802.3at
Switch Fabric	20Gbps
Through Put	14.88Mpps
Buffer	12KB
Mac Address Table	4K
Indicator	Power: 1 *red ; Downlink 1~8: On RJ45 green LEDs indicate Link/Act, yellow LEDs indicate PoE Uplink9, 10: On RJ45 green LEDs indicate Link/Act
Protection	Surge: 6KV, standard: IEC61000-4-5 ESD: 6KV: contact 8KV: air, standard:IEC61000-4-2
SPD	AC lightning arrester, 385v AC@20KA , 2p, - 40 ~ 70 oC, lower incoming line, dxh06-fcs / 2r40
Working Temperature	-20°C~70°C
Storage Temperature	-40°C~85°C
Humidity	0~95%
Dimensions(LxWxH)	280mmx200mmx260mm
Material	Metal
Color	White
Net-weight	8Kg

FTTX





# OLT

EPON -OLT-4SFP/4GE4GSFP



EPON-OLT-8SFP/8GE8GSFP



EPON -OLT-16SFP4GE2T4GSFP



## FEATURES

### Port Features:

- 4,8,16 PON ports EPON OLT 1U.
- Support 256, 512 & 1024 ONU under 1:64 splitter ratio.
- 4,8, uplink GE optical SFP ports.
- 4,8 uplink GE RJ45 copper ports.
- 2 uplink optical Ten Giga SFP ports.
- Double power supply 220VAC.
- "Triple-Play", CPN, IP Camera, Enterprise LAN, and IOT applications.
- 1 Year warranty.

## TECHNICAL SPECIFICATION

MODEL No.	EPON -OLT-4SFP/4GE4GSFP	EPON-OLT-8SFP/8GE8GSFP	EPON -OLT-16SFP4GE2T4GSFP
Uplink Port	Optical Line Terminal 4 SFP++ ports ,4 Giga Combo EPON Managed	Optical Line Terminal 8 SFP++,8 Giga Combo ,EPON Managed	Optical Line Terminal 16SFP ++,8 Giga Combo ,2 Ten Giga ports ,EPON managed
PON Port	Physical Interface SFP Slots Connector Type SC 1000BASE-PX20+ Max splitting ratio 1:64	8 ports SFP Slots SC 1000BASE-PX20+ Max splitting ratio 1:64	SFP Slots Connector Type 1000BASE-PX20+ Max splitting ratio 1:64
Console Port	✓		
PON Port Specification	Transmission Distance 20KM PON port speed Symmetrical 1.25Gbps Wavelength 1490nm TX,1310nm RX Connector SC/PC Fiber Type 9/125µm SMF TX Power+2.5- +7dBm Rx Sensitivity -27dBm Saturation Optical Power -6dBm		
10Gb SFP	NA		2
Management Mode	SNMP, Telnet, CLI management mode		
Management Function	Fan Group Detecting Port Status monitoring and configuration management; Layer-2 switch configuration such as VLAN, Trunk, RSTP,IGMP ,QOS, etc; EPON management function: DBA ,ONU authorization, ACL ,QOS ,etc; Online ONU configuration and management User management Alarm management		
Power Supply	AC 100V-240V 50/60HZ		
Housing	Metal Rack Mount		
Dimension	280 x 179 x 44.5 mm		

# OLT

## ■ TECHNICAL SPECIFICATION

MODEL No.	EPON -OLT-4SFP/4GE4GSFP	EPON-OLT-8SFP/8GE8GSFP	EPON -OLT-16SFP4GE2T4GSFP
Layer-two Switch	Support port VLAN and protocol VLAN Support Vlan tag/Untag ,vlan transparent transmission; Support 4096 VLAN Support 802.3ad trunk Support RSTP Support QOS based on port ,VID,TOS and MAC address Support IGMP Snooping Support 802.x flow control Support Port stability statistic and monitoring		
EPON Function	Support port-based rate limitation and bandwidth control; In compliant with IEEE802.3ah Standard Up to 20KM transmission Distance Support data encryption, group broadcasting, port VLAN separation, RSTP, etc. Support Dynamic Bandwidth Allocation (DBA) Support ONU auto-discovery/Link detection/remote upgrade of software; Support VLAN division and user separation to avoid broadcast storm; Support various LLID configuration and single LLID configuration .Different users and different services could provide different QoS by means of different LLID channels. Support power-off alarm function, easy for link problem detection Support broadcasting storm resistance function Support port isolation between different ports Support ACL and SNMP to configure data packet filter flexibly Specialized design for system breakdown prevention to maintain stable system Support dynamic distance calculation on EMS online Support RSTP,IGMP Proxy		
Dimensions (L*W*H)	440mm*251mm*44mm	440mm*280mm*44mm	440mm*350mm*44mm
Weight	3.8kg	4.5kg	6kg
Power Consumption	34W	45W	70W
Operating Environment	Working Temperature 50°C Storage Temperature -40- 85 °C Relative Humidity 5 - 90%(non-condensing)		



# ONU

EPON -ONT-1SFP1GE



## FEATURES

- Full compatible with IEEE802.3ah.
- Support port-based rate limitation and bandwidth control.
- In compliant with IEEE802.3ah standard.
- Up to 20KM transmission distance.
- Support data encryption, group broadcasting, port VLAN separation ,etc.
- Support Dynamic Bandwidth Allocation (DBA) .
- Support ONU auto-discovery/Link detection/remote upgrade of software.
- Support VLAN division and user separation to avoid broadcast storm.
- Support power-off alarm function ,easy for link problem detection.
- Support broadcasting storm resistance function.
- Support port isolation between different ports.
- Support three layer routing functions.
- Support ACL and SNMP to configure data packet filter flexibly.
- Specialized design for system breakdown prevention to maintain stable system.
- Support software online upgrading.
- EMS network management based on SNMP ,convenient for maintenance.
- 1 Year warranty.

## TECHNICAL SPECIFICATION

Item	Parameters	Specification
	PON Port	1 EPON optical interface Meet 1000BASE-PX20+ standard Symmetric 1.25Gbps upstream/downstream SC single-mode fiber split ratio: 1:64 Transmission distance 20KM
Interface	PON Optical Parameter	Wavelength: Tx 1310nm, Rx1490nm Tx Optical Power: 0~4dBm Rx Sensitivity: -27dBm Saturation Optical Power: -3dBm Connector Type: SC Optical Fiber: 9/125μm single-mode fiber
	Ethernet Port(LAN)	1*GE Auto-negotiation RJ45 ports Full Duplex / Half-Duplex RJ45, Auto-MDI/MDI-X Transmission Distance 100 Meter
	Power Supply Port	12V DC input
Management	Network Management	Support IEEE802.3 QAM, ONU can be remotely managed by OLT Support Remote management through SNMP and Telnet Local management
	Management Function	Status monitor, Configuration management, Alarm management, Log management
	Shell	Plastic casing
Environmental Specifications	Power	External 12V 0.5A AC/DC power supply adapter Power consumption: <3W
	Dimensions	78mm(L) x78mm(W) x25mm (H) 0.1kg
	Environment	Operating Temperature: 0 ~ 50°C storage Temperature: -40 ~ 85°C Operating Humidity: 10% ~ 90%(Non-condensing) Storage Humidity: 5% ~ 95%(Non-condensing)

# ONU

EPON -ONT-1SFP1GE-W



EPON -ONT-1SFP4FE2V-W



## FEATURES

- Support GE auto-adapting Ethernet ports.
- 1 PON port ,1\*10/100/1000BASE-T ports and support WiFi.
- Support one 802.11 n/b/g Wi-Fi port.
- Support PPPoE+ for accurate subscribers identification.
- Support two POTS (OPTIONAL).
- Support Auto-negotiation and MDI/MDIX.
- Support VLAN tagged label processing, traffic classification and packet filtering, STP/RSTP etc.
- Support DHCP Option 60 reporting the location information of the ethernet interface.
- Support software online upgrading.
- MS network management based on SNMP ,convenient for maintenance
- In compliant with IEEE802.3ah standard.
- Support the ethernet interface rate, working mode and flows control.
- Support H.248, MGCP and SIP protocol.
- Support IGMP snooping.
- 1 Year warranty.

## TECHNICAL SPECIFICATION

### Specification

Item	Parameters	EPON -OLT-1SFP1GE-W	EPON -OLT-1SFP4FE2V-W
	PON Port	1 EPON optical interface Meet 1000BASE-PX20+ standard Symmetric 1.25Gbps upstream/down-stream SC single-mode fiber Transmission distance 20KM	1 EPON optical interface Meet 1000BASE-PX20+ standard Symmetric 1.25Gbps upstream/down-stream SC single-mode fiber split ratio: 1:64 Transmission distance 20KM
Interface	PON Optical Parameter	Wavelength: Tx 1310nm, Rx1490nm Tx Optical Power: 0~4dBm Rx Sensitivity: -27dBm Saturation Optical Power: -3dBm Connector Type: SC Optical Fiber: 9/125μm single-mode fiber	Wavelength: Tx 1310nm, Rx1490nm Tx Optical Power: 0~4dBm Rx Sensitivity: -27dBm Saturation Optical Power: -3dBm Connector Type: SC Optical Fiber: 9/125μm single-mode fiber
	Ethernet Port(LAN)	1*10/100/1000 Mauto-negotiation Full/half duplex mode RJ45 connector Auto MDI/MDI-X 100m distance	4*10/100M Auto-negotiation RJ45 ports Full Duplex / Half-Duplex RJ45, Auto-MDI/MDI-X Transmission Distance 100 Meter
	POTS Port	NA	2*RJ11 with 3REN Max 1km distance Balanced Ring, 55V RMS
Management	Network Management	Support IEEE802.3 QAM, ONU can be remotely managed by OLT Support Remote management through SNMP and Telnet Local management	Standard-compliant OAMI interface as defined by IEEE802.3ah Support TR-O69 and WEB management
	Management Function	Status monitor, Configuration management, Alarm management, Log management	

## WIFI FEATURES

- IEEE 802.11n compliant, 2.4 GHz ,5.7GHZ(optional).
- Full IEEE 802.11b/g legacy compatibility with enhanced performance.
- Two-stream spatial multiplexing up to300 Mbps PHY data rates.
- Support multi-SSID (Maximum 4 SSID).
- Support automatic channel selection.
- Support hide SSID.
- Support wireless security of 64/128 bit WEP, 802.1x, WPA and WPA2.
- 1 Year warranty.

## TECHNICAL SPECIFICATION

Item	Parameters	Specification	
		EPON -OLT-1SFP1GE-W	EPON -OLT-1SFP4FE2V-W
Environmental Specifications	Shell	Plastic casing	
	Power	External 12V 0.5A AC/DC power supply adapter Power consumption: <4W	External 12V 1A AC/DC power supply adapter
	Dimensions	130×110×24mm 0.18kg	170mm(L)*130mm(W)*30mm(H) 0.3kg
	Environment	Operating temperature: 0 to 50°C Storage temperature: -40 to 85°C Operating humidity: 10% to 90%(Non-condensing) Storage humidity: 10% to 90%(Non-condensing)	
	Operating Mode	Router or bridge	
	Throughput	IEEE 802.11b: 11Mbps IEEE 802.11g: 54 Mbps IEEE 802.11n: 135Mbps	IEEE 802.11b: 1,2,5,5,11Mbps IEEE 802.11g: 6,9,12,18,24,36,48,54Mbps IEEE 802.11n: up to 200 Mbps
	Frequency	2.412 ~ 2.472 GHz	2.400 ~ 2.500 GHz
	Channel	13*Channel, configurable to meet the standard of USA, Canada, Japan and China	
	Modulation	DSSS , CCK and OFDM	802.11g: 64QAM, 16QAM, QPSK, BPSK, DSSS 802.11b: CCK, DQPSK, DBPSK HT20: 64 QAM, 16QAM, QPSK, BPSK
	Coding	BPSK, QPSK, 16QAM and 64QAM	
WIFI Specification	RF receive Sensitivity	802.11b: -82dBm @ 1 Mbps; -80dBm @ 2 Mbps; -78dBm @ 5.5 Mbps; -76dBm @ 11 Mbps 802.11g: -82dBm @ 6 Mbps; -81dBm @ 9 Mbps; -79dBm @ 12 Mbps; -77dBm @ 18 Mbps; -74dBm @ 24 Mbps; -70dBm @ 36 Mbps; -66dBm @ 48 Mbps; -65dBm @ 54 Mbps	802.11b: -96dBm @ 1 Mbps; -93dBm @ 2 Mbps; -91dBm @ 5.5 Mbps; -88dBm @ 11 Mbps 802.11g: -90dBm @ 6 Mbps; -89dBm @ 9 Mbps; -89dBm @ 12 Mbps; -867dBm @ 18 Mbps; -83dBm @ 24 Mbps; -79dBm @ 36 Mbps; -75dBm @ 48 Mbps; -75dBm @ 54 Mbps 802.11n: -96dBm @ 1 Mbps;-88dBm @ 11 Mbps; -90dBm@6Mbps; -75dBm@54Mbps; -86dBm@m0/20MHz;-69dBm@m15/20M-Hz;
	RF output Lever	802.11b: 16.5 ±1dBm 802.11g: 13 ± 1dBm @ 54 Mbps; 14 ± 1dBm @ 48 Mbps; 15 ± 1dBm @ 6 ~ 36 Mbps 802.11n: 13 ± 1dBm @ 54 Mbps; 14 ± 1dBm @ 48 Mbps; 15 ± 1dBm @ 6	TX power out B mode @ 11 Mbps: 18dBm +/- 2 TX power out G mode @ 54 Mbps: 16dBm +/- 2 TX power 11n mode @ HT20: 16 dBm +/-2
	Encryption Mode	802.11i security: WEP-64/128, TKIP (WPA-PSK) and AES (WPA2-PSK)	64-bit, 128-bit WEP, AES, TKIP, WPA, WPA2, 802.1x

# MEDIA CONVERTERS



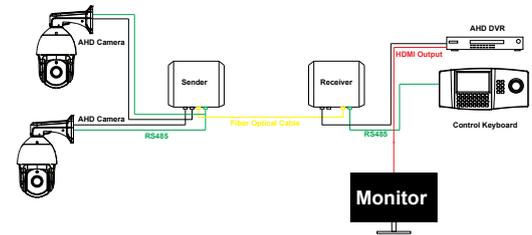


# HD Video Over Fiber Optic

## FEATURES

- Non-compression coding technology.
- Automatically identify formats of input videos.
- Support transmission of AHD, CVI, TVI & CVBS signal and controlling data simultaneously through fiber optic cable.
- DC 5V power supply.
- Support 720p/25, 720p/30, 720p/50, 720p/60, 1080p/25, 1080p/30 videos etc.
- Through LED indicators to inform its functional mode.
- Industrial wide range of operational temperature.
- Plug and play, simple installation.
- 1 Year warranty.

## CONNECTION DIAGRAM



## TECHNICAL SPECIFICATION

	MODELS	FO-MDC/AHD-S1V1D1, 2	FO-MDC/AHD-S2V1D1, 2	FO-MDC/AHD-S4V1D1, 2	FO-MDC/AHD-S8V1D1, 2	FO-MDC/AHD-S16V1D1, 2	FO-MDC/AHD-S32V1D1, 2
Optical	Fiber Type	Single-mode fiber (9/125um)					
	Fiber Connector	FC					
	Distance	20KM (Single-mode fiber)					
	Wavelength	Transmitter: T1310nm, R1550nm. Receiver: T1550nm, R1310nm.					
	Fiber Power	-9 ~ -5dBm					
	Rx Sensitivity	-24dBm					
Audio	Optional						
Video	Video Interface Number	1 channel	2 channel	4 channel	8 channel	16 channel	32 channel
	Resolution	Optional 1: 720p, 2: 1080p					
	Physical Interface	BNC					
	Tx Input level	>500mVp-p					
	Rx Output level	1-1.2Vp-p					
	Input/Output Impedance	75 Ω					
Data	Interface Signal	RS485					
	Baud Rate	0-400Kbps					
	BER	< 10 <sup>-9</sup>					
	Operation Mode	Full duplex / half duplex					
Environmental	Operational Temperature	-30°C ~ 50°C					
	Storage Environment	-40°C ~ 85°C					
	Relative Humidity	0-95% ( no condensation)					
	Mean Time Between Failures(MTBF)	≥100 000 hours					
	EPS	DC 5V				AC 220V	

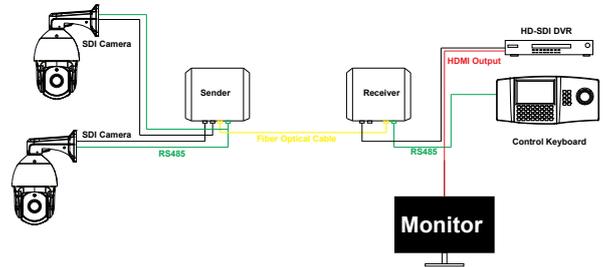
# HD-SDI Video Over Fiber Optic

## FEATURES

- HDSDI input automatic detection.
- Support the transmission rate of 270Mbit/s to 2.97Gbit/s.
- Support form 1080P HD-SDI.
- The transmission distance between 0km to 20KM via single-mode fiber.
- Supporting plug and play function.
- Operation status indicated by the LED light.
- Signal input achieved by automatic cable equalization, signal the output could meet the function of long distance-driven.
- 1 Year warranty.



## CONNECTION DIAGRAM



## TECHNICAL SPECIFICATION

	MODEL	FO-MDC/HDS-DI-S1	FO-MDC/HDS-DI-S2	FO-MDC/HDS-DI-S4	FO-MDC/HDS-DI-S8	FO-MDC/HDS-DI-S16	FO-MDC/HDS-DI-S32
Optical	Fiber Type	Single-mode fiber (9/125um)					
	Fiber Connector	FC					
	Distance	20KM (Single-mode fiber)					
	Wavelength	Transmitter:T1310nm, R1550nm. Receiver:T1550nm,R1310nm.					
	Fiber Power	-10 ~ -5dBm					
	Rx Sensitivity	-34dBm					
	Audio	Optional					
Video	Video Interface Number	1 channel	2 channel	4 channel	8 channel	16 channel	32 channel
	Physical Interface	BNC SD/HD/3G-SDI					
	Tx Input Level	800mVp-p ±10%					
	Rx Output Level	800mVp-p ±10%					
	Input/Output Impedance	75 Ω					
Data	Interface Signal	RS485					
	Baud Rate	0-400Kbps					
	BER	< 10 <sup>-9</sup>					
	Operation Mode	Full duplex / half duplex					
Environmental	Operation Temperature	0°C ~ 40°C					
	Storage Environment	-20°C ~ 60°C					
	Relative Humidity	0-95% ( no condensation)					
	Mean Time Between Failures(MTBF)	≥100 000 hours					
		EPS	DC 5V				AC 220V



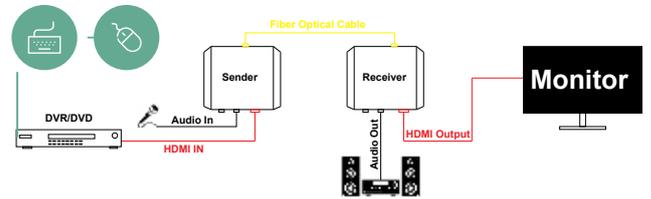
# HDMI Over Fiber Optic

## FEATURES

- Full digital, Uncompressed HD optical fiber transmission.
- Support Full HD 1920x1200 at 60Hz & 3840x2160 at 30Hz.
- The attenuation of the optical module SFP low to -3db.
- 1 channel analog audio 3.5mm (optional).
- Support HDMI 1.3b & HDMI1.4 Protocol.
- Support KVM (optional).
- Automatic identification and configure display mode.
- Automatic equalization inside, stable and clear graphics.
- ESD protection circuit inside, to ensure the ESD damage.
- Easily to installation, plug and play, no need to set up.
- 1 Year warranty.



## CONNECTION DIAGRAM



## TECHNICAL SPECIFICATION

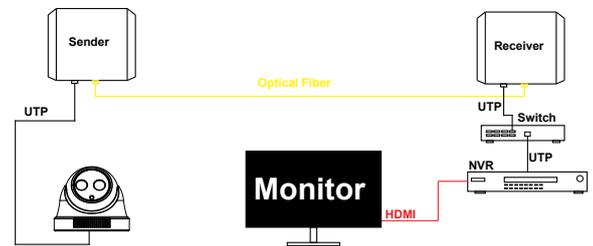
MODEL	FO-MDC/HDMI-S1080P	FO-MDC/HDMI-S-4K
The signal of Input and output	HDMI	
Protocol	HDMI1.3b, HDCP1.2	HDMI1.4
Pixel Bandwidth	165MHz	225MHz
Video Format	Support 1920x1200 and all format below	Support 3840x2160 and all format below
The Signal Of Audio Input And Output	3.5MM Audio	
Audio Format	44.1K,48K,96K,176K,192K	
RS485 Port	3 ports industrial terminal	NA
RS485 Baud Rate	Support 115200 and all below	NA
RS485 Data Bits	8 bits	NA
Fiber Module	SFP single mode	SFP single mode
Fiber Bandwidth	3Gbps	10Gbps
The Maximum Transmission a distance of HDMI and Audio	10 KM	
Input Voltage	DC 5V	
Power Consumption	5W	
Device Dimensions	109.5mm x 152mm x 29.3mm	94.5mm x 73mm x 26mm
Weight	1500g	
Temperature	-5°C ~ 50°C	
Humidity	5% ~ 90% non-condensing	

# Ethernet Over Fiber Optic

## FEATURES

- Auto-sensing 10/100 or 10/100/1000, facilitating network upgrade.
- Built-in efficient switching core to implement flow control and reduce broadcast packets.
- Full-duplex and half-duplex auto-sensed.
- Support automatic cross-connection of twisted pair interfaces, facilitating system commissioning and installation.
- Support store-and-forward/cut through the conversion method.
- Supporting the transmission of extra-long packets up to 1600 bytes.
- Supporting the transmission of extra-long VLAN packets.
- Supporting Quality of Service (QoS), ensuring the transmission of VoIP packets.
- Extremely low power consumption, low heat, stable performance and long life time.
- 1 Year warranty.

## CONNECTION DIAGRAM



## TECHNICAL SPECIFICATION

MODEL FO-MDC/ETH-F33 FO-MDC/ETH-G33 FO-MDC/ETH-F35 FO-MDC/ETH-F53 FO-MDC/ETH-G35 FO-MDC/ETH-G53

Access Mode	10/100Mbps	10/100/1000Mbps	10/100Mbps	10/100Mbps	10/100/1000Mbps
Standard	IEEE802.3, IEEE802.3u, IEEE802.3ab, IEEE802.3z, IEEE802.3af/at(optional)				
Fiber Cable Type	Duplex Fiber		Single Fiber		Single Fiber
Wavelength	1310nm Tx/Rx	1310nm Tx /1550nm Rx	1550nm Tx /1310nm Rx	1310nm Tx /1550nm Rx	1550nm Tx /1310nm Rx
Transmission Distance	Single-mode:20-100Km; Category-5 & 6 twisted pairs:100m				
Port	one RJ45 port for UTP/STP Twisted Pairs; one optical port: MM: SC/LC (fiber size: 50,62.5/125um), SM: SC/LC(fiber size: 9/125um)				
Conversion Mean	Media conversion, store-and-forward/cut-through				
MAC Address Table	1K				
Buffer Space	1Mbit				
Flow Control	Full duplex: flow control; Half duplex: back pressure				
Delay	store-and-forward: 9.6us; cut-through: 0.9us				
BER	<10 <sup>-9</sup>				
MTBF	100,00 hours				
LED Indicator	PWR (power supply); FX LINK/ACT (optical link/action), FDX (FX full duplex), TP LINK/ACT (twisted pair link/action), TP 100 (100m transmission rate of twisted pairs), FX 100 (20Km transmission rate of optical fiber)				
PoE (Optional)	15.4W or 30W (Optional)				
Power Supply	DC 5V 1A (external)				
power Consumption	<2W (for non-PoE MODEL)				
Operating Temperature	-10°C ~ 50°C				
Operating Humidity	5% - 90%				
Maintaining Temperature	-40°C ~ 70°C				
Maintaining Humidity	5% - 90% non-condensing				
Dimensions	26mm (H) * 70mm (W) * 94mm (D) (external power supply) 30mm (H) * 110mm (W) * 140mm (D) ( internal power supply)				

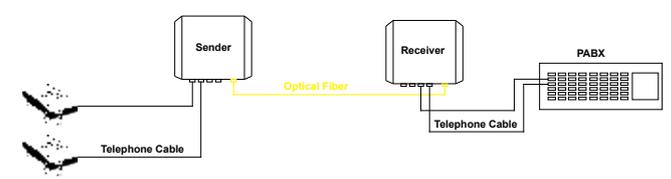


# Telephone Line Over Fiber Optic

## FEATURES

- All-digital, uncompressed transmission.
- PCM Pulse Code Modulation.
- Clear voice quality, stable, and reliable call.
- Each telephone signal level 3 over-current protection.
- Support Caller ID/fax and provide an anti-pole signal.
- Power and fiber optic link LED lights indicate the state of equipment.
- Low power consumption, low heat, stable operation for a long time.
- Supports hot-swap.
- 1 Year warranty.

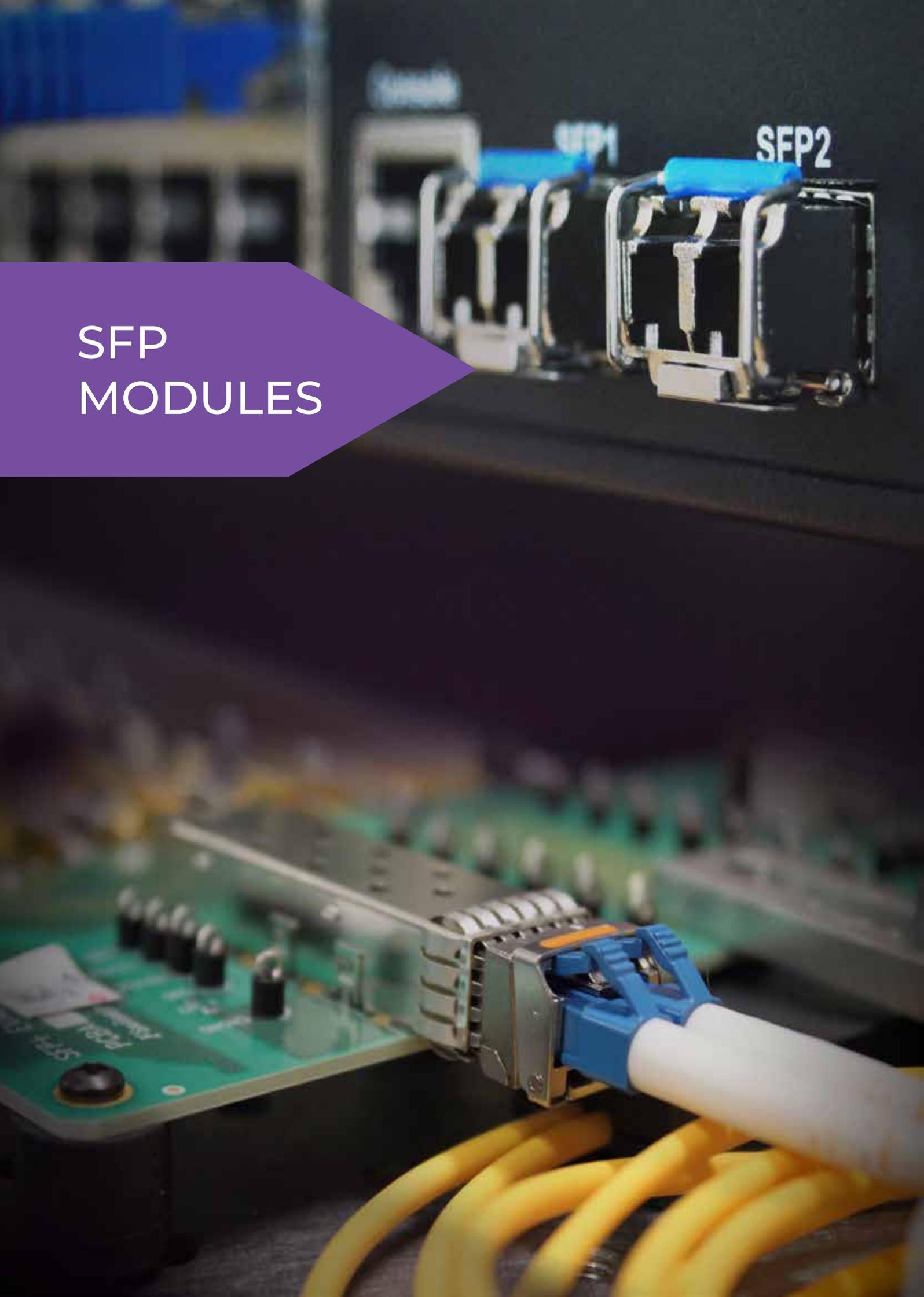
## CONNECTION DIAGRAM



## TECHNICAL SPECIFICATION

MODELs	FO-MDC/PCM-S2	FO-MDC/PCM-S4	FO-MDC/PCM-S8	FO-MDC/PCM-S16	FO-MDC/PCM-S32
Description	FXO/FXS Ordinary telephone				
Ports	2 RJ11 port	4 RJ11 port	8 RJ11 port	16 RJ11 port	32 RJ11 port
Fiber Type	Single Mode				
Fiber Connector	FC				
Distance	20Km				
Wavelength	Transmitter: T1310nm, R1550nm Receiver: T1550nm, R1310nm				
TX Optical Power	-12dBm				
RX Sensitivity	-30dBm				
Switch Terminal	Ordinary telephone or PBX, PBX (PBX), public telephone outside the PSTN				
FXS	Ringing voltage: 75V, ringing frequency: 25HZ				
FXO	Second line input impedance:600Ω (hook), return loss: 40db, ring detection voltage:35V				
Ring detection Frequency	17HZ-60HZ, second-line input impedance: 600Ω (hook), return loss: 40 dB				
Voice Bandwidth	8KHZ				
Connection	Point to point, telephone to telephone, telephone to switch				
Code	PCM code				
Operating Temperature	-25°C 50°C				
Storage Temperature	-40°C 85°C				
Operating Humidity	0%~95%, non-condensing				
Total power Consumption	<5W (Input:DC5V 1A)				
Power supply	5V DC			220V AC	

# SFP MODULES



# SFP Module

## SMALL FORM-FACTOR PLUG CABLE (SFP)



### FEATURES:

Compliant with IEEE 802.3Z, Bellcore TA-NWT-000983, SFP MSA, SM or MM  
 Compliant with IEEE 802.3ae For 10G MODEL

Support multi data rate; DDMI: Optional; hot-pluggable

Duplex LC connector, simplex bi-directional LC connector, simplex bi-directional SC connector

Power supply: +3.3V; RoHS Compliant; EMI & ESD protection

Operating case temperature: 0~70°C or -40~85°C optional

Eye safety designed to meet laser class1, compliant with IEC60825-1

3 Years warranty.

### APPLICATIONS:

Fast & Gigabit Ethernet.

Metro/Access Network.

SONET/SDH.

Fiber channel.

Optical transceiver for PX20+ of Gigabit Ethernet Passive Optical

Networks (GEAPON) and Ethernet Passive Optical Networks (EPON) OLT side.

Other Optical Links.

## COPPER SFP DIAGRAM:



# IP PBXS



# IP PBX Phone System IP PBX -300-412

IP PBX-300-412



## FEATURES

- Smart hybrid PBX (SIP and Analog) without a license.
- Up to 300 SIP, 12 FXS and 4 FXO.
- Up to 100 concurrent calls.
- Support recording calls.
- Support IVR and call center solutions.
- Support voicemail, conference.
- Support call hold, call transfer, call pickup, and call forwarding.
- Support management IP PBX with mobiles and computer browsers.
- Support mobile and computer softphone applications to users.
- 2 Years warranty.



Conference Bridge



Recording Service



Voice Mail



Video Call



Interactive Voice Response (IVR) for Call Centers



Call Detail Record (CDR)

## TECHNICAL SPECIFICATION

MODEL No.	IP PBX -300-412
Interface	1 WAN, 3 Line , RJ45 (10/100/1000Mbps)
FXS Port (Analog extension)	12 port
FXO Port (CO Line)	4 port
SIP Users	300
Concurrent Call	100
Reliability	7X24Hrs.>99.999%, MTBF>80000Hrs
Processor	ARM Dual CPU
Case	1U
Power	100V-240V AC,50/60Hz
Storage Temperature Range	-20~70°C
Operation Temperature Range	0~40°C
Operation Humidity Range	5%~90% non-condensing
Software & Platform	Linux
Extendable	up to two PBX with 600 SIP, 8FXO, AND 24FXS
Dimensions	430X180X44mm
Weight	3KG

# IP PBX Phone Systems

## IP PBX-500-32224

### FEATURES

- VoIP PBX Phone system for big enterprise.
- Up to 500 SIP, 224 FXS, and 32 FXO without license.
- Up to 200 concurrent calls.
- 4 E1 port.
- Support recording calls.
- Support IVR and call center solutions.
- Support voicemail, conference.
- Support call hold, call transfer, call pickup, and call forwarding.
- Support management IP PBX with mobiles and computer browsers.
- Support mobile and computer softphone applications to users.
- 1 Year warranty.



Conference Bridge



Recording Service



Voice Mail



Video Call



Interactive Voice Response (IVR) for Call Centers



Call Detail Record (CDR)



IPPBX-500-32224

### TECHNICAL SPECIFICATION

MODEL No.	IPPBX-500-32224
Interface	1 WAN, 3 Line , RJ45 (10/100/1000Mbps)
FXS Port (Analog extension)	224 port
FXO Port (CO Line)	32 port
SIP Users	500
Concurrent Call	200
Reliability	7X24Hrs.>99.999%, MTBF>80000Hrs
Processor	High performance ARMS Dual core CPU
Case	3U
Dimensions	440X348X133mm
Weight	20KG
Power	100V-240V AC,50/60Hz
Storage Temperature Range	-20~70°C
Operation Temperature Range	0~40°C
Operation Humidity Range	5%~90% non-condensing
Software & Platform	Linux
Extendable	Up to two PBX with 1000 SIP, 64 FXO, and 448 FXS



# IP PBX Phone Systems

## IP PBX-1000-32352

IPPBX-1000-32352



### FEATURES

- VoIP PBX Phone system for big enterprise.
- Up to 1000 SIP, 352 FXS, and 32 FXO without license.
- Up to 1000 concurrent calls.
- 4 E1 port.
- Support recording calls.
- Support IVR and call center solutions.
- Support voicemail, conference.
- Support call hold, call transfer, call pickup, and call forwarding.
- Support management IP PBX with mobiles and computer browsers.
- Support mobile and computer softphone applications to users.
- 2 Years warranty.



Conference Bridge



Recording Service



Voice Mail



Video Call



Interactive Voice Response (IVR) for Call Centers



Call Detail Record (CDR)

### TECHNICAL SPECIFICATION

MODEL No.	IPPBX-1000-32352
Interface	1 WAN, 3 Line , RJ45 (10/100/1000Mbps)
FXS Port (Analog Extension)	352 port
FXO Port (CO Line)	32 port
SIP Users	1000
Concurrent Call	1000
Reliability	7X24Hrs.>99.999%, MTBF>80000Hrs
Processor	High performance ARMS Dual core CPU
Case	4U
Power	100V-240V AC,50/60Hz
Storage Temperature Range	-20~70°C
Operation Temperature Range	0~40°C
Operation Humidity Range	5%~90% non-condensing
Software & Platform	Linux
Extendable	Up to three PBX with 2000 SIP, 64FXO, and 704FXS
Dimensions	443X420X188mm
Weight	30KG

# IPPBX-VOIP-SERVER

IPPBX-VOIP-SERVER



## FEATURES

Mainly provides voice assistance services and value-added services for enterprises, industries, and governments.

It has call control and processing, redundant routing, dual hot backup, and other functions. It integrates traditional services and seamlessly integrate analog voice links with IP voice links, reducing the cost of enterprise voice communication.

On this basis, value-added voice services such as voice mail/mail, teleconferencing, automatic switchboard, etc. are realized, which simplifies service deployment and truly realizes the benefits of communication.

IPPBX-VOIP-Server supports dual system backup.

When the main SoftSwitch server fails, the backup SoftSwitch server can immediately take over all voice services and switch seamlessly.

1 Year warranty.



2 Expansion Slots



20000



8 GB



Conference Call



2 Gigabit Ethernet Ports



Interactive Voice Response (IVR) for Call Centers



2000 Concurrent Call

## TECHNICAL SPECIFICATION

MODEL	IPPBX-VOIP-SERVER
Memory	8GB
Hard Disk	1TB, Seagate 3.5 inches,7200 RPM
I/O Interface	3*LED Indicators, 1*RJ45 Console Port, 2*USB 2.0 Ports, 3*RJ45 GBE Ports, 2*SFP GBE Ports, 1*2×16 Character LCM
Expansion Slot	2 Expansion slots
Hardware Specifications	2U, 19' standard cabinet
Power Input	Rated voltage range, 100V AC~240V AC, 50/60Hz
Power	350W
Case	3U
Power	100V-240V AC,50/60Hz
Altitude	Stable performance within 3000m
Atmospheric Pressure	86KPa~106KPa
Operation Temperature Range	Operation temperature: 0°C ~40°C; Store temperature: -20°C ~70°C
Operation Humidity Range	5%~90%
Voice Codec	G.711U, G.711A, G.723, G.729, G.726
Business Statistics	Call log, Traffic Statistics
Private Network Traversal	ALG, STUN server
Video	SIP-based point-to-point video, H. 263/ H. 264
Remote Management	SNMP V2/V3, TR069, SYSLOG, System online update, remote configuration parameter backup, and recovery
ARP Attack Defense	IP/MAC binding; ARP attack prevention
Backup Recovery	Support local/remote data backup
Dimensions	440X348X133mm
Weight	20KG



# 32 & 16 Channels GSM VoIP Gateway/GoIP

IPGSM-32CH



IPGSM-16CH



## FEATURES

- Pen Standard VoIP Protocols (ITU H. 323 V4 and IETF SIP V2).
- Single or Multiple serve registrations.
- Two 10/100 Ethernet circuits connect to the LAN and an additional device.
- GSM module for making GSM calls.
- Speech quality is ensured by QoS at the Ethernet and IP layers and a comprehensive jitter buffer
- VLAN and QoS Support.
- NAT Transversal and Router functions.
- Voice Prompts, HTTP Web. Auto Provision support for configuration and updates.
- Highly stable embedded Linux operating system in high-performance ARM 9 Processor.
- LEDs for Power, Ready, Status, WAN. PC. GSM
- Call forward from GSM to VoIP and VoIP to GSM.
- Dial plan.
- Password protection for both GSM dial-in and dial-out.
- Retransmit GSM Caller ID to VoIP terminal.
- 1 Year warranty.

## TECHNICAL SPECIFICATION

MODEL	IPGSM-32CH	IPGSM-16CH
Key Features	Call from VoIP to GSM or GSM to VoIP; Bulk SMS Auto check balance and recharge; Remote SIM Control Outbound call from VoIP; Inbound call from GSM; Remote management	
Number of Channels	32Ports	16Ports
Software Features	Packet loss concealment Programmable jitter buffer: fixed, dynamic, adaptive Network Connection: DHCP, PPPOE, Static IP STUN Server, support signaling encryption Support media encryption, Support media NAT traversal Support remote control	
VoIP Protocols	SIP V2, H.323 V4	
Free Software	SMS Server; SIM Server ( Sim Bank Scheduler Server ) Relay Server; Remote Access	
Audio Codecs	G711(ALAW/ULAW), G729, G723.1	
DTMF Format	SIP INFO, RFC2833, Inband	
Power Adapter	DC 12V/4.5A	/
Max Power Consumption	38W	30W
GSM Frequency	850/900/1800/1900MHz	
Language	English, Chinese	
Working Humidity	10% - 90% non condensation	
Operating Temperature	0 - 45°C	
Size	520mm (L) x 280mm (W) x 200mm (H)	/
Weight	6KG	1.5KG

IPGSM-04CH



IPGSM-08CH



# 8 & 4 Channels GSM VoIP Gateway/GoIP

## FEATURES

- Pen Standard VoIP Protocols (ITU H. 323 V4 and IETF SIP V2).
- Single or Multiple serve registrations.
- Two 10/100 Ethernet circuits connect to the LAN and an additional device.
- GSM module for making GSM calls.
- Speech quality is ensured by QoS at the Ethernet and IP layers and a comprehensive jitter buffer
- VLAN and QoS Support.
- NAT Transversal and Router functions.
- Voice Prompts, HTTP Web. Auto Provision support for configuration and updates.
- Highly stable embedded Linux operating system in high-performance ARM 9 Processor.
- LEDs for Power, Ready, Status, WAN. PC. GSM
- Call forward from GSM to VoIP and VoIP to GSM.
- Dial plan.
- Password protection for both GSM dial-in and dial-out.
- Retransmit GSM Caller ID to VoIP terminal.
- 1 Year warranty.

## TECHNICAL SPECIFICATION

MODEL	IPGSM-4CH	IPGSM-8CH
Key Features	Call from VoIP to GSM or GSM to VoIP; Bulk SMS Auto check balance and recharge; Remote SIM Control Outbound call from VoIP; Inbound call from GSM; Remote management	
Number of Channels	4Ports	8Ports
Software Features	Packet loss concealment Programmable jitter buffer: fixed, dynamic, adaptive Network Connection: DHCP, PPPOE, Static IP STUN Server, support signaling encryption Support media encryption, Support media NAT traversal Support remote control	
VoIP Protocols	SIP V2, H.323 V4	
Free Software	SMS Server; SIM Server ( Sim Bank Scheduler Server ) Relay Server; Remote Access	
Audio Codecs	G711(ALAW/ULAW), G729, G723.1	
DTMF Format	SIP INFO, RFC2833, Inband	
Power Adapter	12VDC, 2A ±10%	DC 12V/3A
Max Power Consumption	/	24W
GSM Frequency	850/900/1800/1900MHz	
Language	English, Chinese	
Working Humidity	10% - 90% non condensation	
Operating Temperature	0 - 45°C	
Size	/	390mm (L) x 220mm (W) x 100mm (H)
Weight	/	2KG (Including AC/DC Adapter)

# IP Video Phone IPTEL-70VCD

IPTEL-70VCD



## FEATURES

- 7 inch (800 x 480) Capacitive touch screen.
- Android 4.2 OS.
- Support high-quality video call.
- Support SIP 2.0 (RFC3261).
- Support 6 SIP servers and Backup SIP proxy servers.
- Support SIP UDP/TCP/TLS.
- Camera- Adjustable Position.
- Support USB Host.
- Support HDMI.
- 1 Year warranty.



Auto Answer



Support Pushing Message



3-Way Conference



Speed Dial



Virtual DSS Key (Up to 140)



Hotline



Support Time Setting



7 inch (800x480) Capacitive Touch Screen



Intercom



Do not Disturb



High Quality Video Call



Call Forwarding

## TECHNICAL SPECIFICATION

MODEL No.	IPTEL-70VCD
Adapter	12V/1A
WAN Port	10/100/1000 Base-T RJ-45 for LAN
LAN Port	LAN Port- 10/100/1000 Base-T
HDMI Port	Type A
LCD Size Diagonal	7 inch (800 x 480) Capacitive touch screen
Network/ Security Features	WAN/LAN: support bridge mode, PoE (802.3af), main DNS and secondary DNS server VLAN, SNTP client, VPN L2TP / PPTP / IPSec, SIP SRTP, Web HTTP / HTTPS QoS: 802.1p/q, DSCP, MD5 authentication, Web Filter, DHCP/ static/ PPPoE, STUN
Video Codec	H.264
Image Codec	JPEG/PNG/BMP/GIF
Video Format	MP4/3GP/FLV
Video Call Resolution	QCIF / CIF / VGA / 4CIF (1280x720P Optional)
Narrowband Code	G.711μ/A, G723.1, G726, G.729AB, iLBC
Call Features	Call forwarding, call holding, call transfer (blind/attended/alert), call waiting for a local 3-way conference(video), capable of 10-way conversation, virtual DSS Key (Up to 140) auto redial / un-redial, support multi-line and pre-dial, support messaging and MWI voice recording during talking /local, hotline/warm-line, call rejection, do not disturb auto-answer (hands- free / headset), supports call Logs with Missed / Incoming/outgoing calls Intercom/Intercom barge, direct IP call without SIP proxy
Bandwidth Selection	64kbps~4Mbps
Frame Rate Selection	10~30fps
Languages	(Arabic/Russian/French/Italian/German/Polish/Portuguese/ Turkish)
Weight	1.2Kg
Operation Temperature	0~40°C
Relative Humidity	10~65%

# IP Phone IPTEL-23ACD

IPTEL-23ACD



## FEATURES

- Multi SIP accounts, screen pop-up.
- Multiple views angles.
- The extension module can customize DSS keys.
- Support call encryption.
- Dual 10/100 /1000Mbps with PoE.
- Plug & play remote upgrade support TR-069.
- 132x64 Resolution backlit LCD screen.
- Support for the microphone, headset mode interface (RJ11).
- 1 Year warranty.



Auto Answer



3-way  
Conference



Speed Dial



Hotline



Support Time  
Setting



Intercom



Do not Disturb



Call Forwarding

## TECHNICAL SPECIFICATION

MODEL No.	IPTEL-23ACD
Time Setting	(SNTP/SIP Server acquisition/manual)
Call Records	(Dialed, received, not received, 1000 pieces record)
Broadband Code	G.722
Narrowband Code	G.711 $\mu$ /A, G723.1, G726, G.729AB, iLBC
Web Control	Supported
Internet Protocol	Support FTP/TFTP/HTTP/HTTPS/TLS
Configuration Modes	Web page and phone configuration and auto-configuration
3 DTMF Modes	In-band, RFC2833, SIP INFO
Functional Keys	(headset, voicemail, mute, transfer, redial, speaker)
Advanced Features	BLF/BLA, BLF list DND& call forward Intercom, paging call redial out instantly, call pickup distinctive ring
Safety Characteristics	VLAN(802.1pq), LLDP, VPN (L2TP) TLS (Transport Layer Security), Support (keyboard lock, admin/user layer mode Support information verification mechanism MD5, AES encryption protocol)
Call (Hold, Wait, Transfer)	Supported
Operating System	Linux
Power	AC100-240V, Output: DC5V
Languages	(Arabic/Russian/French/Italian/German/Polish/Portuguese/ Turkish)

# IP Phone IPTEL-24ACD



## FEATURES

- 4 SIP account numbers.
- Multiple views angles.
- The extension module can customize DSS keys.
- Support call encryption.
- Dual 10/100 /1000Mbps with PoE.
- Plug & play remote upgrade support TR-069.
- 2.4-inch color liquid crystal display screen.
- Support for the microphone, and headset mode interface (RJ11).
- 1000 entries of address book,1200 entries of call records.
- 1 Year warranty.



Auto Answer



3-way  
Conference



Speed Dial



Hotline



Support Time  
Setting



Intercom



Do not Disturb



Call Forwarding

## TECHNICAL SPECIFICATION

MODEL No.	IPTEL-24ACD
Time Setting	Support time setting (SNTP/SIP Server acquisition/manual)
Account	Support 4 SIP accounts
Telephone Functions	call hold, mute, transfer, call transfer (unconditional transfer, no answer transfer, busy transfer), multi-party conference, call waiting, personalized ringtones, address book import/download, automatic answer. It can store 500 phone numbers, 1000 call records, and 1200 all call records. Can support blacklist (optional); can support encrypted call function
Voice	High-definition voice, handle and hands-free mode support high-definition voice calls
Voice Coding	G.711A/u, G722, G.723 high/low, G.729 A/B, support DTMF in-band and out-of-band transmission (SIP INFO, DTMF Relay, RFC2833)
Network Interface	2 10/100 adaptive Ethernet interface, optional PoE power supply
Internet Protocol	Support SIP 1.0 (RFC2543), SIP 2.0 (RFC3261), IEEE 802.3 /802.3 u 10 Base T / 100Base TX, UDP/TCP/IP, RTP, RTCP, SRTP, DHCP, PPPoE, DNS, Telnet, FTP, TFTP, HTTP, HTTPS, VAD/CNG, PPTP, L2TP, OpenVPN, SNTP, STUN
Network Management	Tr069, SNMP, can support OMC platform
Automatic Configuration	TFTP, HTTP, HTTPS, PnP
Encryption	Support soft encryption such as AES, or hard encryption with encryption chip
Ringtone	10 ringtones can be selected (can be added at the factory if necessary)
Screen	2.4 inch color liquid crystal display screen
Headphone Jack	1 RJ9 jack
Operating System	Linux
Power	AC100-240V, output: DC 5V
Languages	Support 17 languages (Simplified Chinese, Traditional Chinese, English, Turkish, Korean, Russian, French, Italian, German, Polish, Portuguese, Thai, Hindi, Arabic, Japanese, Spanish, Vietnamese language)

# IP Call Center Phone IPTEL-28ACD

IPTEL-28ACD



## FEATURES

Professional network agent for call center.

2 SIP Accounts.

2.8-inch color LCD display.

Professional desktop attendant console appearance, call centerhumanized button design.

Buttons with LED lights, real-time display of the status of the function.

1 Year warranty.



Auto Answer



3-Way Conference



Speed dial



Call Center



2.8 inch Screen



Headset



Do not Disturb



Call Forwarding

## TECHNICAL SPECIFICATION

MODEL No.	IPTEL-28ACD
Account	Support 2 SIP accounts
Screen	2.8 inch color LCD display
Phone Keyboard	1 Headset/ringing volume switch key, 2 volume up/down adjustment keys, 4 custom soft keys, 2 function keys with LDE light (headphone key/mute key), 4 standard function keys, 12 standard telephone number keys, 5 direction keys
Physical Interface	2 x RJ9 interface: headset, headset (monitor port) 2 x RJ45 port: network port, PC port (bridge mode) 2 x 3.5mm interface: headset (side), foot switch
Anti-falling Ability	1.3m anti-falling ability
Network Features	SIPv1 (RFC2543), v2 (RFC3261), UDP/TCP/TLS, SRTP; IPv4/IPv6/IPv4&IPv6 mode, IP address allocation mode: static IP/HDCP, CDP/LLDP, VLAN, OpenVPN, IEEE802.1X; HTTP/HTTPS, TR-069, SNTP, STUN, ICE
Audio Features	HD high-fidelity sound quality: HD headphones, HD speakers; Broadband codec: G.722, Opus
Narrowband Codec	G.711(A/μ), G.729AB, G.726, iLBC
Telephone Functions	phone dial out/answer/reject, call mute/unmute/hold/recover/blind transfer/inquiry transfer, agent offline/online call transfer (unconditional/busy/no answer), call waiting, ACD queuing, Call pickup/parking (with server required), caller ID method, anonymous call, phonebook download (XML, LDAP, 1000 entries), call history (1200 records), page outgoing dialing/hanging up, dialing rules, re Dialing, Do Not Disturb, Auto Answer, Voice Mail, Five-Party Conference, IP Direct Dialing, Hotline, Line Sharing, 10 built-in ringtones/upload custom ringtones, Action URL & Action URI, etc.
Operating System	Linux
Power	Universal power adapter, power supply: AC100-240V; output: DC 5V, 1000mA
Languages	Support 17 languages (Simplified Chinese, Traditional Chinese, English, Turkish, Korean, Russian, French, Italian, German, Polish, Portuguese, Thai, Hindi, Arabic, Japanese, Spanish, Vietnamese language)



# IP Wireless Phone IPTEL-23AWD

IPTEL-23AWD



## FEATURES

- Multi SIP accounts, screen pop-up.
- Support Wifi 2.4GHz, 5GHz.
- Multiple views angles.
- The extension module can customize DSS keys.
- Support call encryption.
- Dual 10/100 /1000Mbps with WiFi adaptor.
- Plug & play remote upgrade support TR-069.
- 132x64 Resolution backlit LCD screen.
- Support for the microphone, headset mode interface (RJ11).
- 1 Year warranty.

Auto Answer	3-way Conference	Speed Dial	Hotline	Call Forwarding
Support Time Setting	Intercom	Do not Disturb	Wifi 2.4G & 5GHz	

## TECHNICAL SPECIFICATION

MODEL No.	IPTEL-23AWD
Time Setting	(SNTP/SIP Server acquisition/manual)
Call Records	(Dialed, received, not received, 1000 pieces record)
Broadband Code	G.722
Narrowband Code	G.711μ/A, G723.1, G726, G.729AB, iLBC
Web Control	Supported
Internet Protocol	Support FTP/TFTP/HTTP/HTTPS/TLS
Configuration Modes	Web page and phone configuration and auto-configuration
3 DTMF Modes	In-band, RFC2833, SIP INFO
Functional Keys	(Headset, voicemail, mute, transfer, redial, speaker)
Advanced Features	BLF/BLA, BLF list DND& call forward Intercom, paging call redial out instantly, call pickup distinctive ring
Safety Characteristics	VLAN(802.1pq), LLDP, VPN (L2TP) TLS (Transport Layer Security), Support (keyboard lock, admin/user layer mode Support information verification mechanism MD5, AES encryption protocol)
Call (Hold, Wait, Transfer)	Supported
Operating System	Linux
Power	AC100-240V, Output: DC 5V
Languages	(Arabic/Russian/French/Italian/German/Polish/Portuguese/Turkish)

# ANALOG Phone

## ANTEL-23ACD

ANTEL-23ACD



### FEATURES

- Handle the volume can be adjusted.
- DTMF/FSK dual system caller ID (automatic identification).
- Call number and time of the call record 32 groups (16).
- Outgoing group number group 8 (16) and talk time record.
- Real-time display of date and time.
- 1-99 hours DND.
- 16 ordinary ringtone selection.
- FLASH time 90/95/100/120/180/300/600/1000 time.
- HOLD function built-in music.
- Key lock function 4-speed.
- 8 local code set, the call automatically filter.
- 1 Year warranty.



Caller ID



Mute/ Ring Off



Time Setting



Call Transfer

### TECHNICAL SPECIFICATION

MODEL No.	ANTEL-23ACD
Operating Frequency	300-3400Hz
Length of Signal Limit	>40ms/bit
Ringing Level	≥70dB (A)
Deviation	Less than ±1.5%
Electrical Level(35mA)	Low-frequency group: -9dBm±3dB High-frequency group: -7dBm±3dB
Assessed Value For Sending And Receiving Side Tone (5km)	2±1dB
Total Distortion Caused By Harmonic And Intermodulation	At least 20dB lower than the fundamental level
Side Tone Masking Assessed Value	≥120dB
Data signal Requirements	1: FSK format 0: 2200Hz (±22Hz) level: -37- -11dBm
Receiving Loudness Rating	<2dB
Tone Dialing	Standard frequency groups: low-frequency group 697, 770, 852, 941Hz High-frequency group 1209, 1336, 1477, 1633Hz
Size	18.3x22.5x10 cm
Piace Mode	Lay flat in three level, wall mounted



# Portable Wireless IP Phone IPTEL-24AWF

IPTEL-24AWF



## FEATURES

- 2 SIP accounts.
- 2.4-inch color LCD.
- HD sound quality: HD earpiece, HD speaker, support 3.5mm HD headset.
- HD high-definition audio: microphone echo cancellation, noise reduction technology.
- Equipped with Linux system, dual-band Wi-Fi (2.4 G) 802. 11 a/ b/ g/ n module.
- Supporting remote locations Roaming.
- 1 Year warranty.



Personalized Customized Ringtones



Type-C Power Connector Cable



Support 3.5mm Earphones



Large 2.4-inch LCD True-Color Screen



WiFi 2.4G



3000mA Rechargeable Battery

## TECHNICAL SPECIFICATION

MODEL No.	IPTEL-24AWF
Account	Support 2 SIP accounts
Physical Interface	3.5mm headphone jack, Type-C
Screen	2.4" (240×320) TFT color screen
Handset Size	160mm*55mm*24mm
Charging Base Size	116mm*100mm*106mm
Power Supply	Universal power adapter, input: 100-240VAC; output: +5VDC, 1A (5W) 3000mA Li-ion battery, talk time 10h
Fall Resistance	1.3m Drop resistance
Working Temperature	0~45°C, 10~90% (non-condensing)
Storage Temperature	-20~60°C, 10~90% (no condensation)
Operating System	Linux
Language	Support 17 languages (Simplified Chinese, Traditional Chinese, English, Turkish, Korean, Russian, French, Italian, German, Polish, Portuguese, Thai, Hindi, Arabic, Japanese, Spanish, Vietnamese language)
Protocol/Standard	SIP RFC3261, TCP/IP/UDP, RTP/RTCP, HTTP/HTTPS, ARP, ICMP, DNS (A record, SRV, NAPTR), DHCP, TFTP, NTP, STUN, SIMPLE, LDAP, TR-069 , 802.1x, TLS,S RTP, Ipv6, LLDP-ME
Audio Features	High-fidelity sound quality: HD handle, HD hands-free, HD headset
WiFi	Built-in Wi-Fi (2.4GHz) 802.11a/b/g/n
Security Protection	User and administrator-level passwords, based on MD5 and MD5-sess authentication, 256-bit AES security profile, SRTP, TLS call
QoS	802.11e and Layer 3 QoS (ToS, DiffServ, MPLS), Upgrade/configuration: upgrade firmware via TFTP / HTTP / HTTPS, PnP automatic deployment, web upload firmware upgrade, use TR-069 or AES encrypted XML configuration file for large-scale deployment

# IP Speaker IPSPK-08C15

IPSPK-08C15



## FEATURES

10W high-fidelity one-way speaker.

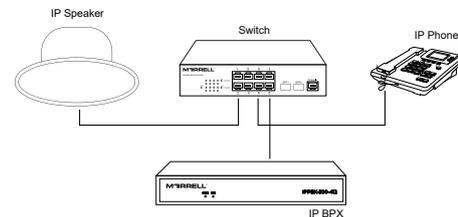
External pickup interface for two-way communication.

Suitable for schools, shopping malls, hospitals, fire brigades and other units.

Multi-function Buttons: call, report the IP address and extension number, restore the factory.

1 Year warranty.

## CONNECTION DIAGRAM



## TECHNICAL SPECIFICATION

MODEL No.	IPSPK-08C15
Account	Support 2 SIP accounts
Auxiliary Interface	3-pin multi-purpose input port
Network Interface	10/100Mbps network port, integrated PoE/PoE+
Buttons and Sensors	2 soft buttons, dial, hang up, speaker, phone book, backlit keyboard, proximity sensor, volume button, navigation button and confirm button
Power Supply	integrated PoE* 802.3af Class 3, PoE+ 802.3at Class 4
Working Temperature	0°C - 40°C
Storage Temperature	-10°C - 60°C
Humidity	10% to 90% non-condensing
Language	Simplified Chinese, Traditional Chinese, English, Turkish, Korean, Russian, French, Italian, German, Polish, Portuguese, Thai, Hindi, Arabic, Japanese, Spanish, Vietnamese language
Protocol/Standard	SIP RFC3261, TCP/IP/UDP, RTP/RTCP, HTTP/HTTPS, ARP, ICMP, DNS (A record, SRV, NAPTR), DHCP, TFTP, NTP, STUN, LLDP-MED, TR-069, 802.1x, TLS, SRTP, IPV6, OpenVPN
Voice Coding	support G.711μ/a, G.722 (wide-band), G.726-32, iLBC, Opus, G.729A/B in-band and out-of-band DTMF (In audio, RFC2833, SIP INFO), VAD, CNG, AEC, PLC, AJB, AGC, ANS Security protection: distinguish between ordinary users and administrator rights; MD5 and MD5-sess based authentication; 256-bit AES security configuration file; TLS, SRTP, HTTPS, 802.1x media access control
Security Protection	distinguish between ordinary users and administrator rights; MD5 and MD5-sess based authentication; 256-bit AES security configuration file; TLS, SRTP, HTTPS, 802.1x media access control
Pickup Function	optional 6m pickup module
Phone Function	SIP intercom, multicast paging, answer calls according to priority
High-definition Voice	ultra-wideband high-definition voice coding and speakers
Speaker	10W high-fidelity one-way speaker
Dimensions / Weight	200mm x 165mm x 97mm / 0.8kg
QoS	802.11e and Layer 3 QoS (ToS, DiffServ, MPLS), Upgrade/Configuration: Upgrade firmware through TFTP/HTTP/HTTPS or local HTTP upload, and large-scale deployment through TR069 or AES encrypted XML configuration file

# IPTV SYSTEM



# Product Overview

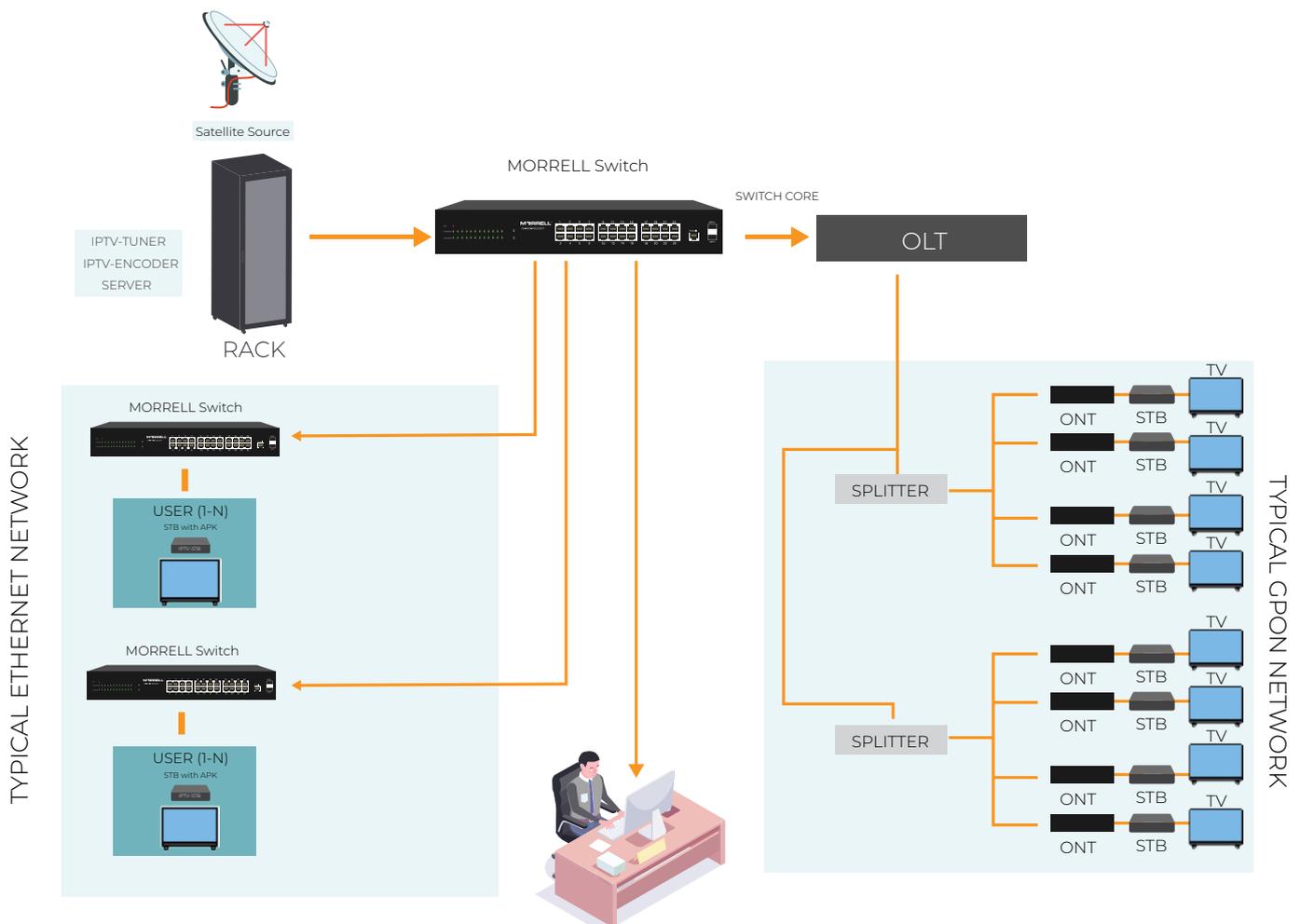
## FEATURES

IPTV systems add to the TV solutions, the service of hotels, hospitals, and other buildings all over IP networks. Capturing the TV signal through terrestrial or satellite systems passing through the headend to finally reach the room or common areas of the facility. TV signal is combined with the services throughout the system server.

MORRELL IPTV system is open with the user's number, compatible with STBs, and easy to provide Live TV, VOD, room, food, and other services. Its main functions are:

- Manage IPTV channels and features.
- Create and manage users and groups.
- Manage and control players (add, remove and change users).
- Upload music and manage video on demand.

## CONNECTION DIAGRAM



# Tuner to IP Gateway IPTV-Tuner

IPTV-Tuner



## FEATURES

- IPTV Tuner head-end convert up to 16 frequencies to a single. Ethernet output port by using internet protocol.
- The device integrates tuner demodulation and IP gateway functionality, which can demodulate the signals 16 tuners into MPTS or SPTS via UDP and RTP/RTSP protocols.
- Support 16 FTA DVB- S/S2/S2X (DVB-C/T(T)/ISDB-T/ATSC optional) input, 2 ASI input.
- Support BISS descrambling.
- Support DiSEqC function.
- 16 MPTS or 512 SPTS output (MPTS and SPTS output switchable).
- 2 GE mirrored output (IP address and port number of GE1 and GE2 are different), up to 850Mbps---SPTS.
- 2 independent GE output ports, GE1 + GE2---MPTS.
- Support PID filtering, re-mapping (Only for SPTS output).
- Support "Null PKT Filter" function (Only for MPTS output).
- Support Web operation.
- 1 Year warranty.

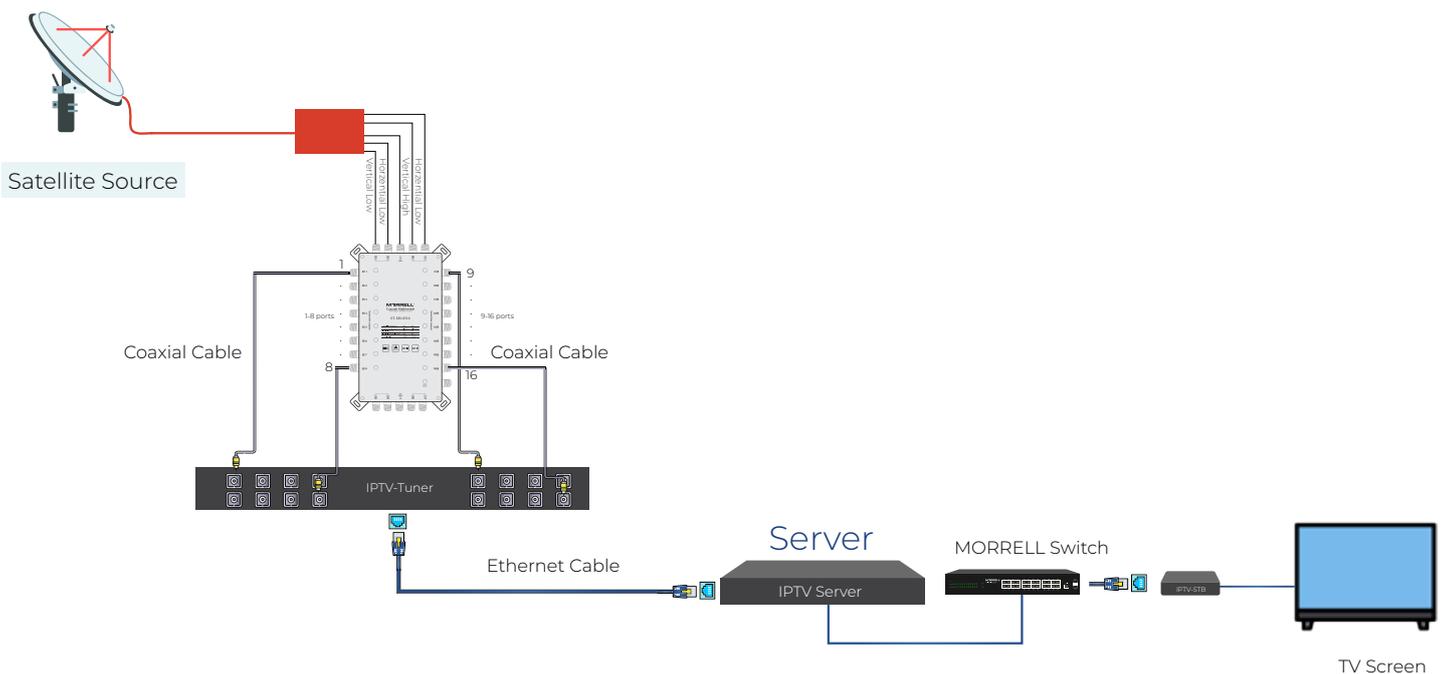
## TECHNICAL SPECIFICATION

MODEL	IPTV-Tuner		
Input	Optional 1:16 tuners input +2 ASI input---SPTS output Optional 2:14 tuners input +2 ASI input --- MPTS output Optional 3:16 tuners input --- MPTS output		
	Tuner Sections		
Multi-Mode Tuners Switchable	DVB-C	Frequency In: 60~890MHz	Standard: J.83A(DVB-C), J.83B, J.83C Constellation: 16/32/64/128/256 QAM
	DVB-T(T)	Frequency: In 60~890MHz	Bandwidth: 6/7/8 M bandwidth
	ISDB-T	Frequency: In 60~890MHz	
Version 1	DVB-S	Frequency: In 950-2150MHz	Symbol rate: 1~45 Msps FEC: 1/2, 2/3, 3/4, 5/6, 7/8 Constellation: QPSK
	DVB-S2	Frequency In 950-2150MHz	Symbol rate 1~45 Msps FEC: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 Constellation: QPSK, 8PSK
BISS Descrambling	Mode 1, Mode E (Up to 850Mbps) (descramble individual program)		
Output	512 SPTS IP mirrored output over UDP and RTP/RTSP protocol through GE1 and GE2 port (IP address and port number of GE1 and GE2 are different) , Unicast and Multicast		
System	16 MPTS IP output (for Tuner/ASI passthrough) over UDP and RTP/RTSP protocol through GE1 and GE2 port, Unicast and Multicast Web-based management Ethernet software upgrade		
Miscellaneous			
Dimensions	482mm×410mm×44mm (W×L×H)		
Approx Weight	3.6kg		
Environment	Work: 0~45°C Storage: -20~80°C		

## TECHNICAL SPECIFICATION

Power Requirements	100~240VAC, 50/60Hz		
Power Consumption	20W		
Version 2	DVB-S	Frequency In: 950~2150MHz	
		Symbol rate: 0.5~45MSPS	
		Signal Strength: -65~-25dBm	
		FEC: 1/2, 2/3, 3/4, 5/6, 7/8	
		Constellation: QPSK	
	DVB-S2	Max input bitrate ≤125 Mbps	
		Frequency: In 950~2150MHz	
		Symbol rate: QPSK/8PSK /16APSK: 0.5~45 MSPS 32APSK: 0.5~34MSPS	
		FEC: QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 32APSK: 3/4, 4/5, 5/6, 8/9, 9/10	
		Constellation: QPSK, 8PSK, 16APSK, 32APSK	
Version 2	DVB-S2X	Max input bitrate: ≤125 Mbps	
		Frequency In 950~2150MH	
		Symbol rate: QPSK/8PSK /16APSK :0.5~45 MSPS 8APSK: 0.5~40MSPS 32APSK: 0.5~34MSPS	
		FEC: QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 13/45, 9/20, 11/20 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 8APSK: 5/9-L, 26/45-L 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 1/2-L, 8/15-L, 5/9-L, 26/45, 3/5, 3/5-L, 28/45, 23/36, 2/3-L, 25/36, 13/18, 7/9, 77/90 32APSK: 3/4, 4/5, 5/6, 8/9, 9/10, 2/3-L, 32/45, 11/15, 7/9	
		Constellation: QPSK, 8PSK, 8APSK, 16APSK, 32APSK	
	ATSC	ATSC	Max input bitrate: ≤125 Mbps
			Frequency In: 54~858MHz
			Bandwidth: 6M bandwidth Constellation: 8VSB

## CONNECTION DIAGRAM





# Multi-Channel Encoder IPTV-ENCODER

IPTV-ENCODER



## FEATURES

- 8 HDMI inputs with 8 SPTS and 1 MPTS output (each encoder module), max 24 HDMI inputs.
- MPEG4 AVC/H.264 video encoding format.
- MPEG1 Layer II, LC-AAC, HE-AAC audio encoding format and AC3 Pass Through, and audio gain adjustment.
- IP output over UDP and RTP/RTSP protocol; 1 ASI out as mirror of MPTS (Optional).
- Support QR code, LOGO, caption insertion (Language Supported: 中文, nglish,Thai, Arabic, русская, Ardo, for more languages please consult us...).
- Support "Null PKT Filter" function.
- Control via web management, and easy updates via web.
- IPTV Encoder head-end convert up to 16 HDMI Source to a single ethernet output port by using internet protocol.
- The device integrates Encoder demodulation and IP gateway functionality, which can demodulate the signals 16 HDMI into MPTS or SPTS via UDP and RTP/RTSP protocols.
- 1 Year warranty.

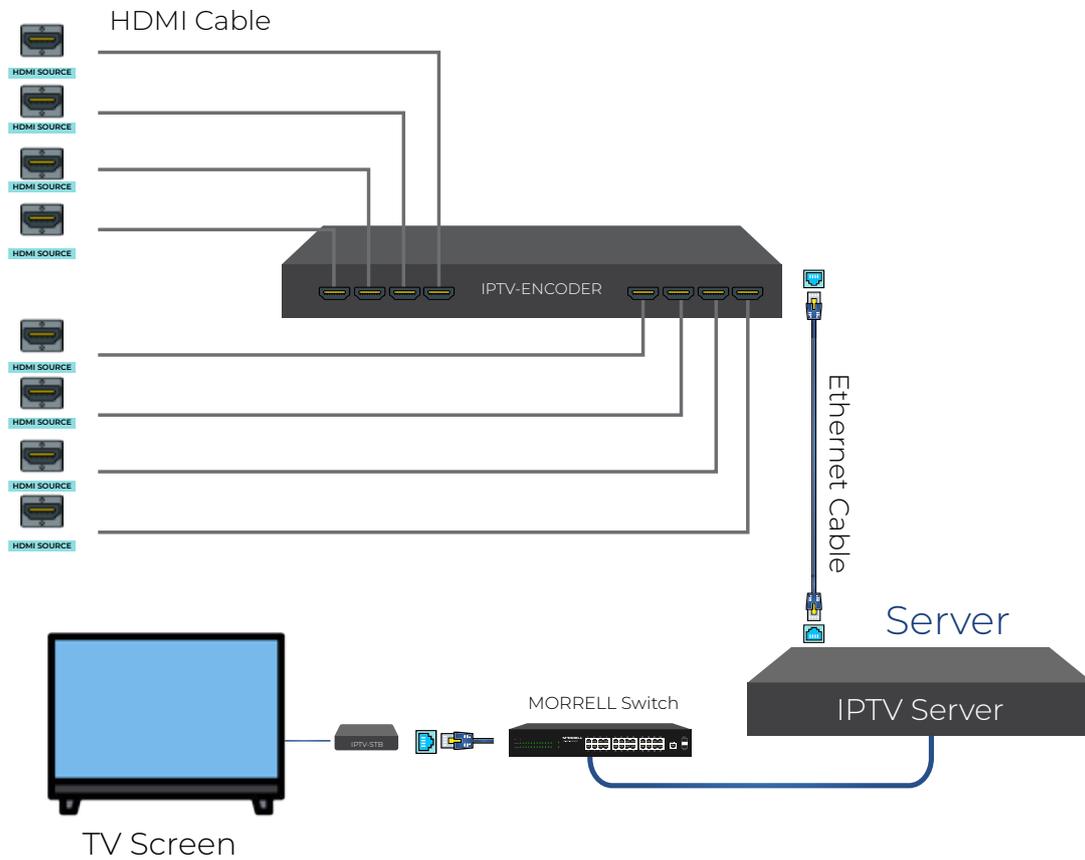
## TECHNICAL SPECIFICATION

MODEL	IPTV-ENCODER
Input	8/16/24 HDMI inputs
	Video
Resolution Input	1920×1080_60P, 1920×1080_60i, 1920×1080_50P, 1920×1080_50i, 1280×720_60P, 1280×720_50P, 720 x 576_50i, 720 x 480_60i
Resolution output	1920×1080_30P, 1920×1080_25P, 1280×720_30P, 1280×720_25P, 720 x 576_25P, 720 x 480_30P
Encoding	MPEG-4 AVC/H.264
Bit-rate	1~13Mbps each channel
Rate control	CBR/VBR
GOP Structure	IP...P (P Frame adjustment, without B Frame )
	Audio
Encoding	MPEG-1 Layer 2, LC-AAC, HE-AAC and AC3 Pass through
Sampling rate	48KHz
Resolution	24-bit
Gain	0-255 Adjustable
MPEG-1 Layer 2 Bit-rate	48/56/64/80/96/112/128/160/192/224/256/320/384 kbps
LC-AAC Bit-rate	48/56/64/80/96/112/128/160/192/224/256/320/384 kbps
HE-AAC Bit-rate	48/56/64/80/96/112/128 kbps
	Stream
Stream output	IP output through DATA (GE) over UDP and RTP/RTSP protocol (8 HDMI inputs with 8 SPTS and 1MPTS output for each encoder board) 1 ASI out as mirror of MPTS (Optional as order)
System function	Network management(WEB); Chinese and English language; Ethernet software upgrade;

## TECHNICAL SPECIFICATION

	Miscellaneous
Dimensions (W×L×H)	482mm×328mm×44mm
Environment	Work: 0~45oC Storage: -20~80oC
Power requirements	AC 110V± 10%, 50/60Hz, AC 220 ± 10%, 50/60Hz

## CONNECTION DIAGRAM





# HD IPTV Set Top Box IPTV-STB

IPTV-STB



## FEATURES

- The function of the STB is to convert the amenable incoming signal into the video signal which the user can watch on their televisions with the support of the HDMI cable.
- One end of the STB is connected to the TV while the other end is connected using an Ethernet cable via a network switch that is connected to the server.
- The set-top box has other many ports and characteristics.
- The set-top box can be connected with smartphones easily by using Wi-Fi networks.
- Personalized EPG interface for hotel, hospital, Community, and other industries.
- System wallpaper is changeable and EPG content is editable.
- Various business modes blend in the IPTV system.
- Support modular interface and convenient to docking with third part manage software.
- Hotel, hospital, and community version can support set up dvertisement business to increase revenues.
- 1 Year warranty.

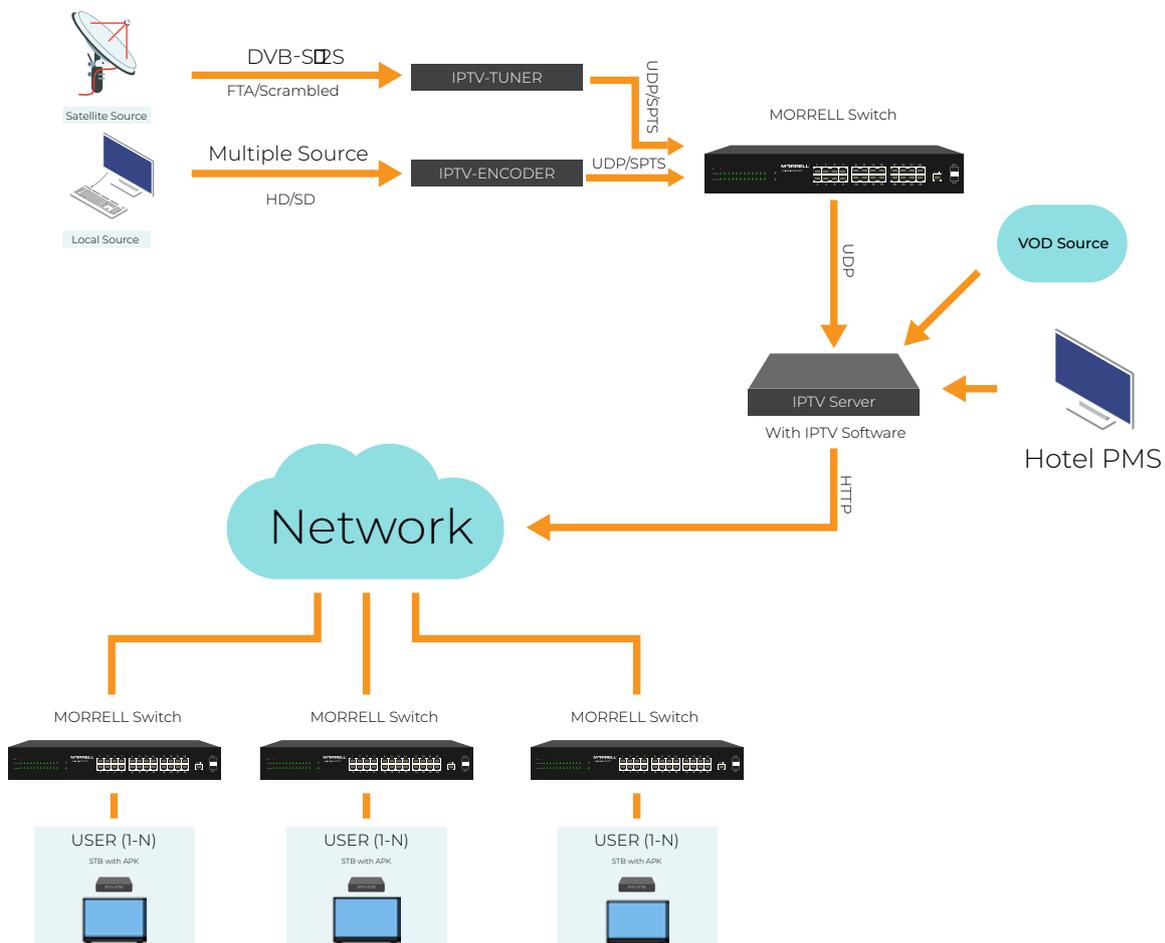
## TECHNICAL SPECIFICATION

MODEL	IPTV STB
CPU	RK3229, 28nm Quad-core Cortex A7, High-cost performance 4K OTT Box solution
GPU	ARM Mali-400 GPU
HDMI	Including an HDMI 2.0 for HDMI 2.0 for 4K YUV420@60Hz with HDCP 1.4/2.2 Support 4K 10-bit H.265/H.264/VP9 video playback and display
Memory	1GB DDRIII
Flash	8GB Nand Flash
WiFi	2.4G, 802.11 b/g/n,
Wired Network	Ethernet GMAC 10/100/100M Ethernet controller Support 10/100/1000 data transfer rate and an RGMII interface Support 10/100Mbps data transfer rate and an RGMII interface
IR	Infra Remote control
Power Supply	DC input 5V/2A
OS	Android 7.1
3D	Hardware 3D graphics acceleration
Video Decoding	4K VP9 Video decoder, 4K 10-bits H.265/H.264 video decoder 1080P other video decoders (VC-1, MPEG-1/2/4, VP6/8) Support conversion from BT.2020 to Rec.709/Rec.601 Video post processor: de-interlace H.263/H.264 2160P@ 24fps VC-1 ,MPEG - 1 1080p @ 60fps MPEG- 2 2160P @ 24fps MPEG-4 1080P @ 60fps AVS 1080p @ 60fps MVC 2160P @ 24fps WMV,3GP,MKV,ASF,3G2M4V,MJPEG,RV8,RV9,RV10 1080P@60fps Support HEVC decoder Support Main/Main10 HEVC/H.265 decoder, 4K @ 60FPS Support 4096x2304 resolution Support HDMI 720P-2160P Full 3D HD( 2160P, 3840 * 2160 ), 4K+2 K Support flash11.1
Video Decoder	H.264,H.265,VP8,MVC(1080P)
Video Format	Supports DIVD/DIVX/REAL8 / 9 / 10, RV, RM, RMVB, PMP, FLV, MP4, M4V, VOB, VP6, VP8 2160P @ 24fps
Audio Format	Supports MP1, MP2, MP3, WMA, OGG, AAC, M4A, FLAC, APE, AMR, RA, WAV, etc

## TECHNICAL SPECIFICATION

HDD File System	FAT16 / FAT32 / NTFS
Support Subtitle	SRT, SMI, SUB, SSA, IDX+USB
XBMC/KODI	Support
DRM	Widevine Level1, DRM Play Ready, Verimatrix, built-in Trust zone, HDCP 2.2/1.4
Support Language	Chinese, English, Germany, Japanese, Korea,.... etc. multilateral languages
1*HDMI 2.0	Built-in HDMI 2.0 transmitter including both controller and PHY with CEC and HDCP, 4K @ 60FPS max resolution output
1* SD Card	to 64GB
4*USB host	2High speed USB 2.0,support USB DISK and USB HDD
1*SPDIF	SPDIF output
1*RJ45	Ethernet:10/100M, standard RJ-45
1*Power Input	5V/2A
Accessories	Gift box, Power charger, adapter, HDMI cable (optional), IR remote control (optional), User's Manual
Online	Browse all video websites, support Netflix, Hulu, Flixster, youtube, etc
Apps	Apps download freely from android market, amazon app store, etc
Media	Local Media playback, support HDD, U disk, SD card
Talk Online	Support SKYPE video call, MSN, Facebook, Twitter, QQ, etc
Others	Support WiFi hotspot could be as a wireless router Support DLNA, Google TV Remote, LAN, 3D Movie, Email, OfficeSuite, etc
Dimensions	118*118*25 mm
Approx Weight	400g

## CONNECTION DIAGRAM



## ■ SYSTEM FEATURES

---

### WELCOME MESSAGE

A welcome message could be arranged in the form of video or photo messages.

---

### TV CHANNELS

Media stream from satellite, HDMI source, and Internet protocol.

---

Up to 250 channels can be added to the system.

---

Support HD&SD channels TV program, and EPG import for channel.

---

Support multi-protocol for the channel Input.

---

### VIDEO-ON-DEMAND

Support up to 1080P/60Hz full HD video.

---

Support play HD videos smoothly.

---

Support classify movie files.

---

Support convenient for selecting.

---

### SERVICE OPTION

A service request could be assigned from the server manager, such as the room services in the hotel, taxi services, or calling a hospital in case of some urgent needs.

---

### FOOD SERVICE

The food menu in the hotel could be added to the IPTV system features by introducing the menu through the TV screen. By selecting the food type from the menu, its cost will be added to the guest's account.

---

### LOGIN AND LOGOUT OPTION

This option is used to control users by giving them the authority to enter the service or remove them from it through the login feature.

---

### ADDING APP OPTION

This option is used to add apps you need it.

---

### MUSIC OPTION

This option that used to listen to your favorite music.

---

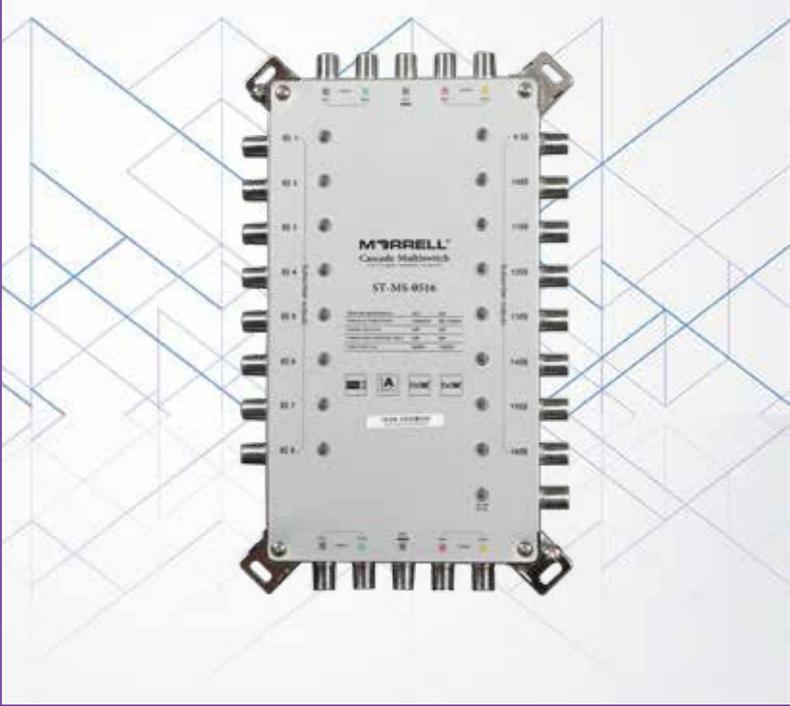
# MULTISWICH SYSTEM





# 5-Way Multiswitch

ST-MS-0516



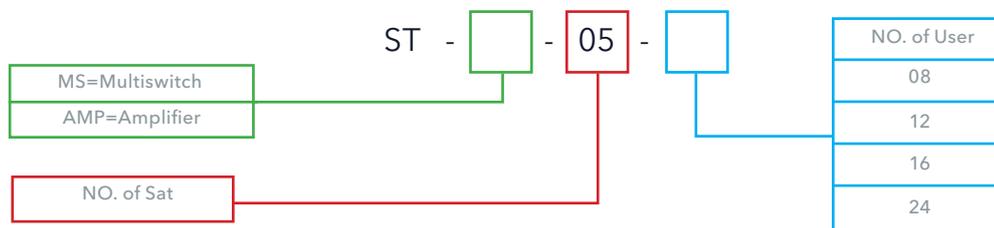
## FEATURES

- 5-way multi switches for 16 or 32 subscribers.
- Excellent quality Kirkstie alloy housing, making installation convenient.
- Excellent quality component, professional amplification design , and low loss.
- External 20V 1200mA DC power offering more stable operation.
- 13/16V 0/22KHz DiSEqC 1.0/2.0 supplied by satellite receiver through coaxial cable to switch corresponding port.
- Capable of connecting four SATV signals, one ANT signal or FM broadcast simultaneously.
- Five input signals and distributed into different subscribers for simultaneous use and no mutual interference.
- Support multi-satellite, multi-receiver and cascadable usage.
- 1 Year warranty.

## TECHNICAL SPECIFICATION

MODEL	ST-MS-0508	ST-MS-0512	ST-MS-0516	ST-MS-0524	ST-MS-0532
Type	5*5*8	5*5*12	5*5*16	5*5*24	5*5*32
Frequency Range ANT(MHZ)	5-860 MHZ				
Frequency Range SAT(MHZ)	950-2150 MHZ				
Insertion Loss ANT (dB)	5	5	5	6	6
Insertion Loss SAT (dB)	4	4	4	5	7
Insertion Loss Trunkline (dB)	3	3	3	ANT:3,SAT:6	ANT:3,SAT:6
Isolation (Switch SAT in (dB))	28	28	28	28	28
Isolation Cross ( dB)	25	25	25	25	25
Isolation (IN/OUT (dB))	25	25	25	25	25
Return Loss (input (dB))	12	12	12	12	12
Return Loss (output (dB))	8	8	8	8	8
Output Level (ANT(dBuv))	88	88	88	88	88
Output Level (SAT(dBuv))	100	100	100	100	100
Powering (Volt DC)	20V dc				
Protection Index	IP20				
Temperature (°C)	-20 °C - +60 °C				
Dimensions (mm)	156*162*82	261*162*82	261*162*82	367*162*82	422*162*82

## ORDER INFORMATION:



# 9-Way Multiswitch

## FEATURES

- 9-way multi switches for 16 or 32 subscribers.
- Excellent quality Kirkstie alloy housing, making installation convenient.
- Excellent quality component, professional amplification design, and low loss.
- External 20V 2500mA DC power offering more stable operation.
- 13/16V 0/22KHz DiSEqC 1.0/2.0 supplied by satellite receiver through coaxial cable to switch corresponding
- Capable of connecting four SATV signals, one ANT signal or FM broadcast simultaneously.
- Nine input signals and distributed into different subscribers for simultaneous use and no mutual interference.
- Support multi-satellite, multi-receiver and cascadable usage.
- 1 Year warranty.

ST-MS-0916



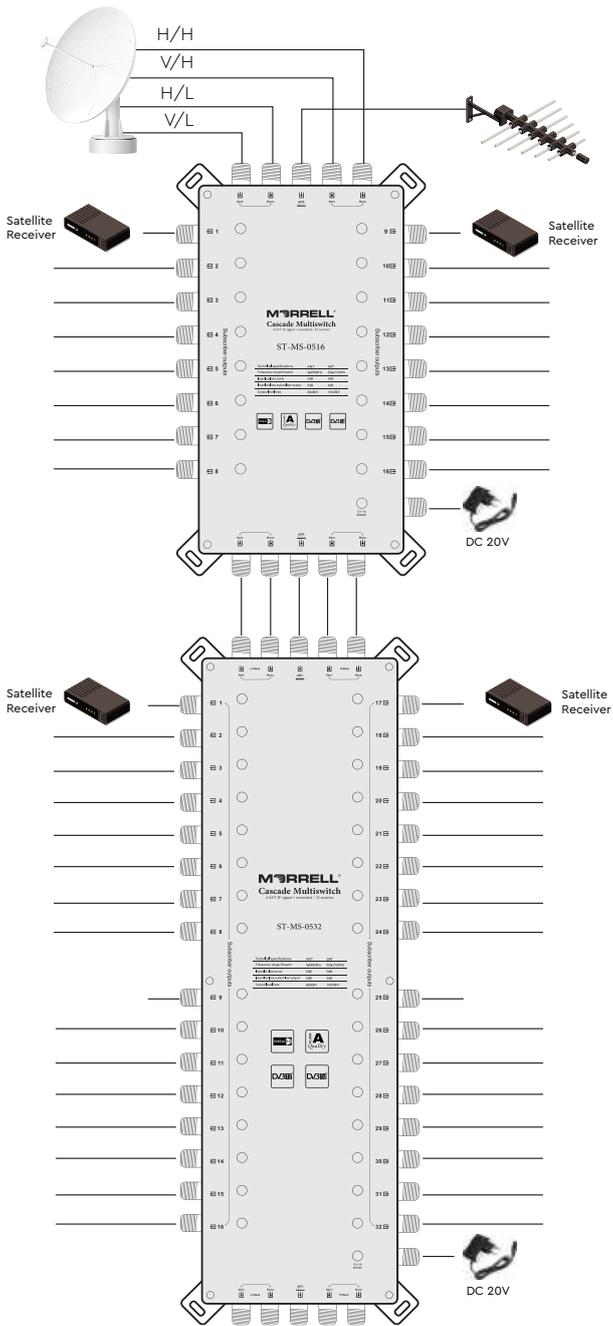
## TECHNICAL SPECIFICATION

MODEL	ST-MS-0508	ST-MS-0512	ST-MS-0516	ST-MS-0524	ST-MS-0532
Type	5*5*8	5*5*12	5*5*16	5*5*24	5*5*32
Frequency Range ANT(MHZ)	5-860 MHZ				
Frequency Range SAT	950-2150 MHZ				
Insertion Loss ANT (dB)	5	5	5	6	6
Insertion Loss SAT (dB)	4	4	4	5	7
Insertion Loss Trunkline (dB)	3	3	3	ANT:3,SAT:6	ANT:3,SAT:6
Isolation (Switch SAT)	28	28	28	28	28
Isolation Cross ( dB)	25	25	25	25	25
Isolation (IN/OUT (dB)	25	25	25	25	25
Return Loss (input (dB))	12	12	12	12	12
Return Loss (output)	8	8	8	8	8
Output Level (ANT(dBuv))	88	88	88	88	88
Output Level (SAT(dBuv))	100	100	100	100	100
Powering (Volt DC)	20V dc				
Protection Index	IP20				
Temperature (°C)	-20 °C - +60 °C				
Dimensions (mm)	156*162*82	261*162*82	261*162*82	367*162*82	422*162*82

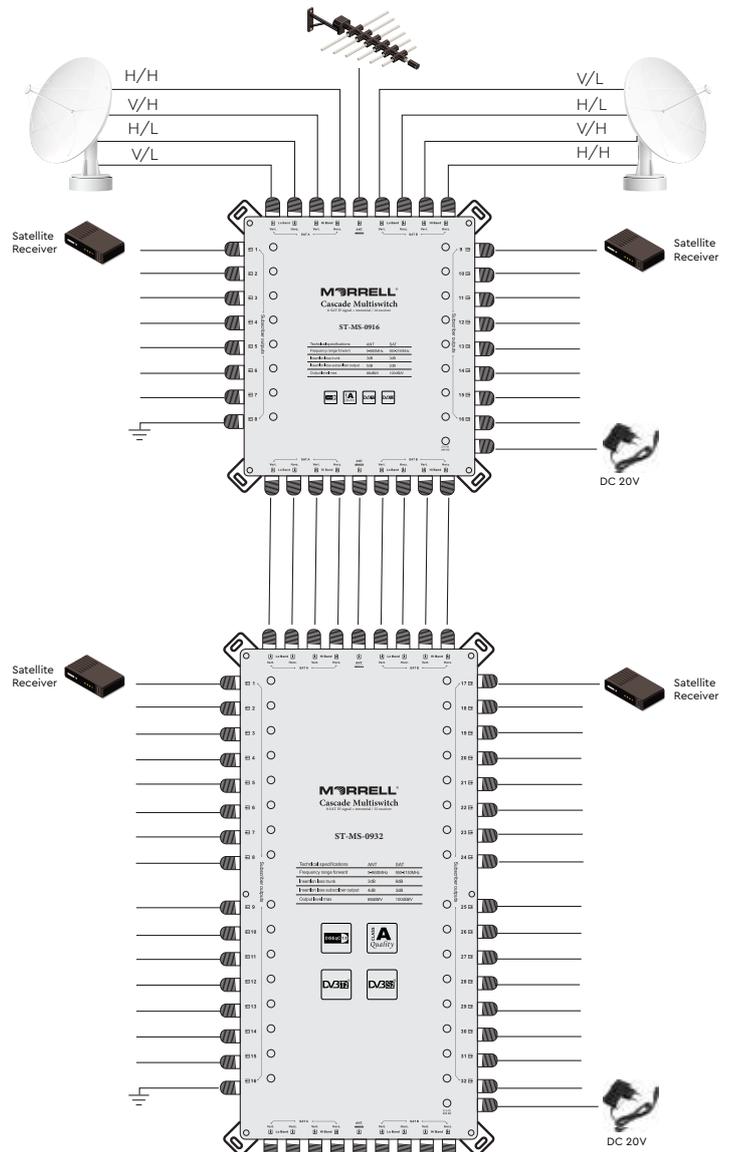
## ORDER INFORMATION:



# TECHNICAL SPECIFICATION



Connection Diagram  
5-Way Multiswitch



Connection Diagram  
9-Way Multiswitch





# LNB ST-LNB-KUQ

ST-LNB-KUQ

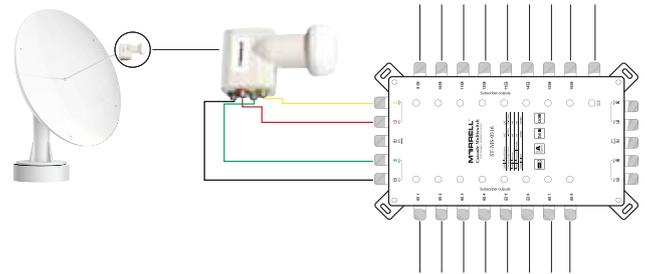


## FEATURES

Universal Quattro LNBQ, equipped with four outputs, each with one specific polarity/band combination (High/H, Low/H, High/V, Low/V). Each output is marked with the respective color: Black for High/H, Red for Low/H, Green for High/V, and Yellow for Low/V.

1 Year warranty.

## CONNECTION DIAGRAM



## TECHNICAL SPECIFICATION

MODEL	ST-LNB-KUQ
Input Frequency Range	Low Band:10.70~11.70GHz High Band:10.70~12.75GHz
Output Frequency Range	Low Band:10.70~11.70GHz High Band:10.70~12.75GHz
L.O. Frequency	Low Band:9.75GHz High Band:10.60GHz
L.O. Frequency Stability	$\pm 1.0\text{MHz}(\text{Max.})@+25^{\circ}\text{C}$ $\pm 2.0\text{MHz}(\text{Max.})@-30^{\circ}\text{C} +25^{\circ}\text{C}$
L.O. Phase Noise	-60dBc/Hz@1KHz -80dBc/Hz@1KHz -100dBc/Hz@1KHz
Conversion Gain	60dB(Typ.)
Noise Figure	0.3dB(Typ.)
Gain Flatness	$\pm 0.5\text{dB}/26\text{MHz}$
Cross POL. Isolation	25dB(Typ.)
Image Rejection	40dB(Min.)
Output VSWR	2.0:1(Max.)
PIdB	0dB(Min.)
DC Current Consumption	180mA(Typ.)
Low/High Band Switching	Low Band:0Hz High Band:22KHz $\pm$ 4KHz
POL. Switching Voltage	10.5~14.0V@Vertical 16.0~20.0V@Horizontal
Relative Humidity	0%~95%
Operation Temperature	-30 $^{\circ}\text{C}$ ~ $\pm$ 70 $^{\circ}\text{C}$
Connector Type	75 $\Omega$ Female Connector

# Satellite Coaxial Cables

## FEATURES

- 1.13mm Solid pure copper.
- (Copper color + Polyester) foil
- Copper Braiding 64\*0.1mm CU
- 6.6mm PE PVC Jacket.
- 4.8mm FPE Foam PE Dielectric.
- Outdoor use.
- 3 Years warranty.

## APPLICATION

- Television Distribution
- Transmitting audio and video signals
- Connecting TV antennas
- Telecommunications
- Security Systems

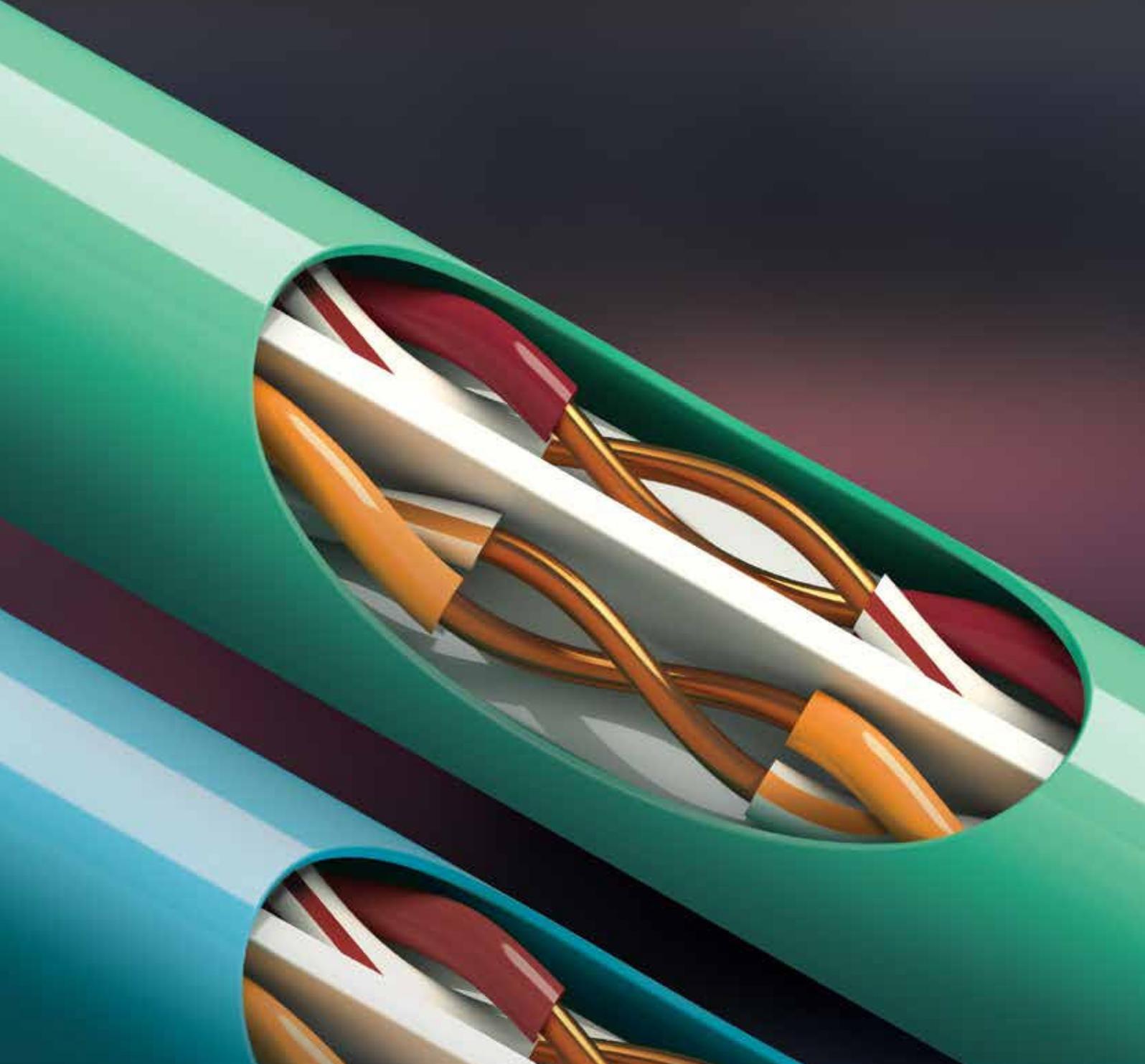
## TECHNICAL SPECIFICATION

MODEL	ML-RG6-250A	ML-RG6-500A
Conductor		Solid Pure Copper
Braid Coverage		40%
Center Conductor Diameter		1.13mm CU
Foam PE Dielectric		4.8mm FPE
Shield		Copper + Polyester foil
Copper Braiding		16 x 4 x 0.1mm Pure Copper
PVC Jacket		6.6mm PE
Impedance		75 Ω
Nominal Capacitance		54pF / m
Propagation Velocity Ratio		85%
Return Loss		20 dB(5-2300MHz)
Cable Color		Black
Length per Roll	250m	500m
Rolls per Carton	2	1
Weight per Carton	8.5kg	16.5Kg

# NETWORK COPPER CABLES, TOOLS & ACCESSORIES



# CABLES





# Single Jacket 24AWG Category 5e SF/UTP OFC Copper Cable- Fluke Test passed



## FEATURES

- 0.50mm OFC copper.
- 24 AWG.
- 4 Pairs over PE cross.
- 6.07mm LDPE outer jacket.
- Fluke-test passed.
- Outdoor use.
- 15 Years warranty , 250Mhz frequency , support POE bt (60w), weatherproof jacket, UV resistant.
- Standard: VERIFIED-TO-EIA/TIA-568B-&-ISO/IEC-11801.

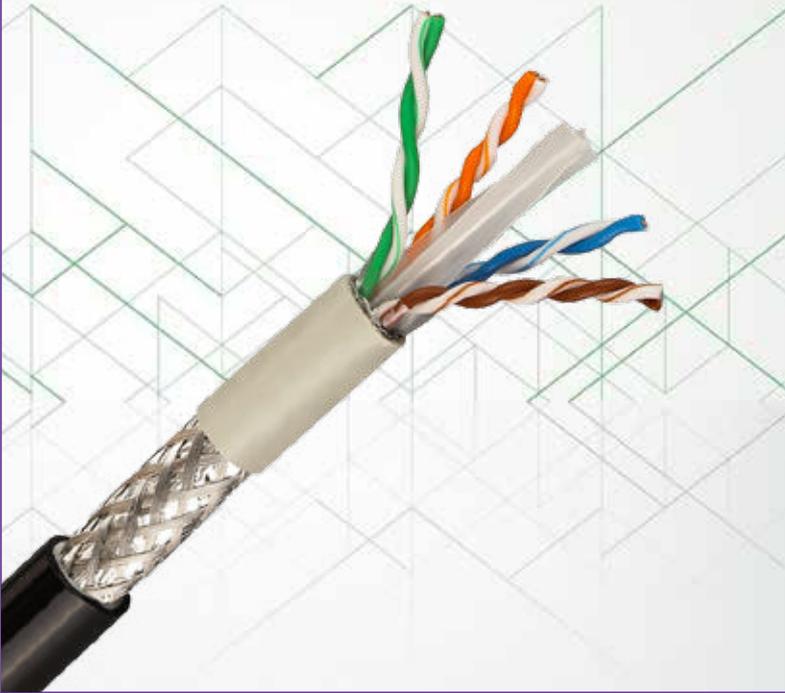
## APPLICATION

- Integrated wiring system.
- Support data, voice, video signal.
- Support 10Base-T, 100Base-TX, 1000Base-TX.
- 100Base-VG-ANY LAN, 155Mbps ATM, 622Mbps ATM, 1000Base-T
- Noisy environments.

## TECHNICAL SPECIFICATION

MODEL	CU-CBS/5063-305A
Conductor	0.50mm, OFC Copper
Insulation	0.24mm HDPE
No. of Pairs	4 pairs
Color Cord	White-Blue
	White-Orange
	White-Green
	White-Brown
PE Cross	4.4 x 4.4mm HDPE
Shielding	Spiral wrap Aluminum Mylar
Braiding	Aluminum Magnesium Alloy
Rip Cord	Nylon
Outer Jacket	6.07mm LDPE
Packaging	305m reel/box
<b>ELECTRICAL SPECIFICATION</b>	
Conductor Resistance	76 Ω/km Maximum @ 20° C
Insulation Resistance	5,000MΩ/km Minimum @ 20°C
Temperature range	-20°C to 80°C
Spark Test	1,000V DC / 1 min; No Breakdown
Nominal Impedance	100Ω±15%
Velocity of Propagation	69% (NVP: nominal velocity of propagation)

# Double Jacket 23AWG Category 6 SF/UTP OFC Copper Cable- Fluke Test passed



## FEATURES

- 0.56mm OFC copper.
- 23 AWG.
- 4 Pairs over PE cross.
- 7.5mm PVC inner jacket.
- 8.8mm LDPE outer jacket.
- Fluke-test passed.
- Outdoor use.
- 15 Years warranty , 250Mhz frequency , can work in POE bt (60w), weatherproof jacket, UV resistant.
- Standard: VERIFIED-TO-EIA/TIA-568B-&-ISO/IEC-11801.

## APPLICATION

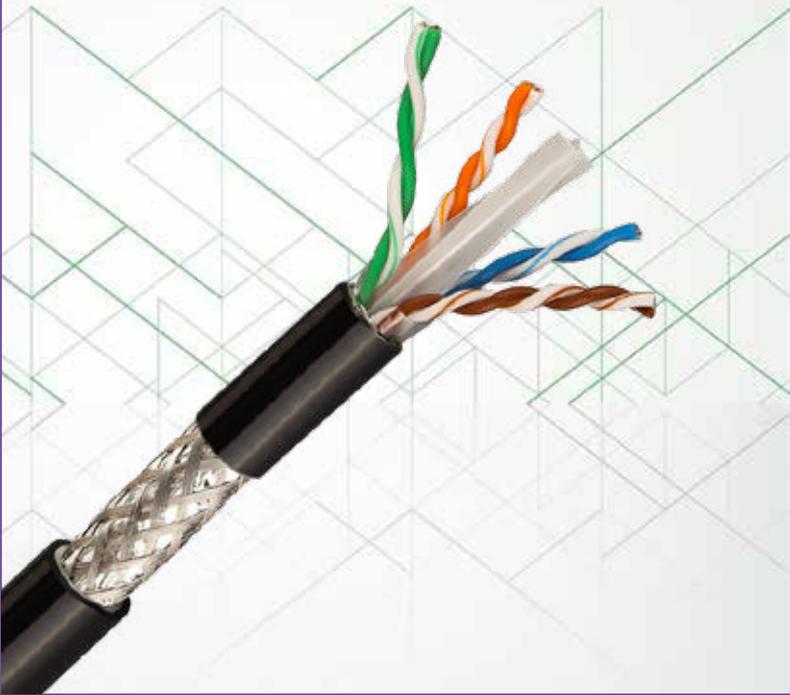
- Integrated wiring system.
- Support data, voice, video signal.
- Support 10Base-T, 100Base-TX, 1000Base-TX.
- 100Base-VG-ANY LAN, 155Mbps ATM, 622Mbps ATM, 1000Base-T
- Noisy environments.

## TECHNICAL SPECIFICATION

MODEL	CU-CBS/6064-305A
Conductor	0.56mm, OFC Copper
Insulation	0.26mm HDPE
No. of Pairs	4 pairs
Color Cord	White-Blue
	White-Orange
	White-Green
	White-Brown
PE Cross / Separator	4.4 x 4.4mm HDPE
Shielding	Spiral wrap Aluminum Mylar
Braiding	Aluminum Magnesium Alloy
Rip Cord	Nylon
Inner Jacket	7.5mm PVC
Outer Jacket	8.8mm LDPE
Packaging	305m reel/box
<b>ELECTRICAL SPECIFICATION</b>	
Conductor Resistance	76 Ω/km Maximum @ 20° C
Insulation Resistance	5,000MΩ/km Minimum @ 20°C
Temperature Range	-20°C to 80°C
Spark Test	1,000V DC / 1 min; No Breakdown
Nominal Impedance	100Ω±15%
Velocity of Propagation	69% (NVP : nominal velocity of propagation)



# Single Jacket 23AWG Category 6 SF/UTP CCA Cable - Fluke Test passed



## FEATURES

- Copper Clad Aluminum LAN cable.
- 23 AWG.
- 4 Pairs over PE Cross.
- Fluke-test passed.
- Outdoor use.
- 3 Years warranty, 250Mhz frequency, can work in POE bt (60w),UV resistant, weatherproof jacket.
- Standard: VERIFIED-TO-EIA/TIA-568B-&-ISO/IEC-11801.

## APPLICATION

- Integrated wiring system.
- Support data, voice, video signal.
- Support 10Base-T, 100Base-TX, 1000Base-TX.
- 100Base-VG-ANY LAN, 155Mbps ATM, 622Mbps ATM, 1000Base-T.
- Noisy environments.

## TECHNICAL SPECIFICATION

MODEL	CU-CBS/6063-305
Conductor	0.56mm, CCA
Insulation	0.26mm HDPE
No. of Pairs	4 pairs
Color Cord	White-Blue
	White-Orange
	White-Green
	White-Brown
PE Cross / Separator	4.4 x 4.4mm HDPE
Shielding	Spiral wrap Aluminum Mylar
Braiding	Aluminum Magnesium Alloy
Rip Cord	Nylon
Outer Jacket	6.7mm LDPE
Packaging	305m reel/box
ELECTRICAL SPECIFICATION	
Conductor Resistance	115 Ω/km Maximum @ 20° C
Insulation Resistance	5,000MΩ/km Minimum @ 20°C
Temperature Range	-20°C to 80°C
Spark Test	1,000V DC / 1 min; No Breakdown
Nominal Impedance	100Ω±15%
Velocity of Propagation	69% (NVP : nominal velocity of propagation)

# Double Jacket 23AWG Category 6 SF/UTP CCA Cable

## FEATURES

Copper Clad Aluminum LAN cable.

23 AWG.

4 Pairs over PE cross.

0.55mm PVC inner jacket.

0.60mm LDPE outer jacket.

Outdoor use.

1 Year warranty , 250Mhz frequency , can work in POE bt (60w), weatherproof jacket, UV resistant.

Standard: VERIFIED-TO-EIA/TIA-568B-&-ISO/IEC-11801.

## APPLICATION

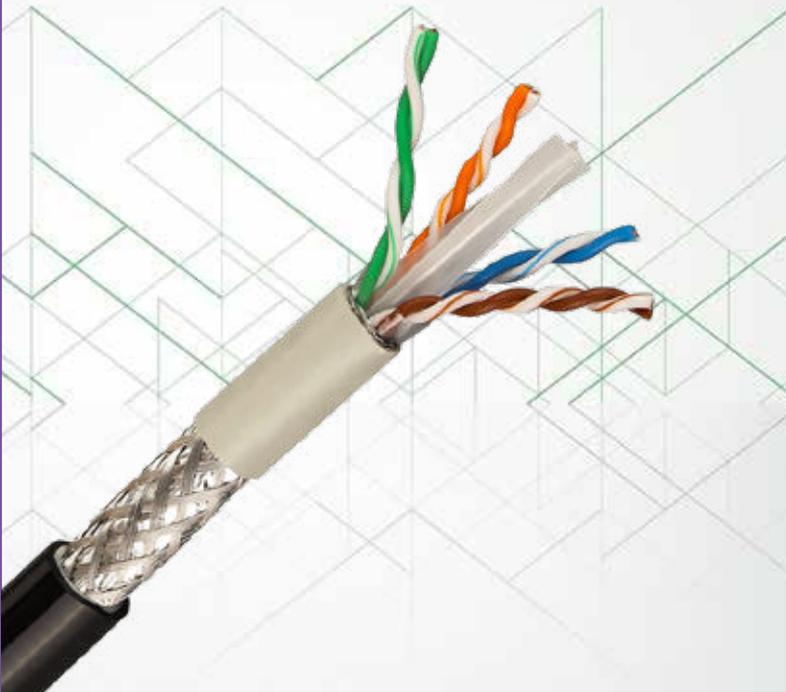
Integrated wiring system

Support data, voice, video signal

Support 10Base-T, 100Base-TX, 1000Base-TX

100Base-VG-ANY LAN, 155Mbps ATM, 622Mbps ATM, 1000Base-T.

Noisy environments.



## TECHNICAL SPECIFICATION

### MODEL

CU-CBS/6064-305C

Conductor

0.56mm, CCA

Insulation

0.26mm HDPE

No. of Pairs

4 pairs

Color Cord

White-Blue

White-Orange

White-Green

White-Brown

PE Cross / Separator

4.4 x 4.4mm HDPE

Shielding

Spiral wrap Aluminum Mylar

Braiding

Aluminum Magnesium Alloy

Rip Cord

Nylon

Inner Jacket

5.8mm PVC

Outer Jacket

7.7mm LDPE Black

Packaging

305m reel/box

### ELECTRICAL SPECIFICATION

Conductor Resistance

200 Ω/km Maximum @ 20° C

Insulation Resistance

5,000MΩ/km Minimum @ 20°C

Temperature Range

-20°C to 80°C

Spark Test

1,000V DC / 1 min; No Breakdown

Nominal Impedance

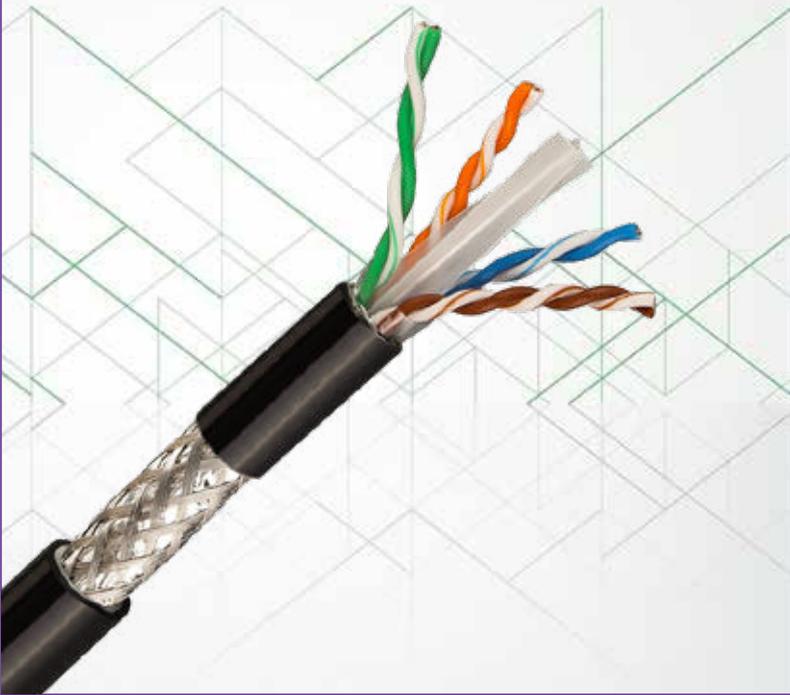
100Ω±15%

Velocity of Propagation

69% (NVP : nominal velocity of propagation)



# Single Jacket 23AWG Category 6 SF/UTP CCA Cable



## FEATURES

- Copper Clad Aluminum LAN cable.
- 23 AWG.
- 4 Pairs over PE Cross.
- Outdoor use.
- 1 Year warranty , 250Mhz frequency, can work in POE bt (60w), UV resistant, weatherproof jacket.
- Standard: VERIFIED-TO-EIA/TIA-568B-&-ISO/IEC-11801.

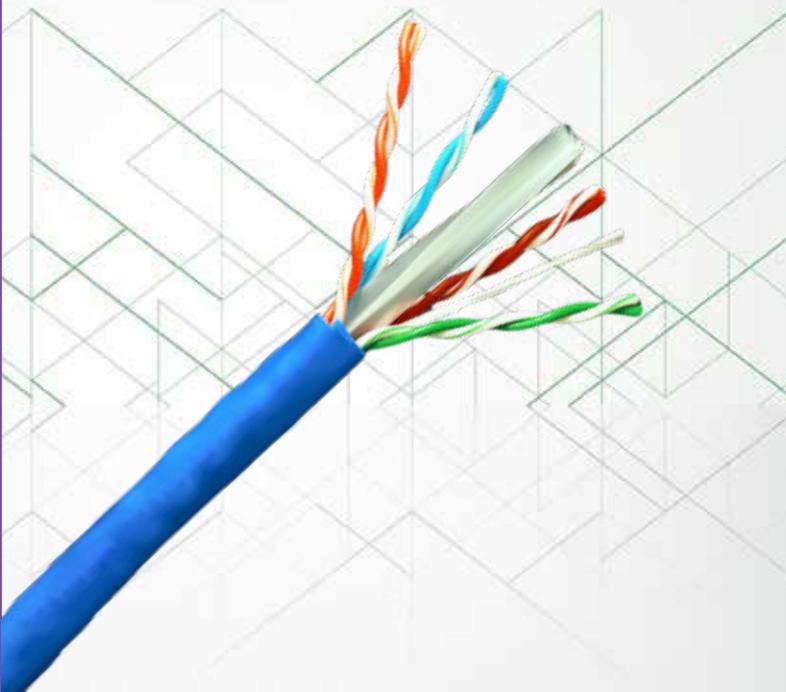
## APPLICATION

- Integrated wiring system.
- Support data, voice, video signal.
- Support 10Base-T, 100Base-TX, 1000Base-TX.
- 100Base-VG-ANY LAN, 155Mbps ATM, 622Mbps ATM, 1000Base-T.
- Noisy environments.

## TECHNICAL SPECIFICATION

MODEL	CU-CBS/6062-305MSJ	CU-CBS/6062-100MSJ
Conductor	CCA	
Insulation	0.193mm HDPE Insulation	
No. of Pairs	4 pairs	
Color Cord	White-Blue	
	White-Orange	
	White-Green	
	White-Brown	
PE Cross / Separator	4.4 x 4.4mm HDPE	
Shielding	Spiral Wrap Aluminum Mylar	
Braiding	Aluminum Magnesium Alloy	
Rip Cord	Nylon	
Outer Jacket	6.7mm MSJ Black	
Packaging	305m reel/box	100m reel/box
ELECTRICAL SPECIFICATION		
Conductor Resistance	195 ohm/km	
Insulation Resistance	5,000MΩ/km Minimum @ 20°C	
Temperature Range	-20°C to 80°C	
Spark Test	1,000V DC / 1 min; No Breakdown	
Nominal Impedance	100Ω±15%	
Velocity of Propagation	69% (NVP : nominal velocity of propagation)	

# RoHS LSZH Jacket 23AWG Category 6 U/UTP OFC Copper Cable-Fluke Test Passed



## FEATURES

- 0.56mm OFC copper.
- 23 AWG, 0.21 HDPE.
- 4 Pairs over PE Cross.
- 75 Degree RoHS PVC.
- Fluke-test passed.
- Indoor use.
- 15 Years warranty , 250Mhz frequency , can work in POE bt (60w), flame resistant.
- Standard: VERIFIED-TO-EIA/TIA-568B-&-ISO/IEC-11801.

## APPLICATION

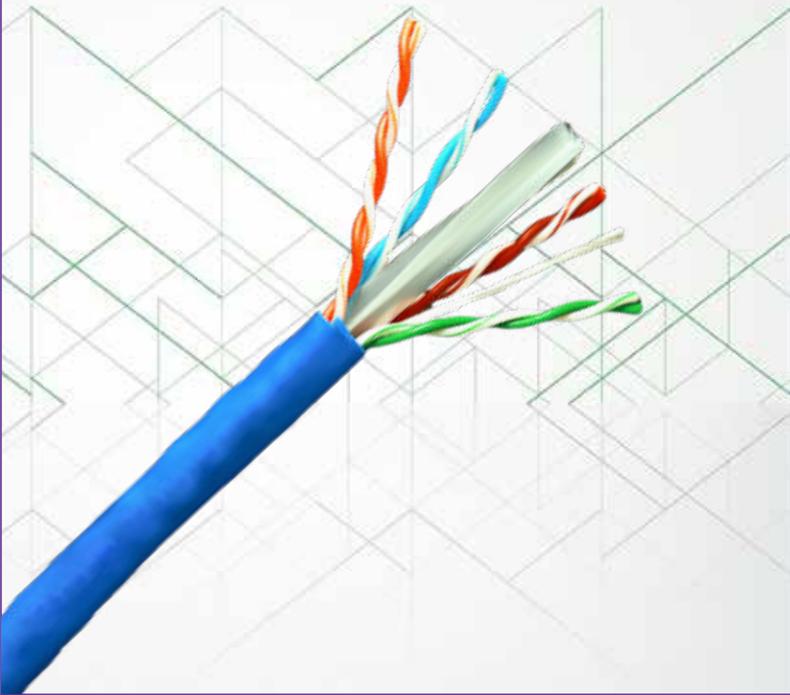
- Integrated wiring system.
- Support data, voice, video signal.
- Support 10Base-T, 100Base-TX, 1000Base-TX.
- 100Base-VG-ANY LAN, 155Mbps ATM, 622Mbps ATM, 1000Base-T.

## TECHNICAL SPECIFICATION

MODEL	CU-CBS/6015-305A
Conductor	0.56mm, OFC copper
Insulation	0.21mm HDPE
Ripcord	Yes
No. of Pairs	4 pairs
Color Cord	White-Blue
	White-Orange
	White-Green
	White-Brown
PE Cross	4.4 x 4.4mm HDPE
Jacket	6.2mm LSZH
PACKAGING	305m reel/box
ELECTRICAL SPECIFICATION	
Conductor Resistance	76 Ω/km Maximum @ 20° C
Insulation Resistance	5,000MΩ/km Minimum @ 20°C
Temperature Range	-20°C to 75°C
Spark Test	1,000V DC / 1 min; No Breakdown
Velocity of Propagation	69% (NVP: nominal velocity of propagation)
Nominal Impedance	100Ω±15%
Colors	Blue, Yellow, White, Green, Grey, Red, Orange & Purple



# RoHS PVC Jacket 23AWG Category 6 U/UTP OFC Copper Cable-Fluke Test Passed



## FEATURES

- 0.56mm OFC copper.
- 23 AWG, 0.21 HDPE.
- 4 Pairs over PE Cross.
- 75 Degree RoHS PVC.
- Fluke-test passed.
- Indoor use.
- 15 Years warranty , 250Mhz frequency , can work in POE bt (60w).
- Standard: VERIFIED-TO-EIA/TIA-568B-&-ISO/IEC-11801.

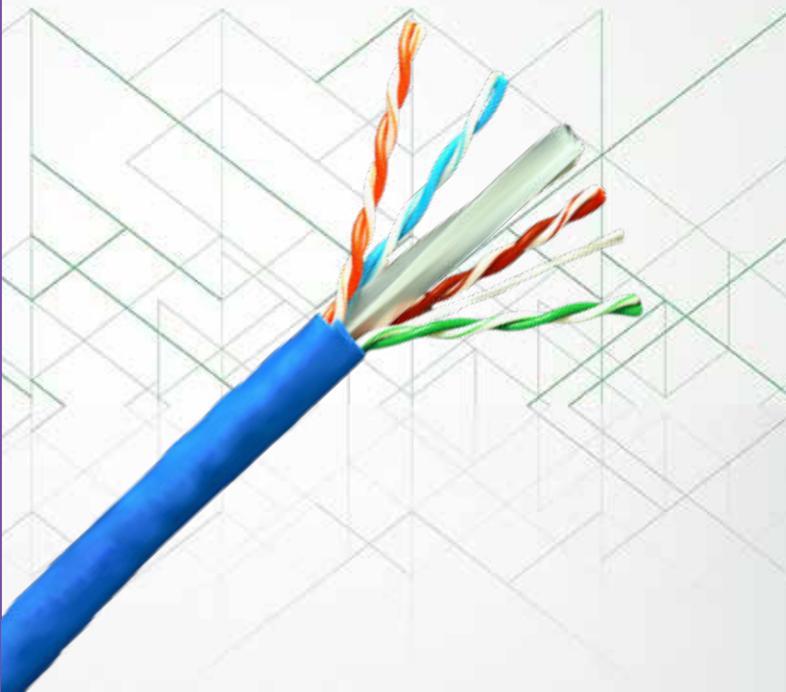
## APPLICATION

- Integrated wiring system.
- Support data, voice, video signal.
- Support 10Base-T, 100Base-TX, 1000Base-TX.
- 100Base-VG-ANY LAN, 155Mbps ATM, 622Mbps ATM, 1000Base-T.

## TECHNICAL SPECIFICATION

MODEL	CU-CBS/6011-305A
Conductor	0.56mm, OFC copper
Insulation	0.21mm HDPE
Ripcord	Yes
No. of Pairs	4 pairs
Color Cord	White-Blue
	White-Orange
	White-Green
	White-Brown
PE Cross	4.4 x 4.4mm HDPE
Jacket	6.2mm PVC
PACKAGING	305m reel/box
ELECTRICAL SPECIFICATION	
Conductor Resistance	76 Ω/km Maximum @ 20° C
Insulation Resistance	5,000MΩ/km Minimum @ 20°C
Temperature Range	-20°C to 75°C
Spark Test	1,000V DC / 1 min; No Breakdown
Velocity of Propagation	69% (NVP: nominal velocity of propagation)
Nominal Impedance	100Ω±15%
Colors	Blue, Yellow, White, Green, Grey, Red, Orange & Purple

# 23AWG Category 6 U/UTP CCA Solid Cable



## FEATURES

- 0.56mm CCA Solid.
- 23 AWG, 0.21 HDPE.
- 4 Pairs over PE Cross.
- Indoor use.
- 1 Year warranty , 250Mhz frequency , can work in POE bt (60w).
- Standard: VERIFIED-TO-EIA/TIA-568B-&-ISO/IEC-11801.

## APPLICATION

- Integrated wiring system.
- Support data, voice, video signal.
- Support 10Base-T, 100Base-TX, 1000Base-TX.
- 100Base-VG-ANY LAN, 155Mbps ATM, 622Mbps ATM, 1000Base-T.

## TECHNICAL SPECIFICATION

MODEL	CU-CBS/6011-305C	CU-CBS/6011-100C
Conductor	0.56mm, CCA Solid	
Insulation	0.34mm HDPE	
Ripcord	Yes	
No. of Pairs	4 pairs	
Color Cord	White-Blue	
	White-Orange	
	White-Green	
	White-Brown	
PE Cross	4.4 x 4.4mm HDPE	
Jacket	5.8mm PVC	
PACKAGING	305m reel/box	100m reel/box
ELECTRICAL SPECIFICATION		
Conductor Resistance	195 Ω/km Maximum @ 20° C	
Insulation Resistance	5,000MΩ/km Minimum @ 20°C	
Temperature Range	-20°C to 75°C	
Spark Test	1,000V DC / 1 min; No Breakdown	
Nominal Impedance	100Ω±15%	
Velocity of Propagation	69% (NVP: nominal velocity of propagation)	
Colors	Blue, Yellow, White, Green, Grey, Red, Orange & Purple	



# Single Jacket 23AWG Category 7 F/FTP BC Cable - Fluke Test passed



## FEATURES

- 0.57mm Bare copper.
- 23 AWG.
- 4 Pairs over PE cross.
- Fluke-test passed.
- Indoor use.
- 15 Years warranty , 600Mhz frequency , can work in POE bt (60w).
- Standard: VERIFIED-TO-EIA/TIA-568B-&-ISO/IEC-11801.

## APPLICATION

- Operating at speeds of 10 Gb/s at 100 meters.
- Transmitting frequencies up to 600 Mhz.
- Support data, voice, video signal.
- Support 100Base-TX, 100Base-T4.
- 100VG-AnyLAN, 1000Base-T (Gigabit Ethernet), ATM.
- Noisy environment.

## TECHNICAL SPECIFICATION

MODEL	CU-CBS-7031-305
Conductor	0.57mm, Bare copper (OFC)
Insulation	0.26mm HDPE
No. of Pairs	4 pairs
Color Cord	White-Blue
	White-Orange
	White-Green
	White-Brown
PE Cross / Separator	4.4 x 4.4mm HDPE
Rip Cord	Nylon
Outer Jacket	7.8 mm PVC
Packaging	305m reel/box
ELECTRICAL SPECIFICATION	
Conductor Resistance	76 Ω/km Maximum @ 20° C
Insulation Resistance	5,000MΩ/km Minimum @ 20°C
Temperature Range	-20°C to 80°C
Spark Test	1,000V DC / 1 min; No Breakdown
Nominal Impedance	100Ω±15%
Velocity of Propagation	69% (NVP: nominal velocity of propagation)



# Single Jacket 23AWG Category 7 SF/FTP BC Cable - Fluke Test passed

## FEATURES

- 0.57mm Bare copper
- 23 AWG
- 4 Pairs over PE Cross
- Fluke-test passed
- outdoor use
- 15 Years warranty , 600Mhz frequency , can work in POE bt (60w),weatherproof jacket, UV resistant
- Standard: VERIFIED-TO-EIA/TIA-568B-&-ISO/IEC-11801

## APPLICATION

- Operating at speeds of 10 Gb/s at 100 meters.
- Transmitting frequencies up to 600 Mhz.
- Support data, voice, video signal.
- Support 100Base-TX, 100Base-T4.
- 100VG-AnyLAN, 1000Base-T (Gigabit Ethernet), ATM.
- Noisy environment

## TECHNICAL SPECIFICATION

MODEL	CU-CBS-7063-305
Conductor	0.57mm, Bare copper (OFC)
Insulation	0.26mm HDPE
No. of Pairs	4 pairs
Color Cord	White-Blue
	White-Orange
	White-Green
	White-Brown
PE Cross / Separator	4.4 x 4.4mm HDPE
Shielding	Spiral wrap Aluminum Mylar
Braiding	Aluminum Magnesium Alloy
Rip cord	Nylon
Outer Jacket	8.8 mm LDPE
Packaging	305m reel/box
ELECTRICAL SPECIFICATION	
Conductor Resistance	76 Ω/km Maximum @ 20° C
Insulation Resistance	5,000MΩ/km Minimum @ 20°C
Temperature range	-20°C to 80°C
Spark test	1,000V DC / 1 min; No Breakdown
Nominal Impedance	100Ω±15%
Velocity of Propagation	69% (NVP: nominal velocity of propagation)



CAT.7 SFTP PATCH CORD



## FEATURES

U/UTP CAT.6, SF/UTP CAT.7 U/UTP twisted pair cable, 100% full copper conductors.

Pass fluke test high-performance computer networking cable.

Suitable for fast, Gigabit, and 10-Gigabit ethernet.

Digital communication applications of up to 250MHz for CAT.6  
600MHz for CAT.7 Bandwidth.

Exceeds ANSI/TIA 568-b, ISO/IEC 11801 standards.

CE / ISO / ROHS approved, PVC jacket use indoors.

100% Test and pass.

Superior network connectivity.

The most high-speed large-capacity data transmission.

High stability & reliability.

Error-free performance.

15 Years warranty for (0.2, 0.3, 0.5, 1, 2, & 3m UTP CAT.6).

15 Years warranty for (0.3, 0.5, 1, & 3m UTP CAT.7).

3 Years warranty for (5, 10m UTP CAT.6).

## APPLICATION

- Meets or exceeds requirements of ANSI/TIA-568-B Category 6,7 and ISO 11801 2nd Edition Class E, F channel standards.
- Meets or exceeds requirements of ANSI/TIA-568-B and IEC 61156-5 Category 6,7 component standards.
- Very suitable for high-speed Internet applications.
- Multi-user online games.

- Third-party tested to comply with ANSI/TIA-568-B.
- Meets requirements of IEEE 802.3af and IEEE 802.3at for PoE applications.
- Descending length cable markings enable easy identification of remaining cable which reduces installation time and cable scrap.
- Continuous video/audio streaming.
- SOHO networking applications.

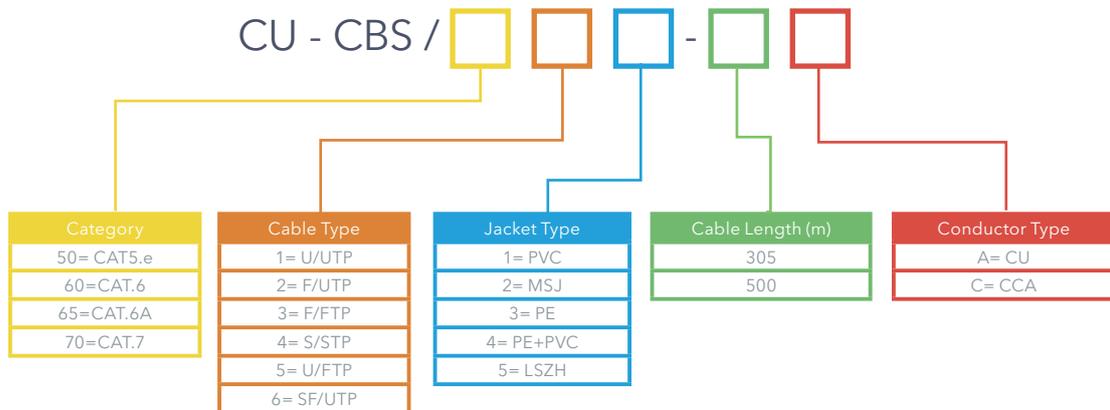
## TECHNICAL SPECIFICATION

MODEL No.	CAT.6	CAT.7
Conductor Material	Bare copper	
Conductor Size	24AWG X 4P	
Conductor Construction	7/0.20±0.008mm	
Insulation Material	HDPE	Foam Skin
Insulation Diameter	0.95±0.05mm	1.40±0.05mm
Insulation Colors	ORG/WHT; GRN/WHT; BRN/WHT; BLU/WHT	
Cross Material	Polypropylene	/
Shielding Material	/	AL Foil
Braid Darin Wire	/	7/0.20BS
Braid Cond.Size	/	16/9/0.12±0.008AL/MY
Jacket Material	PVC (Polyvinyl Chlorid)	
Colors	Blue, Yellow, White, Green, Grey, Red, Orange & Purple	
Cable Diameter	6.00±0.20mm	8.0±0.20mm

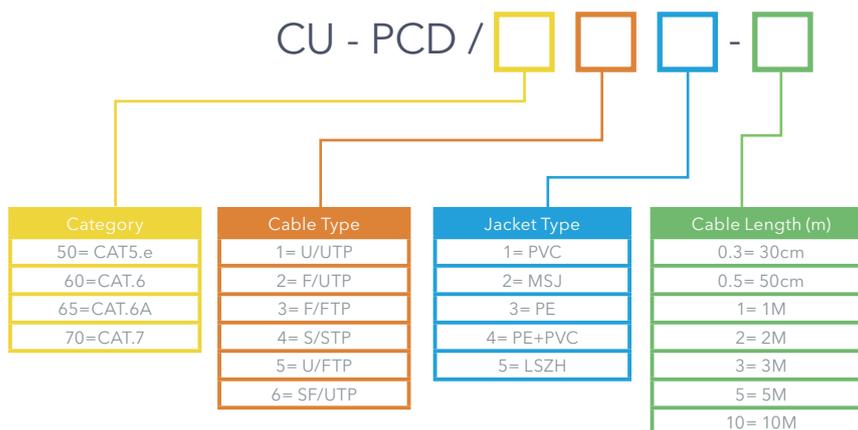
## TECHNICAL SPECIFICATION

MODEL	CAT.6	CAT.7
Separator	PP Cross	Aluminum Foil
Connector Type	RJ45 8P8C	
Connection Standard	TIA/EIA-568-B	
Connector	3-50u Gold Plated RJ45	
Connector Material	PC	
Transmission Speed	2500Mbps	10Gbps
Transmission Frequency	250MHZ	600MHZ
Twisted Wire Mode	8 Pairs Twisted	
Cover Material	PVC	
Plug Insertion Life, Minimum	750 times	
Wire Shape	Round	
Operating Temperature	-20°C - +60°C	

## ORDER INFORMATION FOR CABLE LAN



## ORDER INFORMATION FOR PATCH CORD LAN



# TOOLS & ACCESSORIES



# 24-48 Port STP Category 6 Patch Panel 1U

## CU-REP-PAT6-S3

### DESCRIPTION:

MORRELL CAT.6 STP patch panel is an enhanced performance patch panel used for transmission of high speed data, digital and analogue voice.

It supports gigabit ethernet (1000 BASE-T) standard and operates at bandwidths up to 250 MHZ.



### HIGHLIGHTS:

- 24-48 Port shielded RJ45 jacks
- Usage: outdoor
- Size: 1U
- Up to 250 MHZ bandwidths.
- Printed with color code TIA 568A/B
- 19" Housing
- 5 Years warranty

### APPLICATIONS:

- 100 Base-TX
- 100 Base-T
- 100VG-Any LAN
- 1000 Base-T (Gigabit Ethernet)
- 1000 Base-TX

Part No

Type

CU-REP-PAT6-S3-24B

Black 24 Port STP CAT.6 Patch Panel

CU-REP-PAT6-S4-48B

Black 48 Port CAT.6 STP Patch Panel (1 Unit), Krone IDC

## CU-REP-PAT6-U3

### DESCRIPTION:

MORRELL CAT.6 UTP Patch Panel is an enhanced performance patch panel used for transmission of high speed data, digital and analogue voice.

It supports Gigabit Ethernet (1000 BASE-T) standard and operates at bandwidths up to 250 MHZ.

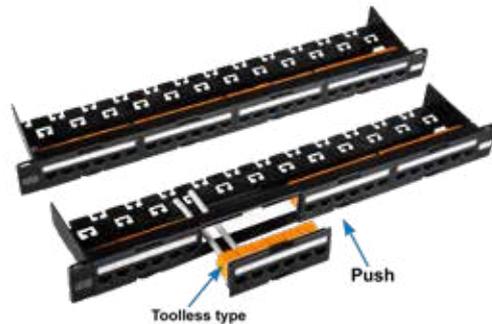


### HIGHLIGHTS:

- 24 or 48 port unshielded RJ45 jacks
- Indoor use
- 250 MHZ bandwidth
- Printed with color code TIA 568A/B
- 19" housing
- 5 Years warranty

### APPLICATIONS:

- 100 Base-TX
- 100 Base-T
- 100VG-Any LAN
- 1000 Base-T (Gigabit Ethernet)
- 1000 Base-TX



Part No	Type
CU-REP-PAT6-U3-24B	Black 24 Port CAT.6 Patch Panel,110 IDC
CU-REP-PAT6-U3-48B	Black 48 Port CAT.6 Patch Panel,110 IDC
CU-REP-PAT6-U4-24O	Toolless Orange 24 Port U/UTP CAT.6 Patch Panel

# Outlets

## CU-CAD-FAC6-U4



MODEL

Description

Size

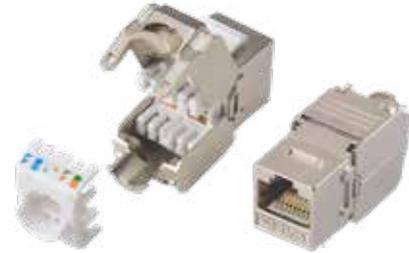
CU-CAD-FAC6-U4-W

White CAT.6 FacePlate Single or Dual Port

86 x 86 mm

SUITABLE FOR RJ45 KEYSTONE JACK  
5 Years warranty

## CU-CAD-KEY6-S3



MODEL

Description

CU-CAD-KEY6-S3-TOL-G

Grey CAT.6 STP RJ45 Keystone Jack Toolless Type

No need to punch wire by tools

## CU-CAD-KEY6-U3



MODEL

Description

CU-CAD-KEY6-U3-W

CAT.6 RJ45 Keystone Jack Dual IDC  
5 Years warranty

## CU-CAD-KEY5-TOL



MODEL

Description

CU-CAD-KEY5-U3-TOL

Toolless CAT.5 RJ45 Keystone Jack, No need to punch wire by tools

## CU-CAD-KEY6-S4



MODEL

Description

CU-CAD-KEY6-S4-TOL-G

Grey CAT.6 STP RJ45 Keystone Jack Toolless Type

No need to punch wire by tools

## CU-CAD-COU6-U3



MODEL

Description

CU-CAD-COU6-U3-B

Black CAT.6 RJ45 Adaptor

Suitable to be fixed on a patch panel or faceplate  
5 Years warranty

# CAT.6 Standard Modular Plugs



## HIGHLIGHTS:

- Terminates 4-pair, 23AWG Solid or Stranded Shielded Twisted Pair Patch Cable.
- Compatible with Cable Jacket Diameters from 7.5 to 8.5mm and Conductor Wire Sizes up to 1.45mm.
- Works with Most Available RJ45 Crimp Tools.
- Contacts Plated with 50 Microinches of Gold for Superior Performance.
- Shielded CAT.6 RJ45 Plug with Load-Bar for Easy Termination.
- Metal-shielded Shell Eliminate Cross-talk and Prevents Electromagnetic Interference (EMI).
- Robust Construction That is Rated as 750 Mating Cycles.
- 5 Years warranty.

Part No	CU-CAD-PLU6-U3-ST	CU-CAD-PLU6-U3-EZ	CU-CAD-PLU6-S3-ST	CU-CAD-PLU6-S3-EZ
Product Type	CAT.6 U/UTP Standard Modular Plug	CAT.6 U/UTP Pass-Through Plug	CAT.6 STP Standard Modular Plug	CAT.6 STP Pass-Through Plug
Connector	RJ45 Male			
Cable Type	CAT.6/UTP	CAT.6/UTP	CAT.6/STP	CAT.6/STP
Compatibility	Solid Cables			
Loading Bar	Yes			
Operating Temperature	-40°C to 85°C			
Data Rate Support	10GBase-T			
Material	Polycarbonate			
Approvals	RoHS Compliant			

# CAT.7 Standard Modular Plugs



## HIGHLIGHTS:

- Terminates 4-pair, 23AWG Solid or Stranded Shielded Twisted Pair Patch Cable.
- Compatible with Cable Jacket Diameters from 7.5 to 8.5mm and Conductor Wire Sizes up to 1.45mm.
- Works with Most Available RJ45 Crimp Tools.
- Contacts Plated with 50 Microinches of Gold for Superior Performance.
- Shielded CAT.7 RJ45 Plug with Load-Bar for Easy Termination.
- Metal-shielded Shell Eliminate Cross-talk and Prevents Electromagnetic Interference (EMI).
- Robust Construction That is Rated as 750 Mating Cycles.
- 5 Years warranty.

Part No	CU-CAD-PLU7-U3-ST	CU-CAD-PLU7-U3-EZ
Product Type	CAT.7 U/UTP Standard Modular Plug	CAT.7 UTP Pass-Through Plug
Connector		RJ45 Male
Cable Type		CAT.7/UTP
Compatibility		Solid Cables
Loading Bar		Yes
Operating Temperature		-40°C to 85°C
Data Rate Support		10GBase-T
Material		Polycarbonate
Approvals		RoHS Compliant

# Boots RJ45 Data Plugs



## HIGHLIGHTS:

- Strain Relief Boots help keep connectors on the cable.
- Compatible with CAT.5e and CAT.6 cable.
- Available in a 5-color assortment to color code cables for easy identification.
- Flexible ABS plastic material does not damage cables.
- Protect the latch from damage.
- Includes 20 black, 20 white, 20 red, 20 yellow, and 20 blue strain relief boots (100 total).
- Size: 1.1 x 0.5 x 0.1-Inch (2.8 x 1.3 x 1.8 cm).
- 5 Years warranty.

## FEATURES:

- Protect the connector.
- Prevent tangled messes.
- Eliminate broken release/locking tabs.
- Relieve stress on the cable.
- Help maintain radius bend.
- Cover the external ground on shielded connectors.

## APPLICATION:

- 5.5mm / 0.217" (typically for CAT.5e).
- 6.0mm / 0.236" (typically for small CAT.6).
- 6.5mm / 0.260" (typically for medium CAT.6).
- 7.0mm / 0.275" (typically for large CAT.6).

Part No	CU-CAD-BOT-P1-ST	CU-CAD-BOT-P2-ST	CU-CAD-BOT-P3-ST
Product Type	RJ45 PVC standard boot for CAT.7 STP Plug	RJ45 PVC standard Boot	RJ45 PVC standard Boot
Colors	Black, Grey, Blue, Yellow, Red, Green	Grey, Blue, Yellow, Red, Green	Black, Grey, Blue, Yellow, Red, Green
Cable Type	RJ45		
Material	ABS Plastic		
Overall Length	1.1" (2.8 cm)		
Overall Height	0.7" (1.8 cm)		
Overall Width	0.5" (1.3 cm)		

# Plugs & Boots

CU-CAD-PLU6-S4



MODEL

CU-CAD-PLU6-S4-TOL

Description

Toolless modular plug for STP CAT.6

CU-CAD-PLU6-U4



MODEL

CU-CAD-PLU6-U4-TOL

Description

Toolless modular plug for U/UTP CAT.6

CU-TTE-ETH-C3



MODEL

CU-TTE-ETH-C3-EZ

Description

Crimping tool For crmping 8P plug and EZ 8P8C plug  
2 Years warranty

CU-TTE-ETH-C4-EZ



MODEL

CU-TTE-ETH-C4-EZ

Description

RG45, RG11, CAT.7, EZ Crimper  
2 Years warranty

CU-CAD-MRK6-P3



MODEL

CU-CAD-MRK6-P3-B

Description

Cable marker for CAT.5 & CAT.6 cables  
5 Years warranty

Color: Black, Grey, Blue, Yellow, Red, Green, Purple, White, Orange, Pink

CU-CAD-PLU6-S7



MODEL

CU-CAD-PLU6-S7-TOL

Description

Toolless modular plug for STP CAT.6

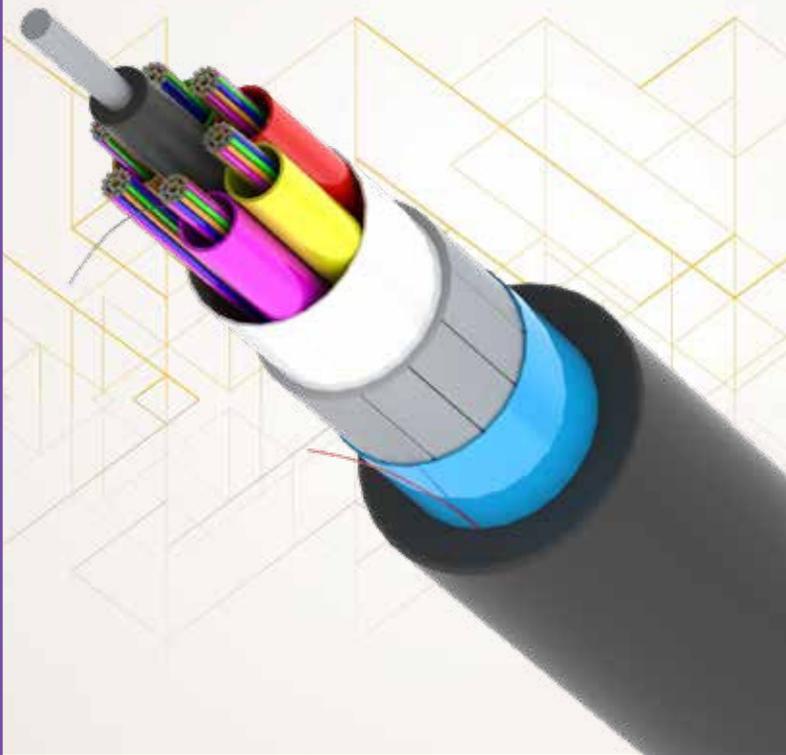
# **FIBER OPTIC CABLES, ACCESSORIES, TOOLS & TEST EQUIPMENTS**



# CABLES



# Loose tube, lap, single jacket



## FEATURES

- Essential for duct installation.
- Lightweight & flexibility.
- Distinguishable by color of fiber & loose tube.
- Essential for moisture protection.
- Rip cord for easy jacket removal.
- UV-resistant outer jacket.
- 20 Years warranty.

## APPLICATION

- Local area network.
- Long haul communication system.
- Subscriber network system.
- Junction communication system.
- Inter building & communication link.

## TECHNICAL SPECIFICATION

	2~ 36Core	38~ 72Core	74~ 96Core	98~120Core	122~144Core	146~288Core
No. of Loose Tube	1~ 6		7~ 8	9~10	11~12	13~24
No. of Fiber Per Loose Tube	1~ 6			1~12		
Diameter (mm)	11,5	12	14	15,5	17	20,5
Weight (kg/km)	125	140	185	220	280	370
Bending Radius With Load(mm)	230	240	280	310	340	410
Bending Radius No Load(mm)	115	120	140	155	170	205
CABLE PERFORMANCE						
Max. Tensile Load	2700N					
Crush Resistance	200N/cm					
OPTION						
Fiber Tube	Jelly filled, Dry core					
Fiber	Single Mode (ITU-T G.652 B, D) Multi-Mode (50/125, 62.5/125)					
Central Strength Member	Metallic, Non-metallic					
Cable Core	2 ~ 288Core					
Sheath	PE, Flame retardant PE					
TEMPERATURE RANGE						
Installation	-30°C ~ 60°C					
Operation	-40°C ~ 70°C					
Storage	-40°C ~ 70°C					

# Loose tube, steel tape armored, single jacket



## FEATURES

- Essential for duct installation.
- Lightweight.
- Distinguishable by color of fiber & loose tube.
- Essential for moisture protection.
- Rip cord for easy jacket removal.
- UV-resistant outer jacket.
- 20 Years warranty.

## APPLICATION

- Local area network.
- Long haul communication system.
- Subscriber network system.
- Junction communication system.
- Inter building & communication link.

## TECHNICAL SPECIFICATION

	2~ 36Core	38~ 72Core	74~ 96Core	98~120Core	122~144Core	146~288Core
No. of Loose Tube	1~ 6		7~ 8	9~10	11~12	13~24
No. of Fiber Per Loose Tube	1~ 6			1~12		
Diameter (mm)	12	12,5	14	16	17,5	20,5
Weight (kg/km)	165	180	225	265	330	390
Bending Radius With Load(mm)	240	250	280	320	350	410
Bending Radius No Load(mm)	120	125	140	160	175	205

### CABLE PERFORMANCE

Max. Tensile Load	2700N
Crush Resistance	200N/cm

### OPTION

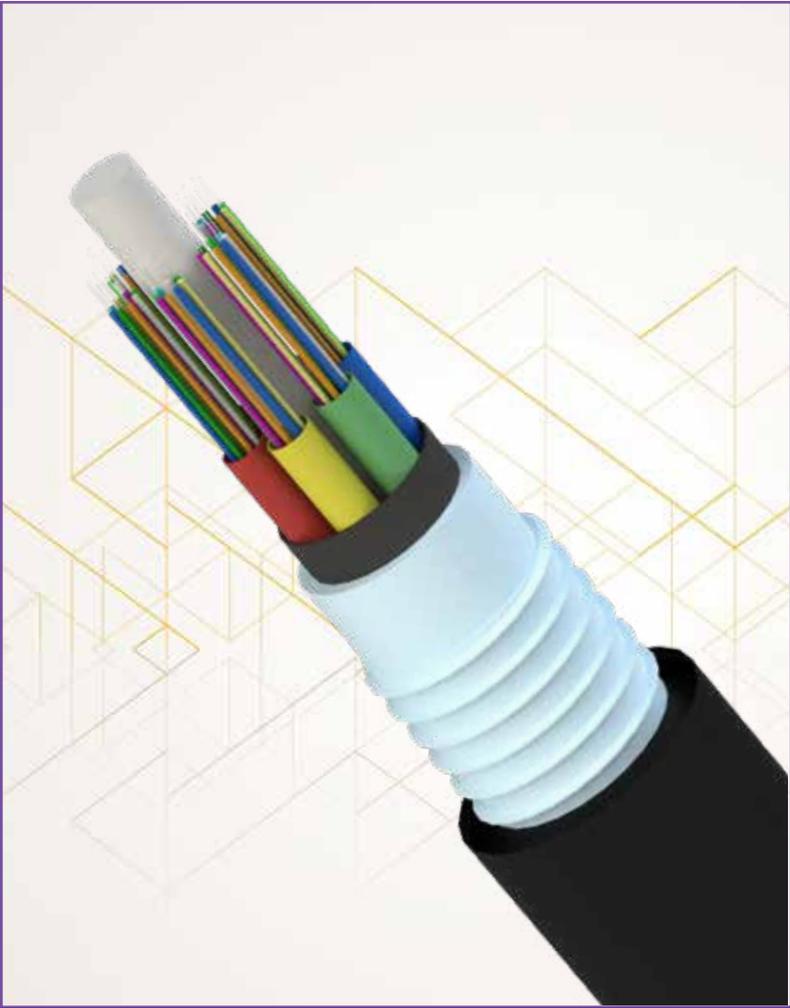
Fiber tube	Jelly filled, Dry core
Fiber	Single Mode (ITU-T G.652 B, D) Multi-Mode (50/125, 62.5/125)
Central Strength Member	Metallic, Non-metallic
Cable Jore	2 ~ 288Core
Sheath	PE, Flame retardant PE

### TEMPERATURE RANGE

Installation	-30°C ~ 60°C
Operation	-40°C ~ 70°C
Storage	-40°C ~ 70°C



# Loose tube, steel tape armored, Double jacket



## FEATURES

- Essential for direct buried installation.
- Distinguishable by color of fiber & loose tube.
- Essential for anti-rodent.
- Rip cord for easy jacket removal.
- UV-resistant outer jacket.
- 20 Years warranty.

## APPLICATION

- Local area network.
- Long haul communication system.
- Subscriber network system.
- Junction communication system.
- Inter building & communication link.

## TECHNICAL SPECIFICATION

	2~ 36Core	38~ 72Core	74~ 96Core	98~120Core	122~144Core	146~288Core
No. of Loose Tube	1~ 6		7~ 8	9~10	11~12	13~24
No. of Fiber Per Loose Tube	1~ 6			1~12		
Diameter (mm)	14	14,5	16	18	19	22,5
Weight (kg/km)	210	230	275	320	380	460
Bending Radius With Load(mm)	280	290	320	360	380	450
Bending Radius No Load(mm)	140	145	160	180	190	225
CABLE PERFORMANCE						
Max. Tensile Load	2700N					
Crush Resistance	200N/cm					
OPTION						
Fiber Tube	Jelly filled, Dry core					
Fiber	Single Mode (ITU-T G.652 B, D) Multi Mode (50/125, 62.5/125)					
Central Strength Member	Metallic, Non-metallic					
Cable Core	2 ~ 288Core					
Sheath	PE, Flame retardant PE					
TEMPERATURE RANGE						
Installation	-30°C ~ 60°C					
Operation	-40°C ~ 70°C					
Storage	-40°C ~ 70°C					

# Loose tube, LAP, Single jacket, self-support



## FEATURES

- Essential for aerial installation.
- Non-necessary for suspension wire.
- Decrease in installation cost.
- Distinguishable by color of fiber & loose tube.
- Essential for moisture protection.
- Essential for anti-rodent.
- Rip cord for easy jacket removal.
- UV-resistant outer jacket.
- 20 Years warranty.

## APPLICATION

- Local area network.
- Long haul communication system.
- Subscriber network system.
- Junction communication system.
- Inter building & communication link.

## TECHNICAL SPECIFICATION

	2~ 36Core	38~ 72Core	74~ 96Core	98~120Core	122~144Core
No. of Loose Tube	1~ 6		7~ 8	9~10	11~12
No. of Fiber Per Loose Tube	1~ 6		1~12		
Diameter (mm)	11.5x23.5	12.0x24.0	14.0x26.0	15.5x27.5	17.0x29.0
Weight (kg/km)	210	230	280	325	400
Bending Radius With Load(mm)	230	240	280	310	340
Bending Radius No Load(mm)	115	120	140	155	170
CABLE PERFORMANCE					
Max. Tensile Load	2700N				
Crush Resistance	200N/cm				
OPTION					
Fiber Tube	Jelly filled, Dry core				
Fiber	Single Mode (ITU-T G.652 B, D) Multi Mode (50/125, 62.5/125)				
Central Strength Member	Metallic, Non-metallic				
Cable Core	2 ~ 144Core				
Sheath	PE, Flame retardant PE				
TEMPERATURE RANGE					
Installation	-30°C ~ 60°C				
Operation	-40°C ~ 70°C				
Storage	-40°C ~ 70°C				



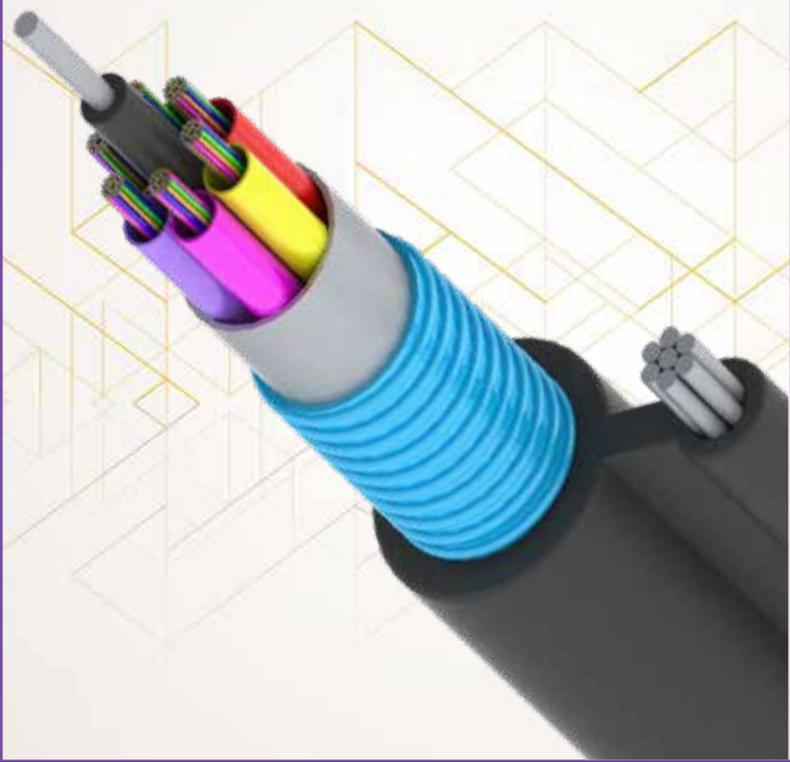
# Loose tube, Steel tape armored, Single jacket, self-support

## FEATURES

- Essential for aerial installation.
- Non-necessary for suspension wire.
- Decrease in installation cost.
- Distinguishable by color of fiber & loose tube.
- Essential for anti-rodent.
- Rip cord for easy jacket removal.
- UV-resistant outer jacket.
- 20 Years warranty.

## APPLICATION

- Local area network.
- Long haul communication system.
- Subscriber network system.
- Junction communication system.
- Inter building & communication link.



## TECHNICAL SPECIFICATION

	2~ 36Core	38~ 72Core	74~ 96Core	98~120Core	122~144Core
No. of Loose Tube	1~ 6		7~ 8	9~10	11~12
No. of Fiber Per Loose Tube	1~ 6		1~12		
Diameter (mm)	12.0x24.0	12.5x24.5	14.0x26.0	16.0x28.0	17.5x29.5
Weight (kg/km)	375	380	430	470	535
Bending Radius With Load(mm)	240	250	280	320	350
Bending Radius No Load(mm)	120	125	140	160	175
CABLE PERFORMANCE					
Max. Tensile Load	2700N				
Crush Resistance	200N/cm				
OPTION					
Fiber Tube	Jelly filled, Dry core				
Fiber	Single Mode (ITU-T G.652 B, D) Multi Mode (50/125, 62.5/125)				
Central Strength Member	Metallic, Non-metallic				
Cable Core	2 ~ 144Core				
Sheath	PE, Flame retardant PE				
TEMPERATURE RANGE					
Installation	-30°C ~ 60°C				
Operation	-40°C ~ 70°C				
Storage	-40°C ~ 70°C				

# Aerial Cable with Steel wire, two strength member



## FEATURES

Special low-bend-sensitivity G657 fiber provides high bandwidth and excellent communication transmission property.

Two parallel strength members ensure good performance of crush resistance to protect the fibers.

Simple structure, lightweight and high practicability.

Novel flute design, easily strip and splice, simplify the installation and maintenance.

The strong steel passenger provided good tensile load during aerial application.

A single steel wire as an additional strength member ensures good performance of tensile strength.

1 Year warranty

## APPLICATION

Local area network.

Inter building & communication link.

## TECHNICAL SPECIFICATION

SPECIFICATIONS	
Fiber Tube	Dry core
Fiber	Single Mode (ITU-T G.657B1, B2, A1 & A2)
Central Strength Member	Two parallel round steel wires (1.2mm or 1.00mm (option))
Max Attenuation	Max attenuation : 0.35dB ,1310nm and 0.21dB/Km ,1550nm
Cable Core	1-8 Core
Sheath	LSZH Jacket
TEMPERATURE RANGE	
Installation	-30°C ~ 60°C
Operation	-40°C ~ 70°C
Storage	-40°C ~ 70°C



# Drop Cable With two strength member



## FEATURES

- Essential for Aerial, duct and direct burial installation.
- Full cross-section water-blocking structure to ensure good water blocking and moisture resistance.
- Loose tube is filled with special ointment for a key fiber protection
- Two parallel round steel wires are resistant to tensile and lateral pressure.
- Small cable diameter, lightweight, and excellent bending properties
- Loose tube is in the physical center of fiber cable, easy for installation and operation.
- Outer jacket structure make cable have nice properties of moisture resistance and crush resistance.
- 20 Years warranty.

## APPLICATION

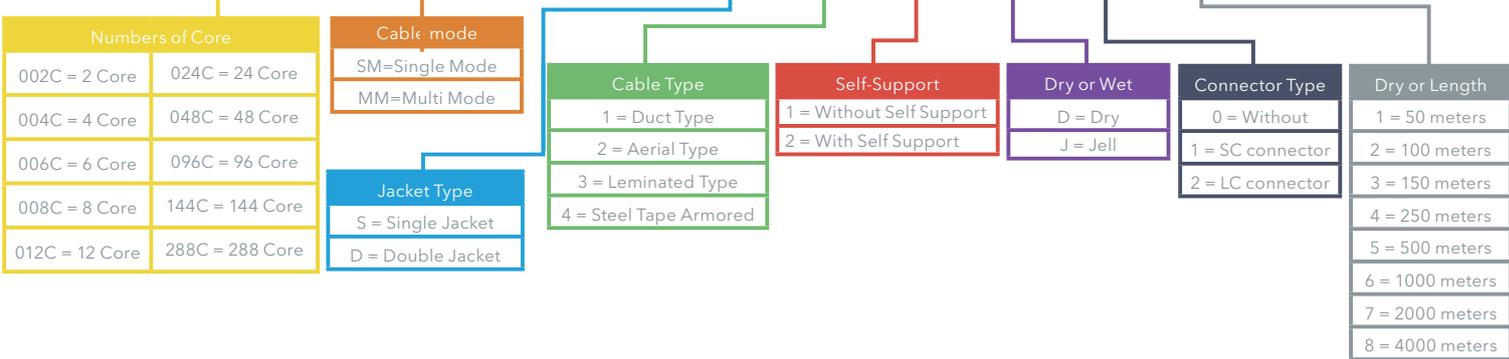
- Local area network.
- Communication link.

## TECHNICAL SPECIFICATION

SPECIFICATIONS	
Fiber tube	Dry core
Fiber	Single Mode (ITU-T G652D)
Central Strength Member	Two parallel round steel wires
Max attenuation	Max attenuation : 0.35dB ,1310nm and 0.21dB/Km ,1550nm
Cable core	2 - 24 Cores
Sheath	PE Jacket
TEMPERATURE RANGE	
Installation	-30°C ~ 60°C
Operation	-30°C ~ 70°C
Storage	-40°C ~ 60°C

## ORDERING INFORMATION

FO - CBS - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]



# ACCESSORIES



# Horizontal Splice Closure

## FO-REP-CLO-A3

### DESCRIPTION:

MORRELL closure features function, a part from the maximum 48 core capacity achieved by 4 splice trays. The splice enclosure accepts wall mounting as well as pole mounting installation.

This joint closure is an excellent choice for various fiber operations.



### FEATURES:

- Capacity: 48 Cores
- Seal: Mechanical
- Material: PP+GF
- Installation: Aerial, underground, pipeline, handhole.
- Temperature: -40°C to 65°C
- Application: Telecommunication subscriber loop
- Fiber to the home (FTTH)
- LAN/WAN

Item	Description
Size: (L)*(D)*H) mm	280*200*90 mm
Material	PP+GF
Fiber Inlet & Outlet Port	2 ports
Splice Tray	6 core or 12 core (1 slot can also fix 2 core splicing sleeve, so the tray can be also act as 12 core)
Max. Capacity	Up to 48 Cores
Splicing Tray qty	1~4
Life Time	20 Years

# Horizontal Splice Closure

## FO-REP-CLO-H3

### DESCRIPTION:

MORRELL closure features function, a mechanical seal, apart from the maximum 96 Core capacity achieved by 4 splice trays. The splice enclosure accepts wall mounting as well as pole mounting installation.

This joint closure is an excellent choice for various fiber operations.



### FEATURES:

- Capacity: 96 Cores.
- Seal: Mechanical.
- Material: PC.
- Installation : Aerial, underground, pipeline, handhole.
- Temperature: -40°C to 65°C.
- Application: Telecommunication subscriber loop.
- Fiber to the home (FTTH).
- LAN/WAN.

Item	Description
Size: (L)*(D)*H) mm	450(L)*220(D)*110(H)
Material	PC
Fiber Inlet & Outlet Port	6 ports
Max. Capacity	Up to 96 Cores
Single Tray Capacity	12 core or 24 core (1 slot can also fix 2 core splicing sleeve, so the tray can be also act as 24 core)
Splicing Tray QTY	1~4
Life Time	20 Years

# Horizontal Splice Closure

## FO-REP-CLO-H4

### DESCRIPTION:

MORRELL closure features function, a mechanical seal, apart from the maximum 192 Core capacity achieved by 4 splice trays.

The splice enclosure accepts wall mounting as well as pole mounting installation.

This joint closure is an excellent choice for various fiber operations.



### FEATURES:

- Capacity: 192 Cores.
- Seal: Mechanical.
- Material: PC.
- Installation : Aerial, underground, pipeline, handhole.
- Temperature: -40°C to 65°C.
- Application: Telecommunication subscriber loop.
- Fiber to the home (FTTH).
- LAN/WAN.

Item	Description
Size: (L)*(D)*H) mm	605(L)*215(D)*120(H)
Material	PC
Fiber Inlet & Outlet Port	4 ports
Max. Capacity	Up to 192 Cores
Single Tray Capacity	24 core or 48 core (1 slot can also fix 2 core splicing sleeve, so the tray can be also act as 48 core)
Splicing Tray QTY	1~4
Life Time	20 Years

# Horizontal Splice Closure

## FO-REP-CLO-H5

### DESCRIPTION:

MORRELL closure features function, a mechanical seal, a part from the maximum 96 Core capacity achieved by 4 splice trays.

The splice enclosure accepts wall mounting as well as pole mounting installation.

This joint closure is an excellent choice for various fiber operations.



### FEATURES:

- Capacity: 96 Cores.
- Seal: Mechanical.
- Material: PP.
- Installation: Aerial, underground, pipeline, handhole.
- Temperature: -40°C to 65°C.
- Application: Telecommunication subscriber loop.
- Fiber to the home (FTTH).
- LAN/WAN.

Item	Description
Size: (L)*(D)*H) mm	440(L)*210(D)*90(H)
Max. Capacity	Up to 96 Cores
Fiber Inlet & Outlet Port	8 ports
Material	PP
Single Tray Capacity	12 core or 24 core (1 slot can also fix 2 core splicing sleeve, so the tray can be also act as 24 core)
Splicing Tray QTY	1~4
Life Time	20 Years

# Horizontal Splice Closure

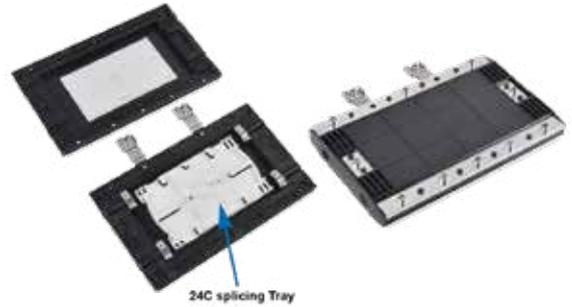
## FO-REP-CLO-H6

### DESCRIPTION:

MORRELL closure features function, a mechanical seal, apart from the maximum 24 Core capacity achieved by 1 splice trays.

The splice enclosure accepts wall mounting as well as pole mounting installation.

This joint closure is an excellent choice for various fiber operations.



### FEATURES:

- Capacity: 24 Cores.
- Seal: Mechanical.
- Material: PC.
- Installation : Aerial, underground, pipeline, handhole.
- Temperature: -40C to 65C Application: Telecommunication subscriber loop.
- Fiber to the home (FTTH).
- LAN/WAN.

Item	Description
Size: (L)*(D)*H) mm	248(L)*156(D)*33(H)
Material	PC
Fiber Inlet & Outlet Port	4 ports
Max. Capacity	Up to 24 Cores
Single Tray Capacity	12 core or 24 core (1 slot can also fix 2 core splicing sleeve, so the tray can be also act as 24 core)
Splicing Tray QTY	1
Life Time	20 Years

# Vertical Splice Closure

## FO-REP-CLO-V3-48-4H

### DESCRIPTION:

Optical splice closures are used to distribute, splice, and store the outdoor optical cables which enter and exit from the ends of the closure. There are two connection ways: direct connection and splitting connection. They are applicable to situations such as overhead, man-well of the pipeline, embedded situation, etc. Comparing with the terminal box, the closure requires much stricter requirements of the seal. Sealing ring and air valves are required for closure, but that is not necessary for the terminal box.



### FEATURES:

- The closure casing is made of quality engineering plastics and of good performance of anti erosion against acid and alkali salt, anti-aging, as well as the smooth appearance and reliable mechanical structure.
- The mechanical structure is reliable and has the performance of resisting wild environments and intensive climate changes and a serious working environment. The protection grade reaches IP68.
- The closures are applicable to ribbon-type optical cables and common optical cables.
- The splice trays inside the closure are turn-able like booklets and have adequate curvature radius and space for winding optical fiber to make sure the curvature radius for optical winding is 40mm. Each optical cable and fiber can be operated individually.
- The closure is of small volume, big capacity, and convenient maintenance. The elastic rubber seal rings inside the closure are of good sealing and sweat-proof performance.
- The casing can be opened repeatedly without air leakage. No special tools are required.
- The operation is easy and simple. The air valve is provided for the closure and used to check the sealing performance.

Item	Description
Weight (excluding outside box)	1550G~1740G
Protection Grade	IP68
Diameter Of Fiber Cable	Φ3mm~ Φ17mm
Number Of Cable Entrance/Exit	1:3
No.of Tray	1-4
Capacity of FOSC	Bunchy max. 48cores
Seal Way	Screw sealing type
Mounting Kits	Aerial /Wall/Pole/Manhole
Air Pressure	70kPa~106kPa
Humidity	≤95% (at 40°C)
Temperature	40 – +65°C
Outside Dimensions (H× W×L)	288mm×178mm
Material	PP
Life Time	20 Years

### TECHNICAL SPECIFICATIONS:

- Seal performance: after the box is sealed, inflate to 100kPa inwards (inflation only apply to the MODELS with the air hole), and then soak it in the water of normal temperature, after 15 minutes of steady observation, there is no bubble to overflow.
- Insulation resistance: the insulation resistance between the metal workpiece and the earth is greater than 20kMΩ.
- Pressurization: there is no breakdown or flashover under 15kVdc/1min between the metal workpiece and the earth.
- The curvature radius of the fiber 40mm, without extra loss inside the splice tray.
- It can bear the axial tensile strength no less than 1000N.
- Other performances are all following of standard YD/T1998-814.



## FO-REP-CLO-V3S

### DESCRIPTION:

MORRELL 72 cores vertical dome type fiber optic splice junction enclosure has 5 stand-alone ports. The outer shell is made of PP&ABS alloy material it's strong and light, it can efficaciously prevent the lighting strike and erosion and aging and fire resist. The tray is pull down, so it's easy installation, don't need dismantle other tray, the material of the sealing is silica gel, it can repeatable operation.



### FEATURES:

- Vertical dome type fiber optic splice junction enclosure, with metal hoop.
- ABS&PP alloy material used ensures the body strong and light.
- IP65 Water-proof design for outdoor uses.
- The application of temperature: -40°C ~65.
- Aging resistance: with good stability of heat, thermal radiation, air, ozone and so on.
- Corrosion resistance: strong resistance against acid, salt, oxidants and so on.
- Sealing Technology: The reopen components, or reusable self-adhesive rubber strips to ensure a good air tightness and water resistance.
- Close device: no need special tools for easy installation and re-open.
- Splice tray: using cascading structure, no need to take other splice tray when do operation.
- **Application:** Aerial, underground, wall-mounted, pole-mounted, duct-mounted.

Item	Description
Size H*D(mm)	515*155
Material	ABS&PP alloy material
Fiber Inlet & Outlet Port	5
Max. Capacity	Up to 72 cores
Single Tray Capacity	24 core
Splicing Tray QTY	1-3
Sealing	Heat shrinkable tube
Life Time	20 Years

# Vertical Splice Closure

## FO-REP-CLO-V4

### DESCRIPTION:

MORRELL 96 cores vertical dome type fiber optic splice junction enclosure has 2 inlet and 2 outlet (with 4 stand-alone ports).

The outer shell is made of PP&ABS alloy material it's strong and light, it can efficaciously prevent the lightning strike and erosion and aging and fire resist. The tray is pull down, so it's easy installation, don't need dismantle other tray, the material of the sealing is silica gel, it can repeatable operation.



### FEATURES:

- Vertical dome type fiber optic splice junction enclosure, with metal hoop.
- ABS&PP alloy material used ensures the body strong and light.
- 4pcs inlet or outlet ports, 1~4 trays for bunch fiber.
- IP65 Water-proof design for outdoor uses.
- The application of temperature: -40°C ~65.
- Aging resistance: with good stability of heat, thermal radiation, air, ozone and so on.
- Corrosion resistance: strong resistance against acid, salt, oxidants and so on.
- Sealing Technology: The reopen components, or reusable self-adhesive rubber strips to ensure a good air tightness and water resistance.
- Close device: no need special tools for easy installation and re-open.
- Grouping function: 2 inlet 2 outlet can meet most requirements.
- Splice tray: using cascading structure, no need to take other splice tray when do operation.
- Application: Aerial, underground, wall-mounted, pole-mounted, duct-mounted.

Item	Description
size H*D(mm)	420*140
Material	ABS&PP alloy material
Fiber Inlet & Outlet Port	4
Max. Capacity	Up to 96 cores
Single Tray Capacity	12 core or 24 core (1 slot can also fix 2 core splicing sleeve, so the tray can be also act as 24 core)
Splicing Tray QTY	1-4
Sealing	Screw sealing type
Life Time	20 Years

# Vertical Splice Closure

## FO-REP-CLO-V5-48-4H

### DESCRIPTION:

This Specification suits for the Fiber Optic Splice Closure (Hereafter abbreviated as FOSC). The scope of application is: aerial, underground, pipeline, hand-holes. The ambient temperature ranges from -40°C to 65°C.



### SPECIFICATIONS:

	Description
Weight (Excluding Outside Box)	1550G~1740G
Protection Grade	IP68
Diameter Of Fiber Cable	Φ3mm~ Φ17mm
Number Of Cable Entrance/Exit	1:3
No.of Tray	1-4
Capacity Of FOSC	Bunchy max. 48cores
Seal Way	Heat-shrinkable seal
Mounting Kits	Aerial /Wall/Pole/Manhole
Air Pressure	70kPa~106kPa
Humidity	≤95%(at 40°C)
Temperature	-40 – +65°C
Outside dimensions (H× W×L)	288mm×178mm
Material	PC
Life Time	20 Years

### MAIN COMPONENTS:

Name of components	Quantity	Usage	Remarks
Heat Shrinkable Protective Sleeve		Protecting fiber splices	Configuration as per capacity
Nylon Tie		Fixing fiber with protective coat	Configuration as per capacity
Heat Shrinkable Fixing Sleeve (Single)		Fixing and sealing single fiber cable	Configuration as per requirement
Heat Shrinkable Fixing Sleeve (Mass)		Fixing and sealing mass of fiber cable	Configuration as per requirement
Branching Clip		Branching fiber cables	Configuration as per requirement
Earthing Wire	1 piece	Putting through between earthing devices	
Desiccant	1 bag	Put into FOSC before sealing for desiccating air	
Labeling Paper	1 piece	Labeling fibers	

Special Wrench	1 Piece	Tightening Nut Of Reinforced Core	
Buffer Tube	Decided By Customers	Hitched To Fibers And Fixed With Fost, Managing Buffer	Configuration As Per Requirement
Aluminum Foil Paper	1 PC	Protect The Bottom Of Fiber Optic Splice Closure And Cable Inlet/Outlet Tubes When Heat The Heat-Shrinkable Sleeves	
Wall Mounting	1 SET	For Wall And Manhole	Configuration As Per Requirement
Pole Mounting	/	/	Configuration As Per Requirement
Aerial Mounting	/	/	Configuration As Per Requirement

## FO-REP-CLO-V5

### DESCRIPTION:

MORRELL 144 cores vertical dome type fiber optic splice junction enclosure has 5 stand-alone ports. The outer shell is made of PP&ABS alloy material it's strong and light, it can efficaciously prevent the lightning strike and erosion and aging and fire resist. The tray is pull down, so it's easy installation, don't need dismantle other tray, the material of the sealing is silica gel, it can repeatable operation.



### FEATURES:

- Vertical dome type fiber optic splice junction enclosure, with metal hoop.
- ABS&PP alloy material used ensures the body strong and light.
- IP65 Water-proof design for outdoor uses.
- The application of temperature: -40°C ~65.
- Aging resistance: with good stability of heat, thermal radiation, air, ozone and so on.
- Corrosion resistance: strong resistance against acid, salt, oxidants and so on.
- Sealing Technology: The reopen components, or reusable self-adhesive rubber strips to ensure a good air tightness and water resistance.
- Close device: no need special tools for easy installation and re-open.
- Splice tray: using cascading structure, no need to take other splice tray when do operation.
- **Application:** Aerial, underground, wall-mounted, pole-mounted, duct-mounted.

Item	Description
Size H*D(mm)	515*155
Material	ABS&PP alloy material
Fiber Inlet & Outlet Port	5 Ports
Max. Capacity	Up to 144 cores
Single Tray Capacity	24 core
Splicing Tray QTY	1-6
Sealing	Screw sealing type
Life Time	20 Years

## FO-REP-CLO-V7

### DESCRIPTION:

MORRELL 96 cores vertical dome type fiber optic splice junction enclosure has 5 stand-alone ports. The outer shell is made of PP&ABS alloy material it's strong and light, it can efficaciously prevent the lightning strike and erosion and aging and fire resist.

The tray is pull down, so it's easy installation, don't need dismantle other tray, the material of the sealing is silica gel, it can repeatable operation.



### FEATURES:

- Vertical dome type fiber optic splice junction enclosure, with metal hoop.
- ABS&PP alloy material used ensures the body strong and light.
- IP65 Water-proof design for outdoor uses.
- The application of temperature: -40°C ~65.
- Aging resistance: with good stability of heat, thermal radiation, air, ozone and so on.
- Corrosion resistance: strong resistance against acid, salt, oxidants and so on.
- Sealing Technology: The reopen components, or reusable self-adhesive rubber strips to ensure a good air tightness and water resistance.
- Close device: no need special tools for easy installation and re-open.
- Splice tray: using cascading structure, no need to take other splice tray when do operation.
- **Application:** Aerial, underground, wall-mounted, pole-mounted, duct-mounted.

Item	Description
Size H*D (mm)	550*155
Material	ABS&PP alloy material
Fiber Inlet & Outlet Port	5 Ports
Max. capacity	Up to 96 cores
Single tray capacity	24 core
Splicing tray qty	1-4
Sealing	Heat shrinkable tube
Life Time	20 Years

# Vertical Splice Closure

## FO-REP-CLO-V6

### DESCRIPTION:

MORRELL 48 cores vertical dome type fiber optic splice junction enclosure has 2 inlet and 2 outlet (with 4 stand-alone ports).

The outer shell is made of PP&ABS alloy material it's strong and light, it can efficaciously prevent the lightning strike and erosion and aging and fire resist. The tray is pull down, so it's easy installation, don't need dismantle other tray, the material of the sealing is silica gel, it can repeatable operation.



### FEATURES:

- Vertical dome type fiber optic splice junction enclosure, with metal hoop.
- ABS&PP alloy material used ensures the body strong and light.
- IP65 Water-proof design for outdoor uses.
- 4pcs inlet or outlet ports, 1~4 trays for bunch fiber
- The application of temperature: -40°C ~65.
- Aging resistance: with good stability of heat, thermal radiation, air, ozone and so on.
- Corrosion resistance: strong resistance against acid, salt, oxidants and so on.
- Sealing Technology: The reopen components, or reusable self-adhesive rubber strips to ensure a good air tightness and water resistance.
- Close device: no need special tools for easy installation and re-open.
- Grouping function: 2 inlet 2 outlet can meet most requirements
- Splice tray: using cascading structure, no need to take other splice tray when do operation.
- **Application:** Aerial, underground, wall-mounted, pole-mounted, duct-mounted.

Item	Description
Size H*D (mm)	400*140
Material	ABS&PP alloy material
Fiber Inlet & Outlet Port	4 Ports
Max. capacity	Up to 96 cores
Single tray capacity	12 core or 24 core (1 slot can also fix 2 core splicing sleeve, so the tray can be also act as 24 core)
Splicing tray qty	1-4
Sealing	screw sealing
Life Time	20 Years

# Vertical Splice Closure



## FO-REP-CLO-V8-48-4H

### DESCRIPTION:

The Splice closure supports cable connection and branch. The original mechanical sealing which has been tested reliable has won the national patent. It applies to many installations: wall-mounting, pole-mounting, aerial, and ground burial.

### FEATURES:

- Product capacity: Single fiber max capacity is up to 144F.
- Drop Cable grommet and fixture, good for distribution.
- Easy installation with no special tool required.
- The installation method of the box includes pole-mounting or aerial mounting.



### SPECIFICATIONS:

Item	Description
Dimensions (mm)	460 × Φ225
Weight (kg)	4.2-4.8Kg
Material	PP+GF
Type of Sealing	Mechanical
Capacity of Single Tray	48Cores
Max Splice Capacity	144F
Max Splicing Tray	4
Number of Entrances	5 entrances (4 for single ports, 1 uncut port.)
Diameter for FOC	Elliptical port: Φ3.5~Φ6 Small port: Φ3.5~Φ6
Protection Grade	IP68
Color	Black
Environmental Temperature	-40°C~+65°C
Insulating Resistance	≥2×104MΩ
Voltage Resistance Strength	15KVDC/1min, no puncture, no arc-over



# Plastic Box

## FO-REP-ODF-P5-8S-OW

### DESCRIPTION:

Industry standard user interface, be made of high impact plastic material. Anti-UV, Ultraviolet resistant, and rainfall resistant. Wall and pole mountable. efficient cable management.

### APPLICATIONS:

- Used in FTTH access network.
- Telecommunication networks.
- CATV networks.
- Data communications networks.
- Local area networks.



Item	Description
Size	210*215*50mm
Material	PP or ABS
Adapter Capacity (Fiber Count)	8 pcs SC simplex adaptor
Installation	Wall-mounted/Pole-mounting
Waterproof	IP65
Warranty	3 Years

## FO-REP-ODF-P11-4S-OW

### DESCRIPTION:

Industry standard user interface, be made of high impact plastic material. Anti-UV, Ultraviolet resistant. Wall and pole mountable. Efficient cable management.

### APPLICATIONS:

- Used in FTTH access network.
- Telecommunication networks.
- CATV networks.
- Data communications networks.
- Local area networks.



Item	Description
Size	185*115*40mm
Material	PP or ABS
Adapter Capacity (Fiber Count)	4 pcs SC simplex adaptor
Installation	Wall-mounted/ Pole-mounting
Waterproof	IP65
Warranty	3 Years

# Plastic Box

## FO-REP-ODF-P16-24S-OG

### DESCRIPTION:

Optic fiber terminal (ODF) optic provides space and protection for the fiber optic cable splicing and joint.

Optic fiber terminal closure belongs to the accommodation of the optical fiber fusion splice section system.

It is widely applied to the connection of the fiber play the roles in sealing, protection, installation of fiber connector head, and storage.



### APPLICATIONS:

- High-quality PC or ABS material optional can ensure harsh conditions such as vibration, impact, tensile cable distortion, and strong temperature changes.
- Solid structure, perfect outline, thunder, erosion, and adding resistance.
- A strong and reasonable structure with a mechanical sealing structure can be opened after the sealing and can be reused.
- Well water and dustproof, unique grounding device to ensure the sealing performance, convenient for installation
- The splice closure has a wide application range, with good sealing performance, easy installation, produced with high strength engineering plastic housing, anti-aging, corrosion resistance, high temperature, and high mechanical strength, and so on.

Item	Description
Size	335*210*95mm
Material	PC or ABS
Adapter Capacity (Fiber Count)	24 pcs SC simplex adaptor
Single Tray Capacity	12
Splicing Tray QTY	4
Installation	Pool
Waterproof	IP65
Warranty	3 Years

# Fiber Optic Box

## FO-REP-ODF-P15-24S-OB

### DESCRIPTION:

Optic fiber terminal (ODF) optic provides space and protection for the fiber optic cable splicing and joint. Optic fiber terminal closure belongs to the accommodation of the optical fiber fusion splice section system. It is widely applied to the connection of the fiber play the roles in sealing, protection, installation of fiber connector head, and storage.



### APPLICATIONS:

- High-quality PC or ABS material optional can ensure harsh conditions such as vibration, impact, tensile cable distortion, and strong temperature changes.
- Solid structure, perfect outline, thunder, erosion, and adding resistance.
- A strong and reasonable structure with a mechanical sealing structure can be opened after sealing and can be reused.
- Well water and dustproof, unique grounding device to ensure the sealing performance, convenient for installation.
- The splice closure has a wide application range, with good sealing performance, easy installation, produced with high strength engineering plastic housing, anti-aging, corrosion resistance, high temperature, and high mechanical strength, and so on.

Item	Description
Size	335*260*110mm
Material	PC or ABS
Adapter Capacity (Fiber Count)	24 pcs SC simplex adaptor
Splicing Tray QTY	24
Single Tray Capacity	1
Installation	Pool
Waterproof	IP65
Warranty	3 Years

## FO-REP-ODF-M3

### DESCRIPTION:

MORRELL outdoor optic fiber metal box provides space and protection for the fiber optic cable splicing and joint. Optic fiber terminal closure belongs to the accommodation of the optical fiber fusion splice section system. It is widely applied to the connection of the fiber play the roles in sealing, protection, installation of fiber connector head, and storage.

### APPLICATIONS:

- Used in FTTX access network.
- Telecommunication networks.
- CATV networks.
- Data communications networks.
- Local area networks.



Item	Description
Size	410*450*(90-160)mm
Material	Metal
Max. Diameter of Cable	50mm
Adapter Capacity (Fiber Count)	24, 48 and 72 cores
Waterproof	IP65
Warranty	5 Years

## FO-REP-ODF-M5

### DESCRIPTION:

Our indoor Optic Fiber metal box provides space and protection for the fiber optic cable splicing and joint. Optic fiber terminal closure belongs to the accommodation of the optical fiber fusion splice section system. It is widely applied to the connection of the fiber play the roles in sealing, protection, installation of fiber connector head, and storage.

### APPLICATIONS:

- Used in FTTX access network.
- Telecommunication networks.
- CATV networks.
- Data communications networks.
- Local area networks.



Item	Description
Size	(300-400)*(300-380)*(83-135)mm
Material	Metal
Adapter Capacity (Fiber Count)	12, 24 and 48 cores
Single Tray Capacity	12
Warranty	5 Years

# Patch Panel

## FO-REP-PAT3

### DESCRIPTION:

- 1U and 2U versions (12, 24, 36, and 48 port capacity).
- Smooth and convenient mechanical sliding system.
- Manages small & large quantities of fiber with a high packing density.
- Cable glands to secure the incoming fiber, allows min movement.
- Fiber guide tubes to protect and direct the fibers to the cassettes in a professional way.
- Easy to maintain and extend.
- Minimum bend radius of fbers and strain relief for all entry cables.
- Fiber bend radius control of 35mm.
- Capacity of up to 48 ports.
- All known connector types such as SC, FC, ST, E2000, LC, MU etc.
- 5 Years warranty.



### APPLICATIONS:

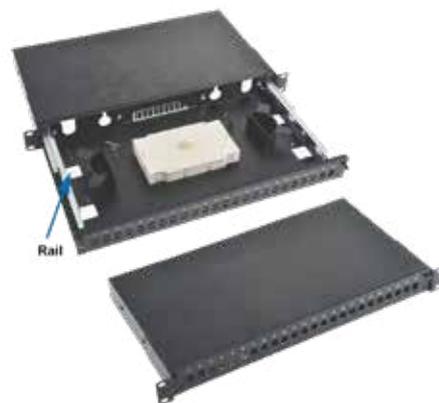
- FTTX applications, Datacenter and LAN & WAN projects.

MODEL	FO-REP-PAT3-24S-B	FO-REP-PAT3-12D-B
Description	Patch Panel with Front Panel 24Pcs SC Simplex Adaptor	Patch Panel with Front Panel 12Pcs SC Duplex Adaptor
Dimensions	(19") 465 mm (W) x 265 mm (D) x 1U (H)	
Material	Mild Steel	
Color	Powder coat RAL 7035 or RAL9005	
Weight	2Kg	
Maximum Port Capacity	48 Ports	
	*Color: Light Grey or Black	*The body of panel is easy to be pulled and pushed
		*Patch Panel with 2pcs of splicing Tray

## FO-REP-PAT4

### DESCRIPTION:

- 1U and 2U versions (12, 24 ports capacity).
- Smooth and convenient mechanical sliding system.
- Manages small & large quantities of fiber with a high packing density.
- Cable glands to secure the incoming fiber, allows min movement.
- Fiber guide tubes to protect and direct the fibers to the cassettes in a professional way.
- Easy to maintain and extend.
- Minimum bend radius of fbers and strain relief for all entry cables.
- Capacity of up to 24 ports.
- All known connector types such as SC, ST, etc.
- 5 Years warranty.



## APPLICATIONS:

- FTTX applications, Datacenter and LAN & WAN projects.

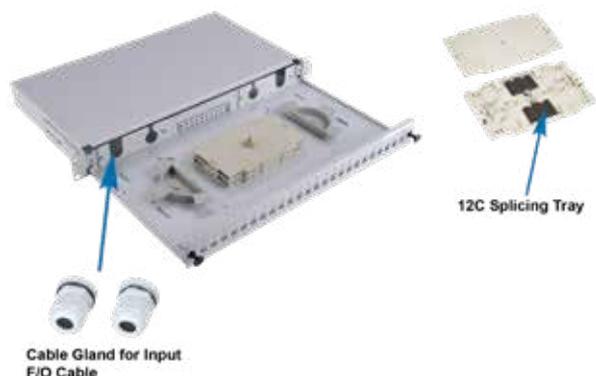
MODEL	Description
FO-REP-PAT4-24FC	Patch Panel with Front Panel 24Pcs FC Adaptor (D-type)
FO-REP-PAT4-24SC-S	Patch Panel with Front Panel 24Pcs SC Simplex Adaptor
FO-REP-PAT4-12SC-D	Patch Panel with Front Panel 12Pcs SC Duplex Adaptor
FO-REP-PAT4-24SC-D	Patch Panel with Front Panel 24Pcs SC Duplex Adaptor

\*Colour: Black

## FO-REP-PAT5

### DESCRIPTION:

- 1U and 2U versions (12, 24 ports capacity).
- Smooth and convenient mechanical sliding system.
- Manages small & large quantities of fiber with a high packing density.
- Cable glands to secure the incoming fiber, allows min movement.
- Fiber guide tubes to protect and direct the fibers to the cassettes in a professional way.
- Easy to maintain and extend.
- Minimum bend radius of fibers and strain relief for all entry cables.
- Capacity of up to 24 ports.
- All known connector types such as SC, ST, etc.
- 5 Years warranty.



## APPLICATIONS:

- FTTX applications, Datacenter and LAN & WAN projects.

MODEL	Description
FO-REP-PAT5-12S-G	Patch Panel with Front Panel 12Pcs SC Simplex Adaptor
FO-REP-PAT5-24S-G	Patch Panel with Front Panel 24Pcs SC Simplex Adaptor
FO-REP-PAT5-12D-G	Patch Panel with Front Panel 12Pcs SC Duplex Adaptor
FO-REP-PAT5-24D-G	Patch Panel with Front Panel 24Pcs SC Duplex Adaptor
FO-REP-PAT5-24ST	Patch Panel with Front Panel 24Pcs ST Adaptor

\*Colour: Light Grey or Black

\*Patch Panel with 2pcs of splicing Tray

# Cabinet

FO-REP-FDT3-72S



MODELs

FO-REP-CAB3-72S

Description

72core F/O Cabinet (wall mount) with 6pcs Splicing Tray , SC Adaptor

Waterproof IP grade: IP65  
Environment temperature: -40° ~ 60°C

FO-REP-FDT4



MODELs

FO-REP-CAB4-144S

Description

144 core F/O Cabinet (Floor type) with 12pcs Splicing Tray , SC Adaptor

FO-REP-CAB4-144S-PLC

144 core F/O Cabinet (Floor type) with 12pcs Splicing Tray & 14pcs 1x8 PLC , SC Adaptor

Waterproof IP grade: IP65; Environment temperature: -40°~ 60°C  
If you need wall-mounted type (without bottom) we also can supply.  
Warranty: 10 Years

FO-REP-FDT5



MODELs

FO-REP-CAB5-288S

Description

288 core F/O Cabinet (Floor type) with 24pcs Splicing Tray , SC Adaptor

FO-REP-CAB5-288S-PLC

288core F/O Cabinet (Floor type) with 24 pcs Splicing Tray & 36pcs 1x8 PLC , SC Adaptor

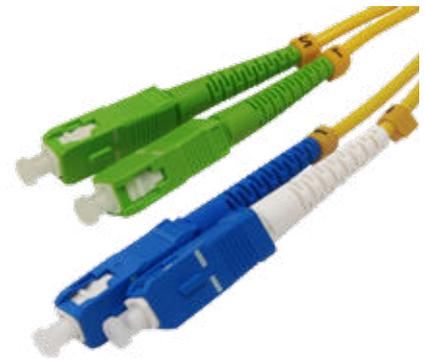
Waterproof IP grade: IP65; Environment temperature: -40°~ 60°C  
If you need wall-mounted type (without bottom) we also can supply.



## DESCRIPTION:

Fiber optic patch cables are ideal for supporting high speed telecommunication network fiber applications.

They are manufactured and tested in compliance with TIA 604 (FOCIS), IEC 61754 and YD/T industry standards. OM1, OM2, OM3, OM4, OM5 or OS2 fiber types are available to meet the demand of Gigabit Ethernet, 10 Gigabit Ethernet and high speed Fiber Channel. Every termination is through rigorous parameter test to ensure the highest network performance.



## FEATURES:

- High quality zirconia ferrules.
- Good repeatability and interchangeability.
- LC/SC/ST/FC/LSH/MTRJ/MU connectors with standard boots are available.
- LC connectors with 12mm/18mm and SC connectors with 25mm short boots are available.
- Flame-retardant, rugged and durable jacket.
- OS2/OM5/OM4/OM3/OM2/OM1 are available.
- Factory terminated and tested for insertion loss, return loss and end face.
- 3 Year warranty.

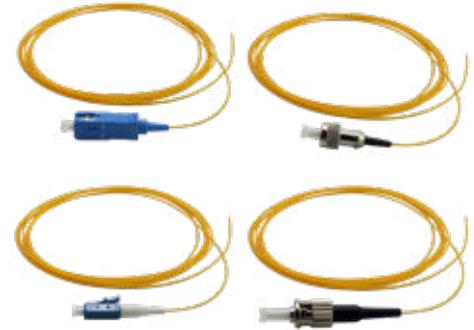
Item	Description
Connector Type	LC/SC/ST/FC/LSH/MTRJ/MU with Standard Boots; LC 12mm/18mm with Short Boots; SC 25mm with Short Boots
Polish Type	SMF: UPC-UPC; UPC-APC; APC-APC; MMF: UPC-UPC
Connector Ferrule	Zirconia Ceramic
Cable Outside Diameter	Duplex: 1.6/2.0/3.0mm, Simplex: 0.9/2.0/3.0mm
Interchangeability	≤0.2dB
Vibration	≤0.2dB
Fiber Type	Standard Boots: OS2/OM5/OM4/OM3/OM2/OM1; Short Boots: OS2/OM4/OM3
Fiber Count	Duplex/Simplex
Cable Jacket	PVC (Riser/OFNR)/LSZH/Plenum (OFNP)
Fiber Grade	SMF: G.657.A1/G.657.A2; OM5/OM4/OM3/OM2: Bend Insensitive; OM1: G.651

Minimum Bend Radius		SMF	MMF
Fiber Cable (Dynamic/Static)	OD 2.0/3.0mm	10/5D	20/10D
	OD 1.6mm	10/5D	-
	OD 0.9mm	10mm	OM1: 15mm Others: 7.5mm
Fiber Core	OD 0.9/2.0/3.0mm	G.657.A1: 10mm G.657.A2: 7.5mm	OM1: 15mm Others: 7.5mm
	OD 1.6mm	G.657.A1: 10mm	-

# Simplex Fiber Optic Pigtails

## DESCRIPTION:

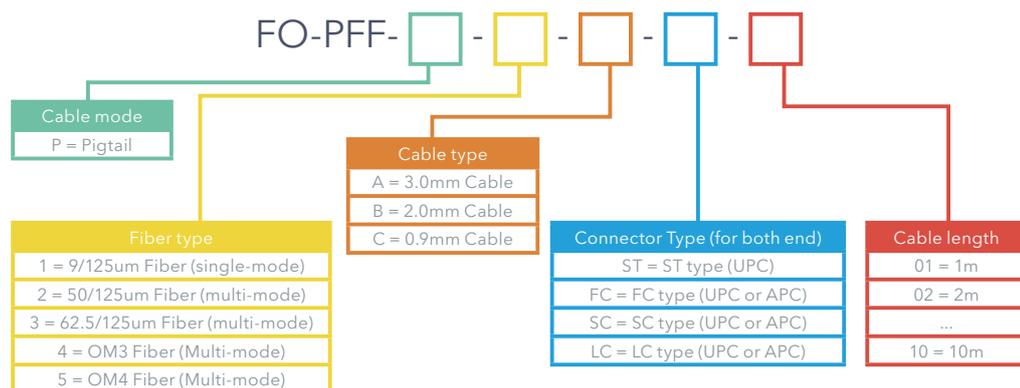
Fiber optic pigtail is an important component commonly used in fiber optic networks. It has fiber connector at one end, and the other is utilised in terminating fiber optic cables via fusion or mechanical splicing. Feature a typical 900µm tight buffered as default, it is easy for fusion.



## FEATURES:

- Tested on optical performance insertion loss and return Loss.
- 0.9mm cable for high density splicing applications.
- Tight buffer for easy fusion or mechanical splicing.
- LC, ST, SC, FC and LSH are available.
- UPC and APC polish type.
- PVC jacket as default, OFNP and LSZH are optional.
- 3 Years warranty.

Item	Description
Fiber Count	Simplex
Fiber Mode	Single Mode: OS2; Multimode: OM1/OM2/OM3/OM4
Connector Type	LC/SC/FC/ST
Fiber Grade	OS2: G.657.A1; OM4/OM3/OM2: Bend Insensitive; OM1: G.651
Cable Jacket	PVC (Riser/OFNR)/LSZH/Plenum (OFNP)
Jacket Color	OS2: Yellow; OM3/OM4: Aqua; OM1/OM2: Orange
Cable Diameter (mm)	0.9/2.0
Minimum Bend Radius (mm)	Single Mode: 30; Multimode: 7.5/15
Insertion Loss (dB)	≤0.3
Return Loss (dB)	SMF: UPC≥50, APC≥60 (LC/SC/ST/FC) UPC≥55, APC≥75 (LSH); MMF: UPC≥30 (LC/SC/ST/FC/LSH)
Wavelength (nm)	SMF: 1310/1550; MMF: 850/1300
Attenuation (dB/km)	SMF: ≤0.36 at 1310nm, ≤0.22 at 1550nm; MMF: ≤3.0 at 850nm, ≤1.0 at 1300nm
Operating Temperature	-40°C to 75°C
Storage Temperature	-45°C to 85°C

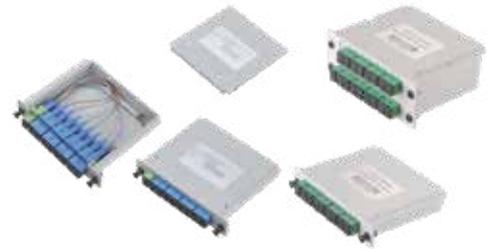


# PLC SPLITTER

## DESCRIPTION:

Splitters are available in premium and standard grades, with a wide range of pigtail and connector options. Splitters can be provided in modules or any other form as per requirement.

MORRELL splitters come from a world-class facility backed by years of manufacturing experience in fiber optic components. With up to 8 output ports, these splitters are ideal for highdensity split applications like Fiber To The Home (FTTH) networks.



## FEATURES:

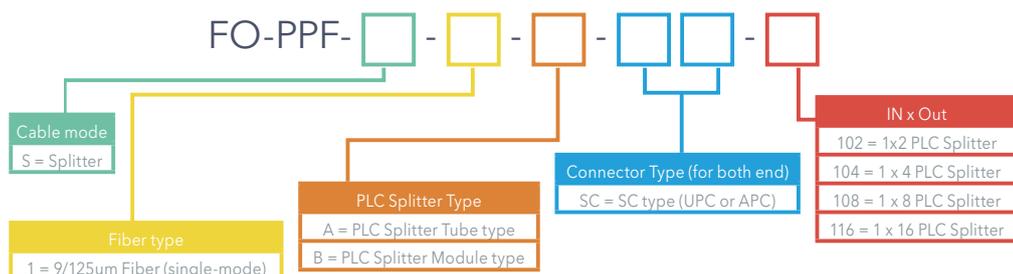
- Low Insertion Loss.
- Ultra-broadband performance (1260 –1650nm).
- PDL @ 1310/1550nm.
- All connectors shall meet the end face requirements of GR-326
- Superior port-to port uniformity.
- Telcordia GR-1209 and GR-1221 compliant.
- Compact packaging.
- Excellent price-performance ratio.
- 3 Years warranty.

## APPLICATIONS:

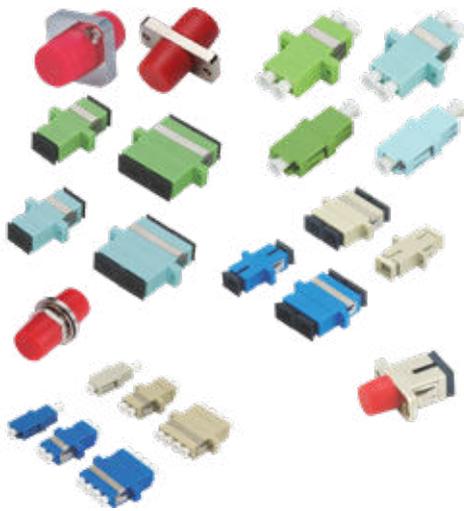
- FTTH Deployments.
- Optical CATV Networks.
- CWDM and DWDM Systems.
- Passive Optical Networks.

Item	SPECIFICATIONS					
	1x2	1x4	1x8	1x16	1x32	1x64
Max Insertion loss (dB)	3.7	7.3	10.4	13.7	17	20.5
Max Uniformity (dB)	0.6	0.7	1	1.3	1.6	2
Max PDL (dB) 1310/ 1550nm	0.2	0.2	0.2	0.3	0.3	0.4
Operating Wavelength	1260 - 1650nm					
Return Loss (dB)	> 60					
Directivity (dB)	> 55					
Fiber Type	> 55					

## INFORMATION ORDER



# ADAPTORS



FO-CAD- [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

Fiber mode
SM = Single mode
MM = Multimode
OM = OM3 Multimode (Only for SC and LC)

Adaptor Mode
S = Simplex
D = Duplex
F = Foutfold (only for LC type)

Side 1 - Side 2
SC - SC
ST - ST
FC - FC (available for 3 types)
LC - LC
ST - FC
ST - SC
SC - FC

Physical Contact
1 = UPC
2 = APC (only for SC and LC)

Adaptor Type
A = Standard type for all Adaptor
B = SC-Type for FC only
C = Square type for FC only
D = D-type for FC only

# CONNECTORS



MODEL

FO-CAD-SC-UPC  
FO-CAD-SC-APC

Description

SC Fiber Optic Fast Connector (UPC)  
SC Fiber Optic Fast Connector (APC)

# FANOUT PIGTAIL



FO-PPF- [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

Cable mode
F = Fanout Pigtail

Cable type
A = Without Jacket
B = With Jacket

Cable length
1.5 m

Fiber type
1 = 9/125um Fiber (single-mode)
2 = 50/125um Fiber (multi-mode)
3 = 62.5/125um Fiber (multi-mode)
4 = OM3 Fiber (Multi-mode)

Connector Type (for both end)
ST = ST type (UPC)
FC = FC type (UPC or APC)
SC = SC type (UPC or APC)
LC = LC type (UPC or APC)

Adaptor Type
A = Standard type for all Adaptor
B = SC-Type for FC only
C = Square type for FC only
D = D-type for FC only

# TOOLS & TEST EQUIPMENTS



# Digital Fiber Fusion Splicer

## FEATURES

- New design anti-shock rubber cover
- 5 inches high-Resolution colorful LCD display
- Average splice time: 7 second
- Average tube-heat time: 20 second
- Lithium battery: up to 180 times of continuous splice and heat
- Simultaneous X and Y views with 180 times magnification
- New developed technology providing wind and dust resistance
- Splicing mode: Auto, Manual, and Full-Automation
- USB Port
- Storing 6,000 groups of splice results.
- Multipurpose optical fiber fixture (Such as Rubber-insulated wire, fiber optic patch cord, bare fiber).
- 1 Year warranty.

## TECHNICAL SPECIFICATION

MODEL	FO-TTE-MS15
Applicable Fibers	SM, MM, NZ-DS, EDF ,Pigtail, Rubber-insulated wire Series
Average Splice Loss	0.02dB(SM), 0.01dB(MM), 0.04dB(NZDS), 0.04dB(EDF)
Return Loss	≥60dB
Tension Test	2.0N(200gf)(Standard)
Splicing Program	50 groups
Protection Sleeve Length	20mm, 40mm, 60mm
Language	English
Environmental Conditions	-10°C ~ +50°C (operation temperature), 0~95% RH(humidity), 0~5000m(altitude)
Power Supply	AC adaptor: 100~240V input voltage, 50/60Hz; 12V, 5A output voltage(DC) DC adaptor: 12V voltage 8AH
Dimensions	155 * 165 * 150
Weight	2.5kg
Electrod Life	3000 time

## FIBER OPTIC CLEAVER



- Fiber type:Single tube fiber and ribbon fiber
- Cleaver length:5-30mm
- Cleaver angle:0.5°
- Size:55(H)x59(W)x58(D)



## STANDARD PACKAGE



No.	Item	Quantity
1	Fiber Cleaver	1
2	Fiber Stripper	2
3	Battery	1
4	Charger	1
5	Spare Electrodes	1
6	Scissor	1
	Bottle	1



# Optical Time Domain Reflectometer (OTDR)



## TECHNICAL SPECIFICATION

MODEL	FO-TTE-OTDR-35
Parameter	Specification
Type Of Fiber	Single Mode
Center Wavelength	1310/1550nm
Dynamic Range (dB)	26/24dB
Event Blind Zone	2.5m
ATT Dead Zone	8m
Display Type	4.3-inch IPS Touch Screen
Test Range	500m/1km/2km/4km/8km/16km/32km/64km/100km
Pulse Width	3ns, 5ns, 10ns, 20ns, 30ns, 50ns, 80ns, 160ns, 320ns, 500ns, 800ns, 1μs, 2μs, 3μs, 5μs, 8μs, 10μs, 20μs
Test Range (dB)	$\pm(1m + \text{Sample Interval} + 0.005\% \times \text{Test Distance})$
Ranging Accuracy	$\pm(0.8m + \text{sampling resolution} + 0.005\% \times \text{distance})$
Linearity	$\leq 0.05\text{dB}$
Sample Resolution	0.05m-8m
Power Source	Battery Powered
Style	Handheld
Batteries	1 Lithium Polymer batteries are required (included)
Material	Plastic
Working Temperature	-10°C - +50°C
Internal Storage	8GB, $\geq 20000$ curves
Dimensions (LxWxH)	6.69 x 4.29 x 1.77 inches
Weight	488g

## MAIN FUNCTIONS

OPM supports CW/270/330/1K/2KHZ frequency identification.

VFL and OLS can run in the background, multi tasks can be operated simultaneously.

OLS supports CW/modulation mode output with adjustable output power.

Once click the screen capture, easy to save the interface.

Multi-touch support gesture zoom in and out curve.

Optical loss test, Insertion loss test.

20 Hours standby, ultra-wide operation temperature.

1 Year warranty.

## APPLICATIONS

OTDR Auto Test.

OTDR Expert Test.

Event Map.

Optical Power Meter.

Visual Fault Locator.

Optical Light Source.

RJ45 Cable Tracking and Sequence/Length Test.

# Optical Time Domain Reflectometer (OTDR)



## TECHNICAL SPECIFICATION

MODEL	FO-TTE-OTDR-835
Parameter	Specification
Type of Fiber	Both Single and Multimode
Center Wavelength	1310/1550 for SM 850/1300 for MM
Dynamic Range (dB)	32/30 for SM 19/21 for MM
Event Blind Zone	1.5 m
Attenuation blind zone	4m for both
Display type	5.7 inch low-reflection TFT-LCD (touch screen).
Optical Interface	FC/PC or SC/PC
Pulse Width	5,10,25,50,100,250,500,1000,2500,5000,10000, 20000 ns
Test Range (dB)	100m,500m,1km,2km,4km,8km,16km,32km,64km,128km, 256km
Range Accuracy	$\pm (0.8m + \text{sampling resolution} + 0.005\% \times \text{distance})$
Data Interface	USB interface
Data Storage	>8000 traces
Visual Fault Locator	650nm; 2km up to $\geq 1\text{mw}$
Battery Type	Built-in lithium-ion battery
Battery Life	10 hour
Operating Temperature	-5°C ~ 50°C
Storage Temperature	-20°C ~ 70°C
Relative Humidity	0 ~ 95 %, no condensation
Weight	1.5 kg

## MAIN FUNCTIONS

Test the distance from any point of the optical fiber link to OTDR output end (origin of test).

Test the distance between any two points of the optical fiber link.

Test and display the loss of any two points in the optical fiber link and fiber attenuation constant.

Test and display the connection loss of the connection points in the optical fiber link.

Test the value of the reflection loss in the fiber link.

The automatic search function of the connection point.

File copy function: copy the data files stored in this machine directly to the U disk.

1 Year warranty.

## STANDARD PACKAGE

FO-TTE-OTDR835 OTDR machine.

FC/UPC, SC/UPC.

Calibration Certificate and user manual.

Trace analyzing software(CD).

AC/DC adapter.

4G SD card.

Carrying Case: Waterproof.

FO-TTE-PM3



## ■ FEATURES

- Optical power meter.
- Designed to meet any FTTX application.
- The Visual Fault Locator uses CW mode dBm, dB, and uW in a wide range of wavelengths, and modulation mode.
- helps to detect the optical cable of up to 10km.
- Calibrated wavelength(nm):850, 1300, 1310, 1490,1550 and 1625.
- Battery performance 50 hours operation.
- Dust and shockproof design.
- Auto Shut off function.
- Measurement range -50~26dbm is available.
- 1 Year warranty.

FO-TTE-PM4



## ■ FEATURES

- Optical power meter For PON network testing.
- Providing simultaneous measurement.
- Used in burst mode measurement for all three wavelengths on the fiber (1310nm,1490nm, 1550nm).
- The visual fault locator uses CW mode dBm, dB, and uW in a wide range of wavelengths, and modulation mode.
- Battery performance 50 hours operation.
- Dust and shockproof design.
- Auto shut off function.
- Measurement range -50~26dbm is available.
- Test 3 wavelengths separately.
- 1 Year warranty.

FO-TTE-LS3



## ■ FEATURES

- Optical light source.
- High precision.
- Highly accurate unit offering 6 calibrated wavelengths.
- Interchangeable connectors.
- Durable and reliable design.
- Easy-to-use interface for error-free testing.
- Calibrated wavelength(nm): 850, 1300, 1310, 1490,1550 and 1625.
- Rubber armor protection.
- Battery performance 50 hours operation.
- Dust and shockproof design.
- Auto shut off function.
- 1 Year warranty.

# Visual Fault Locator

FO-TTE-VFL3



## FEATURES

Finding the breakpoint, poor connections, bending or cracking in fiber optic cables.

Optical Connector: 2.5mm universal connector

Power Supply: 2 AA batteries

1 Year warranty.

## SPECIFICATIONS

MODEL	FO-TTE-VFL3
Fiber Compatibility	Multimode and singlemode
Wavelength	650 nm (Visible wavelength)
Laser Safety Rating	Class II
Output Power	< 1.3 mW
Output Modes	Continuous (Steady) and flashing (2-3Hz pulsed)
Range	3km Multimode, 10km singlemode
Operating Temperature	0 °C to 40 °C
Storage Temperature	-20 °C to 60 °C
Relative Humidity	95% (10 to 35 °C)
Vibration	Random, 2g, 5-500 Hz
Shock	1 m Drop onto all corners and face

FO-TTE-VFL4



## FEATURES

Finding the breakpoint, poor connections, bending or cracking in fiber optic cables.

Optical Connector: 2.5mm universal connector

Power Supply: 2 AA batteries

1 Year warranty.

MODEL	Description
FO-TTE-VFL4-01	1mW Output (Testing Distance 2 Km)
FO-TTE-VFL4-10	10mW Output (Testing Distance 10 Km)
FO-TTE-VFL4-20	20mW Output (Testing Distance 20 Km)
FO-TTE-VFL4-30	30mW Output (Testing Distance 30 Km)

# Visual Fault Locator



FO-TTE-IDE3



## FEATURES

The Optix Fiber Identifier is suitable for 250um, 900um, 2mm, and 3mm fiber using the universal adaptor with no need to replace the block clamp.

1 Year warranty.

## SPECIFICATIONS

MODEL	FO-TTE-IDE3
Wave Respond	800-1700 nm
Pass Through Insertion Loss	250um fiber; 1.0dB 900um fiber; 1.0dB 3mm fiber; 2.0dB
Application Fiber	250um/900um/2mm/3mm optical fiber
Identified Signal Type	270Hz/1KHz/2KHz
Identification of Modulated Signals	YES
Power Measurement	YES
Display	LED segment
Tone	YES
Low Power Monitoring	YES
Detector Type	1mm InGaAs
Minimum Detection Power Test Conditions: 250umOptical fiber 900umOptical fiber 3mmOptical fiber Test Conditions: 250umOptical fiber 900umOptical fiber 3mmOptical fiber	1550nm -35dBm -35dBm -30dBm 1310nm -30dBm -30dBm -25dBm
Fiber Type	SM/MM
Adapter	2.5MM Universal (1.25MM adaptor included)
Power Supply	2*AA 1.5V Alkaline Battery
Battery Working Time	≥ 5000 times of measurements
Working Temperature	-10°C ~ +50°C
Storage Temperature	-20°C ~ +70°C

# Optical Fiber Identifier

FO-TTE-IDF3-4S



## FEATURES

Identify the direction of transmitted fiber.

Display the relative core power.

Four adaptor heads available:  $\phi 0.25\text{mm}$ ,  $\phi 0.9\text{mm}$ ,  $\phi 2.0\text{mm}$ ,  $\phi 3.0\text{mm}$

Lower power indication.

1 Year warranty.

MODEL	Description
FO-TTE-IDF3-4S	Optical Fiber Identifier

FO-TTE-SCOP3-H



## FEATURES

Maginification times: 160-200

Optical connector: 2.5Mm, 1.25Mm, universal adaptor

Power supply: 2x AA batteries.

1 Year warranty.

MODEL	Description
FO-TTE-SCOP3-H	Field Fiber Microscope

FO-TTE-SCOP4-H



## FEATURES

Maginification times: 200.

Optical connector: 2.5mm, 1.25mm, universal adaptor.

Power supply: 3x AA batteries.

1 Year warranty.

MODEL	Description
FO-TTE-SCOP4-H	Field Fiber Microscope

# Cleaners



FO-MSC-D3



**Clean Paper (Dry)**  
Use to clean fiber optic connector  
100pcs Paper per pack  
Size:102mm X 102mm

FO-MSC-IPA



**IPA Wipes**  
Use to clean fiber optic connector  
Isopropyl alcohol for general purpose cleaning pre-wrapped,  
Pre-saturated wipes | 50PCS/Box

FO-MSC-SK3



**Fiber Optical Cleaning Stick**  
The Stick Type Connector Cleaner uses dry alcohol-free cloth,  
To clean the Connectors LC,ST,F & SC

FO-MSC-CCL3



**Connector Cleaner**  
For cleaning Connectors: SC,FC,ST,LC  
Clean times:more than 500 times/cartridge  
Connector cleaner is a dry cleaning method with a quick, reliable operation and uniform  
results without alcohol, liquids, or gases.  
Size:125mm(L)x70mm(W)x29mm(H)

FO-MSC-CLC25



**2.5 mm One Click Cleaner**  
For Fiber Connector(ST/FC/SC)

FO-MSC-CLC12



**1.25mm One Click Cleaner**  
For Fiber Connector(LC/MU)

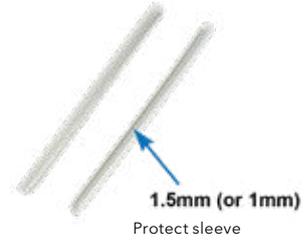
# Tools

FO-MSC-SCI3



scissors  
For cutting kevlar of Fiber optic Cable

FO-MSC-SLE



FO-MSC-SLE-40-1.5	60mm Splicing Sleeve (1.5mm Stainless Steel Wire)
FO-MSC-SLE-45-1.5	45mm Splicing Sleeve (1.5mm Stainless Steel Wire)
FO-MSC-SLE-60-1.0	60mm Splicing Sleeve (1.0mm Stainless Steel Wire)
FO-MSC-SLE-45-1.0	45mm Splicing Sleeve (1.0mm Stainless Steel Wire)

FO-MSC-STR3

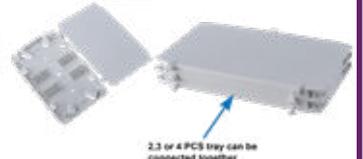


Fiber optic stripper  
For Stripping fiber optic cable

FO-MSC-TR3

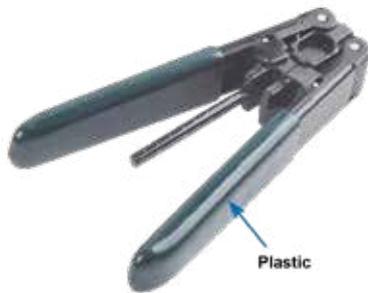


FO-MSC-TR4



Splicing Tray  
12C F/O Splicing Tray for Patch Panel

FO-MSC-STR-A



FTTH Strripper  
For stripping fiber optic cable

FO-MSC-MS12



Mechanical Splice  
The universal optical fiber splice can be connected with 125um Fiber optical glass cable by two end

FO-MSC-MDR

FO-MSC-MDR - [ ] - [ ] - [ ]

Cable Diameter
08 = 8mm
09 = 9mm
10 = 10mm
11 = 11mm
12=12mm
13=13mm
14=14mm

Cable length
10 = 100m
12 = 120m
20 = 200m
25=250m
30 = 300m
35 = 350m
40 = 400m

Cable color
W = white
B = black
O = orange
Y = yellow
R = red
G = green



Fiber Glass Duct Rodder

Roll Specification			
this specification for			
Diameter	Height	Cable Diameter	Cable length
90 cm	98 cm	8-10 mm	100 - 120 m
110 cm	115 cm	10 - 14 mm	200 - 250 m
		8-9 mm	300 m
130 cm	135 cm	10 - 14 mm	300 - 400 m

# CABINETS





## AISLE CONTAINMENT

The Aisle Containment System separates cold and hot air from equipment to the data center. It is a modular row-based thermal containment solution that manages airflow at the source, increases cooling efficiency, and decreased operating costs.



### » FEATURES

#### Modular Design

Designed by modular, most parts of the aisle containment components allow rapid placement on-site and address changing requirements or future development with pay-as-you-grow architecture.

#### Customized Design

The different modular design is customized to adapt to hot/cold aisle containment, single or dual unit, or in building pillars solution to satisfy the different requirements of customers.

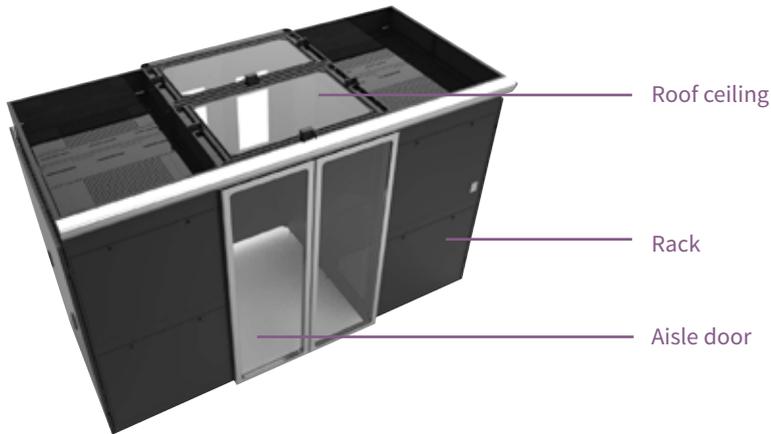
#### High Intelligent Degree

Through the intelligent control box, the flip design on the roof ceiling is connected with fire protection. Then when the fire signal is received, the roof ceiling will automatically open and fire-extinguishing gas will come into the aisle without having any conflict with the existing fire protection system.

#### Humanized Design

- Separate controlled switch devices to make the testing by each row-based modular as a unit.
- Optional light installation.
- To achieve the user's operation optimization, a sensor or TCP/IP door access locking system can be easily used to open and close the door with the semi-automatic or full-automatic sliding doors.

## » COMPONENTS OF CONTAINMENT



## » ROW-BASED CONTAINMENT KIT



MODEL	Description
FO-REP/SRP61042KIT	FO-REP/SRP61042KIT include 2pcs of FO-REP/SRP61042, roof ceiling
FO-REP/SRP81042KIT	FO-REP/SRP81042KIT include 2pcs of FO-REP/SRP81042, roof ceiling

Remark: Other sizes and other types of rack are available.

## » AISLE DOOR



Dual mechanical doors

Manual mode, Semi-automatic mode



Sliding Doors

Manual mode, semi-automatic, full-automatic mode

MODEL	Description
FO-REP/DM1222MM	Manual mode Material: 5mm toughened glass, with TCP/IP door access locking system
FO-REP/DM1222SM	Semi-automatic mode Material: 5mm toughened glass, with door closer device

MODEL	Description
FO-REP/DS1222MM	Manual mode Material: 8mm toughened glass, with built-in handle
FO-REP/DS1222SM	Semi-automatic Material: 8mm toughened glass, with door closer device
FO-REP/DS1222AM	Full-automatic mode Material: 8mm toughened glass, with TCP/IP door access locking system

## » ROOF CEILING



MODEL	Description
FO-REP/RC0612RC	Include rotary roof ceiling, external decoration panel and fixed plate
FO-REP/RC0612FC	Include fixed roof ceiling, external decoration panel and fixed plate

Note: Height of decoration panel and fixed plate only have 200mm and 300mm.

## » TOP CABLING ACCESSORIES



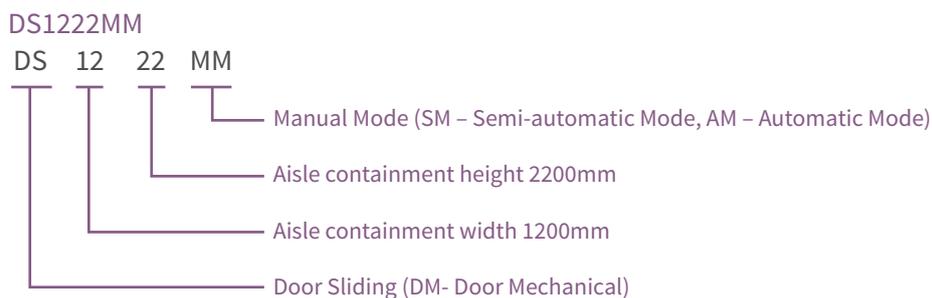
Cable Ladder

Shielding Trough

Shielding Partitions

MODEL	Description
FO-REP/ACC-CT600P	23.6"(600mm)W Power Shielding Trough, For 23.6"(600mm)W rack
FO-REP/ACC-CT800P	31.5"(800mm)W Power Shielding Trough, For 31.5"(800mm)W rack
FO-REP/ACC-CT600D	23.6"(600mm)W Data Shielding Partition, For 23.6"(600mm)W rack
FO-REP/ACC-CT800D	31.5"(800mm)W Data Shielding Partition, For 31.5"(800mm)W rack

## » HOW TO DEFINE OUR MODEL





# FO-REP/MDC-110338

## » FEATURES

- Producibility: High integration All-in-room design, rack, cooling, power in one set system.
- Fast building: Composed of a single rack for fast building.
- High density: Maximum 3KVA power for one rack.
- Air conditioner type: Without outdoor system design, the front supply air and back return air are with EC fans.
- Modularity product: UPS and intelligent power units are using an effective MODEL.
- Green energy saving: PUE<1.5

## » APPLICATION

- Apply to 20m<sup>2</sup> data center.
- Use into the data center of the internet, carrier operator, government, enterprise, education, hospital, banking, etc.

## » CONFIGURATION

- One unit 19inch 42U standard rack with 900mm width, 1 unit 3KW.
- 1 unit 3KVA UPS and battery group, 1 unit power distribution cabinet.
- 1 set environment monitoring management system.
- MDC covers an area of 1.08m<sup>2</sup>, with a front and rear maintenance area for 1200mm; left and right maintenance area for 600mm.

## » EXPANSION AND CUSTOMIZED CONFIGURATION

Having a customized configuration and expansion according to the site conditions and requirements, MDC products can adjust the quantity and power of every single cabinet.

## » SPECIFICATIONS

RACK AND ACCESSORY	
Rack Size	600*1200*2000mm
MDC Size (W*D*H) mm	900*1200*2000mm
Available Space (U)	38U
ELECTRICITY	
IT load capacity (KVA)	3KVA
UPS power (KVA)	3KVA
Type	Rack
Redundancy mode	N/A
Input power	220V/1Ph/50Hz
Output power	220V/1Ph/50Hz
Distribution	Dual distribution module
Output power	C13 output
System distribution time (min)	30
REFRIGERATION	
Refrigeration Mode (Column Space)	Columns refrigeration
Refrigerating Output for Single (kw)	3
Refrigerating Output for Total (kw)	3
Redundancy	N/A
Air Supply	Cold aisle closed, air flowing from the back and coming out of front
Temperature and Humidity Sensor	1
Waterlogging	1
Webcam	0
Entrance Guard	0
UPS	YES
Precision Smart Power Distribution Cabinet	YES
Air conditioning	YES



# FO-REP/MDC-142042

## » FEATURES

- Producibility: High integration All-in-room design, rack, cooling, power in one set system.
- Fast building: Single row, close/open hot-cold aisle building option.
- High density: One rack has a high density of maximum 5KVA power.
- Air conditioner type: In row-unit air conditioner type.
- Modularity product: Efficient MODEL of UPS and intelligent power unit.
- Green energy saving: PUE<1.5.

## » APPLICATION

- Apply to 20m<sup>2</sup> data center.
- Use into the data center of the internet, carrier operator, government, enterprise, education, hospital, banking, etc.

## » CONFIGURATION

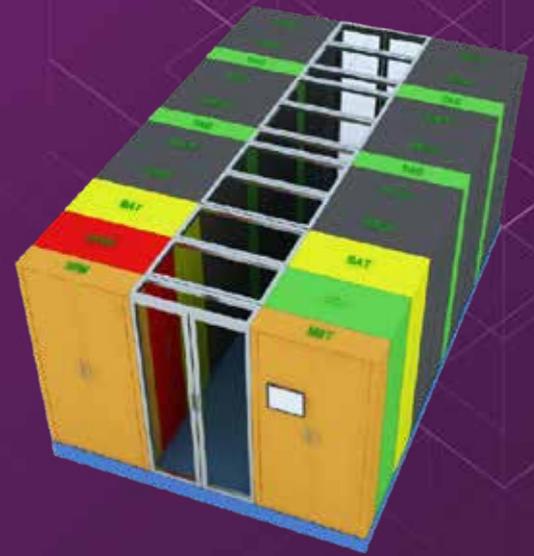
- 4 units 19 inch 42U standard rack together with aisle containment components, unit rack capacity of 5KVA; 1 unit 20KW in-row air conditioner.
- 1 unit 20KVA UPS and battery group, 1 unit power distribution cabinet.
- 1 set environment monitoring management system.
- MDC covers an area of 4.32 m<sup>2</sup>, with a front and rear maintenance area for 1200mm; left and right maintenance area for 600mm; the standard usage area of a 1T4R MDC is 15.6 m.
- The height of MDC is 2300mm, with a maintenance height of 300mm, a totally standard height of 2600mm.

## » SPECIFICATIONS

RACK AND ACCESSORY	
Rack Size	600*1000*2000mm
MDC Size (W*D*H) mm	2700*1500*2300mm
Available Space(U)	3R*42U
ELECTRICITY	
IT load capacity (KVA)	20KVA
UPS power (KVA)	20KVA
Type	Rack
Redundancy mode	N/A
Input power	380V/3Ph/50Hz
Output power	220V/1Ph/50Hz
Distribution	Dual distribution module
Output power	C13 output
System distribution time (min)	30
REFRIGERATION	
Refrigeration Mode (Column Space)	Air-cooled
Refrigerating Output for Single (kw)	20
Refrigerating Output for Total (kw)	20
Redundancy	N/A
Air Supply	Cold aisle closed, air flowing from the back and coming out of front
Temperature and Humidity Sensor	4
Waterlogging	1
Webcam	1
Entrance Guard	1
UPS	YES
Precision Smart Power Distribution Cabinet	YES
Air conditioning	YES

## » EXPANSION AND CUSTOMIZED CONFIGURATION

Having a customized configuration and expansion according to the site conditions and requirements, MDC products can adjust the quantity and power of every single cabinet.



# FO-REP/MDC-41212042

## » FEATURES

- Producibility: High integration All-in-room design, rack, cooling, power in one set system.
- Fast building: Double row, close/open hot-cold aisle building option.
- High density: One rack has a high density of maximum 6KVA power.
- Air conditioner type: In row-unit air conditioner type.
- Modularity product: UPS and intelligent power unit using an efficient MODEL.
- Green energy saving: PUE<1.5.

## » APPLICATION

- Apply to 50-10000 m<sup>2</sup> data center.
- Use into the data center of the internet, carrier operator, government, enterprise, education, hospital, banking, etc.

## » CONFIGURATION

- 2 units 19inch 42U standard rack together with aisle containment components, unit rack capacity of 6KVA; 4 units 25KW in-row air conditioner.
- 1 unit modular 120KVA UPS and battery group, 1 unit precision power cabinet.
- 1 set environment monitoring management system.
- MDC covers an area of 20.52 m<sup>2</sup>, with a front and rear maintenance area for 1200mm; the standard usage area of an FO-REP/MDC-41212042 is 48.6 m<sup>2</sup>.
- The height of MDC is 2550mm, with a maintenance height of 300mm, totally standard height of 2850mm.

## » SPECIFICATIONS

RACK AND ACCESSORY	
Rack Size	600*1000*2000mm
MDC Size (W*D*H) mm	5700*3600*2550mm
Available Space (U)	12R*42U
ELECTRICITY	
IT load capacity (KVA)	70KVA
UPS power (KVA)	120KVA
Type	Modular
Redundancy mode	N+1
Input power	380V/3Ph/50Hz
Output power	220V/1Ph/50Hz
Distribution	Dual precision and smart distribution module
Output power	C13 output
System distribution time (min)	30
REFRIGERATION	
Refrigeration Mode (Column Space)	Air-cooled/Water-chilled
Refrigerating Output for Single (kw)	25
Refrigerating Output for Total (kw)	100
Redundancy	N+1
Air Supply	Cold aisle closed, air flowing from the back and coming out of front
Temperature and Humidity Sensor	12
Waterlogging	1
Webcam	1
Entrance Guard	1
UPS	YES
Precision Smart Power Distribution Cabinet	YES
Air conditioning	YES

## » EXPANSION AND CUSTOMIZED CONFIGURATION

Having a customized configuration and expansion according to the site conditions and requirements, MDC products can adjust the quantity and power of every single cabinet.

## FO-REP/SRS-60842 SMART SERVER CABINET

### 42U SIZES

42U Floor Standing 19 Inch Rackmount LCD Screen Intelligent Server Cabinet.



### » FEATURES

- Webtelecomms IC (intelligent cabinet) series is intended for the installation of data centralized monitoring and centralized management.
- 19" rack-mountable, SNMP protocol type - possible of max the load capacity up to 800KG.
- Front & back door earthing.
- Widely used for Data Center, Computer room.
- 25 Years warranty.

### » SMART CABINET FUNCTION

- Temperature and humidity monitor
- Smog monitoring
- Entrance guard management
- Automatic illumination of cabinet
- LCD touch control
- Cabinet lighting function(optional)
- Green energy and low power dissipation

### » MATERIAL

- SPCC cold rolled steel or EG steel

### » SURFACE FINISH

Picking Phosphating Powder Coated

### » APPLICATION

- Telecommunication equipment
- CCTV
- Security and broadcasting
- Active equipment
- Data center

### » DOORS

- Front single mesh door with 8" LCD screen- electric code lock.
- Back single/double mesh door with handle lock.
- Removable side panel , locked side panel.

### » LOADING CAPACITY

Static loading: 800kgs

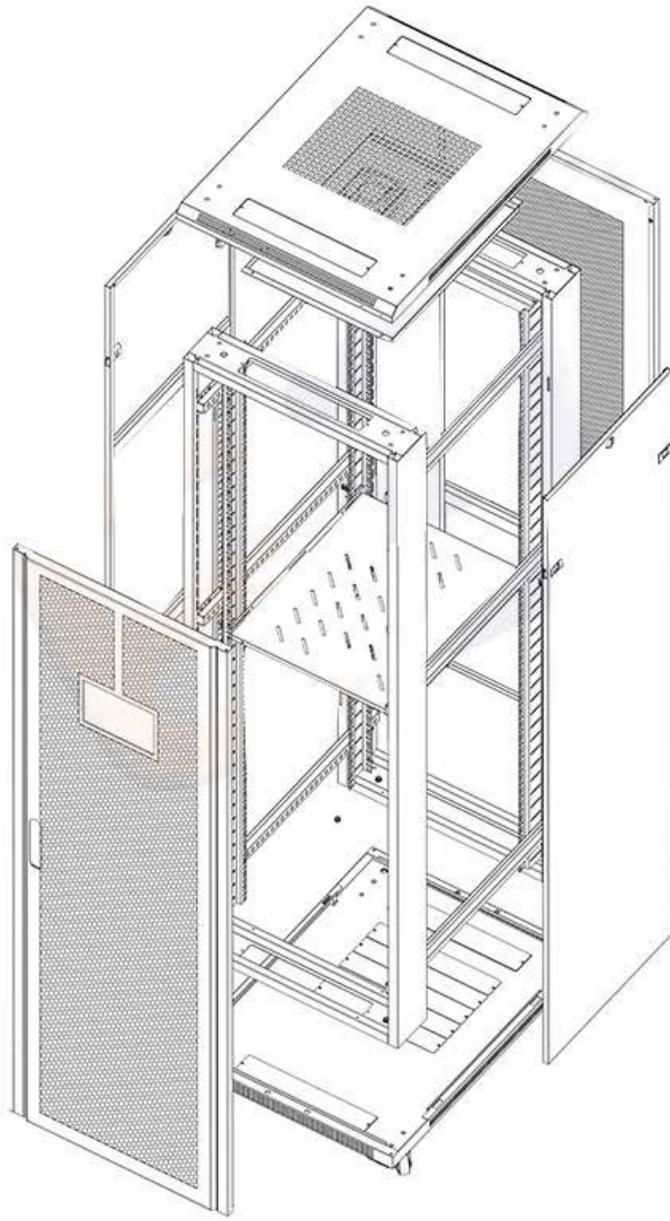
### » DEGREE OF PROTECTION

IP20

### » THICKNESS

Mounting profile 2.0mm, orthers 1.2~1.5mm

## » MAIN STRUCTURE (600MM WIDTH)



## » MAIN PARTS



LCD panel - monitoring



Back



Environment detector

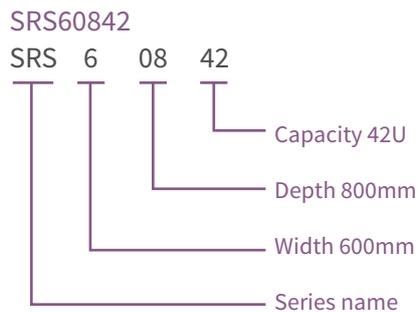
## » MAIN COMPONENTS

No.	Component Name	Quantity	Material Specification	Surface Finish	Note
1	Frame	2	1.5mm SPCC steel	Powder Coated	--
2	Front Door	1	1.2mm SPCC	Powder Coated	mesh door
3	Side Panel	2	1.2mm SPCC steel	Powder Coated	removable
4	Back Door	1	1.2mm SPCC steel	Powder Coated	mesh door
5	Cylinder Lock	3	Zinc alloy	--	back & side
6	Top cover	1	1.2mm SPCC steel	Powder Coated	
7	Electrical lock	1	Zinc alloy	Powder Coated	
8	Fan unit	1	1.2mm SPCC steel	Powder Coated	4 fans
9	LCD panel	1	LCD screen	--	
10	Bottom panel	1	1.2mm SPCC steel	Powder coating	Optional parts
11	Earthing cable	2	Y/G cable	--	25 cm
12	Castor	4	Carbon steel, PU	Powder coating	
13	Sensors	1	T & H detector	--	
14	Intelligent PDU	1	IP PDU	Powder coating	SNMP
15	Mounting angle	6	SPCC T=1.2	Powder coating	
16	19inch rails	4	SPCC T=2.0	Powder Coated	
17	Vertical C/M	/	SPCC T=1.2	Powder Coated	Only for 800 W

Color of cabinet body:

Color Standard	Normal Color		
Standard	 Ral 9004	 Ral 7035	Other color

## » HOW TO DEFINE OUR MODEL



## » MODEL INFORMATION

MODEL	Capacity (U)	Dimensions W x D x H (mm)
FO-REP/SRS60842	42	800 x 600 x 2070

## SRP SERIES STANDING SERVER RACK

24U, 37U, 42U, AND 48U SIZES

For rigorous data center environments, MORRELL designed and engineered SRP Series as the solution for networking centers.



### » FEATURES

#### Ventilation rate

SRP cabinet doors are designed with massive airflow from front to rear up to 78%.

25 Years warranty.

#### Loading Capacity

Loading capacity up to 1500kg

#### Packaging Options

Cabinets have knocked-down packaging option to save

shipment costs up to 60%.

#### Easy Maintenance

Side panels are designed horizontally to provide easy access and convenient maintenance after installation.

#### Cable Management

Cabinets are designed with large cable access slots for easy cable management.



Perforated front doors provide ventilation of up to 78%



Split rear doors lessen clearance requirements for service access.



Cable access slots on top of the cabinets provide access for overhead cable egress. Brush panel is optional for this feature.



Vertical rails of cabinets can be adjusted quarter-inch increments. The numbering system for U positions is provided for faster installation.

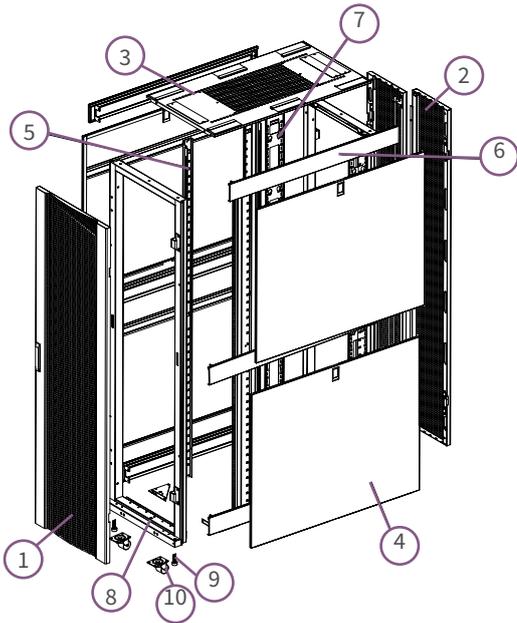


Castors are heavy-duty. Weight capacity is up to 1050kg.



Half-height side panels are designed for easier access to equipment and reduce weight.

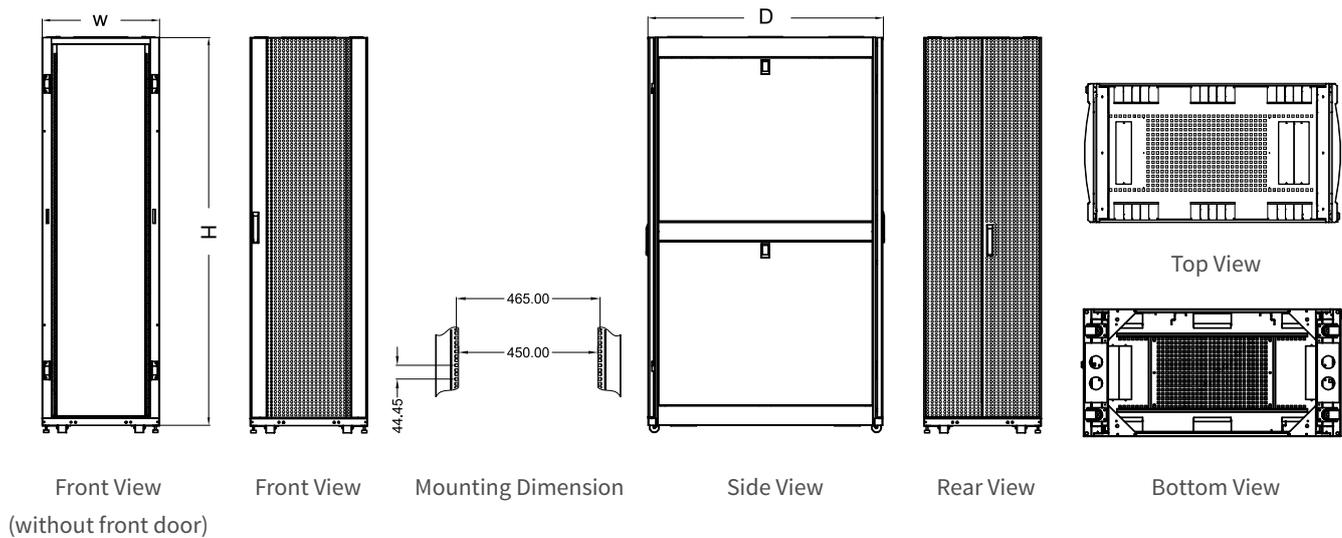
## » COMPONENTS OF SRP SERIES STANDING SERVER RACK



S/N	Name	Quantity (24U)	Quantity (42U/48U)
1	Front vented door with single lock	1	1
2	Rear door	2	2
3	Top cover	1	1
4	Side panel	2	2
5	Vertical rail	4	4
6	Horizontal beam	4	4
7	Cable management rail	2	2
8	Door frame	2	2
9	Leveling feet	4	4
10	2" heavy-duty castor (without brake)	4	4

Remark: The bottom plate is optional  
3" heavy-duty castor is optional

## » MAIN DIMENSION



## » HOW TO DEFINE OUR MODEL



## » SPECIFICATIONS

MODEL	Capacity (U)	Dimensions W x D x H(mm)	BU Packing Dimension		KD Packing Dimension			
			W*D*H(mm)	Volume (CBM)	Carton A W x D x H(mm)	Carton B W x D x H(mm)	Carton C W x D x H(mm)	Volume (CBM)
FO-REP/SRP60624	24	600x600x 1260	650 x 750 x 1341	0.654	1235 x 245 x 630	1175 x 245 x 165	615 55 x 985	0.28
FO-REP/SRP60824	24	600x800x1260	650 x 950 x 1341	0.828	1235 x 245 x 630	1175 x 245 x 165	815 x 55 x 985	0.292
FO-REP/SRP61024	24	600x1000x1260	650 x 1150 x 1341	1.004	1235 x 245 x 630	1175 x 245 x 165	1015 x 55 x 985	0.302
FO-REP/SRP60824	24	600x800x1260	850 x 950 x 1341	1.083	1235 x 245 x 830	1175 x 275 x 240	815 x 55 x 985	0.372
FO-REP/SRP61037	37	600x1000x1845	650 x 950 x 1341	1.441	1835 x 245 x 630	1745 x 215 x 165	1015 x 135 x 745	0.447
FO-REP/SRP60837	37	600x800x1845	650 x 1150 x 1928	1.19	1835 x 245 x 630	1745 x 215 x 165	815 x 135 x 745	0.427
FO-REP/SRP60637	37	600x600x1845	650 x 950 x 1928	0.939	1835 x 245 x 630	1745 x 215 x 165	615 x 135 x 745	0.407
FO-REP/SRP60642	42	600x600x2070	650 x 750 x 2150	1.048	2055 x 245 x 630	1965 x 215 x 165	615 x 135 x 855	0.457
FO-REP/SRP60842	42	600x800x2070	650 x 950 x 2150	1.328	2055 x 245 x 630	1965 x 215 x 165	815 x 135 x 855	0.48
FO-REP/SRP61042	42	600x1000x2070	650 x 1150 x 2150	1.607	2055 x 245 x 630	1965 x 215 x 165	1015 x 135 x 855	0.503
FO-REP/SRP61242	42	600x1200x2070	650 x 1350 x 2150	1.887	2055 x 245 x 630	1965 x 215 x 165	1215 x 135 x 855	0.526
FO-REP/SRP80842	42	800x800x2070	850 x 959 x 2150	1.736	2055 x 245 x 830	1965 x 215 x 165	815 x 135 x 855	0.58
FO-REP/SRP81042	42	800x1000x2070	850 x 1150 x 2150	2.102	2055 x 245 x 830	1965 x 215 x 165	1015 x 135 x 855	0.603
FO-REP/SRP81242	42	800x 1200x2070	850 x 1350 x 2150	2.467	2055 x 245 x 830	1965 x 215 x 165	1215 x 135 x 855	0.626
FO-REP/SRP60648	48	600x600x2340	650 x 750 x 2350	1.146	2290 x 245 x 630	2225 x 245 x 165	615 x 135 x 985	0.525
FO-REP/SRP60848	48	600x800x2340	650 x 950 x 2350	1.451	2290 x 245 x 630	2225 x 245 x 165	815 x 135 x 985	0.551
FO-REP/SRP61048	48	600x1000x2340	650 x 1150 x 2350	1.757	2290 x 245 x 630	2225 x 245 x 165	1015 x 135 x 985	0.578
FO-REP/SRP61248	48	600x1200x2340	650 x 1350 x 2350	2.062	2290 x 245 x 630	2225 x 245 x 165	1215 x 135 x 985	0.443
FO-REP/SRP80848	48	800x800x2340	850 x 959 x 2350	1.736	2290 x 245 x 830	2225 x 245 x 165	815 x 135 x 985	0.555
FO-REP/SRP81048	48	800x1000x2340	850 x 1150 x 2350	2.297	2290 x 245 x 830	2225 x 245 x 165	1015 x 135 x 985	0.69

Note:

Package: BU - Build up

Package: KD - Knock Down

Hardware - 50 sets of cage nuts

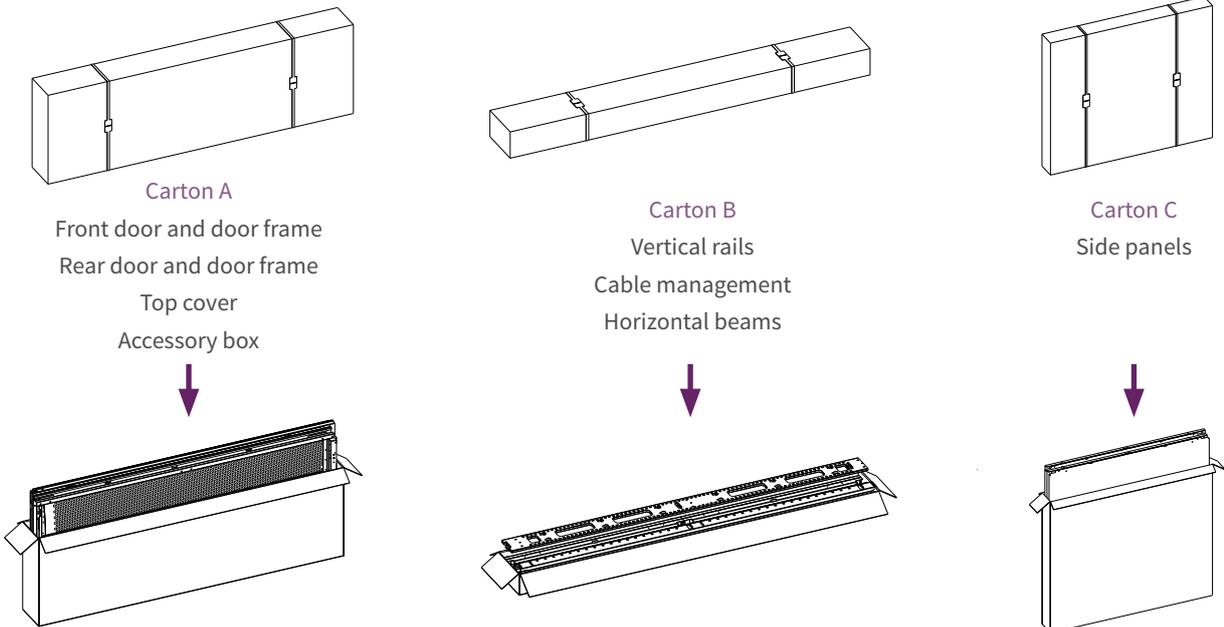
Color:



Material:

SPCC Cold Rolled Steel.

## » KNOCK-DOWN PACKAGING



## » COMPATIBLE ACCESSORIES FOR SRP STANDING SERVER RACK

SHELF - FIXED SHELF		
	FO-REP/ACC-SRP600mm	Fixed shelf for 600mm depth SRP rack
	FO-REP/ACC-SRP800mm	Fixed shelf for 800mm depth SRP rack
	FO-REP/ACC-SRP1000mm	Fixed shelf for 1000mm depth SRP rack
	FO-REP/ACC-SRP1100mm	Fixed shelf for 1100mm/1200mm depth SRP rack
SHELF - SLIDING SHELF		
	FO-REP/ACC-SRPS600mm	Sliding shelf for 600mm depth SRP rack
	FO-REP/ACC-SRPS800mm	Sliding shelf for 800mm depth SRP rack
	FO-REP/ACC-SRPS1000mm	Sliding shelf for 1000mm depth SRP rack
	FO-REP/ACC-SRPS1100mm	Sliding shelf for 1100mm/1200mm depth SRP rack
CABLE MANAGER		
	FO-REP/ACC-SRPCMB-24V	Vertical cable manager for 24U 800mm wide SRP rack
	FO-REP/ACC-SRPCMB-42V	Vertical cable manager for 42U 800mm wide SRP rack
	FO-REP/ACC-SRPCMB-48V	Vertical cable manager for 48U 800mm wide SRP rack
FAN		
	FO-REP/ACC-SRPFANTRAY4	4 Fan tray for SSG 600mm/800mm depth rack
	FO-REP/ACC-SRPFANTRAY6	6 Fan tray for SSG 1000mm/1100mm/1200mm depth rack
BOTTOM PLATE		
	FO-REP/ACC-SRPB600mm	600mm width x 600mm depth SRP rack
	FO-REP/ACC-SRPB800mm	600mm width x 800mm depth SRP rack
	FO-REP/ACC-SRPB1000mm	600mm width x 1000mm depth SRP rack
	FO-REP/ACC-SRPB8800mm	800mm width x 800mm depth SRP rack
	FO-REP/ACC-SRPB81000mm	800mm width x 1000mm depth SRP rack
PLINTH		
	FO-REP/ACC-SRPBAS1000mm	600mm width x 1000mm depth SRP rack
	FO-REP/ACC-SRPBAS800mm	600mm width x 800mm depth SRP rack
	FO-REP/ACC-SRPBAS8800mm	800mm width x 800mm depth SRP rack
	FO-REP/ACC-SRPBAS81000mm	800mm width x 1000mm depth SRP rack

## SRF SERIES STANDING COLO SERVER RACK

42U AND 48U SIZES

SRF Standing COLO Server Rack is designed with compartments for tenants to share a single rack and maximize space utilization in data centers, computer rooms, or network environment.



### » FEATURES

#### Compartments

Cabinets are divided into 4 compartments for space utilization.

25 Years warranty.

#### Loading Capacity

Loading capacity up to 1200kg

#### Ventilation rate

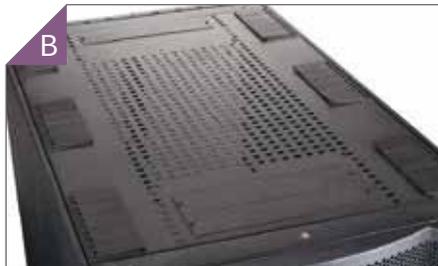
SRF cabinet doors are designed with massive airflow from front to rear up to 78%

#### Packaging Options

Cabinets have knocked-down packaging option to save shipment costs up to 60%.



Each rack has 3-code lock for security.



Cable access slots on top of the cabinets provide access for overhead cable egress. Brush panel is optional for this feature.



Side panels are divided with a single lock.



Each compartment has a fixed shelf that can carry weight up to 80kg.

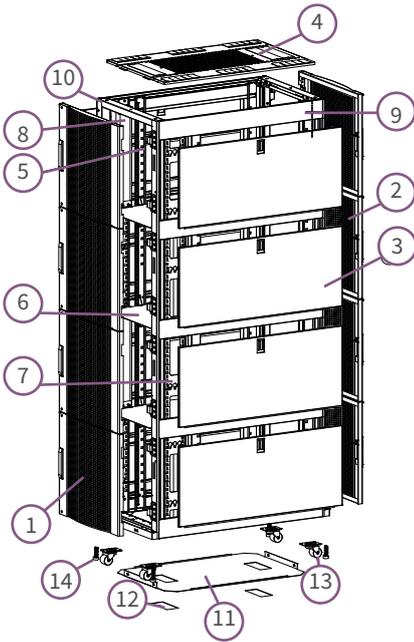


The opening angle of the front door is over 130 degrees.



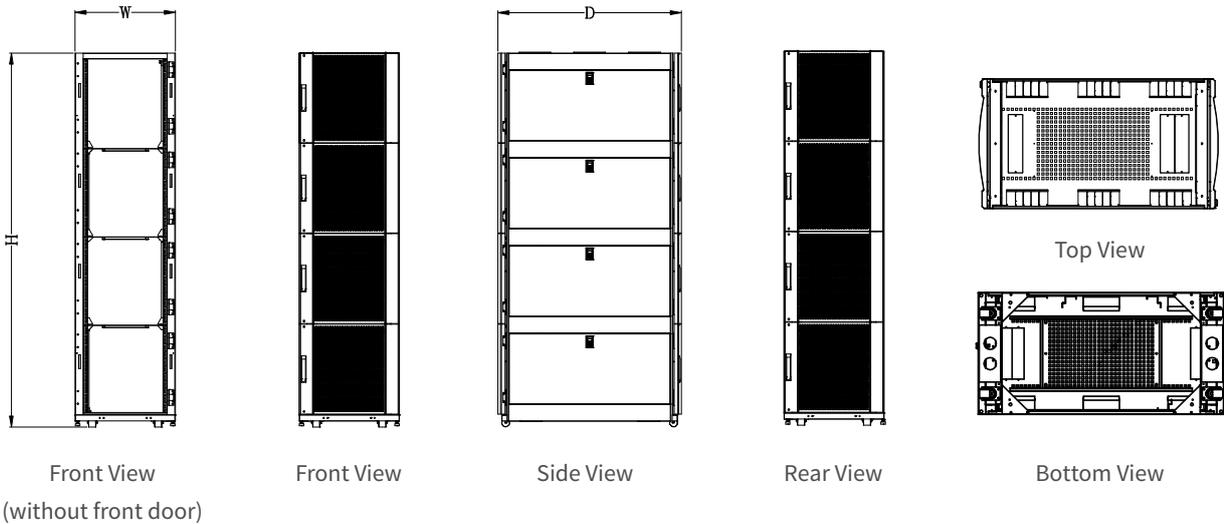
Each compartment has its own vertical cable manager.

## » COMPONENTS OF SRF SERIES STANDING COLO SERVER RACK

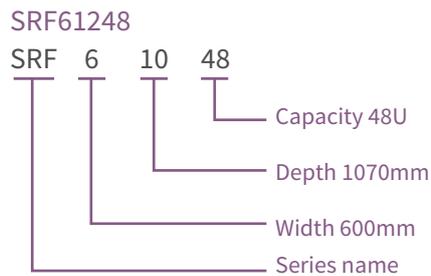


S/N	Name	Quantity (42U/48U)
1	Front door	4
2	Rear door	4
3	Side panel	8
4	Top cover	1
5	Vertical rail	4
6	Divided panel	3
7	Cable management rail	4
8	Cable management rail cover	4
9	Horizontal beam	10
10	Door frame	2
11	Bottom plate	1
12	Cover for bottom cable entry	2
13	Castors	4
14	Leveling feet	4

## » MAIN DIMENSION



## » HOW TO DEFINE OUR MODEL



## » SPECIFICATIONS

MODEL	Capacity (U)	Dimensions W x D x H(mm)	BU Packing Dimension		KD Packing Dimension			
			W*D*H(mm)	Volume (CBM)	Carton A W x D x H(mm)	Carton B W x D x H(mm)	Carton C W x D x H(mm)	Volume (CBM)
FO-REP/SRF61042	42	600 x 1000 x 2070	650 x 1150 x 2150	1.607	2055 x 245 x 630	1965 x 215 x 165	1015 x 135 x 855	0.503
FO-REP/SRF61048	48	600 x 1000 x 2340	650 x 1150 x 2350	1.756	2290 x 245 x 630	2225 x 245 x 165	1015 x 135 x 985	0.578

Note:

1. Compartments 2,3 and 4 for option.
2. Package: Build-up(BU) or Knock-down (KD).
3. Hardware: 50 sets cage nuts

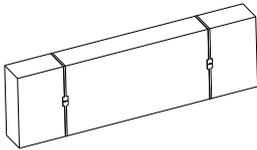
Color:

RAL9005	RAL7035

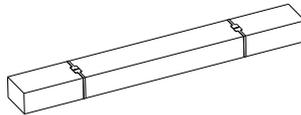
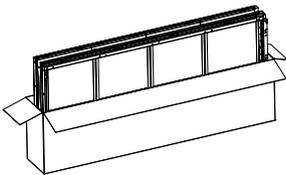
Material:

SPCC Cold Rolled Steel.

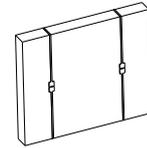
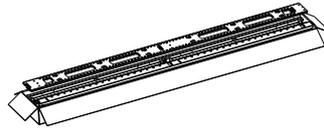
## » KNOCK-DOWN PACKAGING



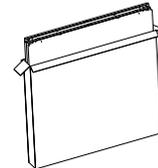
Carton A  
Front door and door frame  
Rear door and door frame  
Top cover  
Accessory box



Carton B  
Vertical rails  
Cable management  
Horizontal beams



Carton C  
Side panels



# SRF SERIES NETWORK OPEN CABINET

**27U, 32U AND 37U SIZES**



## » FEATURES

- 19-inch standard data rack; with four pc beams.
- Unassembled structure, modular design, easy to assembly.
- Stable and strong structure, easy to fix and maintain.
- With 4 castors, easy to move.
- Various accessories for optional.
- 25 Years warranty.

## » STANDARD COMPLIANCE

Comply with ANS/EIA RS-310-D, IEC297-2, DIN41494

## » MATERIAL

SPCC quality cold rolled steel

## » THICKNESS

Plinth: 2.0mm; other: 1.2mm

## » STATIC LOADING

150kg

## » SURFACE FINISH

Degreasing, Pickling, Phosphating, Powder Coated.

## » POLES

- 1 Pole for 27U.
- 2 Poles for 32U & 37U.

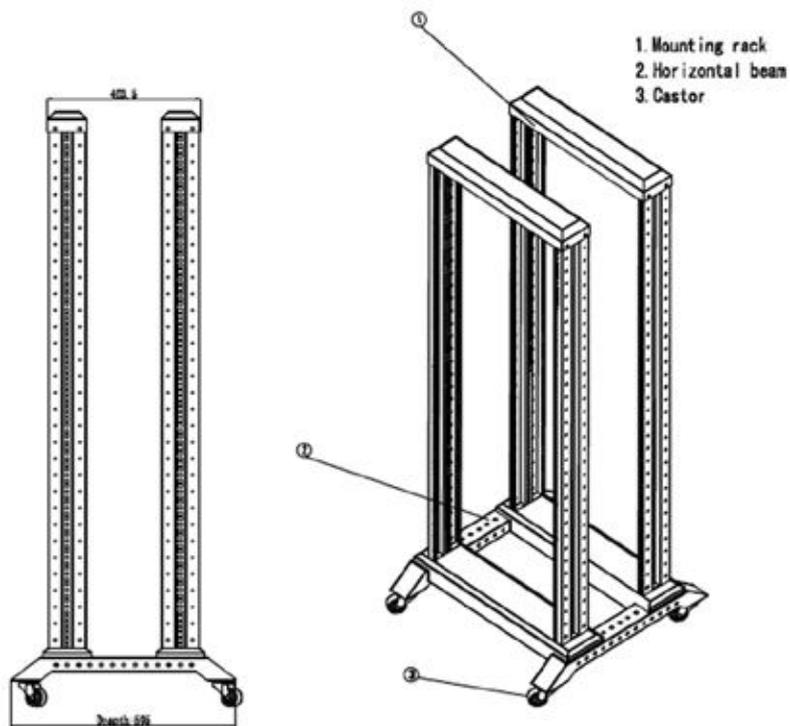
## » WARRANTY

- 25 Years Warranty.

## » MAIN COMPONENTS

No.	Component Name	Quantity	Unit	Material Specification	Surface Finish	Note
1	Vertical Pole	4	pc	SPCC cold rolled steel T1.5	Powder Coated	--
2	Plinth	2	set	SPCC cold rolled steel T2.0	Powder Coated	---
3	Horizontal Beam	2	pc	SPCC cold rolled steel T2.0	Powder Coated	---
4	Castor	4	pc	-----	-----	---
5	Square screw and nut	10	set	Steel	Color Zinc	---

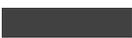
## » MAIN DIMENSIONS (600MM WIDTH)



## » SPECIFICATIONS

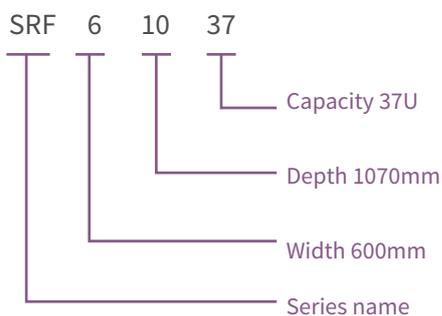
MODEL	Capacity (U)	Dimensions W x D x H(mm)	BU Packing Dimension		KD Packing Dimension	
			W*D*H(mm)	Volume (CBM)	Carton A W x D x H(mm)	Volume (CBM)
FO-REP/SRF60627	27	600 x 600 x 1395	650 x 1150 x 2150	1.607	1350x610x125	0.503
FO-REP/SRF60832	32	600 x 800 x 1620	650 x 1150 x 2350	1.756	1570x610x250	0.578
FO-REP/SRF60837	37	600 x 800 x 1845	650 x 1150 x 2350	1.756	1790x610x250	0.578

Color of cabinet body:

Color Standard	Normal Color
Standard	 Ral 9004

## » HOW TO DEFINE OUR MODEL

SRF61237



# SRD SERIES STANDING SERVER RACK

**37U, 42U, AND 47U SIZES**

For rigorous data center environments, MORRELL designed and engineered SRD Series as the solution for networking centers.



## » FEATURES

### Exquisite Design

Standing server racks are designed with precise dimensions and craftsmanship

### Good compatibility

Compatible to various servers with perfect ventilation

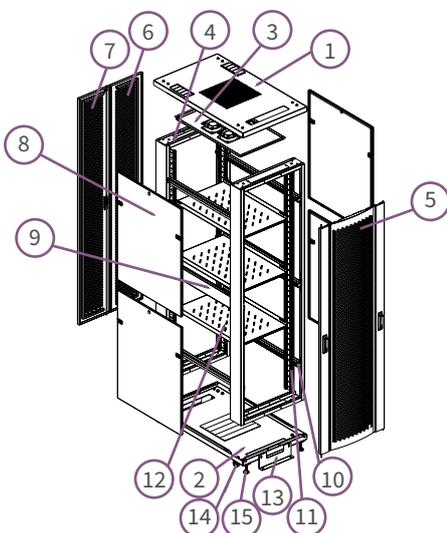
### Easy to maintain

- Doors can be opened from the left or right
- Two side panels for each side can be separately open
- Removable side panels and front/back doors for operation and watching

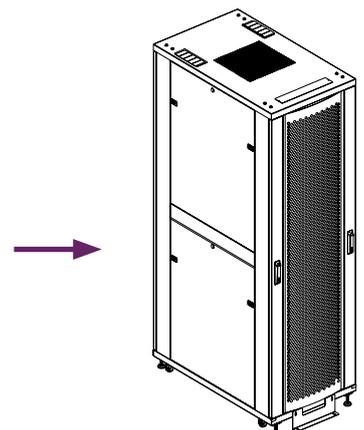
### Secured by lock

Locks are available to side panels

## » STRUCTURE



- |                    |                        |
|--------------------|------------------------|
| 1. Top cover       | 9. Beam                |
| 2. Bottom plate    | 10. Horizontal bracket |
| 3. Fan             | 11. Profile rail       |
| 4. Frame           | 12. Shelf              |
| 5. Front door      | 13. Fixing rack        |
| 6. Left back door  | 14. Caster             |
| 7. Right back door | 15. Support foot       |
| 8. Side panel      |                        |



### Adjustable Rails

Front/back profile rails with U marks on are adjustable.

### Various optional accessories

- Optional base for fixation, cable routing, ventilation, and rat-proof.
- Casters and support feet can be installed simultaneously.

### Main materials

Cold-rolled steel

### Surface treatment

Degreasing, pickling, phosphating, laundering, powder, coating

### Loading capacity

Loading capacity up to 800kg

### Warranty

25 Years warranty

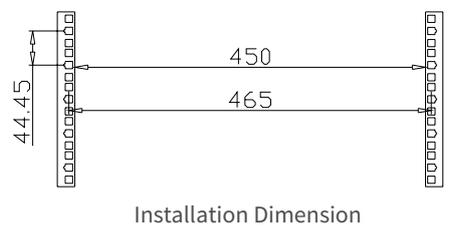
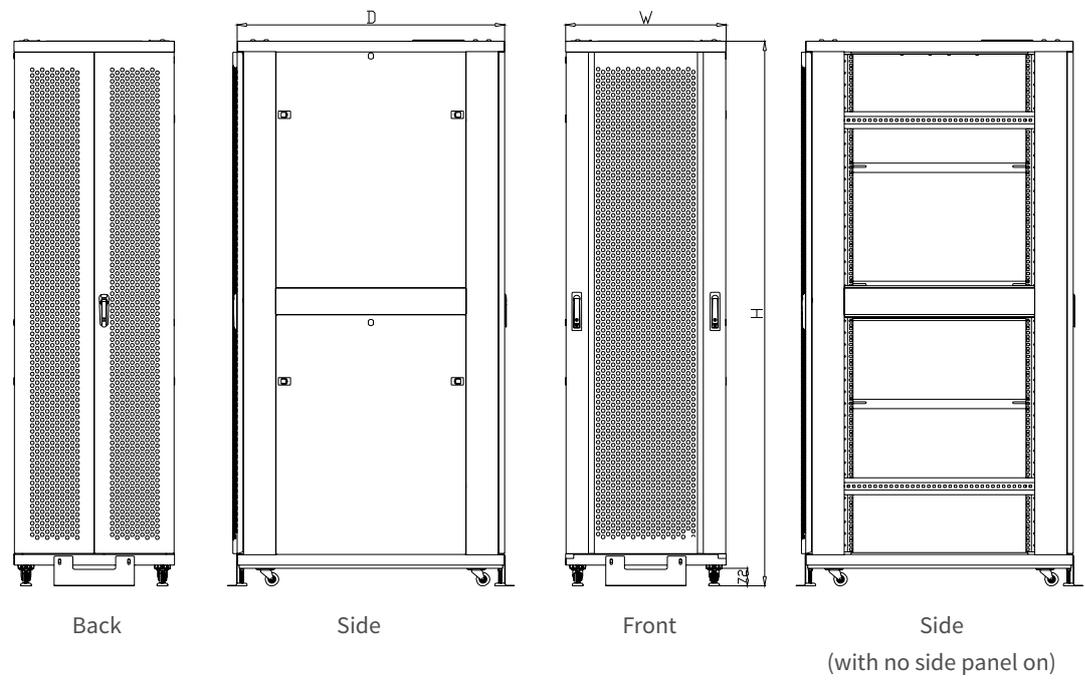
## » COMPONENTS OF SRD SERIES STANDING SERVER RACK

S/N	Name	Quantity	Unit	Materials	Surface Treatment	Materials
1	Top covers	1	pc	1.2mm cold-rolled steel	powder coating	
2	Bottom plates	1	pc	1.2mm cold-rolled steel	powder coating	
3	Fan plate with 4 fans	1	pc	1.2mm cold-rolled steel	powder coating	4 fans
4	Frames	2	pc	1.2mm cold-rolled steel	powder coating	
5	Front doors	1	pc	1.2mm cold-rolled steel	powder coating	door type G
6	Left back doors	1	pc	1.2mm cold-rolled steel	powder coating	door type K
7	Right back doors	1	pc	1.2mm cold-rolled steel	powder coating	door type K
8	Side panels	4	pc	1.0mm cold-rolled steel	powder coating	
9	Beams	2	pc	1.2mm cold-rolled steel	powder coating	
10	Horizontal brackets	6	pc	1.2mm cold-rolled steel	powder coating	
11	Profile rail	4	pc	2.0mm cold-rolled steel	powder coating	
12	Shelves	3	pc	1.2mm cold-rolled steel	powder coating	
13	Fixing plate	2	pc	2mm cold-rolled steel	powder coating	
14	Casters	4	pc			
15	M12 support feet	4	pc			
16	Cage nuts	40	pc			
17	Sockets with 6 outlets	1	pc			

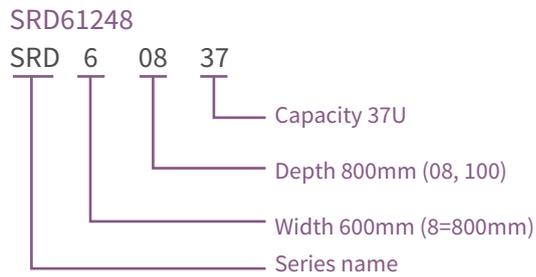
**Note:**

The above configuration are for 600-wide racks.  
 The 800-wide racks requires 12 junction boxes and 2 cable managers.

## » DIMENSION



## » HOW TO DEFINE OUR MODEL



## » SPECIFICATIONS

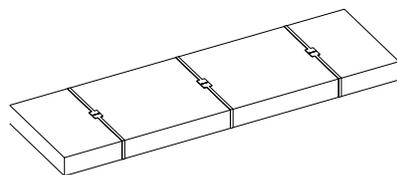
MODEL	Capacity (U)	Dimensions W x D x H (mm)	BU Packing Dimension		KD Packing Dimension				
			W*D*H(mm)	Vol. (CBM)	Carton A W x D x H (mm)	Carton B W x D x H (mm)	Carton C W x D x H (mm)	Carton D W x D x H (mm)	Vol. (CBM)
FO-REP/SRD60837	37	600 x 800x 1845	620 x 820 x 1840	0.932	1760 x 620 x 320	820 x 620 x 130	-	-	0.42
FO-REP/SRD61037	37	600 x 1000x 1845	620 x 1020 x 1840	1.159	1760 x 620 x 320	1020 x 620 x 130	790 x 80 x 730	-	0.48
FO-REP/SRD60842	42	600 x 800x 2070	620 x 820 x 2065	1.045	1980 x 620 x 320	820 x 620 x 130	-	-	0.46
FO-REP/SRD61042	42	600 x 1000x 2070	620 x 1020 x 2065	1.3	1980 x 620 x 320	1020 x 620 x 130	900 x 80 x 730	-	0.53
FO-REP/SRD60847	47	600 x 800x 2295	620 x 820 x 2290	1.158	2205 x 620 x 320	820 x 620 x 130	-	-	0.5
FO-REP/SRD61047	47	600 x 1000x 2295	620 x 1020 x 2290	1.44	2205 x 620 x 320	1020 x 620 x 130	1010 x 80 x 730	-	0.58
FO-REP/SRD80837	37	800 x 800 x 1845	820 x 820 x 1840	1.237	1760 x 820 x 320	820 x 620 x 130	-	-	0.55
FO-REP/SRD80842	42	800 x 800 x 2070	820 x 820 x 2065	1.389	1980 x 820 x 320	820 x 620 x 130	-	-	0.61
FO-REP/SRD81042	42	800 x 1000 x 2070	800 x 1000 x 2055	1.727	1980 x 820 x 320	1020 x 820 x 130	-	-	0.63
FO-REP/SRD80847	47	800 x 800x 2295	800 x 800 x 2277	1.54	2205 x 820 x 320	820 x 620 x 130	-	-	0.67
FO-REP/SRD81047	47	800 x 1000x 2295	800 x 1000 x 2277	1.915	2205 x 820 x 320	1020 x 820 x 130	-	-	0.688

Note:

Package: BU - Build up

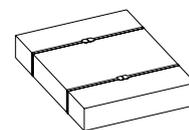
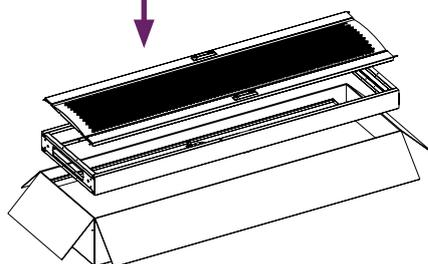
Package: KD - Knock Down

## » KNOCK-DOWN PACKAGING



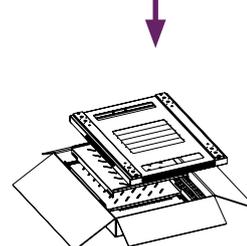
Package A

Top cover, bottom, horizontal bracket, shelf, accessories



Package B

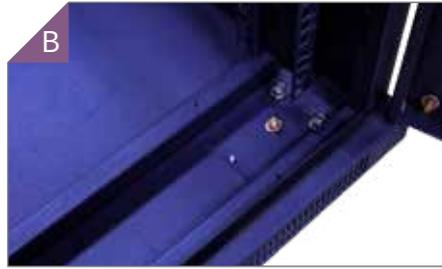
Front/back doors, side panels, frames, profile rails, beam, and fans



## » COMPATIBLE ACCESSORIES FOR SRD STANDING SERVER RACK



Fan



Earthing Screw



Profile rail with U marks on



Optional bases for fixation, cable routing, ventilation, and rat proof



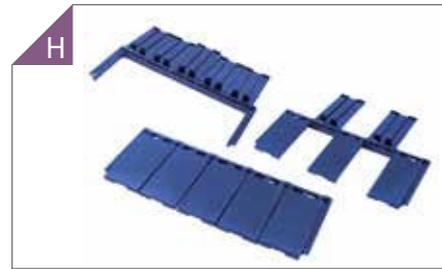
Lock



Open the door from the left



Open the door from the right



Top entry cover

## SRX SERIES STANDING NETWORK CABINET

18U, 22U, 27U, 32U, 37U, 42U,  
AND 48U SIZES

For rigorous data center environments, MORRELL designed and engineered SRX Series as the solution for networking centers.



### » FEATURES

#### Exquisite Design

- Exquisite design with precise dimensions and craftsmanship
- Efficient baying or earthing kit

#### Welded Steel Frame

Front and back frame are welded

#### Removable side panel

Removable side panels with latch, easy to install with optional lock

#### High-density vented front and rear doors

High-density vented front and rear doors with hexagonal holes, can turn over 180 degree

#### Advanced handle lock

Advanced handle locks for the front door and optional lock on the other

### » STANDARD COMPLIANCE

Comply with ANS/EIA RS-310, IEC297-2, DIN41491, PART1, PART7, ETSI

### » MATERIAL

- SPCC Quality cold rolled steel
- Mounting profile: 2.0mm; other parts: 1.2mm

### » SURFACE FINISH

Degreasing, pickling, phosphating, powder-coated.

#### Adjustable parts

- Cable entry on top and adjustable cable entry at the bottom with the panel.
- Casters and feet can be installed simultaneously.
- S-Shaped mounting profile; free to move forward and back

#### Packing

Unassembled packing available; packing is about 2/5 assembled items. Save container space.

#### Various optional accessories

- Optional plinth to fix cabinet on the floor
- Optional accessories such as a fixed shelf, keyboard tray, sliding shelf, light kit, earthing kit, brush for cable entry, plywood pallet or paper pallet

### » LOADING CAPACITY

Loading capacity up to 800kg (on the adjustable feet)

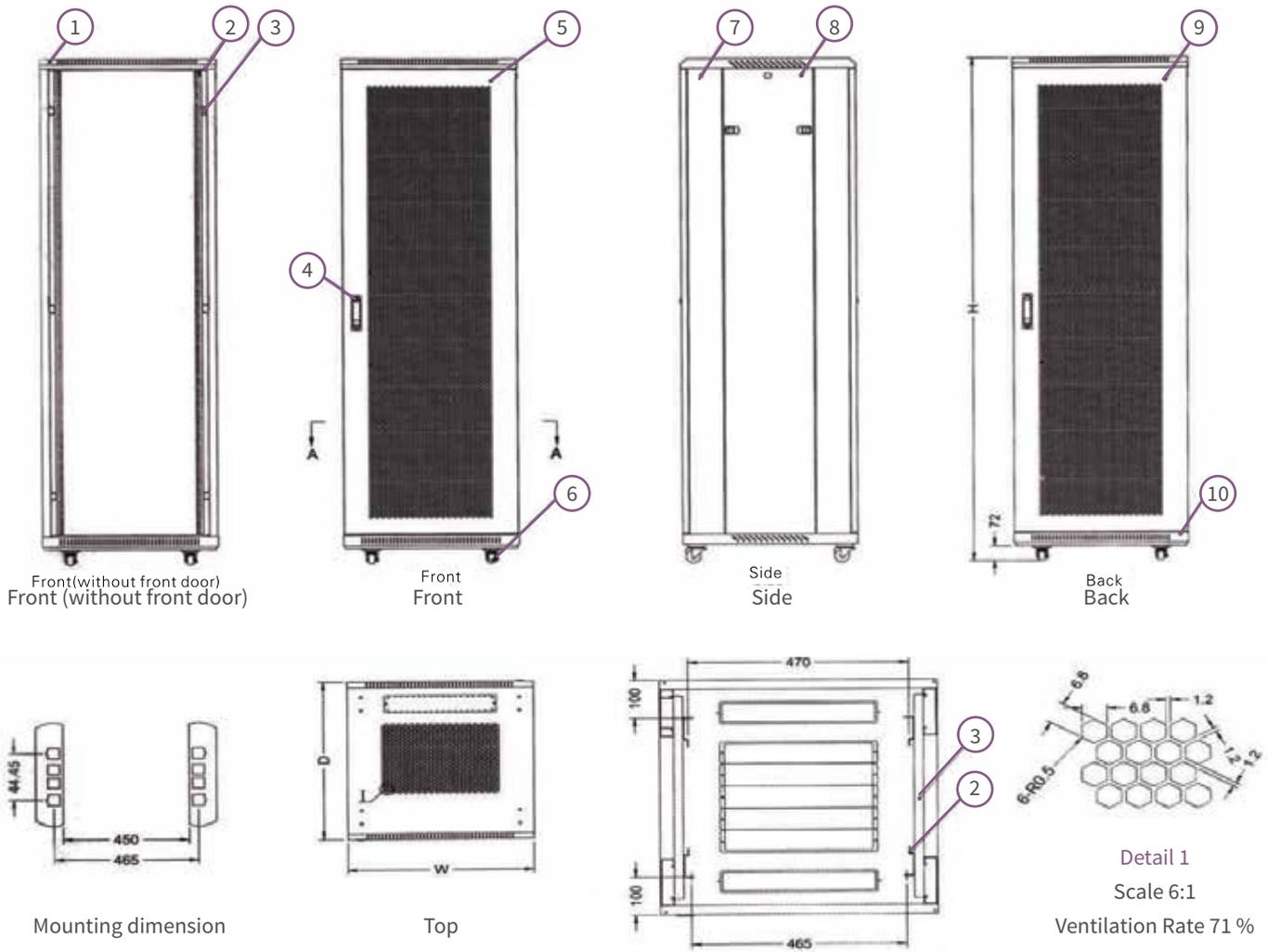
### » DEGREE OF PROTECTION

IP20

### » WARRANTY

25 Years warranty.

## » MAIN DIMENSIONS (800MM WIDTH)



## » MAIN PARTS



Bottom



Mounting Angle

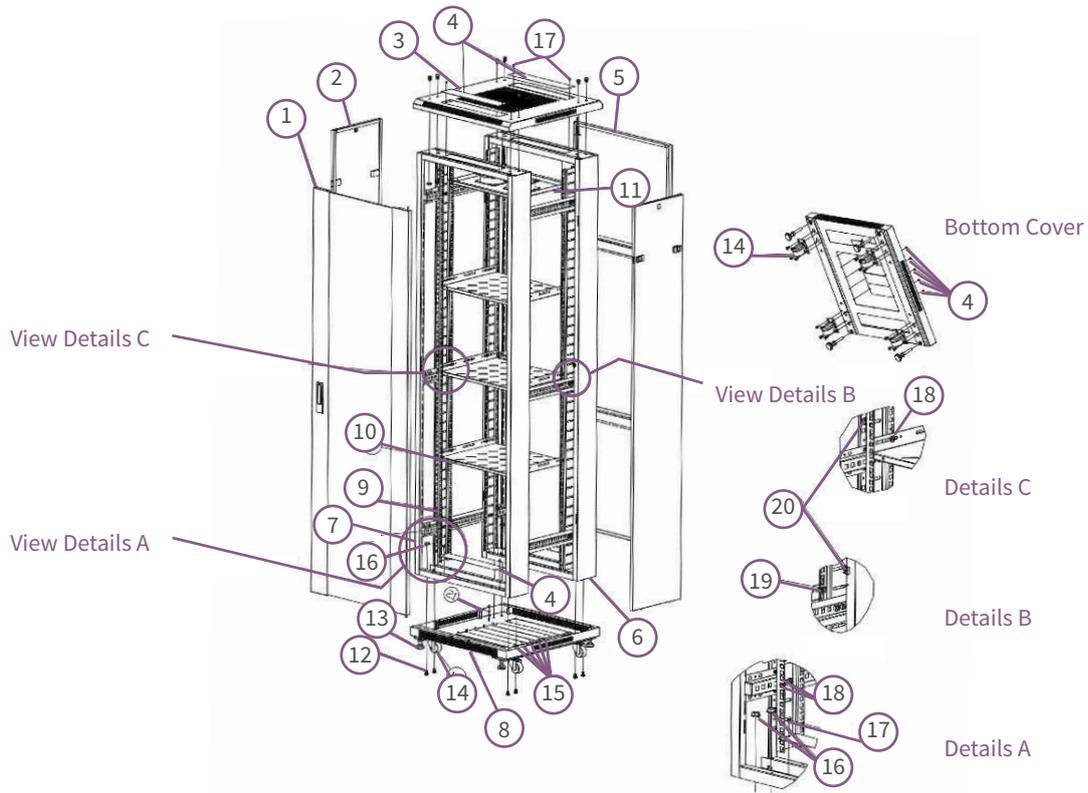


Fan Tray

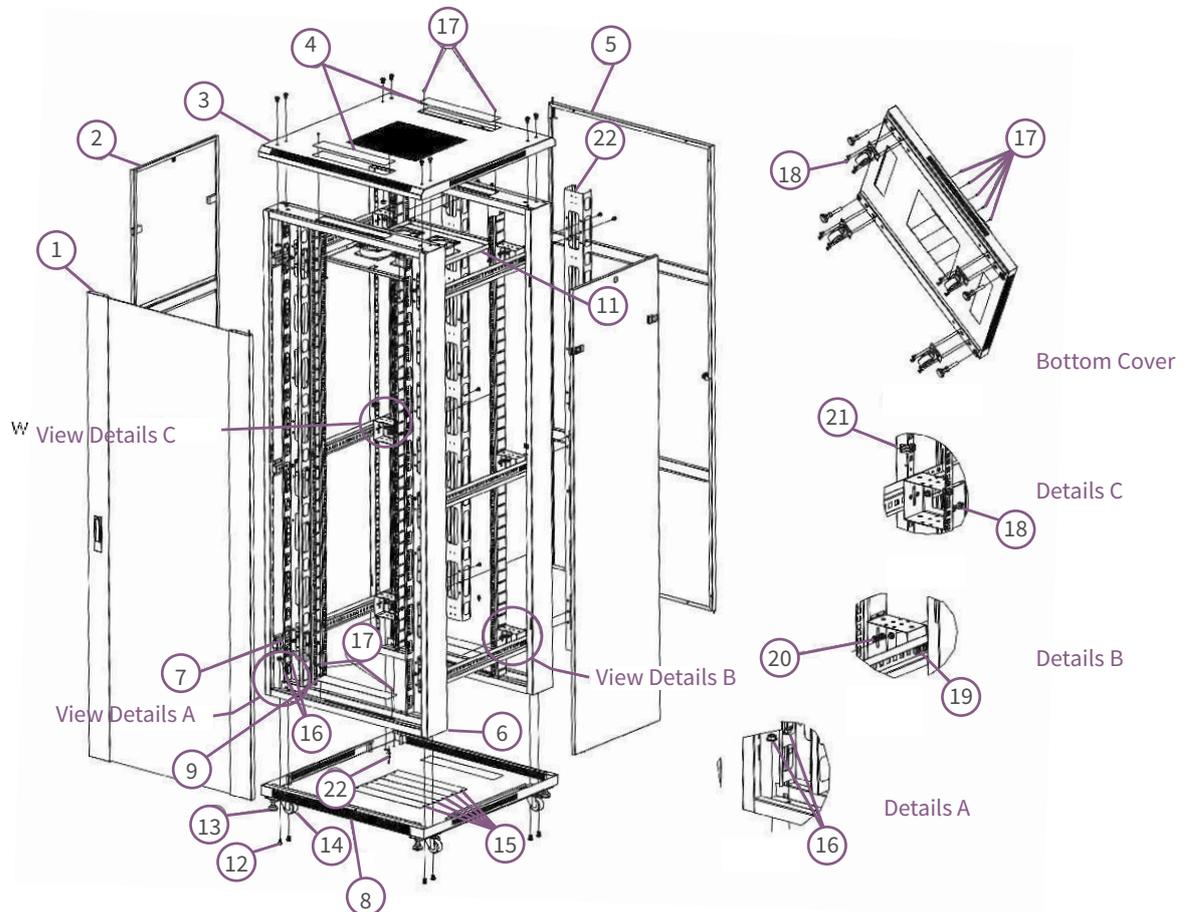


Lock

## » MAIN STRUCTURE (800mm WIDTH)



## » MAIN STRUCTURE (600mm WIDTH)



» DOOR TYPE :



Toughened glass door



Steel door without holes



Toughened glass door & vented door border



Vented plate door



Vented plate door



Double-sections vented door



Arc vented door



Strong plate vented door

## » MAIN COMPONENTS

No.	Component Name	Quantity	Unit	Material Specification	Surface Finish	Note
1	Top Cover	1	pc	SPCC cold rolled steel T1.2	Powder Coated	--
2	Fan Unit	1	set	SPCC cold rolled steel T1.2	Powder Coated	---
3	Steel Frame	2	pc	SPCC cold rolled steel T1.2	Powder Coated	---
4	Tempered Front Door	1	pc	SPCC cold rolled steel T1.2	Powder Coated	Single Open
5	Steel Rear Door Without Holes	1	pc	SPCC cold rolled steel T1.2	Powder Coated	Single Open
6	Bottom Panel	1	pc	SPCC cold rolled steel T1.2	Powder Coated	
7	Mounting Angle	6	pc	SPCC cold rolled steel T1.2	Powder Coated	4pcs for below 32u
8	Mounting Profile	4	pc	SPCC cold rolled steel T2.0	Powder Coated	---
9	Side Panel	2	pc	SPCC cold rolled steel T1.2	Powder Coated	---
10	Handle Lock for Front Door	1	pc	--	Galvanization	With 2 keys
11	Little Round Lock for Rear Door	1	pc	--	Galvanization	With 2 keys
12	Castor	4	pc	--	--	--
13	M10 Adjustable Feet	4	pc	--	--	---
14	M6 B-Head Screw and M6 Square Nut	20	pc	Steel	Color Zinc Coated	---
15	Allen Wrench	1	pc	Steel	Black	----
16	Spacer (Only for 800mm width)	12	pc	SPCC cold rolled steel T1.2	Powder Coated	Only for 800mm
17	Vertical Cable Manager (Only for 800mm width)	2	pc	SPCC cold rolled steel T0.8	Powder Coated	Only for 800mm

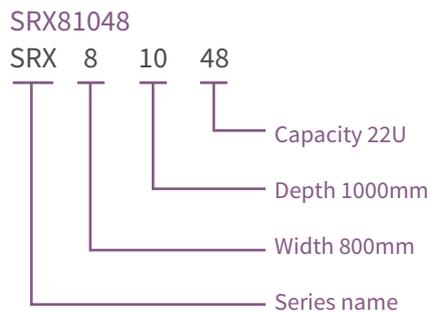
Color of cabinet body:

Color Standard	Normal Color		
Standard	 Ral 9004	 Ral 7035	Other color

Optional Accessories:

- Fixed shelf, keyboard tray, sliding shelf
- Light kit, earthing kit
- Brush for cable entry
- Plywood pallet or paper pallet

## » HOW TO DEFINE OUR MODEL



## » MODEL INFORMATION

MODEL	Capacity (U)	Dimension W x D x H (mm)	KD Packing Dimension			Volume (CBM)
			Carton A W x D x H (mm)	Carton B W x D x H (mm)	Carton C W x D x H (mm)	
FO-REP/SRX60618	18	600 x 600x 990	620 x 620 x 130	930 x 620 x 250	860 x 530 x 90	0.23
FO-REP/SRX60818	18	600 x 800 x 990	620 x 820 x 130	930 x 620 x 250	860 x 530 x 90	0.25
FO-REP/SRX61018	18	600 x 1000 x 990	620 x 1020 x 130	930 x 620 x 250	860 x 530 x 90	0.26
FO-REP/SRX60622	22	600 x 600 x 1170	620 x 620 x 130	1090 x 620 x 250	1030 x 620 x 90	0.28
FO-REP/SRX60822	22	600 x 800 x 1170	620 x 820 x 130	1090 x 620 x 250	1030 x 620 x 90	0.30
FO-REP/SRX61022	22	600 x 1000 x 1170	620 x 1020 x 130	1090 x 620 x 250	1030 x 620 x 90	0.31
FO-REP/SRX60627	27	600 x 600 x 1395	620 x 620 x 130	1320 x 620 x 250	1250 x 620 x 90	0.32
FO-REP/SRX60827	27	600 x 800 x 1395	620 x 820 x 130	1320 x 620 x 250	1250 x 620 x 90	0.34
FO-REP/SRX61027	27	600 x 1000 x 1395	620 x 1020 x 130	1320 x 620 x 250	1250 x 620 x 90	0.36
FO-REP/SRX60632	32	600 x 600 x 1620	620 x 620 x 130	1600 x 620 x 250	1500 x 620 x 90	0.38
FO-REP/SRX60832	32	600 x 800 x 1620	620 x 820 x 130	1600 x 620 x 250	1500 x 620 x 90	0.40
FO-REP/SRX61032	32	600 x 1000 x 1620	620 x 1020 x 130	1600 x 620 x 250	1500 x 620 x 90	0.41
FO-REP/SRX60637	37	600 x 600 x 1845	620 x 620 x 130	1760 x 620 x 250	1690 x 620 x 90	0.42
FO-REP/SRX60837	37	600 x 800 x 1845	620 x 820 x 130	1760 x 620 x 250	1690 x 620 x 90	0.43
FO-REP/SRX61037	37	600 x 1000 x 1845	620 x 1020 x 130	1760 x 620 x 250	1690 x 620 x 90	0.45
FO-REP/SRX60642	42	600 x 600 x 2070	620 x 620 x 130	1980 x 620 x 250	1920 x 620 x 90	0.46
FO-REP/SRX60842	42	600 x 800 x 2070	620 x 820 x 130	1980 x 620 x 250	1920 x 620 x 90	0.48
FO-REP/SRX61042	42	600 x 1000 x 2070	620 x 1020 x 130	1980 x 620 x 250	1920 x 620 x 90	0.50
FO-REP/SRX81042	42	800 x 1000 x 2070	820 x 1020 x 130	2000 x 620 x 250	2000 x 620 x 90	0.51
FO-REP/SRX60647	47	600 x 600 x 2295	620 x 620 x 130	2210 x 620 x 250	2150 x 730 x 90	0.53
FO-REP/SRX60847	47	600 x 800 x 2295	620 x 820 x 130	2210 x 620 x 250	2150 x 730 x 90	0.55
FO-REP/SRX61047	47	600 x 1000 x 2295	620 x 1020 x 130	2210 x 620 x 250	2150 x 730 x 90	0.57
FO-REP/SRX81048	48	800 x 100 x 2340	820 x 1020 x 130	2250 x 820 x 250	2180 x 730 x 90	0.57

Note:

Package: KD - Knock Down

## SRZ SERIES SERVER CABINET

18U, 22U, 27U, 32U, 37U, 42U, AND  
47U SIZES

For rigorous data center environments, MORRELL designed and engineered SRZ Series as the solution for networking centers.



### » FEATURES

#### Exquisite Design

- Exquisite design with precise dimensions and craftsmanship
- Efficient baying or earthing kit

#### Welded Steel Frame

High intensity nine-folded welded frame

#### Removable side panel

Removable side panels are easy to install and maintain with advanced moon-shaped lock

#### The High-density perforated front door

High-density (single open) with over 180 turning degree

### » STANDARD COMPLIANCE

Comply with ANS/EIA RS-310, IEC297-2, DIN41491, PART1, DIN41491 Standard

### » MATERIAL

- Frame: Nine-folded profiled (SPCC)
- Others: SPCC quality cold rolled steel
- Mounting profile: 2.0mm; Mounting angle: 2.0mm; Other 1.2mm

#### High-density perforated rear door

High-density (dual open) with ventilation rate above 50% to enable equipment ventilation and reliable operation

#### Adjustable parts

- Adjustable feet and castors
- Cable entry on the top, bottom with cable entrance

#### Cable Management

Metal cable ring on the mounting profile for easy cable management

#### Strength and stability

To ensure strength and stability server cabinet is connected by four-corner

### » STANDARD COMPLIANCE

Degreasing, pickling, phosphating, powder-coated

### » DEGREE OF PROTECTION

IP20

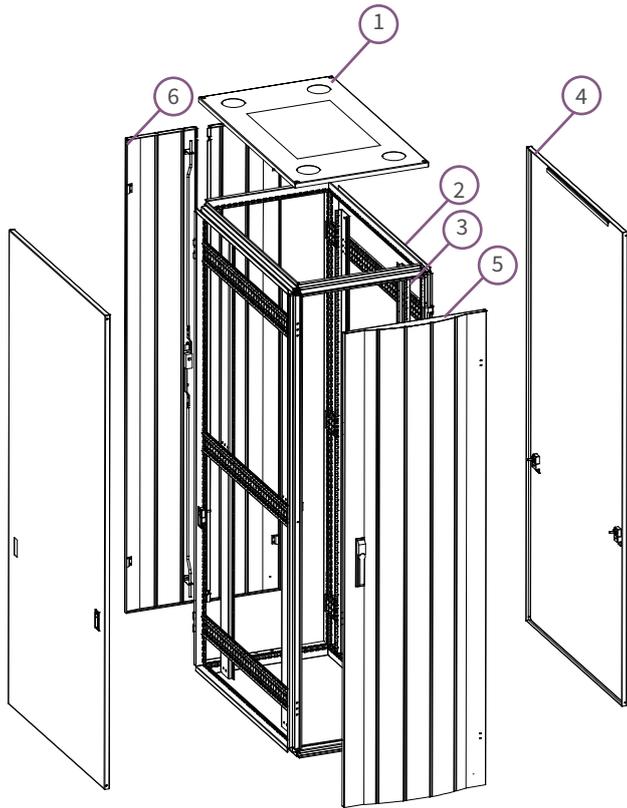
### » LOADING CAPACITY

Loading capacity is up to 1000kg

### » WARRANTY

25 Years warranty.

## » MAIN STRUCTURE (600MM OR 800MM WIDTH)



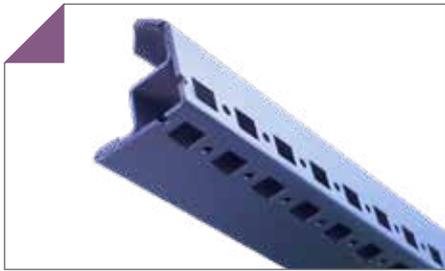
1. Top cover
2. Frame
3. Mounting profile
4. Side panel
5. Front door
6. Back door



Supporting Tray



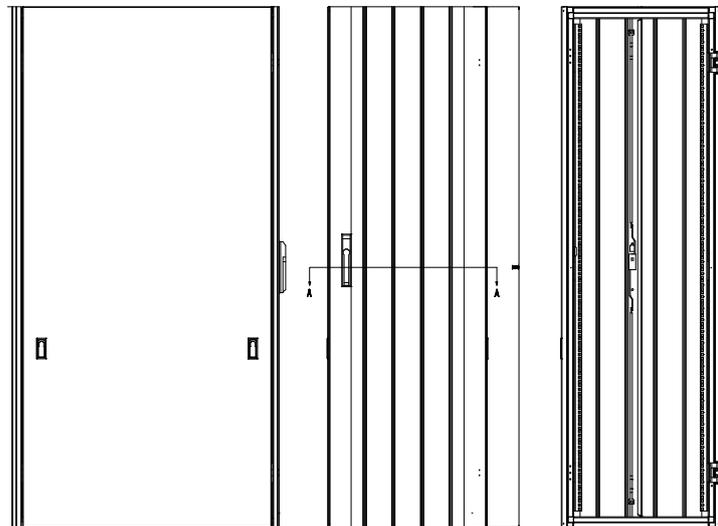
Hinge



Nine-Folded Profile



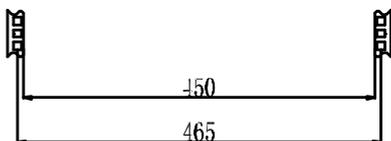
Inserting corner connector



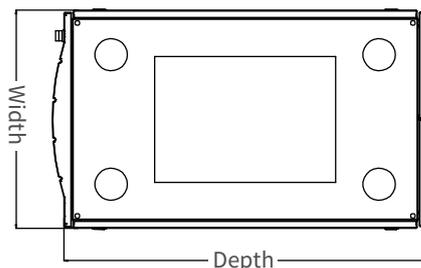
Right

Front

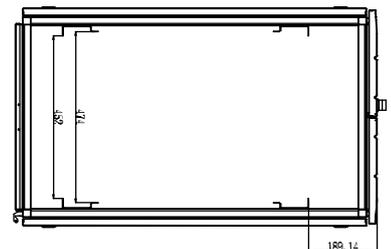
Without door



Mounting dimension



Top



A-A Section

## » MAIN COMPONENTS

No.	Component Name	Quantity	Unit	Material Specification	Surface Finish	Note
1	Top Cover	1	pc	SPCC cold rolled steel T1.2	Powder Coated	--
2	Fan Unit	1	set	SPCC cold rolled steel T1.2	Powder Coated	---
3	Frame	2	pc	Nin-folded Porfiled T2.0	Powder Coated	---
4	Supporting Corner	4	pc	SPCC cold rolled steel T2.0	Powder Coated	---
5	Mounting Angle	6	pc	SPCC cold rolled steel T2.0	Powder Coated	4pcs for below 32U
6	Mounting Profile	4	pc	SPCC cold rolled steel T2.0	Powder Coated	---
7	Side Panel	2	pc	SPCC cold rolled steel T1.2	Powder Coated	Steel door
8	Perforated Front Door	1	pc	SPCC cold rolled steel T1.2	Powder Coated	Single open
9	Perforated Rear Door	1	pc	SPCC cold rolled steel T1.2	Powder Coated	Dual open
10	Advanced Moon-Shaped Lock	6	pc	--	Galvanization	With 4 keys
11	2* Castor	4	pc	--	--	--
12	M10 Adjustable Feet	4	pc	--	--	---
13	M6 B-Head Screw and M6 Square Nut	20	pc	Steel	Color Zinc Coated	---
14	Allen Wrench	1	pc	Steel	Black	---
15	Metal Cable Ring	6	pc	Steel	Powder Coated	---
16	Spacer (Only for 800mm width)	12	pc	SPCC cold rolled steel T1.2	Powder Coated	Only for 800mm
17	Vertical Cable Manager (Only for 800mm width)	2	pc	SPCC cold rolled steel T0.8	Powder Coated	Only for 800mm

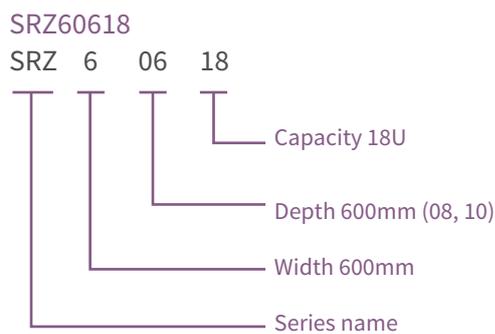
Color of cabinet body:

Color Standard	Normal Color		
Standard	 Ral 9004	 Ral 7035	Other color

Optional Accessories:

Fixed shelf, keyboard tray, sliding shelf  
Light kit, earthing kit, Plinth  
Brush for cable entry  
Plywood pallet or paper pallet

## » HOW TO DEFINE OUR MODEL





## » MODEL INFORMATION

MODEL	Capacity (U)	Dimensions W x D x H (mm)	KD Packing Dimension			
			Carton A W x D x H (mm)	Carton B W x D x H (mm)	Carton C W x D x H (mm)	Volume (CBM)
FO-REP/SRZ60618	18	600 x 600 x 990	620 x 620 x 130	930 x 620 x 250	860 x 530 x 90	0.23
FO-REP/SRZ60818	18	600 x 800 x 990	620 x 820 x 130	930 x 620 x 250	860 x 530 x 90	0.25
FO-REP/SRZ61018	18	600 x 1000 x 990	620 x 1020 x 130	930 x 620 x 250	860 x 530 x 90	0.26
FO-REP/SRZ60622	22	600 x 600 x 1170	620 x 620 x 130	1090 x 620 x 250	1030 x 620 x 90	0.28
FO-REP/SRZ60822	22	600 x 800 x 1170	620 x 820 x 130	1090 x 620 x 250	1030 x 620 x 90	0.30
FO-REP/SRZ61022	22	600 x 1000 x 1170	620 x 1020 x 130	1090 x 620 x 250	1030 x 620 x 90	0.31
FO-REP/SRZ60627	27	600 x 600 x 1395	620 x 620 x 130	1320 x 620 x 250	1250 x 620 x 90	0.32
FO-REP/SRZ60827	27	600 x 800 x 1395	620 x 820 x 130	1320 x 620 x 250	1250 x 620 x 90	0.34
FO-REP/SRZ61027	27	600 x 1000 x 1395	620 x 1020 x 130	1320 x 620 x 250	1250 x 620 x 90	0.36
FO-REP/SRZ60632	32	600 x 600 x 1620	620 x 620 x 130	1600 x 620 x 250	1500 x 620 x 90	0.38
FO-REP/SRZ60832	32	600 x 800 x 1620	620 x 820 x 130	1600 x 620 x 250	1500 x 620 x 90	0.40
FO-REP/SRZ61032	32	600 x 1000 x 1620	620 x 1020 x 130	1600 x 620 x 250	1500 x 620 x 90	0.41
FO-REP/SRZ60637	37	600 x 600 x 1845	620 x 620 x 130	1760 x 620 x 250	1690 x 620 x 90	0.42
FO-REP/SRZ60837	37	600 x 800 x 1845	620 x 820 x 130	1760 x 620 x 250	1690 x 620 x 90	0.43
FO-REP/SRZ61037	37	600 x 1000 x 1845	620 x 1020 x 130	1760 x 620 x 250	1690 x 620 x 90	0.45
FO-REP/SRZ60642	42	600 x 600 x 2070	620 x 620 x 130	1980 x 620 x 250	1920 x 620 x 90	0.46
FO-REP/SRZ60842	42	600 x 800 x 2070	620 x 820 x 130	1980 x 620 x 250	1920 x 620 x 90	0.48
FO-REP/SRZ61042	42	600 x 1000 x 2070	620 x 1020 x 130	1980 x 620 x 250	1920 x 620 x 90	0.50
FO-REP/SRZ81042	42	800 x 1000 x 2070	820 x 1020 x 130	2000 x 620 x 250	2000 x 620 x 90	0.51
FO-REP/SRZ60647	47	600 x 600 x 2295	620 x 620 x 130	2210 x 620 x 250	2150 x 730 x 90	0.53
FO-REP/SRZ60847	47	600 x 800 x 2295	620 x 820 x 130	2210 x 620 x 250	2150 x 730 x 90	0.55
FO-REP/SRZ61047	47	600 x 1000 x 2295	620 x 1020 x 130	2210 x 620 x 250	2150 x 730 x 90	0.57

Note:

Package: KD - Knock Down

## WMC SERIES



### » FEATURES

- It has the ability to withstand various climatic environments, including rain, snow, hail, wind, ice, salt fog, sandstorm, lightning, electromagnetic compatibility, and different levels of solar radiation. Comply with GB4208-1993 enclosure protection grade IP55 (air conditioning type and heat exchange type).
- The cabinet is made of sandwich plates with a thickness greater than 45mm. The thickness of the color steel plate of the outer panel shall not be less than 0.5mm, and the thickness of the color steel plate of the inner panel shall be more than 0.5mm. The core material shall be a polyurethane plate with good heat insulation, strength, and stability.
- Reasonable design, compact structure, small floor area, saving station site cost.
- Full standard 19-inch design, suitable for installing various 19-inch equipment.
- Cabinet door opening angle is greater than 100°.
- Switch power supply and lithium iron phosphate battery can be configured in the cabinet.
- Professional production and testing equipment and technical team to ensure product performance superiority and reliability, and timely and quickly ensure the supply cycle.
- Beautiful appearance, strong corrosion-resistance, service life of more than 20 years.
- Lightweight, high integration, convenient for transportation and installation, short installation and opening cycle, convenient for rapid station construction.

- The power consumption is significantly lower than that of traditional base stations, meeting the requirements of energy conservation and emission reduction.
- Due to its reasonable structure and high integration, it is especially convenient for centralized maintenance and management.
- It can be used in both macro base stations and distributed base stations.
- Compared with traditional base stations, the outdoor cabinet of mobile base stations has unparalleled advantages and is an ideal choice for operators to build stations quickly and economically.

### » ENVIRONMENT CONDITION

External environmental conditions:

- Operating temperature range: -40°C ~ +55°C.
- Storage temperature range: -25°C ~ +55°C.
- Transport temperature range: -40°C ~ +70°C.
- Relative humidity: 5%~100%.
- Atmospheric pressure: 62kpa~101kpa (approximate to altitude 0m~5000m).
- Total radiation intensity: 1120×(1±10%)W/m<sup>2</sup>.

Internal environmental conditions:

- Equipment cabinet: -5°C ~ +45°C.
- Relative humidity in cabinet: 5%~80%.

### » WARRANTY

25 Years warranty. 2Years warranty for AC Component.

Temperature control system:

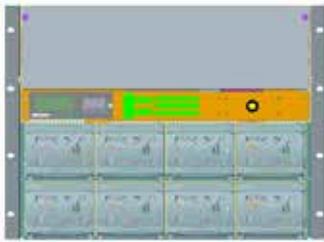
- Compressor air conditioner: 48V DC power supply is adopted, nominal voltage and variation range: 48V DC (-10% ~+20%). The service life of the air conditioner is more than 5 years, and the MTBF is more than 30000 hours. The fan operates continuously for more than 40000 hours at 40 °C. Air conditioners with different refrigerating capacities shall be provided according to the calorific value in the cabinet and the heat transfer outside the cabinet to ensure that the temperature in the cabinet is not higher than 30 °C.

Input voltage:

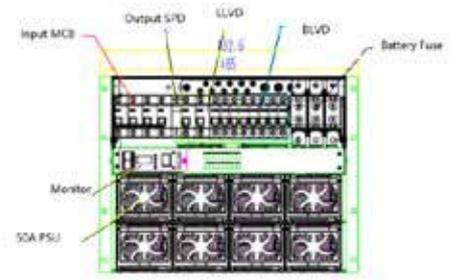
- AC220V

## » COMPLETE INTEGRATION SET

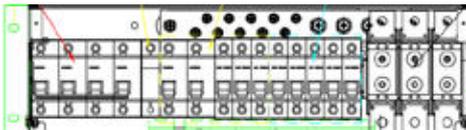
Switch power supply:



Product Outline:



Distribution Component Details:



Weight:

- Less than 30KG

- Input MCB, 1\*4P 100AMCB
- DC SPD, 1\*1P 15KVA
- LLVD 2\*1P 80AMCB, 2\*1P 63A MCB
- BLVD 1x63A MCB, 4x32AMCB, 2x16AMCB
- Battery Input 3\*160A fuse

System Configuration:

1	Monitoring module	Rectifier module	Load Channel	Battery Channel
FO-REP/WMC	1	N (max 8)*50A	Min 1 channel	Min 1 channel

## » TECHNICAL SPECIFICATIONS

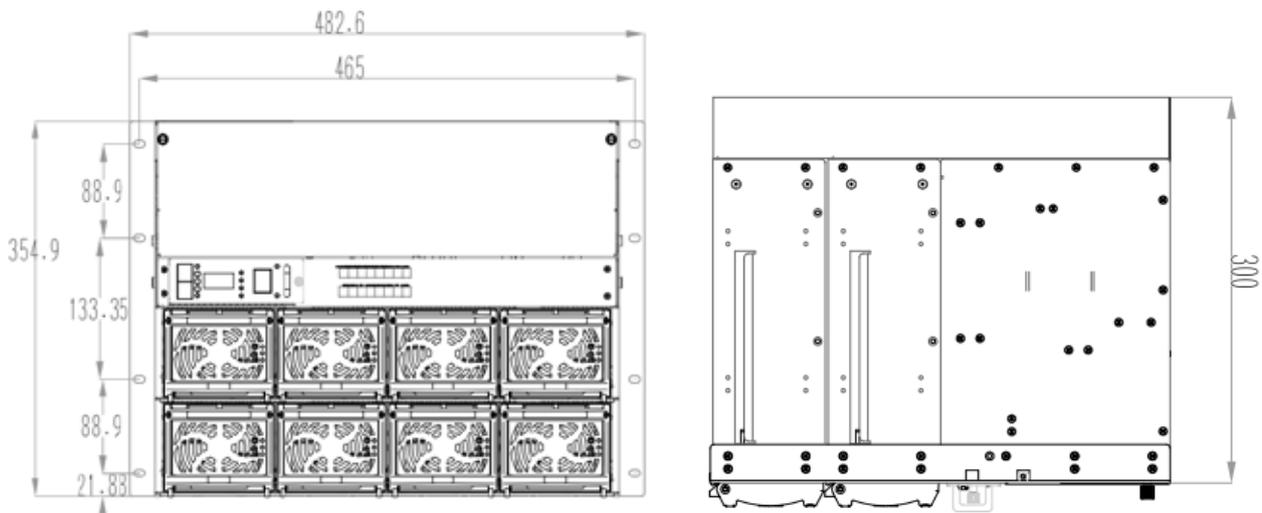
AC Input					
Parameter	Min.	Typical	Max.	Unit	Description
Input voltage range	90	220	280	Vac	/
Input frequency	45	50	65	Hz	/
Power factor	0.98	/	/	/	/
Output					
Parameter	Min.	Typical	Max.	Unit	Description
Output voltage range	42	53.5	58	Vdc	/
Ripple	0	/	400	A	176-280VAC
	0	/	180	A	90-175VAC
	/	/	200	mv	(peak-to-peak value)
Accuracy of voltage stabilization	≥94	95	/	%	220Vac input
	≥90	/	/	%	110Vac input
Load regulation	/	/	≤±1	%	/
Line regulation	/	/	≤±1	%	/

Insulation Level		
Parameter	Max.	Description
Input-output	3000Vdc/10mA//1min	/
Input-enclosure	2500Vdc/10mA//1min	/
Output-enclosure	700Vdc/10mA//1min	/
Insulation resistance	The insulation resistance between power input and output, input and ground, output and ground terminals must be no lower than 10MΩ with a leakage current of less than 3.5mA when the relative humidity is 90% and test voltage is 500Vac under normal atmospheric pressure.	

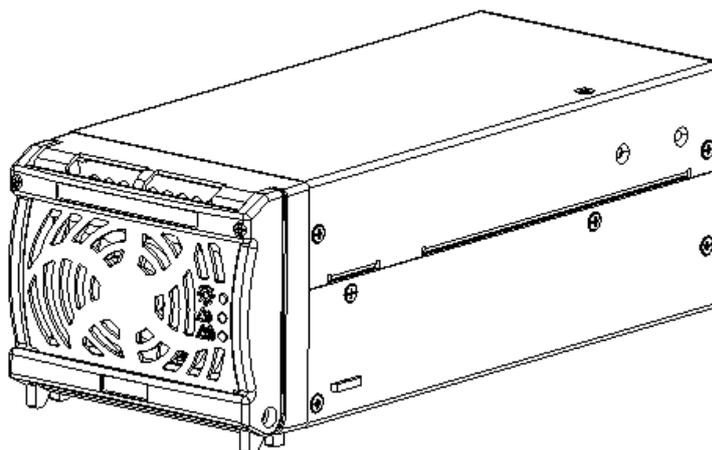
Environment					
Parameter	Min.	Typical	Max.	Unit	Description
Operating temperature	-25		55	°C	≥55°C: down rating
Storage temperature	-40	/	80	°C	
Relative humidity (RH)	10	/	90	%	Relative humidity, non-condensing
Atmospheric pressure	70	/	100	KPa	
Altitude	0	95	3000	m	
Cooling mode	Forced air cooling				

## » DIMENSION

- 482.6mm(W)\*300mm(D)\*354.0mm(H)



## » RECTIFIER MODULES



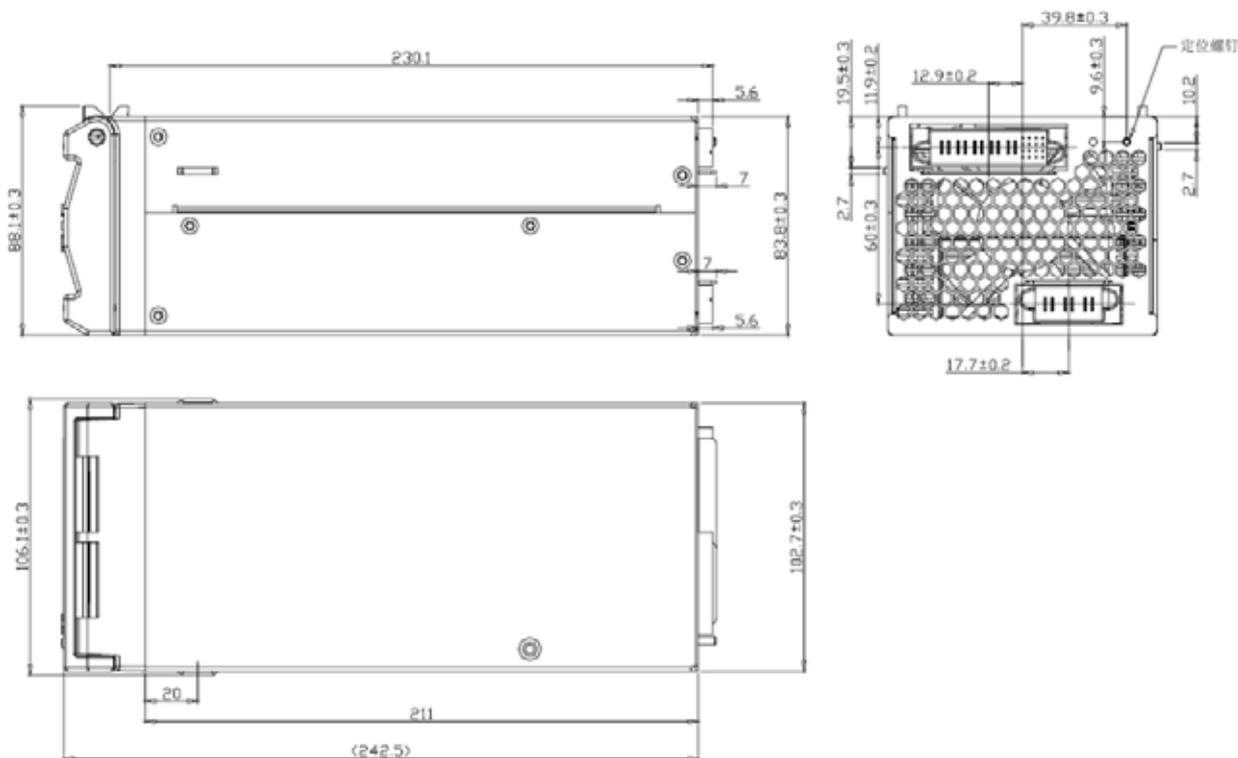
## » RECTIFIER MODULE PARAMETER EXPLANATION

EMC and others	
Parameter	Standard requirements
Radiated emission (CE)	EN55022 – Class B (requires 6dB margin)
Conducted Emissions (RE)	Input: EN55022 – Class B Output: Class A (requires 6dB margin)
Electrostatic Discharge	EN/IEC 61000-4-2 contact discharge±6KV,air discharge±8KV, judgment basis B; Contact discharge±8KV,air discharge±10KV, judgment basis R. contact discharge±2KV, judgment basis R.
Harmonic emission	EN/IEC61000-3-2 CLASS A
Radiated anti-jamming	EN/IEC 61000-4-3 Level 3 (10 V/m).
Conducted anti-jamming	EN/IEC 61000-4-6 Level 3 (10 V/m).
Quick instantly burst	EN/IEC 61000-4-4 Level 3 (2 kV, 5 kHz repeat)
Surge	EN/IEC 61000-4-5 Level 3 Criterion B, wire-wire: ±2KV, wire-ground: ±4KV
Lightning impulse No failure No damage	EN/IEC61000-4-5 Level 4 (common mode 4kV, differential mode 2kV) ANSI C62.41 Level A3 (common mode and differential 6kV)
Voltage dips and short interruptions immunity(DIP)	EN/IEC61000-4-11 dropped to 70%, 40%, 0%Ut, duration 100ms, 20ms, 10ms, at 0°, 45°, 90°, 135°, 180°, 225°, 270°, 315°each phase drop, meet the judgment basis B
Voltage fluctuations and flicker	EN/IEC61000-3-3 Pst≤1.0 ; P1t≤0.65; dcs≤3%; dmax≤4%; d(t) value exceeds 3% time ≤200ms
Reliability (Calculating)	≤250,000 Hours
In parallel function	Support N +1 redundancy when used in parallel to ensure average current ,average current imbalance within ± 5%
Vibration	Sinusoidal vibration:5- 9Hz; Amplitude 3.5mm; 9-200Hz;Acceleration spectral density:10m2/s3; 3 axis directions, each direction sweep vibration 5 times,1 time octave/min Random vibration:2-10Hz,10m2/s3; 10-200Hz:3m2/s3; 200-500Hz: 1m2/s3 ; 3 axis directions, each axis direction 30min
Impact	Half-sine wave, peak acceleration:250m/S2; 400m/S2 pulse width 6ms; impact axis direction:6 direction; impact times : three times in each direction

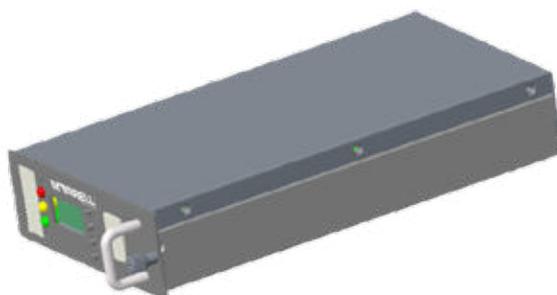
Insulation Level		
Parameter	Standard requirements	Note
Input-output	1500Vac/10mA//1min	No arcing,no breakdown,remove the discharge tube when testing
Input-enclosure	1500Vac/10mA//1min	
	1500Vac/10mA//1min	
Output-enclosure	≤3.5 mA	264Vac input 50HZ input
Insulation resistance	≥10MΩ	At normal atmospheric pressure, the relative humidity is 90%, test voltage is 500V DC, power input to the output , input to ground , the output to ground insulation resistance not less than 10MΩ

## » INDEX

Mechanical Characteristic	
Parameter	Standard requirements
L*W*H	242.5*106*88.1mm
Weight	≤2.2Kg



## » MONITORING MODULES



Technical specifications and parameters are as follows:

Parameter	Description
<b>Outline</b>	213.4mm ×126mm×41.6mm
Weight	≤1Kg
Operation Temp	-30 ~ 55°C
Storage Temp	-40 ~ 70°C
Humidity	0 ~ 80% ( 40±2°C )
Input Voltage	40 ~ 60VDC
RS485	1 channel, supporting standard general electric protocol and Modbus communication protocol
Ethernet communication	1-way, supporting TCP-MODBUS and web pages
Switching value input	6(access control / smoke / lightning protection / flooding / air conditioning / impact)
Relay output	6 (emergency alarm / non emergency alarm / custom)
AC detection	Single phase / three-phase can be set, with AC voltage, current, frequency, power and electrical degree detection functions
Battery current check	Maximum 2-way, diverter and contactor can be configured
Shunt output	Up to 4 channels, diverter and contactor can be configured
Fuse detection	Battery fuse status, load fuse status
Temperature detection	2-way (battery temperature, ambient temperature), 10k-NTC temperature sensor
Number of rectifiers	Max 16
Battery management	AAutomatic floating charging, charging current limiting, manual charging, manual fast charging Cycle equalization, temperature compensation, battery test function

### Technical specifications and parameters

Power down management	Primary power down (4-way load can be powered down independently)
Secondary power down (battery power down)	2-way (battery temperature, ambient temperature), 10k-NTC temperature sensor
Rectifier module management	Module status detection, voltage regulation, current limiting, energy saving management
Metering function	AC metering and load shunt metering (with total / monthly / daily power consumption statistics function)
Event record	1000 Max

## » LITHIUM BATTERY



S/N	Silk Screen	Item	Description
1	PE	Ground protection	M4 screw
2	DO1	2	2
3	DO2	Dry contact output	Alarm output dry contact (disconnect alarm by default)
4	COM IN	Communication port	/
	COM OUT	Communication port	
	RUN	Run indicator	
	ALM	Alarm indicator	/
	SOC	SOC indicator	
5	Manual ON/OFF	Button for manual power on/off	The external voltage of 43.2V-58V of the PWR terminal can activate the interspace digital energy BS series lithium battery.
6	PWR	Port for connecting to an external power source	The BS series Li-ion battery anode and cathode interface
7	+	Positive terminal	Positive and negative ports are secured by M6 screws. suitable OT terminals should be used.
	-	Negative terminal	

## » PRODUCT FEATURE

- Standard rack-mounted installation design (3U), high energy density
- Integrated with high-efficiency BDC allowing for active charge and discharge control
- Modular & lightweight design for easy operation and maintenance
- Long cycle life
- Support for mixed-use of lithium and lead-acid batteries, support for parallel connection of new and old lithium batteries
- Support high current charge/discharge
- Support multiple working modes

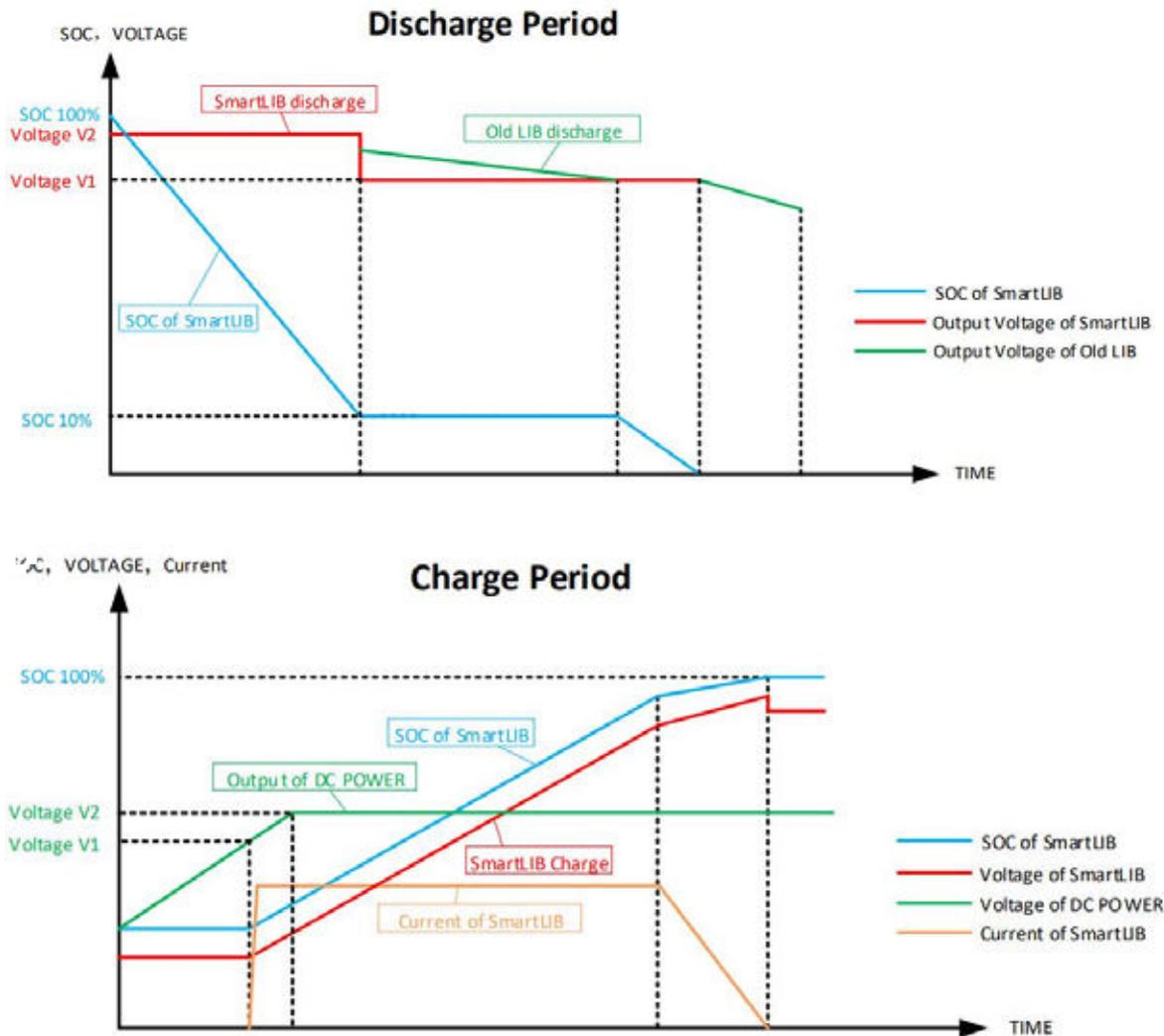
## » APPLICATION SCENARIOS

- 5G communication base station power.
- 5G remote power supply scenario.
- 5G base station renovation site.
- Low-voltage household energy storage.
- 48V other scenarios.

Product Parameter	
Parameter	Standard requirements
Cell Type	LFP
Rated Voltage	48V
Rated Capacity	100Ah @0.5C, 25 °C
Size (W*D*H)	442*400*133mm (not including
Rated Output Voltage	56.4V
Output Voltage Range	40~58V (supporting constant voltage output)
Output Power	4800W
Max Charge/Discharge Current	100A
Weight (kg)	46
Cycle	4000 times (25 °C, 0.5C,80%DOD, 80% EOL)
Communication Interface	RS485*1, CAN*1, Dry Contacts*2
Maximum Parallel Number	32 pcs (CAN Communication), 16 pcs (RS485 Communication)
Balancing Method	Passive Balancing
Balancing Current	100mA
Cooling Method	Natural Cooling
Working Temperature	Charge: 0~45 °C; Discharge: -20~45 °C
Storage Temperature	0~40 °C
Relative Humidity	5%~95%
Protection/Alarm	Overtemperature, Overcurrent, Short circuit, Over-charge, Overdischarge, etc.
Designed Life	10 years
Work Mode	Follow bus voltage mode, Constant voltage output mode, Battery characteristic discharge output mode, Peak clipping mode, Peak shifting mode, etc
Anti-theft Option	Gyroscope

## » PERFORMANCE CURVE

Constant Voltage Discharge Curve



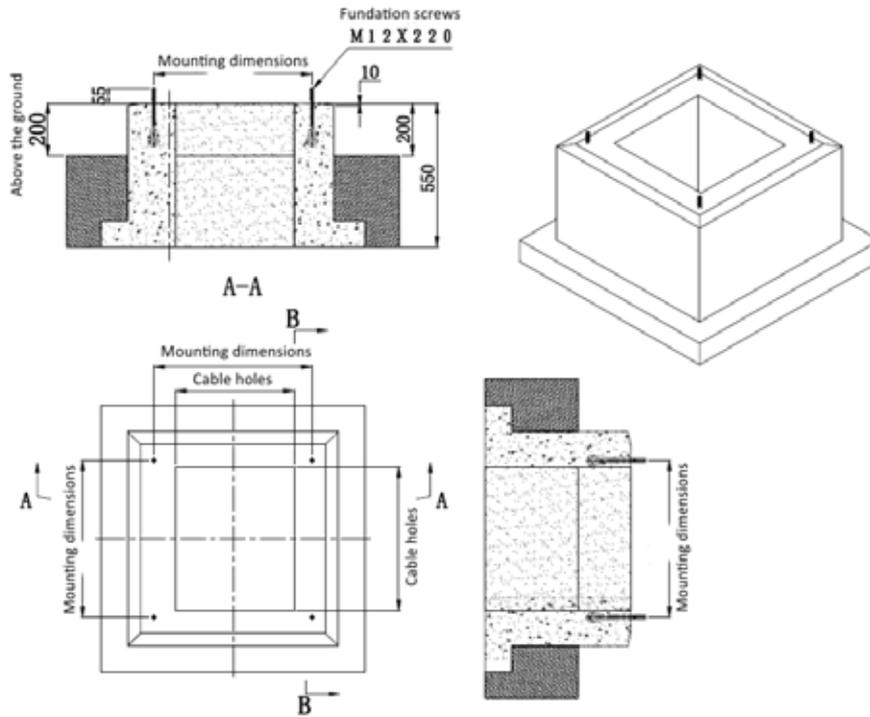
## » INSTALLATION

### Installation tools

- Movable wrench, 14mm sleeve wrench, 14mm mechanical wrench, 17mm sleeve wrench, 17mm mechanical wrench, 19mm sleeve wrench, 19mm mechanical wrench, 12mm impact drill, impact drill, cross screwdriver, slotted screwdriver, pliers, crimping pliers, stripping pliers, hammer, insulating tape, etc.

### Fabrication of cement base

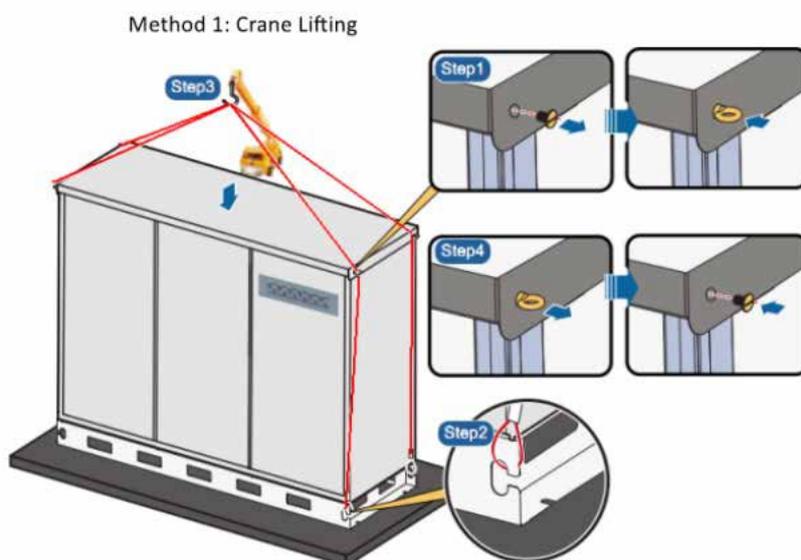
- It is made of reinforced concrete with specific dimensions (see Fig. 1).
- The foundation screw is M12, with an exposed height of at least 50mm, and the rest is embedded in the reinforced concrete foundation base.
- Put the corresponding anchor holes on the cabinet through the anchor screws and onto the foundation base, then install the flat and spring washers one by one, and finally tighten the nuts with force. The installation of the cabinet is completed.



### Mobile cabinet installation steps:

(1) Overall installation steps of cabinet:

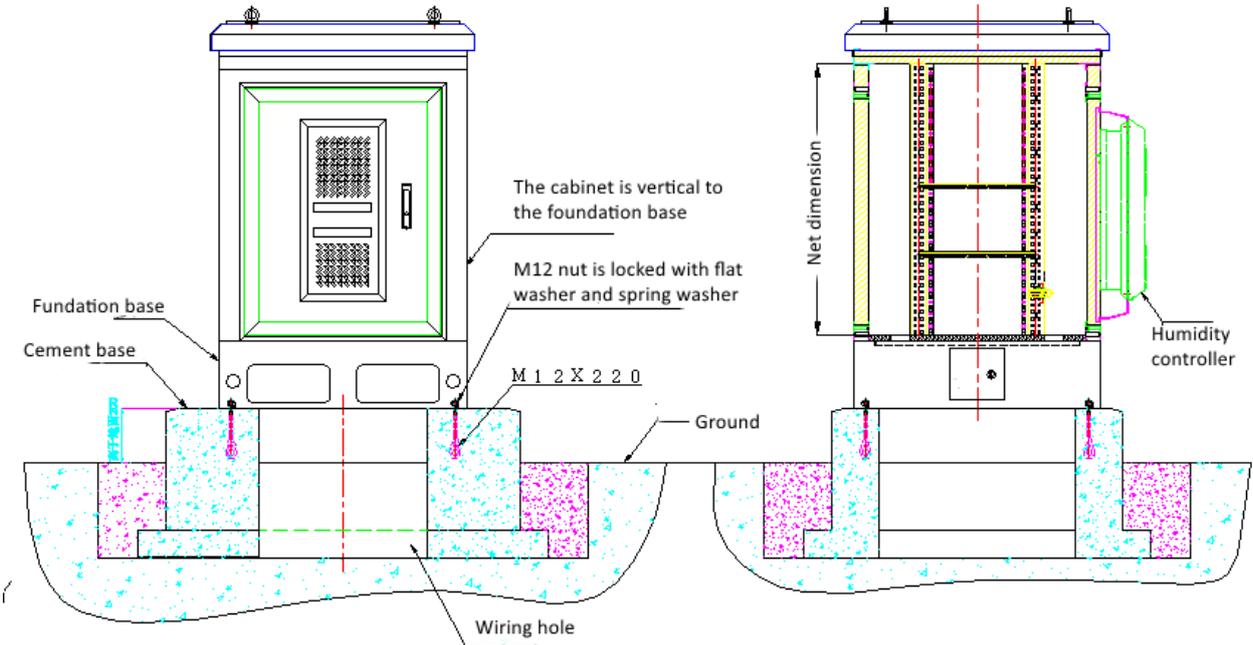
- Lifting Instructions:
- The cabinet is installed and transported before delivery. After arriving at the construction site, remove the outer packing, install the cabinet on the cement base with a lifting device, connect the cabinet to the anchor bolts, and lock the cabinet with nuts. The lifting method is shown below.
- Method 1: Put the steel wire rope through the lug and fix it at the bottom, and lift the cabinet to the installation position with a crane.
- Method 2: Fork up the cabinet from the hole at the bottom of the cabinet with a forklift and carry the cabinet to the installation position.
- When lifting the cabinet, the steel wire rope shall not rub with the Mini-shelter to damage the Mini-shelter. If the cabinet is scratched during transportation, please spray or glue it for repair.



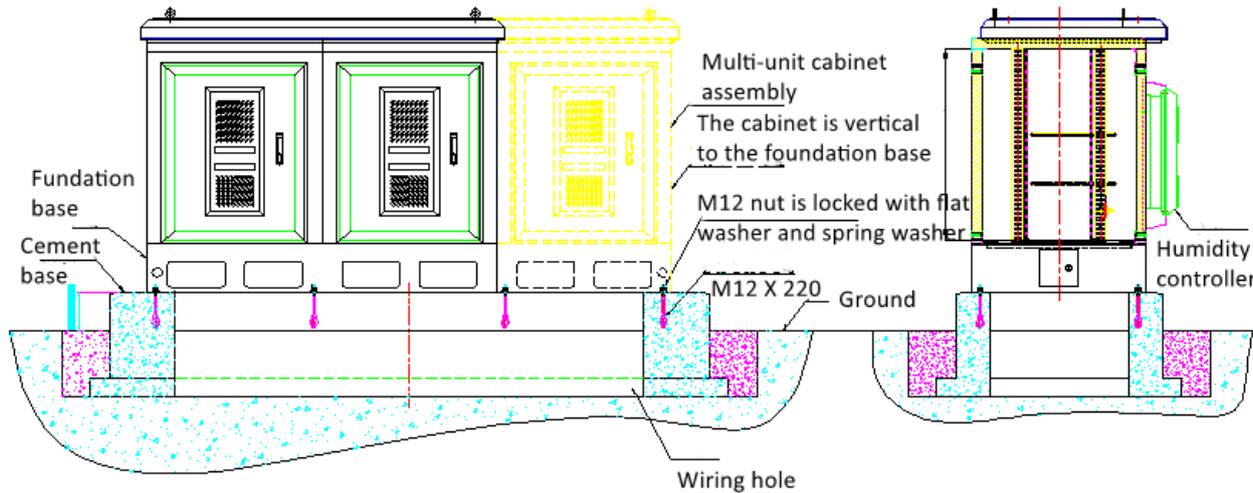
Method 2: Forklift Handling



(2) One unit cabinet shall be completely installed and transported before leaving the factory. After arriving at the construction site, first remove the outer packaging, then install the cabinet on the cement base with a lifting device, connect it with the anchor bolts, and finally lock it with nuts. The structure is shown in Fig. 2.



(3) The multi-unit cabinet shall be installed and transported as separated units before leaving the factory. After arriving at the construction site, first, remove the outer packaging, then install the cabinet base on the cement base with a lifting device, connect it with the anchor bolts, lock it with nuts, and fix each unit with the base connecting holes according to the drawing requirements. Finally, install the top cover structure as shown in Fig. 3.



## Marking, Packaging, Transportation and Storage

1. The packaging and transportation of the equipment cabinet shall comply with industry standards. It shall be stored in a ventilated and dry warehouse free of acid, alkali, sulfur compounds and other toxic gases. It is not allowed to be stored in the open air;

2. This package is packed according to the product packaging specifications, with moisture-proof and dust-proof measures. Accessories and spare parts are packed separately and then put into the packaging box. This box is sealed with plastic bags, and cartons are used outside; Waterproof, moisture-proof and direction signs are painted on the outside of the carton;

3. Transportation: this cabinet can be used for transportation by various means of transportation. During the transportation of packaged products, the ambient temperature is required to be between -15 °C and 55 °C, and the relative humidity is not greater than 90%. There shall be a canopy above 40 °C, and the product shall not be exposed to rain, soaking and sunlight. Loading, unloading and handling shall be carried out in accordance with the transportation marks painted on the package. Products shall not be placed upside down, sideways or overturned.

4. Storage: heavy objects shall not be piled up above the box, and the acid, alkaline or other harmful gases in the air in the warehouse shall meet the requirements of environmental protection regulations. The indoor temperature is between -5 °C and °C 40 °C, and the relative humidity is not greater than 75%.

## » THE CONFIGURATION

Name	Specification	Unit	Qty.	Remark
Cabinet	Outer dimension: 905×905×2113mm(W×D×H, including size of air conditioning part and base); Inner dimension: 800*800*1800mm; Base height: 200mm	set	1	The cabinet frame is made of galvanized steel plate, the insulation board is made of PU color steel plate, the inner and outer steel plates are 0.5mm, the cabinet is installed in a 19-inch model of 40U, equipped with lightning protection ground row, protective ground row, L-type equipment fixing bracket *2, L-type battery fixing bracket *4, and the surface is sprayed with outdoor powder RAL7035
Air conditioner	DC compressor air conditioner 1500W	set	1	DC48
Switch power supply	Input MCB,1*4P 100AMCB DC SPD,1*1P 15KVA LLVD 2*1P 80AMCB,2*1P 63A MCB BLVD 1x63AMCB,4x32AMCB,2x16AMCB Battery Input 3*160A fuse	set	1	
DC LED lamp + limit switch	T5-48V	set	1	DC48V
Packing	Steel strip wooden case	set	1	Export standard
Battery	Smart lithium battery 48V100	set	4	

## WMV SERIES SINGLE SECTION WALL MOUNTED CABINET



### 9U SIZE

MORRELL designed and engineered WMV Series as the solution to house rack-mount equipment for cabling, telecommunications, IT, industrial, and home installations.

### » FEATURES

#### Ventilation rate

WMV cabinet doors are designed with massive airflow from front to rear.

#### Packaging Options

- Packaging Way: Build up
- Carton: Double Corrugated

#### Easy Maintenance

Side panels are designed horizontally to provide easy access and convenient maintenance after installation.

#### Cable Management

Cabinets are designed with large cable access slots for easy cable management.

#### Warranty

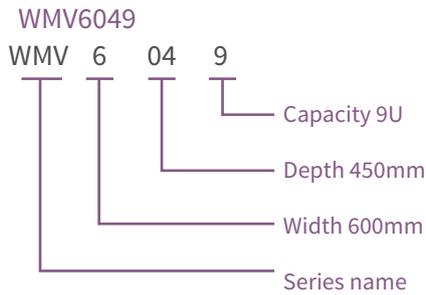
25 Years Warranty.



### » PRODUCT DESCRIPTION

- Size: 600\*450\*370mm
- N.W. : 13KGS
- Material: SPCC
- G.W. : 14KGS
- Color: RAL9005
- Packing Size: 660\*510\*430mm

## » HOW TO DEFINE OUR MODEL



## » SPECIFICATIONS

MODEL	Capacity (U)	Dimensions W x D x H(mm)	BU Packing Dimension		KD Packing Dimension			
			W*D*H (mm)	Volume (CBM)	Carton A W x D x H(mm)	Carton B W x D x H(mm)	Carton C W x D x H(mm)	Volume (CBM)
FO-REP/WMV6049	9	600 x 450 x 370	615 x 460 x 385	0.109	1235 x 245 x 630	1175 x 245 x 165	615 55 x 985	0.28

Note:

Package: BU - Build up

Package: KD - Knock Down

Hardware - 50 sets of cage nuts

## » PACKAGING

No.	Packaging Process	Picture
1	With PE Bag	
2	8pcs EPS protection angle with a master carton	
3	Finish the packing	

## » COMPATIBLE ACCESSORIES

Picture	Description
	12 Pcs M6 Cage Nut
	12 Pcs M6-12 Rack Screw
	12 Pcs M6 Washer
	4 Pcs M8 Rack Mounting Bolt
	1 Pair Key

## WMX SERIES SINGLE SECTION WALL MOUNTED CABINET

6U, 9U, 12U, 15U, AND 18U SIZES



MORRELL designed and engineered WMX Series as the solution to house rack mount equipment for cabling, telecommunications, IT, industrial and home installations.

### » FEATURES

#### Save space

1/3 assembled original volume when flat-packed.

#### Optional doors

Your choice of toughened glass or vented door.

#### Easy installation

Extremely easy for assembled, it only takes 5 minutes

For a skillful person to assemble a whole cabinet.

#### Loading Capacity

Loading capacity over 40kg.

#### Big door-opening angle

The turning angle of the front door is over 180 degrees.

#### Warranty

25 Years Warranty.



Structure for easy assembling.



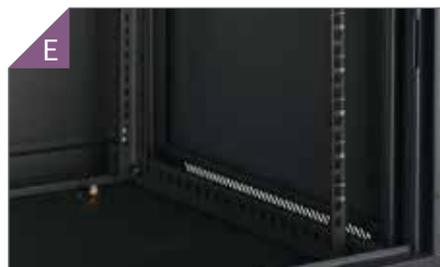
Hanging on the wall with mounting bracket.



Removable side panel simplifies your installation of accessories and monitoring of IT Equipment.



120mm\*120mm fans can be preinstalled on the top cover. Relevant fan tray suit to all WMX, WMY, and WMZ wall mounted cabinets. (Brush panel is optional for cable entry panel.)

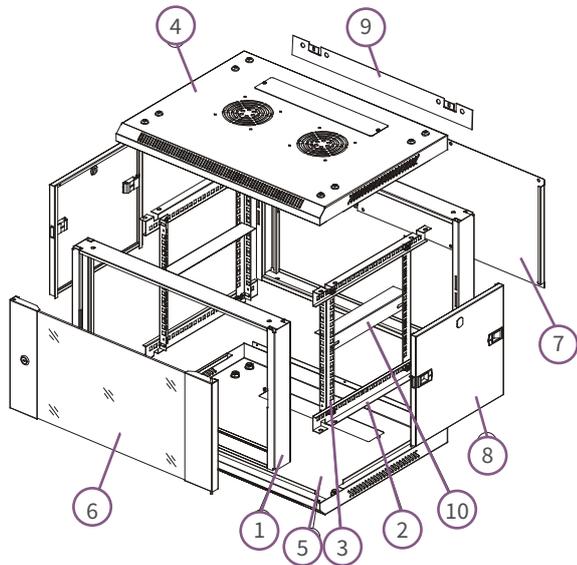


Front and rear vertical rails are freely adjustable which simplifies mounting of the device and organization of connecting cables.



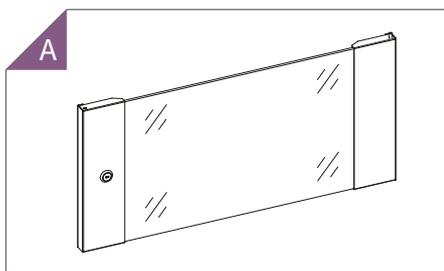
L-shaped spring pin makes it fast to install the front door to the frame and easy to change door opening direction.

## » COMPONENTS OF WMX SERIES SINGLE SECTION WALL MOUNTED CABINET

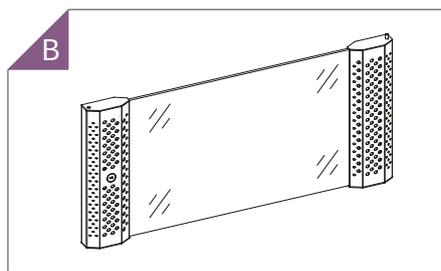


S/N	Name	Quantity
1	Frame	2
2	Horizontal bracket	4
3	Vertical rail	4
4	Top cover	1
5	Bottom panel	1
6	Front door	1
7	Rear panel	1
8	Side panel	2
9	Mounting bracket	1
10	L-shaped bracket	2

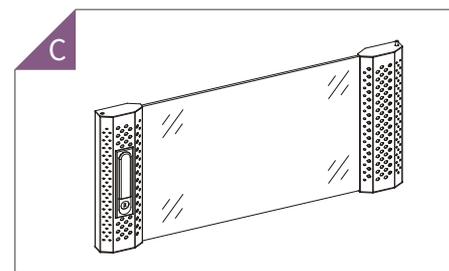
## » OPTIONAL DOORS-STRUCTURE DRAWING



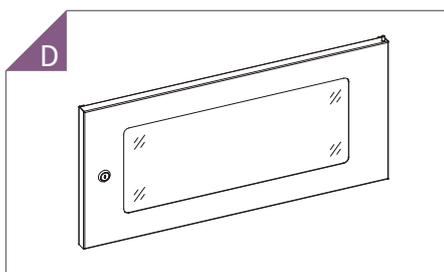
Tempered Glass Door  
Lock: Small Round Lock



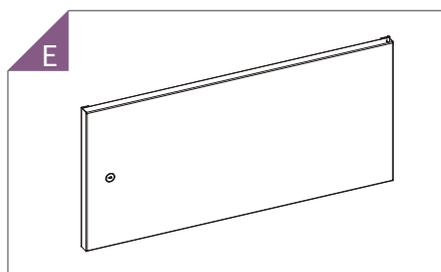
Tempered Glass Door, with Vented Holes  
Lock: Small Round Lock



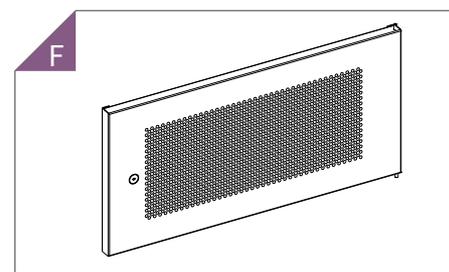
Tempered Glass Door, with Vented Holes  
Lock: Spring Lock



Tempered Glass Door  
Lock: Small Round Lock

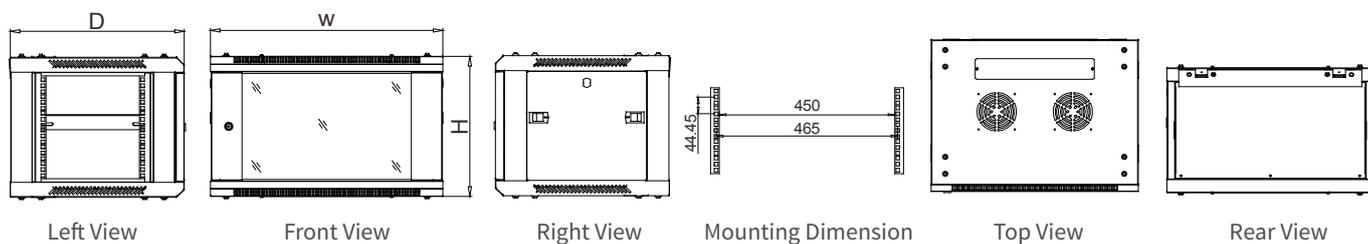


Solid Iron Door  
Lock: Small Round Lock

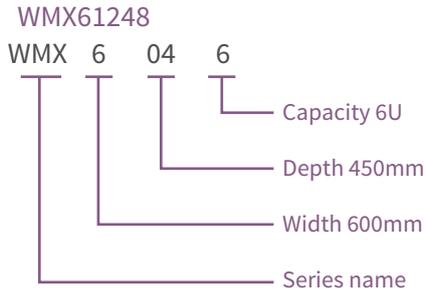


Vented Front Door  
Lock: Small Round Lock

## » MAIN DIMENSION



## » HOW TO DEFINE OUR MODEL



## » SPECIFICATIONS

MODEL	Capacity (U)	Dimensions W x D x H(mm)	BU Packing Dimension		KD Packing Dimension		
			W*D*H (mm)	Volume (CBM)	Carton A W x D x H(mm)	Carton B W x D x H(mm)	Volume (CBM)
FO-REP/WMX6044	4U	600 x 450 x 280	620 x 475 x 305	0.090	620 x 180 x 470		0.28
FO-REP/WMX6046	6U	600 x 450 x 370	620 x 475 x 395	0.116	620 x 110 x 470	620 x 130 x 390	0.063
FO-REP/WMX6049	9U	600 x 450 x 505	620 x 475 x 525	0.155	620 x 110 x 470	620 x 130 x 525	0.074
FO-REP/WMX60412	12U	600 x 450 x 640	620 x 475 x 665	0.196	620 x 110 x 470	620 x 130 x 660	0.085
FO-REP/WMX60415	15U	600 x 450 x 780	620 x 475 x 805	0.237	620 x 110 x 470	620 x 130 x 800	0.097
FO-REP/WMX60418	18U	600 x 450 x 910	620 x 475 x 935	0.275	620 x 110 x 470	620 x 130 x 930	0.107
FO-REP/WMX60420	20U	600 x 450 x 1000	620 x 475 x 1020	0.300	620 x 110 x 470	620 x 130 x 1020	0.114

Note:

Package: BU - Build up

Package: KD - Knock Down

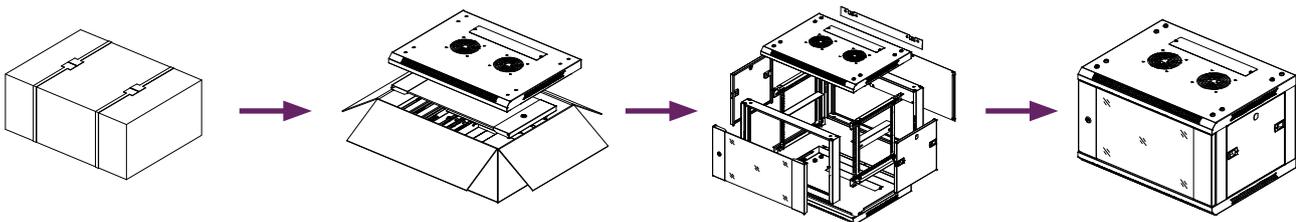
Color:

RAL9005	RAL7035

Material:

SPCC Cold Rolled Steel.

## » BUILD-UP PACKAGING



## » COMPATIBLE ACCESSORIES FOR WMX WALL MOUNTED RACK

SHELF		
	FO-REP/2P1USHELF-300	450mm depth wall mount cabinet
	FO-REP/2P1USHELF-350	600mm depth wall mount cabinet
	FO-REP/2P2USHELF-300	450mm depth wall mount cabinet
	FO-REP/2P2USHELF-350	600mm depth wall mount cabinet
FAN		
	FO-REP/FAN110V	4 Fan tray for SSG 600mm/800mm depth rack
	FO-REP/FAN220V	6 Fan tray for SSG 1000mm/1100mm/1200mm depth rack

**Note:**

Other accessories for wall mount cabinet are also available such as a shelf, cable manager, fan, blank panel, patch panel, and PDU.

## WMY SERIES SINGLE SECTION WALL MOUNTED CABINET



**4U, 6U, 9U, 12U, 15U, 18U, AND 20U SIZES**

MORRELL designed and engineered WMY Series as the solution to house rack-mount equipment for cabling, telecommunications, IT, industrial, and home installations.

### » FEATURES

#### Save space

1/3 assembled original volume when flat-packed.

#### Optional doors

Your choice of toughened glass or vented door.

#### Easy installation

Extremely easy for assembled, it only takes 5 minutes for a skillful person to assemble a whole cabinet.

#### Loading Capacity

Loading capacity over 40kg.

#### Big door-opening angle

The turning angle of the front door is over 180 degrees.

#### Warranty

25 Years Warranty.



Structure for easy assembling.



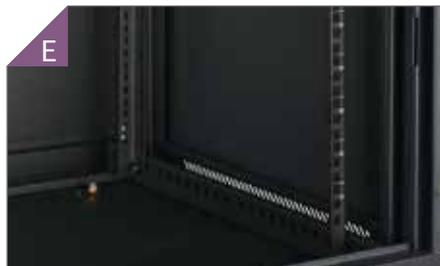
Hanging on the wall with mounting bracket.



Removable side panel simplifies your installation of accessories and monitoring of IT Equipment.



120mm\*120mm fans can be preinstalled on the top cover. Relevant fan tray suit to all WMX, WMY, and WMZ wall mounted cabinets. (Brush panel is optional for cable entry panel.)

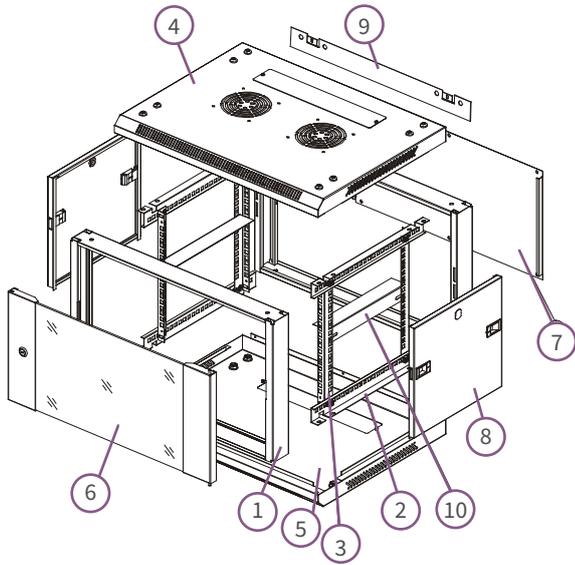


Front and rear vertical rails are freely adjustable which simplifies mounting of the device and organization of connecting cables.



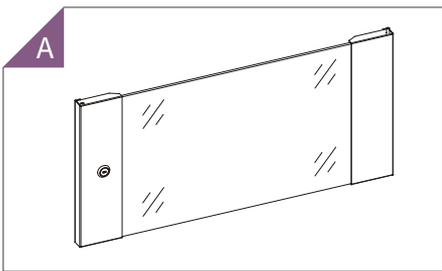
L-shaped spring pin makes it fast to install the front door to the frame and easy to change door opening direction.

## » COMPONENTS OF WMX SERIES SINGLE SECTION WALL MOUNTED CABINET

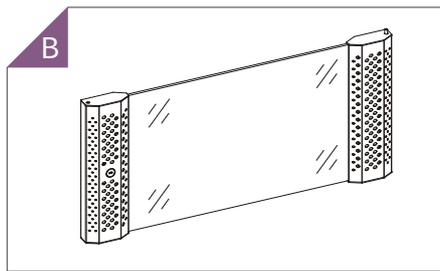


S/N	Name	Quantity
1	Frame	2
2	Horizontal bracket	4
3	Vertical rail	4
4	Top cover	1
5	Bottom panel	1
6	Front door	1
7	Rear panel	1
8	Side panel	2
9	Mounting bracket	1
10	L-shaped bracket	2

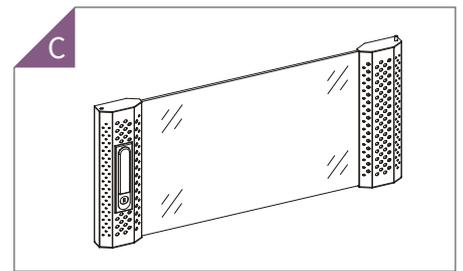
## » OPTIONAL DOORS-STRUCTURE DRAWING



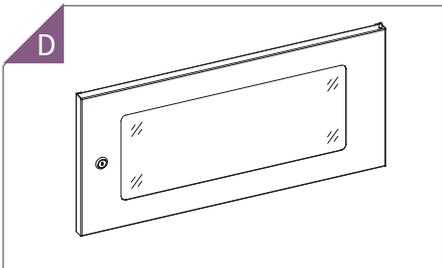
Tempered Glass Door  
Lock: Small Round Lock



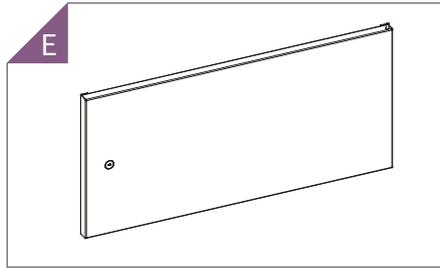
Tempered Glass Door, with Vented Holes  
Lock: Small Round Lock



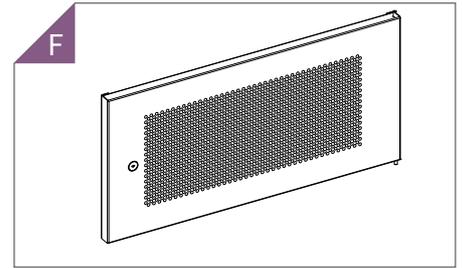
Tempered Glass Door, with Vented Holes  
Lock: Spring Lock



Tempered Glass Door  
Lock: Small Round Lock

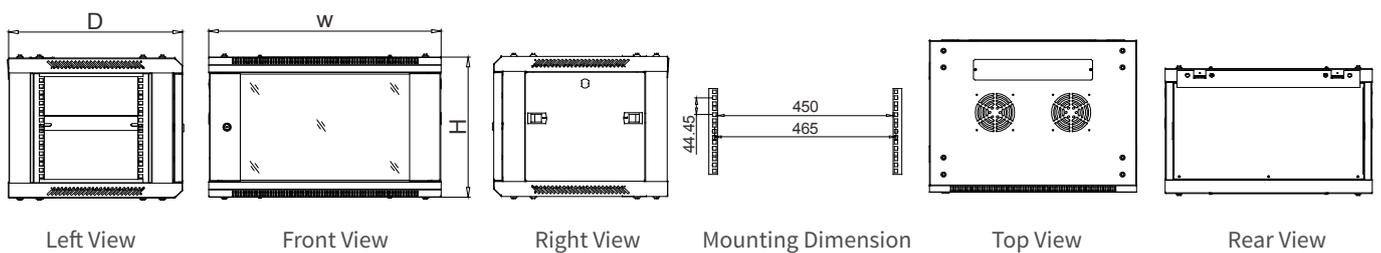


Solid Iron Door  
Lock: Small Round Lock

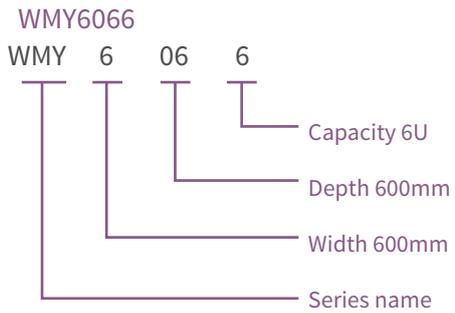


Vented Front Door  
Lock: Small Round Lock

## » MAIN DIMENSION



## » HOW TO DEFINE OUR MODEL



## » SPECIFICATIONS

MODEL	Capacity (U)	Dimensions W x D x H(mm)	BU Packing Dimension			KD Packing Dimension	
			W*D*H(mm)	Volume (CBM)	Carton A W x D x H(mm)	Carton B W x D x H(mm)	Volume (CBM)
FO-REP/WMY6064	4U	600 x 600 x 280	620 x 625 x 305	0.118	620 x 180 x 620		0.069
FO-REP/WMY6066	6U	600 x 600 x 370	620 x 625 x 395	0.153	620 x 110 x 620	620 x 130 x 390	0.074
FO-REP/WMY6069	9U	600 x 600 x 505	620 x 625 x 525	0.203	620 x 110 x 620	620 x 130 x 525	0.085
FO-REP/WMY60612	12U	600 x 600 x 640	620 x 625 x 665	0.258	620 x 110 x 620	620 x 130 x 660	0.095
FO-REP/WMY60615	15U	600 x 600 x 780	620 x 625 x 805	0.312	620 x 110 x 620	620 x 130 x 800	0.107
FO-REP/WMY60618	18U	600 x 600 x 910	620 x 625 x 935	0.362	620 x 110 x 620	620 x 130 x 930	0.117
FO-REP/WMY60620	20U	600 x 600 x 1000	620 x 625 x 1020	0.395	620 x 110 x 620	620 x 130 x 1020	0.124

Note:

Package: BU - Build up

Include KD - Knocked down

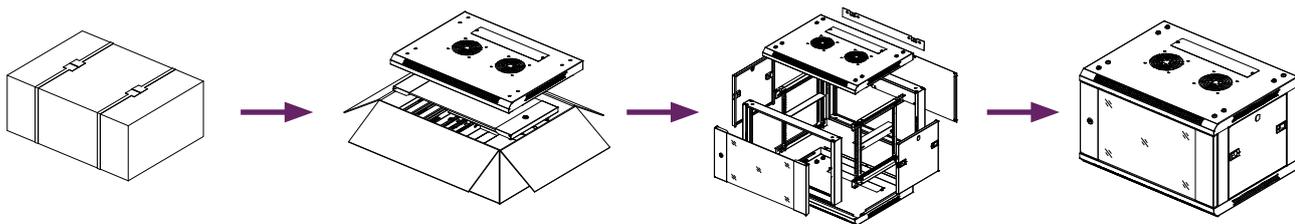
Color:

RAL9005	RAL7035

Material:

SPCC Cold Rolled Steel.

## » BUILD-UP PACKAGING



## » COMPATIBLE ACCESSORIES FOR WMY WALL MOUNTED RACK

SHELF		
	FO-REP/SW2P1USHELF-300	450mm depth wall mount cabinet
	FO-REP/SW2P1USHELF-350	600mm depth wall mount cabinet
	FO-REP/SW2P2USHELF-300	450mm depth wall mount cabinet
	FO-REP/SW2P2USHELF-350	600mm depth wall mount cabinet
FAN		
	FO-REP/SWFAN110V	4 Fan tray for SSG 600mm/800mm depth rack
	FO-REP/SWFAN220V	6 Fan tray for SSG 1000mm/1100mm/1200mm depth rack

Note:

Other accessories for wall mount cabinet are also available such as shelf, cable manager, fan, blank panel, patch panel and PDU.

## WMZ SERIES DOUBLE SECTION WALL MOUNTED CABINET



6U, 9U, 12U, 15U, AND 18U SIZES

MORRELL designed and engineered WMZ Series as the solution to house rack-mount equipment for cabling, telecommunications, IT, industrial, and home installations.

### » FEATURES

**Double section structure**The swing frame allows the cabinet to swing away from the wall for easy access to equipment and cabling.

**Sturdy welded construction**Fully welded and assembled.

#### Optional doors

Your choice of toughened glass or vented door.

#### Loading Capacity

Loading capacity up to 60kg.

**Big door-opening angle**Over 180 degrees turning angle of the front door and over 90 degrees for the rear door.

#### Warranty

25 Years Warranty.



The welded structure can be easily assembled.



Slots in the back ensure convenient and quick wall mounting.



120mm\*120mm fans can be preinstalled on the top cover. Relevant fan tray suit to all WMX, WMY, and WMZ wall mounted cabinets. (Brush panel is optional for cable entry panel.)



Swing frame allows the cabinet to swing away from the wall for easy access to equipment and cabling.

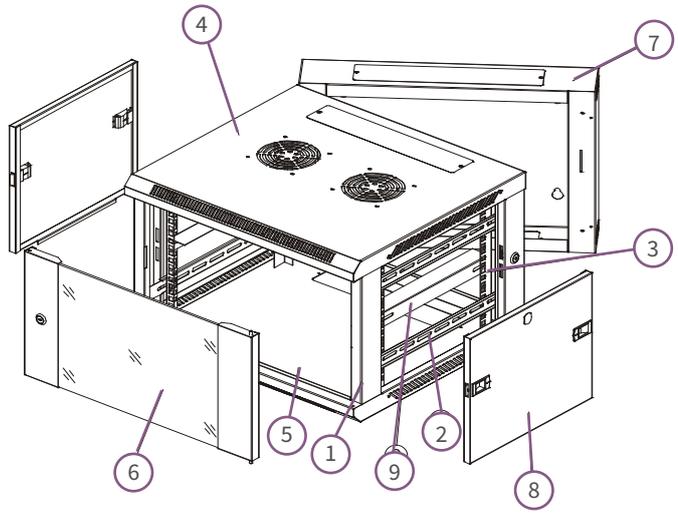


Removable side panels simplify your installation of accessories and monitoring of IT equipment.



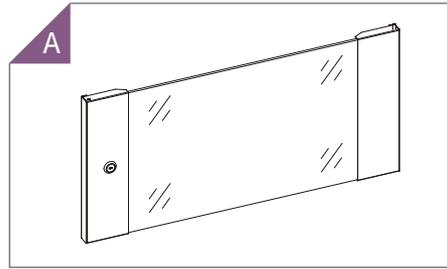
L-shaped spring pin makes it fast to install the front door to the frame and easy to change the door opening direction.

## » COMPONENTS OF WMZ SERIES DOUBLE SECTION WALL MOUNTED CABINET

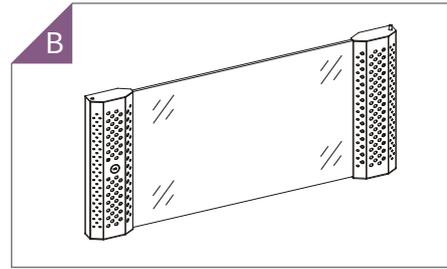


S/N	Name	Quantity
1	Frame	1
2	Horizontal bracket	4
3	Vertical rail	4
4	Top cover	1
5	Bottom panel	1
6	Front door	1
7	Rear swing	1
8	Side panel	2
9	L-shaped bracket	2

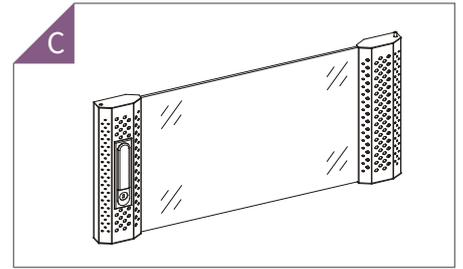
## » OPTIONAL DOORS-STRUCTURE DRAWING



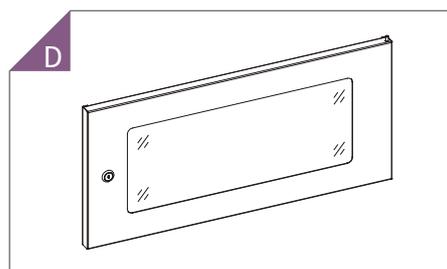
Tempered Glass Door  
Lock: Small Round Lock



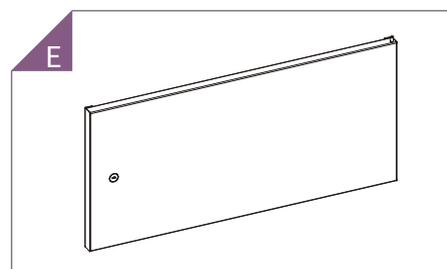
Tempered Glass Door, with Vented Holes  
Lock: Small Round Lock



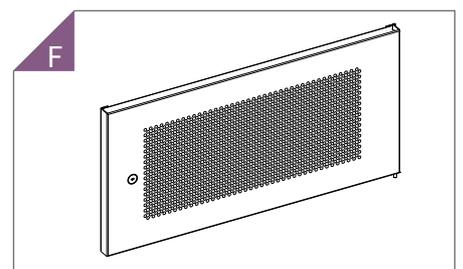
Tempered Glass Door, with Vented Holes  
Lock: Spring Lock



Tempered Glass Door  
Lock: Small Round Lock

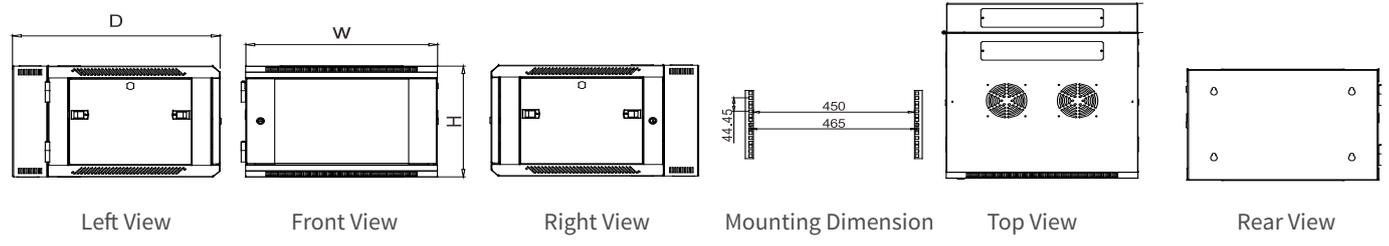


Solid Iron Door  
Lock: Small Round Lock

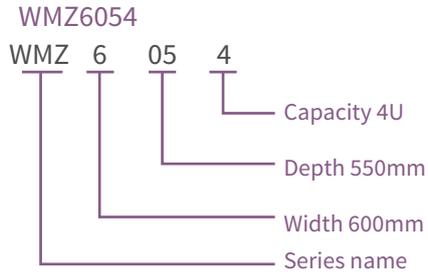


Vented Front Door  
Lock: Small Round Lock

## » MAIN DIMENSION



## » HOW TO DEFINE OUR MODEL



## » SPECIFICATIONS

MODEL	Capacity (U)	Dimensions W x D x H(mm)	BU Packing Dimension		KD Packing Dimension		
			W*D*H(mm)	Volume (CBM)	Carton A W x D x H(mm)	Carton B W x D x H(mm)	Volume (CBM)
FO-REP/WMZ6054	4U	600 x 550 x 280	620 x 575 x 305	0.109	620 x 180 x 570		0.064
FO-REP/WMZ6056	6U	600 x 550 x 370	620 x 575 x 395	0.141	620 x 110 x 570	620 x 130 x 390	0.07
FO-REP/WMZ6059	9U	600 x 550 x 505	620 x 575 x 525	0.187	620 x 110 x 570	620 x 130 x 525	0.081
FO-REP/WMZ60512	12U	600 x 550 x 640	620 x 575 x 665	0.237	620 x 110 x 570	620 x 130 x 660	0.092
FO-REP/WMZ60515	15U	600 x 550 x 780	620 x 575 x 805	0.287	620 x 110 x 570	620 x 130 x 800	0.103
FO-REP/WMZ60518	18U	600 x 550 x 910	620 x 575 x 935	0.333	620 x 110 x 570	620 x 130 x 930	0.114
FO-REP/WMZ60520	20U	600 x 550 x 1000	620 x 575 x 1020	0.364	620 x 110 x 570	620 x 130 x 1020	0.121

Note:

Package: BU - Build up  
Include KD-Knocked Down

Color:

RAL9005	RAL7035

Material:

SPCC Cold Rolled Steel.

## WMC SERIES SINGLE SECTION WALL MOUNTED CABINET

6U, 9U, 12U AND 15U SIZES



MORRELL designed and engineered WMC Series as the solution to house rack-mount equipment for cabling, telecommunications, IT, industrial and home installations.

### » FEATURES

Welded frame, unassembled structure with precise craftsmanship.

Compatible with 19" standard equipment.

Steel front door with over 180 turning degree.

L-shaped mounting profile, easy to adjustable on the mounting rail.

One fan, easy to install the fan.

#### Easy installation

Extremely easy for assembled, it only takes 5 minutes for a skillful person to assemble a whole cabinet.

#### Loading Capacity

Loading capacity over 50kg.

#### Usage

IP55 Outdoor cabinet .

#### Warranty

25 Years Warranty.

#### Temperature

Cabinet external temperature:-40-+60 degree

Environmental temperature::-50-+55 degree

Equipment working temperature:-18-+35 degree

Environmental humidity:70-106Kpa

#### Material

SPCC quality cold rolled steel

#### Thickness

Mounting profile: 2.0mm, others: 1.50mm.

#### Standards

Comply with ANSI/EIA,RS-310-D;IEC297-2;DIN41491:PART1;DIN41494:PART7;GB/T3047.2-92 standard and ETSI standard.

#### Surface Finish

Surface Finish: Degrease, acid pickling, rust prevention, and parkerizing, pure water cleaning, static electricity powder coating



Structure for easy assembling.

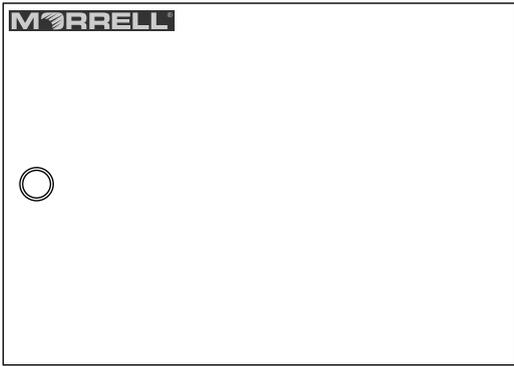


Hanging on the wall with a mounting bracket.

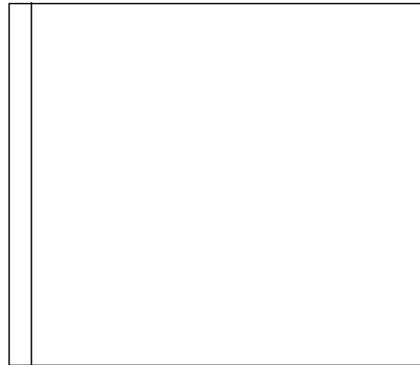


L-shaped spring pin makes it fast to install the front door to the frame and easy to change door opening direction.

## » MAIN DIMENSIONS



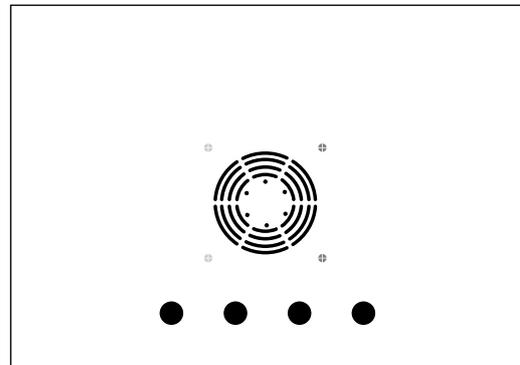
Front View



Side View

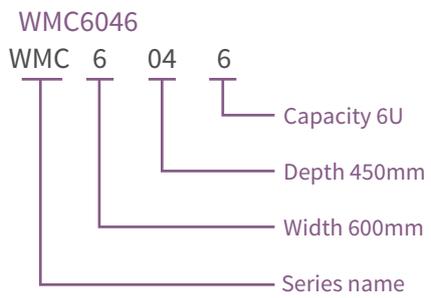


Back View



Bottom View

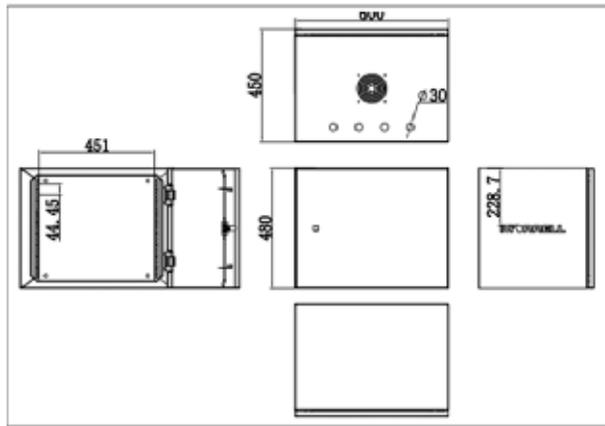
## » HOW TO DEFINE OUR MODEL



## » SPECIFICATIONS

MODEL	Capacity (U)	Dimensions W x D x H(mm)	W*D*H (mm)	Volume (CBM)
FO-REP/WMC6044	4U	600 x 450 x 280	620 x 475 x 305	0.090
FO-REP/WMC6046	6U	600 x 450 x 370	620 x 475 x 395	0.116
FO-REP/WMC6049	9U	600 x 450 x 505	620 x 475 x 525	0.155
FO-REP/WMC60412	12U	600 x 450 x 640	620 x 475 x 665	0.196
FO-REP/WMC60415	15U	600 x 450 x 780	620 x 475 x 805	0.237

## » PACKAGING



Note:

Package: BU - Build up

Package: KD - Knock Down

Color:



Material:

SPCC Cold Rolled Steel.

## » COMPATIBLE ACCESSORIES FOR WMC WALL MOUNTED RACK

SHELF		
	FO-REP/2P1USHELF-300	450mm depth wall mount cabinet
	FO-REP/2P1USHELF-350	600mm depth wall mount cabinet
	FO-REP/2P2USHELF-300	450mm depth wall mount cabinet
	FO-REP/2P2USHELF-350	600mm depth wall mount cabinet
FAN		
	FO-REP/FAN110V	4 Fan tray for SSG 600mm/800mm depth rack
	FO-REP/FAN220V	6 Fan tray for SSG 1000mm/1100mm/1200mm depth rack

Note:

Other accessories for wall mount cabinet are also available such as shelf, cable manager, fan, blank panel, patch panel and PDU.

# WMW SERIES SINGLE SECTION WALL MOUNTED CABINET



## 9U, AND 12U SIZES

MORRELL designed and engineered WMW Series as the solution to house rack-mount equipment for cabling, telecommunications, IT, industrial, and home installations.

### » FEATURES

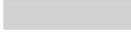
WMW series wall cabinet is a 10 inch mini cabinet with closable top/bottom cable entry openings, removable side panels and front/back doors for operation.

#### 10 inch wall cabinet

Mini wall cabinet with delicate appearance.

MODEL	Capacity (U)	Dimensions W x D (mm)
FO-REP/WMW1019	9	250x140
FO-REP/WMW1029	9	250x280
FO-REP/WMW10112	12	250x140

Color:

RAL9005	RAL7035
	

Material:

SPCC Cold Rolled Steel.

#### Big door-opening angle

Turning angle of front door is over 180 degrees.

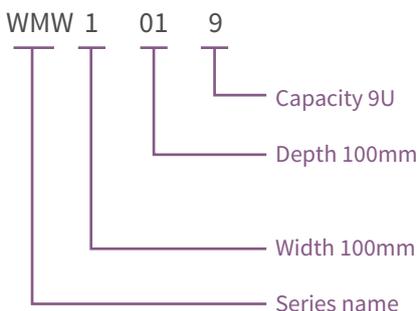
#### Warranty

25 Years Warranty.



### » HOW TO DEFINE OUR MODEL

WMW1019

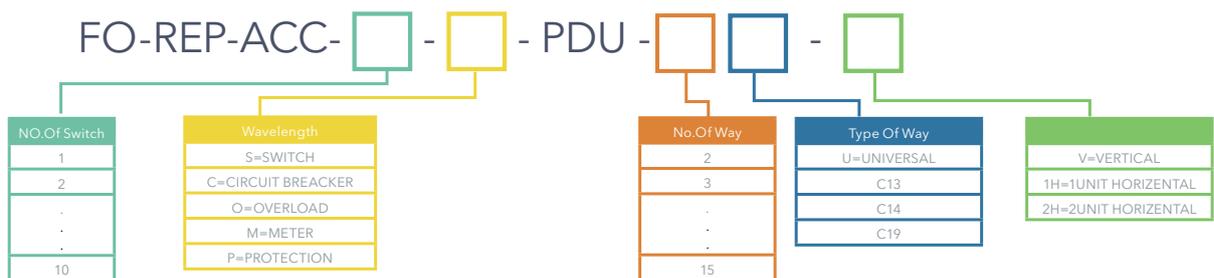




# ACCESSORIES

## » PDU

Picture	MORRELL MODEL	Description
	FO-REP/ACC-O-PDU7U-1H	MORRELL, 7WAY, 19", 1UNIT, UNIV, OVERLOAD, 3M, PDU
	FO-REP/ACC-1SO-PDU6U-1H	MORRELL, 7WAY, 19", 1UNIT, UNIV, OVERLOAD, SWITCH, 3M, PDU
	FO-REP/ACC-1CP-PDU8U-1H	MORRELL, 7WAY, 19", 1UNIT, UNIV, BREAKER, PROTECTION, 3M, PDU
	FO-REP/ACC-6C-PDU6U-2H	MORRELL, 6WAY, 19", 2UNIT, UNIV, 6 BREAKER, 3M, PDU
	FO-REP/ACC-1S-PDU7U-1H	MORRELL, 7WAY, 19" , 1UNIT, UNIV, SWITCH, 3M, PDU
	FO-REP/ACC-M-PDU6U-1H	MORRELL, 6WAY, 19", 1UNIT, UNIV, METER SCREEN, 3M, PDU
	FO-REP/ACC-10SO-PDU10U-1H	MORRELL, 10WAY, 19", 1UNIT, UNIV, OVERLOAD, 10 SWITCH, 3M, PDU
	FO-REP/ACC-1S-PDU15U-V	MORRELL, 15WAY, VERTICAL, UNIV, SWITCH, 3M, PDU



## » PDU ACCESSORIES (OPTIONAL)



Code: C13-01

- Standard parameters:  
IEC320 C13  
10A 250VAC
- Single C13 Socket



Code: C13-02

- Standard parameters:  
IEC320 C13  
10A 250VAC
- Dual C13 Socket



Code: C13-03

- Standard parameters:  
IEC320 C13  
10A 250VAC
- Triple C13 Socket



Code: C13-04

- Standard parameters:  
IEC320 C13  
10A 250VAC
- Lockable C13 Socket



Code: C13-05

- Standard parameters:  
IEC320 C13  
10A 250VAC
- Lockable C13 Socket



Code: C14-01

- Standard parameters:  
IEC320 C14  
10A 250VAC
- C14 Input Socket



Code: C20-01

- Standard parameters:  
IEC320 C20  
16A 250VAC
- C20 Input Socket



Code: C19-01

- Standard parameters:  
IEC320 C19  
16A 250VAC
- C19 Socket



Code: C13-06

- Standard parameters:  
IEC320 C13  
10A 250VAC
- Lockable C13 Socket



Code: C19-01

- Standard parameters:  
IEC320 C19  
10A 250VAC
- Lockable C19 Socket

## » DESKTOP SOCKET



### ELECTRIC RISE & FALL SERIES

- German electric rise and fall type socket
- 1 Way germany sockets
- With 2 USB and bluetooth speaker
- 3G 1.5mm\*2meters



### PNEUMATIC RISE & FALL SERIES

- British pneumatic rise and fall type socket
- 2 Ways british sockets
- With 2 USB and bluetooth speaker
- 13A 220V-250V
- 3G 1.5mm\*2meters



### PULL-UO RISE & FALL SERIES

- British hand pull type socket
- 2 Ways british sockets
- With 2 USB
- 13A,220V-250V
- 3G\*1.5mm 2meters



### PULL-UO RISE & FALL SERIES

- France button(80mm) type socket
- 2 Ways french sockets
- With 2 USB
- 16A,220V-250V
- 3G\*1.5mm\*2meters



### PULL-UO RISE & FALL SERIES

- British button(100mm) type socket
- 2 ways british sockets
- With 2\*USB and 1 VGA
- 13A 220V-250V
- 3G\*1.5mm\*2meters



### PULL-UO RISE & FALL SERIES

- German button(100mm) type socket
- 3 Ways germany sockets
- With 2\*USB
- 16A,220V-250V
- 3G\*1.5mm\*2meters



### PULL-UO RISE & FALL SERIES

- British hand pull
- Hide type socket
- 2 ways british sockets
- With 2 USB switch and bluetooth speaker
- 13A, 220V-250V
- 3G\*1.5mm\*2meters



### DESKTOP INSTALLATION SERIE

- Australia place type socket
- 6 Ways australia sockets
- With 3\*RJ45,2-USB and switch
- 10A,220V-250V
- 3G 1.5mm\*2meters



# CABINET ACCESSORIES

## » CABINET ACCESSORIES



-FO-REP/ACC-WM450MM  
-FO-REP/ACC-WM600MM  
-Fixed shelf



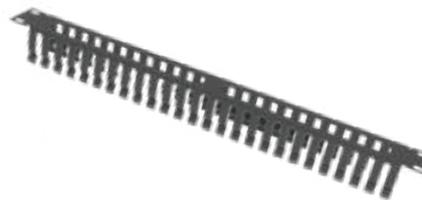
-FO-REP/ACC-SR600MM  
-FO-REP/ACC-SR800MM  
-FO-REP/ACC-SR1000MM  
-Fixed shelf



-FO-REP/ACC-LED  
-19" 1U LED Light



-FO-REP/ACC-SRCMB-H  
-19 Inch 1U cable manager  
with 5Pcs plastic ring



-FO-REP/ACC-SRCMB  
-19 Inch 1U cable manager  
-24 Port metal duct With  
-Cover metal palate



-FO-REP/ACC-SRCMBV  
-Verical cable tray



-FO-REP/ACC-SRBRS  
-19 Inch Brush panel



-FO-REP/ACC-PAN1U  
-FO-REP/ACC-PAN2U  
-Black panel



-FO-REP/ACC-SRCAS-W  
-2" Heavy castor



-FO-REP/ACC-SRCAS  
-2" Heavy castor with breaker



-FO-REP/ACC-LOCK  
-Moon shaped lock



-FO-REP/ACC-LOCK-H  
-Small round lock



-FO-REP/ACC-SRADJF  
-Adjustable feet

# MPP

## MORRELL PARTNERSHIP PROGRAM

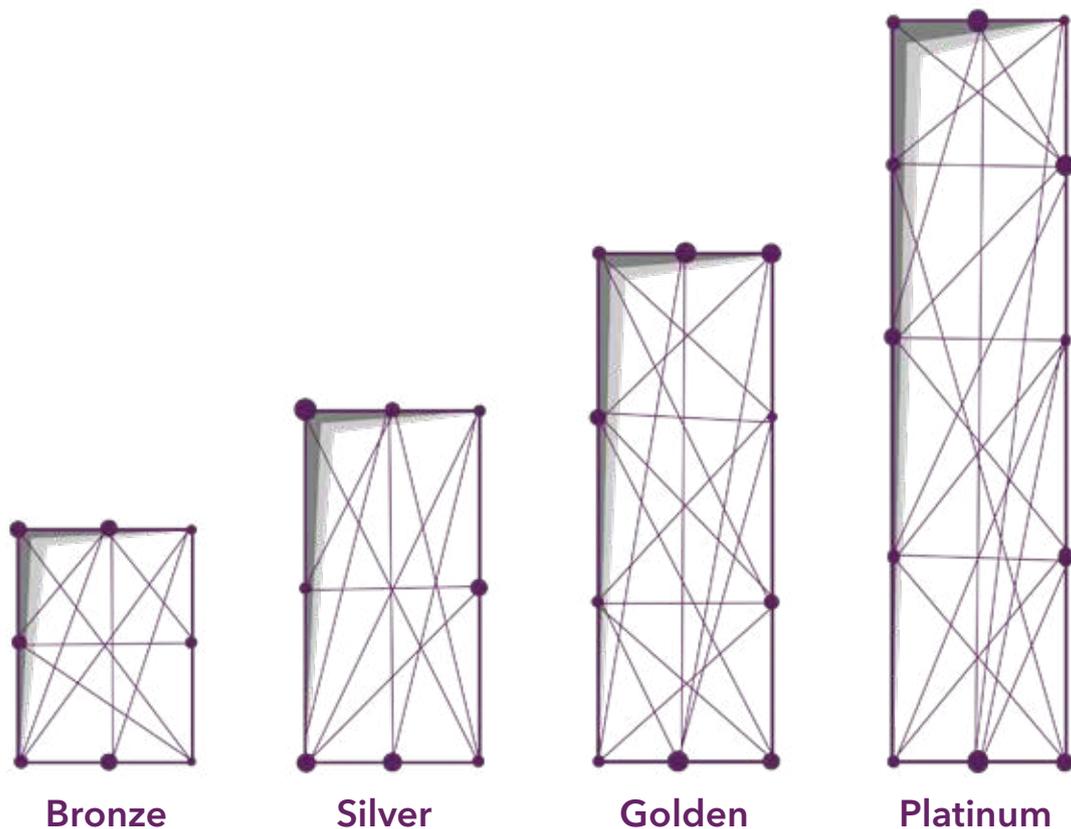


The MORRELL Partnership Program (MPP) is tailored to maximize our customers' profits and overall sales revenue to create a mutually beneficial partnership. At the same time, it enhances and streamlines technical support to offer the highest quality service.

We are committed to supporting your business to grow so that we can grow together.

MORRELL's Partnership Program involves four levels:

- **Platinum**
- **Golden**
- **Silver**
- **Bronze**



Each level carries with it a set of advantages and benefits such as discounts, exclusive offers, regional project registrations, and more.

The more criteria you fulfill, the higher your partnership level will be, and the more benefits you will receive.

Upon application submission, you will receive an email detailing said requirements and benefits.

Please visit the MORRELL's Partnership Program website to complete the registration process :



[www.morrelltelecom.com/become-a-partner](http://www.morrelltelecom.com/become-a-partner)

The details of the MPP will be sent to the customer later by email.

After receiving a reply from the customer an interview will be required to discuss the details and sign the contract.

A yearly inspection should be applied to follow up on the progress of each customer. And level upgrade to be offered if the customer is taking a step forward toward the trade increasing and abilities development.



MORRELL

## Spark Limited

Room 1708, 17/F., Kai Tak  
Commercial Building,  
317-319 Des Voeux Road C.,  
Hong Kong.



SCAN ME

[morrelltelecom](http://morrelltelecom)