

Rosenberger®



**Telecom/OSP
Interconnect Solution**



Rosenberger @ Asia Pacific

Rosenberger Hochfrequenztechnik GmbH & Co. was founded in Germany in 1958 and ranks among the leading manufacturers of high-speed interconnect solutions worldwide. To serve the continuous growth and demand of the global market, *Rosenberger Asia Pacific Electronic Co., Ltd.* was set up in China in 1997. With its long tradition of being the best and providing creative solutions, *Rosenberger Asia Pacific* has excelled itself and earned a great reputation in Asia-Pacific region.

Rosenberger Asia Pacific supplies product solutions to telecommunication, Information Technology, automotive, measurement, aviation, and other industries. The product range includes RF cabinet connections, HDCS® Cabling Solutions, Site Solution for base stations, In-Building Solutions, test cables, automotive products. *Rosenberger Asia Pacific* is also an expert in providing unique and bespoke product solutions with its high quality, efficient, convenient and comprehensive production and service systems.

Rosenberger Asia Pacific, with modern manufacturing bases located in Beijing and Shanghai, the largest of its kind in Asia, is an ISO 9001 quality system, ISO 14001 environmental system and ISO/TS16949 automotive industry system certified company. Equipped with advanced machining, electronic plating, assembling and testing centers and other modern manufacturing facilities, staffed by a large group of talented engineers, *Rosenberger Asia Pacific* has developed its first class production lines and exercises stringent product and quality control.

At present, the networks of R&D, production, sales and service are extended to the whole Asia-Pacific area. In the past 50 years, *Rosenberger* has established its brand all over the world. In the future, *Rosenberger Asia Pacific* will continue to provide excellent product solutions and services for its customers in the whole Asia-Pacific region.

Optical Fiber Distribution Frame Family

GPX339-A series fiber distribution frames connect outside optical cables with optical transmission equipment, providing termination, organization, storage, splicing and protection grounding of optical cables.

GPX339-B series fiber distribution frames are suitable for central offices and cross connection points in the OAN.

GPX339-C series fiber distribution frames are suitable for trunk transmission and cross connection points of lower capacity and all front access.

GPX339-CII series fiber distribution frames are suitable for trunk transmission and cross connection points of lower capacity.

Performance Specifications

- ※ Connector loss (including Insertion, changeability and durability) $\leq 0.5\text{dB}$
- ※ Changeability $\leq 0.2\text{dB}$
- ※ Durability $\leq 0.1\text{dB}$
- ※ Return loss: FC/PC $\geq 40\text{dB}$, FC/UPC $\geq 50\text{dB}$, FC/APC $\geq 60\text{dB}$
- ※ Connector life >1000 times
- ※ Insulation resistance (between frame and protection grounding) $>1000\text{M}\Omega / 500\text{V}(\text{DC})$
- ※ Dielectric strength (between frame and protection grounding) $>3000\text{V}(\text{DC}) / \text{min}$, no spark-over and no flash-over

User's Guide

Optical fiber distribution frame family type, size and capacity:

No.	Type	Size (mm)	Capacity (fibers)
1	GPX339-A26	2600x860x300	792
2	GPX339-A22	2200x860x300	648
3	GPX339-A20	2000x860x300	576
4	GPX339-B26	2600x800x300	936
5	GPX339-B22	2200x800x300	792
6	GPX339-B20	2000x800x300	660
7	GPX339-C26	2600x600x300	384
8	GPX339-C22	2200x600x300	288
9	GPX339-C20	2000x600x300	288
10	GPX339-CII26	2600x240x300	192
11	GPX339-CII22	2200x240x300	144
12	GPX339-CII20	2000x240x300	144

For optimum performance of the Rosenberger ODF, we recommend to use the Rosenberger 12 fiber ribbons or the strip fan out cables.

Features

- ※ High termination density
- ※ Convenient operation
- ※ Reconfigure and expand your network
- ※ Superior cable management ensures 40mm minimum bend radius
- ※ Standard: YD/T778-1999
- ※ Certification Number: 030044690061ROM

Operating Conditions

- ※ Operation temperature: $-5^{\circ}\text{C}\sim+40^{\circ}\text{C}$
- ※ Relative humidity: 85% (+30°C)
- ※ Atmosphere pressure: 70kPa~106kPa

Applications

- ※ Long distance optical transmission network
- ※ The office or far off extremity of optic access network
- ※ Video transmission network
- ※ Data communication network



GPX339-A ODF Series



GPX339-B ODF Series



GPX339-C ODF Series



GPX339-CII ODF Series

Fiber Cross Connection Cabinet Family

GXF5-189 series Fiber Cross Connection Cabinets are suitable for outdoor optic cross connection points in the OAN.

Features

- ※ Body case is made from SMC, ingress protection: IP65
- ※ Heat resistant and condensation proof shell
- ※ Multi-lock system
- ※ Fiber splicing and store unit, cross connection provides fixture and grounding device for 12 outside cables
- ※ Standard: YD/T998-1998
- ※ Certification Number: 030044690066ROM

Operation Conditions

Operation temperature:

- ※ Indoor: -5°C~+40°C
- ※ Outdoor: -40°C~+60°C

Relative humidity:

- ※ Indoor: ≤ 85% (+30°C)
- ※ Outdoor: ≤ 95% (+40°C)
- ※ Atmosphere pressure: 70kPa~106kPa

Applications

- ※ Office or far off extremity of optic access networks
- ※ Intelligent buildings
- ※ Remote module offices
- ※ FTTZ, FTTB, FTTC, FTTO

Performance Specifications

- ※ The curvature radius of optical fiber is more than 40mm
- ※ Standard working wave length: 850nm, 1310nm, 1550nm
- ※ Connectors loss (including insertion, changeability and durability) ≤ 0.5dB
- ※ Changeability ≤ 0.2dB
- ※ Durability ≤ 0.1dB
- ※ Return loss: FC/PC ≥ 40dB, FC/UPC ≥ 50dB, FC/APC ≥ 60dB
- ※ Connector life > 1000 times
- ※ Pressurization between the metal components and the earthing device ≥ 3000V(DC) for 1 minute without breakdown and flashover
- ※ Insulation resistance between the metal components and the earthing device ≥ 20000M Ω /500V(DC)
- ※ Load capacity of the surface of the cabinet is more than 980N. The utmost end of the door can bear a vertical force of more than 200N when the doors are opened
- ※ The fixture point of the optical cable can bear an axial pulling force of 1000N, and torsional angle of ±90° (totally 3 times of cycling torsion)



GXF5-189A/B/C Fiber Cross Connection Cabinet Series



GXF5-189E Optical Fiber Distribution Box Series



GXF5-189F Optical Fiber Distribution Box Series

User's Guide

Series of cross connection cabinet type size and capacity:

No.	Type	Size (mm)	Pigtail	Capacity (fibers)	Direct-Splicing Capacity (fibers)	Remark
1	GXF5-189A	1450x750x300		288	216	SMC type (front, rear operation)
2	GXF5-189A II	1450x750x300		288	216	SMC type (all front operation)
3	GXF5-189B	1350x750x300		288	216	SMC (front, rear operation)
4	GXF5-189B II	1350x750x300		288	216	SMC (all front operation)
5	GXF5-189C	1460x750x320	12 fiber ribbon	288	216	SMC (front, rear operation)
6	GXF5-189C II	1460x750x320	or strip fan out	288	216	SMC (all front operation)
7	GXF5-189D	700x480x300	pigtails	144	108	SMC (front, rear operation)
8	GXF5-189D II	700x480x300		144	108	SMC (all front operation)
9	GXF5-189E	506x435x180		48		Indoor fixed to the wall
10	GXF5-189F	440x310x180		24		SMC pole-mounted, outdoor

For optimum performance of the Rosenberger ODF, we recommend to use the Rosenberger 12 fiber ribbons or the strip fan out cables.

Digital Distribution Frame Family

MPX541 series digital distribution frame acts as interface in fixed or mobile networks between the exchange and the transmission equipment. They are intended for termination, cross-connection and inter-connection of 75 Ω or 120 Ω coaxial cables, as well as supervision of digital transmission equipment.

Features

- ※ High quality Rosenberger connectors
- ※ Characteristic impedance: 75 Ω , 120 Ω
- ※ Perfect grounding system: signal grounding and dependency
- ※ Supplies all sorts of Digital Distribution Frame presently in the market
- ※ Connector types: Siemens, Fujitsu, NEC, AT&T
- ※ Standard: YD/T779-1999
- ※ Certification Number: 030044690060ROM

Operating Condition

Operation temperature: -5°C ~ +40°C
 Relative humidit: $\leq 85\%$ (+30°C)
 Atmosphere pressure: 70 kPa~106kPa



MPX541 Digital Distribution Cabinet Series

Digital Distribution Unit



Fujitsu Type



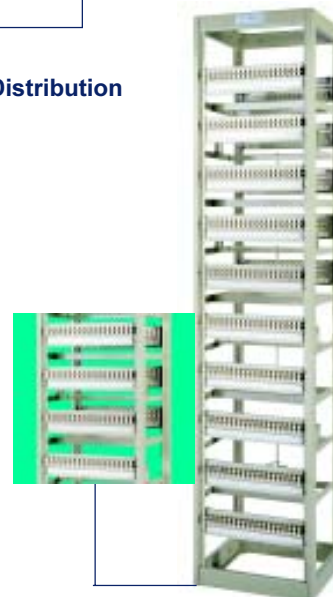
NEC Type



Siemens Type



AT&T Type



MPX541 Digital Distribution Frame Series

User's Guide

Digital distribution cabinet series, size and capacity:

No.	Type	Size (mm)	Capacity (System)	Remark
1	MPX541-S26	2600x600x300	180	enclosed typel all front access
2	MPX541-S22	2200x600x300	160	enclosed typel all front access
3	MPX541-S20	2000x600x300	140	enclosed typel all front access
4	MPX541-SⅡ26	2600x600x450	360	enclosed typel front and rear access
5	MPX541-SⅡ22	2200x600x450	320	enclosed typel front and rear access
6	MPX541-SⅡ20	2000x600x450	280	enclosed typel front and rear access
7	MPX541-F26	2600x600x300	180	enclosed typel all front access
8	MPX541-F22	2200x600x300	160	enclosed typel all front access
9	MPX541-F20	2000x600x300	140	enclosed typel all front access
10	MPX541-FⅡ26	2600x600x450	360	enclosed typel front and rear access
11	MPX541-FⅡ22	2200x600x450	320	enclosed typel front and rear access
12	MPX541-FⅡ20	2000x600x450	280	enclosed typel front and rear access

Integration Distribution Cabinet Family

G/MJPX339 series Integration Distribution Cabinets consist of MDU, DDU, ODU and is mainly suitable for remote module offices, FTTZ, FTTB, FTTC, FTTO, RBS.

Features

- ※ 19" standard cabinet, front and rear doors open, access from both sides
- ※ Advanced Insulation Displacement Connection (IDC) technique
- ※ Three distinct grounding systems
- ※ Whole series distribution management scheme with access-network, ethernet network and all kinds of expert network for customers
- ※ Advanced technique: high density, perfect and reliable protection against over current and over-voltage with 4-stage visible and audible alarm
- ※ Structure flexibility: modular design for easy expansion and network maintenance
- ※ High reliability: fire proof type plastic parts conform to FV-0
- ※ Convenient operation: enough wiring space for cables and test cords, easy operation and maintenance

Operating Condition

- ※ Operation temperature: -5°C~+40°C
- ※ Relative humidity: ≤ 85% (+30°C)
- ※ Atmosphere pressure: 70kPa~106kPa

Application

- ※ Office or far off extremity of optic access networks
- ※ Intelligent buildings
- ※ Remote module offices
- ※ FTTZ, FTTB, FTTC, FTTO
- ※ RBS



Performance Specifications

- ※ Input voltage: -48±10% or 220V±10%
- ※ Transmission velocity: 100MHz
- ※ Insulation resistance (between frame and protection grounding) ≤ 1000M Ω /500V(DC)
- ※ Dielectric strength (between frame and protection grounding) >3000V (DC) /min, no spark-over and no flash-over
- ※ Alarm function
- ※ Perfect grounding system

Protection wiring block, test wiring block

- ※ Insulation resistance: ≥ 1000m Ω
- ※ Pressurization: 1000V(AC)/1min can be borne without breakdown or flash-over
- ※ Contact resistance: Between reeds: ≤ 7m Ω Between terminals: ≤ 73m Ω
- ※ Pull-out force: for winded type: ≥ 22N (diameter of conductor 0.4mm) for embedded type: ≥ 25N

Protector

- ※ Insulation resistance: ≥ 1000m Ω
- ※ Contact resistance: ≤ 7m Ω
- ※ Over-voltage protection performance:
 - DC breakdown voltage: 230V(-40V+30V)
 - Pulse breakdown voltage: ≤ 800V(at 1000V/us voltage increasing rate)
- ※ Over-current protection performance:
 - Normal temperature resistance: ≤ 22 Ω resistance between wire a、b ≤ 2 Ω
 - Non-action current: 100mA, no action for 1 hour (test voltage DC 60V, environment temperature +40°C)
- ※ Expiration protection performance: wire a or b of the discharging circuit will earth within 5 or 15 seconds when the discharging current of discharger reaches 2.5A (effective value)

User's Guide

Integration distribution cabinet series, size and capacity:

No.	Type	Size (mm)	Installation	Capacity		
				ODU (Fibers)	ODU (System)	MDU (Loop-line)
1	G/MJPX339-A26	2600x700x460	Front and rear access	72	80	1200
2	G/MJPX339-A22	2200x700x460	Front and rear access	72	40	1200
3	G/MJPX339-A20	2000x700x460	Front and rear access	72	40	800
4	G/MJPX339-B26	2600x600x300	All front access	72	60	400
5	G/MJPX339-B22	2200x600x300	All front access	72	40	400
6	G/MJPX339-B20	2000x600x300	All front access	72	40	200

12 Fibers Splicing and Distribution Tray

12 fibers splicing and distribution trays insure the whole routing four critical elements of fiber cable management: bend radius protection, cable routing paths, cable access and physical protection. All four aspects directly affect the reliability, the functionality, and the operational cost of the network.

Features

- ※ Handles the outside cables or pigtails delamination and subarea for easy network management maintenance and operations
- ※ Assures sufficient fiber transmission characteristic for protection of the splice reliability
- ※ Preframed for pigtails
- ※ High flexibility to accommodate the fiber networks future growth needs, materializing a total value to your entire fiber network
- ※ High reliability, keeping long term reliability of the fiber networks

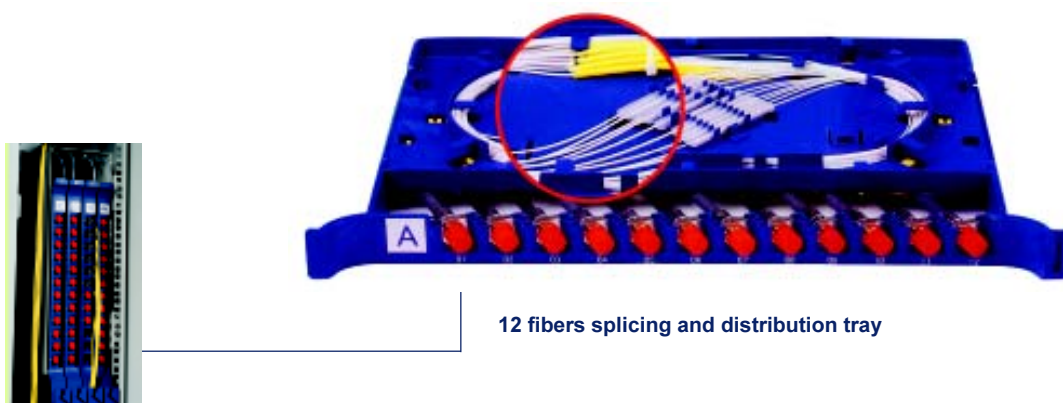
Quality Assurance

Certification of pigtail and patch cord

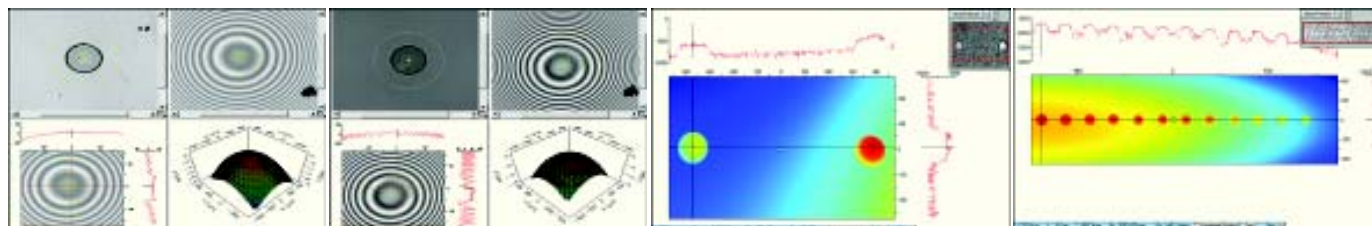
- ※ 030044690062ROM ST/PC
- ※ 030044690065ROM SC/PC
- ※ 030044690067ROM SC/APC
- ※ 030044690063ROM FC/APC
- ※ 030044690064ROM FC/PC

Equipment List for Production and Test

- ※ SFP550 Fiber Polisher (JAPAN · Seikoh Giken)
- ※ SP1000 Fiber Polisher (USA · Domaille)
- ※ ZX-1 Array Interferometer (USA · DORC)
- ※ 781RL-13/15 Power Meter (USA · RIFOCS)
- ※ RM3750B Power Meter (USA · JDS)
- ※ LTS-3900 Optical Loss Test Set (USA · EXFO)



12 fibers splicing and distribution tray



Geometric dimension of the end face

Quality control

FlexField

19" Subrack 200

The modules go into subracks, which are available in different sizes. Different types of modules can be in the same subrack. Start with the number of modules you need for the moment, just partly fill the subrack. Add further modules whenever the need arises.



Subrack

Subrack Types	Module Density	Width	Depth	Height	Part Number
Subrack 200	10	19" / ETSI	270mm	200mm / 5U	994106001-01
Subrack 45	2	19"	270mm	45mm / 1U	994106002-01
Wall Mount Box	1	130mm	190mm	45mm	994106003-01

DDF G.703 Pair Cable & Coax + Balluns

Transmission Requirements-SWR

All signals pass through multi-layer impedance controlled PCBs and connectors of correct impedance. This gives good signal integrity and the transmission requirements in G.703 are met. The SWR budget of your link will not be ruined by flex modules.

EMC

All PCBs have signals at the inner layer and shielding at the outer layers. This results in low emission and high immunity. The possibility for you to have your system to fulfill EMC Standards like directives 89/336/EEC, 92/231/EEC will not be affected.

Surge Pulse

In some telecom applications, there is a 500V surge pulse requirement. They are tested according to IEC 61000-4-5.

Ordering Information

Module type	Front	Inside	Channel	Capacity	Part Number
RJ-IDC	RJ45	IDC	E1/T1/J1	8 system	993040001-01
RJ-RJ	RJ45	RJ45	E1/T1/J1	8 system	993040002-01
IDC-IDC	IDC	IDC	E1/T1/J1	8 system	993040003-01
RJ-RJ monitor	RJ45	RJ45	E1/T1/J1	4 system with	993040004-01
RJ-IDC monitor	RJ45	IDC, 8 pair	E1/T1/J1	4 system with	993040005-01
1.6/5.6-1.6/5.6	1.6/5.6	1.6/5.6	E1/T1/J1/E3/T3/J3/STM-1	4 system	993040006-01
1.6/5.6-1.6/5.6	1.6/5.6	1.6/5.6	E1/T1/J1/STM-1/ Video	2 system with	993040007-01
M4-M4	M4	M4	E1/T1/J1/E3/T3/J3/STM-1	4 system	993040008-01
M4-M4 monitor	M4	M4	E1/T1/J1/STM-1	2 system with	993040009-01
BNC-BNC	BNC	BNC	E1/T1/J1/E3/T3/J3/STM-1/ Video	4 system	993040010-01
BNC-BNC monitor	BNC	BNC	E1/T1/J1/E3/T3/J3 /STM-1/ Video	3 system with	993040011-01
SMB-SMB	SMB	SMB	E1/T1/J1/E3/T3/J3	4 system	993040012-01
SMB-SMB monitor	SMB	SMB	E1/T1/J1/E3/T3/J3	2 system with	993040013-01
1.6/5.6-IDC ballun	1.6/5.6	IDC, 8 pair	E1/T1/J1	4 system or 8 half	993040014-01
M4-IDC ballun	M4	IDC, 8 pair	E1/T1/J1	4 system or 8 half	993040015-01
BNC-IDC ballun	BNC	IDC, 8 pair	E1/T1/J1	4 system or 8 half	993040016-01
RJ-M4 ballun	RJ45	M4	E1/T1/J1	4 system	993040017-01
RJ-BNC ballun	RJ45	BNC	E1/T1/J1	4 system	993040018-01
RJ-1.6/5.6 ballun	RJ45	1.6/5.6	E1/T1/J1	4 system	993040019-01
Monitor Cable	RJ45	BNC	For BRS3.040.004, BRS3.040.005		993695001
1.6/5.6-1.6/5.6 monitor	1.6/5.6	1.6/5.6	E1/T1/J1/E3/T3/J3/STM-1	4 system with	993040020-01
M4-M4 monitor	M4	M4	E1/T1/J1/E3/T3/J3/STM-1	4 system with	993040021-01
M4-IDC ballun monitor	M4	IDC	E1/T1/J1	4 system	993040025-01
1.6/5.6-IDC ballun monitor	1.6/5.6	IDC	E1/T1/J1	4 system	993040026-01
BNC-RJ	BNC	RJ45	E1/T1/J1	4 system	993040032-01

Ethernet Cabling System

The Patch Panel

High density: up to 800 systems in a standard rack.

Yet service friendly: the patch cords are strictly organized and all connections will be accessible. So crossconnection work can be performed. Choose between modules for CAT.5e or CAT.6, STP or UTP.

The Work Area Outlet

8 RJ45 for 1-4 workplaces. Choose between modules for CAT.5e or CAT.6, STP or UTP.



Ordering Information

ModuleType	Front	Inside	Channel	Capacity	Part Number
RJ-IDC Ethernet UTP Cat5e	RJ45	IDC	Ethernet 10/100 UTP	8 systems	993041001-01
RJ-IDC Ethernet STP Cat6 with DC-Barrier	RJ45	IDC	Ethernet10/100/100+ STP	4 systems	993041002-01
RJ-RJ Ethernet STP/UTP Cat5e	RJ45	RJ45	Ethernet10/100 STP/UTP	8 systems	993040002-01
RJ-IDC Ethernet UTP Cat3	RJ45	IDC	Ethernet Cat3 UTP	10 systems	993041003-01
RJ-IDC Ethernet UTP Cat6	RJ45	IDC	Ethernet10/100/100+ UTP	6 systems	993041004-01
RJ-IDC Ethernet STP Cat6	RJ45	IDC	Ethernet10/100/100+STP	6 systems	993040005-01

EMC

ALL PCBs have signals at the inner and shielding at the outer layers. The cable shields are terminated at low impedance, which results in low emission and high immunity. The possibility for you to have your system to fulfill EMC Standards like directives 89/336/EEC, 92/231/EEC will not be affected.

DC-Current in Cable Shield

In STP cabling there is always a risk for unwanted DC current in the shield due to varying ground potentials in the building. It causes a current to flow in the cable shields and it may give lower capacity in your network. To avoid it there is a module with built in DC-barrier. (BRS3.041.002)

ODF & Trunk Networks + FTTX

Variety of Applications

The modules handle 12 fibers each. They go into various size subracks. Thus, a wall mounted 12 fiber outlet can be built and also an ODF handles many hundreds of fibers. An ODF for the trunk network can be built. An ODF for fiber to the X, can also be built. All have in common: Service friendly, always access to all connectors and splices.

Variety of Cables

Patch cords and breakout cables are terminated directly in the module. Installation cables with unprotected fibers have to be installed in a cable splitter before entering the module. In the cable splitter the cable is mechanically fixed and the length of 2m of each fiber is put in a protective flexible tube, 12 fibers per tube.

Flexibility of Cables

This tube enters the module. Slicing and fan-out of ribbon is done in the module. The excess length of the tube is stocked in a special storage compartment within the subrack. By using this excess of the tube each module can be extracted 1.5m from the subrack, thus allowing for splicing work conveniently done at the worktable.

Blown fiber can also be handled. The microducts are terminated to an adaptor. This adaptor fits into existing holes in the subrack. The flexible tubes are inserted in the free end of the adaptors. The fiber is blown in. The white tubes with fibers are handled in the modules as described above.

Ordering Information

ModuleType	Description	Channel Capacity	Part Number
Breakout SC-SC	2-12 fibers single mode breakout cable	(0-6)x2 SC	993042001G-01
Splicing SC-SC	For splicing, of ribbon fiber or single fiber	(0-6)x2 SC	993043001G-01
Splicing SC-SC	For splicing fan out and pretermination of 12 fibers single mode adaptors	(0-6)x2 SC	993043002-01
FC-FC	For cables without splices and having low bending radius being cable to be brought directly into the module: break out cable; patch cord cable.	FC/PC adaptors of SM quality, 8x1	993042002-01
Storage Shelf	Storage of excess patch cord Occupies the space of two modules in the subrack	Width: 80mm 5m each of 12 single patch cord or 6 double can be stored	993044001-01
Storage Bobbin	Storage of excess patch cord Occupies the space of one module in the subrack	5m each of 12 single patch cord or 6 double can be stored	993044002-01
Joint 48	For joining a cable containing maximum 48 fibers to maximum 4 modules 993043001G-01 or 993043002-01		993044003



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