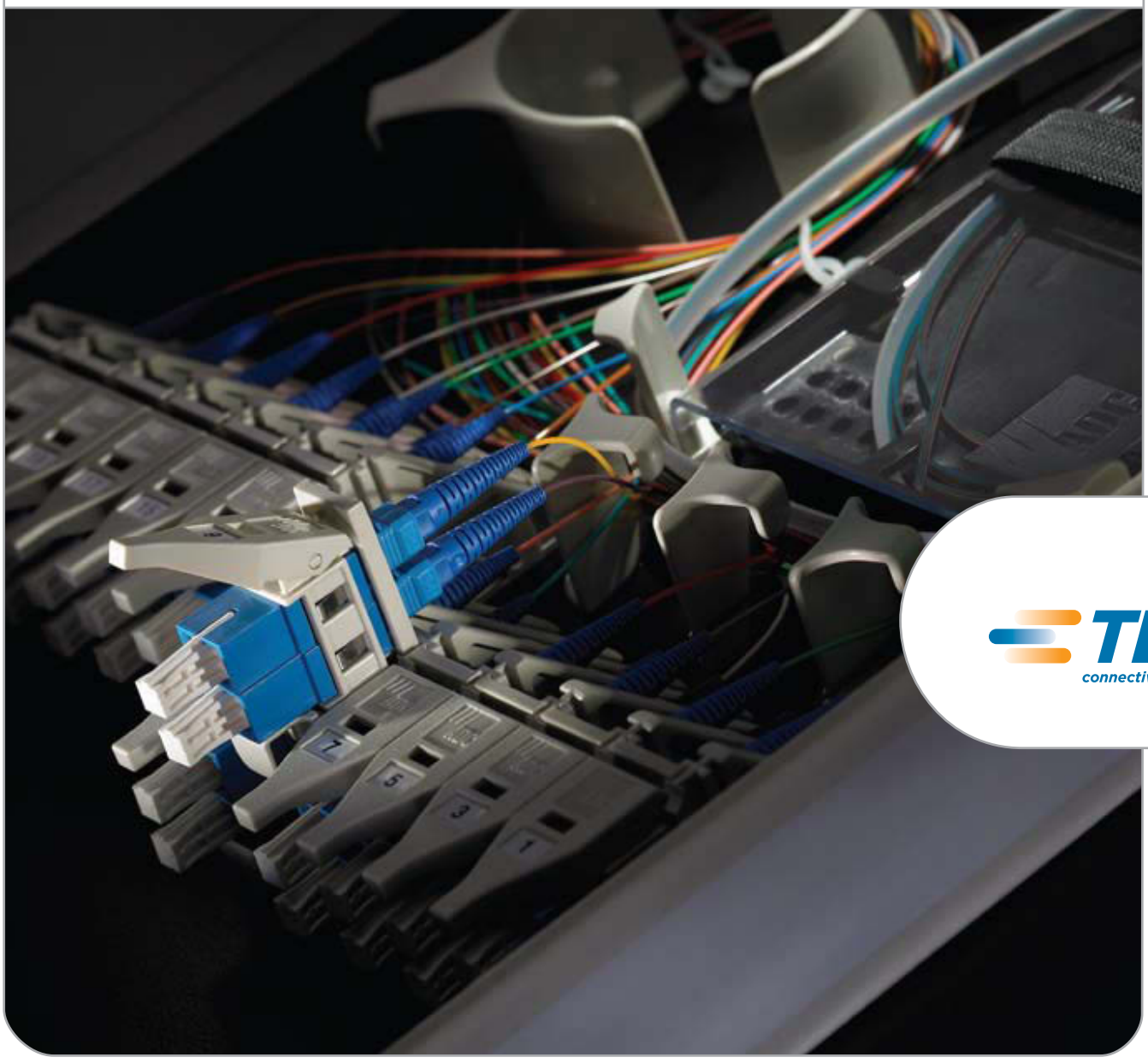
Fiber Optic Panels

1st Edition



FIBER CONNECTIVITY SOLUTIONS

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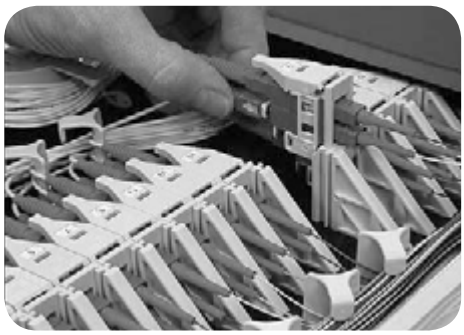
Fiber Optic Panels
Introduction

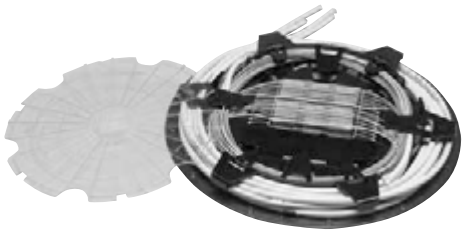
Lower operations costs, greater reliability and flexibility in service offerings, quicker deployment of new and upgraded services—these are the characteristics of a successful service provider in a competitive global market.

The TE Connectivity family of fiber optical panel (FOP) solutions delivers the crucial elements of fiber cable management: connector and cable accessibility, bend radius protection, cable routing paths and physical protection. If these elements are executed correctly, the network can deliver its full competitive advantages.

- **Connector and Cable Access:** Allowing easy access to installed fibers is critical in maintaining proper bend radius protection. FOP products ensure that any fiber can be installed or removed without inducing a macrobend on an adjacent fiber. The accessibility provided by features such as sliding adapter packs can have a significant impact on network reconfiguration time. Accessibility is most critical during network reconfiguration operations and directly impacts operation costs and network reliability.

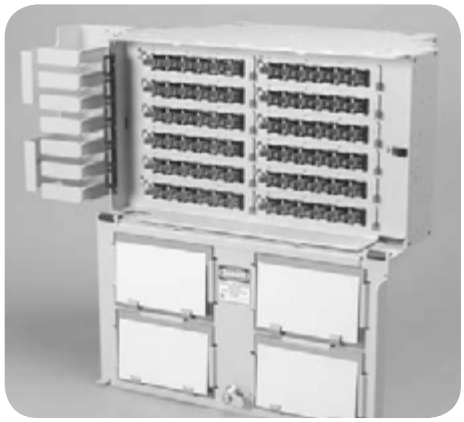


- **Bend Radius Protection:** Simply put, optimal signal flow ensures network performance and reliability. TE's FOP products ensure that the proper bend radius is maintained to prevent attenuation and deliver the highest possible performance as well as long-term reliability. **Note:** Reduced bend radius cable solutions, while offering a tighter bend radius, are not a substitute for well-engineered cable management.



- **Cable Routing Paths:** Improper technician routing of fibers is one of the major causes of bend radius violations. FOP products are extremely craft friendly, providing routing paths that are clearly defined and easy to follow—leaving no room for guesswork and ensuring that technicians can easily trace and locate fibers.

- **Physical Protection:** All fibers should be protected throughout the network from accidental damage by technicians and equipment. Fibers routed between pieces of equipment without proper protection are susceptible to damage, which can critically impact network reliability. TE's robust fiber cable management technology ensures that every fiber is well protected and designed to withstand daily wear and tear.



10/07 • 1037443AE Fiber Optic Panels

Fiber Optic Panels
Introduction

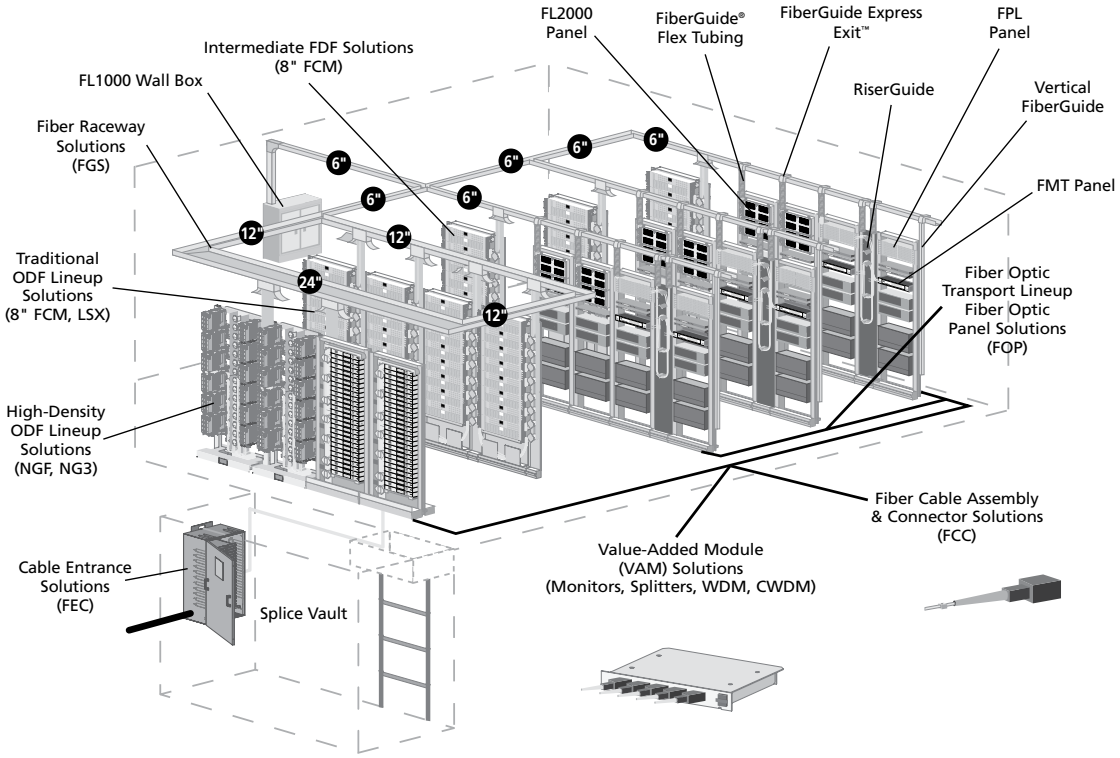
A Variety of Solutions

In addition to the robust offering of end-to-end system connectivity solutions, TE has designed a family of fiber optic panel (FOP) products that provide a centralized point for termination, splice and storage of optical fiber. These panels are ideal for applications requiring fiber counts typically less than 400.

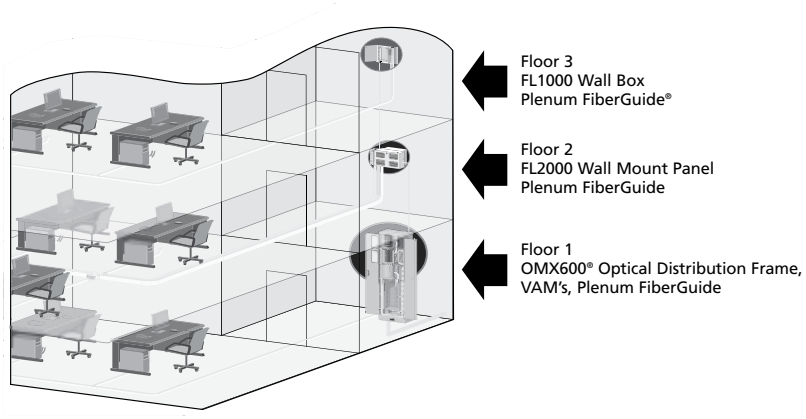
TE's FOP solutions further enhance the ability of fiber frame solutions. Numerous options accommodate the varying needs of our customers. Our portfolio includes:

- **FMT Series** – enables termination, termination/splicing, termination/storage, splicing only and slack storage for optical fiber in a compact, one or two rack unit drawer
- **FPL Series** – provides industry-leading fiber cable protection and management utilizing an internal splicing system which creates a compact, feature-rich, high-density solution
- **FL2000 Series** – a flexible, modular and scalable series of fiber products for today's and tomorrow's evolving communications and data networks
- **FL1000 Series** – wall boxes designed for the demarcation point in your network and panels designed to be mounted within either a standard 19- or a 23-inch EIA equipment rack
- **Fiber Cable Assembly and Accessory Products** – a comprehensive line featuring the Tracerlight® Connector Identification System, patch cords, IFC assemblies, attenuators, FasTerm® connectors and adapters to meet the demanding needs of today's network

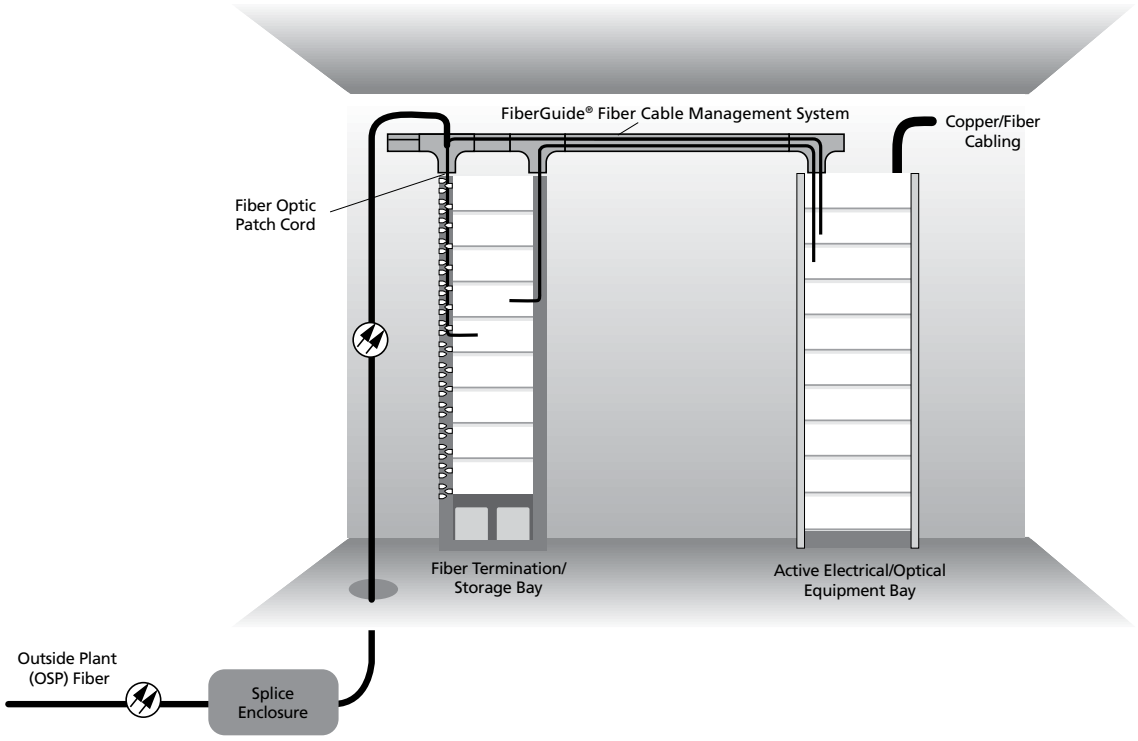
Central Office



Customer Premises



Service Provider



Fiber termination bays or fiber panels provide a central point for terminating incoming fibers. Fiber jumpers, routed through a FiberGuide® fiber cable management system, connect the fiber termination bay to the active electrical/optical equipment.

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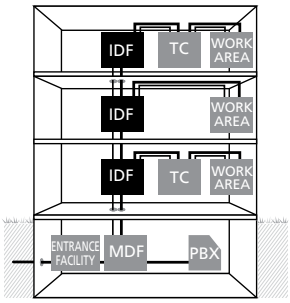
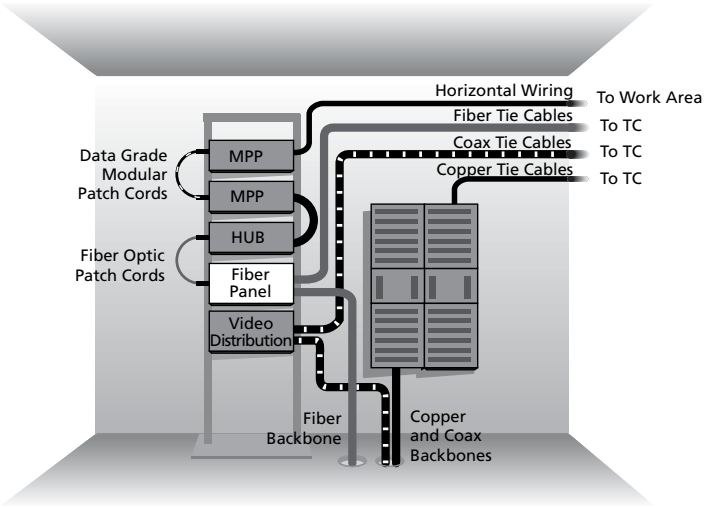
Fiber Optic Panels
Introduction

Intermediate Distribution Frame

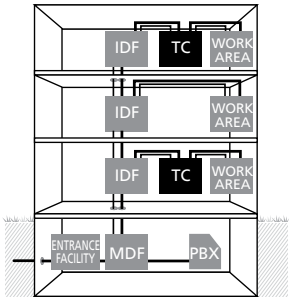


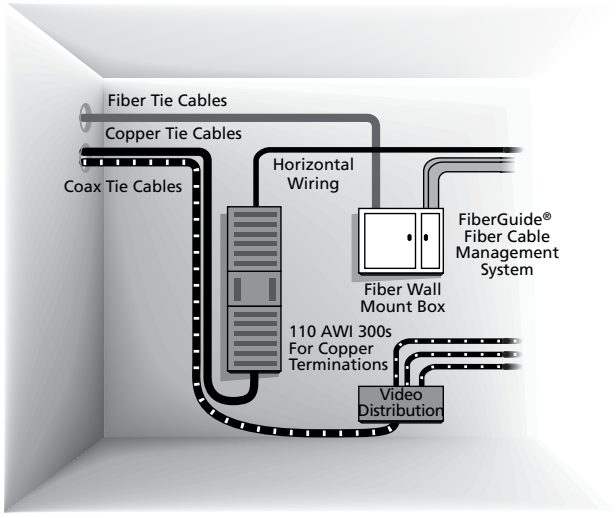


The intermediate distribution frame (IDF) area is the point of interconnection between building backbone cables and horizontal tie cable serving telephone closets or station wire, that in turn serve the individual work locations.

IDFs usually serve a single floor and are typically arranged vertically in a building riser area. Electronic hub equipment is normally installed within the IDF area because of the proximity to the backbone cabling. In many cases, the IDF is the last connection point prior to the end workstation connection. In large buildings, IDFs may serve multiple telephone closets (TCs) via tie cables.

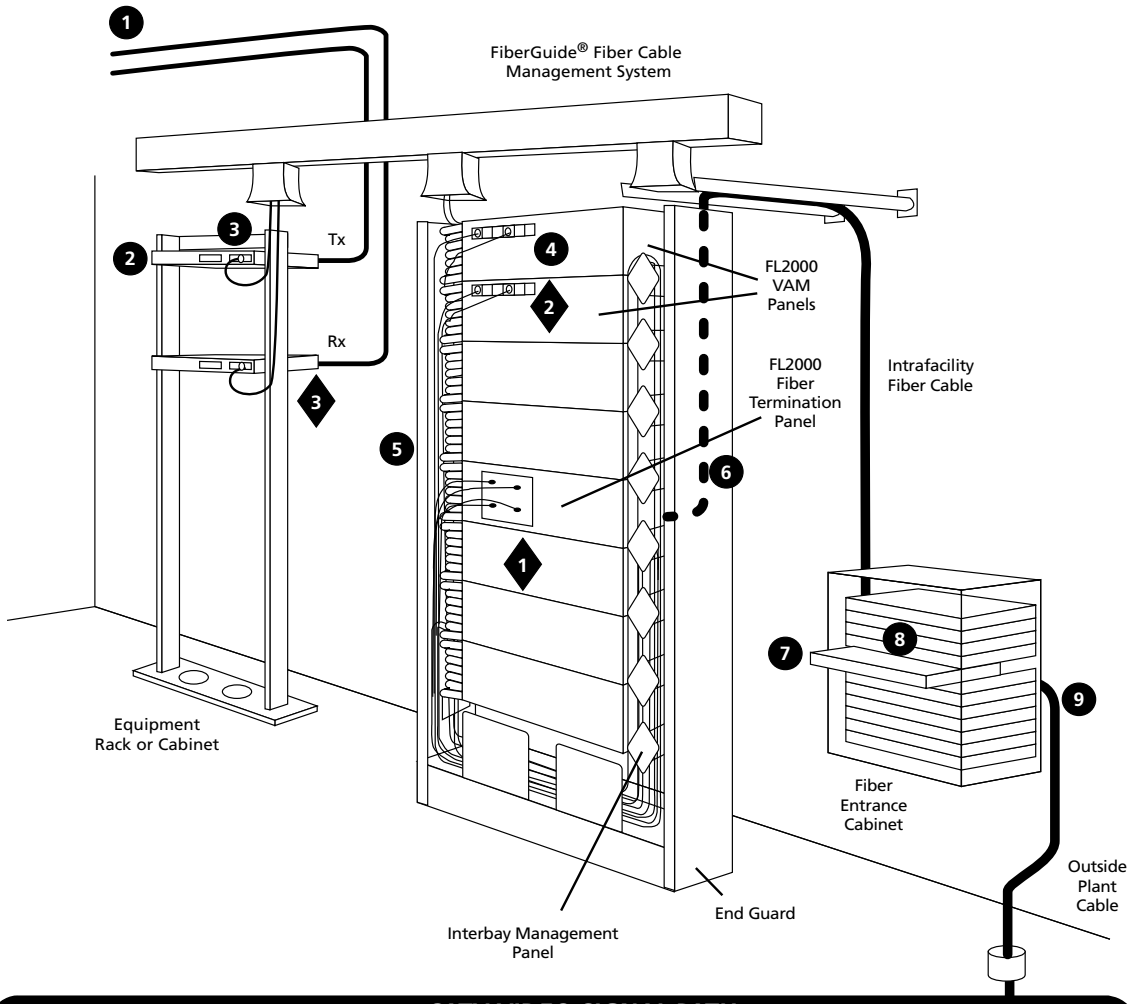
Telephone Closet





The telephone closet (TC) is the point of interconnection between building cabling and horizontal station wire serving the individual work locations. TCs usually serve a specific zone on a floor. Multiple TCs may be served from single IDFs. The TC generally is the last connection point prior to the end workstation and may not include electronic equipment.

CATV Video Signal Path Through TE Fiber Panel Products



CATV VIDEO SIGNAL PATH

Transmit Path

1. Video signal via coaxial cable from video modulators.
2. Panel converts coax electrical video signal to optical signal on fiber. Transmitter sends optical signal out.
3. Optical signal sent to the splitters via a fiber optic patch cord or pigtail. Splitters installed in Value-Added Module (VAM).
4. Splitter receives optical signal from transmitter and splits signal into several out paths (1x2, 1x3, etc.). Each out path serves one node.
5. Optical video signal from outputs of splitters routed to the termination panel via fiber patch cord.
6. Intrafacility fiber cable (IFC) clamped and connected to rear of fiber patch panel.
7. IFC clamped to Fiber Entrance Cabinet (FEC).
8. IFC fibers spliced to outside plant (OSP) fibers on FEC splice drawer.
9. OSP cable clamped to FEC.

Return Path

1. Video signal from each node is jumpered from termination panel to VAM chassis.
2. Connects fiber OSP patch cord to patch cord from upstream receiver.
3. Fiber patch cord from VAM connects upstream signal to receiver panel. The receiver panel converts optical video signal to electrical and sends to network/set-top control system via coaxial cable.

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Rack Mount Panel Solutions

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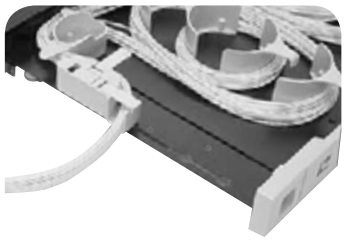
FMT Series Fiber Optic Panel
Introduction

Cable management is an essential consideration in any successful fiber communications network. TE's FMT series fiber optic panel enables termination, termination/splicing, termination/storage, splicing only and slack storage for optical fibers in a compact 1 or 2 RU panel.

Sliding Radius Limiter

Sliding radius limiters provide ultimate fiber management by addressing one of the most critical elements of fiber cable management: bend radius protection.

By controlling the movement of fibers into the drawer, error-proof slack loop management is maintained, ensuring proper bend radius protection. This is crucial to protecting fiber, eliminating service failures and decreasing costs.



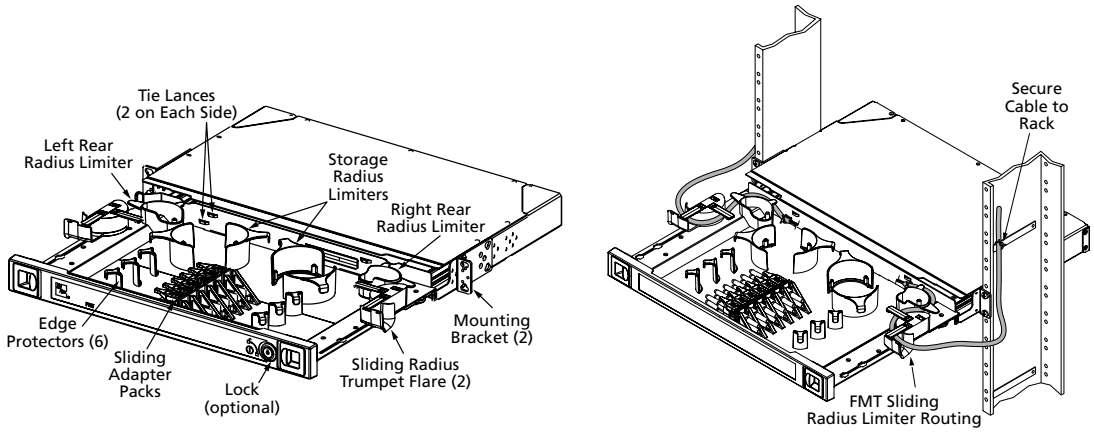
Sliding Adapter Pack

Sliding adapter packs allow easy access for connecting jumpers and cleaning connectors, ensuring that any fiber can be installed or removed without disturbing adjacent fibers. That means a significant reduction in connector installation/reconfiguration time.

Modular Design

TE's modular design offers the value of a single interface for performing multiple tasks in your network. By employing a 1 or 2 RU modular drawer, network technicians have familiar access to terminating, splicing and storing fiber. This cable management approach translates to time and money saved for moves, adds and changes.

FMT Series Fiber Optic Panel
Introduction



12-Termination/Storage Drawer, Universal Entry

Termination-Only Drawers
This FMT accommodates 24-, 32-, 48-, 72- or 96- standard single circuit access connectors in 1 or 2 RU drawers. It is ideal for interconnect applications that will experience minimal network reconfiguration.

Termination and Splice Drawers
This FMT has termination/splicing capability for 12-, 16- or 24-fibers within 1 RU or 48-fibers in 2 RU. Splice trays can be placed on the left and right side of the FMT, offering great flexibility in ordering the panel to fit your specific network application.

Termination and Storage Drawers
This FMT accommodates terminations in groups of 12, 16 or 24. This panel stores slack fiber for the line and/or equipment side of the demarcation. It's an ideal solution for interconnect applications that may see some reconfiguration activity and where exact patch cord lengths cannot be determined. Slack storage within the drawer also allows for reconnectorization of the fiber.

Slack Storage Drawers
These FMTs properly manage and protect excess optical jumper length at the equipment frame. They may be used in conjunction with other FMT solutions or as a stand-alone slack storage solution at the equipment frame. Both bulk and discrete storage solutions are available to accommodate industry-standard jumper configurations.

Sliding Radius Limiters
Minimize fiber movement during drawer usage and the need for a long slack loop.

Sliding Adapter Packs
Two adapter/connectors in 1 RU panels and six in 2 RU panels provide easy hand access for connecting cables and cleaning connectors.

Edge Protectors
Protect cables from sharp angles at bend points in the cable routing.

Rear Radius Limiters
Maintain a protective minimum bend radius for cables routed into the FMT.

Tie Lances
Secure fibers at the ingress/egress point for additional cable management.

Storage Radius Limiters
Provide slack storage for cable terminated within the FMT.

Lockable
Allows controlled accessibility to the drawer.

FMT Series Fiber Optic Panel
Introduction

Product Overview

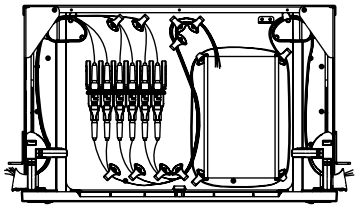
	FMT 1 RU Rack Mount	FMT 2 RU Rack Mount
Recommended Applications	Small to medium fiber count application. Offers the secure fiber protection that comes with a drawer solution coupled with a high degree of cable management. Ideal for mixed use with active equipment in either frame or cabinet applications.	
Description	1.75"H – all front access 19"/23" all purpose drawer; high-density 1 RU chassis	3.5"H – all front access 19"/23" all purpose drawer; high-density 2 RU chassis
Number of fibers, future growth potential	12 to 32	Termination/Splice: 48 Termination only: 72 (96 with LC)
Interconnect	Ideal	Ideal
Cross-connect	Yes	Yes
Accommodates on-frame splicing	Yes. Built-in	Yes. Built-in
Accommodates off-frame splicing	Yes	Yes
Rear access	Not required	Not required
All front access	Yes	Yes
Customer premises application	Ideal	Ideal
19" mounting	Yes	Yes
23" mounting	Yes	Yes
Cabinet mount	Yes	Yes
Wall mount	Yes. A wall mount kit is available	Yes. A wall mount kit is available
Mix equipment with fiber product?	Ideal	Ideal
Use as dedicated fiber frame	Not recommended. (See ODF catalog #103742AE)	Not recommended. (See ODF catalog #103742AE)
VAM capabilities	No	Yes. MicroVAM plug-ins available
Optimum jumper storage location	Can be configured with storage	Can be configured with storage
Vertical cable guide	VCG available as separate item	VCG available as separate item

FMT Series Fiber Optic Panel

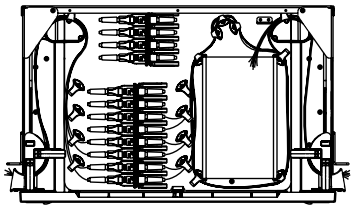
1 RU Fiber Termination/Splice Drawers with Adapters or Pigtails

Features

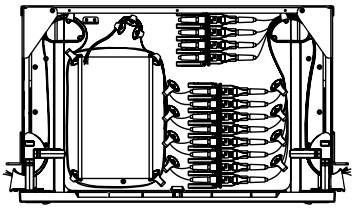
- Terminates and splices 12-, 16- or 24-fibers in an all front access design
- Mounts in 19- or 23-inch racks
- Sliding radius limiters provide cable management for incoming and outgoing fibers
- Panels loaded with pigtails come with color-coded 900 µm pigtails



1 RU 12-Termination/Splice Drawer
(Right Splice Entry)

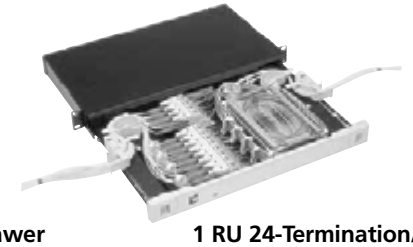


1 RU 24-Termination/Splice Drawer
(Right Splice Entry)



1 RU 24-Termination/Splice Drawer
(Left Splice Entry)

1 RU 12-Termination/Splice Drawer
(Right Splice Entry)



1 RU 24-Termination/Splice Drawer
(Right Splice Entry)

Catalog Number

FMT - ___ ___ 0 0 ___ ___ - A ___ P

Cable Entry

D	Front Entry
J	Rear Entry

Drawer Configuration

TL	Term splice with splice tray (left splice entry)
TR	Term splice with splice tray (right splice entry)
TU	Term splice with splice tray (universal splice entry - rear entry only)

Connector and Adapter Type

Multimode	
9	SC
6	LC
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish
Z	LC angled polish

Number of Ports

12	12 ports
16	16 ports
24	24 ports

Lock Type

0	No lock
1	Lock, key type #1

Chip Type (mini splice tray)

0	N/A
2	Heat shrink (single fiber fusion)
3	Mechanical (mass fusion)

Pigtail or Adapter Type

A	Adapter-only
C	Multimode stranded pigtails (50/125 µm)
K	Multimode stranded pigtails (62.5/125 µm)
U	Singlemode stranded pigtails
R	Singlemode ribbon pigtails

All 19- or 23-inch mounting brackets are reversible and can mount in EIA and WECO racks.

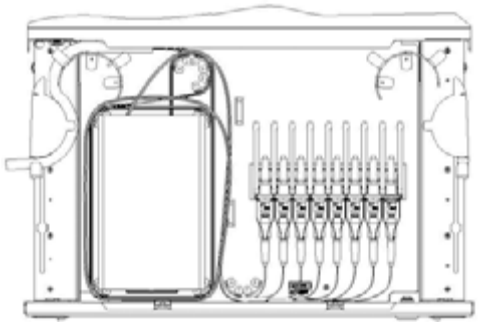
Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FMT Series Fiber Optic Panel

2 RU Fiber Termination/Splice Drawers with Adapters or Pigtails

Features

- Terminates and splices 48-fibers in an all-front-access design
- Mounts in 19- or 23-inch racks
- Sliding radius limiters provide cable management for incoming and outgoing fibers
- Panels loaded with pigtails come with color-coded 900 µm pigtails



2 RU 48-Termination/Splice Drawer

Catalog Number

FMT-GTL 0 __ 0 __ __ __ - A48 P

Connector and Adapter Type

Multimode	
9	SC
6	LC
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish
Z	LC angled polish

Lock Type

0	No lock
1	Lock, key type #1

Chip Type

0	No splice tray
2	Heat shrink (single fiber fusion)
3	Mechanical (mass fusion)

Pigtail or Adapter Type

A	Adapter-only
C	Multimode stranded pigtails (50/125 µm)
K	Multimode stranded pigtails (62.5/125 µm)
U	Singlemode stranded pigtails
R	Singlemode ribbon pigtails

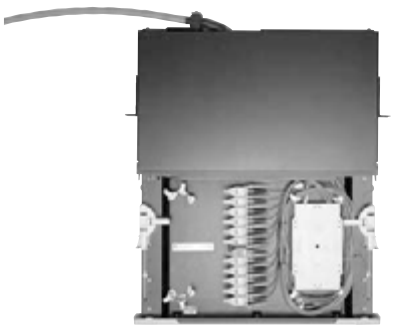
Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

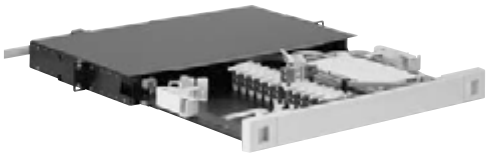
FMT Series Fiber Optic Panel

1 RU Fiber Termination Drawers with Multifiber Cable (Preterminated)

Features

- Allows for termination of a 24-fiber cable preterminated with IFC or OSP and shipped attached to the panel
- Minimizes installation time and expense





1 RU 24-Position Termination Drawer with Multifiber Cable (IFC or OSP)

Catalog Number

FMT - __ N 2 __ __ __ __ __ - A 24 P

Cable Entry

D	Front entry
J	Rear entry

Cable Type

Multimode	
Y	IFC stranded 50/125 µm riser
C	IFC stranded 62.5/125 µm riser
Singlemode	
A	IFC stranded riser
M	IFC ribbon riser
L	OSP armored ribbon

Connector and Adapter Type

Multimode	
9	SC
6	LC
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish
Z	LC angled polish

Lock Type

0	No lock
1	Lock, key type #1

Cable Length

008	8 m (25')
016	16 m (50')
023	23 m (75')
031	31 m (100')
039	39 m (125')
046	46 m (150')
061	61 m (200')
077	77 m (250')
092	92 m (300')
122	122 m (400')
153	153 m (500')

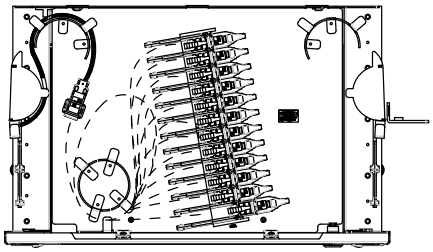
Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FMT Series Fiber Optic Panel

2 RU Fiber Termination Drawers with Multifiber Cable (Preterminated)

Features

- Provides termination for 72- or 96-fibers preterminated with IFC or OSP multifiber cable
- Mounts in 19- or 23-inch racks
- Sliding radius limiters provide cable management for incoming and outgoing fibers



2 RU 72-Termination Drawer with Multifiber Cable (IFC or OSP)

Catalog Number

FMT-GN7 ___ ___ ___ ___ - A ___ P

Cable Type

Multimode	
Y	IFC stranded 50/125 µm riser
C	IFC stranded 62.5/125 µm riser
Singlemode	
A	IFC stranded riser
M	IFC ribbon riser
L	OSP armored ribbon

Connector and Adapter Type

Multimode	
9	SC
6	LC
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish
Z	LC angled polish

Number of Ports

72	72 ports
96	96 ports (LC connectors only)

Lock Type

0	No lock
1	Lock, key type #1

Cable Length

008	8 m (25')
016	16 m (50')
023	23 m (75')
031	31 m (100')
039	39 m (125')
046	46 m (150')
061	61 m (200')
077	77 m (250')
092	92 m (300')
122	122 m (400')
153	153 m (500')

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

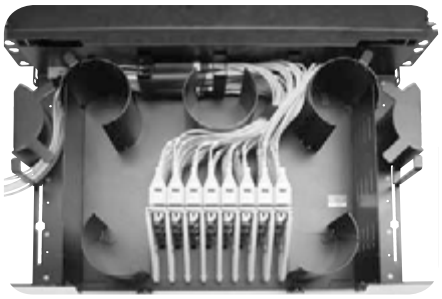
FMT Series Fiber Optic Panel

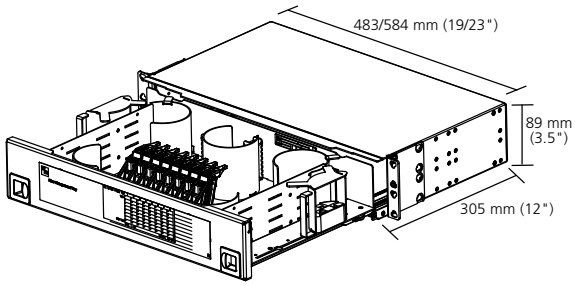
2 RU Fiber Termination Drawers with MPO Connectors

Active equipment manufacturers are increasingly building DWDM transceivers that use the multifiber MPO connector. While the MPO provides a compact interface on the transceiver card, most service providers require single-circuit access. This creates the need for a conversion from the multifiber MPO to a single-fiber connector. TE's Fiber Management Tray (FMT) is a compact two rack-unit termination panel that features industry-leading cable management and TE's sliding adapter packs, thereby enabling safe single-circuit access. The FMT can also be configured with high-quality MPO to LC breakout cables that provide the connectivity between the DWDM transceiver and the FMT panel.

Features

- Low-loss MPO to LC breakout cables enable test access points for each card, provide single-circuit access for moves, adds or changes and high-quality terminations induce minimum insertion loss in circuit
- Total front access termination drawer allows quick and easy connection between active equipment and fiber distribution frame line-up
- Industry-leading cable management protects bend radius, provides clean and organized cable routing pathways and protects traffic-carrying fiber from physical damage
- Sliding adapter packs grouped into counts of eight LC adapters allow access to each individual fiber from one card, eliminating the possibility of disturbing adjacent fibers
- Panel provides a demarcation point for MPO
- MPO insertion loss (1310 and 1550 nm): 0.5 dB maximum; 0.2 dB typical
- MPO return loss (1310 and 1550 nm): -65 dB minimum
- LC insertion loss (1310 and 1550 nm): 0.3 dB maximum; 0.1 dB typical
- LC return loss (1310 and 1550 nm): -55 dB minimum





FMT 2 RU Empty Panel

Ordering Information

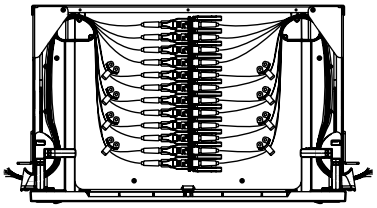
Description	Catalog Number
2 RU termination panel with MPO connectors	
80-position panel loaded with MPO to LC/UPC assemblies (8-fiber female APC MPO to 64-LC terminations)	FMT-GM7B808F0-A80P
64-position panel loaded with MPO to LC/UPC assemblies (8-fiber female APC MPO to 64-LC terminations)	FMT-GM7B808F0-A64P
2 RU termination panel with adapters-only	
64-position panel loaded with LC/UPC adapters	FMT-GM7B80A00-A64P
80-position panel loaded with LC/UPC adapters	FMT-GM7B80A00-A80P
Cable assembly	
MPO to LC/UPC cable assembly (8-fiber female APC MPO); 2 meters long	MRE-AF/OKBA1.7M11

FMT Series Fiber Optic Panel

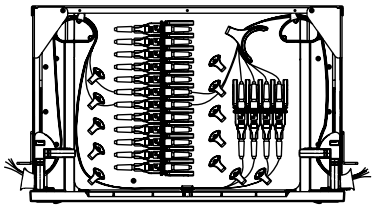
1 RU Adapter-Only Fiber Termination Drawers

Features

- Provides termination for 24- or 32-fibers in an all-front-access design
- Mounts in 19- or 23-inch racks
- Sliding radius limiters provide cable management for incoming and outgoing fibers



1 RU 24-Termination Adapter-Only Drawer



1 RU 32-Termination Adapter-Only Drawer

Catalog Number

FMT- __ R T 0 __ 0 A 0 __ - A ___ P

Cable Entry

D	Front Entry
J	Rear Entry

Connector and Adapter Type

Multimode	
9	SC
6	LC
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish
Z	LC angled polish

Number of Ports

24	24 ports
32	32 ports

Lock Type

0	No lock
1	Lock, key type #1

All 19- or 23- inch mounting brackets are reversible and can mount in EIA or WECO racks.

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

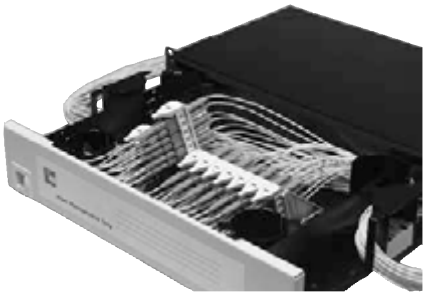
FMT Series Fiber Optic Panel

2 RU Adapter-Only Fiber Termination Drawers

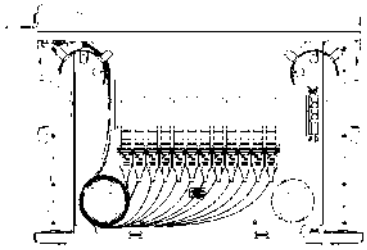
Features

- Provides termination for 72- or 96-fibers in an all-front-access design
- Mounts in 19- or 23-inch racks
- Sliding radius limiters provide cable management for incoming and outgoing fibers

2 RU 72-Termination Adapter-Only Drawer



Sliding Adapter Pack Shown in Access Position



Catalog Number

FMT-GRT0 __ 0 A 0 __ - A ___ P

Connector and Adapter Type

Multimode	
9	SC
6	LC
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish
Z	LC angled polish

Number of Ports

72	72 ports
96	96 ports (LC connectors only)

Lock Type

0	No lock
1	Lock, key type #1

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

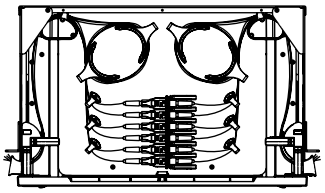
FMT Series Fiber Optic Panel

1 RU Fiber Termination/Storage Drawers

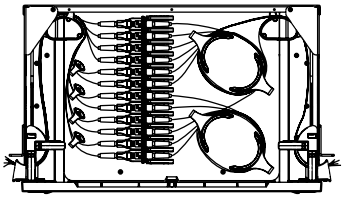
Features

- Terminates and stores 12- or 24-fibers in an all-front-access design
- Mounts in 19- or 23-inch racks
- Sliding radius limiters provide cable management for incoming and outgoing fibers

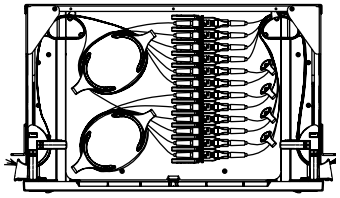
1 RU 12-Termination/Storage Drawer
(Universal Storage)



1 RU 12-Termination/Storage Drawer
(Universal Storage)



1 RU 24-Termination/Storage Drawer
(Right Storage)



1 RU 24-Termination/Storage Drawer
(Left Storage)

Catalog Number

FMT- ____ 0 __ 0 A 0 __ - A ____ P

Cable Entry

D	Front entry
J	Rear entry

Drawer Configuration

SL	Termination/storage (left storage)
SR	Termination/storage (right storage)
ST	Termination/storage (universal storage)

Connector and Adapter Type

Multimode	
9	SC
6	LC
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish
Z	LC angled polish

Number of Ports

12	Available with ST drawer configuration only
24	Available with SR and SL drawer configurations only

Lock Type

0	No lock
1	Lock, key type #1

All 19- and 23-inch mounting brackets are reversible and can mount in EIA and WECO racks.

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

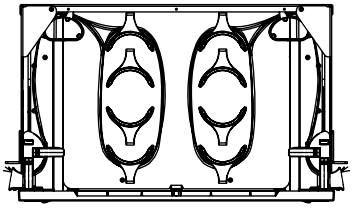
FMT Series Fiber Optic Panel

1 RU Slack Storage Drawers

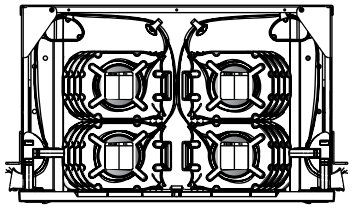
Features

- Offers bulk storage for up to 60 fibers and discrete slack storage for up to 16 fibers
- All-front-access drawer mounts in 19- or 23-inch racks
- Sliding radius limiters provide cable management for incoming and outgoing fibers

Bulk Storage Drawer



Discrete Storage Drawer



	Capacity		
Slack storage type	**3.0 mm cable**	**2.0 mm cable**	**1.7 mm cable**
Bulk	32 cables, 2.5 m each	48 cables, 2.5 m each	60 cables, 4 m each
Discrete	16 cables, 1.7 m each	16 cables, 2 m each	16 cables, 2.5 m each

Catalog Number

FMT - D ___ 0 0 0 00 __ - A 00 P

Drawer Configuration

BS	Bulk storage
DS	Discrete storage

Lock Type

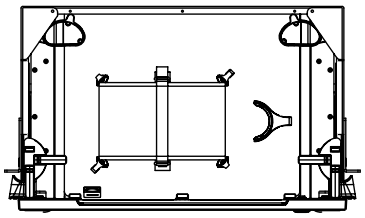
0	No lock
1	Lock, key type #1

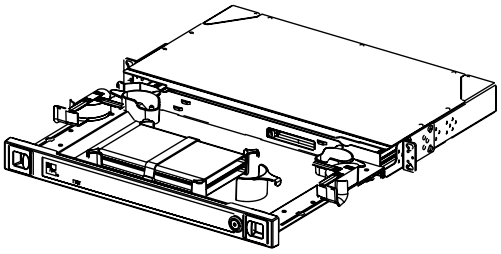
All 19- and 23-inch mounting brackets are reversible and can mount in EIA and WECO racks.

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FMT Series Fiber Optic Panel

1 RU Splice Drawers





1 RU Splice-Only Drawer

Catalog Number

FMT - DAS0000 ___ ___ - A ___ ___ P

Splice Type

0	None
2	Heat shrink (single fiber fusion)
3	Mechanical (mass fusion)

Lock Type

0	No lock
1	Lock, key type #1

Drawer Capacity

12	1 splice tray
24	2 splice trays

All 19- and 23-inch mounting brackets are reversible and can mount in EIA and WECO racks.

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FMT Series Fiber Optic Panel

2 RU Value-Added Module (VAM) MicroVAM Chassis

The FMT MicroVAM chassis accommodates MicroVAM modules. The MicroVAM module is TE's highest density and most versatile VAM module.

Single MicroVAMs Shown in Access Position

2 RU FMT with Single MicroVAMs

1 RU FMT with Single MicroVAMs

Ordering Information

Description	Dimensions (HxWxD)	Catalog Number
2 RU FMT MicroVAM chassis, unloaded; accommodates up to 12 single MicroVAMs for monitoring optical signals	89 mm x 483 mm/584 mm x 244 mm (3.5" x 19"/23" x 9.6")	FMT-GVM000000-A72P
1 RU FMT MicroVAM chassis, unloaded; accommodates up to 4 single MicroVAMs for monitoring optical signals	44 mm x 483 mm/584 mm x 244 mm (1.75" x 19"/23" x 9.6")	FMT-DVS000000-E00B

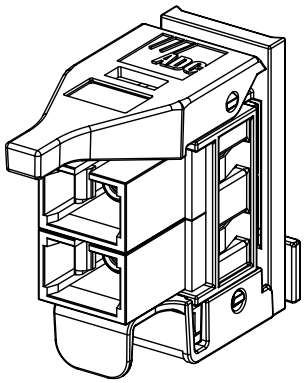
Value-Added Module (VAM) System

TE offers an expansive line of monitor, splitter, WDM and CWDM VAM plug-in modules designed to meet all application needs. Please reference the **Value-Added Module (VAM) System Catalog #101663AE** for details at www.te.com or contact TE Customer Service.

FMT Series Fiber Optic Panel
1 RU Drawer Accessories

Sliding Adapter Pack

Sliding adapter packs house groups of fiber optic adapters and are mounted in fiber termination panels to provide easy access to connectors. Sliding adapter packs are available with SC, FC and LC adapters. A 2-position sliding adapter pack for a 1 RU FMT is shown to the right.



Sliding Adapter Pack

Ordering Information

Description	Catalog Number
Multimode	
SC	FMT-2SAP09
LC	FMT-2SAP06
Singlemode	
SC ultra polish	FMT-2SAP07
SC angled polish	FMT-2SAP0J
FC ultra polish	FMT-2SAP02
LC ultra polish	FMT-2SAP08
LC angled polish	FMT-2SAP0Z

Mini Splice Tray

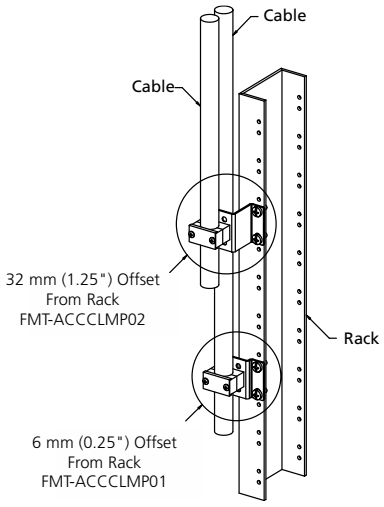
For use with splicing configurations in the 1 RU FMT.

Ordering Information

Description	Catalog Number
Bare fusion	FL1-M-FT
Heat shrink (single fiber fusion)	FL1-M-HS
Mechanical (mass fusion)	FL1-M-MT

Wall Mount Kit, Cable Clamp Kit and Vertical Cable Guide

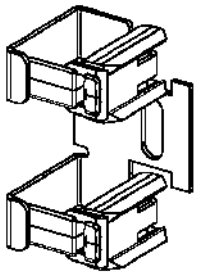
The cable clamp kit provides a means of securing cable entering the drawer. The wall mount kit is required for wall mount applications. Vertical cable guide safely routes fiber cable on the frame.



Cable Clamp Kit

Ordering Information

Description	Catalog Number
Wall mount kit	FMT-ACCWLMT01
Cable clamp kits	
6 mm (0.25") offset from frame	FMT-ACCCLMP01
32 mm (1.25") offset from frame	FMT-ACCCLMP02
Vertical cable guide (VCG)	FMT-ACCVCG01P



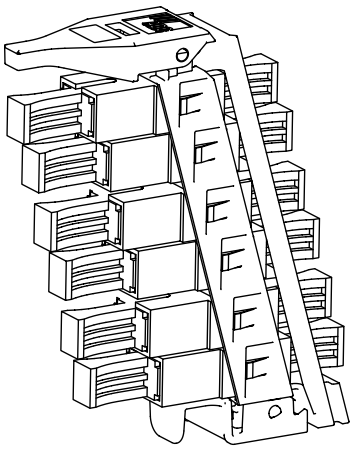
Vertical Cable Guide

FMT Series Fiber Optic Panel

2 RU Drawer Accessories

Sliding Adapter Pack

Sliding adapter packs house groups of fiber optic adapters and are mounted in fiber termination panels to provide easy access to connectors. Sliding adapter packs are available with SC, FC and LC adapters. Adapters are preinstalled in the sliding adapter pack as shown to the right.



Sliding Adapter Pack

Ordering Information

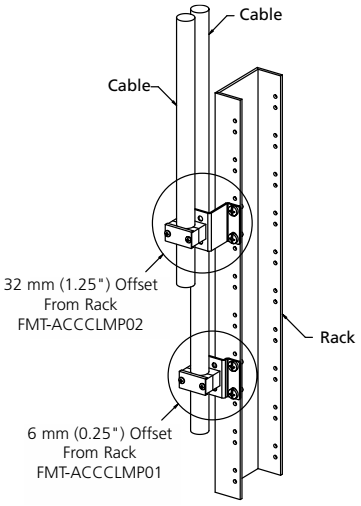
Description	Catalog Number
Multimode	
SC	FMT-6SAP09
LC 6 pack	FMT-6SAP06
LC 8 pack	FMT-8SAP06
Singlemode	
SC ultra polish	FMT-6SAP07
SC angled polish	FMT-6SAP0J
LC ultra polish 6 pack	FMT-6SAP08
LC angled polish 6 pack	FMT-6SAP0Z
LC ultra polish 8 pack	FMT-8SAP08
LC angled polish 8 pack	FMT-8SAP0Z

Mini Splice Tray

For use with splicing configurations in the 2 RU FMT.

Ordering Information

Description	Catalog Number
Bare fusion	FST-M-FT
Heat shrink (single fiber fusion)	FST-M-HS
Mechanical (mass fusion)	FST-M-MT



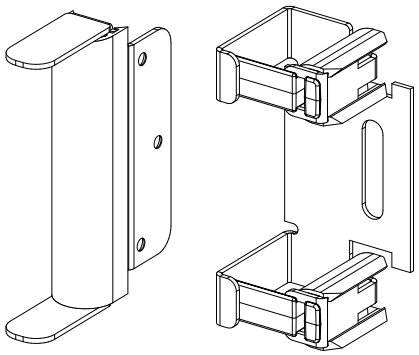
Cable Clamp Kit

Cable Clamp Kit and Vertical Cable Guide

The cable clamp kit provides a means of securing cable entering the drawer. Vertical cable guide safely routes fiber cable on the frame.

Ordering Information

Description	Catalog Number
Cable clamp kit	
6 mm (0.25") offset from frame	FMT-ACCCLMP01
32 mm (1.25") offset frame	FMT-ACCCLMP02
Vertical cable guide (VCG)	FMT-ACC21P

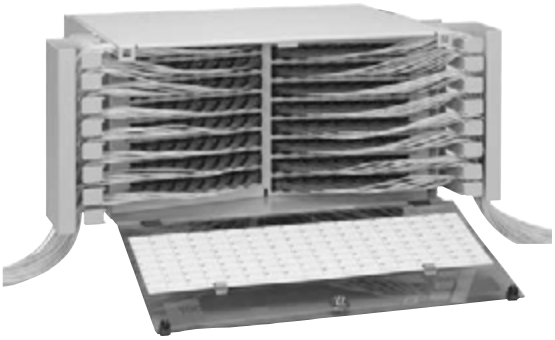


Vertical Cable Guide

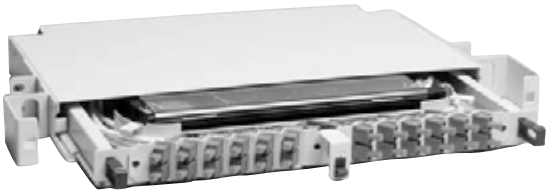
Ordering Information for Patch Cords and Attenuators

TE Connectivity offers a comprehensive line of cable assembly and accessory products including patch cords, IFC assemblies, attenuators, FasTerm® connectors and adapters to meet the demanding needs of today's network. Please refer to the **Fiber Cable Assemblies Catalog #102880AE** at www.te.com for more detailed information. For your convenience, ordering information for patch cords and attenuators can also be found on pages 80-85.

FPL Series Fiber Optic Panel
Introduction



5 RU 144-Position Panel



1 RU 24-Position Panel

TE Connectivity's FPL series provides industry-leading fiber cable protection and management. The panel utilizes an internal splicing system that creates a compact, feature-rich, high-density solution. FPL achieves densities of 48-fiber terminations/splices in 1 RU (1.75") and 288-terminations/splices in 5 RU (8.75") using LC connectors. These densities are attained while utilizing TE Connectivity's angled adapters to ease cable access, protect bend radius and provide individual fiber access. Vertical cable guides on either side of the panel allow for managed routing and protection of the fiber entering and exiting the panel. The FPL's wide range of features and options are designed for your networks' growing needs.

Panels are equipped with adjustable mounting brackets to provide either 19- or 23-inch rack mounting with either four- or five-inch recess mounting. The panel is available preterminated with pigtails or IFC cable to simplify ordering and reduce installation time. TE Connectivity's removable angled retainers allow for easy access for single fiber maintenance. Vertical cable guides on either side of the panel provide fiber routing and management of fibers exiting the panel. Using LC small-form-factor connectors doubles the capacity of each panel.

10/07 • 1037443AE

FPL Series Fiber Optic Panel
Introduction

Product Overview

Recommended Applications	High-density termination/splice panel solution. Often used in small wire closets or frames. Ideal for small to medium fiber counts.
Description	288-fiber terminations in 8.75" H or 48-fiber terminations in 1.75" H (LC connectors)
Number of fibers, future growth potential	12 to 288
Flexibility/ ability to grow	Yes
Interconnect	Ideal
Cross-connect	Yes
Accommodates on-frame splicing	Yes. Built-in
Accommodates off-frame splicing	Yes. IFC cable and assembly available
Rear access	Required on panels greater than 1 RU
All front access	No. (All panels are rear access with the exception of the 1 RU panel)
Customer premises application	Ideal
19" mounting	Yes
23" mounting	Yes
Cabinet mount	Not recommended. (See FMT)
Wall mount	No
Mix equipment with fiber product?	Ideal
Use as dedicated fiber frame	Not recommended. (See ODF catalog #103742AE)
VAM capabilites	No
Optimum jumper storage location	IMP or separate storage panel required
Vertical cable guide	Includes VCG on both sides

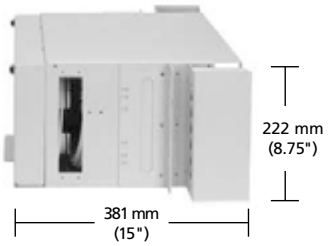
FPL Series Fiber Optic Panel

5 RU High-Density Termination and Splice Panels

Features

- Provides termination and splicing for up to 144 fibers (288 fibers with LC connectors) within an 8.75-inch height (5 RU)
- Rear flip-down splicing area uses standard splice trays and provides slack storage for OSP/IFC buffer tubes
- Angled bulkhead ensures ease of access to individual connectors
- Panel is equipped with six dual height splice trays
- Optional lock for front door (available separately)
- Removable front polycarbonate door
- Designation labels included with each panel
- Mounting brackets included with panel may be flipped to accommodate 19- or 23-inch mounting with either a four- or five-inch recess
- Maximum of three panels to be used within one frame, for a total of 432 terminations

5 RU Termination/Splice Panel
(Front View)



Side View
(Splicing Area Closed)

Top Cover Removed
(Splicing Area Open)

Side View
(Splicing Area Open)

Catalog Number

FPL-144 R __ 0 __ -_____ __ 0

Pigtail or Adapter Type

A	Adapter-only
P	Stranded pigtails and adapters
R	Ribbon pigtails and adapters

Connector and Adapter Type

Multimode*	
9	SC
6	LC[1]
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish[1]
Z	LC angled polish[1]

Splice Type

0	None (termination-only)[2]
1	Bare fusion
2	Heat shrink (single fiber fusion)
3	Mechanical (mass fusion)

Number of Ports Loaded

72	72 ports
144	144 ports
288	288 ports (with LC connectors)

*Standard multimode pigtails are 62.5/125 µm

[1] LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.

[2] Termination-only panels have a 12-inch depth, termination/splice panels have a 15-inch depth and splice trays cannot be added to termination-only panels.

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FPL Series Fiber Optic Panel

1 RU High-Density Termination and Splice Panels

Features

- Panels are only 1 RU (1.75-inch) high
- Up to 48 connections in 1 RU of space
- Available in 12- or 24-port termination-only or termination/splice within a single panel
- Using LC small-form-factor connectors doubles the capacity of each panel
- Angled left and right connectors allow easy cable routing from left and right
- Vertical cable guides on either side of the panel provide bend radius protection and management of fibers exiting or entering the panel
- Front entry/exit cable management
- Highly accessible splicing area that uses a drawer design
- Flexible mounting allows for use in 19- or 23-inch rack with either a four- or five-inch recess

1 RU Termination/Splice Panel

Catalog Number

FPL - ____ R __ 0 __ - ____ __ 0

Panel Capacity

12	12-position
1D	24-position

Pigtail or Adapter Type

A	Adapter-only
P	Stranded pigtails and adapters
R	Ribbon pigtails and adapters

Connector and Adapter Type

Multimode*	
9	SC
6	LC[1]
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish[1]
Z	LC angled polish[1]

Splice Type

0	None
2	Heat shrink (single fiber fusion)
3	Mechanical (mass fusion)

Number of Ports Loaded

12	12 ports
24	24 ports
48	48 ports (24 port panel with LC)

*Standard multimode pigtails are 62.5/125 µm.

[1] LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.

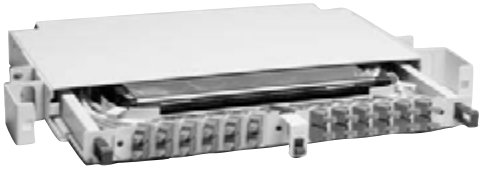
Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FPL Series Fiber Optic Panel

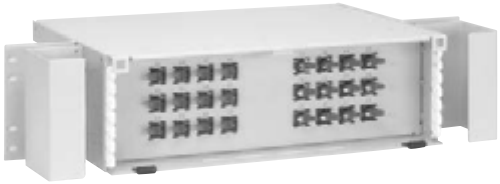
Fiber Termination/Splice Panels with Adapters or Pigtails

Features

- Available in 12-, 24-, 48-, 72-, 96-, 144- and 288-termination densities
- Provides termination and splice of pigtails as well as associated fiber/pigtail storage
- Rear splice area saves space by reducing panel height (1 RU versions use drawer splicing)
- Splice area provides up to a total of seven meters of slack storage for pigtails and OSP/IFC buffer tubes
- Optional lock for both front and rear doors available separately – (not available on 1 RU)
- Removable front polycarbonate door
- Designation labels included with each panel
- Mounting brackets included with panel may be flipped to accommodate 19- or 23-inch mounting with either four- or five-inch recess

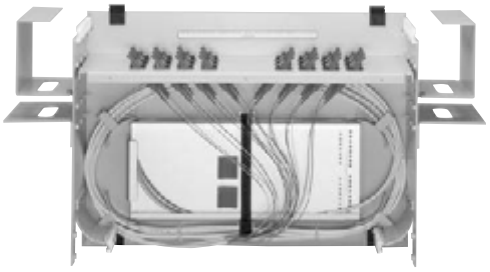


12-Position Termination/Splice Panel
(Front View with Drawer Open)



24-Position Termination/Splice Panel
(Front View)

24-Position Termination/Splice Panel
(Rear View)



24-Position Termination/Splice Panel
(Top Cover Removed with Pigtail Routing Shown)

See ordering information on following page.

FPL Series Fiber Optic Panel

Fiber Termination/Splice Panels with Adapters or Pigtails

Catalog Number

FPL- _____ R ___ 0 __ - _____ __ 0

Panel Capacity / Panel Height

12	12-position	1.75" (1 RU)
1D	24-position	1.75" (1 RU)
24	24-position	5.25" (3 RU)
48	48-position	8.75" (5 RU)
72	72-position	8.75" (5 RU)
96	96-position	8.75" (5 RU)
144	144-position	8.75" (5 RU)

Pigtail or Adapter Type

A	Adapter-only[2]
P	Stranded pigtails and adapters
R	Ribbon pigtails and adapters

Connector and Adapter Type

Multimode*	
9	SC
6	LC[1]
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
Z	LC angled polish[1]
8	LC ultra polish[1]

Splice Type

0	None
1	Bare fusion
2	Heat shrink (single fiber fusion)
3	Mechanical (mass fusion)

Number of Ports Loaded

12	12 ports
24	24 ports
48	48 ports
72	72 ports
96	96 ports
144	144 ports (use 72-position panel with LC connectors)
192	192 ports (use 96-position panel with LC connectors)
288	288 ports (use 144-position panel with LC connectors)

*Standard multimode pigtails are 62.5/125 µm.

[1] LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.

[2] 144-position panels loaded with adapters-only have a 12-inch depth. 144-position termination/splice panels have a 15-inch depth. Splice trays cannot be added to termination-only panels

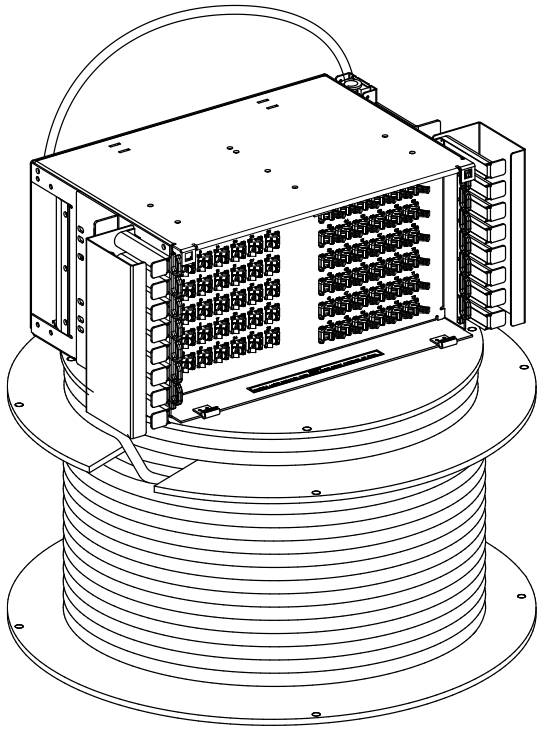
Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FPL Series Fiber Optic Panel

Fiber Termination Panels with Multifiber Cable (Preterminated)

Features

- Available in 12-, 24-, 48-, 72-, 96-, 144- and 288- (LC connectors only) termination densities
- Preterminated with factory-installed multifiber intrafacility cable (IFC) or outside plant (OSP) cable
- Panels with multifiber cable attached ship as a single unit with cable clamp installed
- Equipped with customer specified adapters, connectors, cable type and cable length
- Attached multifiber cable reduces installaton time and simplifies ordering process with a single part number
- Optional lock for both front and rear doors (available separately)
- Removable front polycarbonate door
- Designation labels included with each panel
- Mounting brackets included with panel may be flipped to accommodate 19- or 23-inch mounting with either four- or five-inch recess



72-Position Panel with IFC

See ordering information on following page.

FPL Series Fiber Optic Panel

Fiber Termination Panels with Multifiber Cable (Preterminated)

Catalog Number

FPL- ____ ____ / ____ ____ ____ ____ ____ ____

A B

Panel Capacity / Panel Height

12	12-position	1.75" (1 RU)
1D	24-position	1.75" (1 RU)
24	24-position	5.25" (3 RU)
48	48-position	8.75" (5 RU)
72	72-position	8.75" (5 RU)
96	96-position	8.75" (5 RU)
144	144-position	8.75" (5 RU)

Panel Type

S	Singlemode
M	Multimode

Near End (A)/Far End (B) Connector and Adapter Type

0	Stub
Multimode	
9	SC
6	LC[1]
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish[1]
Z	LC angled polish[1]

[1] LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.

Cable Length

008	8 m (25')
016	16 m (50')
023	23 m (75')
031	31 m (100')
039	39 m (125')
046	46 m (150')
061	61 m (200')
077	77 m (250')
092	92 m (300')
122	122 m (400')
153	153 m (500')

Cable Exit Direction

U	Up
D	Down

Cable Type

Multimode	
Y	IFC stranded 50/125 µm riser
C	IFC stranded 62.5/125 µm riser
Singlemode	
A	IFC stranded riser
M	IFC ribbon riser
L	OSP armored ribbon 24 fibers and up

Cable Size

1	12
2	24
4	48
7	72
9	96
A	144
H	2 x 144 (144-position panel with LC connectors)

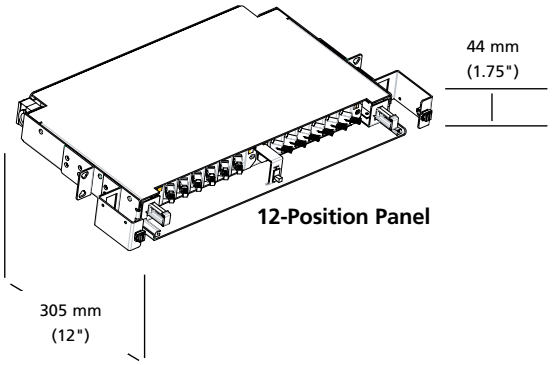
Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FPL Series Fiber Optic Panel

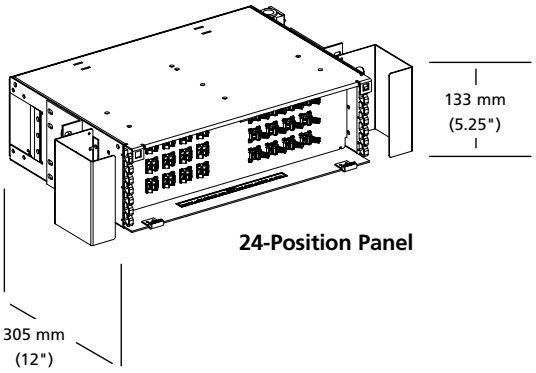
Fiber Termination Panels with Adapters or Pigtails

Features

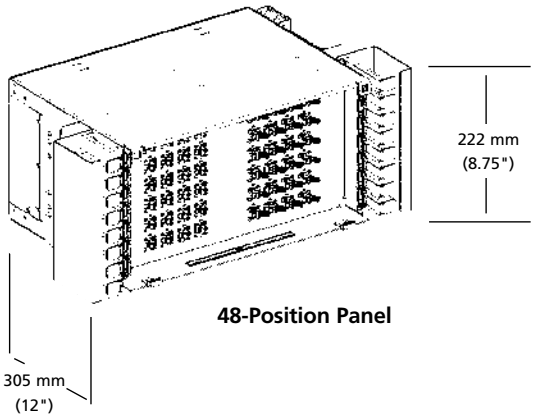
- Available in 12-, 24-, 48-, 72-, 96-, 144- and 288-termination densities
- Density doubles with use of LC connectors
- Panel may be ordered with adapters only for a termination-only interconnect solution
- Panel may be ordered with 3.5 m pigtails for use with splice and storage panels
- Rear panel pigtail storage
- Optional lock for both front and rear doors (not available for 1 RU)
- Removeable front polycarbonate door
- Designation labels included with each panel
- Mounting brackets included with panel can flip to accommodate 19- or 23-inch mounting with either four- or five-inch recess



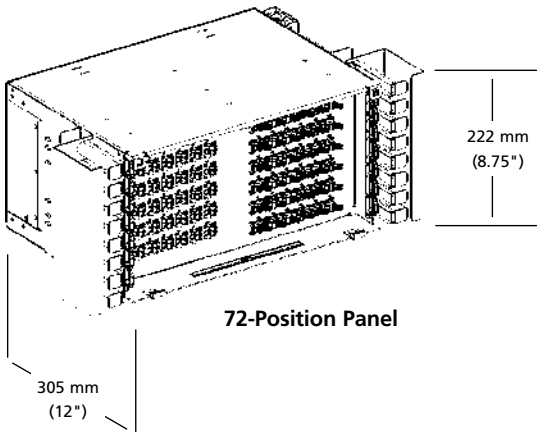
12-Position Panel



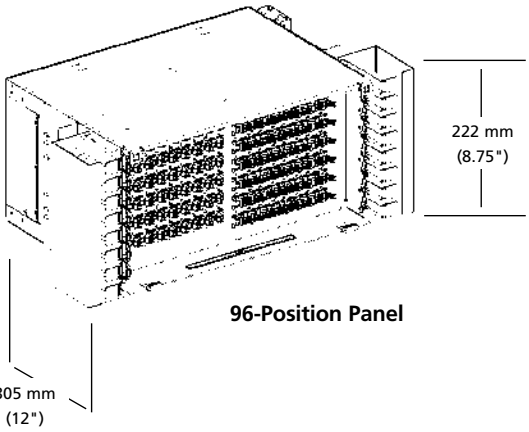
24-Position Panel



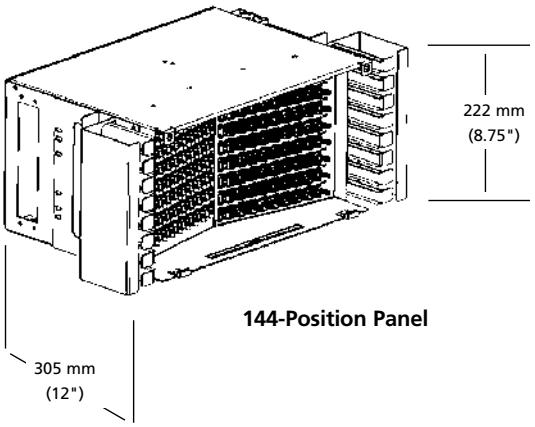
48-Position Panel



72-Position Panel



96-Position Panel



144-Position Panel

See ordering information on following page.

FPL Series Fiber Optic Panel

Fiber Termination Panels with Adapters or Pigtails

Catalog Number

FPL- _____ R __ 0 __ - _____ 0 0

Panel Capacity / Panel Height

12	12-position	1.75" (1 RU)
1D	24-position	1.75" (1 RU)
24	24-position	5.25" (3 RU)
48	48-position	8.75" (5 RU)
72	72-position	8.75" (5 RU)
96	96-position	8.75" (5 RU)
144	144-position	8.75" (5 RU)

Pigtail or Adapter Type

A	Adapter-only
P	Stranded pigtails and adapters
R	Ribbon pigtails and adapters

Number of Ports Loaded

06	6 ports
12	12 ports
24	24 ports
48	48 ports
72	72 ports
96	96 ports
144	144 ports
192	192 ports (96 port panel with LC connectors)
288	288 ports (144 port panel with LC connectors)

Connector and Adapter Type

Multimode*	
9	SC
6	LC[1]
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish[1]
Z	LC angled polish[1]

*Standard multimode pigtails are 62.5/125 µm.

[1]LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.

Ordering Example: FPL-144RP08-28800 specifies a 5 RU panel, 144-positions and 288 fibers/terminations with LC connectors only.

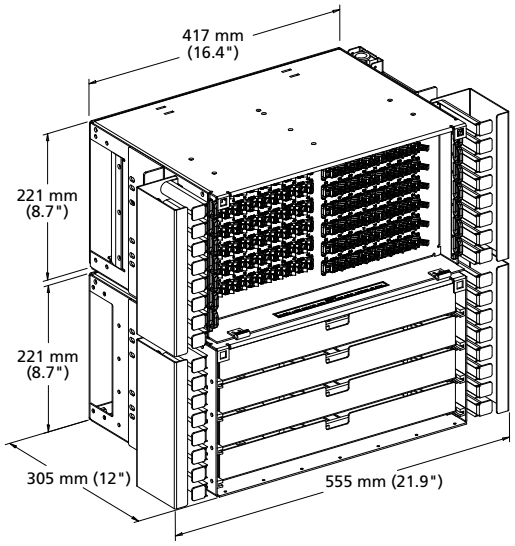
Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FPL Series Fiber Optic Panel

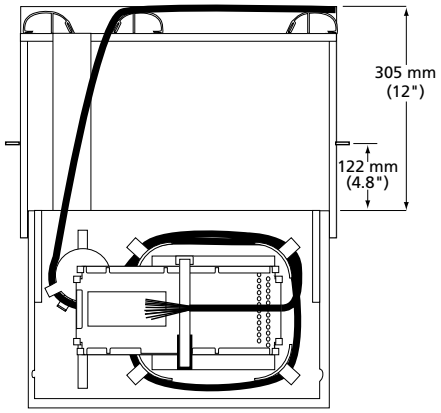
Splice and Storage Drawers

Features

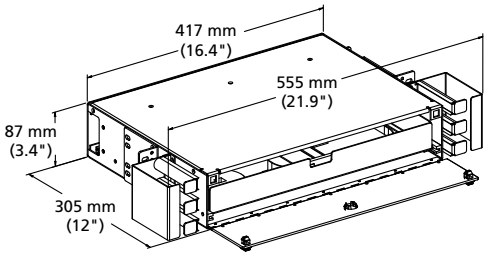
- Available in 24-, 48-, 72- and 96-splice densities. Each drawer provides splicing and storage functions
- Each splice drawer accommodates one dual (24-fibers/tray) or two single (12-fibers/tray) splice trays
- Occupies same footprint as FPL termination-only panels
- Splice trays sold separately
- Hinged transparent front door protects storage drawers and cables from damage during routine activity at or near the panel
- Mounting brackets included with panel can flip to accommodate 19- or 23-inch mounting with either four- or five-inch recess
- Designation labels included with each panel



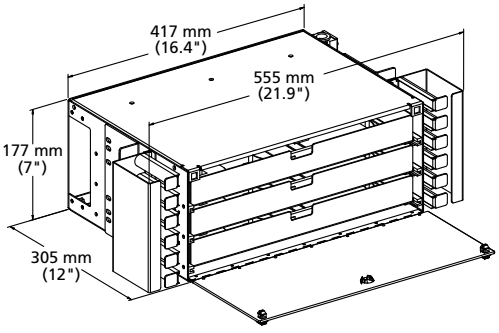
96-Position Termination Panel
(With FPL-SR2000 Mounted Below)



FPL-SR2000
(Top View with Drawer Open)



FPL-SR2024



FPL-SR2072

Ordering Information

Description	Catalog Number
24-fiber splice drawer, rack mount	FPL-SR2024
48-fiber splice drawer, rack mount	FPL-SR2048
72-fiber splice drawer, rack mount	FPL-SR2072
96-fiber splice drawer, rack mount	FPL-SR2000

FPL Series Fiber Optic Panel
Panel Accessories

Splice Tray

For use with FPL termination/splice panels.

Panel Size	Splice Tray Type	Number of Splice Trays Included for a Fully Loaded Panel
12 (1 RU)	Single Height	1
24 (1 RU)	Dual Height	1
24 (3 RU)	Single Height	2
48 (5 RU)	Dual Height	2
72 (5 RU)	Dual Height	3
96 (5 RU)	Dual Height	4
144 (5 RU)	Dual Height	6

Splice Tray

Ordering Information

Description	Splice Tray Type	Splice Quantity	Catalog Number
12-position splice tray			
Bare fusion	Single height	12	FST-FT
Heat shrink (single fiber fusion)	Single height	12	FST-HS
Mechanical	Single height	12	FST-MT
24-position splice tray			
Bare fusion	Dual height	24	FST-D-FT
Heat shrink (single fiber fusion)	Dual height	24	FST-D-HS
Mechanical (mass fusion)	Dual height	24	FST-D-MT

Miscellaneous Accessories

Ordering Information

Description	Catalog Number
Lock	
Key lock #1	IPA-K1
Key lock #2	IPA-K2
Screwdriver lock	IPA-SC
Cable clamp kit; kit of 1 Outer diameter 5 mm to 20 mm (0.2" to 0.8")	FL2-ACC007

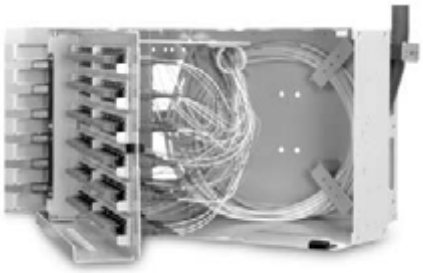
Ordering Information for Patch Cords and Attenuators

TE Connectivity offers a comprehensive line of cable assembly and accessory products including patch cords, IFC assemblies, attenuators, FasTerm® connectors and adapters to meet the demanding needs of today's network. Please refer to the **Fiber Cable Assemblies Catalog #102880AE** at www.te.com for more detailed information. For your convenience, ordering information for patch cords and attenuators can also be found on pages 80-85 .

FL2000 Series Fiber Optic Panel

Introduction

Single Fiber Access



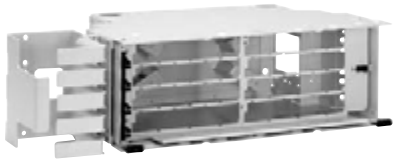
Swing-out Bulkhead
(Allows Full Access)

The FL2000 system is a flexible and modular series of fiber products for today's and tomorrow's evolving communications and data networks.

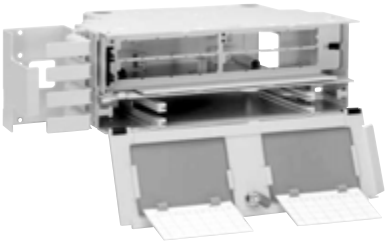
This product family is a complete line of modular panels developed for rack and wall mounting. The system is fully adaptable to small distribution frames, telephone closet (TC) applications, or active equipment racks. FL2000 panels are designed for both 19- and 23-inch EIA rack or cabinet environments. FL2000 products provide termination, splicing and storage capabilities for in-building cables, outside plant cables and fiber optic terminal (FOT) equipment.

FL2000's modular design offers maximum flexibility to satisfy current needs and future growth requirements. A full line of options and accessories ensures compatibility with existing optical equipment. FL2000 panels accommodate value-added module (VAM) plug-ins, adding flexibilty and functionality to the optical transport system. Splitters, wavelength division multiplexers (WDMs) and other optical components can easily be incorporated. All FL2000 panels accommodate 6pak adapters. 6paks are available in all connector styles and can be ordered as needed. TE's removable angled retainers allow easy access for single fiber maintenance.

FL2000 panels feature superior vertical cable protection and management. Rack mount panels are hinged on one side, allowing full access to the rear of the front bulkhead plate and the interior of the panel. They come equipped with mounting brackets to provide five-inch recess mounting. Mounting brackets are available for virtually any mounting application. Rack mount panels can be wall mounted as well. The FL2000 splice wheel allows easy storage of pigtail and buffer tube lengths and superior bend radius protection. The FL2000 splice deck is available to complete existing installations.



Rack Mount Termination Panel
(Empty)



Rack Mount Termination/Splice Panel
(Empty)

Rack Mount Termination Panel
(With IFC)

FL2000 Series Fiber Optic Panel
Introduction

Product Overview

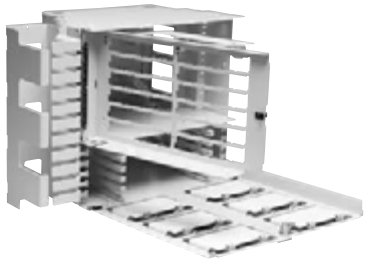
Recommended Applications	Multi-purpose modular solution ideal for cabinet, rack, wall mount or medium size frame applications. Ideal for small to medium fiber counts.
Description	Termination, termination/splice, storage, splice-only
Number of fibers, future growth potential	12 to 96 (up to 192 with LC connectors)
Flexibility/ ability to grow	Ideal for growth
Interconnect	Yes
Cross-connect	Yes
Accommodates on-frame splicing	Yes. Built-in
Accommodates off-frame splicing	Yes. IFC cable and assembly available
Rear access	Not required
All-front-access	Yes
Customer premises application	Ideal
19" mounting	Yes
23" mounting	Yes
Cabinet mount	Yes
Wall mount	Yes
Mix equipment with fiber product?	Ideal
Use as dedicated fiber frame	Up to 400-fibers only. (See ODF catalog #103742AE)
VAM capabilites	Yes
Optimum jumper storage location	Can be configured with storage
Vertical cable guide	Ships with every panel

FL2000 Series Fiber Optic Panel

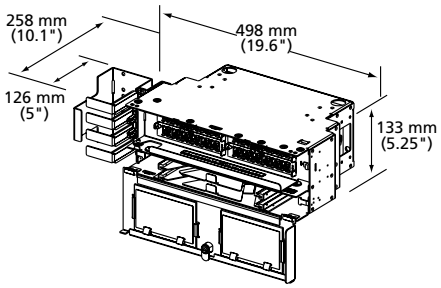
Fiber Termination/Splice Panel with Adapters or Pigtails

Features

- Termination and splice panel
- VCG ships with each panel
- Uses TE's splice deck or splice wheel
- Uses FL2000 6paks with angled retainers



72-Position Termination/Splice Panel
(Shown Empty)



24-Position Termination/Splice Panel

Catalog Number

FL2 - C 0 -

Panel Capacity / Panel Height

1	12-position	3.5" (2 RU)
2	24-position	5.25" (3 RU)
4	48-position	8.75" (5 RU)
7	72-position	14" (8 RU)
9	96-position	17.5" (10 RU)

Number of Ports Loaded

Connector and Adapter Type

Multimode	
9	SC
6	LC[1]
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish[1]
B	LC angled polish[1]

Pigtail or Adapter Type[2]

A	Adapter-only
P	Singlemode or multimode 62.5/125 µm stranded softwall bundle
R	Singlemode or multimode 62.5/125 µm 12-fiber ribbon
C	Multimode 50/125 µm stranded softwall bundle

Number of Splice Decks/Wheels

Mounting Style[3]

A	19" standard
C	19" flush mount
D	23" centered

Latch Type

0	Latch
5	K1 lock

Number of Cable Clamps

0	1 clamp (standard)
2	2 clamps

Splice Type

0	None or N/A
M	Mechanical (mass fusion)-wheel
W	Heat shrink fusion (single fiber fusion)-wheel
1	Bare fusion
2	Heat shrink fusion (single fiber fusion)-deck
3	Mechanical (mass fusion)-deck

[1] LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.
[2] 6-fiber softwall bundle except with LC connectors, which uses 12-fiber.
[3] Mounting kit shipped unattached if other than standard mounting style.

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FL2000 Series Fiber Optic Panel

Empty Termination/Splice Chassis

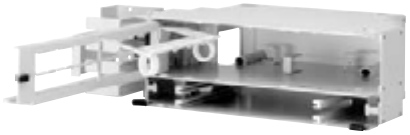
Features

- Mounting
  - 19-inch EIA racks or cabinets, standard five-inch recess
  - Wall mounting option available
  - Other mounting kits available
- Hinged on left front side for complete access to interior of termination section
- Ability to quickly and easily configure, utilizing the 6pak assemblies (ordered separately)
- Complete line of accessories including locks for security
- Uses **TE** splice wheels or splice decks
- Ships with vertical cable guide (VCG)

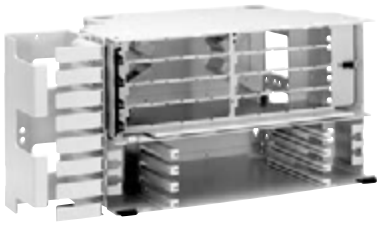
Fiber Chassis Data

- Fiber capacity*: 12, 24, 48, 72 & 96
- Termination
- Splice
- Pigtail storage

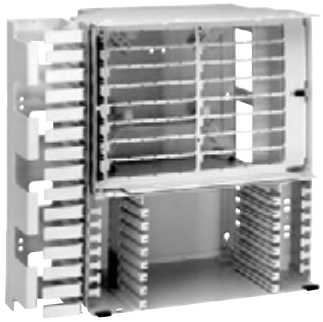
*Panels can double capacity with LC adapters.



24-Position Termination/Splice Chassis



48-Position Termination/Splice Chassis



96-Position Termination/Splice Chassis

Ordering Information

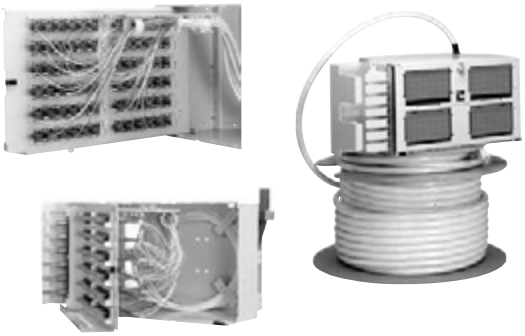
Description	Panel Height	Catalog Number
Empty termination/splice chassis; includes vertical cable guide (VCG)		
12-position	3.5" (2 RU)	FL2-12TS350
24-position	5.25" (3 RU)	FL2-24TS525
48-position	8.75" (5 RU)	FL2-48TS875
72-position	14" (8 RU)	FL2-72TS140
96-position	17.5" (10 RU)	FL2-96TS175
Splice wheel		
Heat shrink (single fiber fusion)		FST-DRS12-HS
Mechanical (mass fusion)		FST-DRS12-MT
Heat shrink (single fiber fusion)-24 fiber		FST-DRS24-HS
Bare fusion (24-fiber)		FST-DRS24-FT
Splice deck		
Heat shrink (single fiber fusion)		FL2-RSPLCE-HS
Mechanical (mass fusion)		FL2-RSPLCE-MT
Bare fusion		FL2-RSPLCE-FT

FL2000 Series Fiber Optic Panel

Fiber Termination Panels with Multifiber Cable (Preterminated)

Features

- Panels with preterminated multifiber cable (IFC or OSP) ship as a single unit with cable clamp installed
- Customizable panels come equipped with customer specified number of adapters, retainers, connectors, cable type and cable length
- Panels with multifiber cable attached save costly installation time



Termination Panels
(With Multifiber Cable)

Catalog Number

FL2 - ___ 0 ___ ___ ___ ___ - ___ ___ 0

Panel Type

S	Singlemode
M	Multimode

Panel Capacity / Panel Height

1	12-position	1.75" (1 RU)
2	24-position	3.5" (2 RU)
4	48-position	5.25" (3 RU)
7	72-position	8.75" (5 RU)
9	96-position	10.5" (6 RU)

Connector and Adapter Type

Multimode	
9	SC
6	LC[1]
Singlemode	
2	FC ultra polish
7	SC ultra polish
J	SC angled polish
8	LC ultra polish[1]
B	LC angled polish[1]

Cable Size

1	12
2	24
4	48
7	72
9	96
A	144 (LC connectors only with 72-position panel)

Latch Type

0	Latch
5	K1 Lock

Cable Exit Direction

U	Up
D	Down

Mounting Style[2]

A	19" standard
C	19" flush mount
D	23" centered

Cable Length

008	8 m (25')
016	16 m (50')
023	23 m (75')
031	31 m (100')
039	39 m (125')
046	46 m (150')
061	61 m (200')
077	77 m (250')
092	92 m (300')
122	122 m (400')
153	153 m (500')

Cable Type

Multimode	
C	IFC stranded 62.5/125 µm riser
Y	IFC stranded 50/125 µm riser
Singlemode	
A	IFC stranded riser
M	IFC ribbon riser
L	OSP armored ribbon (24-fibers and up)

[1] LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.
[2] Mounting kit shipped unattached, if other than standard mounting style.

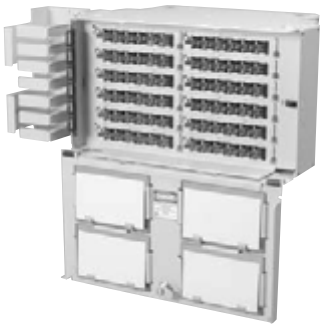
Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FL2000 Series Fiber Optic Panel

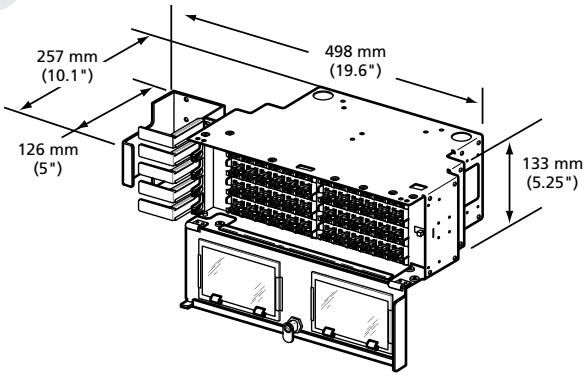
Fiber Termination Panels with Adapters or Pigtails

Features

- Termination-only panel
- VCG ships with each panel
- Uses FL2000 6paks with angled retainers



72-Position Termination Panel



48-Position Termination Panel

Catalog Number

FL2 - R 0 0 - 0 0

Panel Capacity / Panel Height

1	12-position	1.75" (1 RU)
2	24-position	3.5" (2 RU)
4	48-position	5.25" (3 RU)
7	72-position	8.75" (5 RU)
9	96-position	10.5" (6 RU)

Number of Ports Loaded

Connector and Adapter Type

Multimode	
9	SC
6	LC[1]
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish[1]
B	LC angled polish[1]

Pigtail or Adapter Type[2]

A	Adapter-only
P	Singlemode or multimode 62.5/125 µm stranded softwall bundle
R	Singlemode or multimode 62.5/125 µm 12-fiber ribbon
C	Multimode 50/125 µm stranded softwall bundle

Mounting Style[3]

A	19" standard
C	19" flush mount
D	23" centered

Latch Type

0	Latch
5	K1 lock

[1] LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.
[2] 6-fiber softwall bundle except with LC connectors, which uses 12-fiber.
[3] Mounting kit shipped unattached, if other than standard mounting style.

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FL2000 Series Fiber Optic Panel

Empty Termination Chassis

Features

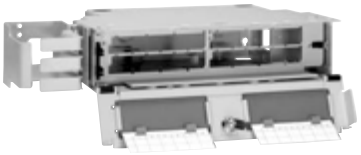
- Mounting
  - 19-inch EIA racks or cabinets, standard five-inch recess
  - Wall mounting option available
  - Other mounting kits available
- Hinged on left front side; allows full access to rear of front plate and interior of panel
- FL2000 6pak adapter plug-ins ordered separately
- Equipped with removable metal doors with Plexiglass®[1] windows
- Designation labels included with each panel
- Complete line of accessories including locks for security
- Ships with vertical cable guide (VCG)

Fiber Chassis Data

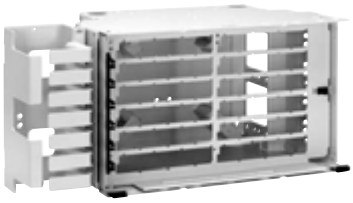
- Fiber capacity*: 12, 24, 48, 72 and 96
- Termination
- Pigtail storage

*Panels can double capacity with LC adapters.

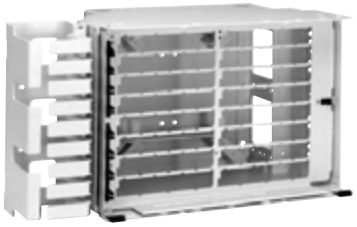
[1] Plexiglass is a registered trademark of Atoglas Division of Atofina Chemicals, Inc.



24-Position Termination Chassis



72-Position Termination Chassis



96-Position Termination Chassis

Ordering Information

Description	Panel Height	Catalog Number
Empty termination chassis		
12-position	1.75" (1 RU)	FL2-12RPNL
24-position	3.5" (2 RU)	FL2-24RPNL
48-position	5.25" (3 RU)	FL2-48RPNL
72-position	8.75" (4 RU)	FL2-72RPNL
96-position	10.5" (5 RU)	FL2-96RPNL

FL2000 Series Fiber Optic Panel

Slack Storage Solutions

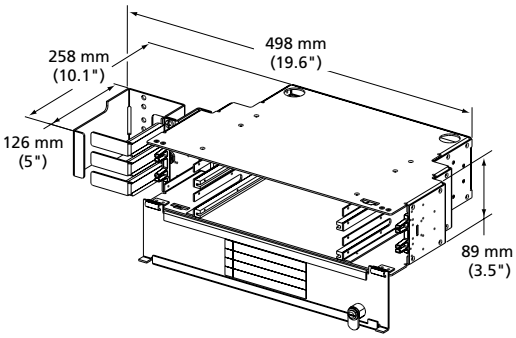
Storage Deck Chassis

Mounts with FL2000 termination panels to provide jumper storage. May be wall, rack or cabinet mounted.

Storage Deck Chassis

Storage Deck

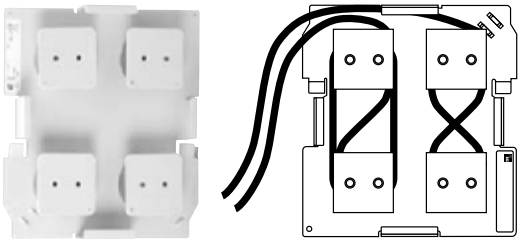
Storage Capacity (1 patch cord per deck)	
1.7 mm patch cord	35 m (115') per deck
3.0 mm patch cord	20 m (66') per deck
Storage Capacity (2 to 4 patch cords per deck)	
1.7 mm patch cord	39 m (128') per deck
3.0 mm patch cord	29 m (95') per deck



Storage Deck Chassis
(Front View)
FL2-2RSTORE

Ordering Information

Description	Catalog Number
Storage deck chassis (storage decks ordered separately)	
2 storage deck capacity; 89 mm x 483 mm x 258 mm (3.5" x 19" x 10.2")	FL2-2RSTORE
6 storage deck capacity; 222 mm x 483 mm x 258 mm (8.75" x 19" x 10.2")	FL2-6RSTORE
Storage deck	FL2-TR2000



Storage Deck
(Top View)
FL-TR2000

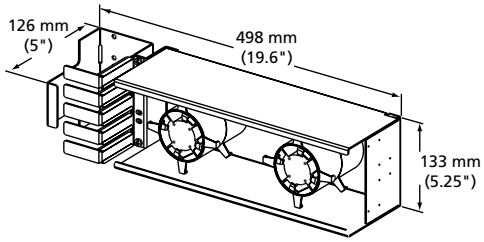
Horizontal Interbay Management Panel

Manages and stores fiber within the frame.

Storage Capacity
Stores up to 137 m (550') using oval storage method

Ordering Information

Description	Catalog Number
Horizontal interbay management panel	FL2-HZSTORE



Horizontal Interbay Management Panel
FL2-HZSTORE

FL2000 Series Fiber Optic Panel
Chassis Solutions

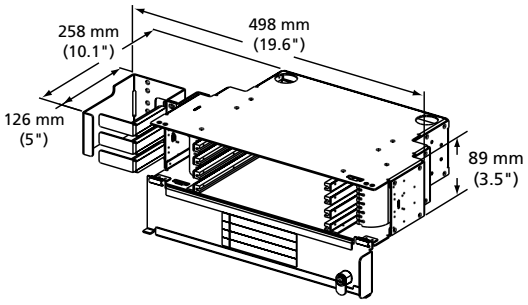
Splice Chassis

Features

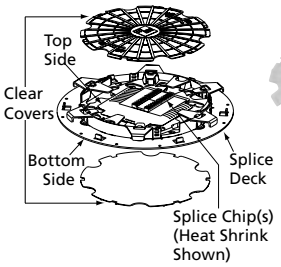
- Offers a combination of splicing protection and associated fiber/pigtail storage
- Splice chassis can be mounted in conjunction with any FL2000 termination panel or as a stand-alone splice panel
- Occupies same footprint and offers same mounting options as FL2000 termination panels
- Accepts the TE splice wheel for efficient management of fiber cable and splice protection
- Accepts the TE splice deck
- Ships with vertical cable guide (VCG)

Fiber Chassis Data

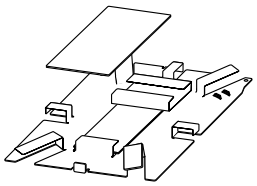
- Fiber capacity: 48, 96 & 144
- Splice
- Pigtail storage



Splice Chassis



Splice Wheel



Splice Deck

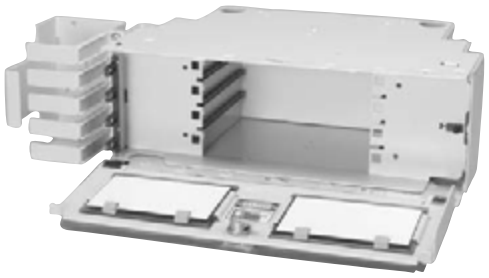
Ordering Information

Description	Panel Height	Catalog Number
Splice chassis for use with splice wheel (Only accepts splice wheel)		
48-fiber capacity	3.5" (2 RU)	FL2-48SPNL2
96-fiber capacity	7" (4 RU)	FL2-96SPNL2
144-fiber capacity	8.75" (5 RU)	FL2-144SPNL2
Splice wheel		
Heat shrink (single fiber fusion)		FST-DRS12-HS
Bare fusion		FST-DRS12-FT
Mechanical (mass fusion)		FST-DRS12-MT
Splice chassis for use with splice deck (Also accepts splice wheel)		
48-fiber capacity	3.5" (2 RU)	FL2-48SPNL
96-fiber capacity	7" (4 RU)	FL2-96SPNL
144-fiber capacity	8.75" (5 RU)	FL2-144SPNL
Splice deck		
Heat shrink (single fiber fusion)		FL2-RSPLCE-HS
Bare fusion		FL2-RSPLCE-FT
Mechanical (mass fusion)		FL2-RSPLCE-MT
Cable clamp kit (kit of 1)		
Outer diameter 5 mm to 20 mm (0.2" to 0.8")		FL2-ACC007
For mounting kits and additional accessories, see pages 48-56.		

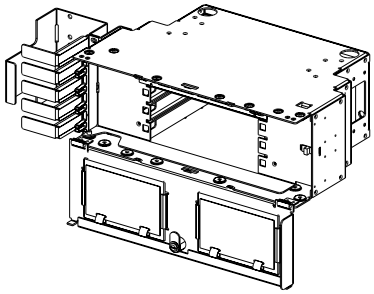
FL2000 Series Fiber Optic Panel

Value-Added Module (VAM) Chassis

The FL2000 VAM chassis is designed to accommodate TE VAM plug-in modules in FL2000 installations. The chassis protects and manages optical components and is purchased empty, then loaded with various plug-in modules or blank plates, all of which can be mixed and matched. The chassis can be mounted in 5-inch recess, 19- or 23-inch rack mount, frame and cabinet environments. Vertical cable guides match the vertical cable management features of existing FL2000 system. The chassis accommodates 4, 6 or 9 plug-in modules.



VAM Chassis
(Shown Unloaded)



FL2-4VAM525

Ordering Information

Description	Dimensions (HxWxD)	Catalog Number
10.5" FL2000 VAM chassis, unloaded; accommodates 9 single plug-in modules	267 mm x 483 mm x 258 mm (10.5" x 19" x 10.1")	FL2-9VAM105
7" FL2000 VAM chassis, unloaded; accommodates 6 single plug-in modules	152 mm x 483 mm x 258 mm (7" x 19" x 10.1")	FL2-6VAM700
5.25" FL2000 VAM chassis, unloaded; accommodates 4 single plug-in modules	133 mm x 483 mm x 258 mm (5.25" x 19" x 10.1")	FL2-4VAM525

Note: The FL2000 VAM system is designed to accept only front access modules; i.e., all input and output adapters, pigtails and/or bare fibers must be located on the front of the plug-in modules.

Value-Added Module (VAM) System

TE offers an expansive line of monitor, splitter, WDM and CWDM VAM plug-in modules designed to meet all application needs. Please reference the **Value-Added Module (VAM) System Catalog #101663AE** for details at www.te.com or contact TE Customer Service.

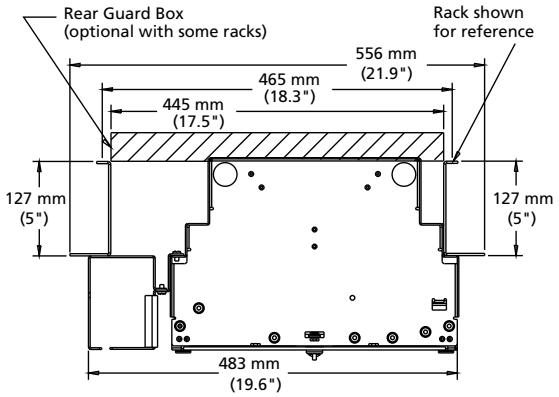
FL2000 Series Fiber Optic Panel

Panel Accessories – 19-Inch Rack Mount Installation Kits

Standard Mount Kit

Features

- Panels shipped with
  - Left-side "L" bracket
  - Left-side 2.5" wide vertical cable guide (VCG)
- Other mounting options are available upon request. Please contact TE's Technical Assistance Center.

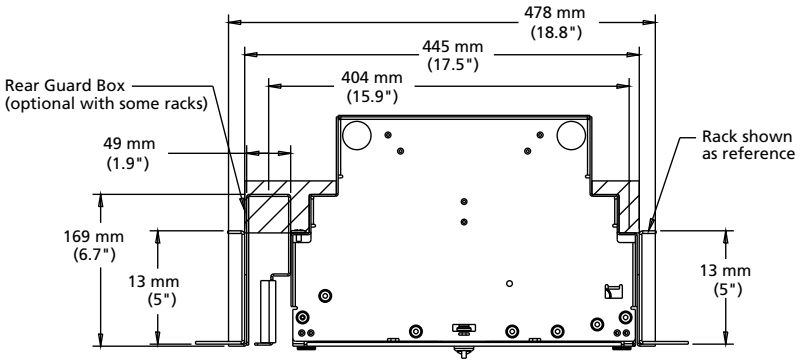


Standard Mount Kit

Ordering Information

Description	Panel Height	Catalog Number
Standard mount kit Kit includes: VCG with integrated mounting holes	1.75" (1 RU) 3.5" (2 RU) 5.25" (3 RU) 7" (4 RU) 8.75" (5 RU) 10.5" (6 RU) 14" (8 RU) 17.5" (10 RU)	FL2-VCGKIT0175 FL2-VCGKIT0350 FL2-VCGKIT0525 FL2-VCGKIT0700 FL2-VCGKIT0875 FL2-VCGKIT1050 FL2-VCGKIT1400 FL2-VCGKIT1750

Flush Mount Kit



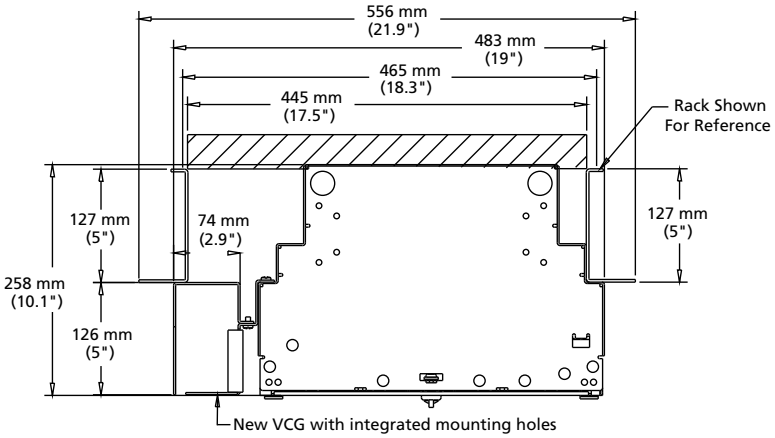
Flush Mount Kit

Ordering Information

Description	Panel Height	Catalog Number
Flush mount kit; allows 1", 2" or 4" recess mounting Kit includes: VCG and mounting flanges	1.75" (1 RU) 3.5" (2 RU) 5.25" (3 RU) 7" (4 RU) 8.75" (5 RU) 10.5" (6 RU) 14" (8 RU) 17.5" (10 RU)	FL2-FLMT0175 FL2-FLMT0350 FL2-FLMT0525 FL2-FLMT0700 FL2-FLMT0875 FL2-FLMT1050 FL2-FLMT1400 FL2-FLMT1750

Maximum Mount Kit

Allows entire panel to be contained within frame footprint.



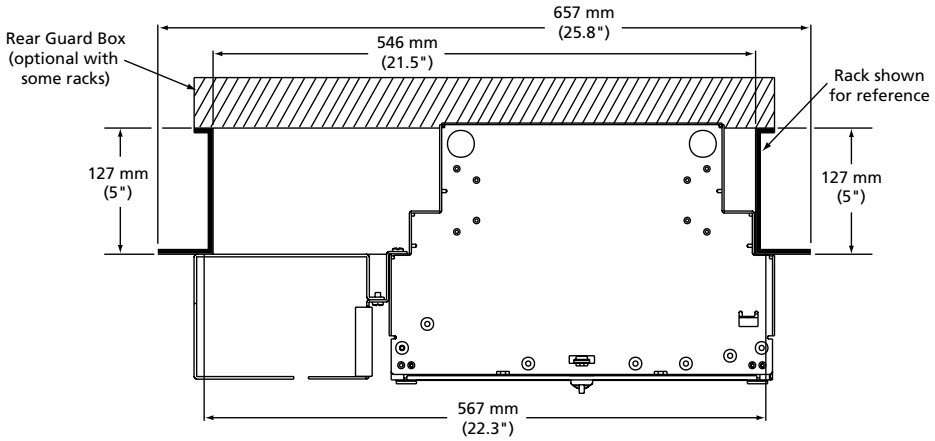
Maximum Mount Kit

Ordering Information

Description	Panel Height	Catalog Number
Maximum mount kit Kit includes: VCG with integrated mounting holes	1.75" (1 RU) 3.5" (2 RU) 5.25" (3 RU) 7" (4 RU) 8.75" (5 RU) 10.5" (6 RU) 14" (8 RU) 17.5" (10 RU)	FL2-19MAX0175 FL2-19MAX0350 FL2-19MAX0525 FL2-19MAX0700 FL2-19MAX0875 FL2-19MAX1050 FL2-19MAX1400 FL2-19MAX1750

Wide VCG Mount Kit

Allows for increased fiber capacity within the VCG.



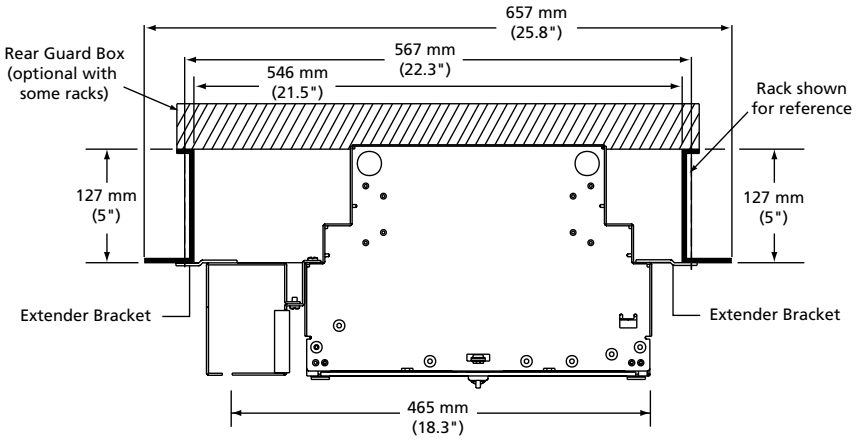
Wide VCG Mount Kit

Ordering Information

Description	Panel Height	Catalog Number
Wide VCG mount kit Kit includes: VCG with integrated mounting holes	1.75" (1 RU) 3.5" (2 RU) 5.25" (3 RU) 7" (4 RU) 8.75" (5 RU) 10.5" (6 RU) 14" (8 RU) 17.5" (10 RU)	FL2-23VCG0175 FL2-23VCG0350 FL2-23VCG0525 FL2-23VCG0700 FL2-23VCG0875 FL2-23VCG1050 FL2-23VCG1400 FL2-23VCG1750

Centered Mount Kit

Allows for standard mounting in a 23-inch rack.



Centered Mount Kit

Ordering Information

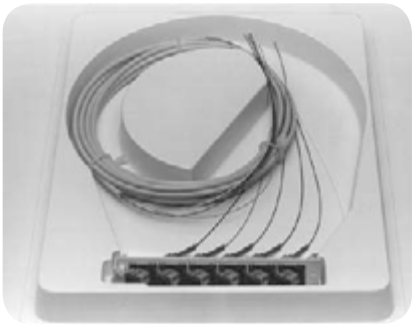
Description	Panel Height	Catalog Number
Centered mount kit (with extender brackets) This kit can be used with flush mount brackets (see page 47) to achieve 23" flush mounting, as well as 1", 2" or 4" recess mounting	1.75" (1 RU) 3.5" (2 RU) 5.25" (3 RU) 7" (4 RU) 8.75" (5 RU) 10.5" (6 RU) 14" (8 RU) 17.5" (10 RU)	FL2-EB0175P FL2-EB0350P FL2-EB0525P FL2-EB0700P FL2-EB0875P FL2-EB1050P FL2-EB1400P FL2-EB1750P

FL2000 Series Fiber Optic Panel
Panel Accessories

6pak Adapter — Adapters and Pigtails

Features

- Can be purchased and installed as growth necessitates
- Available with preterminated three- or five-meter pigtails
- Pigtails consist of a single outer jacket containing six color-coded 900 µm fibers
- One end of pigtail terminated with chosen connector style and installed into the 6pak adapters
- Saves installation time



6pak Adapter
(Shown with SC Adapters and Pigtails)

Stranded Multimode Pigtails and Adapters

Catalog Number

FL2 - 6P __ __ C 6 __

Connector and Adapter Type

9	SC
A	FC
6	LC[1]

Pigtail Length

03W	3 m pigtail
05R	5 m pigtail

Fiber Type

B	Multimode 62.5/125 µm
C	Multimode 50/125 µm

[1] LC 6paks are loaded with 12-fiber pigtails

Stranded Singlemode Pigtails and Adapters

Catalog Number

FL2 - 6P __ S C 6 __

Connector and Adapter Type

7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish[1]
B	LC angled polish[1]

Pigtail Length

03W	3 m pigtail
05R	5 m pigtail

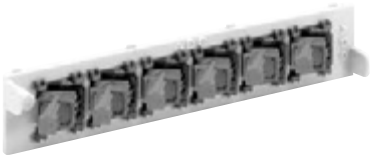
[1] LC 6paks are loaded with 12-fiber pigtails

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

6pak Adapter - Adapters only

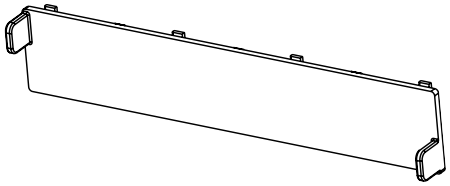
Features

- Completely interchangeable between FL2000 panel, FL1000 rack and wall box products
- Can be ordered with all standard types of adapters and connectors
- Feature TE's removable angled retainers which provide superior fiber management
- No tools required to install into FL2000 and FL1000 products
- Can be ordered with adapters only or for quick and easy installation, with preterminated three- or five-meter pigtails



6pak Adapter
(Shown with Singlemode Simplex Adapters)

6pak Adapter
(Shown with Multimode Simplex Adapters)



6pak Adapter Blank

Ordering Information

Description	Catalog Number
Multimode	
SC	FL2-6PMMSC
FC	FL2-6PMMFC
LC*	FL2-6PMMLC
Singlemode	
SC ultra polish	FL2-6PSMSC
SC angled polish	FL2-6PSMASC
FC ultra polish	FL2-6PSMFC
LC ultra polish*	FL2-6PSMLC
LC angled polish*	FL2-6PSMALC
6pak blank plug-in	FL2-6PBLNK

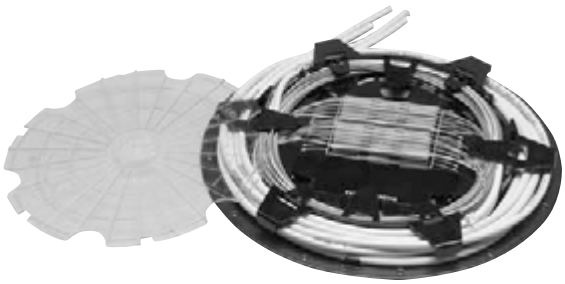
* LC 6pak adapter accommodates 12 LC connectors.

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

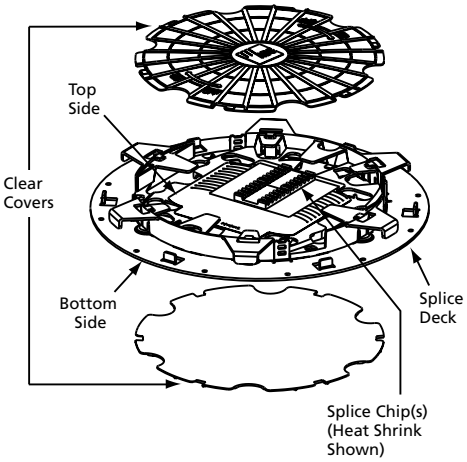
FL2000 Series Fiber Optic Panel

Panel Accessories

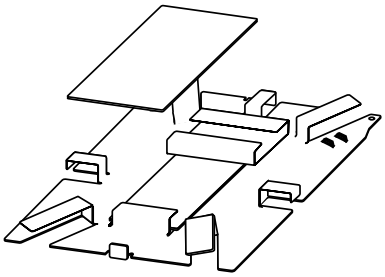
Splice Wheel and Splice Deck



Splice Wheel



Splice Wheel



Splice Deck

Ordering Information

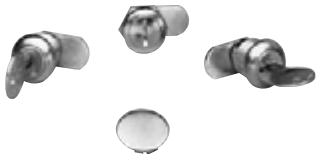
Description	Catalog Number
Splice wheel	
Heat shrink (single fiber fusion)	FST-DRS12-HS
Bare fusion	FST-DRS12-FT
Mechanical (mass fusion)	FST-DRS12-MT*
Splice deck	
Heat shrink (single fiber fusion)	FL2-RSPLCE-HS
Bare fusion	FL2-RSPLCE-FT
Mechanical (mass fusion)	FL2-RSPLCE-MT*

*For use with ribbon fiber

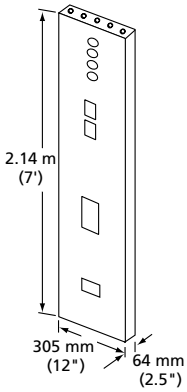
FL2000 Series Fiber Optic Panel

Panel Accessories

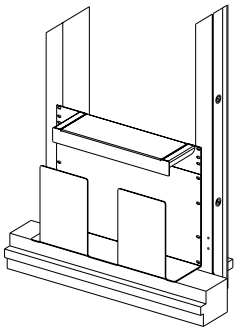
Miscellaneous



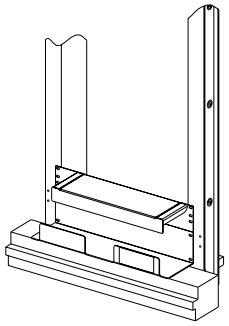
Locks



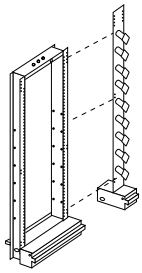
End Guard
UEGP-7PW



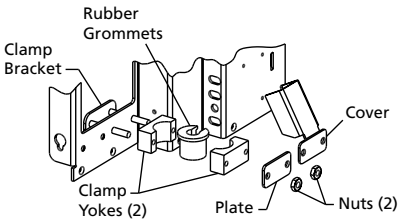
356 mm (14")
Lower Cable Trough
FL2-ACC011



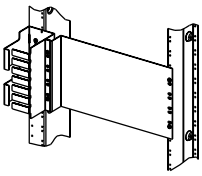
178 mm (7")
Lower Cable Trough
FL2-ACC012



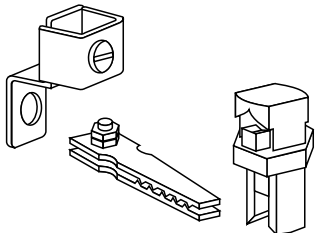
Interbay Management Panel
E-501-L139



Cable Clamp Kit



Blank VCG
FL2-BLNKFULL0875



Bonding/Grounding Kit

Ordering Information

Description	Catalog Number
Lock	
Key lock #1; includes lock and key #1	IPA-K1
Key lock #2; includes lock and key #2	IPA-K2
End guard (H x W x D)	
2.14 m x 64 mm x 305 mm (7' x 2.5" x 12"); right or left side	UEGP-7PW
Interbay management panel	
2.14 m x 127 mm (7' x 5") mounts to a standard (19" or 23" rack)	E-501-L139
Lower cable trough (H x W x D)	
356 mm x 483 mm x 127 mm (14" x 19" x 5")	FL2-ACC011
178 mm x 483 mm x 127 mm (7" x 19" x 5")	FL2-ACC012
Bonding grounding kit: kit of 1	FL2-ACC006
Cable clamp kit: kit of 1	
Outer diameter 5 mm to 20 mm (0.2" to 0.8")	FL2-ACC007
Cable clamp kit for use with 12-fiber termination or termination/splice panels	FL2-ACC033
Blank VCG to add cable management to frame not fully loaded	
3.5"	FL2-BLNKVCG0350
8.75"	FL2-BLNKVCG0875
10.5"	FL2-BLNKVCG1050
Blank VCG with blank panel for aesthetics	
3.5"	FL2-BLNKFULL0350
5.25"	FL2-BLNKFULL0525
7"	FL2-BLNKFULL0700
8.75"	FL2-BLNKFULL0875
10.5"	FL2-BLNKFULL1050

Ordering Information for Patch Cords and Attenuators

TE offers a comprehensive line of cable assembly and accessory products including patch cords, IFC assemblies, attenuators, FasTerm® connectors and adapters to meet the demanding needs of today's network. Please refer to the **Fiber Cable Assemblies Catalog #102880AE** at www.te.com for more detailed information. For your convenience, ordering information for patch cords and attenuators can also be found on pages 80-85.

FL1000 Series Fiber Optic Panel

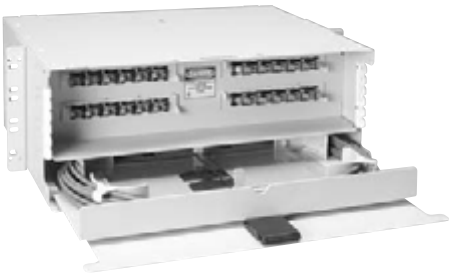
Introduction

Limited floor space and smaller fiber counts often dictate that multiple pieces of communications apparatus share common equipment racks. The FL1000 panel is a more economical solution designed to be mounted within standard 19- or 23-inch EIA equipment racks. Standard flush-mount capability is also a key feature.

The left/right orientation of the individual angled adapters and retainers allows the easy exit of the jumpers from the panel. A removable rear door panel allows efficient access to the interior of the panel for the routing and termination of fiber cables.

The FL1000 family of products use TE's modular 6pak adapters, which are durable and easy to install. They can be ordered through a single catalog number and are shipped in a single package.

144-Position Termination/Splice Panel



24-Position Termination/Splice Panel

FL1000 Series Fiber Optic Panel
Introduction

Product Overview

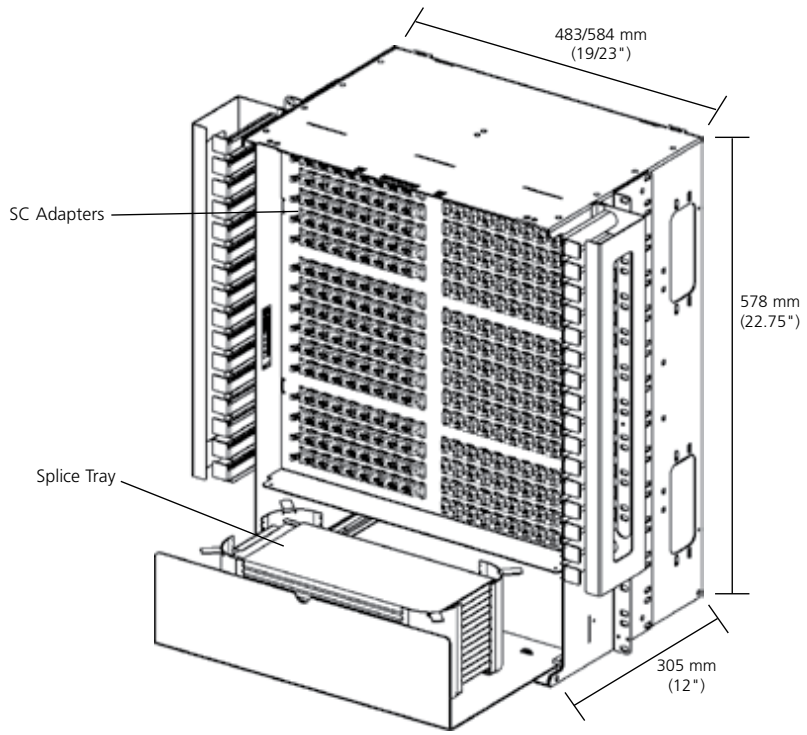
Recommended Applications	An economical solution offering basic cable management and protection. Ideal for small fiber counts.
Description	Termination, termination/splice
Number of fibers, future growth potential	12, 24, 48, 144
Flexibility/ ability to grow	Limited
Interconnect	Yes
Cross-connect	Yes
Accommodates on-frame splicing	Yes. Built-in
Accommodates off-frame splicing	Yes. IFC cable and assembly available
Rear access	Required
Customer premises application	Ideal
19" mounting	Yes
23" mounting	Yes
Cabinet mount	Yes
Wall mount	No
Mix equipment with fiber product?	Ideal
Use as dedicated fiber frame	No. (See ODF catalog #103742AE)
VAM capabilites	No
Optimum jumper storage location	No

FL1000 Series Fiber Optic Panel

High-Density Fiber Termination/Splice Panels with Pigtails

Features

- Essential cable management in an economical solution
- 19- or 23-inch rack mount
- Flush mountable
- Angled left right adapters ease fiber bends and allow individual fiber access
- Removable rear door panel allows efficient access to interior for routing and terminating fibers
- Putty white



288-Position Termination/Splice Panel

Ordering Information

Description	Catalog Number
288-position termination/splice panels	
Loaded with SC/UPC stranded pigtails (12-fiber softwall bundle) heat shrink splice trays, cable clamp; putty white	FL1-288RP07-28820
Loaded with SC/APC stranded pigtails (12-fiber softwall bundle) heat shrink splice trays, cable clamp; putty white	FL1-288RP0J-28820
Loaded with FC/UPC stranded pigtails (12-fiber softwall bundle) heat shrink splice trays, cable clamp; putty white	FL1-288RP02-28820
Loaded with multimode SC stranded pigtails (12-fiber softwall bundle 62.5/125 µm) heat shrink splice trays, cable clamp; putty white	FL1-288RP09-28820

FL1000 Series Fiber Optic Panel

Fiber Termination/Splice Panels with Adapters or Pigtails

Features

- Basic cable management in an economical solution
- Utilizes TE's angled retainers which ease fiber bend and allow for individual fiber access
- 19- or 23-inch rack mount
- Flush mountable
- Putty white

24-Position Termination/Splice Panel

Catalog Number

FL1- A B C D E N – 0

Panel Type

R	24-position termination/splice (3 RU)
3	48-position termination/splice (5 RU)
6	144-position termination/splice (13 RU)

6pak Adapters and Pigtails

3	Adapters with pigtails
4	Adapter-only
6	Singlemode or multimode 62.5/125 µm 6-fiber stranded softwall bundle (12-fiber for LC)
9	Singlemode or multimode 62.5/125 µm 12-fiber ribbon
I	Multimode 50/125 µm stranded softwall bundle

6pak Adapter/Connector Type
(Reference placement of 6paks on page 63)

Multimode	
N	None/NA
9	SC
6	LC[1]
Singlemode	
N	None/NA
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish[1]
Z	LC angled polish[1]

Splice Tray with Chip

1	Bare fusion
2	Heat shrink (single fiber fusion)
3	Mechanical (mass fusion)*
N	None

*For use with ribbon fiber

Accessories
(Enter the desired quantity 0–9 above the corresponding accessory.)

Cable clamp
Bonding/grounding kit
Radius limiters (set of 2)

[1] LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.

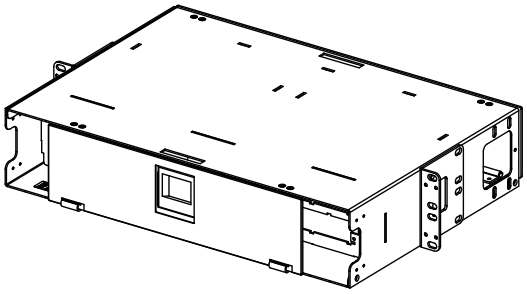
Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FL1000 Series Fiber Optic Panel

Fiber Termination Panels with Adapters or Pigtails

Features

- Basic cable management in an economical solution
- Utilizes TE's angled retainers which ease fiber bend and allow for individual fiber access
- 19- or 23-inch rack mount
- Flush mountable
- Putty white



24-Position Termination Panel

Catalog Number

FL1- ___ ___ **A** **B** **C** **D** **N N N -** ___ **0** ___ ___

Panel Type

L	12-position termination panel (1 RU)
8	24-position termination panel (2 RU)

6pak Adapters and Pigtails

3	Adapters with pigtails
4	Adapter-only
6	Singlemode or multimode 62.5/125 µm 6-fiber stranded softwall bundle (12-fiber for LC)
9	Singlemode or multimode 62.5/125 µm 12-fiber ribbon
I	Multimode 50/125 µm stranded softwall bundle

6pak Adapter/Connector Type[1, 2]
(Reference placement of 6paks on page 63)

0	Blank
N	None/NA
Multimode	
9	SC
6	LC[3]
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish[3]
Z	LC angled polish[3]

Accessories
(Enter the desired quantity 0–9 above the corresponding accessory.)

Cable clamp
Bonding/grounding kit
Radius limiters (set of 2)

[1] For a fully loaded 12-position panel, fill in spaces A & B with 6pak adapter/connector type. Populate the C & D fields with "N".

[2] For a fully loaded 24-position panel, fill in spaces A, B, C, D with 6pak adapter/connector type.

[3] LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.

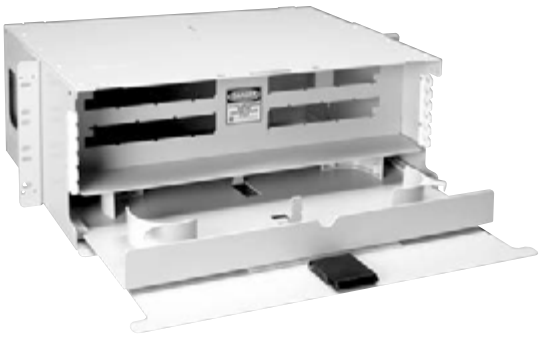
Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FL1000 Series Fiber Optic Panel

Empty Panels

Features

- Basic cable management in an economical solution
- Utilizes TE's angled retainers which ease fiber bend and allow for individual fiber access
- 19- or 23-inch rack mount
- Flush mountable
- Putty white



24-Position Empty Termination/Splice Chassis (FL1-R)

Empty Termination/Splice Chassis

Ordering Information

Description	Panel Height	Catalog Number
Empty termination/splice chassis[1]		
24-position	5.25" (3 RU)	FL1-R
48-position	8.75" (5 RU)	FL1-3
144-position	22.75" (13 RU)	FL1-6

[1] LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.

Empty Termination Chassis

Ordering Information

Description	Panel Height	Catalog Number
Empty termination chassis[1]		
12-position	1.75" (1 RU)	FL1-L
24-position	3.50" (2 RU)	FL1-8

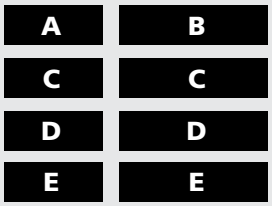
[1] LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.

6pak Adapter Placement

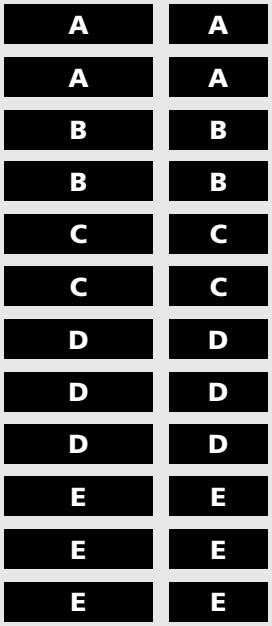
12 Rack Mount Front View

24 Rack Mount Front View

48 Rack Mount Front View



144 Rack Mount Front View



FL1000 Series Fiber Optic Panel
Panel Accessories

6pak Adapter — Adapters and Pigtails

Features

- Can be purchased and installed as growth necessitates
- Available with preterminated three- or five-meter pigtails
- Pigtails consist of a single outer jacket containing six color-coded 900 µm fibers
- One end of pigtail terminated with chosen connector style and installed into the 6pak adapter
- Saves installation time

6pak Adapter
(Shown with SC Adapters and Pigtails)

Stranded Multimode Pigtails and Adapters

Catalog Number

FL2 - 6P ___ C 6 ___

Connector and Adapter Type

9	SC
A	FC
6	LC[1]

Pigtail Length

03W	3 m pigtail
05R	5 m pigtail

Fiber Type

B	Multimode 62.5/125 µm
C	Multimode 50/125 µm

[1] LC 6paks are loaded with 12-fiber pigtails

Stranded Singlemode Pigtails and Adapters

Catalog Number

FL2 - 6P __ S C 6 ___

Connector and Adapter Type

7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish[1]
B	LC angled polish[1]

Pigtail Length

03W	3 m pigtail
05R	5 m pigtail

[1] LC 6paks are loaded with 12-fiber pigtails

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FL1000 Series Fiber Optic Panel

Panel Accessories

Fanning Panel

Designed to route optical cables left and right from the front of the FOT to the FL1000 6paks.

Fanning Panel
FL1-FPL

Ordering Information

Description	Catalog Number
Fanning panel	FL1-FPL

6pak Adapter – Adapter Only

Utilizes angled retainer clip for individual fiber access.

6pak Adapter-Only

Ordering Information

Description	Catalog Number
Multimode	
SC	FL2-6PMMSC
FC	FL2-6PMMFC
LC*	FL2-6PMMLC
Singlemode	
SC ultra polish	FL2-6PSMSC
SC angled polish	FL2-6PSMASC
FC ultra polish	FL2-6PSMFC
LC ultra polish*	FL2-6PSMLC
LC angled polish*	FL2-6PSMALC

*LC 6pak adapters accommodate 12 LC connectors.

Splice Tray

For use in FL1000 termination/splice panels.

Ordering Information

Description	Catalog Number
Standard splice tray	
Bare fusion	FST-FT
Heat shrink (single fiber fusion)	FST-HS
Mechanical (mass fusion)	FST-MT

Radius Limiter

Protects fiber as it enters and exits the panel.

Ordering Information

Description	Catalog Number
Radius limiters; set of 2 for use with rack mount panels	FL1-ACC002

Cable Clamp Kit and Bonding Grounding Kit

Ordering Information

Description	Catalog Number
Cable clamp	FL1-ACC011
Bonding grounding kit	FL1-ACC004

Ordering Information for Patch Cords and Attenuators

TE offers a comprehensive line of cable assembly and accessory products including patch cords, IFC assemblies, attenuators, FasTerm* connectors and adapters to meet the demanding needs of today's network. Please refer to the **Fiber Cable Assemblies Catalog #102880AE** at www.te.com for more detailed information. For your convenience, ordering information for patch cords and attenuators can also be found on pages 80-88 .

Wall Mount Panel Solutions

FL1000 Series Fiber Optic Wall Box

FL1000 Series Fiber Optic Wall Box

Introduction

TE's FL1000 customer premises fiber termination products include a variety of one and two door wall mount panels. These products are designed specifically to act as part of the fiber distribution system as the demarcation point for the service provider at the customers location.

Recent improvements to labeling grommets, door latches and ribbon pigtail routing reinforce the value these products bring to the physical layer of any network with higher quality and reliability, greater operational efficiencies and network simplification.

Product Overview

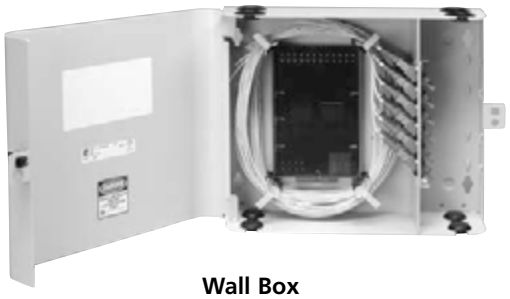
Recommended Applications	Ideal for small to medium fiber counts within communication closets or demarcation points
Description	One or two door wall box solution offering excellent fiber protection and technician-friendly cable routing. Termination, termination/splice or splice-only boxes available
Number of fibers, future growth potential	12, 24, 48, 72
Flexibility/ ability to grow	Modular growth design
Demarcation	Yes
Accommodates in box splicing	Yes. Built-in
Accommodates out of box splicing	Yes. IFC cable and assembly available
All-front-access	Yes
Customer premises application	Ideal
Wall mount	Yes
VAM capabilites	No
Optimum jumper storage location	Slack storage built-in

FL1000 Series Fiber Optic Wall Box

Wall Mount Boxes (One Door)

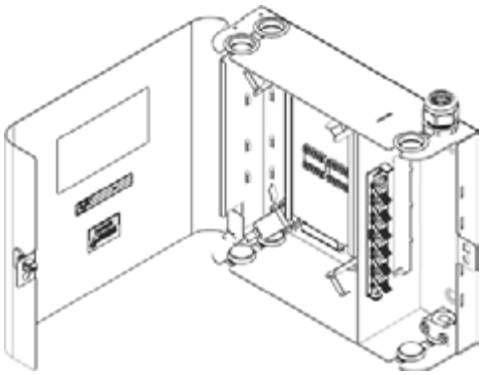
Features

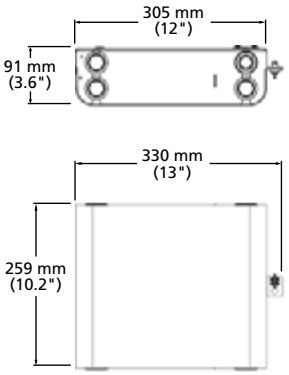
- Numerous cable tie points within the boxes
- Ability to accept locks
- Acceptance of cable clamps at each corner
- Grounding screws, mounting screws and dust caps are included with each panel. More accessories are available on page 78



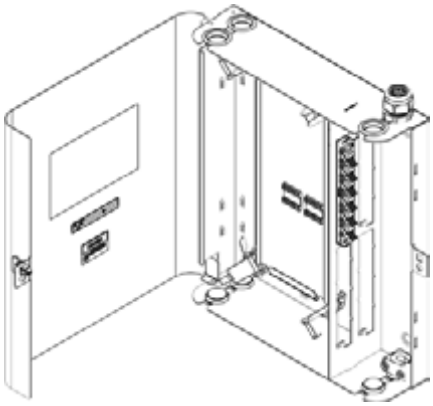
Wall Box
(One Door)

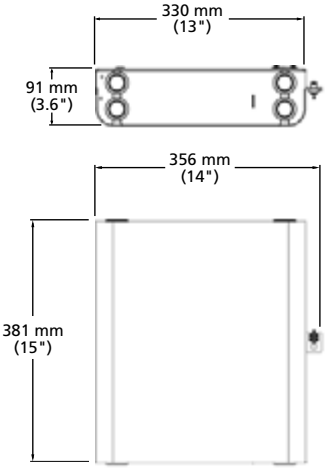
12-Position Termination/Splice Wall Box





24-Position Termination/Splice Wall Box





See ordering information on following page.

FL1000 Series Fiber Optic Wall Box

Wall Mount Boxes (One Door)

How to order

1. Select wall box type
2. Select 6pak adapters (with or without fiber)
3. Select 6pak adapter/connector type (choose placement in the wall box)
4. Select splice tray with chip
5. Select quantity of cable clamps (0–9)
6. Select quantity of compression fittings (0–9)
7. Select quantity of bonding grounding kits (0–9)

Catalog Number

FL1- __ __ __ __ __ __ N N __ - __ __ __ 0

A B C D

Wall Box Type

A	12-position termination/splice
B	24-position termination/splice
C	48-position splice-only

6pak Adapters

3	Adapters with pigtails
4	Adapter-only
6	Singlemode or multimode 62.5/125 µm 6-fiber stranded softwall bundle (12-fiber for LC)
9	Singlemode or multimode 62.5/125 µm 12-fiber ribbon
I	Multimode 50/125 µm stranded softwall bundle

6pak Adapter/ Connector Type[1, 2]

Multimode	
N	None/NA
9	SC
6	LC[3]
Singlemode	
N	None/NA
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish[3]
Z	LC angled polish[3]

Accessories

(Enter the desired quantity 0–9 above the corresponding accessory.)

Cable clamp
Compression fittings
Bonding grounding kit

Splice Tray with Chip

1	Bare fusion
2	Heat shrink (single fiber fusion)
3	Mechanical (mass fusion)
N	None

[1] For a fully loaded 12-position wall box, fill in spaces A & B with 6pak adapter/ connector type. Populate fields C & D with "N".

[2] For a fully loaded 24-position wall box, fill in spaces A, B, C & D with 6pak adapter/connector type.

[3] LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.

*For FTTX wall box applications, please refer to the **OmniReach™ FTTX Solutions for Multi-Dwelling Unit Applications Catalog #102761AE.**

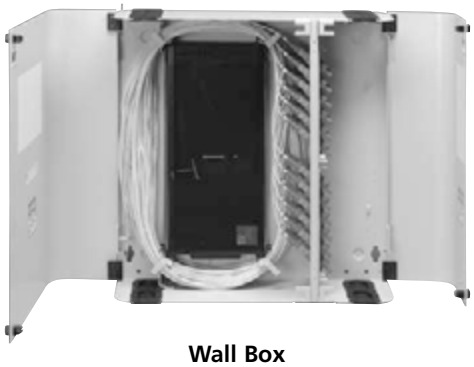
Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FL1000 Series Fiber Optic Wall Box

Wall Mount Boxes (Two Door)

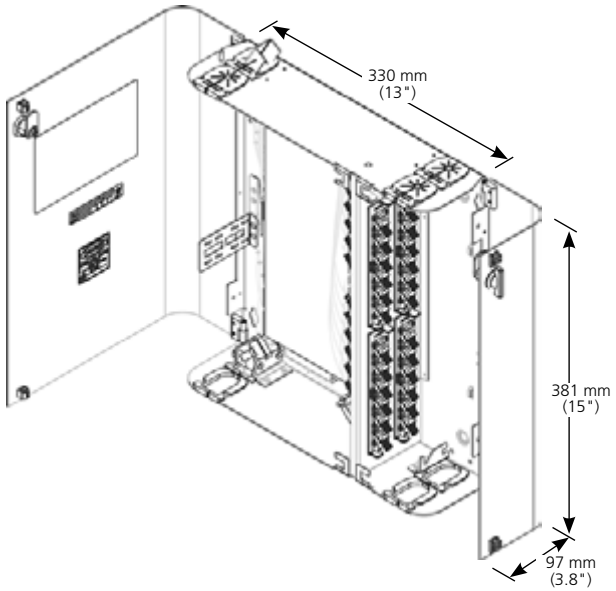
Features

- Uses 6pak adapters with angled retainers
- Multiple, configurable locking options that allow users and service providers separate access for security
- Acceptance of strength member tie-off hardware
- Acceptance of cable clamps at each corner
- Grounding screws, mounting screws and dust caps are included with each panel. Additional accessories are available on page 78.



Wall Box
(Two Door)

24-Position Termination/Splice Wall Box



See ordering information on following page.

FL1000 Series Fiber Optic Wall Box

Wall Mount Boxes (Two Door)

How to order:

1. Select wall box type
2. Select 6pak adapters (with or without fiber)
3. Select 6pak adapter/connector type (choose placement in the wall mount box)
4. Select splice tray with chip
5. Select quantity of cable clamps (0–9)
6. Select quantity of compression fittings (0–9)
7. Select quantity of bonding grounding kits (0–9)
8. Select quantity of strength member tie-off kits (each wall box accepts 2, maximum) (0–9)
9. Select lock type

Catalog Number

FL1- _ _ A B C D E - _ _ _ _ _

Wall Box Type

G	12-position termination/splice
H	24-position termination/splice
J	48-position termination/splice
P	72-position termination/splice

6pak Adapters

3	Adapters with pigtails
4	Adapter-only
6	Singlemode or multimode 62.5/125 µm 6-fiber stranded softwall bundle installed (12-fiber for LC)
9	Singlemode or multimode 62.5/125 µm 12-fiber ribbon
I	Multimode 50/125 µm stranded softwall bundle

6pak Adapter/ Connector Type[1]

Multimode	
N	None/NA
9	SC
6	LC[2]
Singlemode	
N	None/NA
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish[2]
Z	LC angled polish[2]

Splice Tray with Chip

1	Bare fusion
2	Heat shrink (single fiber fusion)
3	Mechanical (mass fusion)
N	None

Accessories
(Enter the desired quantity 0–9 above the corresponding accessory.)

Cable clamp
Compression fittings
Bonding grounding kit
Strength member tie-off

Lock Type

N	None
A	(2) A keys
B	(2) B keys
C	(1) A key, (1) B key

[1] Use the guides on the next page for placement of 6paks. Place the desired connector or adapter type above the corresponding location designation of A, B, C, D or E. The diagram on the following page illustrates the location of each 6pak within the bulkhead.

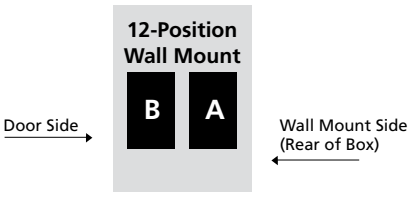
[2] LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

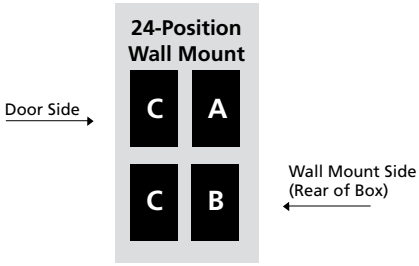
FL 1000 Series Fiber Optic Wall Box

Wall Mount Boxes (Two Door)

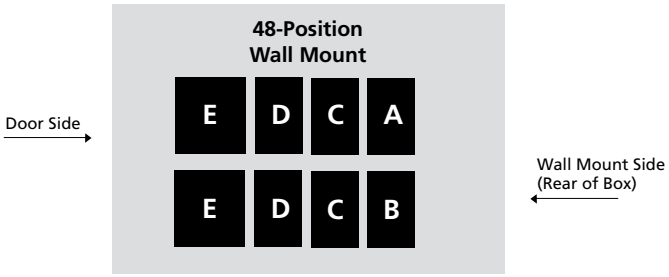
Placement of 6paks



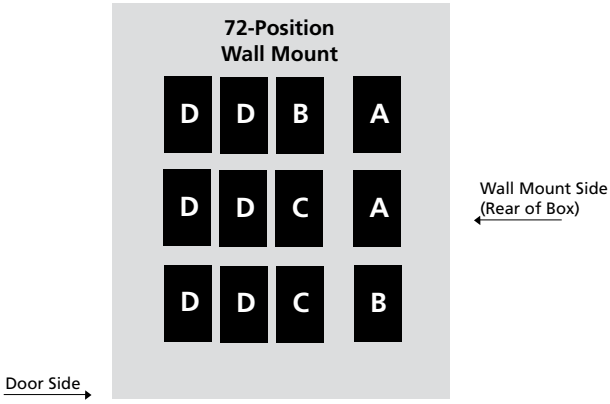
Type G Box
(Viewed from Side of Box)



Type H Box
(Viewed from Side of Box)



Type J Box
(Viewed from Side of Box)



Type P Box
(Viewed from Side of Box)

Note: All configured wall boxes will have adapter packs loaded starting from the wall side.

FL 1000 Series Fiber Optic Wall Box

Wall Mount Boxes (One Door or Two Door) with Multifiber Cable

How to order:

1. Select wall box type
2. Select near end/far end connector and adapter type
3. Select cable size
4. Select cable type (IFC or OSP)
5. Select entrance point
6. Select cable length
7. Select locking options

Catalog Number

FL1 - ___ / ___ ___ - ___ ___ ___ ___

A B

Wall Box Type

A	12-position, 1 door wall box
B	24-position, 1 door wall box
G	12-position, 2 door wall box
H	24-position, 2 door wall box
J	48-position, 2 door wall box
P	72-position, 2 door wall box

Near End (A)/Far End (B) Connector and Adapter Type

Multimode	
9	SC
6	LC[1]
Singlemode	
7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish[1]
Z	LC angled polish[1]

Cable Size

1	12
2	24
4	48
7	72
9	96 (48-position panel using LC connectors)
A	144 (72-position panel using LC connectors)

[1] LC connectors and adapters double the capacity of the panel by terminating two fibers at each adapter.

Lock Type

N	None
A	(2) A keys
B	(2) B keys
C	(1) A key, (1) B key

Cable Length

008	8 m (25')
016	16 m (50')
023	23 m (75')
031	31 m (100')
039	39 m (125')
046	46 m (150')
061	61 m (200')
077	77 m (250')
092	92 m (300')
122	122 m (400')
153	153 m (500')

Entrance Point

1	Bottom left
2	Top left

Cable Type

Multimode	
NC	IFC stranded 62.5/125 µm riser
Singlemode	
NA	IFC stranded riser
NS	IFC ribbon riser
NR	OSP armored ribbon (24-fibers or more)

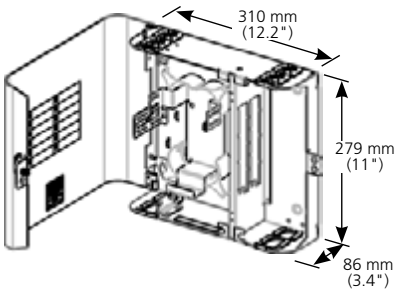
Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FL 1000 Series Fiber Optic Wall Box

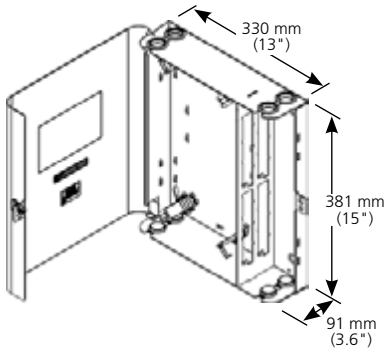
Wall Mount Boxes (One Door or Two Door) Empty Chassis

One Door Wall Mount Chassis

Allows single door access.



12-Position Termination/Splice
One Door Wall Box
FL1-A



24-Position Termination/Splice
One Door Wall Box
FL1-B

Ordering Information

Description	Catalog Number
Empty termination/splice chassis	
12-position	FL1-A
24-position	FL1-B
Empty splice-only chassis	
48-position	FL1-C

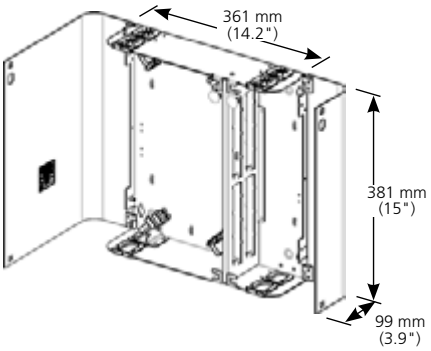
All empty chassis' use TE FL1000 and FL2000 6pak adapters.
Please see pages 64–65 and 77–78 for ordering information.

FL1000 Series Fiber Optic Wall Box

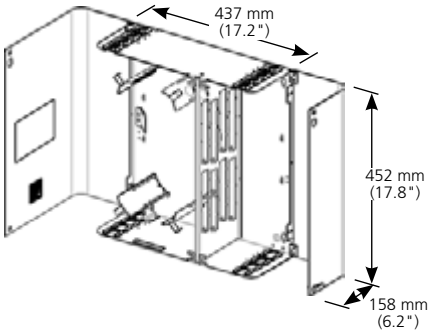
Wall Mount Boxes (One Door or Two Door) Empty Chassis

Two Door Wall Mount Chassis

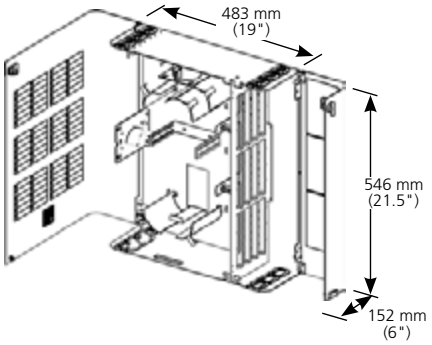
Allows separate customer and provider access.



24-Position Termination/Splice Two Door Wall Box
FL1-H



48-Position Termination/Splice Two Door Wall Box
FL1-J



72-Position Termination/Splice Two Door Wall Box
FL1-P

Ordering Information

Description	Catalog Number
Empty termination/splice chassis	
12-position	FL1-G
24-position	FL1-H
48-position	FL1-J
72-position	FL1-P
Empty splice-only chassis	
144-position	FL1-Q

6pak Adapter — Adapters and Pigtails

Features

- Can be purchased and installed as growth necessitates
- Available with preterminated three- or five-meter pigtails
- Pigtails consist of a single outer jacket containing six color-coded 900 µm fibers
- One end of pigtail terminated with chosen connector style and installed into the 6pak adapter
- Saves installation time

6pak Adapter
(With SC Adapters and Pigtails)

Stranded Multimode Pigtails and Adapters

Catalog Number

FL2 - 6P __ __ C 6 __ __ __

Connector and Adapter Type

9	SC
A	FC
6	LC[1]

Pigtail Length

03W	3 m pigtail
05R	5 m pigtail

Fiber Type

B	Multimode 62.5/125 µm
C	Multimode 50/125 µm

[1] LC 6paks are loaded with 12-fiber pigtails.

Stranded Singlemode Pigtails and Adapters

Catalog Number

FL2 - 6P __ S C 6 __ __ __

Connector and Adapter Type

7	SC ultra polish
J	SC angled polish
2	FC ultra polish
8	LC ultra polish[1]
B	LC angled polish[1]

Pigtail Length

03W	3 m pigtail
05R	5 m pigtail

[1] LC 6paks are loaded with 12-fiber pigtails.

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

FL1000 Series Fiber Optic Wall Box

Wall Box Accessories

Miscellaneous

6pak Adapter-Only
(Without Fiber)

Ordering Information

Description	Catalog Number
Multimode 6pak adapter-only[1]	
SC	FL2-6PMMSC
FC	FL2-6PMMFC
LC*	FL2-6PMMLC
Singlemode 6pak adapter-only[1]	
SC ultra polish	FL2-6PSMSC
SC angled polish	FL2-6PSMASC
FC ultra polish	FL2-6PSMFC
LC ultra polish*	FL2-6PSMLC
LC angled polish*	FL2-6PSMALC
Compression fitting	FL1-ACC001
Compression fitting with plate	FL1-ACC006
Strength member tie-off kit	FL1-ACC003
Cable clamp	FL1-ACC011
Bonding grounding kit	FL1-ACC004
Lock and key type A	IPA-K1
Lock and key type B	IPA-K2
Mini-splice tray (used **only** in 12-position, wall-mount box)	
Bare fusion	FST-M-FT
Heat shrink (single fiber fusion)	FST-M-HS
Mechanical (mass fusion)	FST-M-MT
Standard splice tray	
Bare fusion	FST-FT
Heat shrink (single fiber fusion)	FST-HS
Mechanical (mass fusion)	FST-MT

*Includes 12 fibers
[1] For 6paks with fiber, see the previous page.

Cable Assembly Solutions

Fiber Cable Assemblies and Accessories
Introduction

Comprehensive Product Line

TE produces a wide variety of fiber cable assemblies and accessories designed to meet the specific application needs of our customers. From patch cords, multifiber assemblies and connectors to adapters and attenuators, TE is the choice for the essential products necessary to meet the requirements of today's high-speed networks.

Advanced Manufacturing Processes

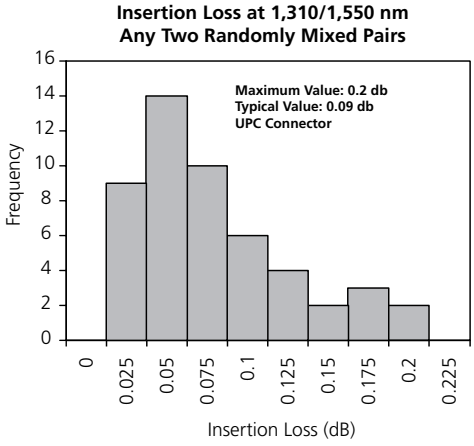
Advanced manufacturing processes allow us to meet some of the strictest specifications in the industry at prices comparable to those of less stringently produced components. TE's innovative polishing techniques, rigorous evaluation of epoxies, serialized tracking and the strictest testing processes make us an industry leader in fiber components.

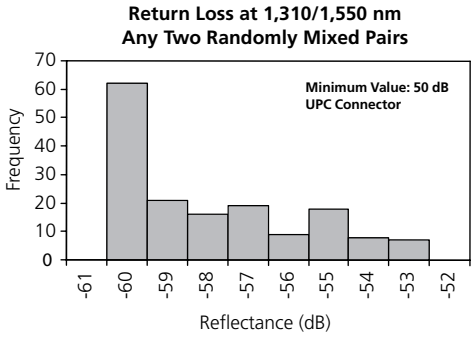
Quality Assurance

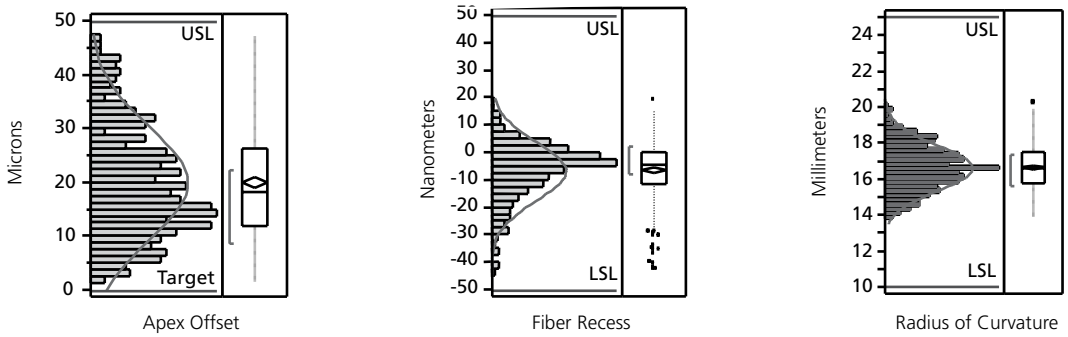
TE tests every singlemode connector and applies a bar code traceable to the exact insertion loss and return loss for that termination. This aids in the documentation of the exact losses in the network. The bar code system also stores information about the materials used and the manufacturing process applied to produce the patch cord. These records are retained for your reference for over three years.

TE's polishing process ensures consistently low insertion and return loss values. Insertion and return loss values are affected by the endface geometries of the fiber connector. TE's fiber assemblies meet Telcordia® GR-326 industry requirements for quality and performance.

TE's patch cord manufacturing personnel are certified through TE's rigorous internal fiber patch cord training processes.







UPC Connector Measurements

TracerLight Connector Identification System

Power Source and Patch Cords

TE's innovative TracerLight® connector identification system offers a quick and accurate method of identifying the termination point of optical patch cords. Each end of a TracerLight patch cord features a flashing light allowing technicians to visually trace individual patch cords from one end to the other without pulling or affecting the patch cord. The TracerLight power source is easily attached to the TracerLight component on one end of the patch cord. This causes the LED on each end to begin flashing rapidly. As a result, the distant end of the patch cord can be quickly and easily identified without interruption of service or disturbance of the optical signal path.

Available in any standard length or connector style, TracerLight patch cords have the same functions, optical performance and stringent environmental requirements as our standard patch cords. TracerLight patch cords are installed in the same manner as standard patch cords and can be pulled through ADC's FiberGuide® fiber cable management system with ease.

The compact power source is comprised of a lightweight, plastic flashlight body featuring two AA batteries and a printed circuit board (PCB). It provides approximately 80 hours of continuous service and features 1-hour auto-off. The end of battery life is indicated by a slowing of the blink rate.

TracerLight Power Source
FTL-PS

Ordering Information

Description	Catalog Number
TracerLight power source	FTL-PS
TracerLight plus launch cable (for use with a tone generator)	FTL-TGLC

Tracerlight patch cords may be ordered on the following page.

Patch Cords

TracerLight® Singlemode or Multimode Patch Cords

Simplex

Catalog Number

FTL- __ / __ - _____ M

Connector Style (first end)

Singlemode	
7	SC ultra polish
E	SC angled polish
2	FC ultra polish
C	LC ultra polish
M	LC angled polish
Multimode	
9	SC
P	LC

Connector Style (second end)

Singlemode	
7	SC ultra polish
E	SC angled polish
2	FC ultra polish
C	LC ultra polish
M	LC angled polish
Multimode	
9	SC
P	LC

Assembly Length

001-020	1-20 meters in 1 meter increments
025-065	25-65 meters in 5 meter increments
070-150	70-150 meters in 10 meter increments

Cable Type (1.7 mm)

Singlemode	
D	Standard singlemode (yellow)
P	Reduced bend radius singlemode (blue)*
Multimode	
A	50/125 µm multimode (orange)
J	50/125 µm laser optimized to 300 m multimode (aqua)
G	62.5/125 µm multimode (orange)

Ordering Examples

FTL-7/7-D003M: Singlemode simplex patch cord with SC connectors on both ends, 3 meters in length.

FTL-9/9-A005M: Multimode simplex patch cord with SC connectors on both ends using 50/125 µm fiber, 5 meters in length.

Duplex

Catalog Number

FTL- _____ M

Connector Style (first end)

Singlemode	
7	SC ultra polish
E	SC angled polish
2	FC ultra polish
C	LC ultra polish
M	LC angled polish
Multimode	
9	SC
P	LC

Connector Style (second end)

Singlemode	
7	SC ultra polish
E	SC angled polish
2	FC ultra polish
C	LC ultra polish
M	LC angled polish
Multimode	
9	SC
P	LC

Assembly Length

001-020	1-20 meters in 1 meter increments
025-065	25-65 meters in 5 meter increments
070-150	70-150 meters in 10 meter increments

Cable Type (1.7 mm)

Singlemode	
Z	Dual zip singlemode (yellow)
R	Reduced bend radius dual zip singlemode (blue)*
Multimode	
E	50/125 µm dual zip multimode (orange)
K	50/125 µm laser optimized to 300 m multimode (aqua)
H	62.5/125 µm dual zip multimode (orange)

Ordering Examples

FTL-7CZ010M: Singlemode dual zip patch cord with SC to LC connectors, 10 meters in length.

FTL-PPE010M: Multimode dual zip patch cord with LC connectors on both ends using 50/125 µm fiber, 10 meters in length.

*Not a substitute for well-engineered cable management.

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

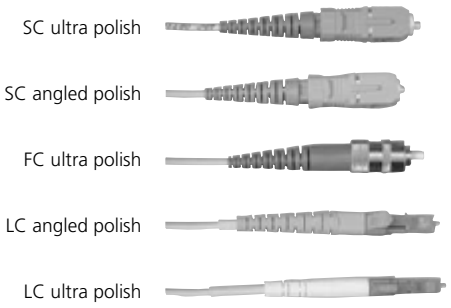
Patch Cords

Singlemode Patch Cords (Simplex and Duplex)

All patch cords undergo stringent testing for both insertion loss and return loss at the factory before shipment to ensure that only quality product is delivered to the customer.

TE offers ultra physical contact (UPC) polish on the SC, FC and LC connector styles.

Angled polish is available on the LC connector and the SC connector styles. Angled polish should be used in applications that require better control of return loss. TE has tight tolerances regarding the rotation of the ferrule to maintain low insertion loss values.



Connector Types

Catalog Number

____ ____ - ____ - __ - ____ M

Cable Option

FPC	Connector on both ends (patch cord)
FPT	Connector on one end (pigtail)

Cable Type

Standard singlemode	
M	2.0 mm single
F	1.7 mm single
9	900 µm
2	2.0 mm dual zip
T	1.7 mm dual zip
Reduced bend radius	
MW	2.0 mm single
FW	1.7 mm single
9W	900 mm
2W	2.0 mm dual zip
TW	1.7 mm dual zip

Assembly Length

1-20	1-20 meters in 1 meter increments
25-65	25-65 meters in 5 meter increments
70-150	70-150 meters in 10 meter increments

Fiber Type

S	Standard singlemode
P	Reduced bend radius singlemode (blue)*
LEAVE BLANK	2.0 mm standard singlemode

Singlemode Connector Type[1]

SPSC	SC ultra polish simplex
APSC	SC angled polish simplex
SDSC	SC ultra polish duplex[2]
SPFC	FC ultra polish simplex
SPLC	LC ultra polish simplex
SDLC	LC ultra polish duplex[2]
APLC	LC angled polish simplex

Ordering Examples

FPC2-SPSC-10M: Singlemode 2.0 mm dual zip patch cord with SC ultra polish connectors on both ends, 10 meters in length with standard breakout length of 0.31 m (12") on both ends.

[1] **For hybrid patch cords,** enter both connector types in this field and separate them with a slash mark; remove 's' from the ultra polish option.

FPCF-SPSC/PLC-S-10M: Singlemode 1.7 mm simplex patch cord with SC ultra polish connector on one end and LC ultra polish connector on the other end, 10 meters in length.

[2] One connector per end; requires dual zip cable.

*Not a sustitute for well-engineered cable management.

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

Patch Cords

Multimode Patch Cords (Simplex and Duplex)

Multimode patch cords are available with the LC small-form-factor connector and the SC connector.

These patch cords are assembled using the same advanced manufacturing processes as the singlemode, ensuring the highest quality standards.

LC-SC Multimode Patch Cord

Catalog Number

_____ _____ - _____ - __ - _____ **M**

Cable Option

FPC	Connector on both ends (patch cord)
FPT	Connector on one end (pigtail)

Cable Type

Standard multimode	
M	2.0 mm single
F	1.7 mm single
9	900 µm
2	2.0 mm dual zip
T	1.7 mm dual zip
Multimode 50/125 µm 10G laser optimized to 300 m (aqua)	
MA	2.0 mm single
FA	1.7 mm single
2A	2.0 mm dual zip
TA	1.7 mm dual zip

Assembly Length

1-20	1-20 meters in 1 meter increments
25-65	25-65 meters in 5 meter increments
70-150	70-150 meters in 10 meter increments

Fiber Type

A	50/125 µm multimode
B	62.5/125 µm multimode

Multimode Connector Type[1]

MSC	SC simplex
MDSC	SC duplex[2]
MLC	LC simplex
MDLC	LC duplex[2]

Ordering Examples

FPCM-MSC-B-7M: Multimode simplex 2.0 mm patch cord with SC connectors on both ends, 62.5/125 µm fiber type, 7 meters in length.

[1] **For hybrid patch cords,** enter both connector types in this field and separate them with a slash mark.

FPCM-MSC/MLC-A-3M: Multimode simplex 2.0 mm patch cord with SC connector on one end and LC connector on the other end, 50/125 µm fiber type, 3 meters in length.

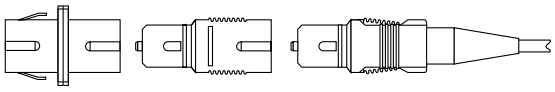
[2] One connector per end; requires dual zip cable.

Other configurations are availble upon request. Please contact TE Connectivity's Technical Assistance Center.

Attenuators
In-Line Attenuators

A fiber optic attenuator is an optical device that induces a calibrated fixed loss between two connectors, which dampens, or attenuates the fiber optic signal. Attenuation is required if an optical signal has too much power, exceeding the operating range of the equipment, which causes saturation at the receiver and induces system errors or failures.

TE's full line of attenuators is manufactured to meet the demands of your network. In-line attenuators are installed between an adapter and a connector; they are fused attenuators, providing exceptional optical performance.



Adapter **In-Line Attenuator** **Connector/ Patch Cord**

In-Line FC Attenuator

In-Line SC Attenuator

Attenuation	Tolerance
≤5 dB	±0.75 dB
>5 dB	±10%

Ordering Information

Description	Catalog Number*
LC ultra polish	
05 dB	FOA-INLC05
10 dB	FOA-INLC010
15 dB	FOA-INLC015
20 dB	FOA-INLC020
SC ultra polish	
05 dB	FOA-INSC05
10 dB	FOA-INSC10
15 dB	FOA-INSC15
20 dB	FOA-INSC20
SC angled polish	
05 dB	FOA-INASC05
10 dB	FOA-INASC10
15 dB	FOA-INASC15
20 dB	FOA-INASC20
FC ultra polish	
05 dB	FOA-INFC05
10 dB	FOA-INFC10
15 dB	FOA-INFC15
20 dB	FOA-INFC20

* Other attenuation values and connector styles are available upon request. Please contact TE's Technical Assistance Center.

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10/07 • 1037443AE Fiber Optic Panels

te.com

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CATALOG

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