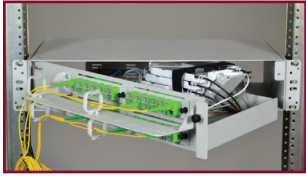


FIBER ACCESSORIES

Fiber Optic Accessory Products Line Card for Charles Industries, Ltd.



RACK SOLUTIONS

- Compact 1RU, 2RU and 4RU panels for patch, patch & splice, and splitter requirements
- Swing out shelves and hinged splice trays allow easy access without disturbing existing splices
- Optional front mount cable manager kit
- CPRI Remote Monitoring Panel also available



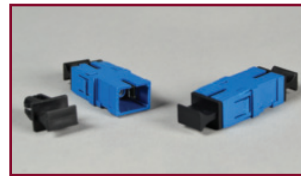
WALL SOLUTIONS

- Small count fiber patch and splice solution for indoor applications
- Enclosure uses standard LGX footprint patch plates for up to 12 fiber ports
- Multiple APC and UPC adapter plate options
- Top and bottom cable entry grommets



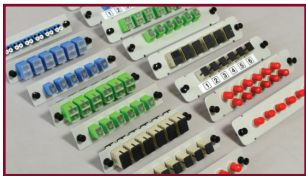
TOTAL FRONT ACCESS (TFA) PANEL

- Panel accommodates up to 3 different LGX Total Front Access (TFA) modules in 1RU rack space
- User customizable to a broad variety of Fiber and Ethernet modules
- Flexibility for patch, splitter and CWDM/DWDM



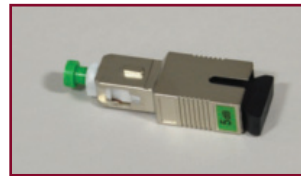
BULKHEAD ADAPTERS

- SC/APC, SC/UPC and LC/UPC bulkhead adapters available
- Telecordia GR-326-CORE
- Ceramic alignment ferrules
- Kits include 12 adapters per kit
- High quality, low-loss construction



PATCH PLATES

- Options to accommodate 6 and 12 port configurations for SC, LC and ST adapters
- Standard LGX Plate (1.13"x5.11") and Large Plate (1.36"x6.13") footprints
- Compatible with both Charles and competitive connector housing panels



ATTENUATORS

- Attenuation ranges from 1dB to 10dB (up to 30dB available per special order)
- SC/APC, SC/UPC and LC/UPC attenuators available
- Male to female design
- RoHS Compliant



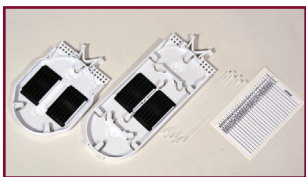
LGX MODULES

- CWDM/DWDM and standard splitter modules
- Variety of splitter types (1x4, 1x8, etc.)
- Transition modules (SC to MPO, LC to SC, etc.) also available
- Compatible with both Charles and competitive LGX rackmount panels



FAN-OUT CABLE ASSEMBLIES

- SC or LC connectors, UPC or APC
- 250µ fiber (loose-tube or ribbon) ingress
- Single-mode fiber, 900µ color-coded buffer, egress in 3 meter lengths (G.657.A1)
- 6, 8 and 12 fiber connector fanouts available



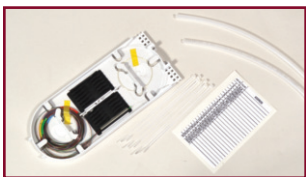
SPLICE TRAYS

- Compact 4"x6" and 4"x9" tray sizes accommodate up to 24 single fusion splices, two mass fusion splices (12 fiber ribbons) or up to 12 mechanical splices per tray
- Hinged and non-hinged versions available
- Dust cover, ID label and cable ties included



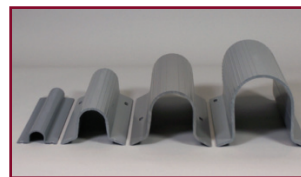
JUMPERS & PIGTAILS

- Single-mode 10mm bend-insensitive fiber jumpers in 1 meter lengths (G.657.A1)
- Single-mode, simplex 2mm pigtails
- Kits of 900µ color-coded buffer pigtails in 3 meter lengths with 6, 8, and 12 fiber connector pigtails



SPLITTER TRAYS

- 1x2, 1x4, 1x8, 1x16 and 1x32 splitter trays available in 4"x9" footprint
- Mounted premium PLC fiber splitter with stranded 250-micron fiber
- Transportation tubes and tie-wraps included
- Butt-end fiber ingress and egress
- Connectorized output option



LINE GUARDS

- Guards protect and organize overhead to underground fiber drops on utility poles
- Lightweight polyethylene construction
- 2", 3", 4" & 5" diameters in 5 or 10 ft. sections
- Boots, adapters, couplers, back plates, and other accessories available



SPLITTER MODULES

- 1x8, 1x16 and 1x32 splitter modules for fiber pedestals and building terminals
- Plug & Play modules for PON architectures
- SC/APC connectors
- 1260-1650nm operating wavelengths
- Low excess loss, environmentally stable



RISER PIPES

- 7/8" and 1 1/4" outside diameters
- Lightweight, UV stabilized PVC construction
- Split risers available for pre-connectorized fiber drops, eliminate the need to force bulky connector ends through the pipe
- Variety of lengths, bends and offsets available

LIT-OSP005-D17

Please visit www.charlesindustries.com for product specifications and ordering information.

Established in 1968, Charles Industries, Ltd. is an ISO 9001 / TL 9000 Registered Company.



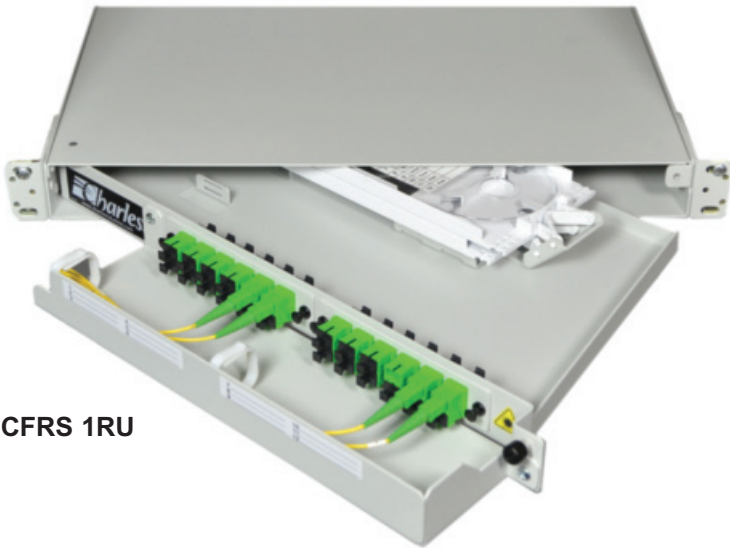
INNOVATIVE ENCLOSED SOLUTIONS™

Charles Industries, Ltd. • (847) 806-6300 • www.charlesindustries.com



Charles Fiber Rack Solutions (CFRS)

Flexible rackmount panels for Patch, Patch & Splice and Splitter capabilities in a Fiber Optic Network



CFRS 1RU



CFRS 2RU



CFRS 4RU - FRONT VIEW

Charles Fiber Rack Solutions (CFRS) provide flexible, multi-functional panels for patch, splice and splitter requirements within virtually any application. The efficient design of the splice area and bulkhead allows for maximum density while using just 1RU, 2RU or 4RU of valuable rack space.

CFRS feature aluminum construction with a grey powder coated finish. A swing-out shelf on 1RU, 2RU and 4RU models allows technicians easy access to splice/splitter trays. A hinged tray design facilitates tray access without disturbing existing splices. The rear of the rack panel is open, with cable management railing to neatly organize fiber cable in rackmount enclosures. CFRS come with adaptable brackets for mounting in either 19" or 23" racks.

CFRS Panels are ideally suited for outside plant, central office, cell sites, CATV, MDU, MTSO or other environments where the customer requires fiber bandwidth for optical distribution/cross-connect.

Optional Cable Manager Accessory Kits are available for all models. The Cable Manager Accessory Kit mounts to the front of the CFRS using existing hole placements to organize and protect fangot cables. Kit includes organizer, D-clips, ID labels and mounting hardware.

CFRS 1RU	1.75"x17"x11", 24 port capacity
CFRS 2RU	3.5"x17"x11", 48 port capacity
CFRS 4RU	7"x17"x18", 288 port capacity



CFRS 4RU - REAR VIEW

CFRS Total Front Access (TFA) 1RU Panel



CFRS TFA 1RU

The CFRS Total Front Access Module Panel provides multi-functional flexibility for patch, splitter, and CWDM/DWDM requirements within rackmount applications. With its ability to accommodate up to three different LGX footprint TFA modules in just 1RU of valuable rack space, the user can utilize a broad variety of Fiber and Ethernet modules to customize their solution.

CFRS TFA 1RU	1.75"x17"x11", 3 standard LGX footprint TFA module capacity (LGX modules sold separately)
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