

CLEVELAND ELECTRIC LABORATORIES

Thermocouples & Sensing Solutions since 1920

100 Years
OF QUALITY AND SERVICE

Controlled
Shear
Point

A new and improved fiber optic cabinet termination device developed specifically for Department of Transportation (DOT) traffic cabinets and roadside nodes, patented by Cleveland Electric Labs.

Allows the cable to be control sheared at the base of the cabinet preventing stress on the cable in the ground and at the electrical device connection.

- Guarantees that all infrastructure cabling remains intact during an accident.
- Enables cabinet or device restoration to take place within minutes of the equipment being reset.
- Eliminates patch cords, redundant maintenance, and additional failure points, ultimately reducing cost.



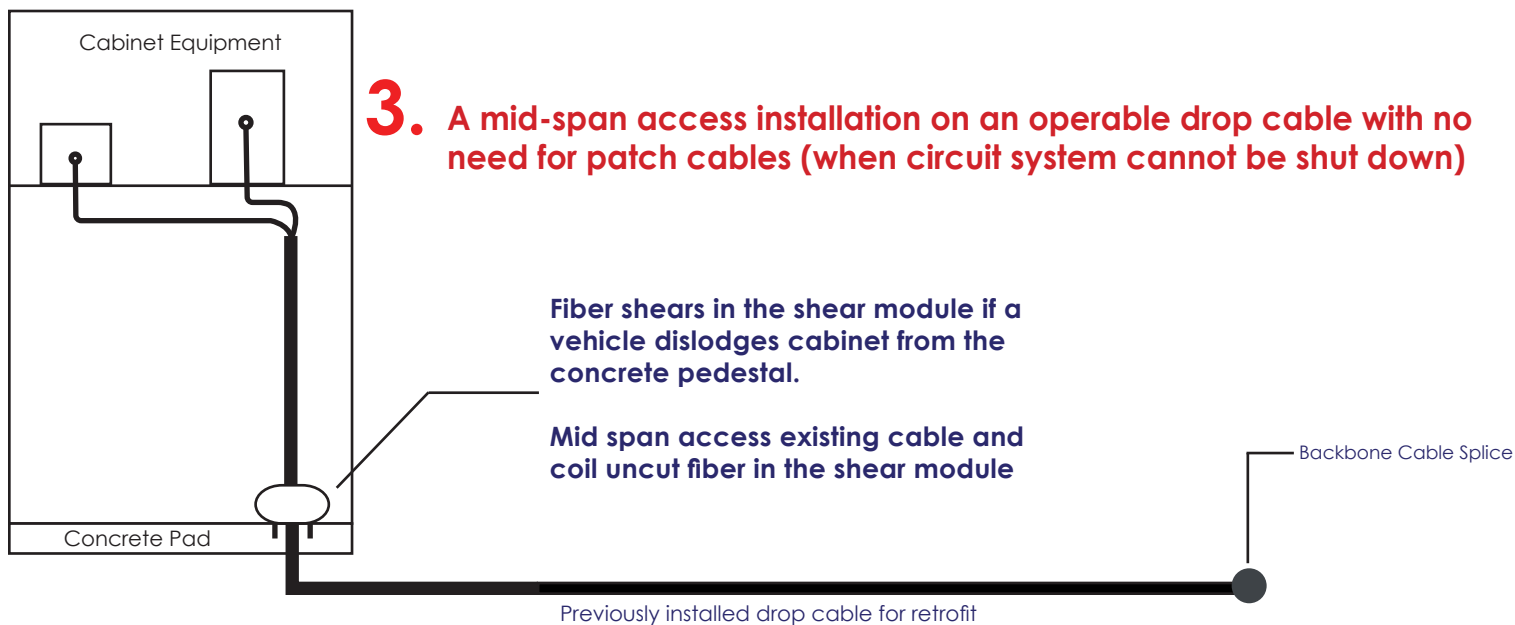
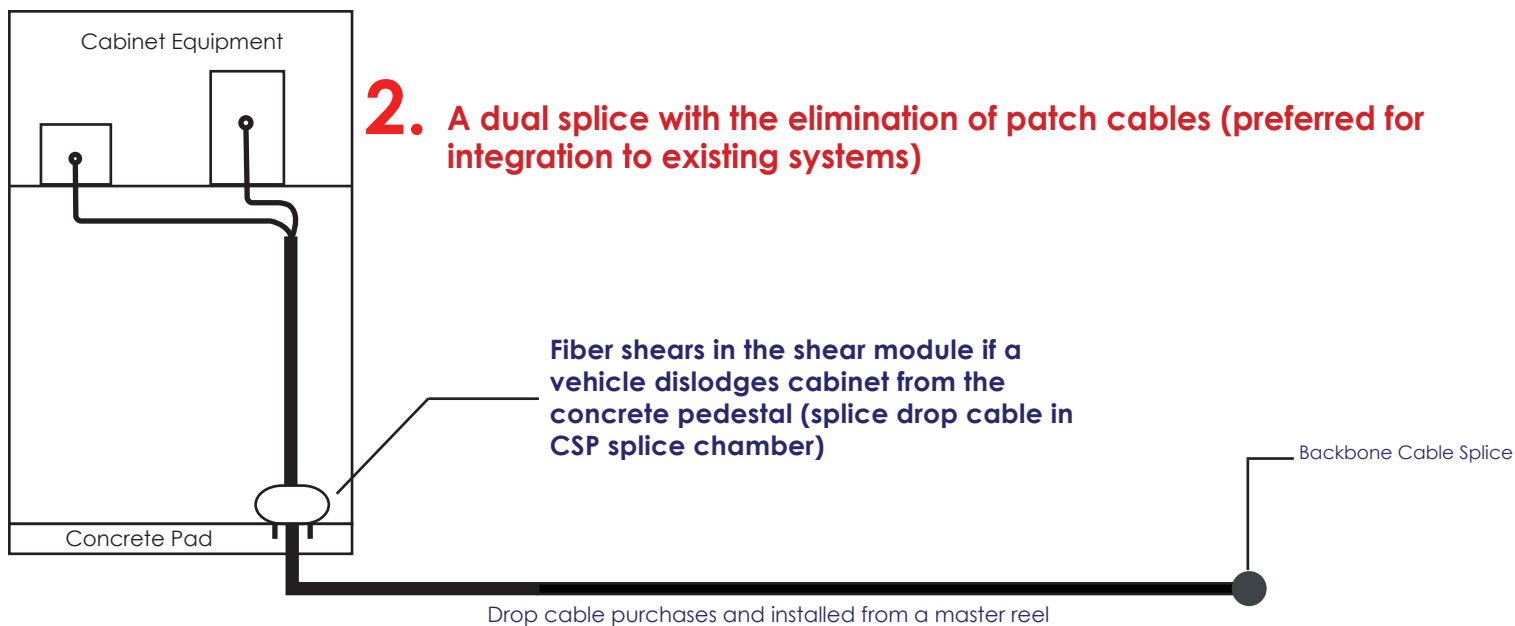
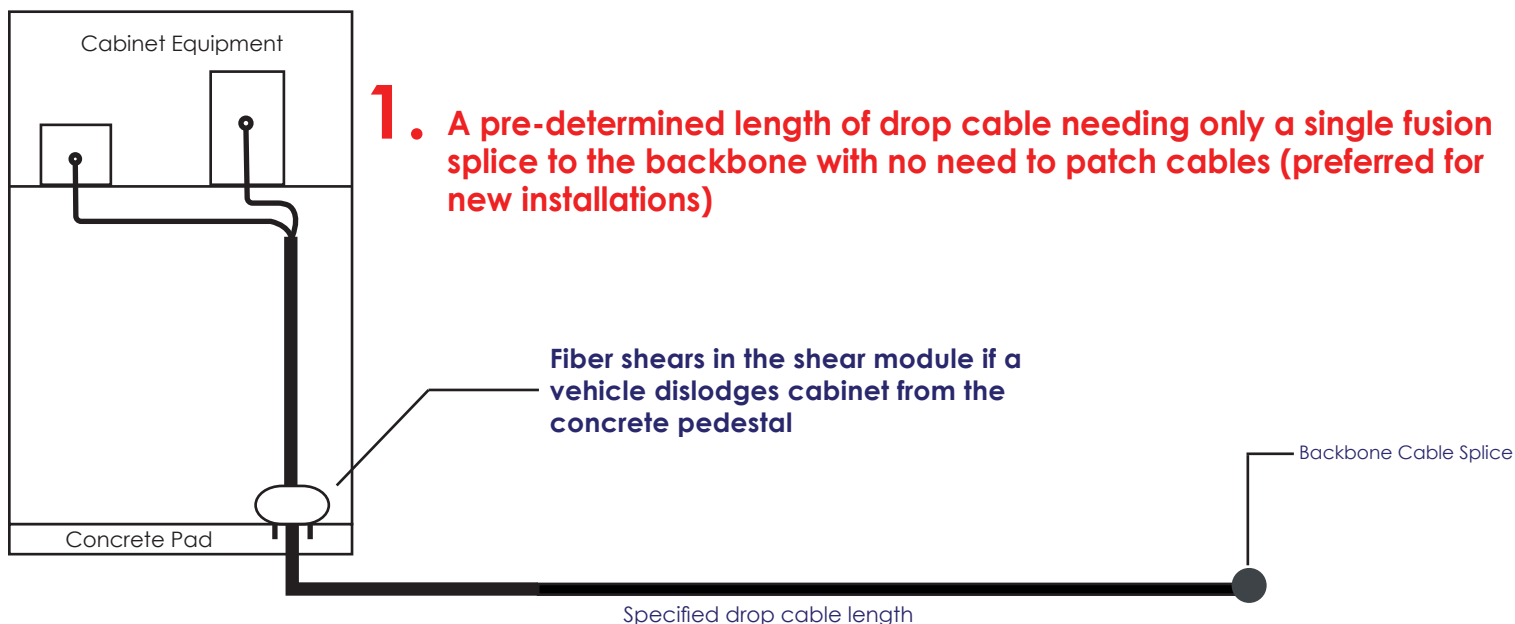
THE PROBLEM WITH PATCH CABLES...

Patch cables are used to interface between a patch panel or termination bar and cabinet equipment. They are often used to offer a quick means of swapping leads or preventing excessive strain on the equipment ports, in the event that the connecting cable is disturbed. Patch cables are one of the least reliable components in the transportation industry fiber optic system because the jacketing material they are made of is not designed for uncontrolled environmental conditions.

This often results in high maintenance costs and premature failure of circuits. Additionally, if they are to be used as a shear point in the event of a cabinet strike, the pull tension of a single fiber jumper can inconsistently range between 15 and 200 pounds. This offers little or no protection for the fragile equipment ports to which the patch cable is attached.

Product Comparison For 12 Count Fiber	CSP Fiber Shear	45° Termination Bar W/ Drop Cable	Cross-Connect Box W/ Drop Cable Interface
Requires remote slack cable storage	✗	✓	✓
Requires patch cables	✗	✓	✓
Protects drop cable during accident	✓	✗	✗
Protects cabinet cabling during accident	✓	✗	✗
Rapid restoration after an accident	✓	✗	✗
Splicing required for restoration	✓	✓	✓
Equipped with self contained splice chamber	✓	✗	✗
Water and dust proof connection	✓	✗	✗
Manufactured in the USA	✓	✗	✓

For 1, 2, and 3 the conduit can be cut flush to the concrete pad and the CSP anchored directly over the entrance to seal the hole (or) the CSP can be anchor mounted adjacent to the hole.



IMMEDIATE

- Eliminates fiber optic drop cable slack storage
- Eliminates patch cables initial cost and their 2-3-year replacement cycles
- Phases out unnecessary circuit losses
- Reduces overall losses by as much as half a dB
- Guarantees a stress-free break-away in the event of a traffic incident

TIME

- Cuts cabinet reset time by as much as 75%
- Quick splice kit may be used for emergency splicing without the need for a fusion splice machine
- Eliminates secondary maintenance or failure point connections in the cabinet
- Offers easy installation with multiple mounting options. (pad mount or cabinet wall mount)
- Includes all hardware for complete installation

CSP SAVINGS

SAFETY

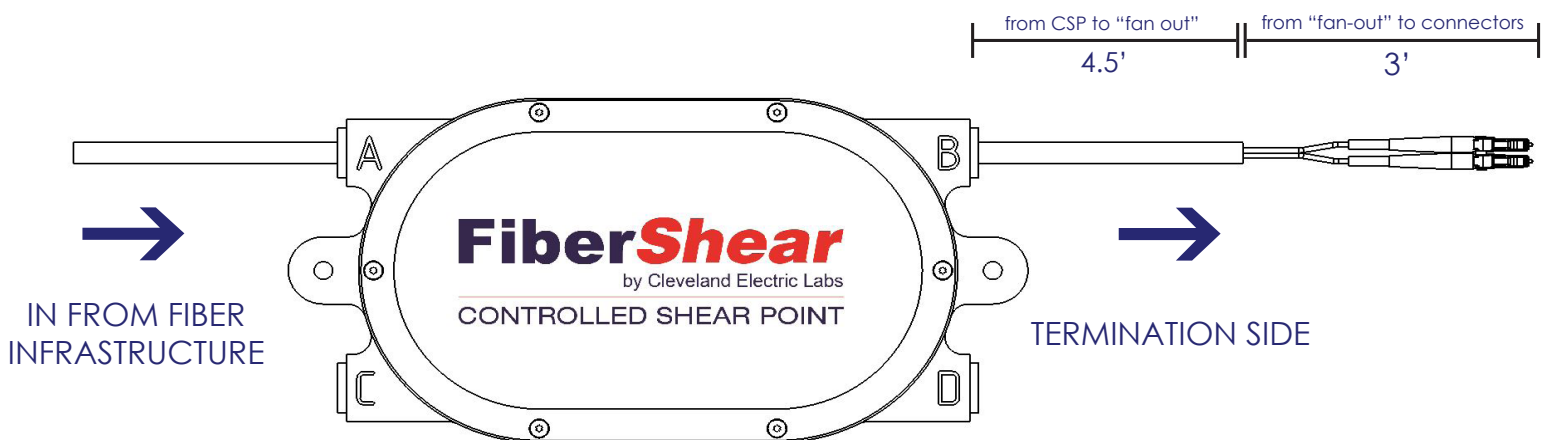
- Quick restoration helps prevent secondary accidents
- Communication and control are restored within minutes

EFFICIENCY

- Satisfies Country of Origin requirements with 100% of the device made in the USA with recyclable components
- Reduces warehouse inventory with the all-in-one delivery package

CSP SPECIFICATIONS

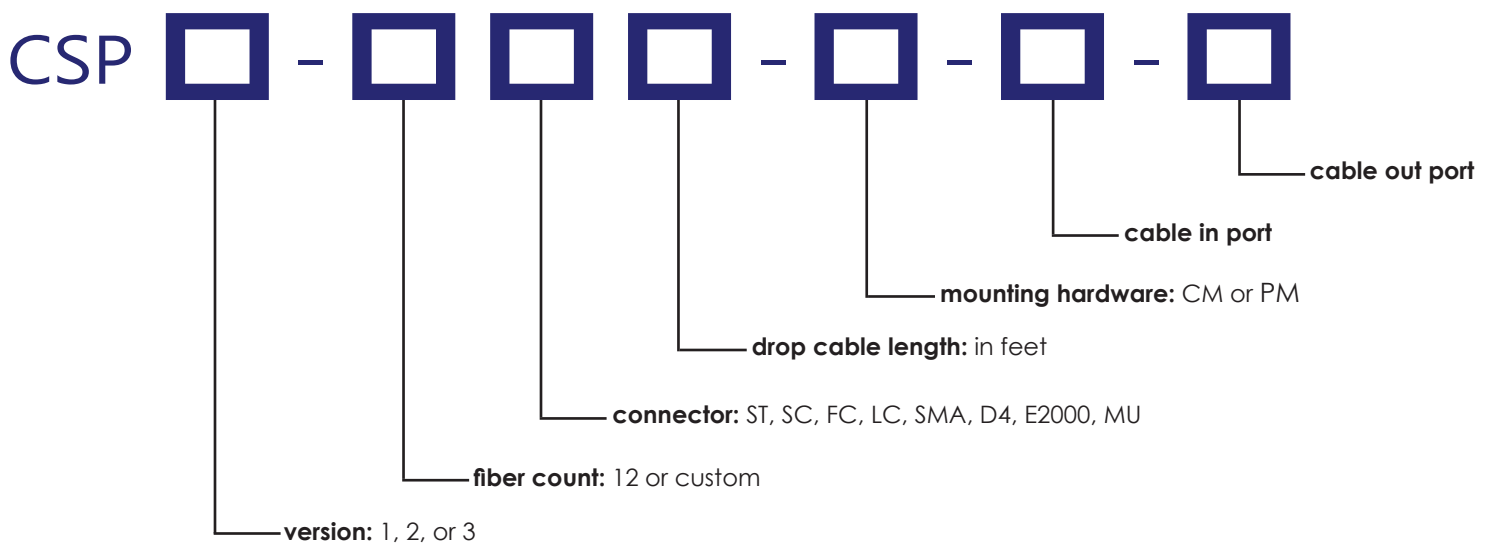
Fiber Shear Body Material:	Delrin®
IEC Standard:	IP66 Equivalent Rating
Module Coupling Retainer Screws:	#8 Zinc Plated Machine Screws
Cabinet Channel Mounting Screws:	1/4-20 threaded Electro-galvanized steel, Unistrut Model P6013-1420, with 1/2" extended 1/4-20 machine screws
Pad Mount:	Steel Red Head Drop in Anchors
Fiber:	G.652.D glass, in tight buffered I/O jacketed configuration (or) equal
Fan-out:	4.5' I/O fans out to (X) of 36" long 3.0 mm outdoor rated fibers. Total of 7.5' of interconnect cable inside the cabinet
Fan-out Cable Type:	Outdoor Hazardous Duty Cable Tight Buffered, 1 SM-BIF, 3.0mm, Yellow Polyurethane Jacket
Termination Type:	Factory certified UPC standards compliant polish specification with less than 0.03 dB per connection at 1310 nm



CSP CONFIGURATION OPTIONS

Configuration Options:	<p>CSP1 = CSP with drop cable and 3.0 mm Outdoor Rated breakout equipment interface cable (no cabinet required)</p> <p>CSP2 = CSP with cabinet direct to equipment 3.0 mm Outdoor Rated interface cable (no drop cable provided - splice required in CSP module and at backbone cable end)</p> <p>CSP3 = CSP blank module (for mid-span access of existing drop cable)</p>
Fiber Types:	Outdoor Rated Singlemode and Multimode as specified
Outdoor Rated Drop Cable Length:	Increments of 50' and up as specified
Number Of Connectors:	12 or custom
Fiber Interface Connector Types:	ST, SC, FC, LC, SMA, D4, E2000, MU
Mount Configurations:	Cabinet Wall Mount Configuration (CM) or Concrete Pedestal Mount Configuration (PM)

With many different CSP configurations, CEL has simplified the ordering process to assist you in developing your custom product. Other available options based on customer specified configuration.



Example: CSP1 - 12SC150 - PM - A - B