

TRAFFIC PRODUCTS CATALOG

EVERYTHING FOR THE INTERSECTION AND BEYOND

2023



ONE-STOP-SHOP ONE-ON-ONE CONNECTIONS

VALUE PROPOSITION

Netceed is a Full-line Stocking Distributor of Traffic Signal Cable and Equipment for Over 40 Years

At Netceed, we are built differently. We are committed to delivering the best customer experience and technical expertise as a unified organization. Our unwavering focus is on increasing the speed and reliability of supply chains to open new possibilities for our customers:

- More certainty in supply availability, on-time delivery, and total cost of ownership (TCO)
- Transformative agility and efficiency for their organizations
- Technical expertise and experience in advanced technology and traffic infrastructure solutions
- Enabling the future of connectivity with global reach and scaling potential

We are Keenly Mindful of Local APL and DOT Regulations

We only represent manufacturers that produce the highest quality local, state and federally approved and compliant products, made from materials that will stand the test of time. This is our commitment to you, and we stand behind it everyday.

We stock a full line of Traffic Signal Hardware and Equipment as well as building wire and fiber optic, coax and composite camera cable - and all of the associated accessories - with same day shipping.

Our goal has always been to create and distribute reliable, high-quality, and innovative products for the best prices - and keeping customer service our #1 priority.

FDOT Hurricane Preparation and Response

The hurricane season in the Atlantic region extends from June 1 through November 30, during which nearly 97 percent of all hurricane activity occurs. It is during this time that we are always at the ready with extra stock on the ground and manpower at the ready. Because of this preparedness, Netceed is the go-to distributor by state, city, and municipalities for traffic signals, traffic signal cable, equipment, pole line hardware, and all of the accessories to get traffic back on the road safely.

Netceed is Proud to be a Sustaining Member of the IMSA Since 2001



The International Municipal Signal Association (IMSA) is the oldest known association of its kind in the world. It dates back to 1896 and counts Thomas A. Edison and the Edison Electric Company among its esteemed members. The (IMSA is dedicated to providing quality certification programs for the safe installation, operation and maintenance of public safety systems.

Moving forward, the Netceed Traffic Team’s goals and vision are always to exceed expectations and continue expansion. We’re going to grow and extend our one-stop-shop offerings and solutions throughout Netceed’s footprint and beyond. Netceed has always put the customer first with the highest quality products and services.

The great news is, with our recent expansion, we now we have access to many more high-end manufacturers with a bountiful supply of new products. And now that we are bigger, our pricing will be better than ever. As well, we now have warehouses spanning the country so our footprint has expanded in the hopes of expanding yours.

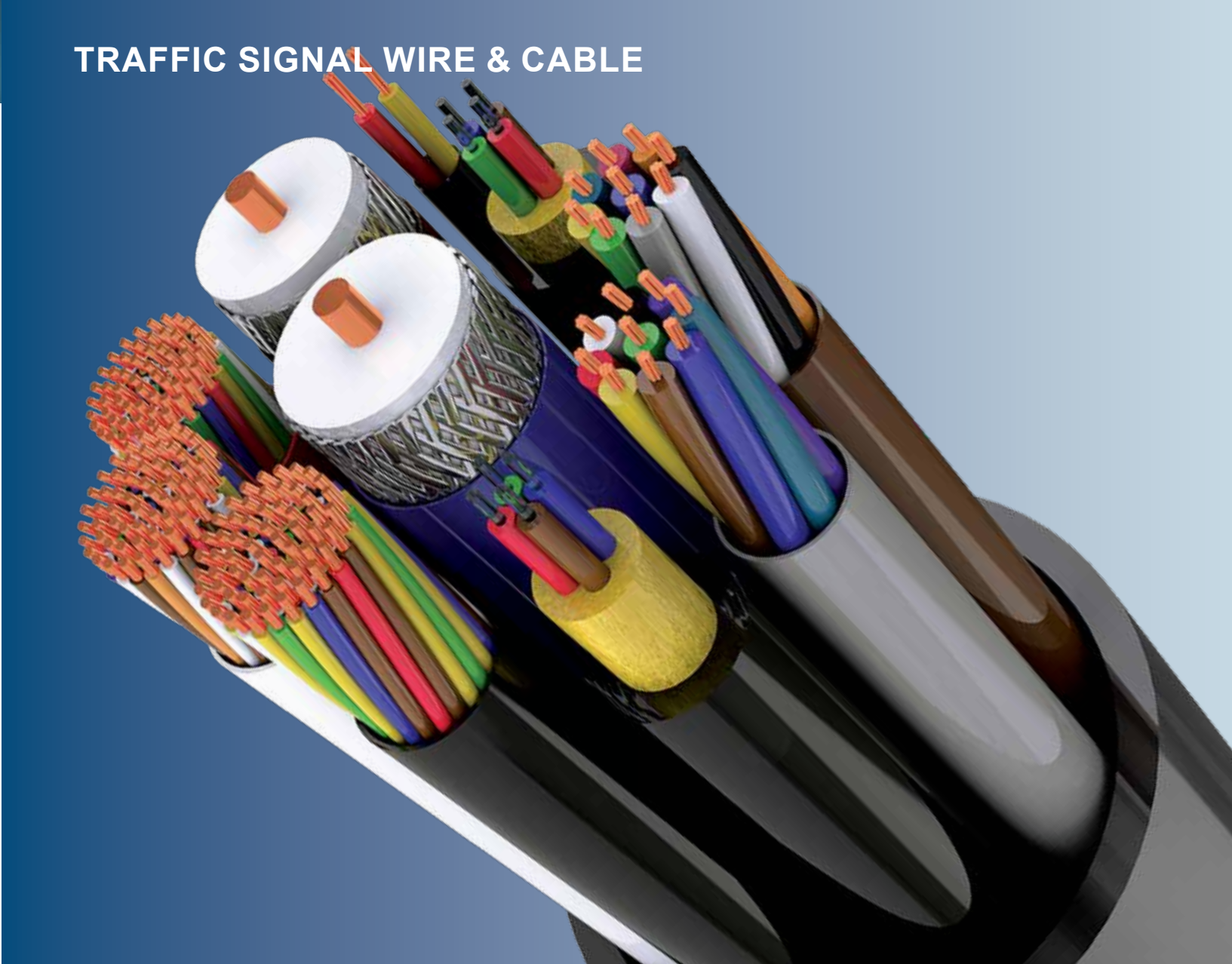
For the Netceed Traffic Division, this brings a whole new world of opportunity to us, and to you.

We will continue to provide best-in-class supply chain technical expertise, outstanding customer service, and state-of-the-art products and services to our customers because our future is brighter than ever. We’re looking forward to working together and are very excited about the future we can build together.

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TRAFFIC SIGNAL WIRE & CABLE



Trusted by agencies across the nation to safely connect people and places everyday. Netceed is your reliable source for Traffic Signal Wire & Cable - In Stock and Made in the USA.



Netceed stocks a wide range of Traffic Signal Wire & Cable for nearly every application in our warehouses in central Florida. All configurations of Traffic Signal Wire & Cable among the manufacturers’ products we carry have jackets rated to 90°C for both wet and dry locations. In addition, these cables are resistant to the effects of being outdoors, including fading and degradation that occurs because of moisture and sunlight. These Traffic Signal Wire & Cable products are compliant with UL Standards for overall cable construction and cold bend capabilities.

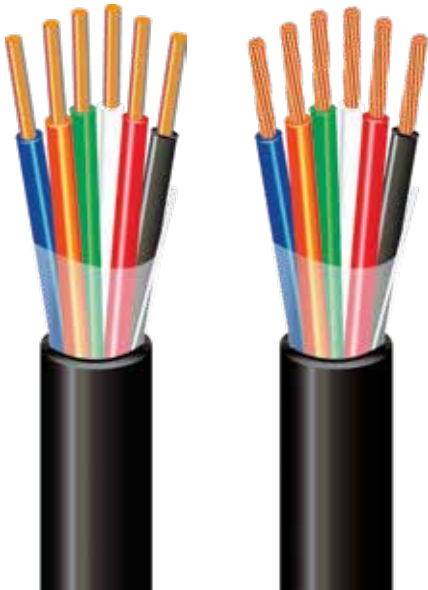
Disaster Recovery: Netceed is proud to be the go-to cable stocking distributor for government agencies, municipalities, system operators and cable companies - providing instant access to our huge inventory of cable where it’s needed, when it’s needed, in times of natural disaster. When hurricanes hit, we are open for business 24/7, ready to assist in any way possible.

Most variations of Traffic Signal Wire & Cable that Netceed stocks can be custom-cut to any length depending on your unique application needs.

IMSA CABLE

Wire And Cable For:

- Video Detection
 - Traffic Signals
- Loop Detection
 - Street Lighting



19-1 & 20-1 Signal Cable with Solid or Stranded Conductors

Netceed is a proud Sustaining Member of the IMSA Since 2001. We offer a wide range of products for various municipal transportation applications: Traffic Communication, Inductive Loop Detection and Traffic Signal Control.

Manufactured in ISO-certified facilities, Netceed stocks state-specific cable of unsurpassed quality and reliability to ensure product consistency for every specification.

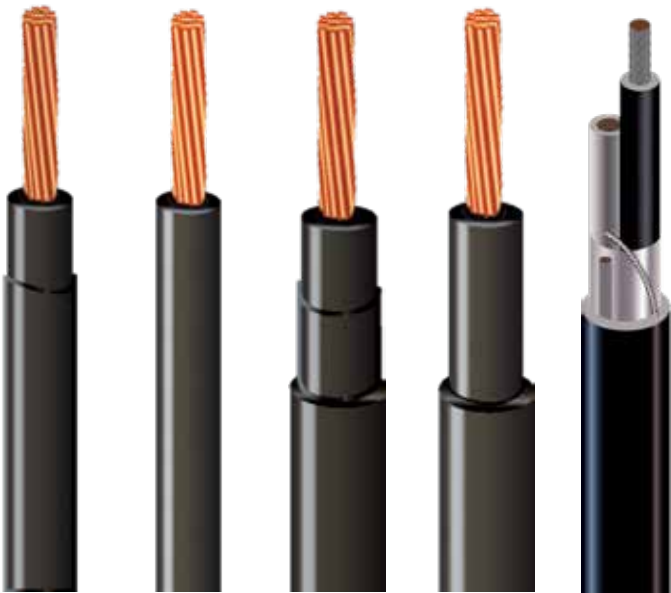


Signal Cable

Spec 19-1 and 20-1 Signal Cable	Specification
Conductors	Solid or Stranded, bare copper
Insulation	Polyethylene
Color code	Per specification
Conductor configuration	Cabled conductors
Shield	None
Jacket	Spec 19-1 - PVC Spec 20-1 - Black PE
Operation mode	Full auto, semi-auto, manual

Loop Detector Wire

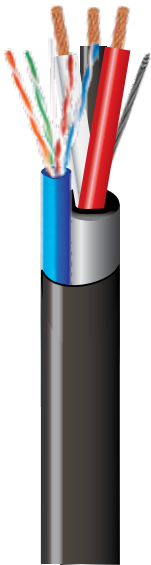
Spec 51-1 / 51-3	Specification
Conductors	Solid or Stranded, bare copper
Insulation	Spec 51-1 - PVC / Nylon Spec 51-3 - Black cross-linked polyethylene
Conductor configuration	Single conductor
Spec 51-5 / 51-7	Specification
Conductors	Stranded, bare copper
Insulation	Spec 51-5 - PVC / Nylon Spec 51-7 - Black cross-linked polyethylene
Conductor configuration	Single conductor
Outer jacket	Black PVC or polyethylene tube
Spec 50-2	Specification
Conductors	Solid or Stranded, tinned copper
Insulation	Polyethylene
Color code	Black / Natural
Conductor configuration	Twisted pair
Shield	Aluminum / Mylar tape
Outer jacket	Black low-density polyethylene



51-1 51-3 51-5 51-7 50-2

VIDEO DETECTION CABLE

Netceed is a leader in custom designed cable manufacturing and special wire construction. If a standard cable won't work for your application, we can design a cable customized to match your exact specifications. Whether you need a custom coaxial cable, special power cables or a completely new cable designed from scratch, we can provide a custom cable to fit your needs.



Composite Camera Cable

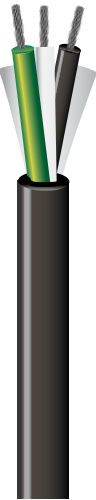
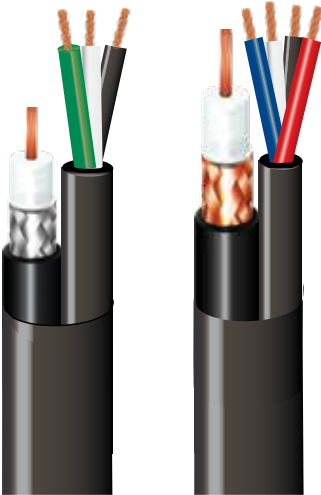
Specification - Element 1	Specification - Element 2
One Component 23 AWG 4 UTP Cat 6	14 / 16 AWG 3C Shielded Cable
Jacket - PVC	Component 1 - 14 / 16 AWG 19 Strands Class C
Diameter - 0.23"	Material - Annealed BC
Ripcord - Nylon	Conductor Count - 3 Conductors
Color - Blue with standard UL print	Color Code - Black, White, Red

Features:

- Save Time and Money: Pull only one cable to camera locations
- Power Options: Use the CAT6 (POE) or the shielded power cable
- Capable of volume control, audio/video, data transfer, networking
- Sunlight resistant and riser rated
- For security cameras and other applications
- Made in the USA

Specification - Coax	Specification - Multi-Conductors
Conductors - 20 AWG Solid BC	Component 1 - 16 AWG BC
Braid - 2 x 98% TC	Insulation - PVC .030 Nominal
Jacket - LDPE .304 Nominal	Jacket - PVC .030 Nominal
	Color Code - Black, White, Green

Specification - Coax	Specification - Multi-Conductors
Conductors - 20 AWG Solid BC .032	Component 1 - 16 AWG BC
Braid - 95% BC	Insulation - PVC
Jacket - PVC .224 Nominal	Jacket - PVC .030 Nominal
	Color Code - Black, White, Red, Brown, Blue



Multi-Conductor Camera Cable

Specification
Conductors - Stranded Tinned Copper
Insulation - 16 / 18 AWG
Jacket - PE / PVC
Fillers - Nylon
Voltage Rating - 600 V
Temperature Rating - 90° C
Color Code - Black, White Green



Precision Video Cable

Specification - Coax
Conductors - 20AWG Solid Bare Copper
Braid - 2 x 98% TC
Jacket - PE
Color Code - Black

BUILDING WIRE



RHH/RHW-2 - XLP USE-2

Description: Single conductor, 90°C Wet/Dry. Insulated with chemically cross-linked polyethylene insulation.

Applications: Appropriate for use in general purpose wiring for lighting and power - residential, commercial, and industrial buildings. Suitable for applications that require superior flame retardance.

Construction: Conductors: 14AWG - 500 MCM fully annealed stranded bare copper per ASTM B3. Class B Stranding per ASTM B8.

- 600 Volt, Copper conductor
- High-heat, moisture, and sunlight resistant
- All size variations available



XHHW / XHHW-2

Description: Single conductor, 90°C Wet/Dry. Insulated with chemically cross-linked polyethylene insulation.

Applications: Appropriate for use in general purpose wiring for lighting and power - residential, commercial, and industrial buildings. Suitable for use in low leakage circuits requiring a dielectric constant of 3.5 or less.

Construction: Conductors: 14AWG - 500 MCM fully annealed stranded bare copper per ASTM B3. Class B Stranding per ASTM B8.

DID YOU KNOW?

Netceed has the Answers!

There are two easy to read and understand articles: [RHW, RHW-2, USE-2 and RHH Building Wire – Explained](#), and [THHN vs. XHHW: What Is the Difference?](#) See them on our Technical Resources page.

- 600 Volt, Copper Conductor
- High-heat, moisture, and sunlight resistant
- All size variations available

THHN / THWN-2

Description: Single conductor stranded bare copper, with a PVC insulation and Nylon Jacket

Applications: Appropriate for use in general purpose wiring for lighting and power - residential, commercial, and industrial buildings. Suitable for use with machine tool and appliance wiring.

Construction: Conductors: Uncoated fully annealed stranded bare copper per ASTM B3. Class B Stranding per ASTM B8.

- Construction, machine tools & control circuits
- 600 Volts, Copper Conductor
- Heat, moisture, gasoline, and oil resistant

DID YOU KNOW?

Netceed can help you pull or blow this wire through conduit? See **Condux** on page 17 for more information.

PE-39 INTERCONNECT



General Cable is one of three levels of the Prysmian Group, which has a multi-brand architecture.



PE-39 Interconnect Cable is manufactured for direct burial communication system applications in accordance with the National Electric Code.

Features:

- Intended for duct and direct buried installations where protection against water and moisture entry is required and may also be installed aerially
- Conductors: Solid, annealed copper; sizes 19, 22, and 24 AWG
- Insulation: Solid, high density polyethylene, colorcoded in accordance with telephone industry standards
- Twisted Pairs: Insulated conductors are twisted into pairs with varying lay lengths to minimize crosstalk

STRAND WIRE



Product Offerings:

- Galvanized Steel Strand
- Structural Bridge Strand
- Stainless Steel Strand
- Galvan Coated Steel Strand
- Guard Rail Cable
- Barrier Strand

National Strand has built an unbeatable reputation. The superior qualities of National Strand's products provide exceptional reliability and long life for guy wires, overhead ground wires and messenger cables.

Guying, Static/Grounding applications in Power Utility, Messenger/ Telecommunications/CATV for years by the most demanding North American IOU's, Muni's, Co-Ops, MSO's and others. All Strand products are expertly produced to ASTM A475, A363, A855, A925, A111, A586, CSA. **Netceed can arrange for custom specifications as required for your quality critical application.**



National Strand was the first in the industry to devise color coded end caps for easy grade identification.

UTILITIES
COMMON
SIEMENS-MARTIN
HIGH STRENGTH
EXTRA HIGH STRENGTH
BRIDGE STRAND
GALFAN

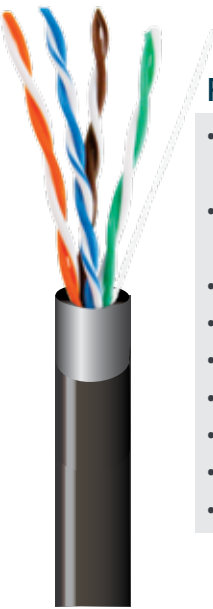
Galvanized and Galvan Coated Guy & Static Wire										
Galvanized Steel Strand			Minimum Break Strength in Pounds					Min. Weight of Coating Oz./Sq. Ft.		
Strand Diameter Inches	Coated Diameter Inches	Wires Per Strand	Utilities Grade	Common Grade	Siemens-Martin Grade	High Strength Grade	Extra High Strength Grade	Class A	Class B	Class C
1/4	0.12	3	3150	1860	3040	4730	6740	0.85	1.7	2.55
1/4	0.12	3	4500	-	-	-	-	0.85	1.7	2.55
5/16	0.145	3	6500	2490	4090	6350	9100	0.9	1.8	2.7
3/8	0.165	3	8500	3330	5560	8360	11800	0.9	1.8	2.7
3/16	0.062	7	-	1150	1900	2850	3990	0.5	1	1.5
3/16	0.065	7	2400	-	-	-	-	0.5	1	1.5
7/32	0.072	7	-	1540	2560	3850	5400	0.5	1	1.5
1/4	0.08	7	-	1900	3150	4750	6650	0.6	1.2	1.8
9/32	0.093	7	4600	2570	4250	6400	8950	0.7	1.4	2.1
5/16	0.104	7	-	3200	5350	8000	11200	0.8	1.6	2.4
5/16	0.109	7	6000	-	-	-	-	0.8	1.6	2.4
3/8	0.12	7	11500	4250	6950	10800	15400	0.85	1.7	2.55
7/16	0.145	7	18000	5700	9350	14500	20800	0.9	1.8	2.7
1/2	0.165	7	25000	7400	12100	18800	26900	0.9	1.8	2.7
9/16	0.188	7	-	9600	15700	24500	35000	1	2	3
5/8	0.207	7	-	11600	19100	29600	42400	1	2	3
1/2	0.1	19	-	7620	12700	19100	26700	0.7	1.4	2.1
9/16	0.113	19	-	9640	16100	24100	33700	0.8	1.6	2.4
5/8	0.125	19	-	11000	18100	28100	40200	0.85	1.7	2.55
3/4	0.15	19	-	16000	26200	40800	58300	0.9	1.8	2.7
7/8	0.177	19	-	21900	35900	55800	79700	0.9	1.8	2.7
1	0.2	19	-	28700	47000	73200	104500	1	2	3

TRAFFIC CAMERA / SENSOR CABLE



CAT5E Direct Burial STP (Waterproof) CMX

Description: Category-5E Direct Burial, STP w/Drain Wire, 8-Conductor, Waterproof Outdoor Jacket, 24AWG Solid-Bare Copper. This cable that is rated for direct burial applications and is designed to be buried directly beneath the ground without any additional protection, piping, or sheathing. Direct burial cable is built to tolerate heat, moisture, and other hazards that present themselves when cable is buried underground.



Features:

- High-Performance Data Communications Cable
- 350MHz Bandwith for Data Applications, Fast Ethernet and 155Mbps TP-PMD/CDDI
- Category-5E Shielded Twisted Pair
- Easily Identified Color-Striped Pairs
- 24AWG Solid Copper Conductors
- Exceeds TIA/EIA-568B.2, ISO/IEC 11801
- CAN/CSA -C22.2 No. 214
- Direct Burial (Waterproof)
- ETL Listed

Electrical Characteristics	
1.0-100.0MHz Impedance (Ohms)	100±15
1.0-350.0MHz Delay Skew (ns/100m)	<=45
Pair-to-Ground Capacitance Unbalance (pF/100m)	<=330
Max. Conductor DC Resistance 20°C (ohms/km)	88.5
Resistance Unbalance (%)	<=5

Freq.	Ret. Loss (Min dB)	Att Max (db/100m)	Next (ns/100m)	PSNext (Min dB)	ELFEXT Min (dB/100m)	PSELFEXT Min (dB/100m)
1	20.0	2.0	68.3	62.3	63.8	60.8
4	23.0	4.1	59.3	53.3	51.7	48.7
8	24.5	5.8	54.8	48.8	45.7	42.7
10	25.0	6.5	53.3	47.3	43.8	40.8
16	25.0	8.2	50.3	44.3	39.7	36.7
20	25.0	9.3	48.8	42.8	37.7	34.7
25	24.3	10.4	47.3	41.3	35.8	32.8
31.25	23.6	11.7	45.9	39.9	33.9	30.9
62.5	21.5	17.0	41.4	35.4	27.8	24.8
100	20.1	22.0	38.3	32.3	23.8	20.8
200	18.0	32.4	33.8	27.8	17.7	14.7
300	16.8	41.0	31.2	25.2	14.2	11.2
350	16.3	44.9	30.1	24.2	12.9	9.9

Parameter	Specification
Rated Temperature	75° C (167°F)
Rated Voltage	300V
Flammability Test	IEC-332-1
Product Standard Certification	CMX
Conductor	Solid Bare Copper
Size	24 AWG (0.51mm)
Insulation	PE
Average Thickness (mm)	0.208
Insulation Diameter (±0.005mm)	0.91
Twisted Pair Diameter (±0.01)	1.92
Assembly Diameter	3.80
Inner Jacket (Gray)	PVC
Average Thickness (mm)	0.40
Min. Point Thickness (mm)	0.36
Outer Diameter (±0.10mm)	4.80
Aluminum Foil	Yes
Drain Wire (Tinned Cooper)	7/0.16
Outer Jacket (Black)	LSZH (UV)
Average Thickness (mm)	0.60
Min. Point Thickness (mm)	0.54
Outer Diameter (±0.10mm)	6.40
Rip Cord	Yes
Color of Pairs	
Pairs	Pair 1: Blue, White-Blue Pair 2: Orange, White-Orange Pair 3: Green, White-Green Pair 4: Brown, White-Brown
Mechanical Characteristics	
Test Object	Jacket
Test Material	LSZH (UV)
Before - Tensile Strength (Mpa)	>=13.8
Aging - Elongation (%)	>=100
Aging Condition (°Cxhrs)	100 x 168
After - Tensile Strength (Mpa)	>=85% of unaged
Aging - Elongation (%)	>=50% of unaged
Cold Bend (-20±2° Cx4hrs)	No Crack



EVERYTHING FOR THE INTERSECTION AND BEYOND

It is our mission to Stock. Let us know what we can stock for you.

At Netceed, our people, our philosophy and our commitment to customer service is the difference that allows us to provide our customers with comprehensive solutions to their traffic equipment needs.

For over 40 years, we've served municipalities and contractors throughout the country - providing a comprehensive range of products from underground to overhead. We offer same-day-shipping and delivery on your urgent requests, along with the expertise to ensure that you receive exactly what you need when you need it - first time, every time. Our manufacturers and the products they produce, have earned a strong reputation for quality and reliability.

TRAFFIC & PEDESTRIAN SIGNALS, HOUSINGS & ACCESSORIES



Netceed stocks a wide range of McCain products - Advanced transportation solutions, trusted by agencies across the nation to safely connect people and places everyday.



Traffic Signals Housings

Built to last in any environment, McCain offers an extensive signal portfolio for most applications. The full line of solutions includes traffic signals, pedestrian signals, and signal accessories.

Traffic Signal Housings provide a durable and low-maintenance housing for standard LED modules as well as incandescent optical assemblies. Housings are compliant with the Institute of Transportation Engineers (ITE), Caltrans, and most state Departments of Transportation.



McCain Traffic Signal Housing Features:

- Poly and Aluminum
- Increase product durability in extreme or high-wind conditions
- Corrosion resistant and low maintenance
- Modular sections, one-piece, injection molded or cast
- 72-tooth serrated boss and reinforcing ribs, top and bottom
- Housings have a cast boss for mounting a 5 or 6-position terminal block; one side of terminal block with fast-on terminals, the other side with screw terminals

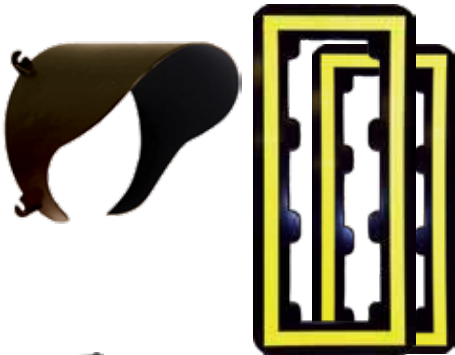


Pedestrian Signal Housings

- Poly and Aluminum
- Superior strength and durability
- Increase visibility and impact protection
- Use in any environment
- Remove, reverse or permanently attach door-hinge hardware
- Stainless steel hardware
- Terminal block

Netceed Stocks McCain Products, Including:

- Pedestrian Signal Housings
- Traffic Signal Housings
- Backplates
- Tunnel Visors
- and more...



At the front line of any signalized intersection, Econolite's products increase safety for all roadway users, and are designed to meet or exceed the Institute of Transportation Engineers (ITE) standards. Econolite's Intelligent Transportation System (ITS) solutions ease traffic congestion, provide safer mobility and improves quality of life.

Econolite Traffic Signal Housing Features:

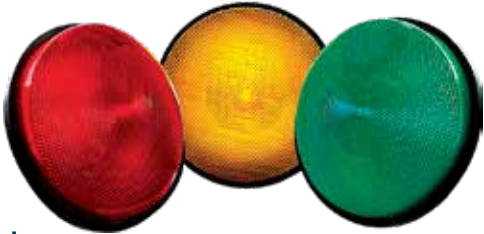
- Poly & Aluminum
- Tested to ITE required wind loading on single-point attachment
- Reversible door - left side standard, right side optional
- Doors equipped with two latches
- Provisions for one five-position and one six-position terminal block in each housing



Econolite Products also Include:

- Traffic Signal Housings
- Backplates
- Tunnel Visors
- and more...

TRAFFIC & PEDESTRIAN SIGNALS, HOUSINGS & ACCESSORIES



Duralight and GE have been manufacturing traffic signals and commercial traffic products almost



since their invention. These manufacturer's LED signal modules not only meet the specifications of ITE and many states/local government agencies, but also are certified by ISO9001 Quality Control System. LED traffic signal modules exceed the highest level of specifications set forth by federal, state, and local government agencies.



LED Traffic Signals

- Compliance with latest ITE specifications
- Low power consumption & long operating lifetime LEDs
- Retrofit design & UV stabilized lens
- Full compatibility with NEMA controllers/conflict monitors
- Uniform incandescent appearance

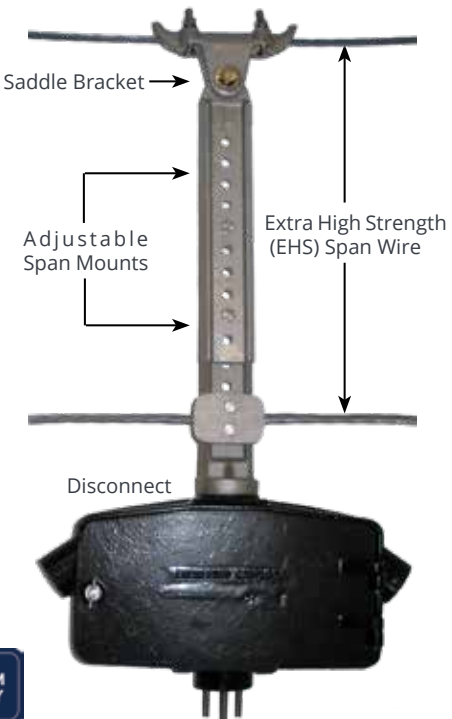
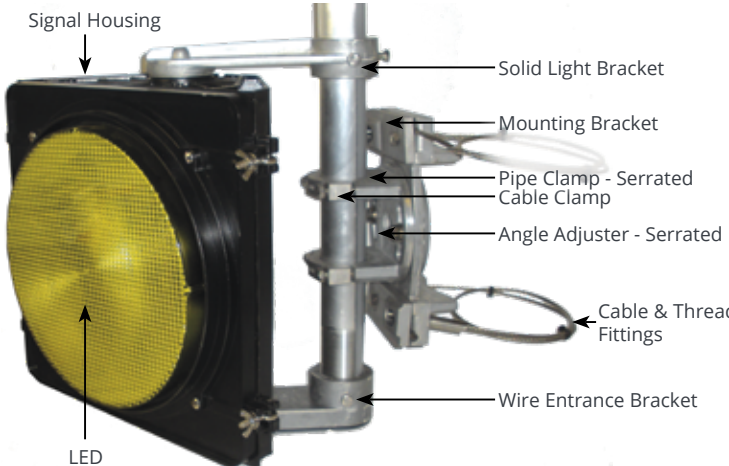
Pedestrian Countdown Lamps

- Compliant with the latest ITE specifications
- Retrofit design & UV stabilized lens
- Fully compatible with NEMA controllers/conflict monitors
- Conforms to standards specified in ITE LED Pedestrian Signal Modules



Pelco / Engineered Castings Products also Include:

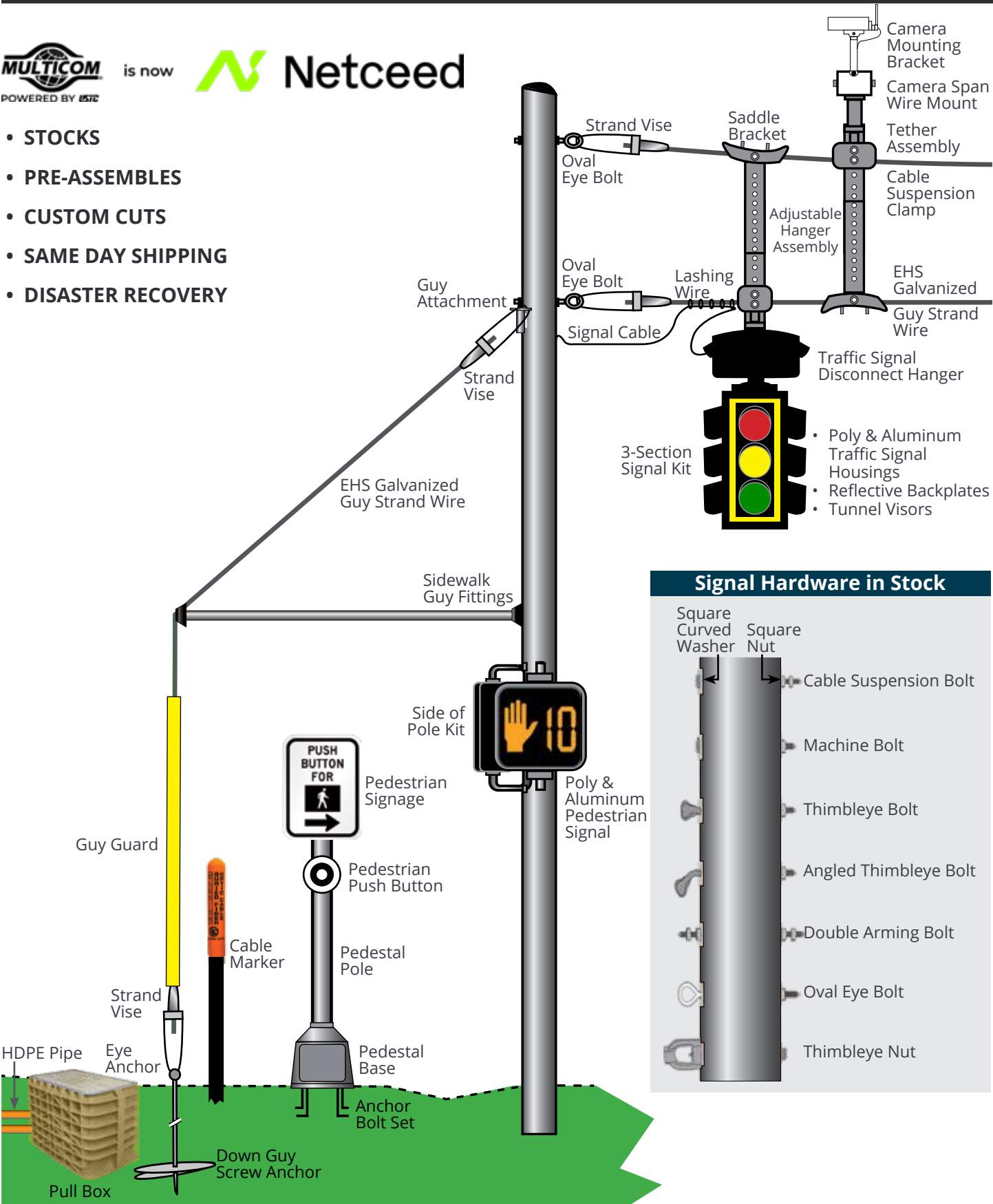
- Astro-Brac Signal Mountings
- Free-Swinging Signal Mountings
- Rigid Side-of-Pole
- Rigid Post Top
- Sign Mountings
- Pedestrian Push Buttons
- Cabinets
- Backplates
- Poles & Bases
- Poles
- Traffic Accessories
- Lighting & Pole Solutions



EVERYTHING YOU NEED IN THE INTERSECTION



- STOCKS
- PRE-ASSEMBLES
- CUSTOM CUTS
- SAME DAY SHIPPING
- DISASTER RECOVERY



Signal Hardware in Stock	
	Square Curved Washer
	Square Nut
	Cable Suspension Bolt
	Machine Bolt
	Thimbleye Bolt
	Angled Thimbleye Bolt
	Double Arming Bolt
	Oval Eye Bolt
	Thimbleye Nut

POLE LINE HARDWARE



MacLean Power Systems is a leading manufacturer of Pole Line Hardware and connection products, as well as insulation and protection products. Netceed stocks a wide range of MPS products, including:



Strandvise®

For deadend applications with overhead or down guy wire. Rated to hold a minimum of 90% of RBS of the strand used.

J1096 or SI-1740
5/8 inch Clamp Bolt Diameter



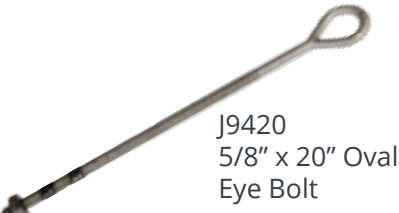
Cable Suspension Clamps

Cable suspension clamp with curved ends to prevent damage to the messenger.



Crosby Clamps

A strong economical means of securing down guys and wire ropes. The steel U-bolt and malleable iron base are both hot dipped galvanized.



Bolts, Oval Eye

Double Arming Eyebolts are forged in a one piece design and are fully threaded the entire bolt length except for 2 inches under the eye. Permanent intersection Oval Eyebolts available.



J1093
3/4 inch Oval Eye Nut

Eyenuts

Hot Dip Galvanized, the Thimbleye, Twineye and Tripleye are all used with PH-style anchor rods.



WRIN2X14
2 inch x 1/4 inch
Cable Ring

Cable Rings & Cable Ring Saddles

Designed to support heavy cables. Available in various materials and sizes depending on application.



No-wrench Screw Anchors

An integral forged eye anchor with a helix welded to the shaft and for manual or machine installation.



GCC26-120R
10' 36K Rod

Guy Strain Insulators

Can be installed anywhere on the guy wire. Helps protect against stray current.



J8563
5/8 inch Square Nut

Square Nuts & Washers

Hot-dip galvanized, locks securely into place with little effort, making removal or displacement difficult.



Pulling Grips from Lewis Manufacturing are Wire Mesh Grips that have been a popular and effective means of pulling power cables, fiber optics cables, and ropes overhead or underground and stress free suspension of power and data cables.



LSR-250-SE

Lewis Split Grip Model LSR - Designed for all phases of suspension or pulling, where neither end of the conductor is available and 'middle of the run' application of the grip is desired. Available in 3/4 inch to 5 inch.

PEDESTRIAN CROSSING HARDWARE



Netceed provides Traffic Signal and Pedestrian Crossing Hardware that meets the needs of the traffic industry by providing the highest quality products from the industry's most respected manufacturers. Innovative designs lead the way with products that withstand the dynamic effects of nature, while adding value to any project. Netceed is dedicated to meeting the needs of our customers while adhering to regulatory requirements based on quality management principles.

EC-2058
10" Nipple

EC-2054
Side of Pole Kit

EC-2053

EC-2060-PB
SP-1090

SE-3054

CPI-RBC-1
Reinforced Aluminum Collar

CPI-APC-1
4" Aluminum Pole Cap

Anchor Bolt Set

Side of Pole Kit
Side-of-Pole assemblies are designed to mount traffic and pedestrian signals on the side of traffic signal poles with an upper and lower arm. Available in black.

Slip Fitter Assembly
Post Top Slip Fitters are available in aluminum, 1-1/2" NPS, tri-bolt or tri-stud.

EC-3004-T / SP-1034
Slip Fitter, also available in Black

CPI-BAS-1-PDA
Square Aluminum Pedestal Base

Push Button
State-of-the-art, impact and vandal-resistant with high strength die cast construction.

Stud Closure
Mono Stud Close-out for pedestrian and signal housings.

Collar Assembly
Reinforcement collar to stabilize pedestal pole.

Pole Cap Assembly
Close-out for top of pole.

CPI Base - Pedestrian Pole Base Kit includes:

- Pole
- Base
- Anchors
- All available in black

CPI-AB-18D
Hot Dipped Galvanized Bolt

Pedestrian Signage
Provide advisory information for pedestrians using full-color text, symbols and pictures.

SF Series

MAST-ARM HARDWARE



Mast-arm Sign Bracket

Mast-arm Camera Mount

Mast-arm Bracket Assembly

- 1-way stainless cable mount
- Aluminum

EC-3075
SP-1006-FL

Mast-arm Clamp Kit

- Stainless cable mount
- Aluminum

EC-3075-0
SP-1079-FL

Mast-arm EZ Attachment

- Adapter
- Aluminum

EC-3075-EZ

Sign Mounts

Camera Brackets
Netceed stocks adjustable brackets for cameras, sensors and antennas that can mount a variety of traffic industry devices. Video Detection camera brackets are available for mast arm, post top, span wire or side-of-pole applications.

SP-1106-FL

Retroreflective Backplates
Backplates with Retroreflective Borders are more visible in daytime and nighttime conditions than standard backplates, particularly for older and colorblind drivers. The Federal Highway Administration approved the use of retroreflective tape after a seven-year safety study showed that the use of retroreflective backplate borders reduced total crashes at intersections by 15% to 24%.

Features:

- Improve safety at signalized intersections
- Boost signal visibility in daytime & nighttime conditions
- Reduce crashes
- Use on most standard signals

Free Swinging Mast-arm Sign Brackets
Sign brackets in rigid and free-swinging mounts for both flat and internally illuminated signs. Most sign-bracs are available with a cable, band, or tenon mount clamp kit.

SP-1072-FL
SP-1074-FL

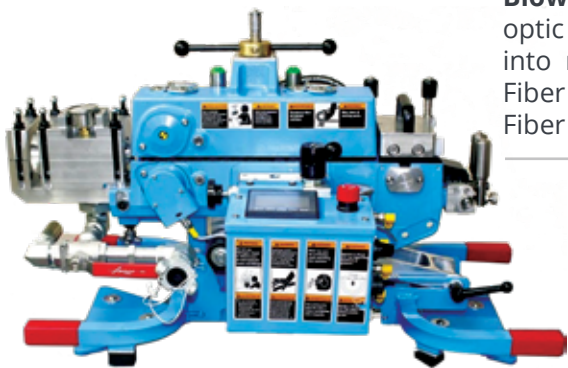
TRAFFIC ACCESSORIES



Condux International the premier manufacturer of underground and overhead cable installation tools and equipment for the telecoms and electric power markets. Condux machines allow safe, quick and easy installation of fiber optic cable and power cables.

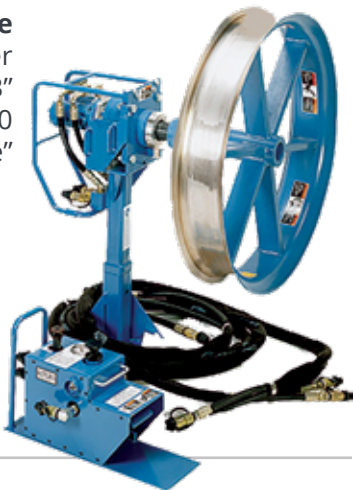
CONDUX

From Fiber Optic Cable Blowers to Pullers, and Everthing in Between



The Condux Gulfstream™ 400 **Fiber Optic Cable Blower** is designed for the installation of fiber optic cables with diameters from 0.23" to 1.13" into microduct. The Condux Gulfstream™ 400 Fiber Optic Cable Blower is ideal for "Last Mile" Fiber Installations.

The Condux **Fiber Optic Cable Puller** sets new standards for safe, accurate pulling of fiber optic cables. Only the Condux puller can offer load cell torque input for the most accurate tension measuring available.



Duct Rodders combine ease of operation and reliable performance to help increase the efficiency of your rodding operations. Cages have been designed to be lighter weight for easy handling in the field.

The **Power Dart Blower** provides a method to install Pull String or Pull Tape into longer duct runs without the need for an air compressor. Utilizing three independent, high volume blower motors, this unit delivers enough to blow 1/2" pull string or pull tape 2000' into conduit up to 6" in diameter.



The **TurboSlitter** and **Turbo Splitter Pneumatic** from Condux can easily split HDPE pipe with wall thicknesses ranging from 0.097 to 0.216 inches. Available in two styles, pneumatic and cordless drill attachment. The cordless drill attachment quickly adjusts to fit almost any rechargeable drill, 14-volt and larger.

Designed to meet common dimensional specifications, the **Champion Swivels** are designed for underground and overhead cable pulling applications. Clevis pin is easily replaceable. Versatile clevis provides efficient link for several applications. Stainless steel construction with 10,000 lbs. (44,480 N) load capacity.



Champion Swivels

Rope to Rope / Grip Clevis

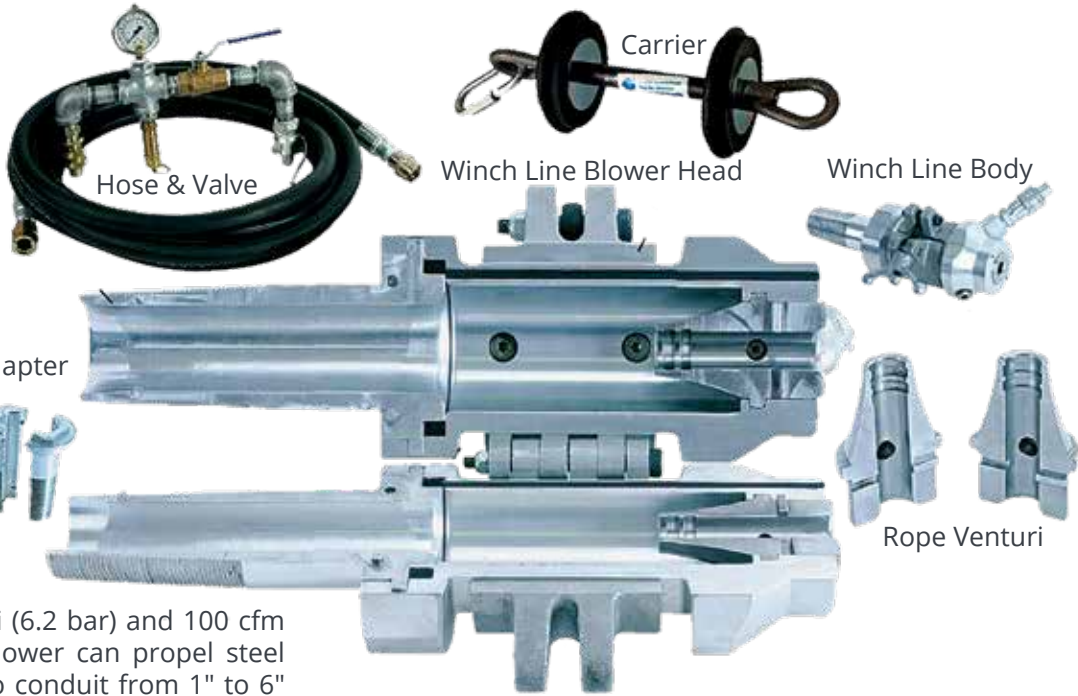
TRAFFIC ACCESSORIES



The Condux **Winch Line Blower** is a tool for installing winch line, rope, or pull tape into the conduit. It turns the job of placing winch line into one easy step, eliminating the need to blow a string and pull back a rope.

Features:

- No special tools are required
- Seamless installation
- Condenses air, reducing the number of tools needed
- Premium conduit for steel winch line, tape, and rope



Split Threaded Duct Adapter

Winch Line Blower with 2" Split Threaded Adapter adm 1/2 - 9/16" Rope Venturi

Using compressed air, 90 psi (6.2 bar) and 100 cfm (2.8 cmm), the winch line blower can propel steel winch line, rope, or tape into conduit from 1" to 6" in diameter. Installation is easy. No special tools are required.

The Condux **Blue Ox™ Cable Puller** combines years of experience, field research and end user feedback - and designed to excel in the most demanding utility applications. Featuring 8,500 lbs of continuous pull force, a heavy duty steel frame and hydraulically controlled boom and outriggers, The Blue Ox does not require the arm to be supported during pulling operations. The extendable - up to 90" - steel boom arm boasts 150° of lateral adjustment, providing easy access in even the most confined areas.

Features:

- Hydraulic boom arm extension
- Adjustable outriggers
- Easy to access maintenance components
- Traffic cone holder

Nylatron Rollers - Super hard surface

Anti-twist Rope - 3,000' of 3/8" rope comes standard

Oil Cooler - Hydraulic puller units with oil cooler provide a smooth operation throughout the pull.



Self-supported Boom Arm - 150° lateral & 85° vertical movement

Heavy Duty Outriggers - For maximum stability

7" Color Display - Gives all of the information you need during the pull, plus wireless remote

Advantages:

- Wireless remote provides maximum flexibility for operator
- Easy Set-Up
- Rugged design to withstand harshest conditions
- Easy layout for maintenance and service
- Hydraulically controlled arm and outriggers
- Superior factory service and support

TRAFFIC ACCESSORIES



PRO-MARK Cable and Pipeline Markers



A leading manufacturer of Pipeline Markers, Utility Signs and Marker Posts with over 25 years of experience in identifying and marking buried utilities. Products are made from formulated engineered resins to perform in harsh weather conditions to identify, prevent damage and dangerous accidents.



ETCO is a manufacturer of specialty fittings for the traffic and utility industries



Single E-Loc & Compression Coupling

The EtcO E-Loc® Coupling is a compression coupling used to provide a watertight / airtight connection in buried or restrained applications. The ability to join dissimilar materials, such as, PVC, HDPE, fiberglass, or metal makes the E-Loc® a versatile coupling for traffic control, telephone, electrical, and cable industries. E-Loc® Couplings are available to fit conduit sizes from 1/2" through 8". Couplings are watertight to 200 psi restrained on smooth wall, ribbed and corrugated duct.



I am most thankful for my customers. Sometimes the questions are complicated but the answers are simple. My customers motivate me to be on the top of my game, so they are on the top of theirs.
Rob Ricks - Director of Traffic Business Development

From the moment I walk through the doors, to the time the doors swing behind me, it's always full-speed ahead! My warehouse humms and my forklift is my best friend. If you enter, look both ways!
John Nashburn - Warehouse Supervisor and Expert Forklift Driver



HDPE CONDUIT



WL Plastics is the ideal producer of polyethylene pipe in North America. HDPE pipe provides durability to avoid the high cost of replacement or rehabilitation. WL Plastics best-in-class manufacturing processes and experienced production personnel help make WL one of the most efficient producers of HDPE pressure pipe in the industry.



HDPE CONDUIT & ACCESSORIES



Introducing OptiCell: The first-in-class flexible Fabric innerduct system, purpose-built to provide network installers, like you, with the premium power, protection and precision you need for the job site.

Milliken's industry-leading OptiCell technology expands your network and optimizes your operational capabilities. With OptiCell, organizations can minimize the cost of their network construction by maximizing cable capacity. Fitting more cables into one conduit allows OptiCell to reduce installation times, minimize material costs and eliminate the need for new network construction.

The OptiCell was purpose-built for simplicity and easy set-up. It's been outfitted with today's most cutting-edge technology and designed to help deliver quick, reliable connection speeds.



Pull Tape
Pull Tape for cable technology, made of low friction, high tenacity – abrasion resistant yarns is a powerful new pull tape that offers unmatched levels of accuracy, legibility, softness and durability. Pull tape improves productivity and reduces total cost by eliminating rework and scrap. The unique Mprint process increases print durability and ensures print length accuracy while our production process ensures a softer feel.

Available in 1250/1800/2500 lb. options and in Standard, Detectable, and Color-coded options.

- Features:**
- Extraordinary print legibility and durability
 - 99% print length accuracy
 - Increased softness for easier knotting
 - Specialty tape offered with a colored thread for easy identification when pulling cable into multiple cells
 - Specialty tape offered with a 22AWG detectable wire

- Specifications:**
- Tensile Strength 1250/1800/2500 lb. (Min)
 - Working Load 1250/1800/2500 lb.
 - Color White
 - Print Color Black
 - Pre-lubricated with silicone
 - Printed with sequential foot markings
 - Packaging: UV resistant white plastic wrap
 - Detectable wire is a 22AWG solid tinned copper conductor, 23 ohms per mile resistance
 - Color coded threads for easy identification -Available colors: blue or orange



Heavy Duty Orange Cured Concrete Diamond Blades

- Wide variety of diamond depths
- Various segment depths and diamond concentrations
- Fast cutting blades that work well with a wide range of high or low HP saws
- Combines long life performance while maximizing your blade dollars



SEALANT & LOOP ACCESSORIES



STAT-A-FLEX® is a two part polyester resin loop sealant formulated for encapsulating and sealing traffic signal wire in road surfaces. STAT-A-FLEX® product can be made to resemble cement coloring as well as black for the desired circumstances. STAT-A-FLEX® is easily mixed and applied. It cures quickly and produces a tough weather and chemical resistant seal. STAT-A-FLEX® provides maximum protection of all embedded signal wire. STAT-A-FLEX is approved for use in most state DOT's for public roadway applications.



Bondo® Traffic, P-606 Flexible Loop Sealer with Hardener is highly durable and remains permanently flexible. This loop sealant can withstand the corrosive effect of road salts, automotive fluids, jet fuel, gasoline and extreme weather conditions. Bondo has been engineering and manufacturing professional products for the traffic control industry for over 37 years. During this time Bondo has remained committed to understanding customers' needs and then developing products that meet and exceed those needs.



3M™ DBR/Y-6 Series Direct Bury Splice Kit electrically connects 2 or more pre-stripped copper wires and moisture seals the connection for direct-burial applications. The flame-retardant kit seals the wiring that is rated up to 600V. It is suitable for water-intensive applications such as golf courses, irrigation controls and outdoor lighting. The kit consists of a 3M™ Spring Connector R/Y+ and a high impact, UV-resistant tube prefilled with moisture-resistant grease. UL-listed for direct bury and rated for 600V.



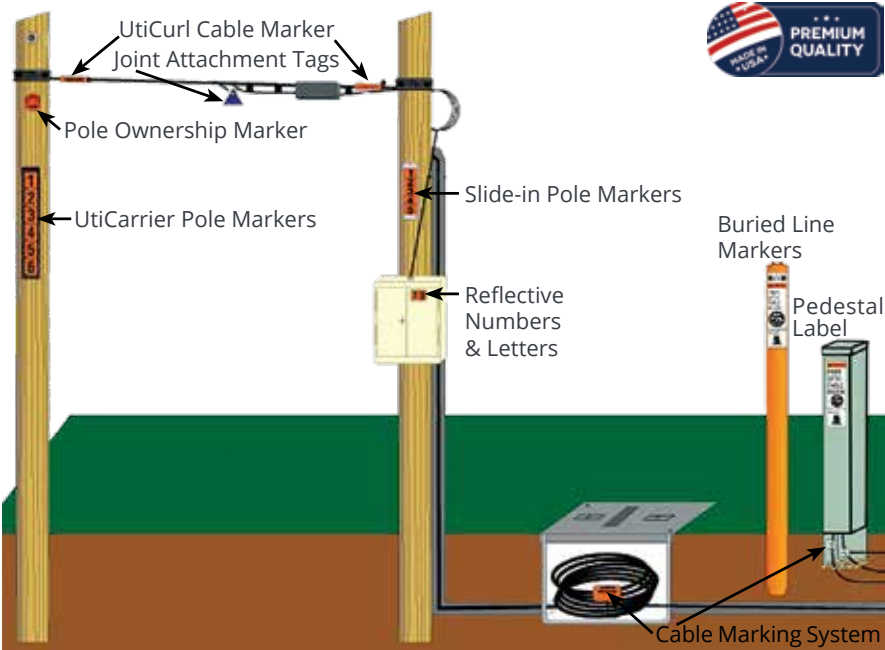
They say that if you love your job, you'll never have to work a day in your life. Untrue! I love my job, but I work my butt off! It never stops, days whizz by, but I'm not complaining. I really enjoy what I'm doing.
Richard Henry - Netceed Sales Executive



Compliant Graphics for Harsh Environments™

Uticom Systems, Inc. has been assisting our clients for more than 30 years in the development, manufacturing and monitoring of their hazard alerting and utility graphics standards, procedures and products.

Our mission of Compliant and Durable graphics is accomplished through the Uticom Compliance Monitoring Program.



Bashlin Industries, Inc. manufactures quality tool belts, pole straps, and climbers for the professional lineworker. These products are designed for comfort and durability. We offer a complete assortment of climbing products for workers ranging from apprentice to journeyman.



88FFX4D Series
Bashlin's new 88FFX4D 4 D-Ring Climbing Belt is the only belt currently on the market that allows the worker to easily adjust both upper and lower sets of D-rings for a custom fit.

This unique dual semi-float design allows both the upper and lower set of D-rings to move freely to improve comfort. The innovative design allows this belt to be adjusted to fit three different D-sizes to maintain proper fit without sacrificing comfort. This adjustability lets the user quickly adjust the belt to accommodate heavier clothing in inclement weather or for changes in the user's weight over time.

Pocket Linemen's Holster for pliers, rule, screwdriver, Channellock®, ratchet driver, and knife or wrench. These holsters are available with 3,4 and 5 pockets, in black or tan, and with or without a knife sheath.



I am proud to be a part of our great team and the success that Netceed is. Eager to see what the future holds and glad to have made the choice to make this my lifelong career.
Emily Cimino - Netceed Sales Executive

PULL BOXES



Strength, performance and quality have been hallmarks of all Hubbell underground enclosure brands for more than 40 years. The industry leader for applications in non-deliberate traffic areas, these enclosures provide rugged and cost-effective protection for a variety of electric utility, commercial & industrial, communications, water and gas equipment while meeting the specific demands of our industry.



Polymer concrete cover and base



Polymer concrete cover

Light weight HDPE Base

Hubbell Quazite Pull Boxes employ a Polymer concrete made from select-grade aggregates in combination with a polymer resin system. When combined through a process of mixing, molding, and curing, an extremely powerful cross-linked bond is formed. Precast polymer concrete is reinforced with fiberglass to give it additional strength and rigidity.

Pencell Pull Boxes use structural foam molded High Density Polyethylene (HDPE), a **light weight**, high strength plastic molding process that provides outstanding structural integrity and durability. HDPE enclosures are mated with covers made from a variety of materials: HDPE, polymer concrete or steel. This combination creates a highly versatile choice for underground utility enclosures where low weight and high strength are necessary.

Do it right the first time. Always quality over quantity.
Lou Mennella - Netceed Warehouse Manager (and man of few words)

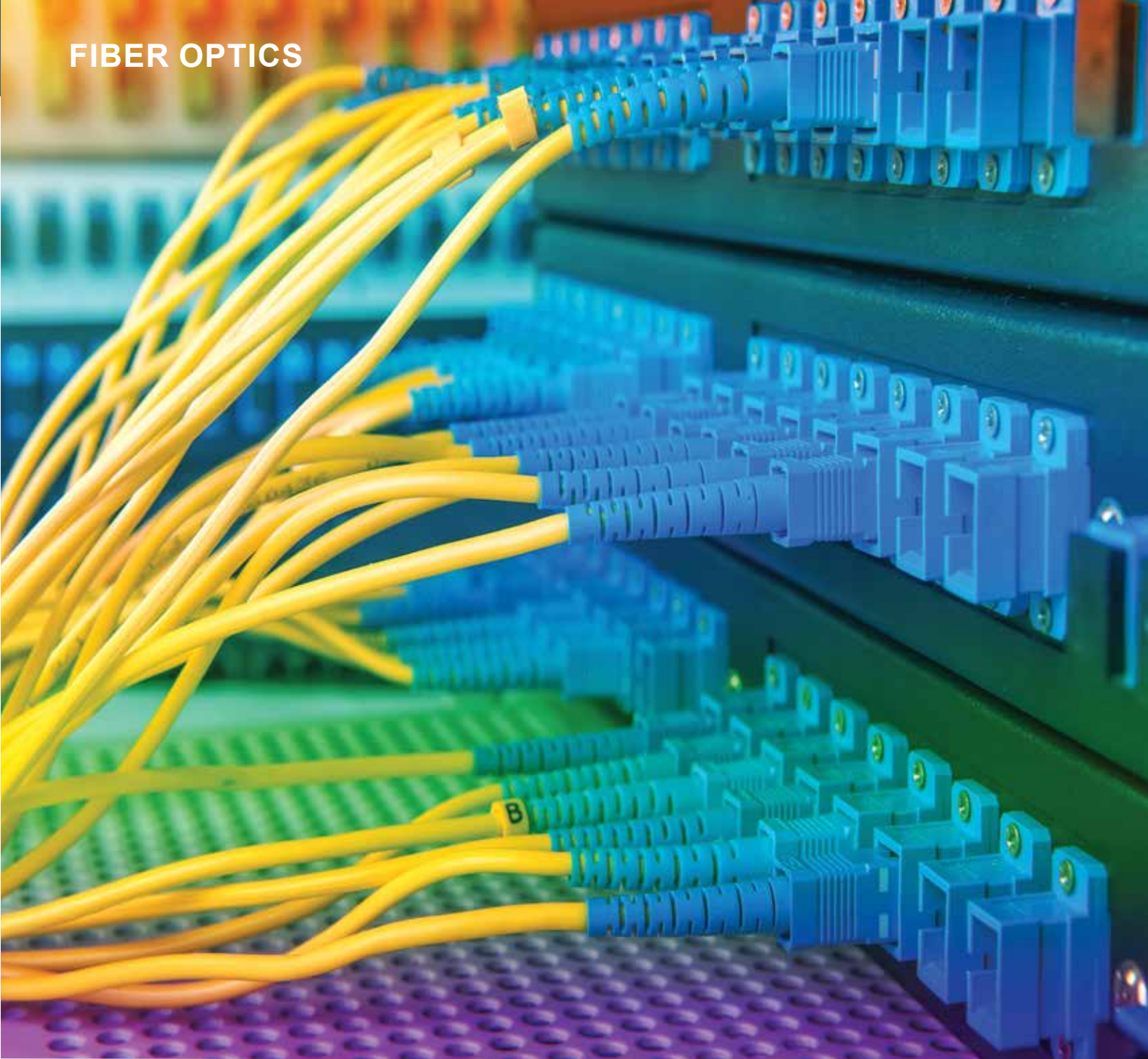


I have worn many hats at Netceed over the course of the years. With each job I have learned something new, and that's what makes the job enjoyable. The warehouses are the heart of the operation in my book, and I keep it pumping! Danny Oakes - Netceed Warehouse Associate & Headend Assembly Guru

I strive for perfection on everything that I'm working on, whether it's small or big. I get great satisfaction when I can look at a job that I have done and know that it is done right, and the customer will be satisfied.
Gabriel Rodriguez - Netceed Warehouse Associate



FIBER OPTICS



FIBER OPTICS

Today's ultra-high tech networks provide the foundation necessary for delivering a wide spectrum of advanced interactive services to consumers. Netceed's fiber optic products offer flexibility, scalability and manageability, giving them timeless value and cost-effectiveness to adapt to an ever-evolving market.

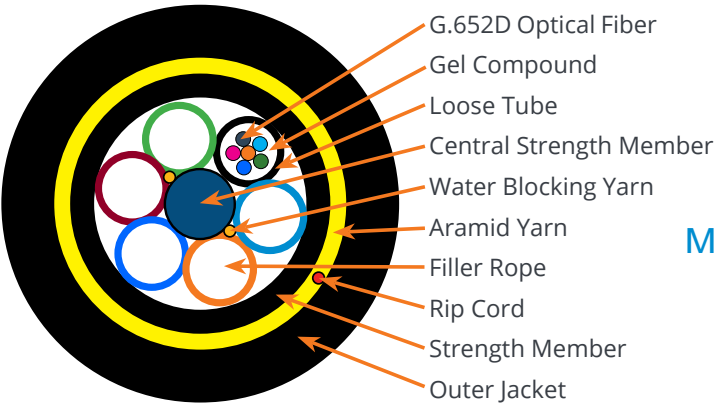
Public networks for video, data and voice are using more and more optical fiber. Fiber-based communications networks have clear advantages over other media in cost, reliability, and capacity, spurring increased deployment on high-density, high capacity networks. Smart public network applications are making wide-spread and growing use of fiber optics. This growth means that millions of fibers are terminating in Central Offices (COs) and cable-TV operation centers. Netceed stocks a full line of fiber optic networking and termination products for every application - large or small.

FIBER OPTIC CABLE - ADSS

Future-proof Fiber Optic Cable Engineered for Today's Super High-speed and High-performance Networks



- Easy Cable Entry & Preparation**
- 12 fibers per tube construction up to 144 fiber designs allow easy termination and mid-span fiber access
 - Flexible buffer tubes enhance mid-entry
- Versatile Installation & Use**
- Various span distances
 - Easy mid-entry is ideal for FTTH distribution applications
- Flexible Routing & Customization**
- Flexible buffer tubes simplify routing, storage and prep
 - Available in Singlemode loose tube
- Reliable Lifetime Performance**
- Custom engineered for operation under full load
 - Guaranteed standards-based performance
 - Immune to electromagnetic fields



Netceed's All-Dielectric Self-Supporting (ADSS) Loose Tube Fiber Optic Cable is designed for outside plant aerial applications and is the best choice for aerial cable spans. This cable's low-cost installation, compact size and specialized design make it the ideal, cost-effective cabling solution for FTTH and self-supporting aerial applications.

MADSS012SM-XXX

- Length: 350/600 Foot Span
100/200 Meter Span
- SM: Single Mode, MM: Multimode
- Fiber Count: 12, 24, 48, 96, 144



is now



Netceed

NEW MANUFACTURERS - NEW OPPORTUNITIES

Prysmian Group

General Cable

Draka

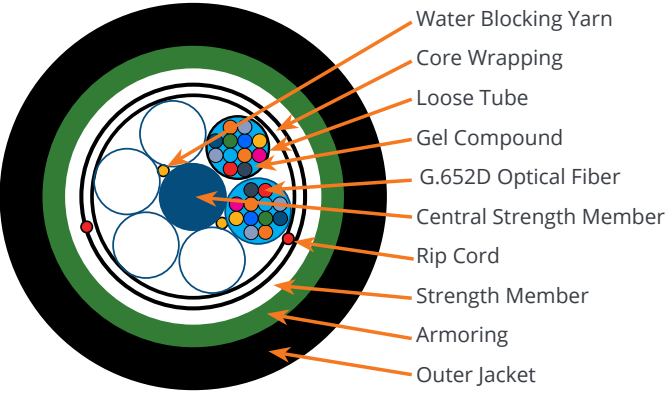
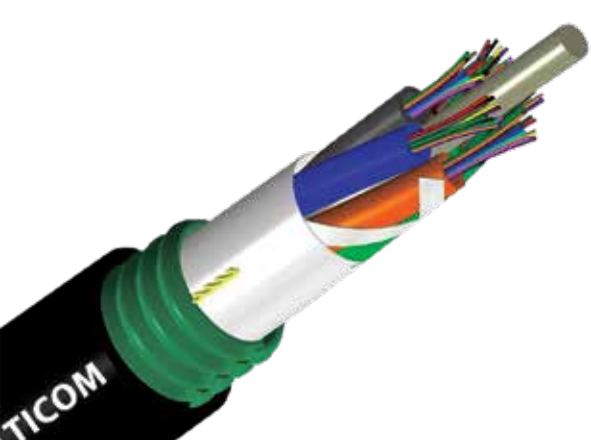
COMMSCOPE®

CORNING

ofs

FIBER OPTIC CABLE - ARMORED

Highly durable and reliable for underground and lashed aerial installations as well as general outside plant installations, including direct buried in harsh environments.



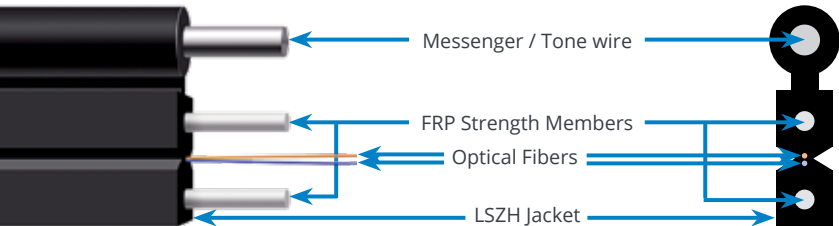
Netceed's armored fiber optic cable has a build-in metal armor inside the outer jacket, armored cable provides extra protection for fiber optic cable, without sacrificing flexibility or functionality within fiber networks. Armored fiber cable is more robust and reliable when encountered with rodent, moisture and other issues that may cause damage. The superior features make armored fiber cable a perfect fit for applications that require high flexibility and durability when used in harsh environments or limited space.

- Features:**
- Loose tube
 - Singlemode and Multi-mode
 - Fiber counts from 12 to 144
 - Smaller, more flexible tubes for easier installation and routing
 - PE coated armor offers additional crush resistance and protection from rodent attack

MARMLT012SM

- SM: Single Mode
- Fiber Count: 12, 24, 48, 96, 144

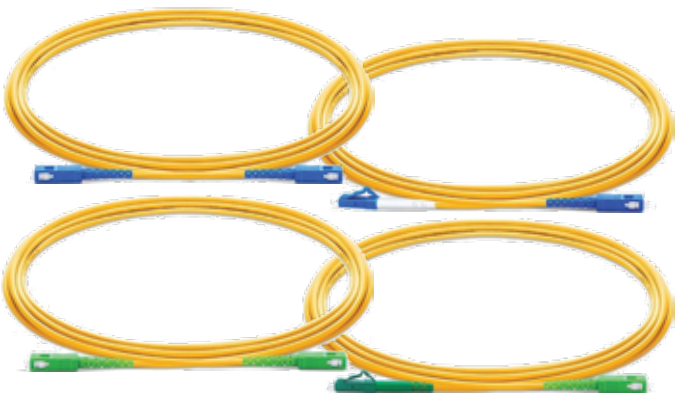
FIBER OPTIC DROP CABLE



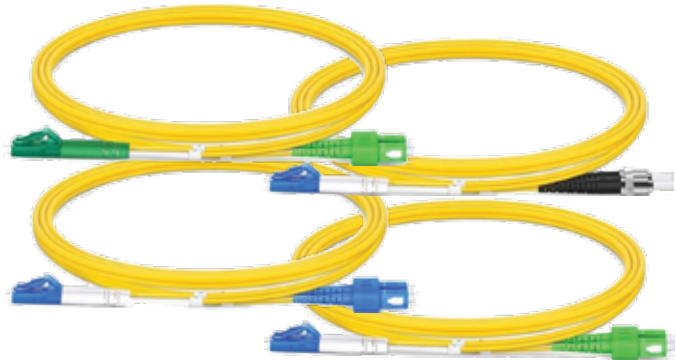
Netceed's Fiber Optic Drop Cable uses special low-bend-sensitivity G.657A1 fiber, providing greater bandwidth and excellent communication transmission properties. Two parallel strength members (non-metallic FRP), ensures the optical fibers are protected. The low smoke zero halogen (LSZH) flame-retardant jacket allows for safety and environmental protection. The cable is light weight with a flute design which can be easily stripped and spliced, simplifying installation and maintenance. The messenger enhances the overall tensile strength of the cable.

- Features:**
- Figure-eight construction for use with standard messenger clamping and support hardware
 - FRP strength members
 - LSZH outer cable jacket for excellent UV and weather resistance
 - Tight-buffered fiber optic cables meet all functional requirements
- MFTTX-A-2-SMA-B-M**
- M=Messenger/Tone Wire
 - Sheath Color: B-Black, W-White, G-Gray, U-Blue
 - Quality Designation
 - Type: SM: G.657A1 Singlemode, MM: Multi-mode
 - Number of Fibers (1-6)
 - Cfg A: Fiber(s) center, 2 FRP strength members (1@side, 0.5mm diameter)
 - Cfg B: Fiber(s) center, 2 Steel strength members (1@side)
 - Cfg C: Fiber(s) center, Armored

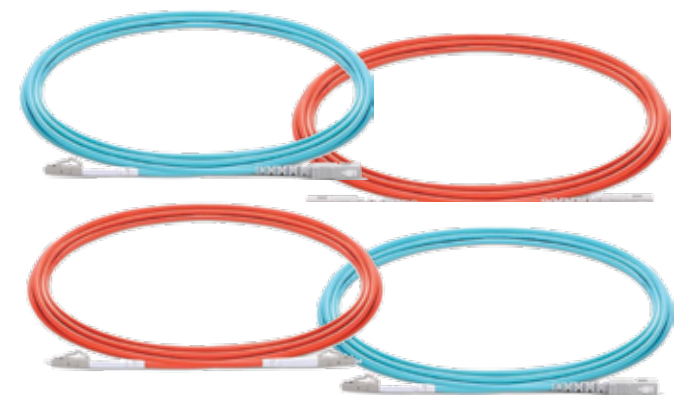
JUMPER CABLES



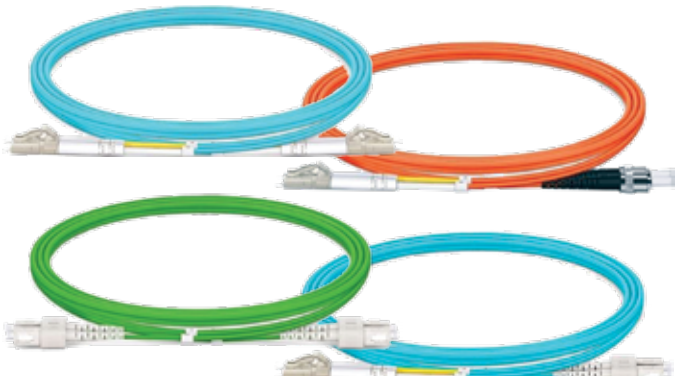
Singlemode Simplex



Singlemode Duplex



Multi-mode Simplex



Multi-mode Duplex

Singlemode fiber optic jumpers, or patch cables, come with a 9 micron diameter glass core. With the cladding layer, they are 125 micron, and with the buffer layer they are 250 micron.

Singlemode cables have a smaller glass core than multimode cables and because there is less dispersion of the light signal in the fiber, they can transmit the signal a greater distance.

Netceed's Fiber Optic Jumpers have a Low Smoke Zero Halogen (LSZH) jacket, and are manufactured using either singlemode or multi-mode fiber and terminated with a range of connectors including SC/UPC, SC/APC, LC/UPC, LC/APC, FC/UPC, FC/APC, and ST/UPC. Other connector types are also available upon request.

DID YOU KNOW?

CORNING

Netceed uses only Corning fiber-based fiber optic jumpers

Features:

- Corning fiber used in all jumpers and pigtails
- LSZH Jacket on all fiber varieties
- G.657.A2 Certified
- 2mm jacket for more flexibility and capacity in tight spaces
- Custom lengths and colors
- Meets all standard panel interfaces
- All cables serialized and test results are recorded
- High bandwidth, high tensile strength, small bend radius

FOJ3-xM-SM-xx/yyy-S-xx/yyy-AL

1

2

3

4

5

6

7

8

- 1- FOJ3 = Fiber Optic Jumper, 3mm Jacket Outside Diameter

FOJ = Fiber Optic Jumper, 2mm Jacket Outside Diameter
- 2 - xM = Length in Meters
- 3 - SM = Singlemode
- 4 - First Connector Type - xx=SC, FC, LC / yyy=UPC, APC
- 5 - S = Simplex
- 6 - Second Connector Type - xx=SC, FC, LC / yyy=UPC, APC
- 7 - Fiber Grade - A=G.652D, B=G.657A2
- 8 - Jacket Material - L=LSZH, P=PVC, O=OFNP

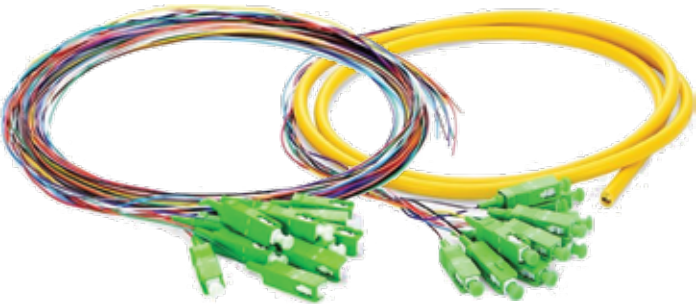
PIGTAILS



Singlemode



Multi-mode



Jacketed & Unjacketed

Features:

- Machine polishing ensures highest quality connector terminations and performance
- LSZH Jacket on all fiber varieties
- Bundled with jacketed connector ends as required
- Low insertion and return loss
- Traceable, standards-based testing procedures
- Geometry compliant connector endfaces that are defect and contamination free

Applications:

- Termination of optical networks via fusion or mechanical splicing
- Testing of optical devices
- Cable acceptance testing

Parameter	Specification
Connector	SC/FC/LC to SC/FC/LC, and as required
Fiber Mode	Singlemode: G.652D, G.657A2, OS1, OS2 Multi-Mode: 62.5/125µm OM1, OM2, OM3
Polish	APC, UPC
Fiber Type	Simplex, Duplex
Insertion Loss	Singlemode: ≤0.2dB Multi-mode: ≤0.3dB
Return Loss	Singlemode: ≥50dB UPC, ≥60d APC Multi-mode: ≥35
Wavelength	Singlemode: 1310 - 1550nm Multi-mode: 850 - 1310nm
Jacket Material	LSZH - IEC60332-3, IEC60754-2, IEC61034-2 Compliant
Jacket Outside Diameter	2.0mm, 3.0mm
Operating, Storage Temp	-40 ~ 75°C, -45 ~ 85°C
Compliance	Telcordia GR-20-CORE, GR-326 and TIA/EIA 568C, RoHS

Netceed's Fiber Optic Pigtails are manufactured using either Corning singlemode or multi-mode fiber and terminated with a range of single connectors including SC/UPC, SC/APC, LC/UPC, LC/APC, FC/UPC, FC/APC, and ST/UPC. Other connector types are also available upon request.

FOJ-2M-SM-SC/APC-S-SC/APC

Second Connector Type

S = Simplex, D = Duplex

First Connector Type

SM = Singlemode, MM = Multi-Mode

xM = Length in Meters, xFT = Length in Feet

FOJ = Fiber Optic Jumper, FOPF = Fiber Optic Pigtail

VARIABLE ATTENUATORS



Features:

- High precision attenuation value
- Wide attenuation range 0 to 60dB
- Low insertion loss
- High environmental stability and reliability
- Easy installation
- RoHS compliant

The Netceed Variable Attenuators are designed to give the accurate attenuation required by the connected device and are available in a wide range from 0dB to 60dB of attenuation levels by turning the thumb screw.

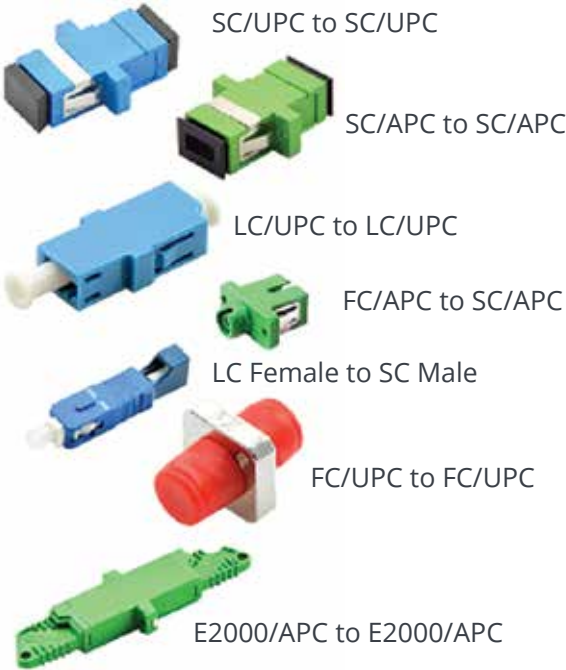
With excellent characteristics, variable fiber optic in-line attenuators can be used in fiber optical telecommunication system and optical transmission systems. These attenuators can be applied in FTTH, CATV, LAN, fiber optical sensor and subscriber loops.

Parameter	Specification
Transfer Mode	Singlemode (SM) & Multi-Mode (MM)
Operating Wavelength(nm)	1310~1550 (SM), 850~1300(MM)
Fiber Connector	LC/SC/FC/ST
Attenuation	0~60dB
Attenuation Accuracy	±0.8dB
Polarization Dependent Loss	≤0.2dB
Minimal Insertion Loss	<2.5dB
Maximum Optical Input Power	200mW
Ferrule Type	Zirconia Ceramic
Cable Lengths	2 Meters
Operating Temperature	-40 ~ 80°C
Storage Temperature	-40 ~ 85°C
Humidity	95% RH

FOVATT-SM-XX/UPC

Connector Type
SM - Singlemode, MM - Multi-mode

MATING SLEEVES



Netceed Fiber Optic Mating Sleeves, also known as Adapters or Couplers, are used to provide a cable to cable or cable to equipment fiber optic connection. We supply a wide range of mating sleeves and hybrid adapters, including special male to female hybrid fiber optic mating sleeves.

Features:

- Use in Singlemode applications
- Free-hanging or panel-mount design
- Dust caps protect against debris and contamination
- RoHS Compliant

Functions:

- A cable to cable fiber optic connection
- Cable to equipment fiber optic connection

Compliance	Telcordia GR-20-CORE, GR-326 and TIA/EIA 568C, RoHS
------------	-----------------------------------------------------

FOMS-XX/YYY-XX/YYY

Second Connector Type
First Connector Type

PLC OPTICAL SPLITTERS



The Netceed fiber optic line of PLC Splitters include Tube, Box, LGX Cassette and Rack Mount configurations. They offer superior performance and field-proven reliability in harsh environments.

Our Planar Lightwave Circuit (PLC) splitters are fabricated using silica optical waveguide technology. Features include small size, high reliability and a wide operating wavelength. The PLC splitter is widely used in all fiber optic networks to perform optical signal power splitting. All products are GR-1221-CORE compliant.

Features:

- Low insertion Loss
- Even or various splitting ratios
- 1x2 through 1x64 configurations
- Bidirectional, compact
- Environmentally stable
- Wide wavelength range
- High uniformity
- Telcordia GR-1221-CORE compliant

Applications:

- Long-haul tele/data communications
- Fiber optic equipment and systems
- CATV systems
- Local Area Network, PON, and FTTH
- Fiber sensors
- DWDM networks

Parameter	1x2	1x4	1x8	1x16	1x32	1x64
Operating Wavelength (nm)	1260-1650					
Insertion Loss Typical/Max (dB)	<4.0/4.2	<7.2/7.5	<10.5/11	<13.5/14	<16.5/17.5	<19.5/21
Loss rimity (dB)	<0.4	<0.6	<0.8	<1.2	<1.7	<2.0
Return Loss (dB)	>50Z					
Polarization Dependent Loss (dB)	<0.3					
Directivity (dB)	>55					
Wavelength Dependent Loss (dB)	0.3	0.3	0.3	0.5	0.5	0.5
Operating/Storage Temperature (°C)	-40 to 85					

FOSPLF-C-1/8-60/40-SM-SC/APC

Connector Type
S=Singlemode, M=Multi-mode
60%/40% of Split, or E=Even
Number of Splits (1x2, 1x4, 1x8, etc.)
T=Tube, B=Box, C=Cassette, RM=Rack Mount

ATTENUATORS



Fixed-value Attenuators reduce the signal level without appreciably distorting the waveform. Available in 1dB increments. All connector types available.

FOATT-XX/XXX-XDB

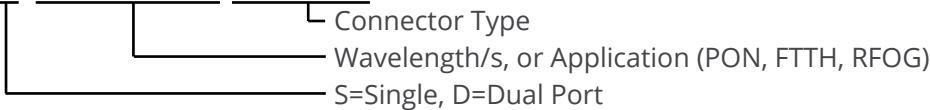
Decibels (dB)
Connector Type

WDM



Parameter	Specification
Wavelength Range - 1310nm (nm max/min)	1270/1350
Wavelength Range - 1490nm (nm max/min)	1480/1500
Wavelength Range - 1550nm (nm max/min)	1550/1560
Wavelength Range - 1590/1610nm (nm max/min)	1580/1620
Insertion Loss (dB - typical/max)	17.5/18.0
Insertion Loss Uniformity (dB - max)	2.0
Band Isolation (dB)	30
Directivity (dB)	50
Return Loss (dB)	50
Optical Power Handling (mW)	300

MUL-WDM-F-S-1310/1550-SC/APC



Today's FTTH systems demand innovative products for a variety of applications. The Netceed WDM (Wavelength Division Multiplexor), supports any 2-way RFoG/PON services operating with a 1550/1490nm Forward Path and 1310/1590/1610nm Return Path - over a single fiber - for seamless integration of video, voice, and data services.

Wavelength Division Multiplexing (WDM) is a fiber-optic transmission technique that enables multiple light wavelengths to travel on one fiber at differing wavelengths or frequencies on the optical spectrum.

Features:

- Standard LGX form factor
- Mounts in a standard LGX chassis
- Low insertion loss
- Ultra-high isolation
- Wide operating temperature range
- Telcordia GR-1221-Core compliant
- Front-located ports for easy access
- All connectors are SC/APC design for optimal power and reliability

Applications:

The WDM is ideally suited for use in two-way and high density MDU, CATV, PON, FTTH and RFoG applications, as well as in many other fiber optic-based data, video, and voice networks.

LGX CASSETTE CHASSIS



Capacity:

- 12 - Single wide LGX cassettes
- 6 - Double wide LGX cassettes
- 4 - Triple wide LGX cassettes

Netceed's Rack-Mounted LGX Cassette Chassis is designed for use with any standard plug-and-play single, double and triple wide LGX 2 to 32 port cassette splitter modules in FTTX networks.

These chassis are ideal for use in mid-rise and high-rise Multiple Dwelling Unit (MDU) equipment rooms suited for centralized Optical Network Terminal (ONT) applications.

Features:

- Complies with all LGX Form Factor Cassette Splitter Modules
- 4 RU
- Transparent dust cover on front hinge

Applications:

Optical Access Network, WAN, LAN, CATV Systems

MUL-FOCH-CASS

PREMIUM PATCH & SPLICE ENCLOSURES



Parameter	Specification		
Rack Units	1RU	2RU	3RU
Capacity Ports	12 / 24	24 / 48	48 / 72
Max Ports	48	48	144
Dimensions	19" (48.26cm)		
Material	Carbon steel		
Weight	7.7lbs (3.5Kgs)	8.8lbs (4Kgs)	13.6lbs (6.2Kgs)

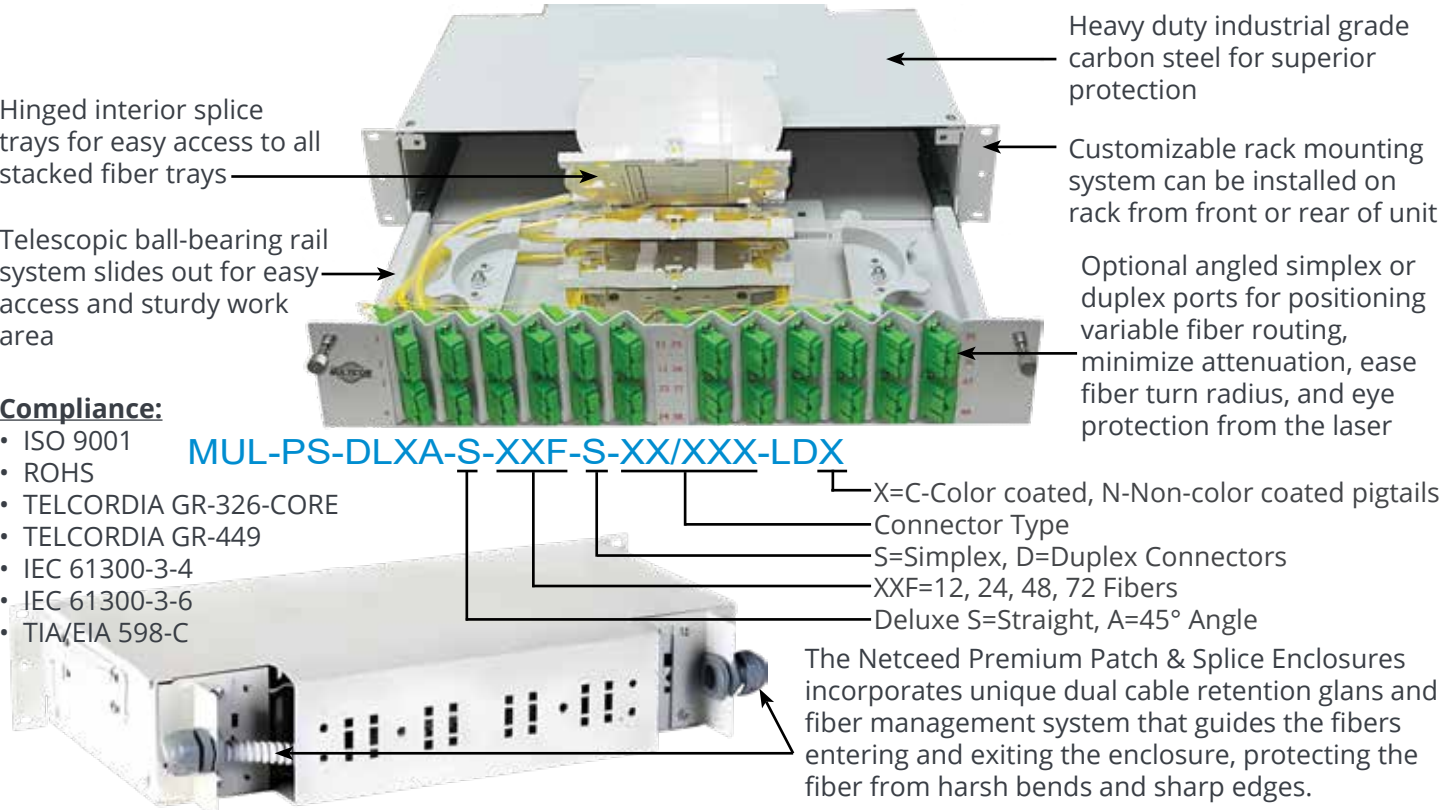
Provide Higher Patch Field Density in Fewer Rack Units Saving Valuable Rack Space

Optical fiber enclosures provide cross- and interconnections in fiber optic cabling systems between optical fiber distribution cables, connecting hardware and active equipment, and for mechanical protection of these connections.

Netceed's industrial grade Premium Patch & Splice Enclosures provide professional cable management and easy fiber termination availability using a ball bearing telescopic rail structure. The internal tray is installed on telescopic rails to provide easy access to the internal fiber tray and ports.

Features:

- Available in 1, 2, and 4 RU configurations
- Telescopic ball bearing rail system easily allows the entire assembly to slide out for easy access to internal hardware and splice fibers
- Easy installation and access
- Fiber guidance tubes to protect and direct the fiber cables to the splice cassettes
- 35mm fiber bending bracket control
- Compliant with all types of adapters
- Splice tray, cable management, and all mounting and fiber accessories included
- Provides higher patch field density in fewer rack units saving valuable rack space
- Standard connectors and optional premium angled connectors for minimal cable bending inside the enclosure



Compliance:

- ISO 9001
- ROHS
- TELCORDIA GR-326-CORE
- TELCORDIA GR-449
- IEC 61300-3-4
- IEC 61300-3-6
- TIA/EIA 598-C

MUL-PS-DLXA-S-XXF-S-XX/XXX-LDX

PATCH & SPLICE ENCLOSURE



The Netceed 1 RU Patch & Splice Enclosure is designed to accept up to 3 LGX Adapter Panels with the ability to use a full array of connector types. This enclosure offers a flexible solution, enabling the incorporation of a multi-functional chassis that allows easy access during installation or re-work with no disturbance of the existing fiber cable - making this one of the most flexible enclosures on the market.

This Patch & Splice Enclosure can be custom loaded with the exact Adapter Panels and Pigtails needed for your specific application, or the chassis can be purchased empty.

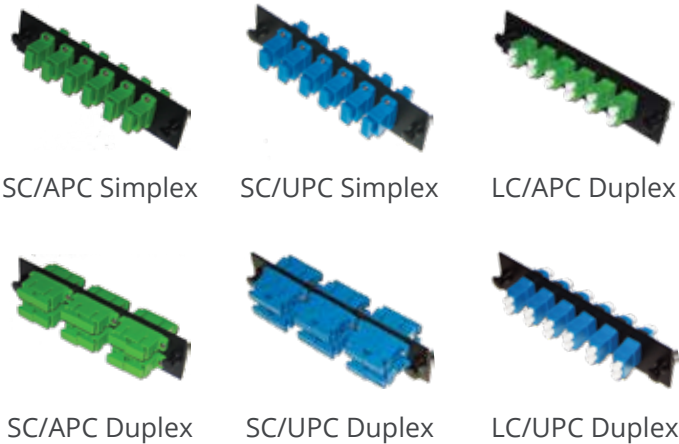
Features:

- Custom loaded to your specific configuration
- 1.5M Pigtails included in loaded enclosures
- Splice tray and cable management spools included
- Hinged front and rear Plexiglass doors
- Side patch and exit ports
- Fully removable sliding-out tray for easy access
- Assorted strain relief and fiber accessories included
- Provides higher patch field density in fewer rack units saving valuable rack space

Parameter	Specification
Suitable for module type	LGX Adapter Panels
Number of Adapter Panel positions	3 - can be simplex or duplex
Material	16 gauge, cold-rolled steel
Material finish	Black, powder coated

MUL-RM-XF-PS Chassis only
MUL-RM-8F-PS-SC/APC-S
S = Simplex, D = Duplex
F/O Connector Type
PS = Patch and Splice, PO = Patch Only
xF - x = Number of Fibers
RM = Rack Mount, WM = Wall Mount

ADAPTER PANELS



Netceed's Fiber Optic Adapter Panels are compatible with all LGX style rack and wall fiber distribution units. Panels are available in Simplex and Duplex adapter formats.

Features:

- LGX form factor compatible with Multilink, AFL, Wirewerks, FIS, and other rack and wall fiber distribution units
- RoHS Compliant
- Loaded with TIA/EIA-604 FOCIS-3/10 compliant adapters
- Built with ceramic split sleeves to fit specific network requirements
- 18-gauge cold rolled, electrostatic polyester powder coated steel
- All panels are pre-loaded for quick deployment

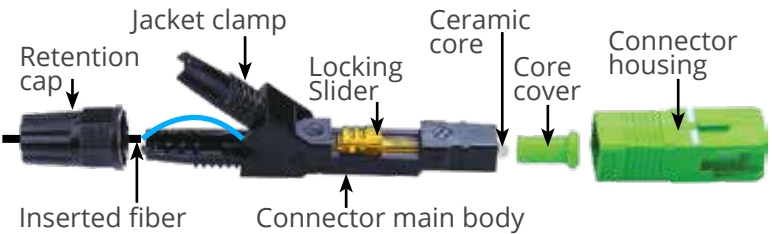
FOAP-6-SM-SC/APC
Connector Type
SM - Singlemode, MM - Multi-mode
Number of Adapters - 6, 8

FIELD-INSTALLABLE FIBER OPTIC CONNECTORS



Features:

- Quick and easy fiber termination in less than two minutes
- No epoxy, fiber polishing, special tools or fusion splicer required
- Precision mechanical alignment insures low insertion loss
- High optical performance
- Uses proven, molded v-groove technologies



Parameter	Specification
Connector Type	SC/LC/FC, Simplex
Cable Diameters (mm)	0.9, 2.0, 3.0
Fiber Mode	Singlemode / Multi-Mode
Polish	UPC / APC
Insertion Loss (dB)	UPC: ≤0.35dB, APC: ≤0.35
Return Loss (dB)	UPC: ≥45dB, APC: ≥50
Tension Test (N)	≥50
Operating Temperature	-40°C ~ +75°C
Compliance	Designed to Telcordia GR-20-CORE, GR-326 and TIA/EIA 568C, RoHS

M-FOCON-FI-SM-XX/YYY-F
Fiber Diameter (mm) - 0.9, 2.0, 3.0
Connector Type - XX=SC, FC, LC / YYY=UPC, APC
SM=Singlemode, MM=Multi-Mode

Easy install in less than 2 minutes by a technician with any level of expertise!

The Netceed Field-installable Fiber Optic Connectors feature a pre-polished ferrule (UPC/APC), that couples to the fiber being terminated by precision mechanical alignment, insuring low loss with a proprietary gel.

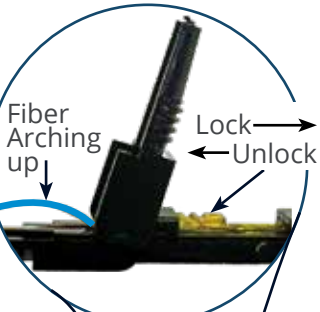
Offering convenience and stability, the assembly of the connector requires only normal fiber preparation tools and minimal space, making them easy to prepare in the field in minutes. Just strip the buffer, cleave and clean the fiber, and then insert the fixed-length fiber through the ferrule of the connector.

Installation Example:

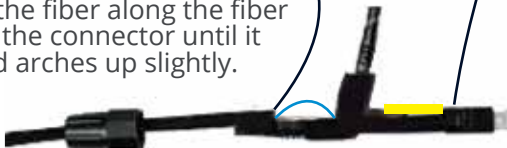
1. Insert the retention cap on to the end of the cable and slide yellow locking slider to the unlock (left-most) position before inserting fiber.



The yellow locking slider serves two functions. In the left-most position (towards the fiber), it allows the fiber to be put into the proper position in the connector. In the right-most position it securely locks the fiber into place.



2. Insert the fiber along the fiber guide on the connector until it stops and arches up slightly.



3. Push the yellow locking slider into the locked position to lock fiber into position, push down the jacket clamp.



4. Screw on the retention cap and add the connector housing. Clean the fiber connector end surface.



SPLICE-ON FIBER OPTIC CONNECTORS

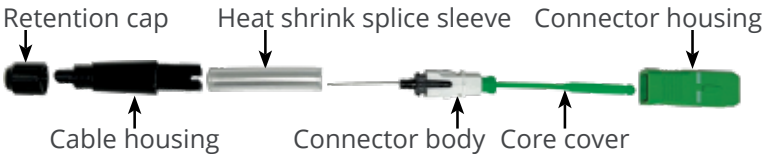


Low loss fusion spliced connectors are easy to prepare, splice and install in the field, making them the convenient choice for network technicians.

Once the heat shrink splice sleeve is installed on the fiber optic cable and cable housing, it forms a permanent protective bond that helps to ensure excellent network performance.



Parameter	Specification
Connector Type	SC
Fiber Mode	Singlemode
Polish	UPC / APC
Insertion Loss (dB)	≤0.1
Return Loss (dB)	UPC: ≥55dB, APC: ≥65dB
Operating Temperature	-40°C ~ +75°C



Features:

- Quickest pre-cleaved, factory terminated pigtail to prepare, splice, and install
- Splice sleeve protects your splice
- Custom strain relief retention cap holds fiber firmly in proper alignment
- Precision machined connector holders
- Available in APC and UPC versions
- Meets or exceeds industry standards for return loss
- Ferrules are made of zirconia
- Heat shrink sleeve and connector housing included

M-FOCON-SO-SC/XXX-EK

Connector Type - UPC, APC



I've been working at Netceed for over 20 years, and to be honest, no two days are the same. I mean, imagine the products I was marketing two decades ago! As products evolve, I evolve - sink or swim!
Dominic Ruggiero - Netceed Sales Executive and Certified Fiber to the Home Professional (CFHP)

NEW! FUSION SPLICER KIT WITH 3 YEAR DOMESTIC WARRANTY - USA SUPPORT & SERVICE



Features:

- FAST 7 Second Splicing (optional)
- ULTRA-FAST 9 Second Heat Shrinking (optional)
- Drop/Impact, Dirt/Dust and Water Resistant
- 6 Motor Precision Mechanism
- 5-direction Anti-shock
- Core-to-Core, State-of-the-Art Fiber Profile Alignment System (PAS)
- 3 Year Domestic Warranty - USA Service and Support
- Quick-change Rechargeable Lithium Battery
- German Design, USA & Japanese Technology
- Titanium Alloy Body/Frame
- High Performance Processor Board

Netceed's MUL-FSPLICE-300 uses 6 Motor Technology:

- 2 Driving Motors
- 2 Aligning Motors
- 2 Focusing Motors – These critical motors are not included in 4 Motor Fusion Splicers



The tough and rugged Netceed MUL-FSPLICE-300 Core-to-Core Alignment Fiber Optic Fusion Splicer is drop/impact, dirt/dust and water resistant. Netceed is proud to provide a 3 Year USA Warranty, and all USA Service and Support.

The Fusion Splicer employs high-speed image processing and special positioning technology allowing the fusion splicing to be completed in as little as a FAST 7 seconds and can heat shrink in as little as an ULTRA-FAST 9 seconds. The splicer is compact in size, lightweight, and is ideal to work just about anywhere including harsh outdoor environments, dark and remote worksites.

Additional Features:

- Handy, easy-to-carry, solid and durable with shock-resistant design
- Enhanced windproof fusion area cover
- Color HD 5" LCD display and graphical interface
- English, Spanish and French languages, user-selectable
- Single X or Y view, or X and Y simultaneously - up to 400x magnification
- High quality electrodes with up to 3,500+ splicing cycles
- Easy user-replaceable electrodes design (set of spares is included)
- Wide range of fusion and heating parameter defaults and options
- Built-in temperature, humidity, air pressure sensors and automatic arc correction
- Intelligent power indicator, auto power-off and quick-change battery
- Built-in heat shrink heater: Easy to use, quick, customizable parameters
- Data reports can be downloaded to PC and system upgrades can be uploaded via USB port and cable
- Built-in work lights make optical-fiber placement easier and more accurate, even at night or in dark work areas



MUL-FSPLICE-300

FUSION SPLICER KIT

Fiber Optic Fusion Splicer Kit Includes:



Parameter	Specification
Applicable Optical Fiber Types	SM (G.652/G.657), MM (G.651), DS (G.653), NZD S (G.655), EDF,BIF/UBIF
Applicable Optical Fiber Core Number	Single Core
Applicable Optical Fiber Diameter	Cladding Diameter: 80-150μm, Coating Diameter: 125~1000μm
Fusion Splice Model	Factory: 40 Groups, User Defined: 80 Groups
Average Fusion Splice Loss	0.02dB (SM), 0.01dB (MM), 0.04dB (DS), 0.04dB (NZDS)
Return Loss	Better than 60dB
Fusion Splice Time	10 Sec (Typical Mode), 7 Sec (Fast Mode)
Fusion Splice Loss Estimate	Displayed at completion of splice process
Heat Shrinking Time	2mm Heating Sleeve (9-15s Adjustable) 4mm Heating Sleeve (14-19s Adjustable) 6mm Heating Sleeve (17-23s Adjustable)
Heating Temperature	Below 230°C (446°F, customizable)
Automatic Heating Mode	Automatic fiber identification & heat shrinking when cover is closed
Alignment Modes	Core alignment , Cladding alignment, Manual alignment
Applicable Optical Fiber Cable Diameter	2mm, 3mm, 4mm, 6mm
Applicable Sleeve Length	60mm, 45mm, 40mm (FP-03)
Tension Test	≥2N
General	
Display	5 inch Color LCD - with English, Spanish, French (user selectale)
Optical Fiber Magnification	X/Y: 200 times, X or Y: 400 times
Data Storage	10,000 Records
Image Storage	10 Images
Data Interface	USB 2.0
Power Supply	11.1V Lithium Battery, 13.5V/5A AC Power Adapter
Battery	Typically 260+ Cycles (Splicing / Heating), Full charge: 3 Hours Recharge Cycle: 500 Times, Quick-change, Plug-in, 6800mA Li-battery
Operating Environment	Elevation: 0 ~ 5000m, Relative humidity: 0 ~ 95% Temperature: -20°C ~ 55°C, Maximum wind speed: 15m/s
Weight	1.51kg / 3.3lb (without battery), 1.81kg / 4.0lb (with battery)
Corrosion Resistance	Equipment components, parts and materials meet composite anti-corrosion requirements, liquid/spill resistance
Size	145L x 143W x 158H (mm), 5.7L x 5.6W x 6.2H (in)
Warranty	3 Year - Domestic, 1 Year - International

OPTICAL TIME DOMAIN REFLECTOMETER WITH LIVE NETWORK TESTING



Netceed's 2100 Series Optical Time Domain Reflectometer (OTDR) is an enhanced model of the Netceed Series of OTDRs that includes the **1625nm wavelength that allows for live network testing**. The OTDR is designed for tough outdoor jobs. Lightweight, easy operation, low-reflection TFT LCD and 12 hours of battery life make it perfect for testing fiber optic cable in the field.

MUL-OTDR-2100

Features:

- **MUL-OTDR-2100: Live network testing on 1625nm**
- Auto/manual testing
- Integrated design with long battery life
- Outdoor enhanced, smart and rugged
- 7" anti-reflection LCD touch screen
- Support multi-language display and input
- The MUL-OTDR-1100 includes a VFL, Light Source, Power Meter & Smart Network Analysis



The **MUL-FVSCOPE-400 Kit** is a handheld video fiber inspection microscope tool that provides a 400x magnification. See details on page 41 this section.

The hand-held MUL-OTDR-1100 OTDR is a new generation of intelligent 1310/1550nm singlemode optical-fiber test equipment. OTDRs are widely used in the construction, maintenance, measurement, and emergency repair of optical-fiber communication networks as well as the development, manufacturing and measurement of optical fibers and optical cables.

Netceed's OTDRs are specially designed for tough outdoor jobs. Lightweight, easy operation, low-reflection LCD and 12 hours of battery life make it perfect for testing fiber optic cable in the field.

MUL-OTDR-1100

Specification	MUL-OTDR-2100	MUL-OTDR-1100
Wavelengths	1310 / 1550 / 1625nm Singlemode	1310 / 1550nm Singlemode
Dynamic Range	43 / 41 / 41dB	35 / 33 dB
Event Dead Zone	1m (Typical)	0.8m/1.5m (Typical)
Attenuation Dead Zone	4m	4m
Distance Resolution	0.01m / 0.001dB	0.01m
Testing Distance	4m, 100m, 500m, 2km, 5km, 10km, 20km, 40km, 80km, 120km, 160km, 170km	100m, 500m, 2km, 5km, 10km, 20km, 40km, 80km, 120km, 160km, 200km
Pulse Width	3, 5, 10, 20, 50, 100, 200, 500ns -59, -58, -55, -50, -40dBmV	3, 5, 10, 20, 50, 100, 200, 500ns -59, -58, -55, -50, -40dBmV
Sampling Points (max)	128,000	128,000
Distance Accuracy	± (1m + measuring distance x 3 x 10 ⁻⁵ + sampling resolution)M	± (1m + measuring distance x 3 x 10 ⁻⁵ + sampling resolution)M
Visual Fault Locator	Included, 650nm, 10mW, Class III B	Included, 650nm, 10mW, Class III B
Optical Light Source	1310nm, 1550nm, 1625nm	1310nm, 1550nm
Optical Power Meter	850, 1300, 1310, 1490, 1550, 1625, and 1650nm Input: -60dBm to +5dBm	850, 1300, 1310, 1490, 1550, 1625, and 1650nm Input: -60dBm to +5dBm
Smart Network Analysis	Included	Included
Fiber Inspection	Software included, probe purchase required	Software included, probe purchase required
Display	7" TFT LCD Touch Screen	7" TFT LCD Touch Screen
Languages	User-selectable English / Spanish / Portuguese / Others	User-selectable English / Spanish / Portuguese / Others
Bellcore SOR File Output	Yes (Issue 2, SR-4731)	Yes (Issue 2, SR-4731)
Data Storage	Internal memory: 4GB (about 40,000 test traces)	Internal memory: 4GB (about 40,000 test traces)
Battery Life	~ 12 Hours	~ 12 Hours

NEW!

MINI OPTICAL TIME DOMAIN REFLECTOMETER

WITH VFL, OPM, OLS & NETWORK CABLE TESTER

The MUL-OTDR-500 is a handheld Optical Time Domain Reflectometer (OTDR) with an ergonomic design that uses the latest technology in the optic fiber field. The Netceed OTDR provides outstanding functionality and durability with high precision, high sensitivity, easy operation and very light weight.

The MUL-OTDR-500 includes multiple functions all in one instrument making it the ultimate tool for fiber network construction and maintenance. The Netceed OTDR is perfect for technicians working with FTTX testing in PON networks, CATV and access network testing, and fiber system troubleshooting. The OTDR function supports real, average, and auto mode test with 1310 & 1550nm wavelengths, while allowing the user to save the results in an SOR file format. There is also an event map function to show the length and information for each link in the system.



The MUL-OTDR-500 Comes Equipped with an Array of Additional Features:

- **Optical Power Meter (OPM):** -50dBm to +26dBm range for 850, 980, 1300, 1310, 1490, 1550 & 1625nm wavelengths
- **Visual Fault Locator (VFL):** 10mW output power to help the user visually find fiber faults like breaks & bad splices
- **Optical Light Source (OLS):** 1310 & 1550nm wavelengths with CW, 270 & 330 Hz, 1 & 2 kHz modulation frequencies
- **RJ-45 cable line** sequence measurement, line length, and wire/cable tracing/tracking MUL-OTDR-500-WT Receiver
- **LED Flashlight** to help technicians in locations with low lighting conditions

OTDR Parameter	Specification
Calibrated Wavelengths	1310nm / 1550nm ±20nm
Fiber Type	G.652 SM Fiber
Dynamic Range	26dB / 24dB
Test Range	500m ~ 128km (0.3 ~ 80miles)
Event Blind Zone	2.5m (8ft)
Attenuation Blind Zone	8m (26ft)
Pulse Width	3ns ~ 10us
Ranging Accuracy	± (1m + Sampling Interval + 0.005% * Test Distance)
Loss Accuracy	± 0.2dB/dB
Sampling Points	16k ~ 128k
Sampling Resolution	0.05m~8m (0.16 ~ 26ft)
Reflection Accuracy	± 3dB
Laser Safety Level	Class II level
File Format	TELCORDIA SOR Standard File Format
Connector	FC/UPC/APC (Interchangeable SC, ST)
Display	3.5-inch Color LCD
Data Interface / Storage	Micro USB
External Storage	Internal: ≥600, External: TF Card (user supplied)
Power Supply / Adapter	Polymer Li-battery: 3.7V, 4000mAh / 5VDC, 2A (connect to Micro USB to recharge)
Battery Life	Standby >20h, Measuring Time >12h
Temperature	Operating: -10° ~ +50°C (-14° ~ +122°F), Storage: -40° ~ +70°C (-40° ~ +158°F)
Relative Humidity	0 ~ 95% Non-condensing
Dimensions / Weight	173 x 82 x 37mm (6.81"x 3.23" x 1.46") / ≤0.78lb (≤350g)

MUL-OTDR-500

NEW!

XGS-PON POWER METER & END-FACE INSPECTOR

OPTICAL POWER METER, VISUAL FAULT LOCATOR

3-in-1 XGS-PON Optical Power Meter:

- XGS-PON Power Meter
- Fiber End-face Inspection Microscope with Image Capture Ready
- Optical Power Meter - Test Six Wavelengths

Features:

- Supports co-existence of G/E-PON and XGS-PON/10G-EPON services on the same PON
- Simultaneous realtime power level measurements of voice, data, and RF video signals on fiber at 1490, 1550, 1577nm downstream, and 1270nm, 1310nm upstream
- Separate Optical Power Meter port calibrated to test single and multi-mode fiber at 850, 1300, 1310, 1490, 1550, 1625nm
- 10mW Visual Fault Locator
- Stores 10 groups of threshold values for automatic analyzing and display of pass / fail status
- Save and upload 1,000 records through USB to management software
- Fiber End-Face inspection Microscope option with image capture for onsite documentation & certification purposes

The Netceed MUL-OPM-XGSPON-VFL-400 Optical Power Meter is especially designed for XGS-PON network construction and maintenance. The voice, data, video wavelengths (1270, 1310, 1490, 1550, 1577nm), can be measured synchronously and the corresponding optical power level can be displayed with this meter. The meter will also complete an automatic pass / fail analysis using user-settable thresholds for every wavelength, and both measure and store test results for downloading to a PC.

10GHz XGPON Technical Parameters	Specification				
Simultaneous Measuring Wavelengths (nm)	1270	1310	1490	1550	1577
Measuring Range (dBm)	-40 ~ +13	-40 ~ +13	-50 ~ +13	-50 ~ +25	-50 ~ +10
Wavelength Passband (nm)	±10	±20	±10	±10	±6
Insertion Loss (dB)	≤1.5				
Uncertainty (dB)	≤0.5				
Display Resolution (dB)	0.01				
Fiber Connector Port for Up & Downstream	2 x SC/APC				

FIBER END-FACE INSPECTION MICROSCOPE



The Netceed XGPON Meter includes an imbedded Fiber Inspection Module that provides a critical view of the fiber end-face, eliminating problems in network traffic. (Netceed Fiber Microscope MUL-OPM-XGPON-FVSCOPE sold separately).

Parameters	Specifications
Magnification	400X
Resolution	0.75μ
Light Source	Coaxial blue LED
Controls	Fine Focus Control
Size / Weight	4.3 x 1.6 x 1.6in (110 x 40 x 40mm) / .35 lbs (158g)



Simultaneous realtime measurements of 5 wavelengths in XGS-PON networks



Fiber End-Face inspection Microscope with recording for onsite documentation & certification

MUL-OPM-XGPON-VFL-400 - XGS-PON Power Meter
MUL-OPM-XGPON-FVSCOPE - Fiber Microscope

NEW!

PON OPTICAL POWER METER

OPTICAL POWER METER, VISUAL FAULT LOCATOR

3-in-1 PON Optical Power Meter:

- PON Power Meter - Test between OLT and ONT
- Optical Power Meter - Test Six Wavelengths
- 10mW Visual Fault Locator

Features:

- Tests 3 PON wavelengths simultaneously: 1490nm, 1550nm & 1310nm, and stores the results for downloading
- Power Meter is capable of testing 850nm, 1300nm, 1310nm, 1490nm, 1550nm, 1625nm
- 10mW Visual Fault Locator
- Tests the burst mode RFoG upstream wavelength signal of 1310nm
- Handheld, easy to operate
- 32-bit CPU with 480 x 800 True Color screen with 65,000 colors
- Stores 10 groups of threshold values for automatic analyzing and display of pass / fail status
- Relative value choice and edit function
- USB Flashdrive with Management Software
- Save and upload 1,000 records through USB to management software
- Set the threshold value, upload data, and calibrate wavelength through management software
- Auto shut off (according to set value)
- Auto backlit off (according to set value)
- 3.7V, 6600mAh rechargeable Lithium battery
- Power saving design (low voltage self check and power off)
- Real-time clock display



PON Power Meter

Connected between OLT and ONT, this PON meter is capable of testing three PON wavelengths simultaneously: 1490nm, 1550nm and 1310nm. It can also can test the burst mode RFoG signal of 1310nm.

Optical Power Meter

Capable of testing:

- 850nm
- 1300nm
- 1310nm
- 1490nm
- 1550nm
- 1625nm

Visual Fault Locator

- 10mW

The Netceed MUL-OPM-PON-VFL-300 PON Optical Power Meter is connected between the OLT and ONT, and is especially designed for PON network construction and maintenance. The voice, data, video signal (1310nm/1490nm/1550nm), can be measured synchronously and the corresponding optical power value can be displayed with this meter. The meter is also capable of measuring and storing test results for downloading to a PC.

The PON Power Meter includes a special burst mode RFoG measurement function to allow accurate burst optical power measurements to the upstream PON signal at 1310nm. The meter will also complete an automatic pass / fail analysis using user settable thresholds for every wavelength.

PON Technical Parameters	Specification		
Calibration Wavelengths	1310nm Upstream Test	1490nm Downstream Test	1550nm Downstream Test
Pass Zone (nm)	1260 ~ 1360	1470 ~ 1505	1535 ~ 1570
Range (dBm)	-40 ~ +10	-45 ~ +10	-45 ~ +23
Isolation @ 1310nm (dB)	-	>40	>40
Isolation @ 1490nm (dB)	>40	-	>40
Isolation @ 1550nm (dB)	>40	>40	-

Includes:

- PON Power Meter
 - USB Flash Drive with Management Software
 - Carrying Case
- Battery Charger
 - Packet of Cotton Swabs
 - USB Cable

MUL-OPM-PON-VFL-300

OPTICAL POWER METER



MUL-OPM-100

The MUL-OPM-100 is a handheld Optical Power Meter with an ergonomic design that uses the latest technology in the Optic Fiber field. The Netceed Optical Power Meter provides outstanding functionality and durability with a broad power measurement range, high precision, and high sensitivity.

The OPM is feature rich with a very user friendly interface. The OPM can be used to measure the absolute power of CATV, telecom single mode or a LAN multi-mode fiber system, also the Netceed Optical Power Meter has the capability to measure relative power by displaying absolute and relative power simultaneously, as well as optic fiber link loss.

Features:

- For use with a wide variety of wavelengths from 850 to 1550nm
- Simultaneously display of Absolute & Relative power
- SC, FC, 2.5mm Universal Connector
- 200 hours of operation (typical)
- Standard AA alkaline batteries (provided)
- Rugged and weather resistant
- Auto-shutoff
- Backlight

Parameter	Specification
Standard Wavelength	850, 980, 1300, 1310, 1490, 1550nm
Measurement Range	-50dBm ~ +26dBm
Detector Type	InGaAs
Uncertainty	±0.15dB
Linear Accuracy	0.1%
Nonlinear Accuracy	0.01dBm
Automatic Shutoff	10 min (this option can be turned off)
Operating Temperature	-10°C ~ +60°C
Storage Temperature	-25°C ~ +70°C
Operating Time	≥200h
Power Supply	3AA 1.5V (provided with the meter)

OPTICAL LIGHT SOURCE



MUL-OLS-100

For Singlemode

MUL-OLS-200

For Multi-mode

MUL-OLS-300

For Singlemode & Multi-mode

The MUL-OLS-100/200/300 is a handheld Optical Light Source with an ergonomic design that uses the latest technology in the Optic Fiber field. The Netceed Optical light source provides outstanding functionality, durability and is suitable for field use.

The OLS is feature rich with a user-friendly interface. The Netceed OLS is the perfect match for every technician in performing high precision and sensitive insertion loss measurement and link loss of installed cables. It's continuous wave and the four different modulated modes will help in identifying loss in the system.

Features:

- High stability of the output power and stable output wavelength
- Support 1 to 4 output wavelengths to meet specific requirement
- CW, 270Hz, 1KHz, 2KHz modulation output at 1310/1550nm wavelengths
- Dustproof Button Design
- Membrane touch buttons prevent dust from entering the device
- Durable shatter-resistant bumper sleeve protects the OLS from falls, shocks and wear

Parameter	Specification
Singlemode Wavelength	MUL-OLS-100: 1310/1550 nm
Multi-Mode Wavelength	MUL-OLS-200: 850/1300 nm
Single/Multi-mode Wavelength	MUL-OLS-300: 850, 1300, 1310, 1550nm
Emitter Type	Fabry-Perot Laser Diode
Typical Power Output	-7 dBm
Spectral Width	≤ 10 nm
Modulation	0 Hz (continuous wave) / 270 Hz / 1000 Hz / 2000 Hz
Output Stability	± 0.05dB / 15 mins or ± 0.1dB / 8 hours
Automatic Shutoff	10 min (this option can be turned off)
Operating Temperature	-10°C ~ +60°C
Storage Temperature	-25°C ~ +70°C
Operating Time	≥60h
Power Supply	3AA 1.5V (provided with the OLS)
Dimensions	152 x 74 x 25 mm
Weight	180g

NEW! OPTICAL FIBER IDENTIFIER & VISUAL FAULT LOCATOR



Ideal for online testing, the Netceed MUL-OFI-VFL-10MW Optical Fiber Identifier is used for nondestructive fiber identification. It is capable of detecting signal presence and direction in any location of both Singlemode and Multi-mode fiber. It also incorporates a Visual Fault Locator module with fault location function.

Features:

- Indicates the signal direction and power in optical fiber
- Indicates signal presence or absence (live or dark fiber)
- Efficiently identifies the traffic direction and frequency tone (270Hz, 1KHz, 2KHz) with audible warning
- Displays the relative core power
- Lower power indication
- Build in VFL function

MUL-OFI-VFL-10MW

Parameter	Specification
Identified Wavelength Range	750-1700nm
Insertion Loss	1.0 dB
Fiber Type	<3mm fiber
Identified Signal Type	270Hz / 1KHz / 2KHz
Display Type	LED
Detector Type	1mm InGaAs
Minimum detection power	-35dBm (1550nm) -30dBm (1310nm)
Center Wavelength	650nm
Output Power	10 mW
Alkaline Battery	2 x AA
Battery Life	> 60H
Operating Temperature	0 ~ +50°C
Storage Temperature	-20 ~ +60°C
Weight	200g
Dimension (mm)	230 x 43 x 36
VFL Specifications	
Wavelength	650±10nm
Output Power	10mW
Fiber Port	FC/PC

NEW! HANDHELD FIBER INSPECTION MICROSCOPE



Focal Adjustment Dial

The Netceed MUL-FSCOPE-400 Handheld Fiber Microscope is a low cost and high quality fiber inspection tool for inspecting fiber terminations in the field.

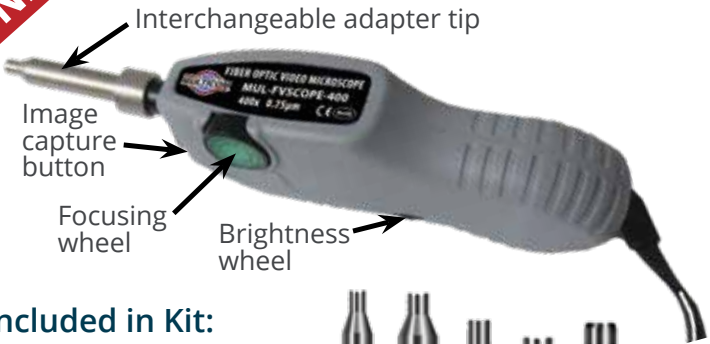
With 400X magnification, excellent optical performance and integrated laser safety filters, it provides the most critical view of fiber end faces. The white LED light provides coaxial illumination to connector end-faces. This illumination method produces high-resolution detail of end-face scratches, defects and contamination.

Features:

- Portable and easy to use, ideal for field use
- 400X magnification
- For inspection of singlemode and multi-mode fibers
- Optical Connector: 1.25 & 2.5mm universal adapter
- Color: Black
- Power Supply: 3 x AAA batteries
- Battery Life: 40 hours
- Specialized eyepiece design

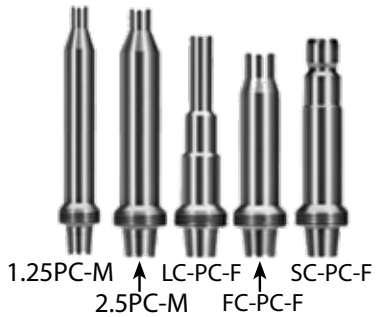
MUL-FSCOPE-400

NEW! HANDHELD VIDEO FIBER INSPECTION MICROSCOPE



Included in Kit:

- MUL-FVSCOPE-400
- 5 adapter tips
- USB cable
- User Manual
- USB Drive with Fiber End-Face Viewer App
- Carrying bag



Features:

- Fine focus control for easy inspection of any fiber connector
- 5 interchangeable precision stainless-steel adapters
- USB connection to an OTDR or PC/laptop to display, capture and record the fiber end faces
- Image capture for recording, reports, and quality assurance

The MUL-FVSCOPE-400 Kit is a handheld video fiber inspection microscope that provides a critical and detailed view up to 400x magnification detecting any trace of contamination. It offers a live clear digital image of the fiber end-faces that are viewable, and can be captured and recorded on an OTDR or PC/laptop. This handheld video fiber inspection microscope also works with the Netceed MUL-OTDR-1000/1100/2100, as well as a selection of compatible OTDRs.

Description	Technical Parameter
Magnification	400x
Resolution	0.75µm
Field of View	0.68 x 0.51mm
Light Source	Blue high-intensity LED
Focus	Manual
Alignment	>98%
Adapter Tips	1.25mm PC-M, 2.5mm PC-M, LC-PC-F, FC-PC-F, SC-PC-F
Dimensions	180 x 22 x 56mm (7" x .86" x 2.2")
Weight	.35 lbs (158g)
Controls	Fine Focus Control Wheel, Image capture, Brightness wheel

VISUAL FAULT LOCATOR



Parameter	Specification
Operation	Continuous Wave or 2Hz
Wavelength	650 ±10nm
Power output	0.6mW typical
Distance range	5Km
Operation modes	Continuous Wave (CW)/Off/Pulse
Laser class	1

MUL-VFL-10MW

LMW: 1, 10, 30, 50

The Netceed MUL-VFL is the easiest way to identify fibers from end to end and locate polished connector endfaces. The red laser shines through most yellow-jacketed fibers to help you precisely identify breaks, bends, faulty connectors, splices and other causes of signal loss. The MUL-VFL locates faults visually by creating a bright red glow at the exact location of the fault on both singlemode or multi-mode fibers.

Robust design: Due to its small size and durable yet lightweight design, this handy tool can accompany you to the most demanding environments. To ensure ruggedness, it features rubber seals, a fully enclosed laser head and a long-lasting operations switch. It has been tested to provide reliable operation under intensive use and harsh conditions.

Features:

- Bright red laser at 650 ±10nm
- Continuous Wave (CW)/Pulse operation
- Batteries last 50 hours (typical)
- Standard AAA alkaline batteries
- Rugged and weatherproof
- 2.5mm universal connector
- 1mW, 10mW, 30mW or 50mW

HIGH PRECISION FIBER OPTIC CLEAVERS



MUL-FO-CLEAV-200

The High Precision MUL-FO-CLEAV-200 is ideal for single fiber and ribbon fiber FTTx applications. The 16-position blade yields 48,000 single-fiber cleaves, or 4,000 12-fiber ribbon cleaves before requiring replacement. The easy-to-use precision cleaver provides reliable, repeatable results and includes safety features to protect the operator and extend the life of the tool.

Features:

- Compact body and high precision design
- Applicable for single fiber and up to 12-count fiber ribbon
- For use on Singlemode and Multi-mode fiber
- 48,000 fiber cleaves life (1,000 cleaves x 3 heights x 16 positions)
- Includes hard carrying case and additional fiber holder



MUL-FO-CLEAV-150

The MUL-FO-CLEAV-150 is ideal for single fiber FTTx applications. The 16-position blade yields 48,000 single-fiber cleaves before requiring replacement. The easy-to-use precision cleaver provides reliable, repeatable results and includes safety features to protect the operator and extend the life of the tool.

Features:

- Compact body and high precision design
- Applicable for single fiber
- For use on Singlemode and Multi-mode fiber
- 48,000 fiber cleaves life (1,000 cleaves x 3 heights x 16 positions)
- Includes carrying case, fiber guide, hex tool, and fiber refuse collection bin



MUL-FO-CLEAV-100

The economical MUL-FO-CLEAV-100 is ideal for single fiber FTTx applications. The 12-position blade yields 36,000 single-fiber cleaves before requiring replacement. This easy-to-use precision cleaver provides reliable, repeatable results.

Features:

- Compact body and high precision design
- Applicable for single fiber
- For use on Singlemode and Multi-mode fiber
- 36,000 fiber cleaves life (1,000 cleaves x 3 heights x 12 positions)
- Includes soft carrying case and fiber guide tool

Parameter	MUL-FO-CLEAV-200	MUL-FO-CLEAV-150	MUL-FO-CLEAV-100
	Specifications	Specifications	Specifications
Fiber count	Single fiber, up to 12 ribbon fiber	Single fiber	Single fiber
Cleaving length	10-16mm	10-16mm	10-16mm
Fiber holder	Universal, interchangeable	Universal, interchangeable	Universal, interchangeable
Application fibers	Singlemode, Multi-mode	Singlemode, Multi-mode	Singlemode, Multi-mode
Bare fiber diameter	125μ (250-900mm coating)	125μ (250-900mm coating)	125μ (250-900mm coating)
Cleaving angle	0.5° with single fiber	0.5° with single fiber	0.5° with single fiber
Blade life	48,000 fiber cleaves	48,000 fiber cleaves	36,000 fiber cleaves
Blade positions	3 heights, 16 rotating positions	3 heights, 16 rotating positions	3 heights, 16 rotating positions

FIBER OPTIC CLEANER - CASSETTE



The MUL-FO-CLEAN-CASS Fiber Optic Cleaner Cassette is the most effective high-end cleaning solution available. This cassette cleaner features a 25 foot densely-woven dry cloth reel which provides superior cleaning performance while minimizing static charge. This long-life fiber optic cleaner cassette can be used for over 500 cleaning cycles.

Features:

- Minimizes static attraction
- Ultra clean micro-fiber cloth captures debris and other contamination
- The cloth is robust, it does not fray or leave any fibrous materials behind

MUL-FO-CLEAN-CASS

FIBER SHEARS



The MUL-FO-SHEAR-K Fiber Optic Kevlar Cutters, or Shears, are specifically designed for cutting fiber optic kevlar. The cutting blades are micro-serrated, especially designed to avoid sliding or slipping when cutting kevlar. The handle is made from molded and durable plastic making these shears easy to grip and operate.

Features:

- Made of carbon steel
- Ergonomic handle

MUL-FO-SHEAR-K

SPLICE SLEEVES



The 60mm translucent plastic tube and stainless steel rod Fiber Optic Splice Sleeves are designed to prevent stress and protect fusion fiber optic splices in both field and factory operations.

Features:

- Provide protection and increased stability to splices
- 60mm, heat activated, translucent

MUL-FO-SP-SLEEVE

We are proud to represent Netceed Products, and the following manufacturers:

FEATURED MANUFACTURERS:













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PE INSULATED SIGNAL CABLE (NOT TWISTED PAIR)

Jacket	Spec#	Voltage Rating	Design Features
PVC Polyvinyl Chloride	19-1	600	Aerial (Lashed) & Duct
	19-3		Integrated 1/4" Messenger (Figure 8), copper shielded
	19-5		PE inner jacket, direct burial
PE Polyethylene	20-1	600	Aerial (Lashed) & Duct
	20-3		Integrated 1/4" Messenger (Figure 8), copper shielded
	20-5		PE inner jacket, direct burial

TWISTED PAIR, PE INSULATED SIGNAL / COMMUNICATION CABLE WITH COPPER SHIELD

Jacket	Spec#	Voltage Rating	Design Feature
PVC Polyvinyl Chloride	19-2	600	Aerial (Lashed) & Duct
	39-2	300	Int. 1/4" Messenger (Figure 8)
	19-4	600	
	39-4	300	
	19-6	600	PE inner jacket, direct burial
	39-6	300	
PE Polyethylene	20-2	600	Aerial (Lashed) & Duct
	40-2	300	Int. 1/4" Messenger (Figure 8)
	20-4	600	
	40-4	300	
	20-6	600	PE inner jacket, direct burial
	40-6	300	

FILLED, TWISTED PAIR, PE INSULATED SIGNAL/ COMMUNICATION CABLE W/COPPER SHIELD

Jacket	Spec#	Voltage Rating	Design Feature
PVC Polyvinyl Chloride	59-2	300	Aerial (Lashed) & Duct
	59-4		Int. 1/4" Messenger (Figure 8)
	59-6		PE inner jacket, direct burial
PE Polyethylene	60-2	300	Aerial (Lashed) & Duct
	60-4		Int. 1/4" Messenger (Figure 8)
	60-6		PE inner jacket, direct burial

Everything in the Intersection and More...

The Netceed Pocket Reference Card is a handy to have with you all the time. They are made from durable plastic and fit in your pocket. Give us a call at 800-423-2594 and ask for one - they're free!

Your Traffic Control and Cable Experts



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TRAFFIC DETECTOR CABLE & WIRE

Insulation	Type	Spec#	Voltage Rating	Design Feature
PE	Loop Detector Lead-in Cable	50-2	600	Twisted Pair - PE Outer Jacket
PVC	Loop Detector Wire	51-1	600	Clear Nylon over PVC
		51-3		Cross-Linked PE
		51-5		Same as 51-1 but loosely encased in PVC or PE duct tube
		51-7		Same as 51-3

LINE WIRES, HARD-DRAWN COPPER

Insulation	Spec#	Conductor	Design Feature
Neoprene	26-2	Single	RED PVC Jacket
PVC	26-4		
High Density PE	26-3		
	29-1	2 Conductor Parallel 'C' wire	
	29-3		

LINE WIRES, COPPER-CLAD STEEL

Insulation	Spec#	Conductor	Conductivity	Design Feature
Neoprene	28-2	Single	30 or 40%	RED PVC Jacket
PVC	28-4			
High Density PE	28-3			
	29-2	2 Conductor Parallel 'C' wire	40%	
	29-4			

BUILDING / SERVICE WIRE

XLP USE-2	RHH/RHW-2	THHN/THWN-2	XHHW

Netceed is the Largest Stocking Distributor of DOT Camera Cable - We will construct ANY type of Composite Camera Cable to Your Specifications! FREE Custom Cutting!

HANDY CONVERSIONS

1 Foot = 0.3048 Meters	1 Meter = 3.281 Feet
1 Km = 3,280.8 Feet, .062 Miles	1 Mile = 1,609.3 Meters, 1.6 Kms
Centigrade = (°F - 32) x 5/9	Fahrenheit = (°C x 9/5) + 32

LOOP SEALANT COVERAGE (1 gallon mixed sealer)

3/8" Width x 1" Depth = 51 Linear Feet
3/8" Width x 1.5" Depth = 35 Linear Feet



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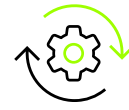
15,500+
customers
worldwide



70,000+
SKUs of network
materials



Nearly
1,000
global sourcing and
supply partners



15
countries of
Netceed's
best-in-class
operations



1 million+ sq ft
of warehousing and
storage capacity



1,450+
experienced and
dedicated team
members dedicated
to customer
satisfaction &
reliability



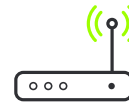
600,000+
network product
deliveries per year,
and counting



40+
locations globally
comprised
of corporate
offices, logistics &
distribution centers,
production centers,
and on-site sales



Distributing
8 million+
miles of fiber
annually



Refurbished over
6.5 million
CPE units last
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