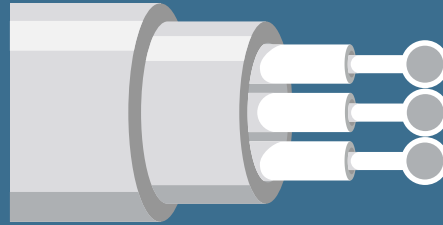


Anixter Complete  
Technology Solutions

# NETWORK INFRASTRUCTURE



## FIBER OPTIC CABLING SYSTEM

Fiber optic cabling offers a high-bandwidth method of transmitting information through a local area network (LAN) or wide area network (WAN) over extended distances by sending pulses of light through an optical fiber. The fiber optic cabling system is primarily comprised of field-terminated and pre-terminated optical fiber and its associated hardware, as part of the structured cabling system within a building, campus or large geographical area.

### COMPONENTS OF YOUR COMPLETE FIBER OPTIC CABLING SOLUTION

Backbone Cabling	Fiber optic cabling used to link network switches between buildings, floors and telecommunications rooms.
Connector Housings	A point of demarcation for the backbone cabling, protecting splices, terminations and connectors.
Modules and Cassettes	Modules are installed into the connector housings and break out the connections from pre-terminated trunk cables into manageable connections that can be easily administered.
Connectors and Adapters	Facilitate the termination of optical fiber cable, aligning the glass fibers to allow for a low loss connection.
Patch Cords and Assemblies	Connect the backbone fiber optic cabling to active equipment at the point of cabling administration within a facility.

#### WE ADD VALUE BY ENABLING:

Technology Selection

Systems Interoperability

Project Deployment

Statistics show the global optical fiber cable demand in 2018 will exceed 325 million kilometers, growing 100 million kilometers since 2012 worldwide.

Source: Statista.

### COMMON CHALLENGES



**PERFORMANCE**  
limitations



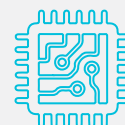
Designing for  
**POLARITY**



**TERMINATION**  
selection



Fiber  
**DENSITY**



Compatible  
**ELECTRONICS**

## TECHNOLOGY SOLUTIONS



### Performance Limitations

Fiber optic performance is dependent upon both the power and loss budgets. The power budget refers to the amount of loss that a data link can tolerate. The loss budget is the amount of loss that a cable plant should have to support data transmission of an optical interface. Accounting for both budgets will enable the network equipment to perform at optimum levels over the installed fiber optic cabling.



### Designing for polarity

Polarity describes the directional flow for transmit and receive (Tx/Rx) of a fiber optic link. Manufacturers build their systems using either A, B or C polarity for multi-fiber parallel optics. Polarity must be accounted for during the design and procurement of the fiber optic system.



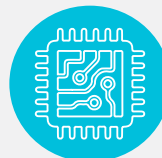
### Termination selection

Selecting the right termination method for your fiber optic installation can be a challenge due to site restrictions, cable pathway, port density, resources available and the number of runs. Pre-terminated solutions typically cater to high-volume, high-density applications with limited resources onsite. Field-terminated solutions require qualified installers for less dense applications, on-site customization or retrofits.



### Fiber density

As networks continue to increase in capacity fiber density is a significant concern. Density refers to both fiber count provisioning as well as the pathways and rack space allocated for fiber connectivity. The switching architecture as well as compute and storage will assist in determining the required connector type and aggregate fiber count to distribution rows or cabinets.



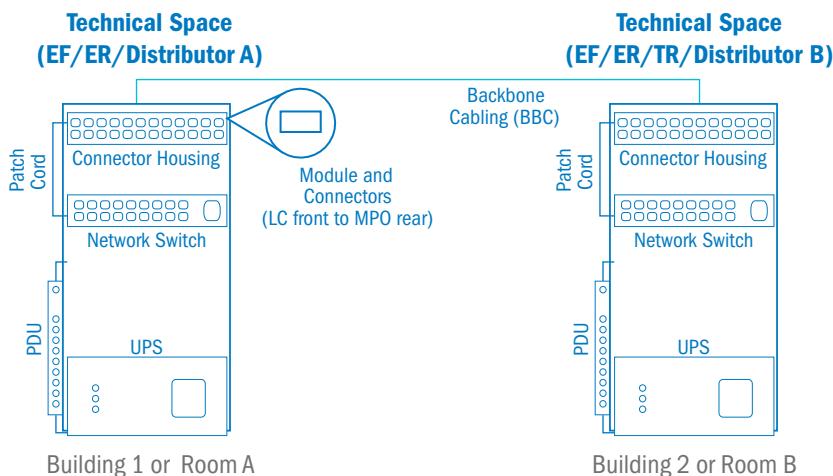
### Compatible electronics

The interoperability between the fiber optic cabling and the active electronics is often overlooked. Optical fiber systems require optical transceivers to transmit the signaling over the cable plant. Optical transceivers, also known as active electronics, help determine what optical fiber mode and media will be specified. Both the appropriate cable and electronics are required to achieve desired network transmission.

## CONCEPTUAL SYSTEM LAYOUT

### Fiber optic cabling solutions supplied by Anixter

For system installation, we recommend working with a certified contractor.



### Supported Data Rate in Gigabits per Second (Gbps)

	Speeds in Gbps				
	Reach	40	100	200	400
OM3	100 m	●	●	●	●
OM4	150 m	●	●	●	●
OM5	150 m	●	●	●	●
OS2	2-10 km	●	●	●	●

● Supported ● Supported in instances

FOR MORE INFORMATION VISIT [ANIXTER.COM/INFRASTRUCTURE](https://www.anixter.com/infrastructure) OR CONTACT YOUR LOCAL ANIXTER REPRESENTATIVE.

At Anixter, we help build, connect, power, and protect valuable assets and critical infrastructures. From enterprise networks to industrial MRO supply to video surveillance applications to electric power distribution, we offer full-line solutions—and intelligence—that create reliable, resilient systems that can sustain your business and community. Through our unmatched global distribution network, supply chain management expertise and technical know-how, we drive efficiency and effectiveness to benefit your bottom line.