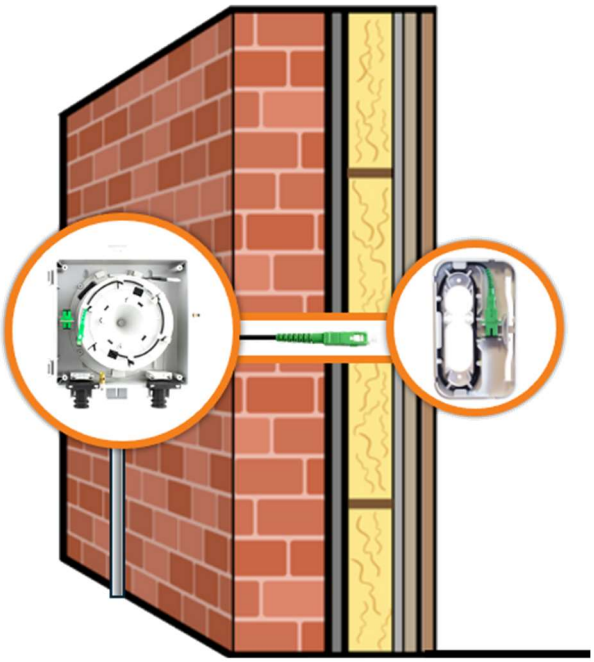
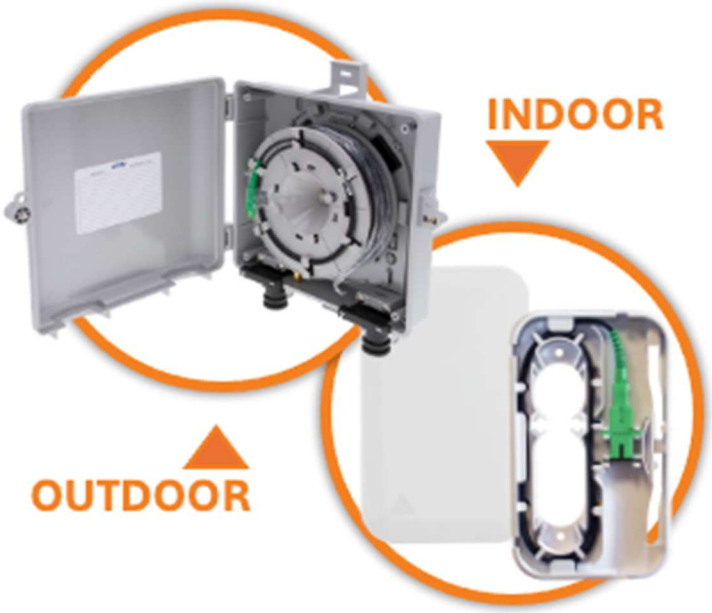
LIGHTSPEED Technologies

Rapid FTTx All-in-One Kit





FTTX-K10
Rapid FTTx All-in-One Kit
Version 1.0.2

Installation & Specification Guide

Introduction

The FTTX-K10 kit from LightSpeed Technologies® streamlines fiber-to-the-home and business with all-in-one fiber optic connectivity in an affordable, easy-to-install package. The kit includes everything required to route a broadband fiber connection from an outdoor service location to an indoor demarcation point, quickly providing internet service to ONTs and modems.

Unlike other demarcation wiring systems that require a confusing variety of components and interconnects, the FTTX-K10 tackles almost any project with only two components: (1) a low-profile indoor enclosure that mounts to any standard single gang box or trim ring, and (2) an innovative outdoor enclosure with 150 feet of factory-terminated built-in fiber optic cable. Integrators simply mount the outdoor enclosure, route the cable to the indoor demarcation location, connect the indoor enclosure, and plug-in the service feed and ONT equipment.

To accommodate a wide variety of building constructions and cable paths, the FTTX-K10 features ultra-flexible, micro-armored, broadband-ready simplex single mode fiber that supports water exposure, UV exposure and stapling in place. An included bullet-style pulling eye and toolless snap-on SC/APC fiber connector accommodates cable paths as small as ¼" in diameter.

The FTTX-K10 kit is ideal for residential and commercial installations where affordable, quick, consistent, reliable, and aesthetically pleasing fiber optic service connections are required. And its streamlined design allows anyone to deploy a broadband connection without fiber optic tools, testers, or specialized training.

Features

- FTTx demarcation wiring package including two enclosures, splice couplers and factory-terminated interconnect fiber on reel
- Ideal for connecting outdoor service provider broadband feeds to an indoor ONT (modem)
- Provides fast and affordable deployment of fiber FTTx connections
- No fiber optic tools, testers or specialized training required
- Included outdoor enclosure features a low-profile fiber reel with 150ft of pre-terminated single-mode fiber and a toolless snap-on SC/APC connector
- Included indoor enclosure features a low-profile design that mounts over standard single gang boxes and rings

Package Contents

- 1 x factory-loaded outdoor enclosure
  - 1 x factory-installed fiber reel with 150ft of ultra-flexible micro-armored simplex single-mode fiber factory-terminated with a snap-on SC/APC connector
  - 1 x bullet-style cable pulling eye
  - 1 x copper ground lug
  - 1 x simplex single mode SC/APC coupler
- 1 x indoor enclosure
  - 2 x wall anchors and screws
  - 2 x low voltage bracket screws
  - 1 x simplex single mode SC/APC coupler

Installation Best Practices & Requirements

- Ensure the total cable path distance between the outdoor enclosure and indoor enclosure is less than 150 feet. The FTTX-K10 factory-installed fiber reel only supports 150 feet of cable.
- Ensure the minimum bend radius of the fiber optic cable does not exceed 0.4 inches (10mm).
- When pulling and fishing the fiber optic cable, do not exceed 75 lbs of pull-strength.
- Additionally, do not pull the fiber optic cable by the connector assembly – always pull the cable using the included bullet-style cable pulling eye or a pull eye affixed to the cable jacket.
- Mount the outdoor enclosure in a location where the temperature will not exceed a -40°F minimum temperature or a 176°F maximum temperature.
- When integrating a fiber optic cable with a conductive ground member (such as a toneable drop cable or direct burial service cable), terminate the cable ground member to the outdoor enclosure ground lug following local building codes and requirements.
- Keep factory dust caps installed on all connectors, couplers, adapters, and other fiber optic ports until making the final connection. Fiber-based systems rely on optical light waves and optical lenses, and dirty connections will significantly affect signal performance.
- If the optical lenses on connectors or ports become dirty or contaminated, or if the installed system signal performance is weak, clean the connector and port optical lenses using fiber alcohol wipes and/or pen-style fiber optic cleaners.
- Optical equipment uses high-power non-visible light and can damage your vision and/or non-compatible optical instruments. **Never look directly into an optical port or into an optical connector.**

Typical Application Diagram

1. **Service Provider Cable Feed** (contractor provided)
   Incoming service feed.

2. **Outdoor Enclosure**
   Weather-rated enclosure connects and protects the incoming service feed while providing cable management and multiple secure cable entry and exit points.

3. **Built-In Fiber Reel**
   Easy-pull fiber reel with 150ft of ultra-flexible micro-armored simplex single mode fiber connects the service feed to the inside of the property.

4. **Snap-On Fiber Optic Connector**
   Factory-terminated snap-on SC/APC connector with pulling housing easily routes through walls, conduits and other spaces as small as ¼" in diameter.

5. **Indoor Enclosure**
   Low-profile enclosure connects the incoming service feed to the ONT (modem) while providing cable management.

6. **ONT Cable Feed** (contractor provided)
   Connection to the optical network terminal (modem).

Specifications

Kit Information	
Part Number	FTTX-K10
Contents	1 x factory-loaded outdoor enclosure • 1 x factory-installed fiber reel with 150ft of ultra-flexible micro-armored simplex single mode fiber factory-terminated with a snap-on SC/APC connector • 1 x bullet-style cable pulling eye • 1 x copper ground lug • 1 x simplex single mode SC/APC coupler 1 x indoor enclosure • 2 x wall anchors and screws • 2 x low voltage bracket screws • 1 x simplex single mode SC/APC coupler

Outdoor Enclosure with Cable Reel	
Dimensions	10.2 x 8.7 x 2.8in (261 x 222 x 73mm)
Material	PC and ABS outdoor-rated plastic
Color	Light gray
Input / Output Conduit Support	2 x up to 1in conduit
Input / Output Cable Support	2 x gasketed round entries accommodating from 0.12 to 0.63in (3.0 to 16.2mm) 2 x gasketed flat drop entries accommodating from 0.7 to 0.3 x 0.2in (2.0 to 8.1 x 4.5mm) 2 x variable size entry clamp
Grounding	Electrical copper ground lug
Temperature	-40°F to 176°F (-40°C to 80°C)
Relative Humidity	≤ 85%
Environmental Rating	GR-771 outdoor-rated for weather and UV exposure
Security	3/8” hex bolt with support for security seal
Cable Length	150ft factory-installed on reel
Cable Type	250µm simplex single mode (G657A2)
Cable Construction	Inner jacket: 900µm LSZH Outer jacket: 3.0mm indoor/outdoor black Armoring: 1.45mm ultra-flexible helical steel micro-armor
Connector Type	Simplex single mode SC/APC (green) in toolless snap-on configuration with bullet-style pulling eye
Reel Type	Factory-installed with adjustable tension via can wrench

Indoor Enclosure	
Dimensions	5.8 x 3.5 x 0.6in (147 x 89 x 15mm) *Dimensions and mounting pattern for standard single gang boxes and trim rings
Material	PVC
Color	Bright white
Temperature	-40°F to 176°F (-40°C to 80°C)
Relative Humidity	≤ 85%
Environmental Rating	Indoor rated
Security	Snap-on front cover