

A solid red circle.

Bare Fiber PLC Splitter Data Sheet

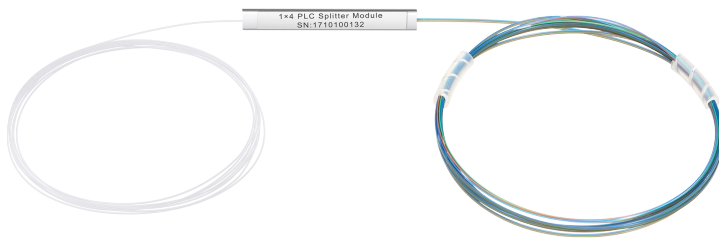
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Overview

Planar Lightwave Circuit (PLC) Splitter is a type of passive optical component using silica optical waveguide technology to distribute optical signals from the Central Office (CO) to multiple premise locations, allowing for efficient communication.

FS Bare Fiber Splitters are engineered for high-density networks, offering exceptional scalability and reliability. FS PLC splitters come in a full range of 1xN and 2xN models, with customizable split ratios to meet the specific needs of different applications. Additionally, we provide multiple packaging formats and other tailored solutions, ensuring flexibility and seamless integration into diverse network designs. FS is committed to providing high-quality, customizable solutions to meet the evolving needs of modern telecommunications.



Features and Benefits

- $\leq 3.8\text{dB}$ Low Insertion Loss and $\leq 0.2\text{dB}$ Low Polarization Dependent Loss
- Split Single or Dual Optical Inputs Evenly into Multiple Optical Outputs
- Compact Housing Fits Splice Trays, Wall-mounted Boxes, Optical Distribution Boxes, etc.
- Wide Operating Wavelength: 1260nm to 1650nm
- Wide Operating Temperature: -40°C to 85°C

Quality Certification

- CE: Free of hazardous substances according to RoHS2015/863/EU
- Design and Test Criteria: Compliant with Telcordia GR-1209-CORE and GR-1221-CORE

Application

- FTTX Systems
- LAN, WAN and Metro Networks
- CATV / MSOs
- Telecommunications networks

Optical Specifications

Parameters	1 x 2	1 x 4	1 x 8	1 x 16	1 x 32
Split Ratio	Symmetrical				
Operating Wavelength (nm)	1260~1650				
Fiber Type	G.657A1				
Insertion Loss (dB)	≤3.8	≤7.1	≤10.2	≤13.5	≤16.6
Loss Uniformity (dB)	≤0.4	≤0.6	≤0.8	≤1.2	≤1.5
Polarization Dependent Loss (dB)	≤0.2	≤0.2	≤0.2	≤0.3	≤0.3
Return Loss (dB)	≥55	≥55	≥55	≥50	≥55
Directivity (dB)	≥55	≥55	≥55	≥55	≥55
Wavelength Dependent Loss (dB)	≤0.5	≤0.5	≤0.3	≤0.5	≤0.5
Temperature Dependent Loss (dB)	≤0.5	≤0.5	≤0.5	≤0.5	≤0.5
Maximum Input Power (mW)	300mW	300mW	300mW	300mW	300mW

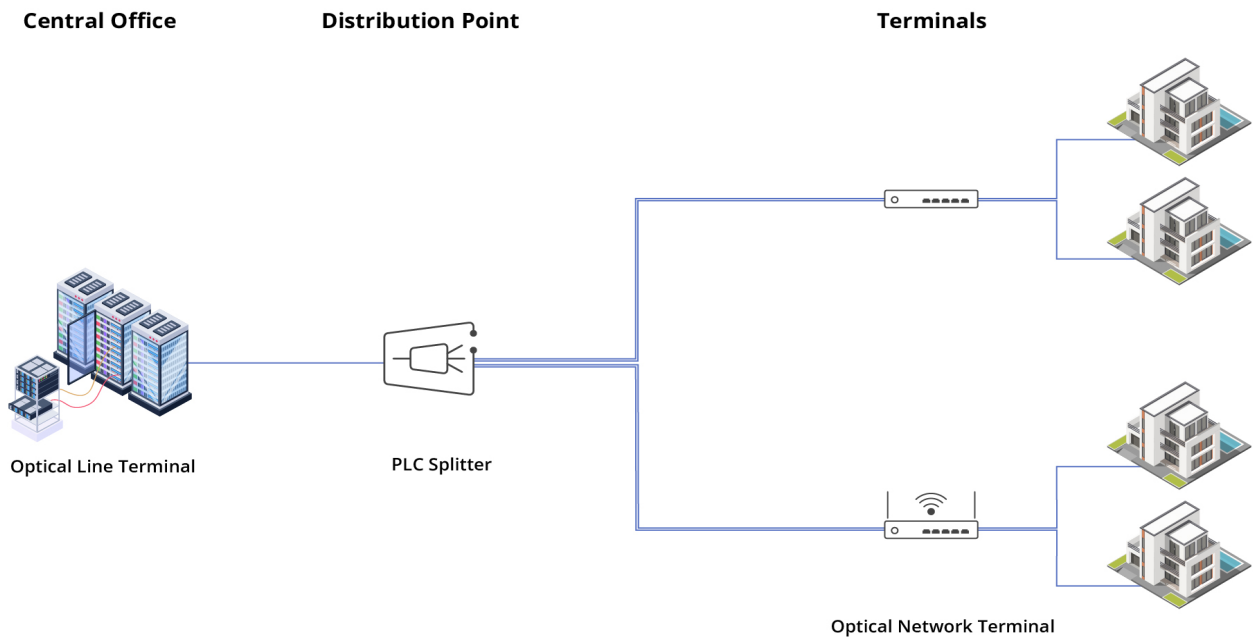
General Specifications

Parameters	Bare Fiber PLC Splitter
Operating Temperature	-40 to 85° C(-40 to 185° F)
Storage Temperature	-40 to 85° C(-40 to 185° F)
Relative Humidity	45-75%

Split Architectures in PON

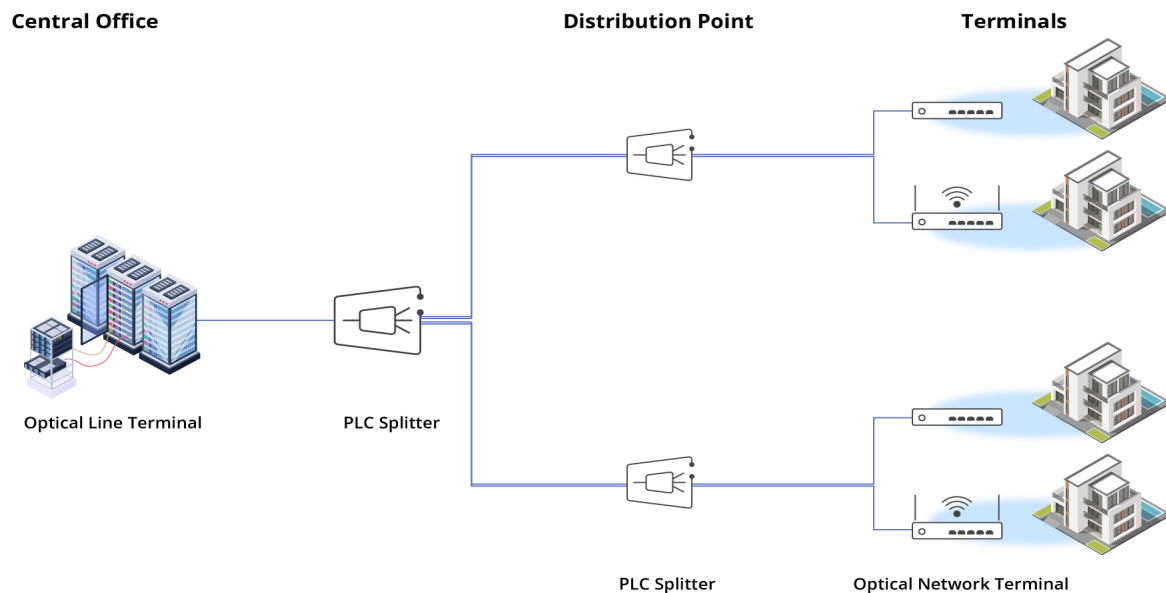
Centralized Split Architecture

- Centralized Fiber Configuration: All splitters are housed in one location for easier management.
- Maximum Network Flexibility: Facilitates simple network upgrades and scaling.
- Consolidated Splice Locations: Reduces the number of splice points for easier maintenance.



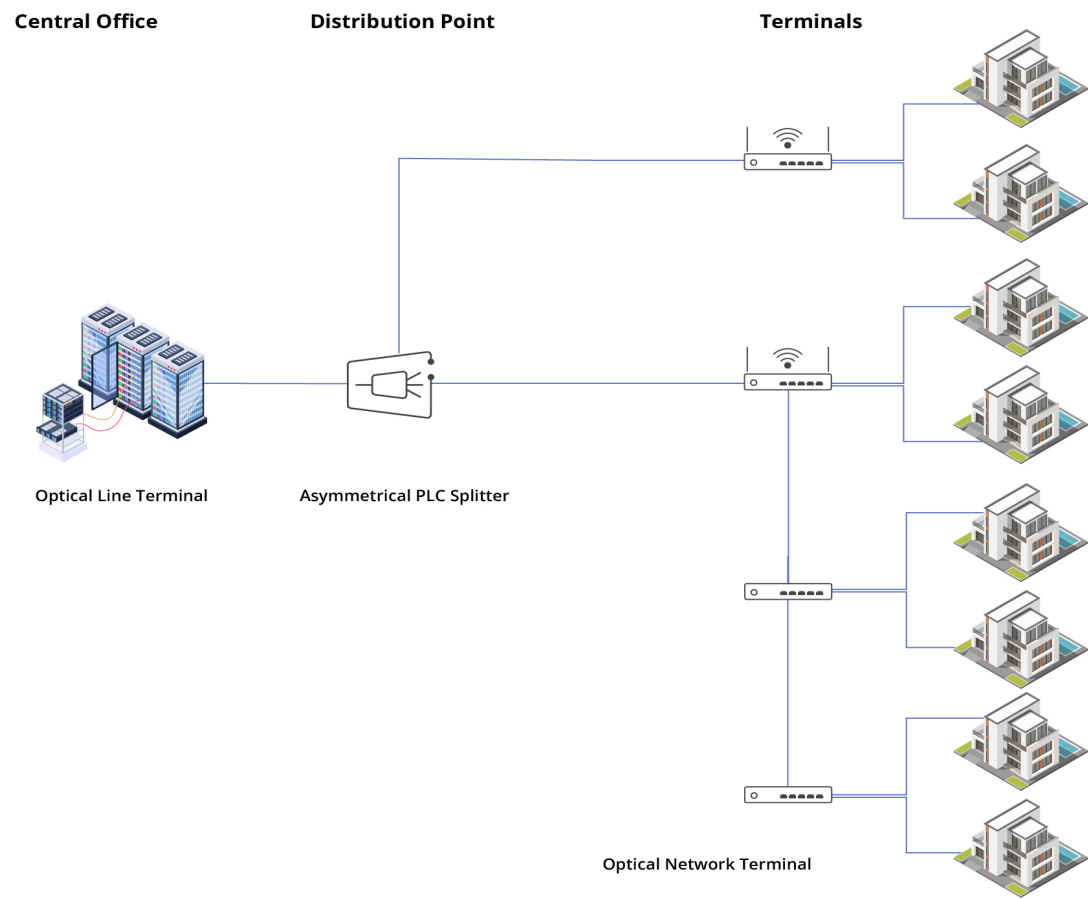
Distributed Split Architecture

- Good Network Flexibility: Offers flexibility in network design and scalability.
- Reduced Fiber Count: Minimizes the use of high fiber count cables, reusing fibers for cost efficiency.



Optical Tap Architecture

- Efficient Fiber and Power Utilization: Minimizes fiber usage and optimizes OLT optical power efficiency, ideal for cost-effective, low-density areas.
- Simplified Network Design: Fewer splices are needed, reducing complexity and streamlining the installation process.
- Optimized Signal Distribution: Asymmetrical PLC splitters are used to ensure balanced signal strength across varying network lengths and locations.



Ordering information

FS P/N	Product description
PLC-102-ST-25-15	1 x 2 PLC Fiber Splitter, Steel Tube, Bare Fiber 250μm, No Connector
PLC-104-ST-25-15	1 x 4 PLC Fiber Splitter, Steel Tube, Bare Fiber 250μm, No Connector, Singlemode
PLC-108-ST-25-15	1 x 8 PLC Fiber Splitter, Steel Tube, Bare Fiber 250μm, No Connector, Singlemode
PLC-116-ST-25-15	1 x 16 PLC Fiber Splitter, Steel Tube, Bare Fiber 250μm, No Connector, Singlemode
PLC-132-ST-25-15	1 x 32 PLC Fiber Splitter, Steel Tube, Bare Fiber 250μm, No Connector, Singlemode
PLC-B-C	Customized 1xN, 2xN PLC Splitter, Bare Fiber, No Connector, Singlemode

Series	Distribution Type		Cable Diameter	Fiber Length
Bare Fiber PLC Splitter	1x2	2x2	250μm 900μm	0.5m
	1x3	2x4		1.0m
	1x4	2x8		1.5m
	1x5	2x16		2m
	1x6	2x32		Custom
	1x8	2x64		
	1x9			
	1x12			
	1x16			
	1x24			
	1x32			
	1x64			
	1x128			

Customization Capability

FS provides a whole series of 1xN and 2xN PLC splitter products available in a wide range of package types, connectors, and split ratios, tailored for specific applications. With its compact structure, stable optical characteristics, robust performance and reliable certification, FS PLC splitter solutions strengthen your network infrastructure and facilitate smooth communication across multiple fibers, improving both efficiency and reliability.

Series		Customized Options					
		Split Ratio	Configuration Type	Input Connector	Output Connector	Cable Diameter	Fiber Length
Bare Fiber		✓	✓	✓	✓	✓	✓
Mini Module		✓	✓	✓	✓	✓	✓
ABS Module		✓	✓	✓	✓	✓	✓
LGX Cassette		✓	✓	✓	✓	—	—
FHD Cassette		✓	✓	✓	✓	—	—
1U Rack Mount		✓	✓	✓	✓	—	—



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