

# 3M™ Planar Light Circuit (PLC) Optical Splitters

3M™ Planar Light Circuit (PLC) Splitters are fully passive optical branching devices that exhibit uniform signal splitting for the most advanced optical networks. These planar silica waveguide devices are packaged in small form factor housings to offer compact management into 3M modules and splice trays.

Bend insensitive, reduced water peak singlemode fiber is used to provide low bending loss in applications which require tight radius or significant handling by the technician. These splitters are manufactured and tested to GR-1209/1221 to provide the high performance and reliability needed in the outside plant environment.

Applications for the PLC splitters include all FTTH network architectures (GPON, BPON, EPON), Passive Optical LAN and CATV.

## Operating Conditions

**Wavelength** 1260 ~ 1360 nm & 1450 ~ 1650 nm

**Temperature range** -40°C to 85°C

**Humidity range** 5% to 85% RH

**Telecordia GR-1209 & GR-1221 compliant**

## Features

**Low insertion loss**

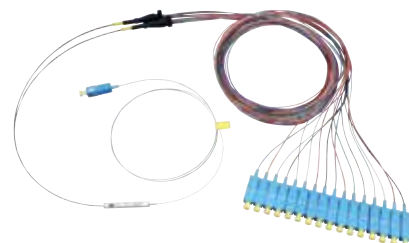
**High uniformity**

**Fiber input & output** Bend insensitive SM fiber meets (ITU G.652D and G.657A)

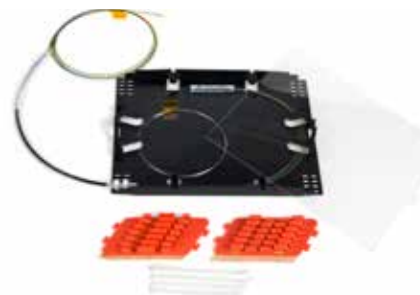
**Outputs color coded per TIA/EIA 598-B** Blue, Orange, Green, Brown, Slate, White, Red, Black



3M™ Planar Light Circuit (PLC) Optical Splitter Family



Available with factory terminated fanouts



Available in various splice trays to fit 3M™ Fiber Splice Closures

## 3M™ Planar Light Circuit (PLC) Optical Splitters

Specifications										
Parameters	1x2	1x4	1x8	1x16	1x32	2x2	2x4	2x8	2x16	2x32
Insertion loss (dB)	3.7	7.2	10.5	13.5	16.5	3.9	7.5	10.8	14.1	17.4
Uniformity (dB)	≤0.6	≤0.6	≤0.8	≤1.2	≤1.7	≤0.8	≤1.2	≤1.5	≤2.0	≤2.5
PDL (dB)	≤0.2	≤0.3	≤0.3	≤0.3	≤0.3	≤0.2	≤0.3	≤0.4	≤0.4	≤0.4
Return loss (dB)	≥55	≥55	≥55	≥55	≥55	≥55	≥55	≥55	≥55	≥55
Directivity (dB)	≥55	≥55	≥55	≥55	≥55	≥55	≥55	≥55	≥55	≥55

Configuration Guide											ADD FOR FANOUT:			
PLC	-	XXX	-	XX	-	XX	-	XX	-	X	-	X	-	XXXX
Splitter Type	Ports		Fiber Type (Input/Output)		Connectors (Input/Output)		Pigtail Length** (Input & Output)		Grade	Tray or Cassette		Length Ribbon (L1)/ Breakout (L2)		
PLC =Planar Light Circuit	102 = 1x2													
	104 = 1x4		2 = 250 μm		0 = none		15 = 1.5 meter		S = Standard	0 = none		0312=.03 m/1.2 m		
	108 = 1x8		R = 250 μm Ribbon		1 = SC/UPC									
	116 = 1x16		9 = 900 μm loose tube		2 = SC/APC									
	132 = 1x32													
	202 = 2x2													
	204 = 2x4													
	208 = 2x8													
	216 = 2x16													
	232 = 2x32													

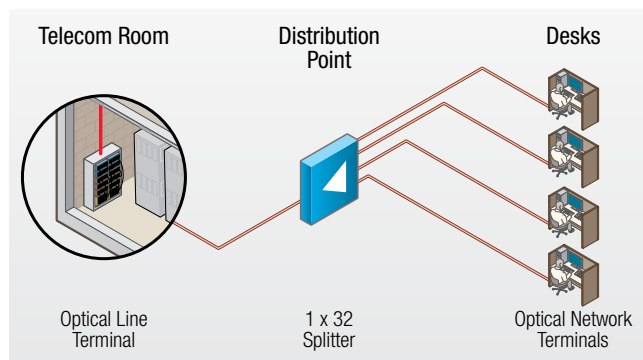
**Example:** PLC-104-29-22-15-S-0-0312  
(1x4, 250 μm input, 900 μm loose tube output, SC/APC to SC/APC, 1.5 m legs, standard grade, no tray, with fanout of .3m ribbon and 1.2m of 900 μm loose tube)

\*\* Inputs & outputs equal length

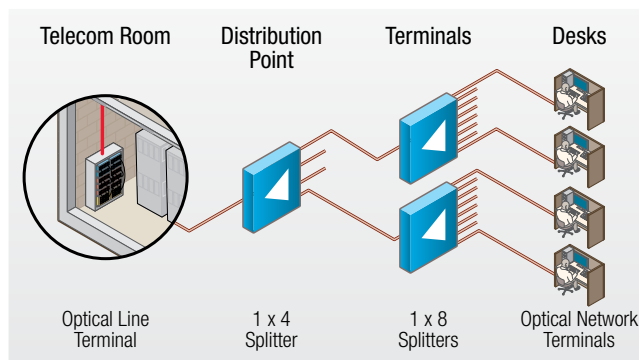
**Example:** PLC-104-29-22-15-S-0-0312  
(1x4, 250 μm input, 900 μm loose tube output, SC/APC to SC/APC, 1.5 m legs, standard grade, no tray, with fanout of .3m ribbon and 1.2m of 900 μm loose tube)

\*\* Inputs & outputs equal length

## Passive Optical LAN Architectures Utilizing PLC Splitters



**Centralized Splitting with 1x32  
3M™ Planar Light Circuit (PLC) Optical Splitters**



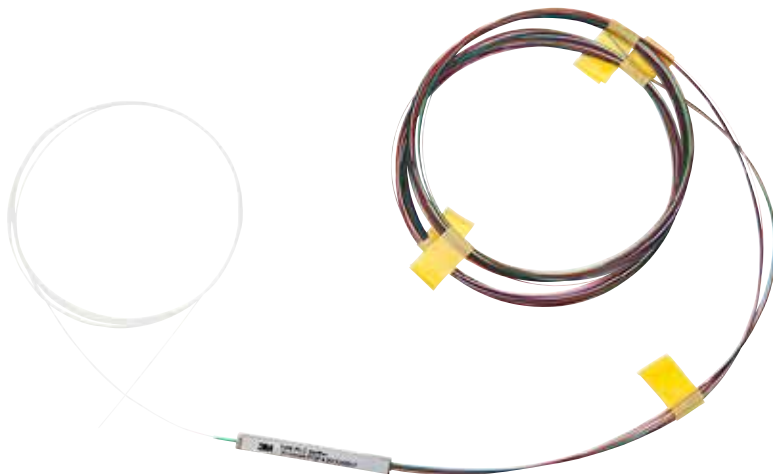
**Distributed Splitting with combination of 1x4 and 1x8  
3M™ Planar Light Circuit (PLC) Optical Splitters**

### 3M™ Planar Light Circuit (PLC) Splitters Ordering Information

Product Number	Description	3M ID	Minimum Order
PLC-102-22-00-15-S-0	PLC singlemode optical splitter 1X2, 250 µm discrete output	80-6113-2660-6	1
PLC-104-22-00-15-S-0	PLC singlemode optical splitter 1X4, 250 µm discrete output	80-6113-2661-4	1
PLC-104-2R-00-15-S-0	PLC singlemode optical splitter 1X4, ribbon output	80-6113-2448-6	1
PLC-104-99-11-15-S-0	PLC singlemode optical splitter 1X4, 900 µm loose tube, SC/UPC	80-6113-2514-5	1
PLC-104-99-22-15-S-0	PLC singlemode optical splitter 1X4, 900 µm loose tube, SC/APC	80-6113-2516-0	1
PLC-108-22-00-15-S-0	PLC singlemode optical splitter 1X8, 250 µm discrete output	80-6113-2662-2	1
PLC-108-2R-00-15-S-0	PLC singlemode optical splitter 1X8, ribbon output	80-6113-2449-4	1
PLC-108-99-11-15-S-0	PLC singlemode optical splitter 1X8, 900 µm loose tube, SC/UPC	80-6113-2515-2	1
PLC-108-99-22-15-S-0	PLC singlemode optical splitter 1X8, 900 µm loose tube, SC/APC	80-6113-2517-8	1
PLC-116-22-00-15-S-0	PLC singlemode optical splitter 1X16, 250 µm discrete output	80-6113-2663-0	1
PLC-116-2R-00-15-S-0	PLC singlemode optical splitter 1X16, ribbon output	80-6113-2450-2	1
PLC-116-99-22-15-S-0	PLC singlemode optical splitter 1X16, 900 µm loose tube, SC/APC	80-6113-9834-0	1
PLC-132-22-00-15-S-0	PLC singlemode optical splitter 1X32, 250 µm discrete output	80-6113-2664-8	1
PLC-132-2R-00-15-S-0	PLC singlemode optical splitter 1X32, ribbon output	80-6113-2451-0	1
PLC-132-99-22-15-S-0	PLC singlemode optical splitter 1X32, 900 µm loose tube, SC/APC	80-6114-7901-7	1
PLC-164-22-00-15-S-0	PLC singlemode optical splitter 1X64, 250 µm discrete output	80-6113-2984-0	1
PLC-202-22-00-15-S-0	PLC singlemode optical splitter 2X2, 250 µm discrete output	80-6113-2717-4	1
PLC-204-22-00-15-S-0	PLC singlemode optical splitter 2X4, 250 µm discrete output	80-6113-2718-2	1
PLC-204-99-22-15-S-0	PLC singlemode optical splitter 2X4, 900 µm loose tube, SC/APC	80-6113-9835-7	1
PLC-208-99-22-15-S-0	PLC singlemode optical splitter 2X8, 900 µm loose tube, SC/APC	80-6113-9836-5	1
PLC-216-99-22-15-S-0	PLC singlemode optical splitter 2X16, 900 µm loose tube, SC/APC	80-6113-9837-3	1
PLC-232-99-22-15-S-0	PLC singlemode optical splitter 2X32, 900 µm loose tube, SC/APC	80-6113-9838-1	1

### 3M™ Planar Light Circuit (PLC) Splitters Fanout Ordering Information

Product Number	Description	3M ID	Minimum Order
PLC-104-29-11-15-S-0-0312	PLC singlemode optical splitter 1X4, 900 µm fanout, SC/UPC	80-6113-2455-1	1
PLC-108-29-11-15-S-0-0312	PLC singlemode optical splitter 1X8, 900 µm fanout, SC/UPC	80-6113-2456-9	1
PLC-108-29-22-15-S-0-0312	PLC singlemode optical splitter 1X8, 900 µm fanout, SC/APC	80-6113-2463-5	1
PLC-116-29-11-15-S-0-0312	PLC singlemode optical splitter 1X16, 900 µm fanout, SC/UPC	80-6113-2457-7	1
PLC-116-29-22-15-S-0-0312	PLC singlemode optical splitter 1X16, 900 µm fanout, SC/APC	80-6113-2464-3	1
PLC-132-29-11-15-S-0-0312	PLC singlemode optical splitter 1X32, 900 µm fanout, SC/UPC	80-6113-2458-5	1



3M™ Planar Light Circuit (PLC) Splitter, 250 µm discrete

## 3M™ Planar Light Circuit (PLC) Splitters in Trays Ordering Information

Product Number	Description	3M ID	Minimum Order
2527-1x2PLC-01-SF2-BA-S	2527 tray with one 1x2 PLC splitter, splitter input/output splicing for 12 3.0x60 mm SF	80-6113-3481-6	1
2527-1x4PLC-01-SF2-BA	2527 tray with one 1x4 PLC splitter, splitter input/output splicing for 12 3.0x60 mm SF	80-6113-3087-1	1
2527-1x8PLC-01-SF2-BA	2527 tray with one 1x8 PLC splitter, splitter input/output splicing for 12 3.0x60 mm SF	80-6113-3480-8	1
2527-1x16PLC-1-SF2-AA-S	2527 tray with one 1x16 PLC splitter, splitter input splicing for 12 3.0x60 mm SF	80-6113-3482-4	1
2527-1x32PLC-1-SF2-AA	2527 tray with one 1x32 PLC splitter, splitter input splicing for 12 3.0x60 mm SF	80-6113-3088-9	1
2532-1x4PLC-01-SF2-BA	2532 tray with one 1x4 PLC splitter, splitter input/output splicing for 12 3.0x60 mm SF	80-6113-3089-7	1
2532-1x8PLC-01-SF2-BA	2532 tray with one 1x8 PLC splitter, splitter input/output splicing for 12 3.0x60 mm SF	80-6113-3090-5	1
2532-1x32PLC-01-SF2-AA-M	2532 tray with one 1x32 PLC splitter, splitter input for 12 3.0x60 mm SF	80-6113-8092-6	1
2538-1x4PLC-01-SF2-BA	2538 tray with one 1x4 PLC splitter, splitter input/output splicing for 12 3.0x60 mm SF	80-6113-3091-3	1
2538-1x8PLC-01-SF2-BA	2538 tray with one 1x8 PLC splitter, splitter input/output splicing for 12 3.0x60 mm SF	80-6113-3092-1	1
2538-1x32PLC-01-SF2-AA-M	2538 tray with one 1x32 PLC splitter, splitter input for 12 3.0x60 mm SF	80-6113-3512-8	1

Tray Type	3M Closure Compatibility
2527	All 3M™ Fiber Optic Splice Closures 2178 and 3M™ SLiC™ Fiber Aerial Closures 533 and 733
2532	3M™ Fiber Optic Splice Closure 2178-XSB
2538	3M™ Closures Fiber Dome

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