

Communication Markets Division

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. Ruggedized hardened case versions are also available for use in 3M™ Fiber Cabinet applications.

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 to help provide the high performance and reliability needed in the outside plant environment. These splitters are RoHS compliant.*

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



3M™ Planar Light Circuit (PLC) Optical Splitters

Operating Conditions	
Wavelength	1260 ~ 1360 nm & 1450 ~ 1650 nm
Temperature range	-40°C to 85°C
Humidity range	5% to 85% RH

3M™ Planar Light Circuit (PLC) Optical Splitters (Non-connectorized)

Specifications (ITU G.652D and G.657A1 fiber)										
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

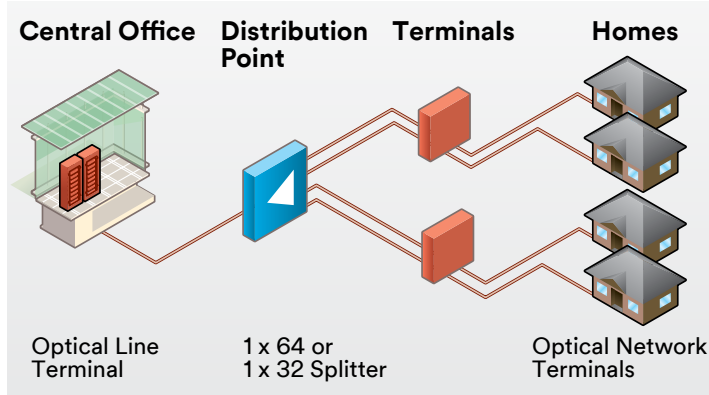
3M™ Hardened Case Splitters (Ruggedized tubing 2 mm)

Specifications (ITU G.652D and G.657A2 fiber)			
Insertion loss (dB) with connector	13.9	17.2	20.7
Uniformity (dB)	1.2	1.2	1.8
PDL (dB)	0.2	0.2	0.3
Return loss (dB)	≥55	≥55	≥55
Directivity (dB)	≥55	≥55	≥55
Hard case dimensions (mm)	100×80×10	100×80×10	120×80×20

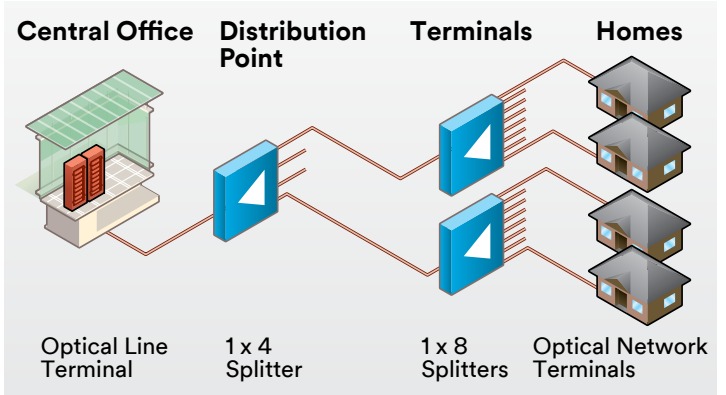


3M™ Planar Light Circuit (PLC) Optical Splitter Family

PON Architectures Utilizing PLC Splitters



Centralized Splitting with 1×64 or 1×32
3M™ Planar Light Circuit (PLC) Optical Splitters



Distributed Splitting with combination of 1×4 and 1×8
3M™ Planar Light Circuit (PLC) Optical Splitters

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

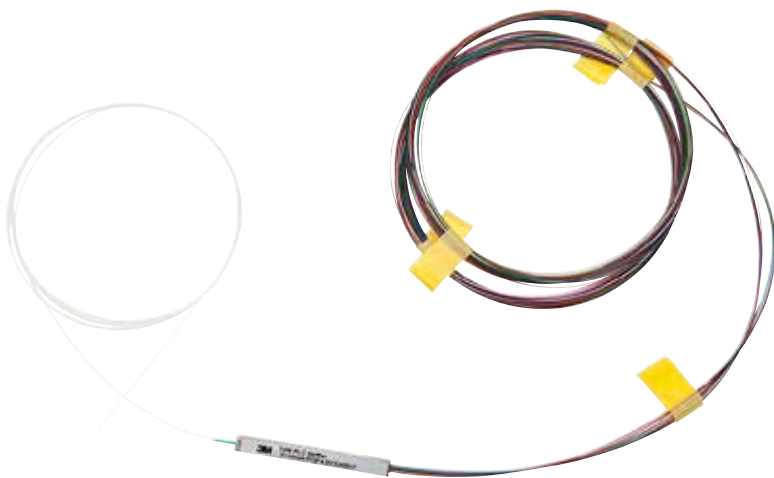
Product Number	Description	3M ID	Minimum Order
PLC-102-22-00-15-S-0	PLC singlemode optical splitter 1×2, 250 μm discrete output	80-6113-2660-6	1
PLC-104-22-00-15-S-0	PLC singlemode optical splitter 1×4, 250 μm discrete output	80-6113-2661-4	1
PLC-104-99-22-15-S-0	PLC singlemode optical splitter 1×4, 900 μm loose tube, SC/APC	80-6113-2516-0	1
PLC-108-22-00-15-S-0	PLC singlemode optical splitter 1×8, 250 μm discrete output	80-6113-2662-2	1
PLC-116-99-22-15-S-0	PLC singlemode optical splitter 1×16, 900 μm loose tube, SC/APC	80-6113-9834-0	1
PLC-132-99-22-15-S-0	PLC singlemode optical splitter 1×32, 900 μm loose tube, SC/APC	80-6114-7901-7	1
PLC-204-99-22-15-S-0	PLC singlemode optical splitter 2×4, 900 μm loose tube, SC/APC	80-6113-9835-7	1
PLC-208-99-22-15-S-0	PLC singlemode optical splitter 2×8, 900 μm loose tube, SC/APC	80-6113-9836-5	1
PLC-216-99-22-15-S-0	PLC singlemode optical splitter 2×16, 900 μm loose tube, SC/APC	80-6113-9837-3	1
PLC-232-99-22-15-S-0	PLC singlemode optical splitter 2×32, 900 μm loose tube, SC/APC	80-6113-9838-1	1

3M™ Planar Light Circuit (PLC) Splitters in Hardened Case Ordering Information

Product Number	Description	3M ID	Minimum Order
FOS-SM2×1X16LHC-SCAPC-2MMJKT-1.2M	3M™ Dual 1×16 Splitter Module designed to fit 3M™ Fiber Frames. SC/APC connectors. 1.2 meter (3.94') inputs and outputs with 2 mm jumper jacket.	80-6116-2152-7	1
FOS-SM1X32LHC-SCAPC-2MMJKT-1.2M	3M™ 1×32 Splitter Module designed to fit 3M™ Fiber Frames. SC/APC connectors. 1.2 meter (3.94') inputs and outputs with 2 mm jumper jacket.	80-6114-8880-2	1
FOS-SM1X64LHC-SCAPC-2MMJKT-1.2M	3M™ 1×64 Splitter Module designed to fit 3M™ Fiber Frames. SC/APC connectors. 1.2 meter (3.94') inputs and outputs with 2 mm jumper jacket.	80-6116-2289-7	1

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

Product Number	Description	3M ID
2527-1X32PLC-1-SF2-AA	2527 tray with one 1×32 PLC splitter, splitter input splicing for 12 3.0×60 mm SF	80-6113-3088-9



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

3M is a trademark of 3M Company.

*RoHS 2011/65/EU compliant: Yes means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values (“MCVs”) in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, and/or in the recast RoHS Directive 2011/65/EU, Annex II, unless the substance is in an application that is exempt under the RoHS Directive 2002/95/EC, as amended, and/or under Annex III or Annex IV to the recast RoHS Directive 2011/65/EU. The MCVs are by weight in homogeneous materials.

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