



TECHNICAL DATASHEET

PLC Splitters Family Datasheet

Planar lightwave circuit splitters, 1×2 to 1×64 —
typical optical specifications and package formats.

PROSKY-DS-PLC-2026 · Rev A
Issued 2026 · English

PLC Splitters — Family Datasheet

PLC (planar lightwave circuit) splitters divide one optical input across up to 64 outputs with uniform loss. A lithographically etched silica waveguide chip performs the split, so port-to-port uniformity, temperature stability and reliability far exceed fused-coupler alternatives at higher ratios — which is why PLC splitters are the standard passive heart of PON/FTTH distribution.

How it works

Light from the input fiber enters a waveguide etched into a silica-on-silicon chip and is divided through a cascade of Y-branch junctions. The chip is aligned and bonded to input/output fiber arrays, then packaged. Because the split happens in a planar chip rather than in stretched fiber, the division ratio is set by geometry — stable across wavelength (1260–1650 nm) and temperature.

Package formats

Package	Where it is used
Bare-fiber / steel-tube mini	Inside splice closures and compact terminal boxes
ABS box module	Wall-mount distribution boxes and building risers
LGX cassette	Slide-in mounting in ODF and distribution hubs
Rack-mount 19-inch (1U)	Central-office and cabinet installations
Plug-and-play with adapters	Pre-connectorised SC/APC ports for fast field work

Typical optical specifications

Parameter	1×2	1×4	1×8	1×16	1×32	1×64
Insertion loss (dB, max)	3.8	7.3	10.7	13.9	17.2	21.0
Uniformity (dB, max)	0.6	0.6	0.8	1.2	1.7	2.5
Return loss (dB, min)	55	55	55	55	55	55
PDL (dB, max)	0.2	0.2	0.2	0.3	0.3	0.4
Directivity (dB, min)	55	55	55	55	55	55

Typical values for this product class — request the certified PROSKY datasheet for guaranteed figures.

Parameter	Typical class value
Wavelength range	1260 – 1650 nm (full PON band incl. XGS-PON)
Fiber type	ITU-T G.657.A1 pigtails
Connector options	SC/APC standard; SC/UPC, LC/APC on request
Operating temperature	–40 °C to +85 °C
Reliability design basis	Designed to align with Telcordia GR-1209 / GR-1221
Standards alignment	Designed to align with ITU-T G.671, IEC 61753-1

Typical values for this product class — request the certified PROSKY datasheet for guaranteed figures.

Catalogue products

- **PLC Splitter 1×16** — Planar lightwave circuit splitter serving sixteen subscriber drops from a single PON feeder, wavelength-flat across 1260–1650 nm. Higher split density concentrates the ODN into fewer cabinets, in bare, ABS, LGX and rack formats.
- **PLC Splitter 1×8** — Planar lightwave circuit splitter dividing one optical input evenly across eight outputs, wavelength-flat over the full 1260–1650 nm PON band. Supplied bare, in ABS module, LGX cassette or rack-mount formats to suit any point in the ODN.

Other ratios (1×2 to 1×64, and 2×N variants) are supplied in all package formats listed above — state ratio, package and connector when requesting a quotation.

Applications

- GPON / XGS-PON optical distribution networks (centralized or cascaded splitting)
- FTTH distribution boxes, hubs and splice closures
- Passive optical LAN in buildings and campuses
- CATV / RF-overlay optical distribution