

Planar Lightwave Circuit Splitter Datasheet

1. Features

- ◆ Low Insertion loss
- ◆ Low PDL
- ◆ Compact Design
- ◆ Good channel-to-channel uniformity
- ◆ Wide Operating Wavelength:
From 1260nm to 1650nm
- ◆ Wide Operating Temperature:
From -40°C to 85°C
- ◆ High Reliability and Stability



2. Applications

- ◆ FTTX Systems
- ◆ PON Networks
- ◆ CATV Links
- ◆ Optical Signal Distribution



3. Compliance

- ◆ Telcordia GR-1209-CORE
- ◆ Telcordia GR-1221-CORE
- ◆ RoHS

4. Description

Planar lightwave circuit (PLC) splitter is a type of optical power management device that is fabricated using silica optical waveguide technology. It features small size, high reliability, wide operating wavelength range and good channel-to-channel uniformity, and is widely used in PON networks to realize optical signal power splitting. Gigalight provides whole series of 1xN and 2xN splitter products that are tailored for specific applications. All products meet Telcordia 1209 and 1221 requirements.

5. Specifications

Table 1 – 1×N PLC Splitter

Parameters	1×2	1×4	1×8	1×16	1×32	1×64
Operating Wavelength (nm)	1260~1650					
Fiber Type	SMF-28e or customer specified					
Insertion Loss (dB) (S/P Grade)	4.0/3.8	7.3/7.0	10.5/10.2	13.7/13.5	16.9/16.5	20.5/21.0
Loss Uniformity (dB)	0.4	0.6	0.8	1.2	1.5	2.5
Return Loss (dB) (S/P Grade)	50/55	50/55	50/55	50/55	50/55	50/55
Polarization Dependent Loss(dB)	0.2	0.2	0.3	0.3	0.3	0.4
Directivity (dB)	55	55	55	55	55	55
Wavelength Dependent Loss(dB)	0.3	0.3	0.3	0.5	0.5	0.5
Temperature Stability(-40~85 °C)(dB)	0.5	0.5	0.5	0.5	0.5	0.5
Operating Temperature (°C)	-40~85					
Storage Temperature (°C)	-40~85					
Packaging Dimension (mm) (L×W×H)	40×4×4	40×4×4	40×4×4	40×4×4	50×7×4	60×12×4
Module Dimension (mm) (L×W×H)	100×80×10	100×80×10	100×80×10	120×80×18	140×115×18	140×115×18

Table 2 – 2×N PLC Splitter

Parameters	2×2	2×4	2×8	2×16	2×32
Operating Wavelength (nm)	1260~1650				
Fiber Type	SMF-28e or customer specified				

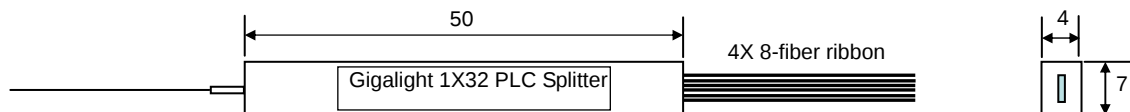
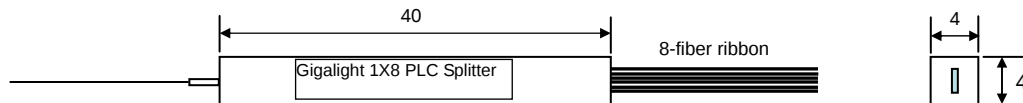
Insertion Loss (dB) (S/P Grade)	4.2	7.6	11.0	14.5	17.5
Loss Uniformity (dB)	0.8	1.5	1.5	2.0	2.5
Return Loss (dB) (S/P Grade)	50/55	50/55	50/55	50/55	50/55
Polarization Dependent Loss(dB)	0.2	0.2	0.3	0.4	0.4
Directivity (dB)	55	55	55	55	55
Wavelength Dependent Loss(dB)	0.3	0.5	0.5	0.5	0.5
Temperature Stability(-40~85 °C)(dB)	0.5	0.5	0.5	0.5	0.5
Operating Temperature (°C)	-40~85				
Storage Temperature (°C)	-40~85				
Packaging Dimension (mm) (L×W×H)	40×4×4	40×4×4	50×4×4	50×7×4	60×7×4
Module Dimension (mm) (L×W×H)	100×80×10	100×80×10	120×80×18	140×115×18	140×115×18

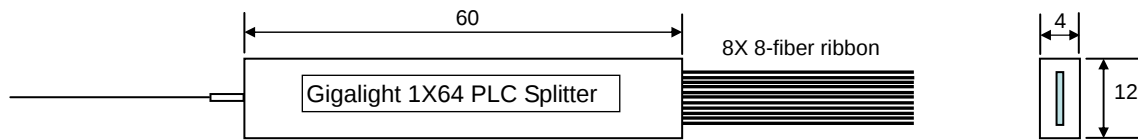
Notes:

1. Specified without connectors.
2. Add an additional 0.2dB loss per connector.

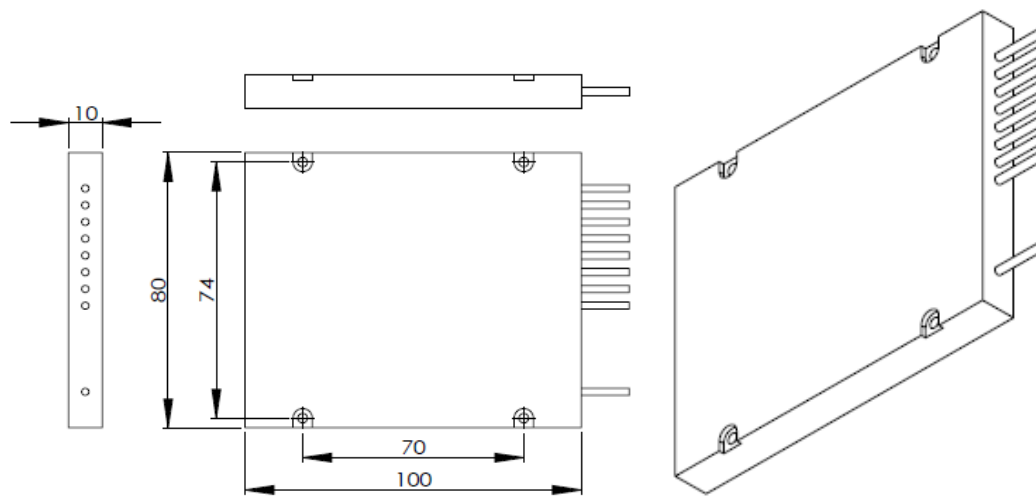
6. Mechanical Dimensions

PLC Splitter

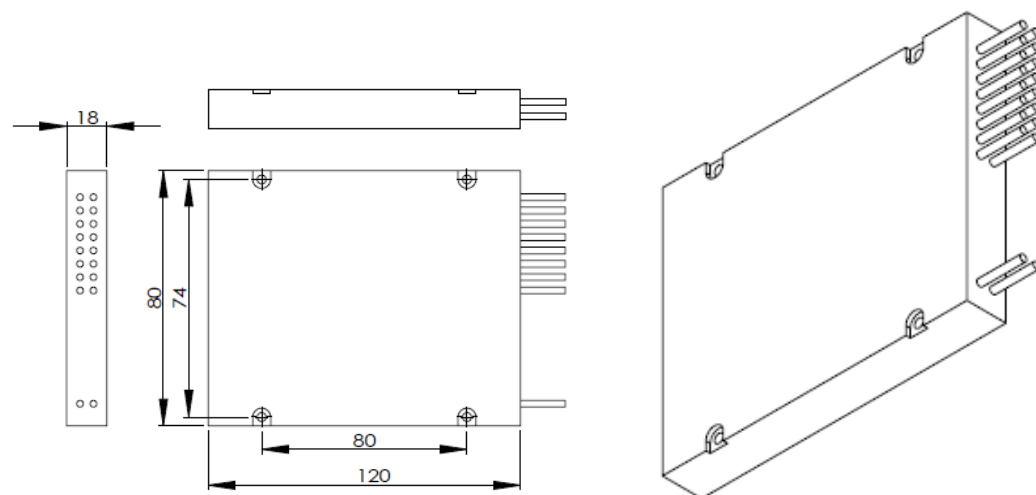




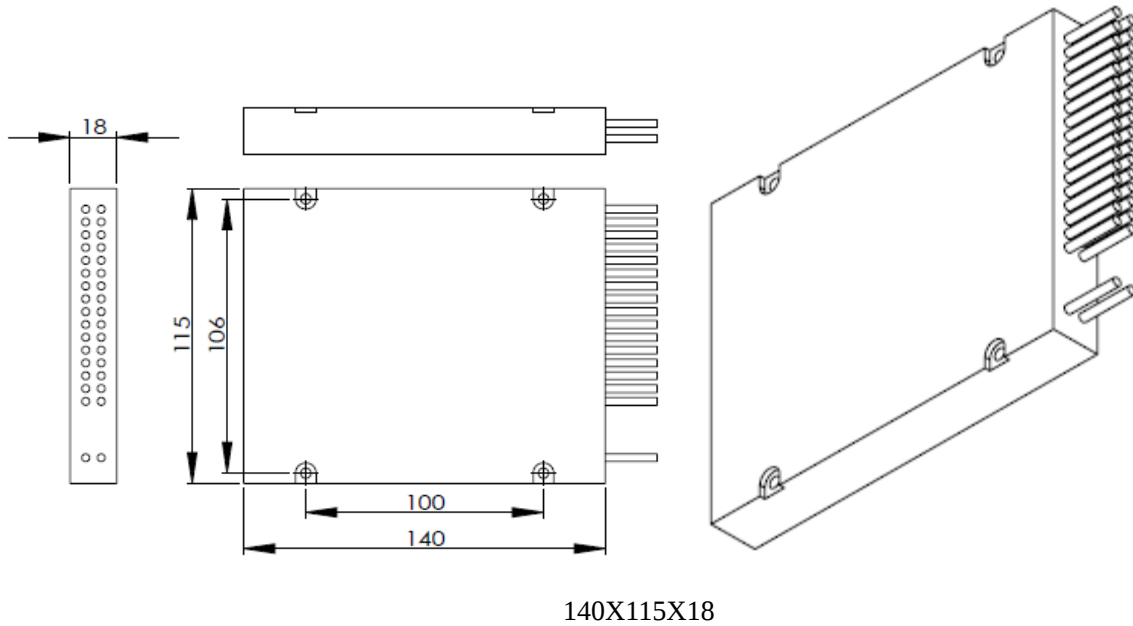
PLC Splitter Module



100X80X10



120X80X18



7. Ordering information

PLC Splitter

GPS-	-	XXX	-	X	XX	-	X	XX	-	X	X
		Port Configuration		Input fiber type	Input fiber length		Output fiber type	Output fiber length		Input connector	Output connector
G=Gigalight		104=1X4		B=250 μ m bare fiber	10=1.0m		B=250 μ m bare fiber	10=1.0m		0=None	0=None
P=PLC		108=1X8		L=900 μ m loose tube	15=1.5m		R=ribbon fiber	15=1.5m		1=FC/UPC	1=FC/UPC
S=Splitter		116=1X16		T=900 μ m tight buffer	20=2.0m		F=Fan out box with 900 μ m loose tube	20=2.0m		2=FC/APC	2=FC/APC
					XX=Customized			XX=Customized		3=SC/UPC	3=SC/UPC
		164=1X64								4=SC/APC	4=SC/APC
		208=2X8								5=LC/UPC	5=LC/UPC
										6=LC/APC	6=LC/APC
		232=2X32								X=Customized	X=Customized

PLC Splitter Module



GPM	-	XXX	-	XX	-	XX	-	XX	-	X	X
		Port Configuration		Modules type		Fiber type		Fiber length		Input connector	Output connector
G=Gigalight		104=1X4		PL=140X115X18, plastic		09=0.9mm		10=1.0m		0=None	0=None
P=PLC splitter		108=1X8		PM=120X80X18, plastic		20=2.0mm		15=1.5m		1=FC/UPC	1=FC/UPC
M=Module		116=1X16		PS=100X80X10, plastic		30=3.0mm		20=2.0m		2=FC/APC	2=FC/APC
				LX=LGX box, metal				XX=Customized		3=SC/UPC	3=SC/UPC
		164=1X64		19=19' 1U Rack-Mount						4=SC/APC	4=SC/APC
		208=2X8		XX=Customized						5=LC/UPC	5=LC/UPC
										6=LC/APC	6=LC/APC
		232=2X32								X=Customized	X=Customized

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