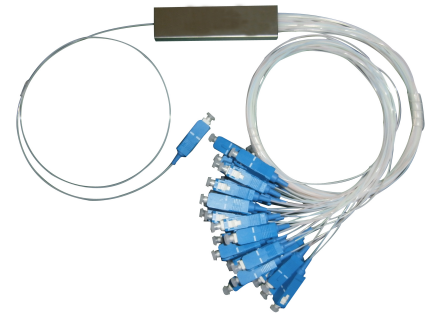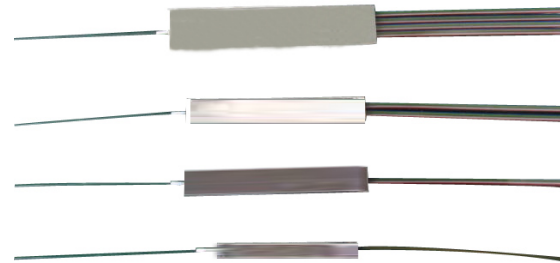# Splitters

Bare & Mini Module Type PLC Splitters

PLC Splitters are used for telcom network and also used for high speed metropolitan and access network.This document describes optical, structural and environmental specifications of PLC splitter produced by Alfafonet.

Guideline of Reliability Requirements

✓GR-1209 Generic Requirements for Passive Optical Components.

✓ GR-1221 Generic Reliability Assurance Requirements for Passive Optical Components

✓ GR-326 Generic Requirements for Single mode Optical Connectors and Jumper Assemblies

✓ YD/T 2000.1-2014 Integrated optical path devices based on Planar light-wave circuits

PartⅠ: Optical power splitter based on PLC Technology

Main Specification for PLC

Splitter Mechanical Specification

✓ A schematic of the splitter configuration is shown in Figure 1 and Figure 2.
The devices will have one or two input ports depending on the application
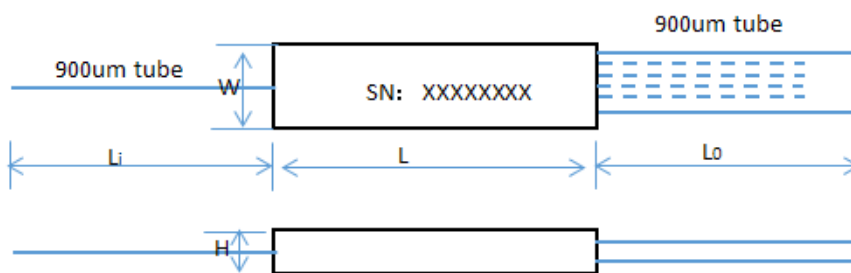

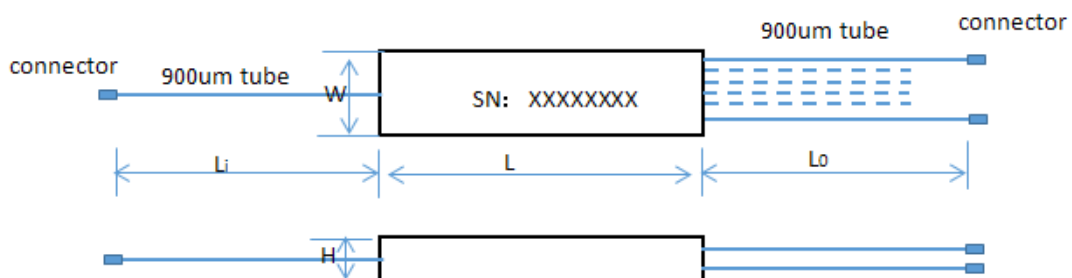Figure 1 Definition of ports on a mini-module PLC splitter without connector

Figure 2 Definition of ports on a mini-module PLC splitter with connector

Splitter Housing Dimensions

Please refer to Table 1 for housing dimensions of optical splitter.

Housing size	1X2	1X4	1X8	1X16	1X32	1X64	2X2	2X4	2X8	2X16	2X32	2X64
L（mm）	60			60	80	100	60	60	70	70	80	100
W（mm）	7			12	20	40	7	7	7	12	20	40
H（mm）	4			4	6	6	4	4	4	4	6	6

Table 1 Housing dimensions of optical splitter.

Input / Output Fiber Specification

✓Pigtail for Input fiber: 900um white tube, Li is the length of input tube without connector

✓ Pigtail for Output fiber: 900um white tube or 900um color tube
 blue, orange, green, brown, gray, white, red, black; Lo is the length of output tube without connector

✓ Remark：The unit of Li and Lo is centimeter, and the tolerance of Li and Lo is -0/+5cm

Optical Specification for PLC Splitter

✓ Please refer to Table 2 for optical performance of PLC Splitter.

Parameter	Unit		1×2	1×4	1×8	1×16	1×32	1×64	2×2	2×4	2×8	2×16	2×32	2×64
			P Grade											
Insertion Loss	Typ.	dB	3.6	6.9	10.0	13.2	16.5	20.0	4.0	7.2	10.6	13.8	17.0	21.0
	Max	dB	3.8	7.1	10.4	13.5	17.0	20.5	4.2	7.5	11.0	14.3	17.5	21.5
Channel Uniformity	Max	dB	0.6	0.6	1.0	1.1	1.5	1.8	1.2	1.3	1.6	1.8	2.3	2.5
PDL	Max	dB	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.4
			S Grade											
Insertion Loss	Typ.	dB	3.8	7.1	10.4	13.6	17	20.5	4.2	7.5	11	14.3	17.4	21.5
	Max	dB	4.1	7.4	10.8	14	17.4	21	4.5	7.9	11.4	14.7	17.9	22
Channel Uniformity	Max	dB	0.6	0.8	1	1.3	1.5	1.8	1.2	1.5	1.6	2	2.5	3
PDL	Max	dB	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.4
Return Loss	Min	dB	50											
Directivity	Min	dB	55											
Operating Wavelength	nm		1260～1650											
OperatingTemperature			-40~85											
Storage Temperature			-40~85											
Fiber Type			ITU. G657A or other											

Table 2 Optical performance of PLC Splitter

Remark:

✓ The IL are tested without connector loss

✓ Insertion loss increases 0.3dB/pair if connectors included

✓ The RL requirement : RL≥55dB for with APC connectors and RL≥50dB for with UPC connectors

Packaging

Product Label

Material of product label is adhesive paper; product label will be pasted in the middle to seal tube cover.

Label patterns of different types of device, as per Table 3

Specifications	Example
Product Label Type：1*8 and below Dimensions：6*42mm Material： Font：Times New Roman Word Size： 7, Bold	1x8 PLC Splitter SN :1608010901

Table 3 Label patterns of different types of device

SIRA NO	ÜRÜN TANIMI	TURKSAT TKS KODU	MODEL/TİP
1	1x2 AKTIF OPTIK SPLITTER	TKS-OPS-3	SPL-PLCSCAPC-12
2	1x4 AKTIF OPTIK SPLITTER	TKS-OPS-4	SPL-PLCSCAPC-14
3	1x8 AKTIF OPTIK SPLITTER	TKS-OPS-5	SPL-PLCSCAPC-18
4	1x16 AKTIF OPTIK SPLITTER	TKS-OPS-6	SPL-PLCSCAPC-116
5	1x32 AKTIF OPTIK SPLITTER	TKS-OPS-7	SPL-PLCSCAPC-132