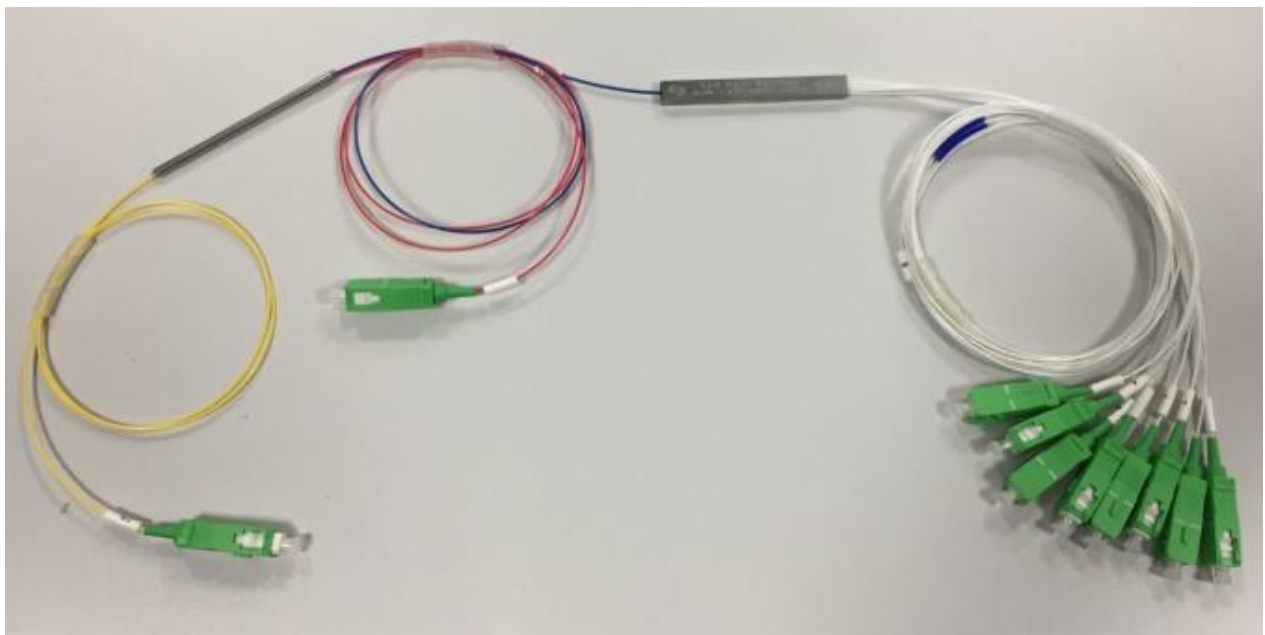


specification

规格书

产品名称 Product Name	PLC 光分路器 PLC SPLITTER	产品型号/规格 Product Modle	1X9/Micro PLC Splitter
文件编号 File Numbers		版本 Version	2020-0A
生产料号 Production part no.		订单号 PO Numbers	



	制作	审核	批准
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	DESCRIBED	CHECKED	APPROVED
姓名 NAME			
日期 DATE			

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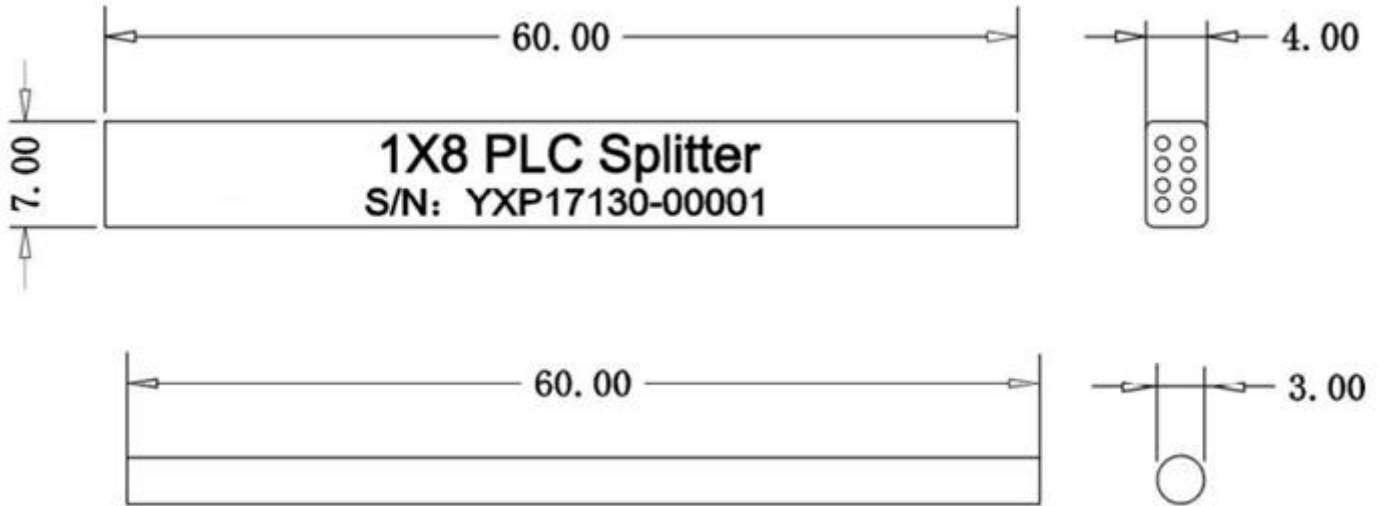
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1 Product Structure (Unit: MM)



2 Specification

2.1 Optical Characteristics (exclude connector loss)

Category	Specification					Remarks
Test Wavelength	nm	1310	1490	1550	90%	
Insertion Loss	MAX	dB	21.5	21.5	21.5	0.73
Channel Uniformity	MAX	dB	1.7	1.7	1.7	
Polarization Dependent Loss -PDL	MAX	dB	0.5	0.5	0.5	
Directivity	MIN	dB	55			
Return Loss	MIN	dB	55			
Connector Insertion Loss	MAX	dB	0.1 each			
Adapter Insertion Loss	MAX	dB	N/A			
Working Wavelength	nm	1260.....1650				
Storage Temperature	°C	-40.....+85				
Operating Temperature	°C	-25.....+75				

Note: The insertion loss increases not less than 0.2 dB according to the above requirements when there are joints. Other indicators are the same.

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Hybrid Optical Splitter - Features

10/90		15/85		20/80		25/75	
Gate	Reference - IL (dB)	Gate	Reference - IL (dB)	Gate	Reference - IL (dB)	Gate	Reference - IL (dB)
	Maximum		Maximum		Maximum		Maximum
90%	0.73	85%	1.13	80%	1.40	75%	1.70
1-8	21.54	1-8	20.78	1-8	18.25	1-8	17.45

30/70		35/65		40/60		50/50	
Gate	Reference - IL (dB)	Gate	Reference - IL (dB)	Gate	Reference - IL (dB)	Gate	Reference - IL (dB)
	Maximum		Maximum		Maximum		Maximum
70%	2.22	65%	2.30	60%	2.73	50%	3.60
1-8	16.51	1-8	15.60	1-8	15.32	1-8	14.10

2.2 Optical cable and other requirements

Category		Specification	Remarks
Fiber Cable	Type/color NO: 01	G657A1 Ø0.9/Hytrel yellow IN	
	Type/color NO: 02	G657A1 Ø0.9/Hytrel blue 10%	
	Type/color NO: 03	G657A1 Ø0.9/Hytrel red 90%	
	Type/color NO: 04	G657A1 Ø0.9/Hytrel white 1……8	
	Input endface Length:L1	0.55 ± 0.05m	
	Output endface Length:L2	0.30 ± 0.05m	
	Output endface Length:L3	0.60 ± 0.05m	
	Output endface Length:L4	0.7 ± 0.05m	
Connector type	Input endface NO:05	SC/APC Green	
	Output endface NO:06	SC/APC Green	
	Output endface NO:07	SC/APC Green	
Number tube NO:08		Input IN	
Number tube NO:09		Output 10%	
Number tube NO:010		Output 90%	
Number tube NO:011		Output 1……8	

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gasket				1pc/ 1um	1pc/ 1um	1pc/ 1um	1pc/ 1um	2pc/ 2um	2pc/ 2um
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- ◆ If quarantine is stained and the gun with nitrogen purge, then observed, repeat 1~2 times, qualifying into circulation box
- ◆ Not meeting the standard, put the insertion core in the clean paper to wipe in one direction 3~5 times, then observe and put the passed items into circulation box
- ◆ if scratches and dirt do not meet the requirements and cannot be erased, the device is identified into circulation box in the nonconforming areas and corresponding records are made in the record. (In accordance with the "test-clean-check"
- ◆ All the endface are required to meet class a standard
- ◆ Endface sketch

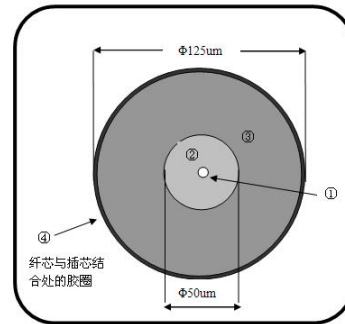
8 Insert/Pull Test

Loss should be within the following limits in reference to

- ◆ Variation value of Insertion Loss should be ≤ 0.50 dB
- ◆ The difference between Initial Value and final test value should be ≤ 0.30 dB
- ◆ Return loss should be ≥ 50 dB in process of Testing

The test shall be conducted under the following conditions:

- ◆ Pull/Insert: 500 times
- ◆ Record a data every 10 times
- ◆ Data is recorded 50 times in total
- ◆ Clean pins and adapter's elastic sleeve before recording every time
- ◆ Not mechanical damage, such as deformation, loss, corrosion, relaxation and other phenomena
- ◆ Test Wavelength 1310-1550nm
- ◆ Required testing interface QTY= $\log_2(\text{Output interface}) : \log_2(9) = 3$



9 Tensile Test

Loss should be within the following limits in reference to the initial value

- ◆ variation value of Insertion Loss should be ≤ 0.50 dB in process of testing
- ◆ The difference between Initial Value and final test value should be ≤ 0.30 dB
- ◆ Return loss should be ≥ 55 dB in process of Testing

The test shall be conducted under the following conditions:

- ◆ Load: 4 N
- ◆ Tensile variation in process of testing: 1N/s
- ◆ Duration: 60s
- ◆ Tensile Point: 0.22-0.28m distance from fiber cable ends
- ◆ Test Wavelength 1310-1550nm
- ◆ Required testing interface QTY= $\log_2(\text{Output interface}) : \log_2(9) = 3$

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10 Torsion Test

Loss should be within the following limits in reference to the initial value

- ◆ variation value of Insertion Loss should be ≤ 0.50 dB in process of testing
- ◆ The difference between Initial Value and final test value should be ≤ 0.30 dB
- ◆ Return loss should be ≥ 50 dB in process of Testing

The test shall be conducted under the following conditions::

- ◆ applied force:7.4N
- ◆ The distance between the Torsion point and shell underside is 0.2cm
- ◆ Max Torsion Angle: $\pm 180^\circ$
- ◆ number of torsions: 100 times
- ◆ Torsion Speed: 10 Times/min.
- ◆ Test Wavelength 1310-1550nm
- ◆ Required testing interface QTY= $\log_2(\text{Output interface}):\log_2(9)=3$

11 High and Low Temperature Cycling Test

Loss should be within the following limits in reference to the initial value

- ◆ variation value of Insertion Loss should be ≤ 0.50 dB in process of testing
- ◆ The difference between Initial Value and final test value should be ≤ 0.30 dB
- ◆ Return loss should be ≥ 50 dB in process of Testing

The test shall be conducted under the following conditions::

- ◆ High Temperature= $+75^\circ\text{C}$, Temperature rate of change:1 $^\circ\text{C} / \text{min}$
- ◆ Low Temperature= -25°C , Temperature change rate 1 $^\circ\text{C} / \text{min}$
- ◆ High and low temperature points to stay four hours separately
- ◆ Duration: 96h
- ◆ Cycles: 12 times
- ◆ 2 hours returned to 25°C
- ◆ Keep 2 hours at 25°C ,then test
- ◆ Insertion value should be tested at least one time per 10 mins. in process of testing.
- ◆ Test Wavelength 1310-1550nm
 - ◆ Required testing interface QTY= $\log_2(\text{Output interface}):\log_2(9)=3$

12 Low Temperature Test

Loss should be within the following limits in reference to the initial value

- ◆ variation value of Insertion Loss should be ≤ 0.50 dB in process of testing
- ◆ The difference between Initial Value and final test value should be ≤ 0.30 dB
- ◆ Return loss should be ≥ 50 dB in process of Testing

The test shall be conducted under the following conditions::

- ◆ Temperature= -25°C
- ◆ Duration:96H

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- ◆ 2 hours returned to 25°C from -25°C
- ◆ Test after Keeping 2 hours at 25°C
- ◆ Insertion value should be tested at least one time per 60 mins. in process of testing.
- ◆ Test Wavelength 1310-1550nm
- ◆ Required testing interface QTY=log₂(Output interface):log₂(9)=3

13 Dry Heat Test

Loss should be within the following limits in reference to the initial value

- ◆ variation value of Insertion Loss should be ≤0.50 dB in process of testing
- ◆ The difference between Initial Value and final test value should be ≤0.30 dB
- ◆ Return loss should be ≥50 dB in process of Testing
- ◆ The test shall be conducted under the following conditions:
 - ◆ Temperature=+75°C
 - ◆ Duration: 96h
 - ◆ 2 hours returned to 25°C
 - ◆ Test after Keeping 2 hours at 25°C
- ◆ Insertion value should be tested at least one time per 60 mins. in process of testing.
- ◆ Test Wavelength 1310-1550nm
- ◆ Required testing interface QTY=log₂(Output interface):log₂(9)=3

14 Salt Spray Test

Loss should be within the following limits in reference to the initial value

- ◆ variation value of Insertion Loss should be ≤0.50 dB in process of testing
- ◆ The difference between Initial Value and final test value should be ≤0.30 dB
- ◆ Return loss should be ≥50 dB in process of Testing
- ◆ The test shall be conducted under the following conditions:
 - ◆ Salt Spray concentration: 5%
 - ◆ Condition: 35°C, 48H
 - ◆ Test its optical performance at room temperature, and record data
 - ◆ Place in salt spray chamber from the test system, heated to 35 °C,then keep 48H
 - ◆ Lower the temperature to room temperature, then remove the samples to place 2H, test the optical performance after wiping
- ◆ No mechanical damage, such as deformation, loss, corrosion, relaxation and other phenomena
- ◆ Test Wavelength 1310-1550nm
- ◆ Required testing interface QTY=log₂(Output interface):log₂(9)=3

15 Vibration Test:

Loss should be within the following limits in reference to the initial value

- ◆ Variation value of Insertion Loss should be ≤0.50 dB in process of testing

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- ◆ The difference between Initial Value and final test value should be ≤ 0.30 dB
- ◆ Return loss should be ≥ 50 dB in process of testing

The test shall be conducted under the following conditions:

- ◆ Frequency: 10-55 Hz
- ◆ Amplitude: 0.75mm (1.52mm Max)
- ◆ Cycles: 15 times
- ◆ Time: 90 min divided in three perpendicular directions
- ◆ Every 5 seconds to test the attenuation of at least one port
- ◆ Test Wavelength 1310-1550nm
- ◆ Required testing interface QTY= $\log_2(\text{Output interface})$: $\log_2(9)$ =3

16 Humidity test

Loss should be within the following limits in reference to the initial value

- ◆ Variation value of Insertion Loss should be ≤ 0.50 dB in process of testing
- ◆ The difference between Initial Value and final test value should be ≤ 0.30 dB
- ◆ Return loss should be ≥ 50 dB in process of testing

The test shall be conducted under the following conditions:

- ◆ Temperature=+40°C
- ◆ humidity =93%
- ◆ Duration: 96 h
- ◆ 25°C 2 hours returned to 25°C
- ◆ Test after Keeping 2 hours at 25°C
- ◆ Insertion value should be tested at least one time per 60 mins. in process of testing.
- ◆ Test Wavelength 1310-1550nm
- ◆ Required testing interface QTY= $\log_2(\text{Output interface})$: $\log_2(9)$ =3

17 Water Immersion Test

Loss should be within the following limits in reference to the initial value

- ◆ Variation value of Insertion Loss should be ≤ 0.50 dB in process of testing
- ◆ The difference between Initial Value and final test value should be ≤ 0.30 dB
- ◆ Return loss should be ≥ 50 dB in process of testing

The test shall be conducted under the following conditions:

- ◆ elevation of water: 15mm
- ◆ Temperature: 43°C
- ◆ Soaking time: 168 h
- ◆ Insertion value should be tested at least one time per 10 mins. in process of testing.
- ◆ Test Wavelength 1310-1550nm
- ◆ Required testing interface QTY= $\log_2(\text{Output interface})$: $\log_2(9)$ =3

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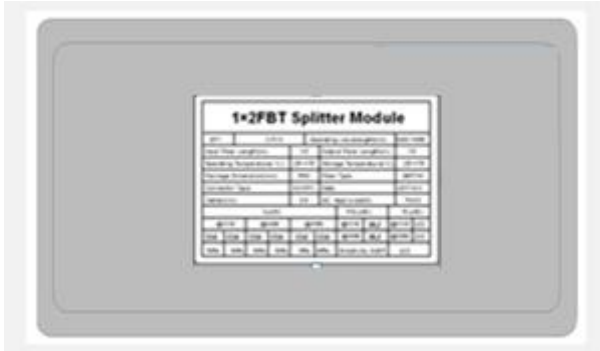
18 Flame Retardant Requirements

Test standard

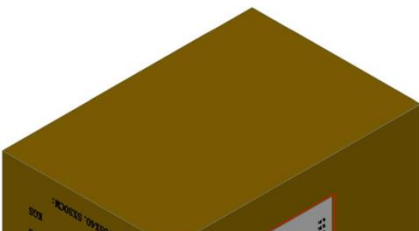
- ◆ HB: UL94 standard anti-flame retardant is the lowest grade.
- ◆ Ask for 3 to 13 mm thick samples, the burning rate of less than 40 mm per minute
- ◆ Samples less than 3 mm thick, the burning rate per minute less than 70 mm or 100 mm sign is extinguished
- ◆ V-2: After samples twice fire test for 10 seconds the flame extinguished within 60 seconds and Blazers fall.
- ◆ V-1: After samples twice fire test for 10 seconds the flame extinguished within 60 seconds and No Blazers fall
- ◆ V-0: After samples twice fire test for 10 seconds the flame extinguished within 30 seconds. No Blazers fall
- ◆ Optical splitter, Optical cable and ABS housings should comply with the above flame retardant V0

19 Product Packaging Information

19.1 Product packing: Foam (Reference Pictures)

	Size (MM)	260*120*18
	N.W.(KG/1PCS)	0.03 ± 0.01
	QTY (PCS/Box)	1
	G.W. (KG/Box)	0.065 ± 0.02

19.2 Outer packing

	Size (MM)	650*405*300
	QTY (PCS/Box)	125

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	N.W.(KG/Box)	3.8 ± 0.2
	G.W. (KG/Box)	9.2 ± 0.2