

# H9122L-4FE (CATV & 4 10/100M LAN)

## Triple play FTTH ONU

### PRODUCT DESCRIPTION

H9122L-4FE, is a triple play,FTTH ONU Optical network unit.

Products will be a high-performance optical receivers and CATV FTTH EPON ONU, integrated in an ultra-small metal box .

Provides high-quality and high-speed data to the user CATV , language, video and other broadband business services .

High-performance products , high compatibility and excellent cost performance, today's triple play, FTTH preferred device .

H9122L-4FE, built-in EPON ONU, providing users 4 10M/100M LAN ports . Product implementation of the national Ministry of interoperability standards , compatible with multiple manufacturers of EPON OLT, to achieve interoperability .

H9122L-4FE, built-in CATV FTTH optical receiver using H9122L. H9122L selected operators in over FTTH networks. Its high performance , high reliability has been widely verified. H9122L can be used to save a large amount of optical fiber amplifier power resource . For operators , can greatly reduce the cost of building the network.H9122L-4FE optical port mode, there are two kinds of selection:

H9122L-4FE-SF: single fiber access , built-in CWDM, applicable Triplexer wave system.

H9122L-4FE-DF: dual fiber access, without CWDM, CATV and data each with an optical fiber.



## PRODUCT FEATURE

### ► Digital TV optical receiver

Ultra-low noise, for analog TV,

Pin = -10dBm, Vo ≥ 69dBμV, CNR ≥ 45dB

High receiver sensitivity for digital television,

Pin = -16dBm, Vo ≥ 60dBμV, MER ≥ 35dB

Received optical power over a large dynamic range of

+2 dBm ~ -21dBm, And have excellent properties

Optical power can save a lot of resources, greatly

reduce the cost of network construction

### ► EPON ONU

Powerful L2 switching

High rate of PON: up and down the line of symmetry

1Gb / s data, VoIP and IPTV language

For ONU automatic identification, location, configuration,

ONU can "plug and play"

High quality based on the service level agreement (SLA)

Accounting (QoS) features

Powerful remote management functions and data to

Support various OAM functions with a Single fiber.

### ► General Characteristics

Metal case, offer safeguard for optoelectronic sensitive

devices

Low consumption, high performance, high reliability

Excellent cost performance in area

## PRODUCT FEATURE

### ► CATV ( Received optical power )

Red > +2dBm

Green +2~-13dBm (Digital TV: +2~-16dBm)

Orange -13~-16dBm (Digital TV: -16~-20dBm)

Red < -16dBm (Digital TV: < -20dBm)

### ► ONU

PON ( Green )

Bright : Link, registered normal

Flicker : Links, registration is not normal

LOS ( Red ) Off : Normal

Bright : Device self-test failure

LAN1 ( Green ) Flicker : Link normal

LAN2 ( Green ) Flicker : Link normal

LAN3 ( Green ) Flicker : Link normal

LAN4 ( Green ) Flicker : Link normal

### ► Power

Power (Green) Bright : Normal

## PRODUCT SERIES

Model	Mode optical port	CATV work	Data work waelength	Fiber connector
H9122L-4FE-SF	Triplexer wave	1540~1563nm	1310/1490nm	SC/APC
H9122L-4FE-DF	Dual Fiber Access	1260~1620nm	1310/1490nm	CATV:SC/APC,DATA:SC

## TECHNICAL INDEX

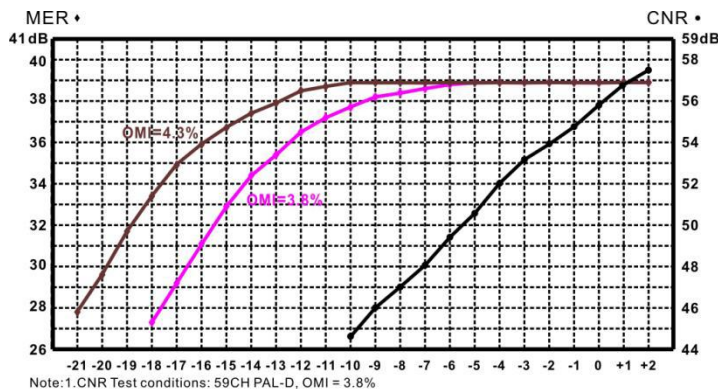
Performance			Index	Supplement
Optic feature	CATV Work wavelength	(nm)	1260~1620	H9122L-4FE-DF
			1540~1563	H9122L-4FE-SF
	Channel Isolation	(dB)	≥40	1550nm    & 1490nm
	Responsivity	(A/W )	≥0.85	1310nm
			≥0.9	1550nm
	Receiving power	(dB m)	+2~-10	Analog TV(CNR>45dB)
			+2~-20	Digital TV(MER>29dB)
	Optical return loss	(dB)	≥55	
	Optical fiber connector		SC/APC	H9122L-4FE-SF
SC/UPC(CATV)			H9122L-4FE-DF	
SC/UPC (DATA)				
RF Feature	Work bandwidth	(MH	45 ~ 862	
	Flatness	(dB)	≤±0.75	45~862MHz
	Output level	(dBμ V)	>82	AnalogTV (Pin=-3dBm)
			>82	Digital TV (Pin=-5dBm)
	Output level adjust	(dB	0~18	MGC
	Return loss	(dB)	≥14	47 ~ 862MHz
	Output impedance	(Ω)	75	
	Output port number		1	
	RF tie-in		F-Female	
Link Feature Analog TV	Test channel	(CH)	59CH(PAL-D)	
	OMI	(%)	3.8	
	CNR1	(dB)	54..6	Pin=-2dBm
	CNR2	(dB)	45.1	Pin=-10dBm
	CTB	(dB)	≤-65	Pin: 0~-10dBm
	CSO	(dB)	≤-65	Pin: 0~-10dBm

Link Feature DigitalTV	OMI	(%)	4.3	
	MER	(dB)	≥36	Pin=-15dBm
			≥29	Pin=-20dBm
	BER	(dB)	<1.0E-9	Pin:+2~-20dBm
General feature	Power supply	(V)	DC+12V	±1.0V
	Power Consume	(W)	Max.≤10W	Tyoe.=7W
	Work temp	(℃)	-20 ~ +55	
	Storage temp	(℃)	-40 ~85	
	Work relative temp	(%)	5 ~ 95	
	Size	(mm)	132×98×24mm	

## EPON ONU TECHNICAL INDEX

Standard appliance	IEEE802.3/802.3ah	Fiber interface performance	SC/APC
Work wavelength	Tx: 1310nm, Rx: 1490nm	Fiber type standard	Single mode fiber SMF
Tx Output Power	-1dBm ~ +3dBm	Rx receiver sensitivity	-26dBm
Transmit rate	1Gbps up/down bound symmetry	Optical link budget loss	29dB
Service quality	QoS IEEE802.1p IPV4 TOS priority	Subscriber identification	ONU IEEE802.1x
Dynamic Bandwidth allocate	DBA The biggest bandwidth of every ONU subscriber and assure the allocate with quantity		
L2 switch function	MAC address management:8K Rate Limiting;Support IGMP Snooping (V1/V2) inquiry		
	Support IEEE802.1d STP support IEEE802.1q VLAN		
Management mode	Web Server , SNMP data collect, can remote escalate built-in software by HTTP		
LAN interface	Standard appliance	IEEE802.310Base-t,IEEE802.3u 100Base-Tx/Fx IEEE802.3x	
	Interface and quantity	4 RJ45, 10M/100M Ethernet network port	

## CNR, MER DEGRADATION TABLE



3. Digital television Receiving Low Light, appropriate to increase the system modulation (OMI), can greatly improve the MER degradation.

## NOTE

1. Power Adapter Type: Input 220V, output DC power 12V (1A)
2. PON port with SC/APC fiber connector. Need put protective seal when the connector not in use, make sure the optical connector are cleaning.
3. When Optical signal connected with the PON port, the indicator light of PON port will turn on. If the light turns on and stable, it means the signal with center office network well connected and registered. If the light flashes, then means the signal not well connected and registered, need double check.
4. LOS lights turn on, means the self-test not pass. If the PON indicator light shows stable, but LOS lights turn on, it means the device is faulty.
5. 4 LAN indicator light corresponds to 4 10M/100M Ethernet interface, when lights flashing, it Means the link well connected, and all data well transferred.

## MODEL EXPLANATION

FTTx Receiver		CATV Work bandwidth		Number of RF output		Output level (Pin=-16dBm)		L	LAN form and quantity		Mode optical port	
H	FTTH	9	45~862MHz	1	1ports	22	22dBmV(82dBμV)	Ultra-low optical Receiver	4FE	Four 10M/100M Port	SF	Single fiber access
P	FTTP								1GE	A 1000M Port	DF	Dual fiber access
B	FTTB								4GE	Four 1000M Port		