



ACION GEH39

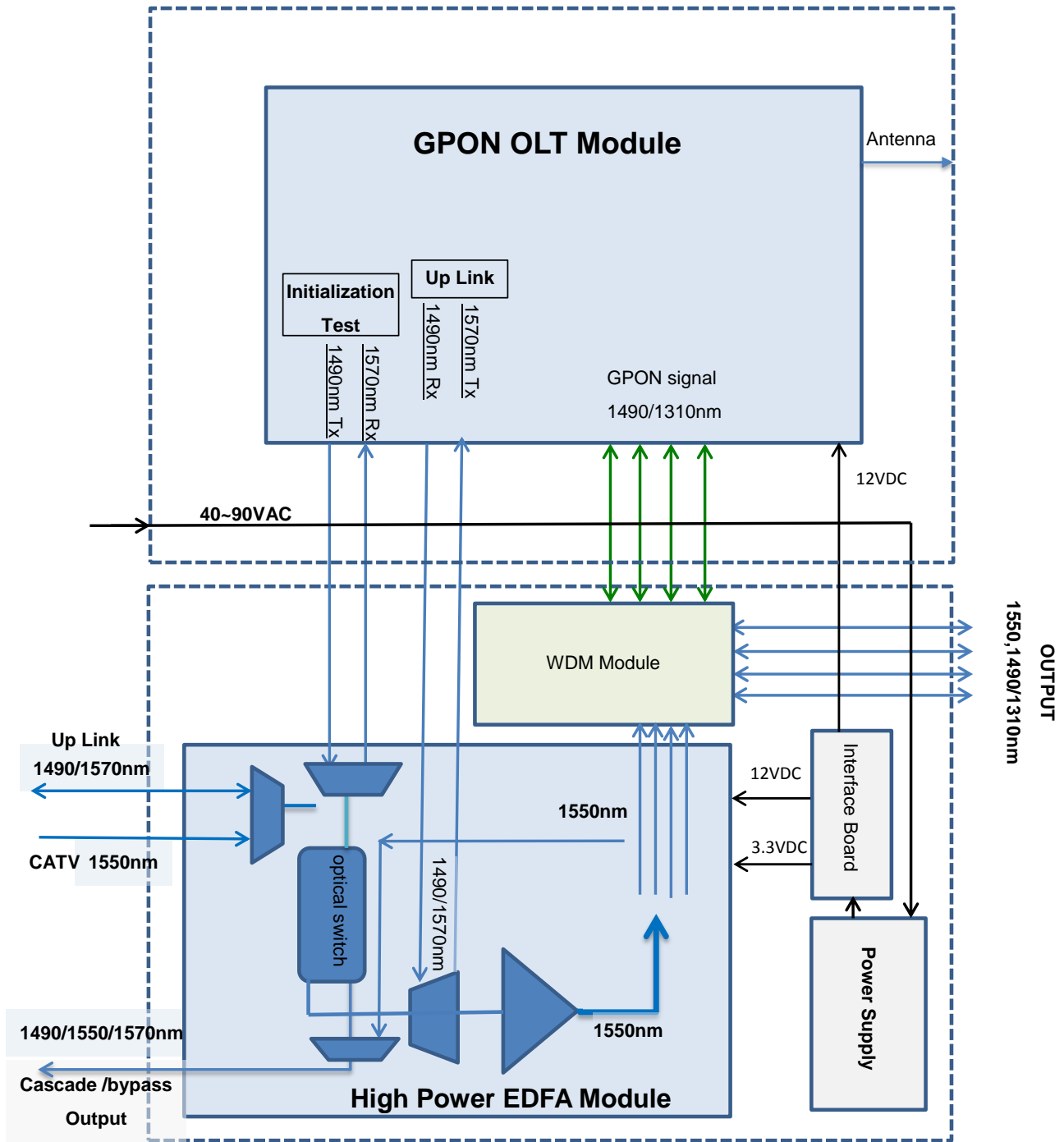
Outdoor EDFA integrated with PON WDM (4 ports)

The ACION GEH39 EDFA is an outdoor EDFA with 4 output ports integrated with 4-port GPON OLT optical signal. It is a single channel EDFA designed to amplify optical signal in the wavelength range from 1543.5 to 1556.5 nm. The ACION GEH39 EDFA , operating on constant output power mode, has a maximum total output power according to application (typical at 19dBm). It has WDM devices integrated for combing optical IP signals of GPON OLT wavelengths 1310 (upstream) and 1490(downstream) with 1550 broadcasting signal in the same fiber for FTTX with RF overlay network. It also allows uplink wavelengths 1570 nm (upstream) and 1270nm(downstream) pass thru to OLT. The GEH39 has a GPON OLT module built inside its housing. A device management webpage is available for monitoring the station information and providing alarm functions in real time which can be accessed through a RJ45 interface. WiFi connection is available to access the local device management webpage by using a smart phone, Tablet or laptop computer. The RJ45 interfaces can also be used for remote SNMP network management through Ethernet connection.

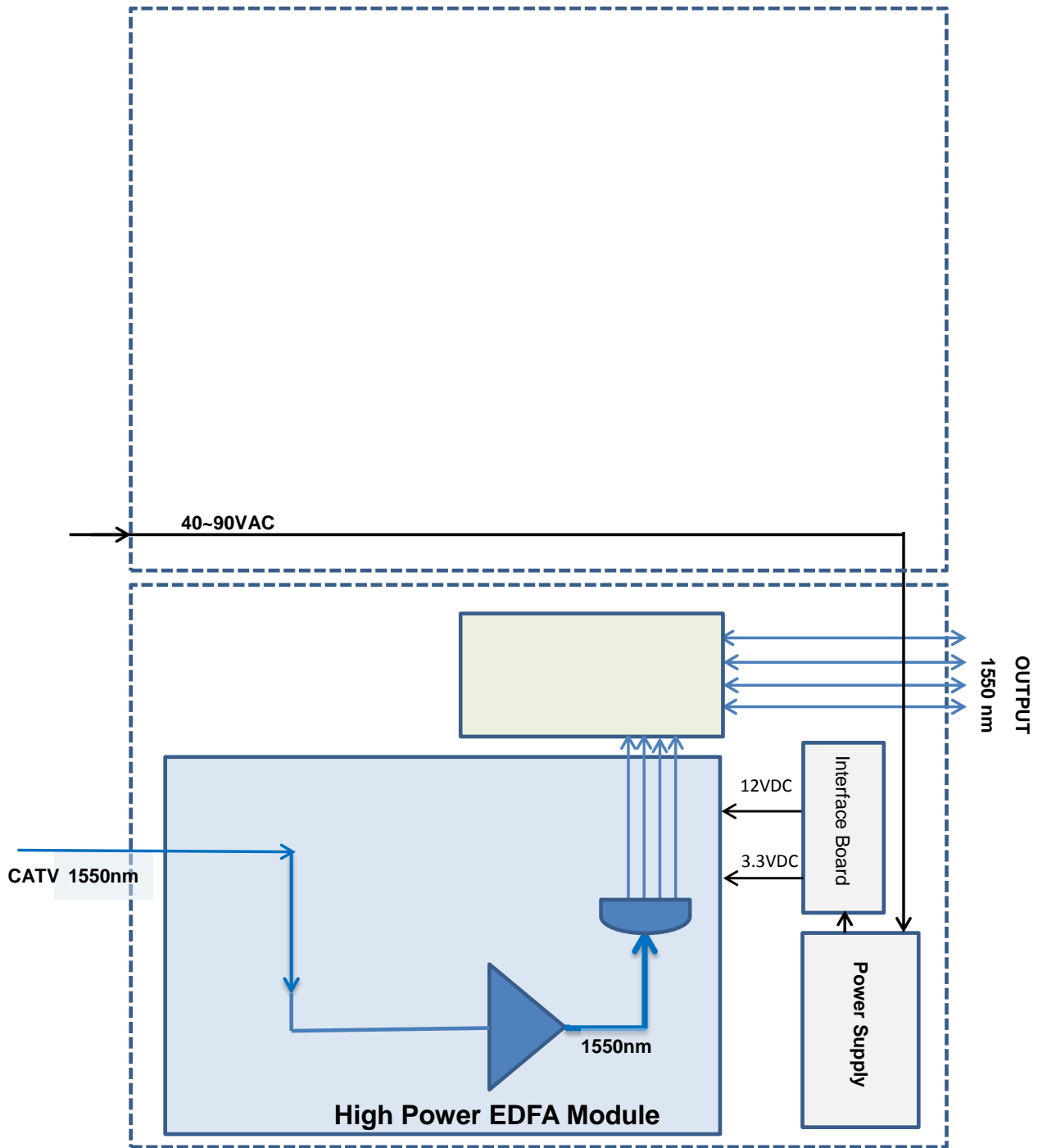
Features

- A high performance optical output driver circuit and laser TEC to provide a highly reliable EDFA.
- Built in GPON OLT module
- A built-in microprocessor allows the unit to monitor the system parameters.
- Built in WDMs for GPON or XGPON optical signal integration
- The pump laser auto shut down function at low input is available.
- Built-in device management webpage.
- Built-in RJ45 for remote SNMP network management
- Built-in WiFi connection for local device management
- Support remote firmware download and upgrade.
- Operating temperature: -20°C to +65°C (standard)
- Built-in data log and up to 30-day operation history analysis (optional)

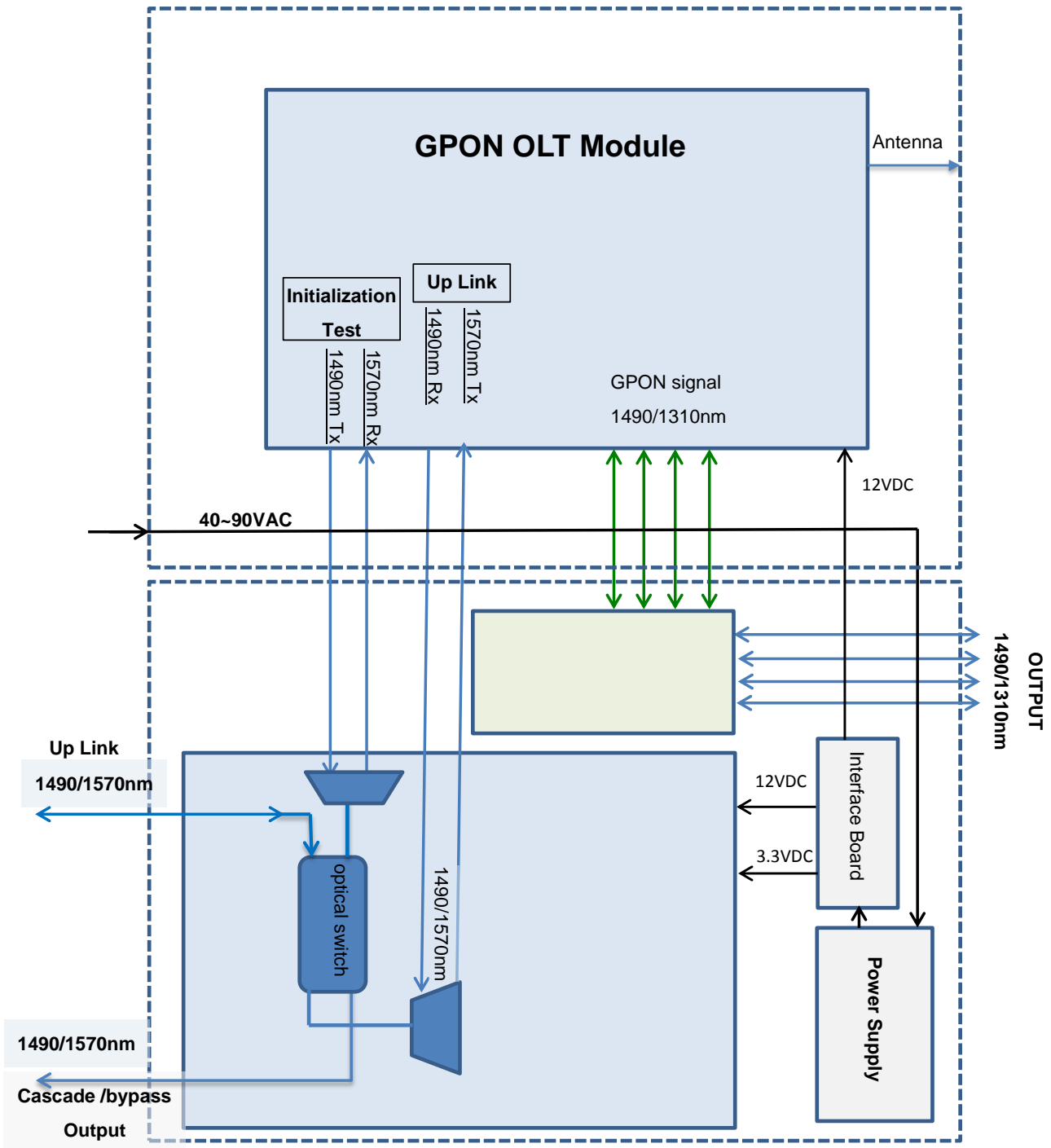
Block Diagrams



ACION GEH39: EDFA+GPON OLT

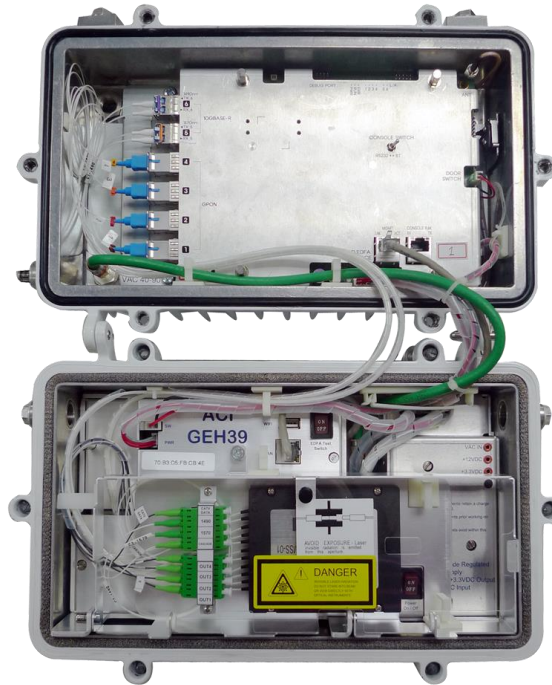


ACION GEH39E: EDFA only



ACION GEH39G: GPON OLT only

Case Open



Specifications

ACI		ACION GEH39 Single Channel EDFA 4 output ports with GPON WDM				
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION		NOTES	
Environmental and Maximum Ratings			Value Min.	Value Max.		
Operating Housing Temp		°C	-20	+65		
Electrostatic Discharge (ESD)	C=100pf, R=1.5R Human body model	V	0	1000		
Relative Humidity	Non condensation	%	5	95		
Current Draw	Cable Power (40~90V)	A	-	1.1		
Power Consumption	Cable Power	Watt	-	35		
Storage Environment Temp.		°C	-40	+85		
Storage Humidity	Non condensation	%RH	5	95		
Optical Specifications			Min.	Typ.	Max.	
Optical Wavelength (1550nm)	In vacuum	nm	1543.5	1550	1556.5	
Optical Wavelength (GPON/IP)	In vacuum	nm	1290	1310	1330	Pass through
			1480	1490	1500	
Output Power after WDM		dBm	19.0		Each port	
Total Input Power	@ $\lambda_{op} = 1550\text{nm}$	dBm	-5	-	+8	
Saturated Output Power	@ $P_{in} \geq -5\text{dBm}$ @ $\lambda_{op} = 1550\text{nm}$	dBm	Pout	Pout +0.3	Pout +1	
Output power Stability	Over $\Delta\lambda_{op}$	dB	-	-	1.0	

PARAMETERS	CONDITIONS	UNITS	SPECIFICATION			NOTES
Environmental and Maximum Ratings			Value Min.	Value Max.		
Noise Figure @ Pin = 0dBm		dB	-	6	6.5	
ASE Side Lobe Suppression	1540~1560 nm with 1550nm 0dBm Input signal	dBm	-	-	-30	
PDG	Over λ_{op}	dB	-	-	0.5	
PMD	Over λ_{op}	ps	-	-	0.5	
Return Loss	All ports	dB	45	-	-	
Insertion loss (IP wavelength)	@1310nm & 1490nm	dB	-	-	1.0	
Built-in WDM Specifications			Min.	Typ.	Max.	
Pass-through wavelength	For GPON signal	nm		1490		downstream
				1310		upstream
Mechanical and Interface Specifications						
Interface	Standard		Network Management (SNMP)			
Dimension	H x W x D	In.	6.75 x 14.25 x 9			
Weight		Kg	4			
Power Supply	Cable Power	V	40~90 VAC			
Output Ports			4			
Input Port			2			
Cascade Port			1			
Optical switch	for uplink and cascade		2x2			
Water Proof			IP67			
Surge Protection	Combo Wave		6KV			
Pump Laser Switch			Rock Switch			
User Interface			RJ45/ WIFI			
Optical Connector			LC / APC			

Part Number Ordering Matrix

ACION GEH39 Configuration Sheet

Customer: _____

Created By: _____ Order Date: _____

ORDERING MATRIX 2018/11/28

Position		1	2	3	4	5	6	7	8	9	10	11
PART NUMBER	GEH39											

- | <p>1 <input type="checkbox"/> Model Selection
 "-" = with EDFA & GPON OLT modules
 "E" = with EDFA module only
 "G" = with GPON OLT module only</p> <p>2-3 <input type="checkbox"/> <input type="checkbox"/> EDFA Output Power
 00 = No EDFA
 18 = 18 dBm
 19 = 19 dBm</p> <p>4 <input type="checkbox"/> Number of Output Ports
 4 = 4 ports</p> <p>5 <input type="checkbox"/> Optical Input/Output Connector</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Input</th> <th colspan="2">Output</th> </tr> <tr> <th>EDFA</th> <th>PON</th> <th>EDFA</th> <th>PON</th> </tr> </thead> <tbody> <tr> <td>1 =</td> <td>LC/APC</td> <td>LC/APC</td> <td>LC/APC</td> <td>LC/APC</td> </tr> <tr> <td>2 =</td> <td>LC/APC</td> <td>LC/UPC</td> <td>LC/APC</td> <td>LC/UPC</td> </tr> <tr> <td>3 =</td> <td>LC/APC</td> <td>-</td> <td>LC/APC</td> <td>-</td> </tr> <tr> <td>4 =</td> <td>-</td> <td>LC/UPC</td> <td>-</td> <td>LC/UPC</td> </tr> </tbody> </table> <p>6 <input type="checkbox"/> Network Management
 0 = None
 1 = SNMP (Via OLT bridge)</p> <p>7 <input type="checkbox"/> HOUSING TYPE
 1 = Standard (A3422 housing)</p> | | Input | | Output | | EDFA | PON | EDFA | PON | 1 = | LC/APC | LC/APC | LC/APC | LC/APC | 2 = | LC/APC | LC/UPC | LC/APC | LC/UPC | 3 = | LC/APC | - | LC/APC | - | 4 = | - | LC/UPC | - | LC/UPC | <p>8 <input type="checkbox"/> Power Supply
 <u>Cable Power</u>
 1 = 40~90VAC

 <u>Line Power (100~240VAC)</u>
 2 = North America
 3 = International / Europe
 4 = Japan
 5 = Australia
 6 = Argentina
 X = Custom - (Determined by product management)</p> <p>9 <input type="checkbox"/> Material Restrictions
 0 = None</p> <p>10 <input type="checkbox"/> Operating Temperature
 1 = -20°C ~ +65°C</p> <p>11 <input type="checkbox"/> PON WDM and 2x2 Cascade switch
 0 = None
 1 = Standard</p> |
|---|--------|--------|--------|--------|--|------|-----|------|-----|-----|--------|--------|--------|--------|-----|--------|--------|--------|--------|-----|--------|---|--------|---|-----|---|--------|---|--------|--|
| | | Input | | Output | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EDFA | PON | EDFA | PON | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 = | LC/APC | LC/APC | LC/APC | LC/APC | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 = | LC/APC | LC/UPC | LC/APC | LC/UPC | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 = | LC/APC | - | LC/APC | - | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 = | - | LC/UPC | - | LC/UPC | | | | | | | | | | | | | | | | | | | | | | | | | | |

NOTES:



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