

High Output Two-way Optical Node FTTx Solution

AON1100D Series



- Suitable for FTTB networks
- Multiple output distribution options
- Up to 106 dBuV output
- Full MMIC amplifying circuit
- SCTE Standard Compliant
- Adjustable optical AGC range
- Low Power Consumption

Ascent's AON1100D series node is a cost effective and superior performance optical network unit, which is designed and optimized to work in a standards-compliant Fiber-to-the-Business (FTTB) architecture network. It allows cable operators to protect their existing network investments and continue the deployment of DOCSIS-compliant cable modems for internet and telephone services as well as Video on Demand systems.

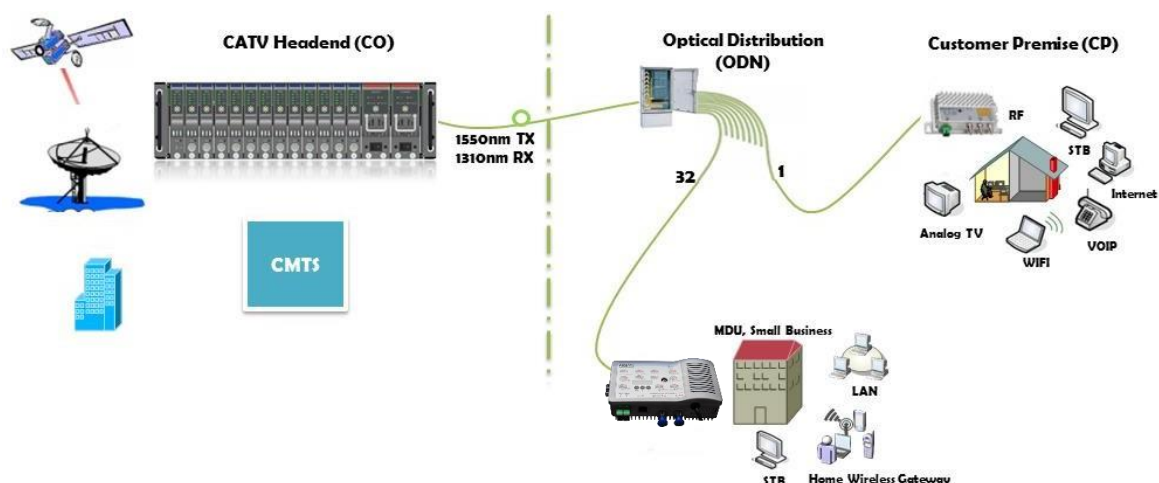
The AON1100D optical node is part of ACT's overall FTTx solution suite. It is designed with 1310 nm or 1550 nm return-path signals. It incorporates a low-noise optical receiver and an isolated DFB optical laser to modulate the return-path signal from any set-top box (STB) or DOCSIS modem onto the fiber. High output level can effectively cover the whole community or building. The RFoG mode is selectable for the return path to reduce its convergence noise.

It can be equipped with a transponder with corresponding network management software that conforms to the SNMP protocol to achieve remote management and automatic monitoring. The AON1100D is the ideal model to construct a high-performance NGB network.

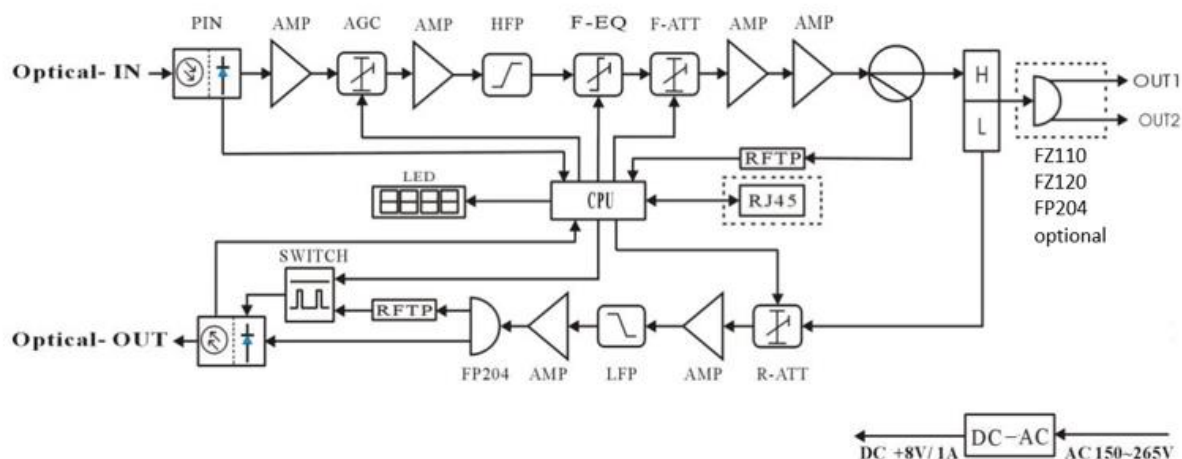
Key Features

- Suitable for FTTB networks
- Compliant with SCTE standard
- High output and wide coverage to minimize deployment costs
- Full MMIC amplifying circuit, low power consumption
- All electronic control, no accessories
- Adjustable optical AGC range
- Digital display for different working status and detection by pressing buttons, simple and clear
- Multiple output distribution options

Application Diagram



Block Diagram

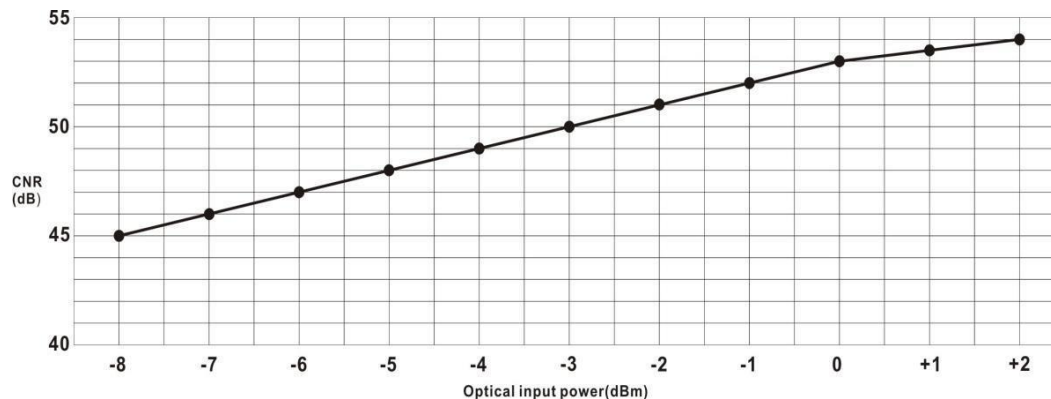


Specifications

AON1100D- Optical Network Unit

Item	Unit	Description
Forward Optical Receiver		
Receiving Optical Power	dBm	-9 to +2
Optical AGC Range	dBm	+2 to -9/-8/-7/-6/-5/-4 (adjustable)
Optical Return Loss	dB	>45
Optical Receiving Wavelength	nm	1100 to 1600
Optical Connector Type		SC/APC or specified by the user
Frequency Range	MHz	45/87 to 862/1003
Flatness in Band	dB	$\leq \pm 0.75$
Output Return Loss	dB	≥ 16
Electrical Control EQ Range	dB	0 to 15
Electrical Control ATT Range	dB	0 to 15
Rated Output Level	dB μ V	FP204 output: 102 FZ110 output: 105 FZ120 output: 106
Max. Output Level	dB μ V	FP204 output: 105 AGC: -9 to +2dBm FZ110 output: 108 AGC: -9 to +2dBm FZ120 output: 109 AGC: -9 to +2dBm
C/N	dB	≥ 51
C/CTB	dB	≥ 60
C/CSO	dB	≥ 60
Return Optical Transmitter		
Optical Transmitting Wavelength	nm	1310 $\pm$ 10, 1550 $\pm$ 10 or specified by the user
Optical Output Power	mW	1 (or specified by the user)
Optical Connector Type		SC/APC
Frequency Range	MHz	5 to 65 (or specified by the user)
Flatness in Band	dB	± 1
Input Level	dB μ V	70 to 80 (rated input level 75 dB μ V)
NPR Dynamic Range	dB	≥ 15 (DFB laser, NPR ≥ 30) ≥ 10 (FP laser, NPR ≥ 30)
General Characteristics		
Output Impedance	Ω	75
Power Voltage	V	AC (150 to 265) or DC 12
Consumption	VA	≤ 9
Operating Temperature	$^{\circ}$ C	-30 to +60
Storage Temperature	$^{\circ}$ C	-40 to +65
Relative Humidity	%	0 to 95 RH (non-condensing)
Dimension (L $\times$ W $\times$ H)	mm	190 $\times$ 110 $\times$ 52
RFOG Mode		
Output Optical Power	dBm	-30
Laser Turn On Threshold	dB μ V	≥ 67
Laser Turn Off Threshold	dB μ V	≤ 60
Laser Turn On Time (T1)	μ s	$0.5 \leq T1 \leq 1$ SCTE 174 2010
Laser Turn Off Time(T11)	μ s	$0.5 \leq T11 \leq 1.5$ T1 $\leq$ 1.3us , T11 $\leq$ 1.6us

Relation Table of Receiving Optical Power and CNR



Ordering Information

AON1100D Series Optical Receiver Ordering Information									
AON11	XXD-	X-	XX-	X-	X-	X-	X-	X	
	Bandwidth		Band Split		Output Option		Power Supply		
08D	862MHz		42	42/54 MHz	0	Two equal level outputs(FP204)	1	12 VDC/1 A External Power Supply	
10D	1003MHz		65	65/85 MHz	1	One main output, one - 10dB output(FZ110)	2	150 to 265 VAC	
					2	One main output, one - 20dB output(FZ120)			
		Return Transmitter		Optical Connector				EMS	
		0	None	AS	SC/APC			0	No EMS
		A	1550nm DFB 3Bm	AF	FC/APC			1	EMS
		B	1550nm FP with isolator 3dBm						
		C	1550nm FP with isolator 0dBm						
		D	1310nm DFB 3dBm						
		E	1310nm FP with isolator 3dBm						
		F	1310nm FP with isolator 0dBm						
		XXXX	XXXXnm(wavelength) DFB 3dBm						

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