



ACION 112 and 210 1002 MHz Indoor Optical Nodes

ACI's ACION 112 is one of the smallest fully featured optical forward receiver nodes on the market. The optical receiver has an amazing high output level of 25 dBmV at a 0 dBm optical input. This node also has an adjustment potentiometer pot with an RF output level adjustment range of 0 to 20 dB for easy setup in the field.

ACI's ACION 210 is one of the smallest fully featured bi-directional nodes on the market. The optical receiver has an amazing high output level of 22 dBmV at a 0 dBm optical input. With LED's for power on, laser on, and optical power, forward and reverse -20 dB test points, input and output optical level test points, this node has all of the setup features that are included in a conventional nodes in a housing the size of a standard drop amplifier. This node also offers a complete selection of reverse transmitter options including 1310 nm FP, 1310 or 1550 nm DFB, DFB CWDM (1471 to 1611 nm) and a 1550 nm DFB with an internal WDM.

Features

ACION 112 Receiver only

- Forward 45 to 1002 MHz
- Forward -20 dB RF & 1 V/mW input optical test points
- Forward receiver operates at -6 to +2 dBm optical input and from 1200 to 1600 nm wavelength

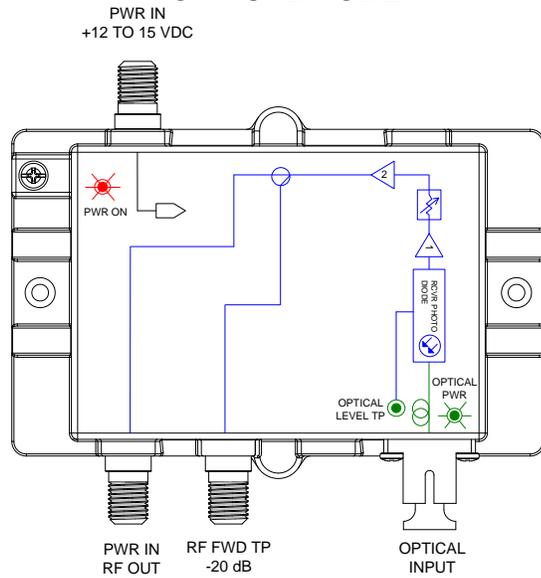
ACION 210 & ACION 210 w/WDM Bi-directional

- Forward 54-1002 MHz/Reverse 5 to 42 or 55 or 65 MHz
- FP, DFB & DFB CWDM transmitters available
- Forward and reverse -20 dB RF & 1 V/mW input/output optical test points
- Forward receiver operates at -6 to +2 dBm optical input and from 1200 to 1600 nm wavelength

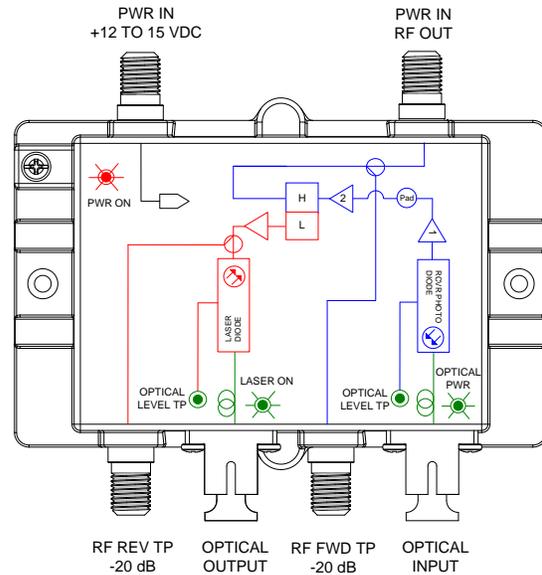
Applications

- RF reverse upstream insertion port for applications such as distance learning, live events coverage, and security or traffic monitoring
- Cost affective for use in high density application such as business parks, hospitals, schools/universities, PEG and MDU applications
- Perfect for high security LAN network applications
- Perfect for temporary node applications to keep the system up and running while the permanent node is repaired or replaced
- Can be used to expand the reverse path bandwidth by node splitting
- HE/Hub/Remote TVRO site interconnects

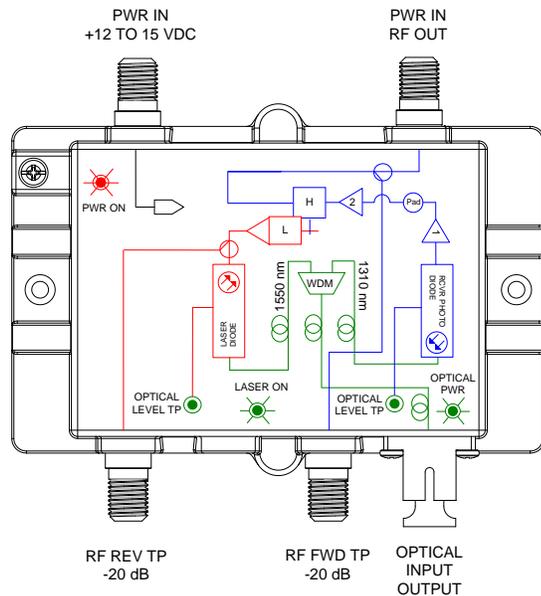
ACION 112 1002 MHz INDOOR OPTICAL NODE



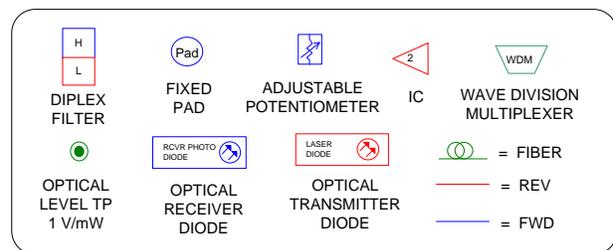
ACION 210 1002 MHz INDOOR OPTICAL NODE



ACION 210 W/WDM 1002 MHz INDOOR OPTICAL NODE



Legend



Indoor Optical Node ACION 112

Station Parameters: Forward Path			
General Performance	Conditions	Units	Specification
Bandwidth		MHz	45 to 1002
Flatness	Worst case	±dB	0.75
Impedance		Ohm	75
RF return loss	Worst case	-dB	17
RF test point	Directional coupler	-dB	20.00 ±0.75
Optical test point		V/mW	1.0 ±0.1
RF output level		dBmV	23
Carrier-Noise-Ratio (CNR)	@ -1 dBm Optical input OMI=3.4% 78 channels loading + 320 digital	dB	>52
Composite Triple Beat (CTB)		-dBc	<63
Composite Second Order (CSO)		-dBc	<58
Cross Modulation (XMOD)		-dBc	<62
Composite Intermodulation Noise(CIN)		-dBc	>55
Optical Parameters			
Optical receive power		dBm	-6 to +2
Wavelength		nm	1200 to 1600
Environmental			
Operating temperature		°F (°C)	-40 to 140 (-40 to +60)
DC voltage input range		VDC	12 to 15
Power consumption		Watts	3.1
RF ports surge protection	A3 ring wave	KV	6
Transformer port surge protection	B3 combination wave	KV	6
RF output stability over temperature		±dB	2
Physical			
Optical connector	SC/APC standard	N/A	SC/APC, SC/UPC, FC/APC, or FC/UPC
LED's		N/A	Power on & Optical input power
Dimensions (H X W X D)		In, (cm)	5 X 4.8 X 1.5 (12.7 X 12.1 X 3.8)
Weight		lbs. (kg)	2.2 (1.0)

Indoor Optical Node ACION 210

Station Parameters: Forward Path			
General Performance	Conditions	Units	Specifications
Bandwidth		MHz	54 to 1002
Flatness	Worst Case	±dB	0.5
Impedance		Ohm	75
RF return loss	Worst Case	-dB	17
RF test point	Directional coupler	-dBc	20.0 ±0.5
Optical test point		V/mW	1.0 ±0.1
RF output level		dBmV	20
Carrier-Noise-Ratio (CNR)	@ -1 dBm Optical input OMI=3.4% 78 channels loading +450 digital	dB	>51
Composite Triple Beat (CTB)		-dBc	<65
Composite Second Order (CSO)		-dBc	<65
Cross Modulation (XMOD)		-dBc	<65
Optical Parameters			
Optical receive power		dBm	-6 to +2
Wavelength		nm	1200 to 1600
Station Parameters: Reverse Path			
General Performance	Conditions	Units	Specifications
Bandwidth		MHz	5 to 42
RF input level		dBmV	20
Flatness	Worst Case	±dB	0.75
Impedance		Ohm	75
RF return loss	Worst Case	-dB	17
RF test point	Directional coupler	-dB	20.00 ±0.75
Optical test point		V/mW	1.0 ±0.1
Link Performance			
Type of transmitter		N / A	FP
Reverse channel loading	@ -4 dB with standard receiver	N / A	T9 & T10
CNR	Worst Case	dB	>45
DTO (FP) CTB (DFB)	Worst Case	-dBc	<45
DSO (FP) CSO (DFB)	Worst Case	-dBc	<45
Environmental			
Operating temperature		°F (°C)	-40 to 140 (-40 to +60)
DC voltage input range		VDC	12 to 15
Power consumption		Watts	3.1
RF ports surge protection	A3 ring wave	KV	6
Transformer port surge protection	B3 combination wave	KV	6
RF output stability over temperature		±dB	2
Physical			
Optical connectors	SC/APC standard	N/A	SC/APC, SC/UPC, FC/APC, or FC/UPC
LED's		N/A	Power on & Optical input power & Laser on
Dimensions (H X W X D)		In, (cm)	5 X 4.8 X 1.5 (12.7 X 12.1 X 3.8)
Weight		lbs. (kg)	2.2 (1.0)

Confidential
Information contained in this document is subject to change without notice.
Revision date: 09/25/2015

ACION 112 & 210 Configuration Sheet

Customer: _____

Created By: _____ Order Date: _____

ORDERING MATRIX

May 21, 2012

Position	1	2	3	4	5	6	7	8	9	10
PART NUMBER	A				-					

- 2-3-4 **CONFIGURATION**
 112 = Receiver Only
 210 = Transmitter and Receiver 1002 MHz
- 6 **DIPLEX FREQUENCY SPLIT**
 3 = 45-1002 MHz (for ACION 112 only)
 4 = 42/53 1002 MHz
- 7 **OPTICAL CONNECTOR TYPE**
 1 = SC/APC (Standard)
 2 = SC/UPC
 3 = FC/APC
 4 = FC/UPC
- 8 **TRANSMITTER TYPE FP & DFB**
 0 = Use for the ACION 112 (only)
 P = Uncooled 1310 nm FP (0.5 mW)
 H = Uncooled 1310 nm FP (2.0 mW) W/Isolator
 J = Uncooled 1310 nm DFB (1.0 mW)
 B = Uncooled 1310 nm DFB (3.0 mW)
 C = Uncooled 1550 nm DFB (2.0 mW)
 E = Uncooled 1550 nm DFB (2.0 mW) w / WDM
- TRANSMITTER TYPE DFB CWDM**
 A = Uncooled 1471 nm DFB CWDM (2.0 mW)
 G = Uncooled 1491 nm DFB CWDM (2.0 mW)
 V = Uncooled 1511 nm DFB CWDM (2.0 mW)
 L = Uncooled 1531 nm DFB CWDM (2.0 mW)
 W = Uncooled 1551 nm DFB CWDM (2.0 mW)
 M = Uncooled 1571 nm DFB CWDM (2.0 mW)
 N = Uncooled 1591 nm DFB CWDM (2.0 mW)
 T = Uncooled 1611 nm DFB CWDM (2.0 mW)
- 9 **TRANSFORMER TYPE**
 0 = None
 1 = North America
 2 = International/Europe
 3 = Japan
 4 = Australia
 5 = Argentina
 X = Other (Contact Product Management)
- 10 **CUSTOM FEATURE**
 0 = None
 X = Determined by Product Management

NOTES:



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