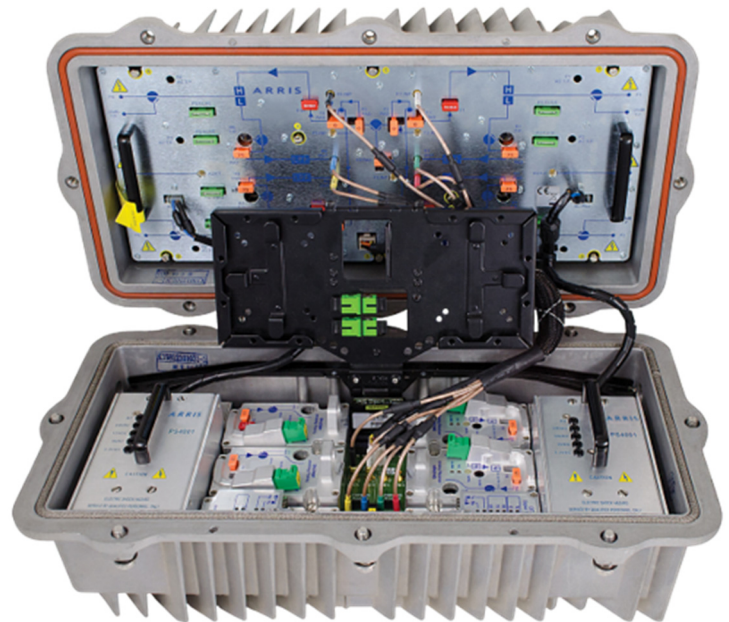**ARRIS**

Optical Node Series (NC)

NC4000S2
4x4 Fully Segmentable 1 GHz Node

FEATURES

- Output level of 53 dBmV at 1002 MHz
- 4x4 fully segmentable for HFC applications
- Four RF outputs, two auxiliary ports for power or video, and two fiber ports
- Multiple forward/return frequency split options
- Uses automotive blade fuses and JXP pads and equalizers
- Superior upstream performance via advanced universal digital return modules
- Integrated, all-digital node status monitoring
- Redundant power supply option
- Pedestal or strand mounting

PRODUCT OVERVIEW

The ARRIS NC4000S2 series optical node platform supports a wide range of advanced architectures and is ideal for traditional HFC applications. With an output level of up to 53 dBmV (at 1002 MHz) on each of the four RF ports of the OA4244SG RF Output Amplifier, the NC4000S2 can be used to extend the reach of the coax distribution network.

All four downstream and upstream paths can be fully segmented. In the upstream, this is accomplished using ARRIS's industry-leading universal digital return technology which uses SFPs for the optics, affording the widest range of ITU-grid CWDM and DWDM options.

A high gain receiver is also available, supporting optical inputs as low as -10 dBm, maximizing the reach of both single and multiwavelength transmitters. With a wide selection of customized optical passives, field-hardened EDFAs, and optical switches the node platform can extend the deployment of advanced, high-availability, "bandwidth-hungry" services into fiber-poor areas while reducing real estate and powering requirements in the field. Remote monitoring is provided via an integrated network management plug-in eliminating the added cost of a third-party status monitoring transponder system.

The NC4000S2 optical node platform also supports next-generation architectures and technologies such as Node PON, Node QAM, and more, providing a seamless migration to support tomorrow's services. An optional narrowcast receiver is available for split-band applications.

SPECIFICATIONS

Characteristics	Specification	
Physical		
Dimensions	20" L x 9.5" W x 10.75" H (50.8 cm x 24.1 cm x 27.3 cm)	
Weight	38 lbs (17.1 kg)	
Environmental		
Operating Temperature Range	-40° to +60°C (-40° to +140°F)	
Storage Temperature Range	-40° to +85°C (-40° to +185°F)	
Humidity	5% to 95% non-condensing	
General		
Passband Options	**Reverse**	**Forward**
	5–42 MHz	51–1002 MHz
	5–60 MHz	72–1002 MHz
	5–65 MHz	85–1002 MHz
	5–85 MHz	102–1002 MHz
RF Test Points (Forward and Return)	-20 dB	
Flatness	± 1 dB	
Output Return Loss (at the Node Output)	> 16 dB	
Power Requirements		
Operating Input Voltage Range	44 to 95 V_{RMS} (47–70 Hz Quasi-Square Wave)	
Power Passing	15 A_{RMS}	
Power Supply Start-up Input Voltage	40–44 V_{RMS}	
Power Supply Turn Off Input Voltage	34–38 V_{RMS}	
Power Supply Efficiency	83% typical (PS4101) 73% typical (PS4001)	
DC Power Consumption	• 57 W (standard configuration of 4 RF outputs and 1 optical Rx) • 11 W (second Optical Receiver, AR4203G) • 6 W (Return Transceiver, DT4250 with TR4000 SFP) • 9 W (Node EDFA, single-width FA4500 series)	

RF Performance for HFC Applications[1]

|		High Level HFC Application	Typical Level HFC Application
Channel Loading			
	Up to 550 MHz	Analog NTSC	Analog NTSC
	550–1002 MHz	256 QAM at -6 dBc	256 QAM at -6 dBc
Nominal Output Level (Per Port)			
	at 1002 MHz	53 dBmV	49 dBmV
	at 51 MHz	39 dBmV	35 dBmV
Nominal Slope			
	51/1002	14 dB linear	14 dB linear
Link Performance[2]			
	CCN (CNR + CIN)	51 dB	51 dB
	CSO	62 dB	63 dB
	CTB	64 dB	66 dB

NOTES:

1. Performance with 0.5 dBm input to node's Optical Receiver from a 1 GHz Model AT33xxG-N-1-AS Analog 1310 nm Transmitter
2. Link performance, including transmitter (with CW channel loading to 550 MHz and 256 QAM loading above 550 MHz at -6 dBc)

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ORDERING INFORMATION

A typical configuration of the NC4000S2 series optical node includes the NH4000-H housing with external test ports, one PS4101 power supply, one optical receiver module; AR4x03G or AR4x14G (high gain) with SC/APC connectors, the OA4244SG 4-port RF amplifier module, and standard equalizers and pads. A backup PS4101 power supply may be separately ordered. Also available are additional optional plug-in modules that are described on separate data sheets. These include FA4500 series Optical Amplifiers, DT4250 Universal Digital Return Transceivers, optical or RF redundancy switches, and return ingress switch options. Please contact your ARRIS Sales Representative for information regarding specific equipment configuration options to meet your requirements.

RELATED PRODUCTS

Digital Return Transmitter	Optical Patch Cords
SFPs	Optical Passives
Fiber Service Cable	Installation Services
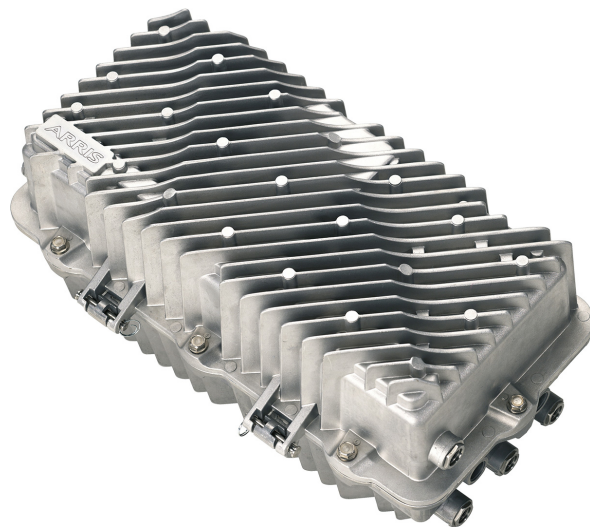
Customer Care

Contact Customer Care for product information and sales:
- United States: 866-36-ARRIS
- International: +1-678-473-5656

Ask us about the complete Access Technologies Solutions portfolio: Nodes-NC

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