Optical Node Series (NC)

DT4232N-01

Digital Transceiver (Dual RF Inputs, 5–65 MHz)

FEATURES

- Dual RF inputs to digitize 5–65 MHz legacy RF return
- Highly flexible, easily configurable support for transmission at 1310 nm, 1550 nm, or 1 of 10 CWDM wavelengths, or 1 of 40 DWDM wavelengths
- Remote status monitoring and management
- Hot plug in/out
- Single mode optical converter implemented with optional SFP transceivers

PRODUCT OVERVIEW

ARRIS' DT4232N-01 Digital Transceiver is a component of ARRIS's Integrated Digital Transport System that digitizes two discrete legacy 5–65 MHz RF return path signals from separate inputs. The module's optical transmit/receive ports are implemented with optional plug-in transceivers for ultimate flexibility and affordability. Conforming to the Small Form Factor Pluggable (SFP) Multisource Agreement, these state-of-the art transceivers are available in a variety of transmit/receive wavelengths, including dedicated 1310 nm (for 10 and 40 km links), 1550 nm (for links up to 40 km), CWDM ITU grid (for links up to 40 km), and DWDM ITU grid (for links up to 80 km), all operating at data rates of 3.2 Gbps.

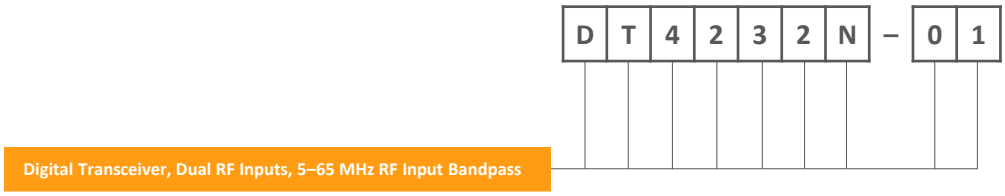
These dual channel/dual segment (or “2-fer”) digital return transceivers allow twice the amount of information to be transmitted over the same fiber cable. Ideally suited for use in hybrid fiber/coax (HFC) and fiber deep architectures, ARRIS’s “2-fer” digital return path products (including node-hosted transceivers and headend dual channel receivers) support cost-effective growth in high-speed data and telephony penetrations by putting twice as much data onto the same fiber through two discrete return channels of upstream data from the optical node. Each channel is received independently by a dual channel receiver and routed through discrete RF return outputs. This operation provides fiber availability for additional return path bandwidth and rack space for additional return path receivers. ARRIS’s digital return products enable existing optical nodes to be fully segmented, with each RF input port treated as a discrete network, maximizing the available bandwidth per user, while at the same time conserving the cable operators’ investment in the fiber network.

The DT4232N-01 is designed as a plug-in module for ARRIS’ NC2000 and NC4000 series Optical Nodes. ARRIS supplies DT4232N-01 transceivers either with these nodes as a fully configured and tested node or as modules that can be installed by customers.

SPECIFICATIONS

Characteristics	Specification
Physical	
Dimensions	4.0” L x 1.8” H x 2.3” W (10.2 cm x 4.6 cm x 5.8 cm)
Weight	0.8 lbs (0.4 kg)
Environmental	
Operating Temperature Range	–40° to +85°C (–40° to 185°F)
Storage Temperature Range	–40° to +85°C (–40° to 185°F)
Humidity	5% to 95% non-condensing
Power Requirements	
Input voltage	• 3.3 V_{DC}: 2100 mA max (with SFP installed) • 5 V_{DC}: 450 mA max
Power consumption	9.2 W max (with SFP installed)
General	
Hot plug–in/out	
Optical interface connectors	LC Duplex on SFP
Optical transmission bit rate	3.1875 Gb/s
Number of RF channels	2 (Channel A and Channel B)
RF Path and Distortions	
Pass band	5–65 MHz
	NOTE: The DT4232N-01 is a 5–65 MHz passband device. In systems operating with a lower cutoff frequency for the return spectrum, the actual passband is determined and controlled through the use of Diplexers and Low Pass Filters that precede the transceiver.
Frequency response	± 0.5 dB
Input return loss, min	16 dB
Level stability	± 0.5 dB
Isolation between channels (combined with receiver)	55 dB
System minimum full gain	30 dB
Loading, nominal	5–65 MHz (QPSK carriers or equivalent Gaussian noise)
Input, nominal	–62 dBmV/Hz
Dynamic range @ 40 dB CNR	11 dB (single link)
Optical	
	The optical ports facility of the DT4232N-01 can be populated with a variety of SFP (plug-in) transceivers depending on the network application. Please refer to the appropriate data sheets for the selected transceivers for detailed specifications. Following is a summary of available transceiver options (model numbers and brief descriptions) for these ports.
3.1875 Gbps SFP Transceiver Options	• TSA1310-TL10 (transmit at 1310 nm for links up to 10 km) • TSA1310-TL40 (transmit at 1310 nm for links up to 40 km) • TSB1550-TL40 (transmit at 1550 nm for links up to 40 km) • TSC*xxxx*-TL40 (transmit at CWDM wavelength of *xxxx* = 1430, 1450, 1470, . . ., 1610 nm for links up to 40 km) • TSD4580-*xx*-PI (transmit at 1 of 40 DWDM wavelengths for links up to 80 km) (*Note:* Longer distances can be achieved with the use of an ARRIS Dispersion Compensation Module and/or DWDM transponders in the return path. EDFAs can also be used to extend the link budget.)
LED Indicators (for SFP optical ports)	
	TX: Green ON = OK; OFF = bad SFP or unit not powered RX: Green ON = signal good; OFF = LOS asserted; Blinking = high BER (excessive bit error rate)

ORDERING INFORMATION



Transceiver Plug-in Module

The SFP module must be ordered separately. Please refer to the above list of available transceivers and appropriate data sheets for specific complete model numbers and ordering information.

RELATED PRODUCTS

NC4000 Optical Node	Optical Patch Cords
NC2000 Optical Node	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

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