

## COMMSCOPE DT4250

## DIGITAL TRANSCEIVER, DUAL RF INPUTS, THREE BANDWIDTH RANGES

The COMMSCOPE DT4250 Digital Transceiver digitizes either one or two discrete legacy RF return path signals from separate inputs. The module's optical transmit/receive ports are implemented with 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 and 1550 nm, CWDM (15 wavelengths), and DWDM (40 wavelengths).



There are three data rate options of 2.125, 3.1875, or 4.250 Gbps with their selection being dependent upon bandwidth and transceiver configuration. The DT4250 can support 5-45 MHz, 5-65 MHz, 5-85 MHz up to 5-100 MHz return bandwidths, and a simple upgrade enables the operator to convert any module to a higher return bandwidth, driven by their network needs.

- Operates in 3 RF bandwidth ranges: 5-50 MHz, 5-75 MHz, or 5-100 MHz, (firmware selectable)
- Single channel "1-fer" or dual channel "2-fer" links (user selectable, front panel button)
- Optical transmission at 1310 nm, 1550 nm, 1 of 15 CWDM wavelengths, or 1 of 40 DWDM wavelengths
- Concatenated or point to point applications
- Remote status monitoring
- Hot plug-in/out
- Fully compatible with existing digital return platform
- Designed for NC2000, NC4000, and VH-Series VHub Platforms

## **SPECIFICATIONS**

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)			
Micro USB port for firmware update and local managemen	t			
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 REQUIREMENT				
Input voltage	24 VDC			
Module power consumption	4 W			
SFP power consumption (max)	2 W			
GENERAL				
Hot plug-in/out				
Optical interface connectors	nectors LC/UPC Duplex on the SFP transceiver			
Optical transmission bit rates	2.125 Gbps. 3.1875 Gbps, 4.250 Gbps, depending on the configuration			
Number of RF channels	1 or 2 (manually selectable on module)			
Mode selection	Via the on-board push-button on the module			
RF PATH AND DISTORTIONS (EACH CHANNEL)				
Frequency response	± 0.5 dB			
Input return loss, min	16 dB			
Level stability	± 0.5 dB			



<b>RF PATH LOADING</b>	G 5 - 50 MHZ		5 - 75 MHZ		5 - 100 MHZ		
Operation Mode	"1-fer"	"2-fer"	"1-fer"	"2-fer"	"1-fer"(1)	"2-fer"	"1-fer" (E)
SFP Data Rate (Gbps)	2.125	2.125	2.125	3.1875	2.125	4.250	4.250
Isolation between channels, (in dB), (Includes RX)	NA	>60	NA	>60	>55	>55	NA
Input Nominal dBmV/Hz	-60 > 47 dB NPR	-60 > 40 dB NPR	-62 > 40 dB NPR	-62 > 40 dB NPR	-63 > 40 dB NPR	-63 > 40 dB NPR	-63 > 40 dB NPR
Dynamic range (in dB)	>11 @47 dB NPR	>11 @40 dB NPR	>11 @40 dB NPR	>11 @40 dB NPR	>11 @40 dB NPR	>11 @40 dB NPR	>10 @47 dB NPR
Peak NPR (in dB)	54	49	49	49	48	48	52
OPTICAL							
The optical ports facility of the DT4250X-XX can be populated with a variety of SFP (plug-in) transceivers depending on the network application, supporting 2.125, 3.1875, and 4.250 Gbps data rates. The data rates depend on the configuration and specific RF Range selected. Please contact COMMSCOPE Sales to review the available SFP transceivers and obtain the appropriate data sheets for the required application.							
LED INDICATORS							
N: Normal, or E: Enhanced 50, 75, or 99; Upstream bandwidth 5-50, 5-75, or 5-100 MHz 1 or 2: Single ("1-fer") or 2 channel ("2-fer"), user selectable (1)Note: 100 MHz operation in 1-fer mode supports 2x single returns but requires a second SFP (2.125 Gbps)							
SFP Status	Tx; Green ON = OK, Off = faulty SFP or unit not powered Rx; Green ON = Signal good, Off = LOS Blinking = excessive BER (Bit Error Rates)						

## **ORDERING INFORMATION**

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Model Number	Description		
DT4250N-50-00	Supplied with 5-50 MHz and 5-100 MHz firmware pre-loaded		
DT4250N-75-00	Supplied with 5-65 MHz and 5-100 MHz firmware pre-loaded		
DT4250E-99-00	Supplied with Normal and Enhanced 5-100 MHz firmware pre-loaded		

Transceiver Plug-in Modules:

SFP modules must be ordered separately.

Please contact ARRIS Sales to review the available SFP transceivers and obtain the appropriate data sheets for the required application.