Low Phase Noise Communication Down-Converter

LDCXX

1 PRODUCT DESCRIPTION

The LDC series Communication Down-Converters are designed to meet high performances and reliability, together with acquisition and operating cost requests.

- Compact design and technology enable to reach such requirements.
- Modular design allows to adapt easily RF/IF gain and IF bandwidth distribution to get the best configuration for gain, IM3 products and noise figure requirements.

Associated with low noise amplifiers, test translators, n+1 switching units and beacon receivers, such equipment enable to get complete communication system, together with MMI/monitoring and control software.

2 KEY FEATURES

- DUAL CONVERSION
- LOW INTERMODULATION DISTORTION
- NO SPECTRAL INVERSION
- LOW PHASE NOISE
- RS-232 OR ETHERNET M & C, CONTROL AND MONITORING INTERFACE FULLY COMPATIBLE WITH MOST OF THE COMMERCIAL EQUIPMENT
- CE COMPLIANCE

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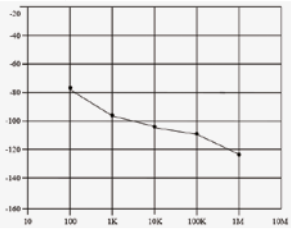
SPECIFICATIONS			
Type	Dual conversion	Group delay ±18 MHz	±0.05 ns/MHz max. linear 0.01 ns/MHz² max. parabolic 1 ns peak-to-peak max. ripple
Tunability	1 kHz (up to 1Hz)	Intermodulation OUT IP3	> +20 dBm
Frequency sense	No inversion	AM/PM conversion	0.1°/dB max. to 0 dBm output
INPUT CHARACTERISTICS		**SPURIOUS OUTPUTS**	
Frequency	Refer to model reference	Signal related	-55 dBc min.
Impedance	50 Ω	Signal independent	-60 dBm max. at gain = 30 dB
Return loss	18 dB typ.	Gain adjustment	30 dB by step of 0.1 dB
OUTPUT CHARACTERISTICS		Frequency reference	5/10 MHz autodetection. 0 dBm ±3 dBm 50 Ω - Return Loss : 17 dB
Frequence	70 ±18 MHz	Internal reference	standard : ± 5.10^{-6}. 10^{-8} day
Impedance	50 Ω	**TRANSFER CHARACTERISTICS**	
Return loss	20 dB min.	Noise figure	12 dB min.
Power output (1 dB compression)	+10 dBm min	Gain	30 dB
		Image rejection	> 70 dB, 80 dB typic
		Level stability	±0.25 dB/day at constant T°
		Amplitude response	±0.25 dB/±20 MHz at 70 MHz
		RF flatness	±1 dB up to 10 GHz

MODELS	PART NUMBERS*	PHASE NOISE CHARACTERISTICS (L BAND)
LDC UHF/140 140 MHz	DRA 301067	
LDC1A 950 - 1450 MHz	DRA 301036	
LDC2 2.0 - 2.3 GHz	DRA 301085	
LDC8	DRA 300883	

MONITORING & CONTROL	
Interfaces	RS-232/RS-422/ RS-485/Ethernet (std)

OPTIONS	
• Input/output signal monitors	• Gain 50dB
• 140 MHz IF frequency 80 MHz bandwidth	• Muting
• Other frequency steps (1 Hz to 1 MHz)	• Internal Reference ± 2.10^{-10} day ± 10^{-8} (0 to 50°C)
• High stability internal reference	

POWER SUPPLY		DIMENSIONS	
Voltage	110 V / 230 V ±10 %	Drawer	19" standard x 1 U x 460 mm (depth) Weight < 10 kgs
Frequency	48 to 62 Hz		
Power consumption	80 VA max.		

ENVIRONMENTAL CONDITIONS	
Temperature Operating Temperature Non-operating	+10°C to +40°C -30°C to +65°C
Humidity Operating Humidity Non-operating	up to 95 % at 30° C up to 95 % at 40° C

*Other bandwidths available on request. Please contact Elta.

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