



Dual C-Band Block Frequency Up Converters STAN Class



Dual C-Band converter with phase tracking and matching
FCB200-STAN Class

Satellite Tracking and Navigation

Features

- Dual L to C block Up converters in single 1RU
- Coherent Phase tracking between each channel over time
- Gain tracking between channels
- Phase matching between channels
- Low Phase Noise
- Low Spurious levels
- Independent Input and Output attenuators
- Internal/External 10 MHz with Autosensing
- Front panel control (local)
- Input / Output Monitoring ports for each channel
- Full remote control (remote) via Ethernet with SNMP V1

Overview

The Advantech **STAN** series of converters are designed for specific applications that require dual channel, coherent signal processing as applicable to TT&C and LEO Satellite Tracking and Navigation (STAN).

Each 1RU shelf includes two independent Up (or Down) Block converters that are coherent in phase and phase matched.

These new frequency converters use the latest technology in RF conversion, with outstanding performance in spectrum purity.

Independent Input and Output attenuators allow maximum flexibility in adjusting levels on each channel, as the application requires.

Sample ports are available for each channel, on both Input and Output ports.

The flexible and comprehensive monitor and control features on the **STAN** converter ensure that it will fit into any network management system architecture. The user-friendly front panel or the Ethernet interface will provide full set-up and fault monitoring facilities.

The PLL oscillator used in the converter is either locked to a highly stable internal 10 MHz reference or if the external reference option is fitted and the proper level of signal is present, the PLL will automatically lock to the external reference.

Operating Bands

Up-Converters			
Model Number	Type	Input Frequency	Output Frequency
ARUD-LC-STAN	dual	1.05-1.75 GHz	5.3-6.0 GHz

Application

The **STAN** series of C-Band Up converters is particularly suited for use in applications that require phase coherent signal processing, TT&C and new LEO Satellite Tracking and Navigation.

The **STAN** range of converters provides an industry leading MTBF of over 120,000 hours.

The converters are MIL STD-461 F compliant.

Options

- Rack Mount set of slides
Note: Consult factory for detailed configuration



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Technical Specifications			
Up-Converter			
Input Frequency range	1.05-1.75 GHz F Input		
Input Connector	SMA (female) 50 Ohm		
Return loss	18 dB		
RF Output			
Output power (P1dB)	+13 dBm		
Output Frequency range	5.3-6.0 GHz		
IMD3 (two tone)	-50 dBc max @ 0 dBm each carrier		
Output connector	SMA (female)		
Connector Impedance	50 Ω		
Return loss	18 dB		
Transfer Characteristics			
Conversion Gain	30 +/- 3 dB @ max gain setting		
Gain adjustment Output and Input	30 dB at Output ; 15 dB at Input		
Attenuator step size	0.2 dB		
Gain flatness	±1.0 dB p-p over any 500 MHz		
	0.5 dB p-p over 40 MHz		
Gain stability	±0.25 dB max. /24 hours		
	±1 dB over temp. range		
Channel to Channel gain tracking	±0.5 dB at constant temperature		
Channel to Channel Isolation	50 dB		
Spurious	<-65 dBc signal related @ dBm		
	<-75 dBm signal independent		
Image rejection	60 dB		
LO Leakage	< -80 dBm		
Noise Figure	16 dB		
Channel to Channel Phase Tracking	+/- 2 degrees/day at constant temperature, same attenuation		
Channel to Channel Phase matching	+/-10 degrees		
Phase noise	--49 dBc/Hz @ 10Hz		
	-73 dBc/Hz @ 100Hz		
	-84 dBc/Hz @ 1kHz		
	-94 dBc/Hz @ 10kHz		
	-104 dBc/Hz @ 100KHz		
	-119 dBc/Hz @ 1 MHz		
Reference		Mechanical	
External Reference input	10 MHz, 7 +/- 3 dBm, high purity	Dimensions	Width 19" (482.6 mm)
Internal reference stability	± 1 x 10 ⁻⁷ over 0°C to +50°C		Height 1U 1.75" (44.5 mm)
Aging	± 5 x 10 ⁻⁹ / day ± 5 x 10 ⁻⁸ / year		Depth 22" (558.8 mm)
Environmental		Power Supply	
Operational	0°C to +50°C standard	Voltage	83 - 264 VAC (43 - 67 Hz)
Storage	-55°C to +85°C	Power	45W (typical)
Humidity	95% Non-condensing	Connector	IEC 603320 10A
Altitude	3,000m AMSL		
Monitor and Control			
	Input Sample Port	SMA (female)	
	Output Sample Port	SMA (female)	
	Ethernet	RJ45 F	

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