

C-Band Synthesized Frequency Converter



Dual with Trays
FCS100T

Features

- Two hot swappable converters in 1U
- Outperforms IESS 308/309 phase noise by 5dB
- Superior linearity
- 125 kHz step size
- On-site reference aging correction capability
- Intuitive front panel user interface
- RS232 terminal and RS485 packet mode remote interface)

Overview

Converters from FCS100 series are packaged in a compact standard 1RU enclosure. In the Dual on Tray configuration, it offers both compact assembly and easy serviceability.

The straightforward front panel operation, and RS232 terminal mode enables quick on-site setup

Offered remote management interfaces ensure complete flexibility of integration into existing or new installations. The user-friendly front panel or the RS485 remote interface will provide full set-up and fault monitoring facilities Ethernet option will allow the operator to pilot system operation either through SNMP or Web based interface.

Delivered spectral purity, low phase noise and stability exceed the requirements of all major international satellite network operators.

The system reference guaranteeing conversion function's accuracy can optionally be provided externally, internally as a highly stable temperature compensated oscillator, or with auto-detection capacity that will use internal reference only in the absence of an externally provided one.

Options

- 140 MHz IF Frequency
- Ethernet port and SNMP Interface
- Group Delay Equalizer
- Autosensing Internal /External Reference
- 1kHz step size

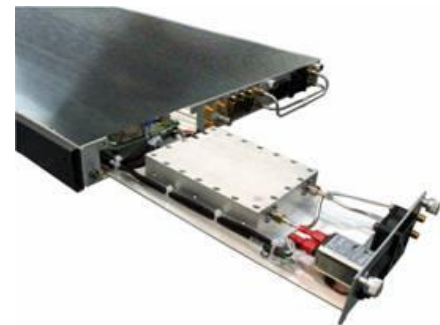
Operating Bands

Up-Converters		
Model Number	RF Output	IF Frequency
ARUD-70CxT	5.850 – 6.725 GHz	70 MHz

Down-Converters		
Model Number	RF Output	IF Frequency
ARDD-Cx 70T	3.400 – 4.200 GHz	70 MHz

Application

The FCS range of converters is particularly suited for use in VSAT, SCPC Networks, SNG, DVB-RCS and Hub systems where compact redundancy is required. This makes them an ideal choice for large earth stations requiring cost effective solutions for frequency conversion. The lightweight, rugged and compact design also ensures that the HP converter provides the ideal solution for mobile truck or flyaway DSNG systems. With fully welded aluminum chassis and robust modular internal construction the converter can even meet the demands of military installations. The HP range of converters provides an industry leading MTBF of over 120,000 hours.



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Technical Specifications			
Up-Converter		Down-Converter	
IF Input		RF Input	
Frequency range	70 ± 18 MHz or 140 ± 36 MHz (optional)	Frequency range	(See table on front page)
Impedance	50 Ω	Impedance	50 Ω
Input Connector	SMA (female)	Input Connector	SMA (female)
Return loss	18 dB	Return loss	16 dB
RF Output		IF Output	
Frequency range	(See table on front page)	Frequency range	70 ± 18 MHz 140 ± 36 MHz (optional)
Output level	+10 dBm at P1dB	Output level	+5 dBm at P1dB
Output connector	SMA (female)	Output Connector	SMA (female)
Connector Impedance	50 Ω	Connector Impedance	50 Ω
Return loss	16 dB	Return Loss	18 dB
Transfer Characteristics		Transfer Characteristics	
Maximum Conversion Gain	20 dB (standard) 30 dB (option)	Conversion Gain	40 dB
Gain adjustment	20 dB (0.1 dB step size)	Gain adjustment	20 dB (0.1 dB step size)
Gain flatness	1.5 dB p-p max. 36 MHz	Gain flatness	1.5 dB p-p max. 36 MHz
	2.0 dB p-p max. 72 MHz		2.0 dB p-p max. 72 MHz
Gain stability	±0.25 dB max. /24 hours	Gain stability	±0.25 dB max. / 24 hours
	±1 dB over temp. range		±1 dB over temp. range
Spurious	< -55 dBc related @ 0 dBm output < -55 dBm non-related	Spurious	-55 dBc @ -5 dBm output
IMD3 (two tone)	-40 dBc max @ 0 dBm output	IMD3 (two tone)	-40 dBc max @ -5 dBm output
		Image rejection	60 dBc
		Noise Figure	20 dB
Group delay	8 ns p-p typical		
Group delay option	36MHz	Linear 0.03 ns/MHz	Parabolic 0.01 ns/MHz ²
	72MHz	Linear 0.025 ns/MHz	Parabolic 0.003 ns/MHz ²
Phase noise (dBc/Hz)	100Hz	1kHz	10kHz
	-65	-75	-85
Synthesizer step size	125k kHz		
Reference		Mechanical	
External Reference	10 MHz, +/- 5 dBm input level	Dimensions	Width 19" (482.6 mm)
Internal reference stability	± 2 x 10 ⁻⁸ over 0°C to +50°C		Height 1U 1.75" (44.5 mm)
Aging	± 2 x 10 ⁻¹⁰ / day ± 5 x 10 ⁻⁸ / year		Depth 28" (711.2 mm)
Environmental		Power Supply	
Operational	0°C to +50°C standard	Voltage	90 – 265 VAC (47 – 63 Hz)
Storage	-55°C to +85°C	Power	50W (typical)
Humidity	Non-condensing	Connector	IEC 603320 10A
Altitude	3,000m AMSL	Monitor and Control	
		RS 485	DB9
		RS 232	DB9
		Discrete	DB9
		Ethernet (optional)	RJ45 F (optional)

Ref.: PB-FCS100T-C-19015

NORTH AMERICA

USA
info.usa@advantechwireless.com

CANADA
Info.canada@advantechwireless.com

EUROPE

UNITED KINGDOM
info.uk@advantechwireless.com

RUSSIA & CIS
info.russia@advantechwireless.com

SOUTH AMERICA

info.latam@advantechwireless.com

BRAZIL
info.brazil@advantechwireless.com

ASIA

info.asia@advantechwireless.com

INDIA
info.india@advantechwireless.com