IF Series

Fixed Frequency IF (70/140MHz) Up & Down Converters

IF Frequency Converter Products;

IF70 70MHz to 140MHz Up Converter
IF140 140MHz to 70MHz Down Converter

The **IF series** Converters are 19-inch 1U rack mounted, 140MHz/70MHz Up & DownConverters. These Converters provide a low-cost solution for matching the IF's of modems, converters and other units. Incorporated are high stability Ovenised Crystal Oscillators to ensure excellent stability and phase noise. Full alarm monitoring ensures that these units are fully compatible with the RCU100 and RCU200 1:1 and 1:2 redundancy controller units.

The **IF series** Converters are designed to meet the phase noise, spurious, level and frequency stability requirements of Intelsat IBS/Eutelsat SMS specifications and are compliant with IESS 308/309. The products are suitable for high order modulation schemes and both very high & low data rates associated with digital TV signals.

The versatility of the design of these units ensures that customers' specific requirements, such as gain and center frequency, can be accommodated.

Peak Features

- Compliant with IESS 308 /309 requirements
- Full Alarm monitoring
- High stability internal reference and excellent phase noise
- Fully compatible with RCU100 & RCU200 series redundancy controllers

IF series – Typical Specification

IF Input

Frequency	70MHz ±20MHz (IF70 unit) 140MHz ±20MHz (IF140 unit)
Connection	50Ω, BNC (f)

IF Output

Frequency	140MHz ±20MHz (IF70 unit) 70MHz ±20MHz (IF140 unit)
Connector	50Ω, BNC (f)
Output 1dB GCP	0dBm

Transfer Characteristics

Conversion gain	0dB nominal
Gain stability	±1dB from 0 to 40°C ±0.1dB per week, const. temp.
Gain flatness	±0.5dB across any 40MHz band

RF Performance

Phase noise	-80dBc/Hz at 100Hz -85dBc/Hz at 1kHz -87dBc/Hz at 10kHz -90dBc/Hz at 100kHz
Harmonics	Better than -25dBc at 0dBm
Spurious	≤-55dBm (in band non-carrier related) ≤-55dBc (in band carrier related) ≤-45dBc (always out of band)

External Reference Input (Option 1) with automatic detection

Frequency	Factory selectable 5 or 10MHz
Connector	50Ω, BNC (f)
Level	0dBm ±5dB
Required phase noise	to be better than 50dBc/Hz of output phase noise

Internal Back-up Reference Stability

Allan deviation	$<5 \times 10^{-12}$ over 1s
Ageing	$<3 \times 10^{-10}$ per day, $<3 \times 10^{-8}$ per year
Temp stability	$<2 \times 10^{-9}$ over -10 to 50^{0}C

Mechanical

Width	19” standard rack mounted
Height	1U (1.75”)
Depth	~400mm (15.7”), plus connectors
Construction	Aluminium chassis
Weight	4kgs (8.8lbs)

Control System Interface

Alarms	LO lock fail PSU fail Summary failure relay (form C)

Environmental

Operating temp	-10°C to +50°C
EMC	EN 55022-part B & EN 50082-1
Safety	EN 60950

Power Supply

Voltage	90-264VAC
Frequency	47-63Hz
Power	50 Watts max.

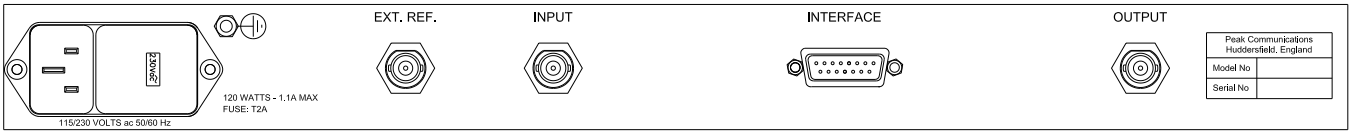
Options

1)	5/10MHz external reference input

Associated Products;

RCU100 1+1 Redundancy Unit
RCU200 2+1 Redundancy Unit

Rear panel view (sample)



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