



## DOWNCONVERTER



Downconverter is designed to convert signals from L-band to 70 MHz IF for further signal processing on this IF. It is used in satellite communication systems of L, S, C, X and Ku bands.

Downconverter from L-band to 70 MHz IF is a basic chassis on which are located: frequency converter module, controller board and indicator.

There is applied variable 30dB step attenuator in the radio frequency path for adjusting the gain of the downconverter.

### KEY FEATURES:

- The frequency converter module is downconverter with a double frequency conversion (L / 2400 MHz / 70 MHz).
- The signal in the receiver part passes through three stages of filtration.
- The structure of the unit, in addition to the frequency converter module, also includes network switching power supplies (AC/DC-converters).
- The parameters of the downconverter can be controlled using buttons which are located on the front panel.
- The set parameters can be seen using LCD on the front panel.
- In the presence of unlock in the PLL circuits of the converter module, the red LED "ALARM" on the front panel will be ON.
- The downconverter can be mounted in standard 19" rack. The height of downconverter is 1U.

## MAIN FUNCTIONS:

- Frequencies converting into L-band when operating in the satellite communication and television L, S, C, X and Ku-bands systems to the standard 70 MHz IF signal for further processing on this IF.
- Monitoring and signaling the presence of unlock in the PLL circuits of the converter module.
- The gain factor adjusting using variable step attenuator with control depth of 30 dB.

Parameter name, units	Nominal value, tolerance
<b>Input frequency range</b> , MHz	from 950 to 2150
<b>Frequency tuning step</b> , kHz	1
<b>Frequency instability</b> , ppm	0.01
<b>The phase noise power spectral density, dBc/Hz, when detuned from the carrier by:</b>  <div style="display: flex; justify-content: center; align-items: center; gap: 20px;"> <div style="text-align: right;"> <b>100 Hz</b>  <b>1 kHz</b>  <b>10 kHz</b>  <b>100 kHz</b>  <b>1 MHz</b> </div> <div style="text-align: left;">           – 70            – 90            – 95            – 95            – 100         </div> </div>	
<b>Channel Bandwidth</b> , MHz	36
<b>The maximum allowable input signal level</b> , dBm	– 20
<b>Output power level with 1dB compression (P1dB out)</b> , dBm, not less than	0
<b>The IMD3 value with two output signals of -13dBm</b> , dBm, not more than	– 40

<b>Conversion gain</b> , dB, not less than	30
<b>Gain adjustment depth</b> , dB, not less than	– 30
<b>Gain adjustment step</b> , dB	1.0
<b>Input impedance</b> , Ohm	50
<b>Input return loss</b> , dB	– 18
<b>Control and monitoring mode</b>	Local and remote
<b>Remote mode interface</b>	Ethernet 10/100 Base T
<b>Impedance of radio frequency output</b> , Ohm	50
<b>VSWR of radio frequency output</b>	1.8:1
<b>Spurious emissions in the working band</b> , dB, not more than	– 60
<b>Reference oscillator frequency</b> , MHz	10
<b>Phase noise of the reference oscillator</b> , dBc/Hz when detuned from the carrier by:	
	-125
<b>10 Hz</b>	-140
<b>100 Hz</b>	-150
<b>1 kHz</b>	-155
<b>10 kHz</b>	
<b>AC power supply voltage with frequency 50Hz</b> , V	100 – 262
<b>Overall dimensions (without connectors)</b> , mm	482 x 300 x 44
<b>Weight</b> , kg, not more than	5.0

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*listed on each device webpage.*

**Note!** All details customer has to confirm in advance during ordering and before payment. Those parameters that were not specified and / or were not agreed while ordering will be implemented as basic at the discretion of the manufacturer. Each our customer has 1.5 year warranty and 7 year aftersales support for whole range of our products.