# 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 |
|---|---|
| **Input frequency range**, MHz | from 950 to 2150 |
| **Frequency tuning step**, kHz | 1 |
| **Frequency instability**, ppm | 0.01 |
| **The phase noise power spectral density**, dBc/Hz, **when detuned from the carrier by:**<br>**100 Hz**<br>**1 kHz**<br>**10 kHz**<br>**100 kHz**<br>**1 MHz** | <br>– 70<br>– 90<br>– 95<br>– 95<br>– 100 |
| **Channel Bandwidth**, MHz | 36 |
| **The maximum allowable input signal level**, dBm | – 20 |
| **Output power level with 1dB compression (P1dB out)**, dBm, not less than | 0 |
| **The IMD3 value with two output signals of -13dBm**, dBm, not more than | – 40 |

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

*Taking into consideration that we (UMT LLC) are developer and system integrator, also do not stop on our technical growth and improvement, know that view of all our devices and equipment including their technical parameters may be different from pictures presented on website and parameters 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.*