2016-109 Downconverter, 10.95 - 11.7 GHz

The 2016-109 Downconverter converts 10.95 to 11.7 GHz in 125 kHz steps to 70 ± 18 MHz with low group delay and flat frequency response. Synthesized local oscillators (LO) provide low phase noise and ± 0.01 ppm stability frequency selection. Multi-function push button switches select the RF frequency, gain, and other parameters. Front panel LEDs provide indication of DC power (green), PLL alarm (red), and remote operation (yellow). Gain is adjustable manually over a +30 to +50 dB range as adjusted by the front panel multi-function push-button switches. Remote operation allows selection of frequency and gain. Parameter selection and frequency and gain settings appear on the LCD display. Connectors are BNC female for IF output and the external reference input and output, and SMA female for the RF input. External 10 MHz is standard. A 10 MHz output connector contains either the internal or external 10 MHz reference signal. The unit is powered by a 100-240 ±10% VAC power supply, and housed in a 1 3/4” X 19” X 16” rack mount chassis.

EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)
Impedance/Return Loss 50Ω/14 dB
Frequency 10.95 to 11.7 GHz
Level -70 to -40 dBm
1dB Compression -30 dBm @ +30 dB gain

Output Characteristics (IF)
Impedance/Return Loss 75Ω/18 dB
Frequency 70 ± 18 MHz
Level -25 to -5 dBm
1dB Compression +5 dBm

Channel Characteristics
Gain range (adjustable) +30 to +50 dB, 1dB steps
Spurious Response <50 dBc, in band
Image Rejection > 50 dB, min.
Frequency Response ±1.5 dB, 10.95-11.7 GHz ; ± 0.6 dB, 36 MHz BW
Group Delay, max 0.01 ns/MHz² parabolic; 0.03 ns/MHz linear, 1 ns ripple
Frequency Sense Non-inverting

Synthesizer Characteristics
Frequency Accuracy ± 0.01 ppm internal reference; external reference input
Frequency Step 125 kHz minimum
10 MHz In/Out Level 3 dBm ± 3 dB

Phase Noise @ Frequency 100 MHz 1kHz 10kHz 100kHz 1MHz

dBC/Hz -60 -70 -80 -90 -100

Controls, Indicators
Freq/Gain Selection direct readout LCD; pushbutton switches or remote selection
Power; Alarm; Remote Green LED; Red LED; Yellow LED
Remote RS232C, 9600 baud
Other
RF Connector SMA (female)
IF Connector BNC (female)
10 MHz Connectors BNC (female), 50Ω/75Ω
Alarm/Remote Connector DB9 - NO or NC contact closure on Alarm
Size 19 inch, 1RU standard chassis 1.75”high X 16.0” deep
Power 100-240 ±10% VAC, 47-63 Hz, 45 watts max

Available Options
Q - RS485 Remote Interface
W8 - Ethernet with Web Browser
W18 - Ethernet with Web & SNMP
W28 - Ethernet with TCP/IP, Telenet®

Connectors/Impedance
M - 50Ω N-type (RF), 50Ω BNC (IF)
N - 50Ω N-type (RF), 75Ω BNC (IF)
S - 50Ω SMA (RF), 50Ω BNC (IF)

*10°C to 40°C; Specifications subject to change without notice.