2016-03 Downconverter, 0.95 - 1.525 GHz to 70 MHz

The 2016-03 Downconverter converts 950 to 1525 MHz to 70 ± 18 MHz in 1 MHz steps (125 kHz to 1 kHz step options available). Synthesized local oscillators (LO) provide frequency selection. Push button switches select the input 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 (MGC) over a 0 to 50 dB range. 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 and the optional external reference input and output, and Type F female for the RF input. LNB +24, +18, or +12 VDC and 10 MHz reference can be inserted on the RF line as added options. The external 10 MHz option E includes a 10 MHz output connector which contains either the internal or external 10 MHz reference signal. A high stability option H (±0.01 ppm) is also available. 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: 75 Ω/12 dB
- Frequency: 950 to 1525 MHz
- Input Level: -70 to -20 dBm

**Output Characteristics (IF)**
- Impedance/Return Loss: 75 Ω/18 dB
- Frequency: 70 ± 18 MHz
- Output level: -20 to -10 dBm
- Output 1 dB comp: -5 dBm at maximum gain

**Channel Characteristics**
- Gain range: 0.0 to 50.0 dB, 1±1 dB steps (manually adjustable)
- Image Rejection: > 50 dB, min.
- Frequency Response: ±1.5 dB, 950 - 1525 MHz; ± 0.5 dB, 36 MHz BW; ±1.0 dB, 40 MHz BW
- Spurious Response: < -50 dBc in band (± 18 MHz), -20 to -10 dBm out
- Group Delay, max: 0.015 ns/MHz² parabolic; 0.05 ns/MHz linear; 1 ns ripple
- Frequency Sense: Inverting or Non-inverting, selectable

**Synthesizer Characteristics**
- Frequency Accuracy: ± 1.0 ppm max over temp (±0.01 ppm, option H)
- Frequency Step: 1.0 MHz (125 kHz to 1 kHz step options available)

**Power & Alarm**
- Power: 100-240 ±10% VAC, 47-63 Hz, 25 W max.; 24, 48 VDC Opt.

**Available Options**
- E - External 10 MHz ref in & out; RF Ins.
- H - High Stability (±0.01ppm) Internal Ref
- L - LNB Voltage, +24 VDC, 0.4 amps
- L18 - LNB Voltage, +18 VDC, 0.4 A
- L12 - LNB Voltage, +12 VDC, 0.5 A
- X or X1 - 125 kHz or 100 kHz step size
- X1003 - 1 kHz step, includes option H
- Z5 - Attenuator 0.5 ±0.5 dB steps

**Connectors/Impedance**
- Q - RS485 Remote Interface
- W8 - Ethernet; w/Web Browser (WB)
- W18 - Ethernet; w/WB & SNMP
- W28 - Ethernet; w/TCP/IP, Telnet

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