3116-125 Block Downconverter, 12.2 - 12.75 GHz to 0.95 - 1.50 GHz

The 3116-125 Downconverter converts 12.2 - 12.75 GHz to 0.95 - 1.50 GHz (non-inverted) with a 11.25 GHz local oscillator. The maximum gain is +35 ±2 dB and is adjustable in 0.5 ±0.5 dB steps. Front panel LEDs provide indication of Remote operation, PLL Alarm and DC Power. Gain and internal/external/Auto reference frequency selection are controlled by front panel switches or remote selection (via RS-232C/485, standard; Ethernet Optional) and are viewable on the LCD Display. Connectors are SMA female for the RF and BNC female for the L-Band and external reference input and reference output. In AUTO, the 10 MHz reference stays in external if the external level is +1 to +8 dBm. The 3116 is powered by a 100-240 ± 10% VAC power supply, and housed in a 1 3/4" X 19" X 14" rack mount chassis.

**EQUIPMENT SPECIFICATIONS**

**Input Characteristics (RF)**
- Impedance/Return Loss: 50Ω/14 dB
- Frequency: 12.2 to 12.75 GHz
- Noise Figure, Max.: 15 dB max gain
- Input Level range: -55 to -35 dBm
- Input 1 dB compression: -25 dBm

**Output Characteristics (L-Band)**
- Impedance/Return Loss: 50Ω/14 dB
- Frequency: 0.95 to 1.50 GHz
- Output Level Range: -20 to 0 dBm
- Output 1 dB compression: +10 dBm at max. gain

**Channel Characteristics**
- Gain, max.; adjustment: +35 dB ±2 dB, max. gain @ Fc; 30 dB adjustment in 0.5 ± 0.5 dB Steps
- Image Rejection: > 60 dB, min
- Spurious, In Band: -60 dBC, signal related; < -60 dBm, signal independent; 0 dBm out & max gain; (0.95-1.50 GHz Out)
- Spurious, Out of Band: < -50 dBm (0.5-0.95 GHz and 1.50-2.5 GHz Out)
- Intermodulation: < -55 dBC for two carriers each at -10 dBm out
- Frequency Response: ± 1.5 dB, 0.95 - 1.50 GHz out; ± 0.5 dB, 40 MHz BW
- Frequency Sense: Non-inverting

**LO Characteristics**
- LO Frequency: 11.25 GHz
- Frequency Accuracy: ± 0.01 ppm max over temp internal reference; ext. ref. input
- 10 MHz In/Out Level: Input = +1 to +8 dBm in; Output = 3 ± 3 dBm, w/ Auto-detect

**Phase Noise @ Fc (Hz) > 10, 100, 1K, 10K, 100K, 1M (Standard dB/Hz)**

**Controls, Indicators**
- Gain, Ext Ref Selection: Direct readout LCD; pushbutton switches or remote
- Pwr; Alarm; Rem; Mute: Green LED; Red LED; Yellow LED; Yellow LED
- Remote: RS232C/RS485/422, 9600 baud (Ethernet Optional)

**Other**
- RF Connector: SMA (female), 50Ω
- L-Band Connector: BNC (female), 50Ω
- 10 MHz Connectors: BNC (female), 75Ω, works with 50 or 75 ohms
- Alarm/Remote Conn.: DB9 - NO or NC contact closure on Alarm
- Size: 19 inch standard chassis 1.75" high X 14.0" deep
- Power: 100-240 ± 10% VAC, 47 - 63 Hz, 30 watts max.

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

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**Available Options**
- W31: 0 to +50 degrees C operation

**Remote M&C Ethernet Options**
- W8: Ethernet w/web browser Interface
- W18: Ethernet w/web browser & SNMP (MIB)
- W28: Ethernet w/direct TCP/IP Interface
- W828: Ethernet, W18 + W28

**Connector Options**
- N: 50Ω N-type (RF), 75Ω BNC (L-BAND)
- NF: 50Ω N-type (RF), 75Ω F-type (L-BAND)
- NN: 50Ω N-type (RF), 50Ω N-type (L-BAND)
- S7: 50Ω SMA (RF), 75Ω BNC (L-BAND)
- SF: 50Ω SMA (RF), 75Ω F-type (L-BAND)
- SN: 50Ω SMA (RF), 50Ω N-type (L-BAND)
- SS: 50Ω SMA (RF), 50Ω SMA (L-BAND)

**Contact Cross for other options**

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