3116-84T78 Translator 7.9-8.4 GHz to 7.25-7.75 GHz

The 3116-84T78 Translator converts 7.9-8.4 GHz to 7.25-7.75 GHz with a 0.65 GHz local oscillator. Front panel LEDs provide indication of Remote operation, PLL Alarm, and DC Power. The RF to RF gain is +20 dB, maximum. Connectors are SMA female for RF out, RF in, RF in Monitor (Opt W86) and RF out Monitor (Opt W85) and BNC female for external 10 MHz in and 10 MHz out. In AUTO, the 10 MHz reference stays in external if the external level is +3 dBm, ±3 dB. Gain, LO frequency and internal 10 MHz frequency are controlled by the front panel switches or the M&C connector (Ethernet optional). It is powered by a 100-240 ±10% VAC power supply and is in a 1.75” X 19” X 14” rack mount chassis.

Available Options
Q - RS485 Remote Interface
W8 - Ethernet; w/Web Browser (WB)
W18 - Ethernet; w/WB & SNMP
W28 - Ethernet; w/TCP/IP, Telnet
W85 - Out RF Mon. -20 dB
W86 - In RF Mon. +10 dB

Connectors/Impedance
NN- 50Ω N-type (RF)

Input Characteristics
- Impedance/Return Loss: 50Ω/12 dB, 14 dB typ
- Frequency (GHz): 7.9 - 8.4 GHz
- Noise Figure, Max.: 20 dB at max gain
- Input Level Range: -30 to -10 dBm

Output Characteristics
- Impedance/Return Loss: 50Ω /12 dB, 14 dB typ
- Frequency (GHz): 7.25 - 7.75 GHz
- Output Level Range: -60 to 0 dBm
- Output 1 dB compression: +8 dBm, +10 typ.

Channel Characteristics
- Gain, maximum: +20 ±3 dB
- Gain Range: +20 to -40 dB; 0.5±0.5 dB Steps
- In to Out Isolation, Min.: >45 dBC, >60 typ.
- Spurious, Inband: >40 dBC
- Inband Spurious, out of band: <20 dBc, Fc±1 GHz, <-40 dBc, Fc±2 GHz
- 2 tone @-10dBm out ea: >45 dBc, 50 typ, Gain=+20
- Freq. Response, band: ±2 dB
- Freq. Response, 40MHz: ±0.5 dB
- Frequency Sense: Non-inverting

LO Characteristics
- LO Frequency: 0.65 GHz
- Frequency Accuracy: ±0.01 ppm max over temp internal reference; ext. ref. input

Phase Noise @ F (Hz) >

<table>
<thead>
<tr>
<th>dBC/Hz</th>
<th>100</th>
<th>1K</th>
<th>10K</th>
<th>100K</th>
<th>1M</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>-70</td>
<td>-80</td>
<td>-85</td>
<td>-100</td>
<td>-110</td>
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10 MHz In/Out Level: +3 dBm, ±3 dB

Controls, Indicators
- Gain, 10M Freq.: Gain and internal 10 MHz frequency, Front Panel Switches or M&C connector (Ethernet Optional).
- PLL Alarm: Red LED, External contact closure
- Power: Green LED
- Remote: RS232C, 9600 baud (Ethernet and RS485 Optional)

Other
- RF In, Out, Mon. Conn.: SMA (female), 50Ω (RF In and RF Out monitors Optional)
- 10 MHz connectors: BNC (female), 75 ohms; Works with 50Ω
- Monitor/Control Conn.: RS232C, DB9, Female; Optional Ethernet, RJ45, Female;
- Size: 19 inch, 1RU standard chassis, 1.75” high X 14”deep
- Power: 100-240 ±10% VAC, 47-63 Hz, 30 watts max

* +10 to +40 degrees C Operating; -30 to +60 degrees C Non-operating; 95% relative humidity, non-condensing; Specifications subject to change without notice