4116-T21-181 Multi-Band, Block Translator, Weather Resistant* 

The 4116-T21-181 Translator converts a 17.3 - 18.1 GHz input RF band to one of two output RF bands, 11.7 to 12.5 or 10.7 to 11.5 GHz. Front panel LEDs provide indication of DC Power, and PLL Alarm. The RF to RF gain is -20 dB, maximum. Connectors are Type N female for the RF out, RF in and RF in Monitor and SMA female for the external reference input and reference output. Gain, band select, and internal 10 MHz frequency are controlled by the Ethernet M&C or via the Status/Control connector (RS232C). In AUTO, the 10 MHz reference stays in external if the external level is in the +2 to +8 dBm range. The 4116 is powered by a 100-240 ±10% VAC power supply, and mounted in a 8" W X 6" H X 16" D Weather Resistant* enclosure.

Weather Resistant enclosures are designed to be water resistant for installation in an outdoor enclosure/antenna hut or mounted outdoors on an antenna assembly at their specified temperature ranges. They are designed to be located "out in the elements" (water, sleet, snow, etc.) but they are not designed to be "submerged under" water.

If an extended temperature range is required, there is an Extended Temperature option (Option W21; -30°C to +60°C) available at an additional cost. Contact Cross for quote.

**EQUIPMENT SPECIFICATIONS**

**Input Characteristics**
- Impedance/Return Loss: 50Ω/14 dB, min
- Frequency (GHz): 17.3 to 18.1 GHz
- Noise Figure, Max.: 30 dB at max gain
- Input Level range: -20 to 0 dBm

**Output Characteristics**
- Impedance/Return Loss: 50Ω/10 dB, 14 dB typ
- Frequency, BAND1: 11.7 to 12.5; BAND2: 10.7 to 11.5 GHz
- Output Level Range: -55 to -20 dBm
- Output 1 dB compression: -10 dBm, at max gain
- Output mute, max. gain: >50 dBc, at max gain

**Channel Characteristics**
- Gain at Fc: -20 ±3 dB max., (-20 to -45 dB variable in 1±1 dB steps)
- Input to Output Isolation: >45 dBc, min.; >60 dBc typ. (at max gain and -20 dBm out)
- Spurious, Inband: >40 dBc at 0 dBm in
- Spurious, Out of band: <50 dBm, signal independent; fc ± 2 GHz
- Spurious, LO: <50 dBm, measured at the input; <40 dBm, measured at the output
- Intermod 2 Tone: >45 dBc (> 50 dBc typ.), for two carriers at 4 MHz spacing, each at -25 dBm out
- Frequency Response: ±1.5 dB, over RF band; ±0.5 dB, 40 MHz BW
- Frequency Sense: Non-inverting

**LO Characteristics**
- LO Frequency: Band 1, 5.60 GHz; Band 2, 6.60 GHz
- Frequency Accuracy: ±0.05 ppm max over temp internal reference; ext. ref. input

<table>
<thead>
<tr>
<th>Phase Noise @ F (Hz)</th>
<th>100</th>
<th>1K</th>
<th>10K</th>
<th>100K</th>
<th>1M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specification dBc/Hz</td>
<td>65</td>
<td>75</td>
<td>85</td>
<td>95</td>
<td>110</td>
</tr>
</tbody>
</table>

10 MHz level In/Mon: +2 to +8 dBm in; Monitor Output = Input level ± 1.0 dB, 50 ohms

**Controls, Indicators**
- Gain, Band, 10MHz Freq.; Power; PLL Alarm: Via Ethernet M&C or Status/Control connector, RS232C. Green LED; Red LED, External contact closure

**Other**
- RF In, Mon., Out Connector: Type N (female), 50Q
- 10 MHz connectors: SMA (female), 50Q
- Status/Control Connector: MS3116F14-18P; RJ45 Weather Resistant* Ethernet Connector
- Size: 8" W X 6" H X 16" D Weather Resistant* enclosure
- Power: 100-240 ±10% VAC, 47 - 63 Hz, 25 watts max./ FCI Clipper Series CL1M1102 connector

* *+0 to +50 degrees C; -30 to +60 degrees C Non-operating; Specifications subject to change without notice

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