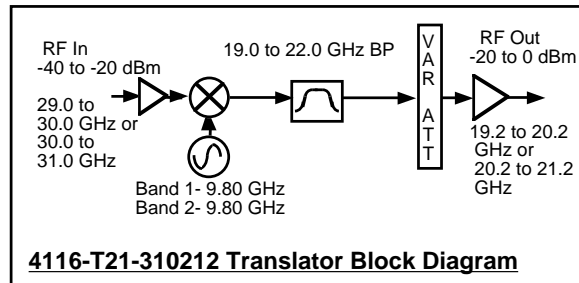
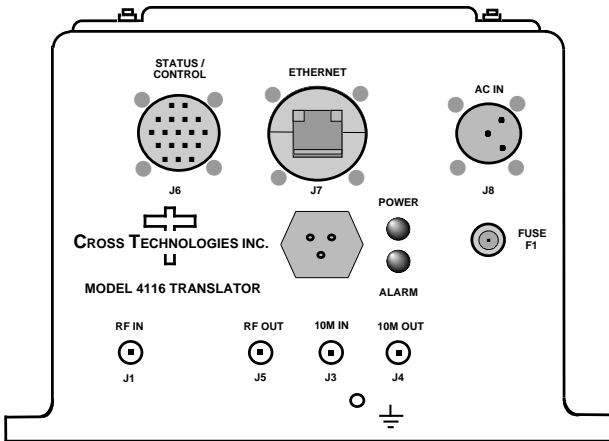


4116-T21-310212 Block Translator, Weather Resistant*

The 4116-T21-310212 Translator converts a **29.0 - 30.0 GHz input RF band to 19.2 - 20.2 GHz** or a **30.0 - 31.0 GHz input RF band to 20.2 - 21.2 GHz**. Front panel LEDs provide indication of DC Power, and PLL Alarm. The **RF to RF gain is +23 dB, maximum**. Connectors are 2.92 mm female for the RF out, RF in 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. In AUTO, the 10 MHz reference stays in external if the external level is in the +2 to +8 dBm range. It 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.



EQUIPMENT SPECIFICATIONS**

Input Characteristics

Impedance/Return Loss **50Ω/14 dB, min**
 Frequency (GHz) **SEE BAND CHART**
 Noise Figure, Max. **30 dB at max gain**
 Input Level range **-40 to -20 dBm**

Output Characteristics

Impedance/Return Loss **50Ω/10 dB, 14 dB typ**
 Frequency (GHz) **SEE BAND CHART**
 Output Level Range **-20 to 0 dBm**
 Output 1 dB comp., **max. gain +10 dBm, at max gain**
 Output 1mute., **max. gain >50 dBc, at max gain**

Channel Characteristics

Gain at Fc **+23 ± 3 dB max., (+20 to 0 dB variable in 1±1 dB steps)**
 Input to Output Isolation **> 45 dBc, min; > 60 dBc typ. (at max gain and 0 dBm out)**
 Spurious, Inband **> 30 dBc in band, except 25 dBc (> 30 dBc typ.) at -20 dBm in for harmonics of LOs that fall close to or in-band (See Chart)**
 Spurious, Out of band **<-50 dBm, signal independent; fc ± 1 GHz, except for harmonics of LOs (See Chart) in this band**
 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 -5 dBm out, at max gain**
 Frequency Response **±2.0 dB, over RF band; ± 0.5 dB, 40 MHz BW**
 Frequency Sense **Non-inverting**

LO Characteristics

LO Frequency **Band Specific**
 Frequency Accuracy **± 0.05 ppm max over temp internal reference; ext. ref. input**

Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
Specification dBc/Hz	65	75	85	95	110

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

Controls, Indicators

Gain, Band, 10M Freq. **Gain, band select, and internal 10 MHz frequency via Ethernet M&C or Status/Control connector.**
 PLL Alarm **Red LED, External contact closure**
 Power **Green LED**

Other

RF In / RF Out Connector **2.92 mm / Super SMA**
 10 MHz connectors **SMA (female), 50Ω**
 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**

Band Chart - Frequencies, LOs, LO Harmonically-related Fixed Spurs

BAND NO.	IN RANGE (GHz)	OUT RANGE (GHz)	LO (GHz)	Fixed Spurs (25 dBc at -20 in) (5 dBc at -40 in)
1	29.0-30.0	19.2-20.2	9.80	19.6
2	30.0-31.0	20.2-21.2	9.80	19.6

***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.

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