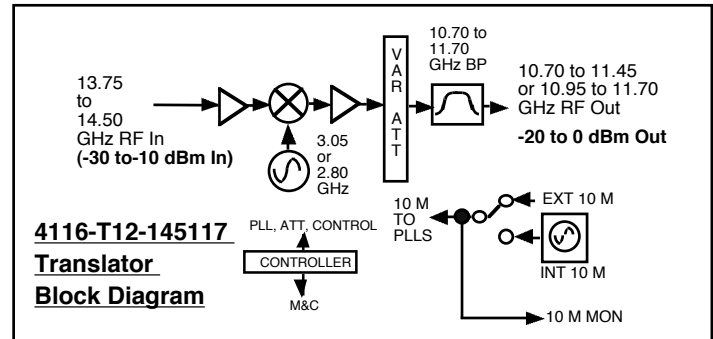
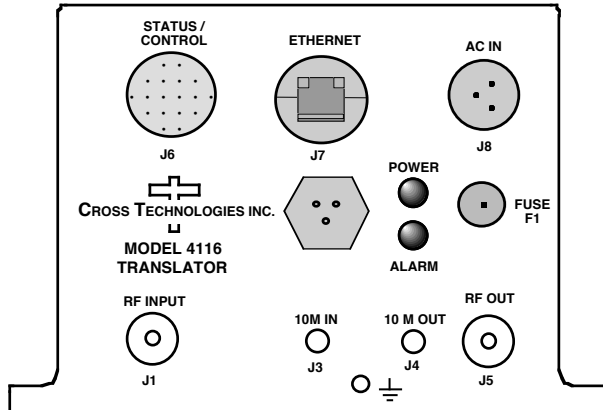


4116-T12-145117, Multi-Band Block Translator, Weather Resistant*

The 4116-T12-145117 Translator converts the 13.75 - 14.50 GHz band to 10.70 - 11.45 GHz (Band 1) or 10.95 - 11.70 GHz (Band 2). Front panel LEDs provide indication of DC Power, and PLL Alarm. The RF to RF gain is **+10 dB**, maximum. Connectors are Type N female for the RF in and RF out, and SMA female for the external reference input and reference output. Gain, **LO frequency**, 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 (the selected 10 MHz is on the front panel 10 M OUT connector).** It is powered by a 100-240 $\pm 10\%$ 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 **50 Ω /17 dB, 18 dB typ**
 Frequency (GHz) **13.75 - 14.50 GHz**
 Noise Figure, Max. **30 dB at max gain**
 Input Level range, Fc **-30 to -10 dBm; +8 dBm no-damage input**

Output Characteristics

Impedance/Return Loss **50 Ω /17 dB, 18 dB typ**
 Frequency (GHz) **10.70 - 11.45 GHz (Band 1) or 10.95 - 11.70 GHz (Band 2)**
 Output Level Range, Fc **-20 to 0 dBm**
 Output 1 dB compression **+10 dBm, at Fc**

Channel Characteristics

Gain **+10 $\pm$ 2 dB max., (+10 to -20 dB variable in 0.5 $\pm$ 0.5 dB steps), at Fc**
 Input to Output Isolation **> 60 dBc, min., 13.75 - 14.50 GHz**
 Spurious, Inband **> 40 dBc in band, except 25 dBc (> 30 dBc typ.) at -10 dBm in for harmonics of LOs that fall close to or in-band (See Chart)**
 Spurious, Out of band **<-50 dBm, signal independent; fc $\pm$ 1 GHz, except for harmonics of LOs (See Chart) in this band**
 Spurious, LO **<-40 dBm LO; 4XLO, 25 dBc (> 30 dBc typ.) at 0 dBm out (See Chart)**
 2 Tone intermod **> 45 dBc, > 50 dBc typ. (Fc $\pm$ 2 MHz, at -13 dBm out, ea), max gain**
 Frequency Response **± 1.5 dB typ., ± 2.0 dB max., over RF band; ± 0.5 dB, 40 MHz BW**
 Frequency Sense **Non-inverting**

LO Characteristics

LO Frequency **3.05 GHz (Band 1) or 2.80 GHz (Band 2)**
 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, 50 Ω **+2 to +8 dBm in**
 10 MHz Level Out, 50 Ω **External selected, Monitor Output = input level $\pm$ 1.0 dB**
Internal selected, +4 dBm $\pm$ 2 dB

Controls, Indicators

Gain, 10M Freq. **Gain 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, Mon., Out Conn. **Type N (female), 50 Ω**
 10 MHz connectors **SMA (female), 50 Ω**
 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 $\pm 10\%$ VAC, 47 - 63 Hz, 25 watts max./ FCI Clipper Series CL1M1102 connector**

Band Chart - Frequencies, LOs, LO Harmonically-related Fixed Spur:

BAND NO.	IN RANGE (GHz)	OUT RANGE (GHz)	LO (GHz)	Fixed Spurs (25 dBc at -10 in) (5 dBc at -30 in)
1	13.75 - 14.50	10.70 - 11.45	3.05	12.2
2	13.75 - 14.50	10.95 - 11.70	2.80	11.2

***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 operating) available at an additional cost. Contact Cross for quote.

Options

W21-30°C to +60°C operating temp

** +0 to +50 degrees C ; -30 to +60 degrees C Non-operating; 95% relative humidity, non-condensing; Specifications subject to change without notice