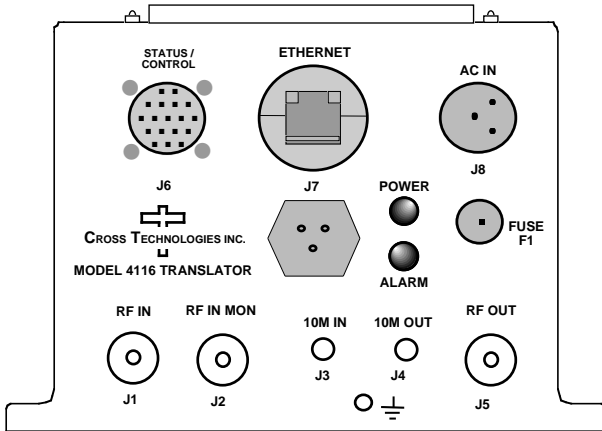


4116-24T11 Translator, S-band to L-band, Weather Resistant*

The 4116-24T11 Translator converts 2.2 - 2.4 GHz to 0.95 - 1.15 GHz. Front panel LEDs provide indication of DC Power, and PLL Alarm. The S-band to L-band gain is **+30 dB**, maximum. Connectors are Type N female for the L-band out, S-band in and S-band in Monitor and SMA female for the external 10 MHz reference input. Gain, **mute**, and internal 10 MHz frequency are controlled by the M&C (**Ethernet and/or Status/Control**). 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
 Frequency **2.2 to 2.4 GHz**
 Noise Figure, Max. **15 dB** at max gain
 Input Level range **-50 to -30 dBm**

Output Characteristics

Impedance/Return Loss 50 Ω /14 dB, **Mute & UnMute**
 Frequency **0.95 to 1.15 GHz**
 Output Gain Adj. Range -20 to 0 dBm
 Output 1 dB compr. +10 dBm, **max. gain**
Mute >50 dB @ 0 dBm output

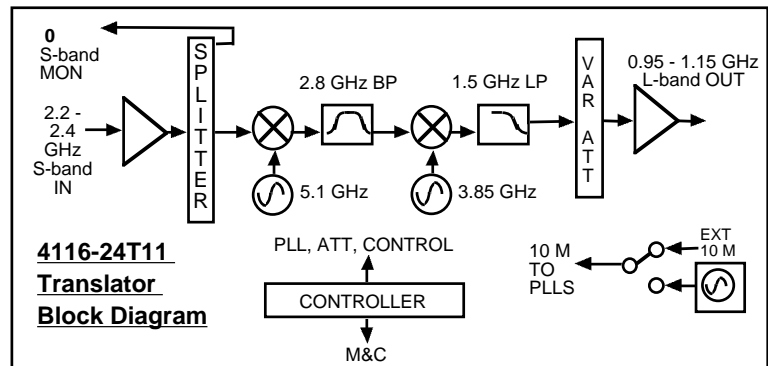
Channel Characteristics

Gain at Fc **+30 ±3 dB max., (+30 to 0 dB variable in 0.5±0.5 dB steps)**
 Input to Output Isolation **> 45 dB, min, at +20 dB gain**
 Spurious, Inband **SIGNAL RELATED <-60 typ., -55 min dBC in band, -15 to 0 dBm out; SIGNAL INDEPENDENT, <-60 dBm**
Spurs, Out of band, LO <-60 dBm spurs, signal independent; 0.5-.95 and 1.15 to 2.5 GHz out; LO= -80 dBm at input and output
 Intermodulation <-50 dBC for two carriers **at 4 MHz spacing**, each at -5 dBm out
 Frequency Response **±1.0 dB**, over RF band; ± 0.5 dB, **40 MHz BW**
 Frequency Sense Non-inverting

LO Characteristics

LO step size None; Fixed translation
 Frequency Accuracy ± 0.05 ppm max over temp internal reference; ext. ref. input
 10 MHz level In/Mon Input=+2 to +8 dBm in. Monitor Output = Input Level ± **1.0 dB**, 50Ω

Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBc/Hz	-70	-78	-83	-100	-110



Controls, Indicators

Gain, 10M Frequency Gain and internal 10 MHz frequency via Ethernet M&C or Status/Control Connector.
 Power, PLL Alarm Green LED, Red LED, External Contact Closure.

Connectors*	Connector Part #	Mating Connector Part #	Additional Connector Specifications*		
Status/Control Connector	MS3112E14-18S	MS3116F14-18P	S-band In, Monitor Type-N (Female) 50Ω	L-band Out Type-N (Female) 50Ω	10MHz Connectors SMA (Female) 50Ω
Ethernet Connector / RJ45	RJF21B	RJF6G			
AC Input Connector***	CL1M1102	CL1F1101			

*All Cable Connectors are Weather Resistant

** Unless otherwise specified, the mating connector is provided preassembled onto a standard NEMA 5-15P U.S. power cord.

Other

Size 8"W X 6"H X 16"D Weather Resistant* Enclosure.
 Power 100-240 ±10% VAC, 47 - 63 Hz, **25 watts** maximum.

**+0 to +50 degrees C; Specifications subject to change without notice