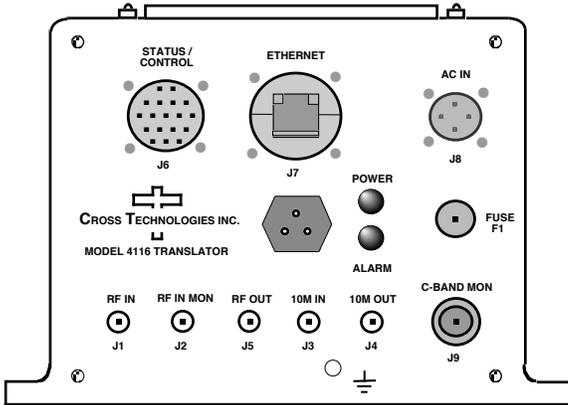


**4116-T300 Ka-band Translator, Weather Resistant\***

The 4116-T300 Ka-band Translator converts 27.5 - 31.0 GHz to 17.7 - 21.2 GHz in four selectable fixed bands and to 2.5 - 6.0 GHz for monitoring purposes. LEDs provide indication of DC Power, and PLL Alarms. The maximum gain is +20 dB. Connectors are 2.92mm for the RF In and RF Monitor, Super SMA for the RF Out, Type N for the C-band monitor, and SMA (all female) for the external reference input and output. Gain, band select, and internal 10 MHz frequency are controlled by the M&C (Ethernet and/or Status/Control) Connectors. **In AUTO, the 10 MHz reference stays in external if the external level is in the +2 to +8 dBm range.** The 4116-T300 is powered by a 100-240 ±10% VAC power supply and mounted in a 8" Wide X 6" High X 16" Deep, Weather Resistant\* enclosure.



**BAND CHART-Frequency Band**

Band	Input (GHz)	Output (GHz)	Translation (GHz)
1	27.5 - 28.5	17.7 - 18.7	9.800 (8.8-10.3)
2	28.0 - 29.0	18.3 - 19.3	9.700 (8.7-10.3)
3	29.0 - 30.0	19.2 - 20.2	9.800 (8.8-10.3)
4	30.0 - 31.0	20.2 - 21.2	9.800 (8.8-10.3)
5	27.5 - 28.5	18.3 - 19.3	9.200 (8.3-10.2)
6	27.5 - 28.5	19.2 - 20.2	8.300 (8.3-9.3)
7	28.0 - 29.0	17.7 - 18.7	10.300 (9.3-10.3)
8	28.0 - 29.0	19.2 - 20.2	8.800 (8.3-9.8)
9	29.0 - 30.0	<b>18.7 - 19.7</b>	<b>10.300</b>
10	29.0 - 30.0	<b>19.0 - 20.0</b>	10.000 (9.7-10.3)
11	30.0 - 31.0	<b>20.0 - 21.0</b>	10.000 (9.8-10.3)

**EQUIPMENT SPECIFICATIONS\*\***

**Input Characteristics**

Impedance/Return Loss 50Ω/14 dB  
 Frequency SEE BAND CHART  
 Noise Figure, Max. 20 dB max gain  
 Input Level range -40 to -15 dBm

**Output Characteristics**

Impedance/Return Loss 50 Ω /14 dB, **Mute & UnMute**  
 Frequency (GHz) SEE BAND CHART  
 Output Level Range -15 to 0 dBm  
 Output 1 dB compr. **+8 dBm, max. gain**  
**Mute >60 dB @ 0 dBm output**

**Channel Characteristics**

Gain at  $f_c$  +20 ±3 dB, (+20 to -10 dB variable in 1±1 dB steps)  
 Input to output isolation > 60 dB, min (at max gain and 0 dBm out)  
 Spurious, Inband **SIG REL. <-45 dBC**, -15 to 0 dBm out; **SIG IND. <-50 dBm**;  $f_c \pm 0.5$  GHz  
 Spurious, Out of band **<-45 dBm,  $f_c \pm 1$  GHz**  
**Spurious, LO <-50 dBm, measured at the input; <-25 dBm, measured at the output**  
 Intermodulation **<-45 dBC** for two carriers at 4 MHz spacing, each at -7 dBm out  
 Frequency Response ±2 dB, over RF band; ± 0.5 dB, 40 MHz BW  
 Frequency Sense Non-inverting

**LO Characteristics**

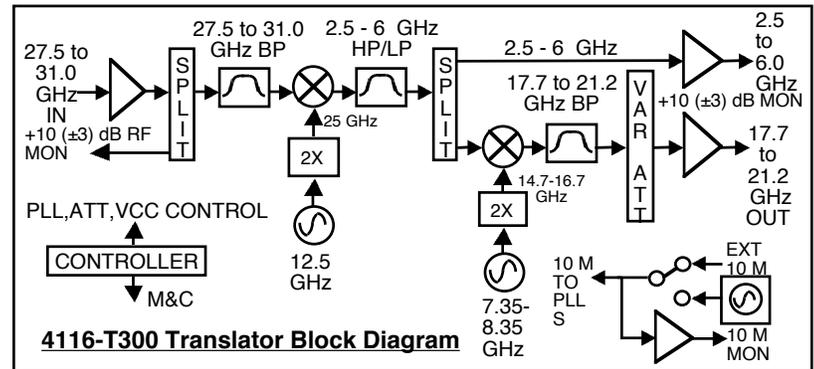
LO Frequency Band Specific, **8.3 to 10.3 GHz translation range, 5 MHz steps**  
 Frequency Accuracy ± 0.05 ppm max over temp internal reference; ext. ref. input

Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBc/Hz	65	75	77	93	105

10 MHz level In/Mon +2 to +8 dBm in; Monitor Output = input level ± 1 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.  
**Power**; PLL Alarm **Green LED**; Red LED, External Contact Closure



\*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.

Connectors*	Connector Part #	Mating Connector Part #	Additional Connector* Specifications			
Status/Control Connector	MS3112E14-18S	MS3116F14-18P	RF In, RF Monitor 2.92mm (40 GHz) Female, 50Ω	RF Out Super SMA, (27 GHz) Female, 50Ω	C-Band Type N (Female) 50Ω	10 MHz SMA (Female) 50Ω
Ethernet Connector/RJ45	RJF21B	RJF6G				
AC Input Connector**	CL1M1102	CL1F1101				

\*All Cable Connectors are Weather Resistant  
 Size 8" Wide X 6 "High X 16" Deep, Weather Resistant\* Enclosure  
 Power 100-240 ±10% VAC, 47 - 63 Hz, 30 watts maximum

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