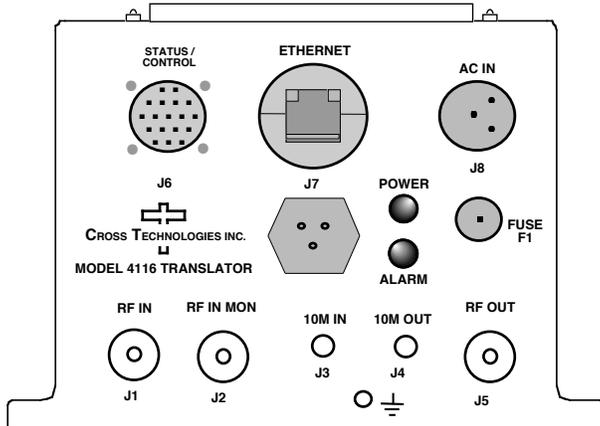


4116-T24 Translator, UHF to UHF, Weather Resistant*

The 4116-T24 Translator converts a 20 MHz bandwidth signal from the UHF input band (0.2 to 0.4 GHz) to a 20 MHz bandwidth signal on the UHF output band (0.2 to 0.4 GHz), in 0.1 MHz steps. Front panel LEDs provide indication of DC Power, and PLL Alarm. The UHF to UHF gain is +20 dB, maximum. Connectors are Type N female for the UHF out, UHF in and UHF in Monitor and SMA female for the external 10 MHz reference input. Gain, band select, **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 0.2 to 0.4 GHz
 Noise Figure, Max. 20 dB at max gain
 Input Level range -30 to -10 dBm

Output Characteristics

Impedance/Return Loss 50 Ω /13 dB, 14 typ., Mute & UnMute
 Frequency 0.2 to 0.4 GHz
 Output Level Range -60 to 0 dBm
 Output 1 dB compr. +9 dBm, +10 dBm typ., max. gain
 Mute >60 dB @ 0 dBm output

Channel Characteristics

Gain at F_c +20 ±5 dB max., (+20 to -40 dB variable in 1±1 dB steps)
 Input to Output Isolation > 45 dB, min, at +20 dB gain
 Spurious, Inband <-40 dBC in band, -15 to 0 dBm out, <-50 dBC, typical; $F_{in} \neq F_{out}$
 Spurious, LO <-60 dBm LO
 Intermodulation <-50 dBC for two carriers at 4 MHz spacing, each at -5 dBm out
 Frequency Response ±2 dB, over UHF band; ± 0.5 dB, 20 MHz BW
 Frequency Sense Non-inverting
 Monitor Gain/Resp. +10 ±3 dB Gain at F_c ±2 dB Frequency Response, over 200-400 MHz band

LO Characteristics

LO step size 0.1 MHz, input and output selection; $F_{in} \neq F_{out}$
 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

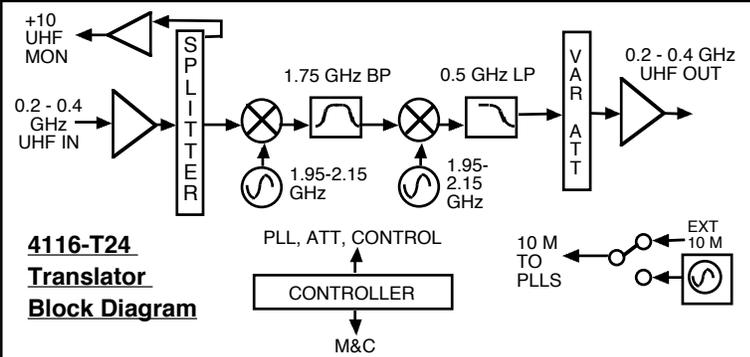
Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
Specification dBC/Hz	-70	-70	-80	-95	-110
Typical dBC/Hz	-74	-75	-85	-105	-130

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

UHF In, Mon. Connector Type N (female), 50Ω
 UHF Out Connector Type N (female), 50Ω
 M&C Connector(s) **Status/Control Connector, MS3112E14-18S Weather Resistant Connector;**
 Ethernet Connector, Standard RJ45 Weatherized Connector, RJF6G
 10 MHz connectors SMA (female), 50Ω.
 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; Specifications subject to change without notice