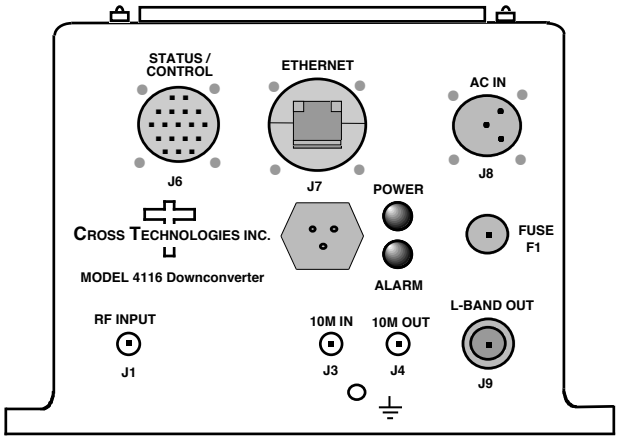
CROSS TECHNOLOGIES, INC.

DATA SHEET

REV. 0 10/21/14

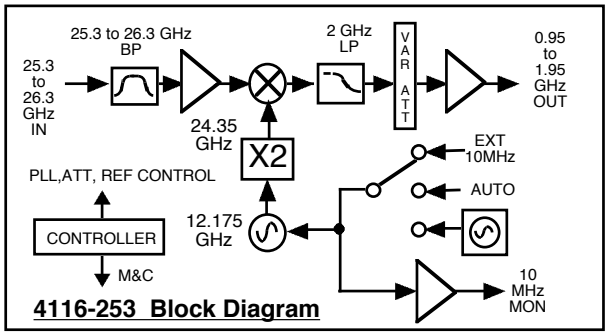
4116-253 Ka-band Block Downconverter, Weather Resistant*

The 4116-253 Ka-band Block Downconverter converts 25.3 - 26.3 GHz to 0.95 - 1.95 GHz. Front panel LEDs provide indication of DC Power and PLL Alarms. The L-band to RF gain is +30 ± 3 dB maximum and is adjustable in 0.5 ± 0.5 dB steps. Connectors are 2.92 mm for RF In, SMA for external reference input and output, and Type N (all female) for L-band out. Gain and internal 10 MHz frequency are controlled by the Ethernet M&C. In AUTO, the 10 MHz reference stays in external if the external level is in the +2 to +8 dBm range. The unit is powered by a 100-240 ±10% VAC power supply, and is 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.



4116-253 Block Diagram

EQUIPMENT SPECIFICATIONS*

Input Characteristics

Impedance/Return Loss	50Ω/14 dB
Frequency (GHz)	25.3 to 26.3
Noise Figure, Max.	20 dB max gain
Input Level range	-50 to -30 dBm

Output Characteristics

Impedance/Return Loss	50Ω/14 dB
Frequency	0.95 to 1.95 GHz
Output Level Range	-20 to 0 dBm
Output 1 dB compr.	+10dBm, max gain**, Gmax**

Channel Characteristics

Gain at Fc	+30 ±3 dB, (+30 to 0 dB variable in **0.5± 0.5 dB** steps)
Image Rejection	> 60 dB, min
Spurious, Inband	SIG. REL. <-50dBC, -15 to 0dBm out;2XFo <-45dBC;SIG. INDEP.,<-60dBm;.95-1.95 GHz out, Gmax
Spurious, Out of Band	**<-55 dBm, 0.5-0.94 GHz and 1.96 - 2.45 GHz; at Gmax**
Intermodulation	<-50 dBC for two carriers at 4 MHz spacing, each at -5 dBm out**; at Gmax**
Frequency Response	±1.5 dB, 950 -1950 MHz out; **±1.0 dB, 1150 -1550 MHz out (25.5 - 25.9 GHz In)**
Phase Linearity	±5 degrees max. from linear phase, **1150 -1550 MHz out (25.5 - 25.9 GHz In)**
Frequency Sense	Non-inverting

LO Characteristics

LO Frequency	24.35 GHz
Frequency Accuracy	± 0.01 ppm max over temp internal reference; ext. ref. input
10 MHz level In/Mon	+2 to +8 dBm in; Monitor Output = input level **± 1.0** dB, 50 ohms

Phase Noise @ F (Hz) >	*100*	*1K*	*10K*	*100K*	*1M*	*10M-40M*
dBC/Hz	***-65***	***-75***	***-80***	***-95***	***-110***	***-120***

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 Connector	2.92 mm (female), 50Ω
L-Band Connector	Type N (female), 50Ω
10 MHz Connectors	SMA (female), 50Ω
Ethernet Connector	Standard RJ45 Weatherized Connector, RJF6G
Size	8" Wide X 6" High X 16" Deep 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

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