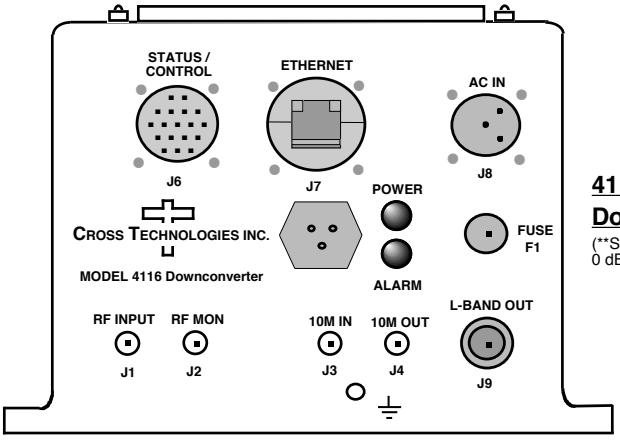
CROSS TECHNOLOGIES, INC.

DATA SHEET

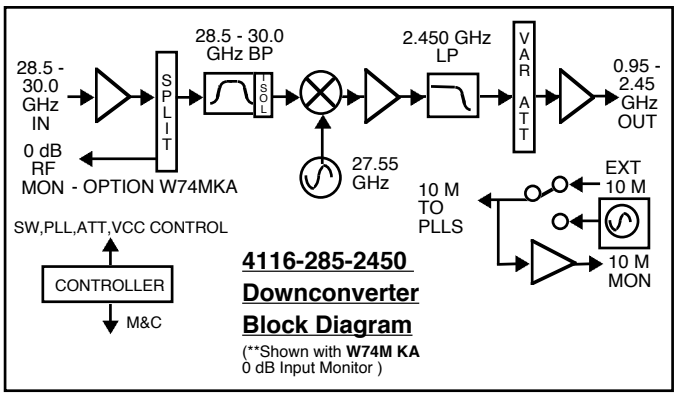
REV. 0 10/08/20

4116-285-2450 Block Downconverter, Weather Resistant*

The 4116-285-2450 Block Downconverter converts **28.5 - 30.0 GHz to 0.95 - 2.45 GHz.** Front panel LEDs indicate DC Power and PLL Alarms. The RF to L-band gain is +30 ± 3 dB maximum **at Fc** and is adjustable in 0.5 ± 0.5 dB steps. Connectors are **2.92 mm** for RF In, RF Monitor and SMA for the external reference input and output, and Type N, 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 100-400 ±10% VAC power supply, and is mounted in a 8"W X 6"H X 16"D Weather Resistant* enclosure.



4116-285-2450 Downconverter
(**Shown with **W74M KA** 0 dB Input Monitor)



4116-285-2450 Downconverter Block Diagram
(**Shown with **W74M KA** 0 dB Input Monitor)

EQUIPMENT SPECIFICATIONS*

Input Characteristics

Impedance/Return Loss	50Ω/14 dB
Frequency (GHz)	**28.5 - 30.0 GHz**
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 - 2.45 GHz**
Output Level Range	-20 to 0 dBm
Output 1 dB compr.	+10dBm, max gain**, at Fc, Gmax**

Channel Characteristics

Gain , max., **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, **-20** to 0dBm out:;2XFo<-45dBc; SIG. INDEP.,<-60dBm;.**0.95 - 2.45 GHz out,** Gmax
Spurious, Out of Band	**<-55 dBm, 0.5-0.95 GHz and 2.45 - 3.0 GHz; at Gmax**
Intermodulation	<-50 dBc for two carriers at 4 MHz spacing **centered on Fc**, each at -5 dBm out**; at Gmax**
Frequency Response	**±2.0 dB, 0.95 - 2.45 GHz; ±0.5 dB 40 MHz bandwidth out**
Frequency Sense	Non-inverting

LO Characteristics

LO Frequency	**27.55 GHz**
Frequency Accuracy	± 0.05 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*
dBc/Hz	*-60*	*-70*	*-80*	*-90*	*-100*

Controls, Indicators

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

Other

Connectors*	Connector Part #	Mating Connector Part #
Status/Control Connector	MS3112E14-18S	MS3116F14-18P
Ethernet Connector/RJ45	RJF21B	RJF6G
AC Input Connector**	CL1M1102	CL1F1101

Additional Connector Specifications*		
RF In, RF Mon.	**L-Band**	**10MHz**
2.92 mm	Type N	SMA
Female; 50Ω	(Female) 50Ω	(Female), 50Ω

*All Connectors are Weather Resistant

Size	8" Wide X 6" High X 16" Deep Weather Resistant* Enclosure
Power	100-400 ±10% VAC, 47 - 63 Hz, 25 watts max.

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.

Options
W21 - -30˚C to +60˚C
W74MKA - 0dB Input Monitor

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

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