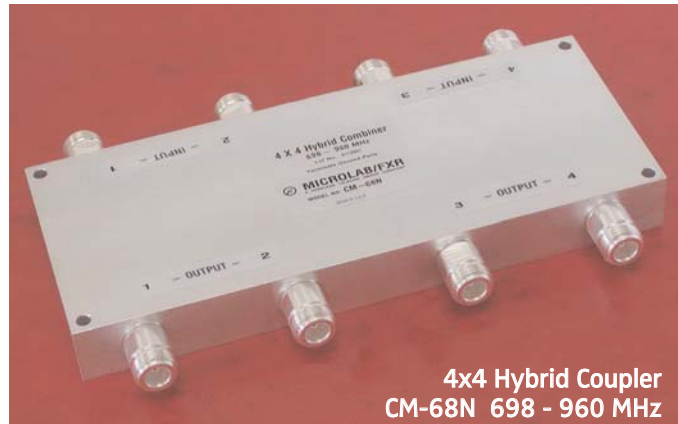


- ◆ Connects 4 inputs to 4 outputs
- ◆ Up to 30 dB Isolation, Low VSWR
- ◆ Low Specified PIM, up to <-160 dBc
- ◆ Indoor and Outdoor Applications
- ◆ 100W Average Power Rating
- ◆ N connectors
- ◆ RoHS compliant



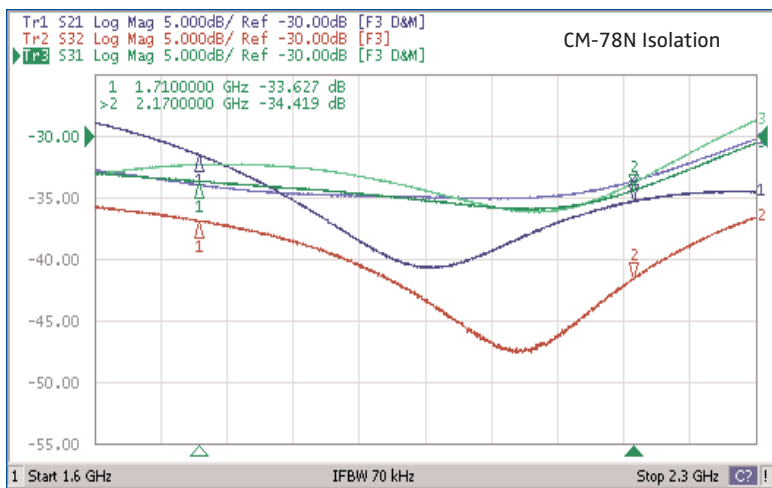
4x4 Hybrid Coupler  
CM-68N 698 - 960 MHz

The 4x4 Hybrid is a matrix of four 3 dB Hybrid Couplers arranged so that signals applied to any of the four inputs will be split equally between the four outputs. This allows simple combining of multiple signals in the same wireless band to a common feeder cable, as might be required in a neutral host in-building distributed antenna system, or the decoupled combining of 4 transmitter or receiver signals equally to 4 antennas. Unused ports must be terminated externally in 50Ω, with an appropriate PIM performance. Note that the phase relationship of the outputs in these models is not consistent.

Special attention has been directed in these versions to maximize isolation in the wireless bands and minimize passive intermodulation (PIM). Units may be ordered moisture sealed for outside applications to meet IP67. (05/12)

Model Number	Frequency Range, MHz	Coupling dB	Input Isolation*		Return Loss, dB	Power per Input		Weight, nom. lbs. (kg)
			typical	min		Avg.	Peak	
CM-58N	1710 - 2700	6.2 ± 0.8	27 dB	25 dB	>23 dB	100W	3kW	4.9 (2.2)
CM-68N	698 - 960	6.2 ± 0.6	32 dB	28 dB	>23 dB	100W	3kW	3.3 (1.5)
CM-78N	1,710 - 2,170	6.2 ± 0.6	32 dB	28 dB	>23 dB	100W	3kW	1.8 (0.82)
CM-88N	698 - 800	6.0 ± 1.8	23 dB	20 dB	>18 dB	100W	3kW	4.9 (2.2)
	800 - 2600 2600 - 2700	6.2 ± 1.2 6.4 ± 1.4						
CM-98N	350 - 380	6.0 ± 0.8	33 dB	30 dB	>25 dB	100W	3kW	3.5 (1.6)
	380 - 520	6.1 ± 0.6						

\*Requires all unused ports to be terminated with loads of return loss > 32dB



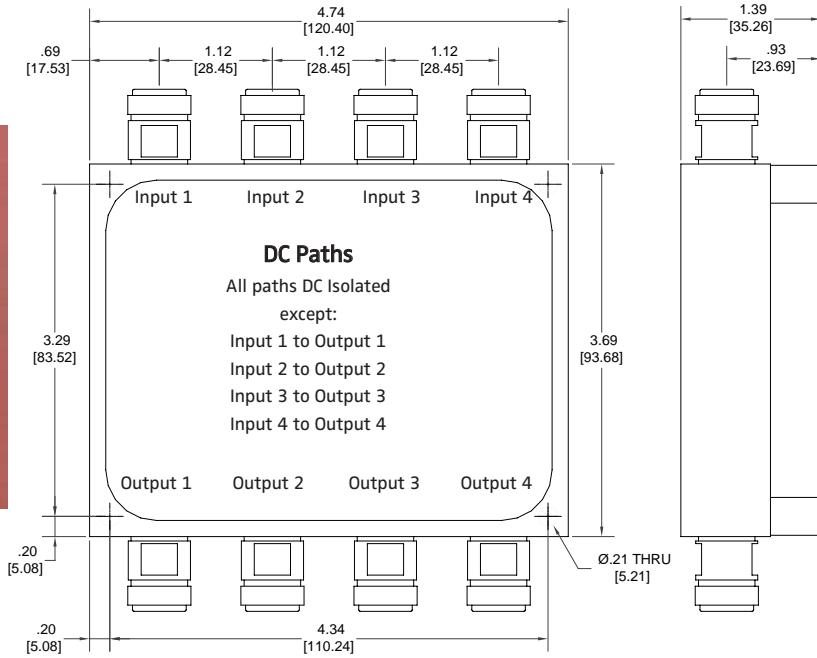
Impedance:	50Ω nominal
Environment:	-40 to +55°C, IP64 (IP67 to order)
PIM, Intermod:	<-160 dBc typical (two 20W tones) <-155 dBc* min.
Enclosure Finish:	Passivated Al.
Connectors Finish:	Triplate, N (f)
Mounting Wall:	Bracket supplied
Mast:	Optional mast kit

\*guaranteed <-160dBm to special order

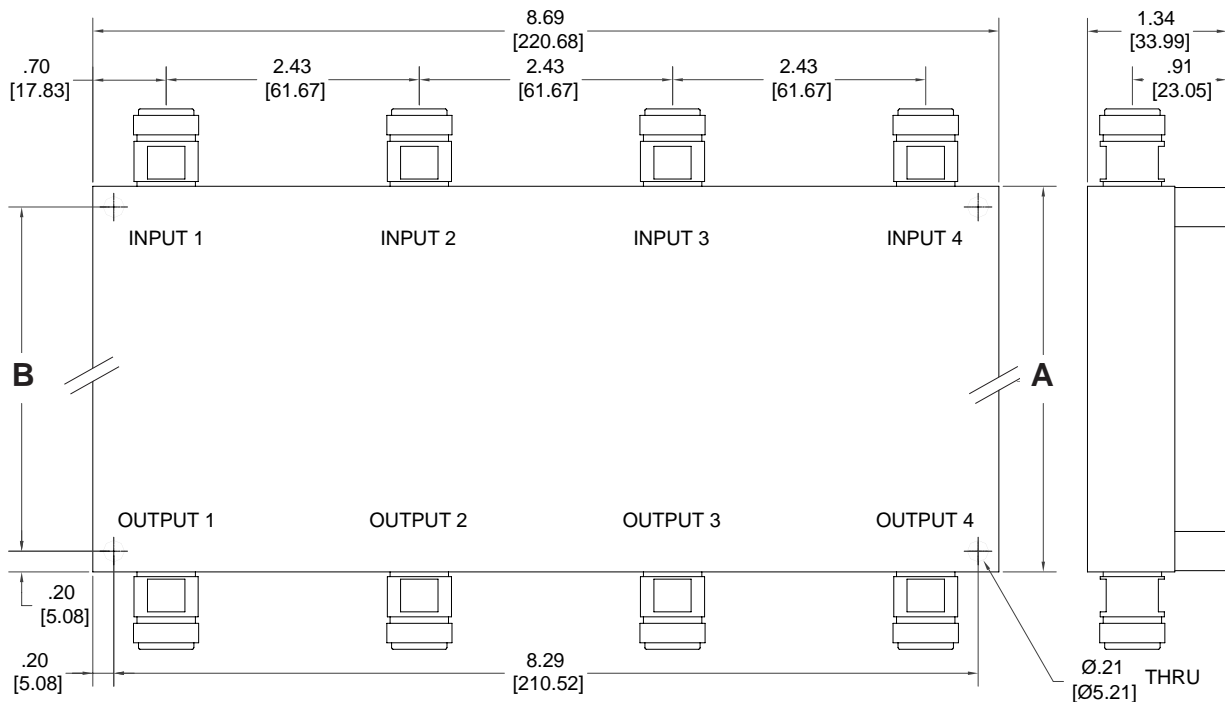
## CM-78N Outline



**CM-78N**  
1710 - 2170 MHz



## CM-58N, 68N, 88N & 98N Outline



**DC Paths**  
All paths DC Isolated except:  
Input 1 to Output 1  
Input 2 to Output 2  
Input 3 to Output 3  
Input 4 to Output 4

Model Number	Dimension A	Dimension B
CM-58N	4.94 (125.5)	4.54 (115.3)
CM-68N	3.70 (93.93)	3.30 (83.77)
CM-88N	4.99 (126.7)	4.59 (116.6)
CM-98N	3.91 (99.31)	3.51 (89.20)