

SignalOn® Series

RF Signal Management



5RU Chassis
(front view)

Passive Products



Directional Coupler Modules:

Directional coupler modules can be used as either an access point to sample an RF signal or as an insertion point, all at a relatively lower level than the main path in order to minimize the loss impact on primary through path.

Features:

- ▶ Available in 5-1002 MHz (equalized) or 5-1218 MHz (non-equalized)
- ▶ High passive isolation to support CCAP/D3.1
- ▶ Chassis supports both passive & active modules
- ▶ Clear chassis door provides protection & clear view of modules
- ▶ High quality, precision F or BNC connectors
- ▶ Available in 1RU, 2RU, & 5RU chassis
- ▶ One year warranty on all passive modules
- ▶ Designed to exceed NEBS requirements for grounding/bonding
- ▶ Certifications: FCC Class B, U/L, NEBS Level 3



1 GHz 1.218 GHz
Directional Couplers
(front view)

Directional Coupler Specifications

SPECIFICATIONS		9 dB COUPLER				12 dB COUPLER				20 dB COUPLER			
		N-MD*309R		N-MDF309RH		N-MD*312R		N-MDF312RH		N-MD*320R		N-MDF320RH	
FREQUENCY RANGE	F _{min} - F _{max}	5 MHz	1002 MHz	5 MHz	1218 MHz	5 MHz	1002 MHz	5 MHz	1218 MHz	5 MHz	1002 MHz	5 MHz	1218 MHz
MEASUREMENT	FREQUENCY	Min (dB)	Max (dB)	Min (dB)	Max (dB)	Min (dB)	Max (dB)	Min (dB)	Max (dB)	Min (dB)	Max (dB)	Min (dB)	Max (dB)
INSERTION LOSS IN-OUT	5 MHz	0.9	1.9	0.5	1.4	0.7	1.7	0.5	1.5	0.3	1.1	0.2	0.6
	50 MHz	0.9	1.9	0.5	1.4	0.7	1.7	0.5	1.5	0.3	1.1	0.2	0.6
	550 MHz	0.9	1.9	0.5	1.8	0.7	1.7	0.5	1.7	0.3	1.1	0.2	0.9
	870 MHz	0.9	1.9	0.5	2.1	0.7	1.7	0.5	1.7	0.3	1.1	0.2	1
	1002 MHz	0.9	2.2	0.5	2.2	0.7	1.7	0.5	1.7	0.3	1.1	0.2	1.1
	1218 MHz			0.5	2.4			0.5	1.7			0.2	1.2
INSERTION LOSS IN-TAP	5-F _{max} MHz	8.5	9.7	8	10	11.8	12.8	11	13	19.5	20.5	19	21
FLATNESS	50-F _{max} MHz		< 1.0		< 0.7		< 1.0		< 0.7		< 1.0		< 0.5
REVERSE ISOLATION OUT-TAP	5-F _{max} MHz	30		28		30		28		30		30	
RETURN LOSS	5-50 MHz	18		18		19		18		19		18	
	50-1002 MHz	16		18		19		18		19		18	
	1002-1218 MHz			18				18				18	

NOTE:
* = F or B (BNC) connectors.

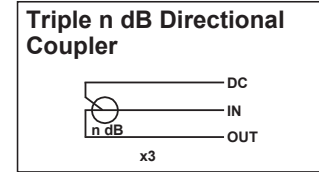
SignalOn® Series

Directional Coupler Modules:

RF Module Specifications

RF MODULE SPECIFICATIONS*	
ENVIRONMENTAL	
OPERATING TEMPERATURE	0°C to +50°C (+32°F to +122°F)
STORAGE TEMPERATURE	-40°C to +70°C (-40°F to +158°F)
STORAGE HUMIDITY	5-95% Non-condensing
ELECTRICAL	
EMI (EXTERNAL)	< -100 dBc
INTERNAL ISOLATION OF DUAL/TRIPLE MODULES	< -70 dBc
FLATNESS	Defined as MAX +/- Deviation from Linear Trend Line
IMPEDANCE	75 Ω Nominal
OTHER	
DIMENSIONS	8.25"H x 0.83"W x 4.1"D (20.96H x 2.1W x 10.4D cm)
WEIGHT	1.43 lbs (0.65 kg)
NOTE:	
* Unless otherwise stated by module specific table, and applies from Fmin to Fmax.	

Functional Schematic



Ordering Information

Example Part Number: N-MD <u>F</u> <u>3</u> <u>09</u> <u>R</u> <u>H</u> <u>1</u> <u>2</u> <u>3</u> <u>4</u> <u>5</u>	
1: Connector Type:	F = F B = BNC (not available in "H" versions)
2: Circuit Quantity:	3 = Triple Circuit
3: DC Value:	09 = 9 dB 12 = 12 dB 20 = 20 dB
4: Application Type:	R = Rear Tap Port
5: Frequency:	H = 1.218 GHz Blank = 1.002 GHz
Part Number	Description
1.218 GHz Directional Coupler Modules	
N-MDF309RH	F Connector, 1.218 GHz, Triple Circuit, 9 dB
N-MDF312RH	F Connector, 1.218 GHz, Triple Circuit, 12 dB
N-MDF320RH	F Connector, 1.218 GHz, Triple Circuit, 20 dB
1 GHz Directional Coupler Modules	
N-MDF309R	F Connector, 1 GHz, Triple Circuit, 9 dB
N-MDF312R	F Connector, 1 GHz, Triple Circuit, 12 dB
N-MDF320R	F Connector, 1 GHz, Triple Circuit, 20 dB
N-MDB309R	BNC Connector, 1 GHz, Triple Circuit, 9 dB
N-MDB312R	BNC Connector, 1 GHz, Triple Circuit, 12 dB
N-MDB320R	BNC Connector, 1 GHz, Triple Circuit, 20 dB

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