Features and Benefits

ANTRONIX®

1.2 GHz Directional Couplers
CMCDT 4100T/L Series

Antronix's 1.2 GHz directional couplers provide robust performance in the MoCA band and the industry leader in minimal insertion loss. They are designed to deliver optimal service in demanding drop network architectures, preventing high cable modem signals from affecting forward band transmission. The mounting tab on the housing makes for easy installation. The diecast housing and nickel alloy plating gives superior protection and durability. Every port is 6 kV ring wave protected and sealed to 15 psi to prevent water migration.

- **1.2 GHz Bandwidth performance**
- **6 kV Ring Wave Surge Protected**
  All ports are protected against multiple 6 kV ring wave surges per IEEE specification C62.41 Category A3.
- **Excellent Distortion Performance**
  Proprietary ferrite blend inhibits re-magnetization of the core due to voltage spikes from impulse noise or lightning. The ferrite remains ultra-linear to prevent intermodulation where high level return carriers can affect forward path video signals.
- **Digital Broadcast and HDTV Ready**
  Compatible with existing and future networks such as VoIP and DOCSIS 3.0.
- **1.2 GHz Bandwidth with Minimal Insertion Loss**
  Supports present and future multimedia applications including voice, video and data.
- **Capacitively Coupled F-ports**
  Protects against core re-magnetization and saturation while blocking AC surges.
- **Zinc Alloy Diecast Housing and Backplate w/Proprietary Nickel Alloy Plating**
  Superior corrosion resistant plating combined with a diecast backplate protects the back of the housing where corrosion is more prominent.
- **100% Soldered Back**
  Ensures reliable and repeatable 120 dB RFI shielding.
- **Flat 15 psi Sealed, SCTE Compliant F-ports**
  Prevents water migration, while meeting SCTE standards.
- **UV Resistant Label**
- **Integrated Mounting Tabs**
  The T-type housing incorporates the mounting tab.
- **75Ω Nominal Impedence**

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Electrical Specifications

Model #	CMCDT	4106T/L		4109T/L		4112T/L		4116T/L	
Tap Value	(dB)								
	Freq (MHz)	**Max**	**Typ**	**Max**	**Typ**	**Max**	**Typ**	**Max**	**Typ**
Tap Loss Tolerance (+/-dB)	5-15	6.0 +/- 1.8	6.0 +/- 1.6	9.0 +/- 1.0	9.0 +/- 0.8	12.0 +/- 1.0	12.0 +/- 0.8	16.0 +/- 1.0	16.0 +/- 0.8
	15-40	6.0 +/- 1.0	6.0 +/- 0.8	9.0 +/- 1.0	9.0 +/- 0.8	12.0 +/- 1.0	12.0 +/- 0.8	16.0 +/- 1.0	16.0 +/- 0.8
	40-550	6.0 +/- 1.2	6.0 +/- 1.0	9.0 +/- 1.0	9.0 +/- 0.8	12.0 +/- 1.0	12.0 +/- 0.8	16.0 +/- 1.0	16.0 +/- 0.8
	550-750	6.0 +/- 1.5	6.0 +/- 1.3	9.0 +/- 1.0	9.0 +/- 0.8	12.0 +/- 1.0	12.0 +/- 0.8	16.0 +/- 1.0	16.0 +/- 0.8
	750-1002	6.0 +/- 1.8	6.0 +/- 1.6	9.0 +/- 1.5	9.0 +/- 1.3	12.0 +/- 1.5	12.0 +/- 1.3	16.0 +/- 1.5	16.0 +/- 1.3
	1002-1218	6.5 +/- 1.8	6.5 +/- 1.6	9.5 +/- 1.8	9.5 +/- 1.6	12.5 +/- 1.8	12.5 +/- 1.6	16.5 +/- 1.8	16.5 +/- 1.6
Insertion Loss Max (dB)	5-15	2.8	2.6	1.6	1.4	1.2	1.0	1.0	0.8
	15-40	2.6	2.4	1.6	1.4	1.0	0.8	0.8	0.6
	40-550	2.6	2.4	1.7	1.5	1.2	1.0	0.8	0.6
	550-750	3.0	2.8	2.0	1.8	1.4	1.2	1.0	0.8
	750-1002	3.4	3.2	2.3	2.1	1.7	1.5	1.3	1.1
	1002-1218	3.7	3.5	3.0	2.5	2.3	1.8	2.0	1.5
Isolation Min (dB)	5-15	25	27	25	27	25	27	30	32
	15-40	30	35	30	35	30	37	30	32
	40-550	24	27	25	27	26	28	26	28
	550-750	22	24	22	24	24	26	24	26
	750-1002	20	22	20	22	22	24	22	24
	1002-1218	20	22	20	22	20	22	20	22
Return Loss Input Min (dB)	5-15	20	22	20	22	20	22	20	22
	15-40	20	22	20	22	20	22	20	22
	40-550	18	20	18	20	18	20	18	18
	550-750	18	20	18	20	18	20	18	18
	750-1002	18	20	18	20	18	20	18	18
	1002-1218	18	20	18	20	18	20	18	18
Return Loss Output Min (dB)	5-15	20	22	20	22	20	22	20	22
	15-40	20	22	20	22	20	22	20	22
	40-550	18	20	18	20	18	20	18	20
	550-750	18	20	18	20	18	20	18	20
	750-1002	18	20	18	20	18	20	18	20
	1002-1218	18	20	18	20	18	20	18	20
Tap Return Loss Min (dB)	5-15	20	22	20	22	20	22	20	22
	15-40	20	22	20	22	20	22	20	22
	40-550	18	20	18	20	18	20	18	20
	550-750	18	20	18	20	18	20	18	20
	750-1002	18	20	18	20	18	20	18	20
	1002-1218	18	20	18	20	18	20	18	20
RFI (min)	5 - 1002	120 dB							
	1002-1218	110 dB							

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Electrical Specifications

Model #	CMCDT	4120T/L		4124T/L		4127T/L	
Tap Value	(dB)						
	Freq (MHz)	Max	Typ	Max	Typ	Max	Typ
Tap Loss Tolerance (+/-dB)	5-15	20.0 +/- 1.0	20.0 +/- 0.8	24.0 +/- 1.0	24.0 +/- 0.8	27.0 +/- 1.0	27.0 +/- 0.8
	15-40	20.0 +/- 1.0	20.0 +/- 0.8	24.0 +/- 1.0	24.0 +/- 0.8	27.0 +/- 1.0	27.0 +/- 0.8
	40-550	20.0 +/- 1.0	20.0 +/- 0.8	24.0 +/- 1.0	24.0 +/- 0.8	27.0 +/- 1.0	27.0 +/- 0.8
	550-750	20.0 +/- 1.0	20.0 +/- 0.8	24.0 +/- 1.0	24.0 +/- 0.8	27.0 +/- 1.0	27.0 +/- 0.8
	750-1002	20.0 +/- 1.5	20.0 +/- 1.3	24.0 +/- 1.5	24.0 +/- 1.3	27.0 +/- 1.5	27.0 +/- 1.3
	1002-1218	20.5 +/- 1.8	20.5 +/- 1.6	24.5 +/- 1.8	24.5 +/- 1.6	27.5 +/- 1.8	27.5 +/- 1.6
Insertion Loss Max (dB)	5-15	1.0	0.8	1.0	0.8	1.0	0.8
	15-40	0.8	0.6	0.8	0.6	0.8	0.6
	40-550	0.8	0.6	0.8	0.6	0.8	0.6
	550-750	1.2	1.0	1.2	1.0	1.2	1.0
	750-1002	1.6	1.4	1.6	1.4	1.6	1.4
	1002-1218	2.0	1.6	2.0	1.6	2.0	1.6
Isolation Min (dB)	5-15	30	32	33	35	33	35
	15-40	30	32	33	35	33	35
	40-550	26	28	28	30	28	30
	550-750	24	26	26	28	26	28
	750-1002	22	24	24	26	24	26
	1002-1218	20	22	22	24	22	24
Return Loss Input Min (dB)	5-15	20	22	20	22	20	22
	15-40	20	22	20	22	20	22
	40-550	18	18	18	18	18	18
	550-750	18	18	18	18	18	18
	750-1002	18	18	18	18	18	18
	1002-1218	18	18	18	18	18	18
Return Loss Output Min (dB)	5-15	20	22	20	22	20	22
	15-40	20	22	20	22	20	22
	40-550	18	20	18	20	18	20
	550-750	18	20	18	20	18	20
	750-1002	18	20	18	20	18	20
	1002-1218	18	20	18	20	18	20
Tap Return Loss Min (dB)	5-15	20	22	20	22	20	22
	15-40	20	22	20	22	20	22
	40-550	18	20	18	20	18	20
	550-750	18	20	18	20	18	20
	750-1002	18	20	18	20	18	20
	1002-1218	18	20	18	20	18	20
RFI (min)	5 - 1002	120 dB					
	1002-1218	110 dB					

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Specifications
CMCDT 4100T/L Series

General	
Nominal Impedance	75 Ω
F-connector Type	ANSI/SCTE 01 Compliant ECT F-port
Recommended Torque	30 in-lbs.
Surge Withstand	6 kV Ring Wave Surge per IEEE C62.41 Category A3
Second Harmonic	-45 dBmV after 6 kV Ring Wave Surge with a +55 dBmV Return Input Carrier
Environmental	
Pressure Seal	15 psi
Operating Temperature	-40 °C to 60 °C
Corrosion Resistance	Exceeds ANSI/SCTE 143 Specification for 1000 Hours

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