CMC2003HF-3 Splitter

3 Port Splitter with 5-13 MHz Window Filter

Overview

Reliability, quality and performance define the Antronix CMC2003HF-3 splitter. This splitter has been specially designed with a 5-13 MHz window filter on two TV ports to attenuate potential interference sources in the 16-40 MHz return band. The pass-thru Data port provides a full 5-1002 MHz bandwidth and is intended for cable modem services. Low intermodulation distortion and 60 dB port-to-port return band isolation prevent high power return signals from distorting neighboring port signals. Capacitively coupled F-ports block AC surges and prevent hum modulation.

Our CMC2003HF-3 splitter can withstand 6kV ring wave surges, while our proprietary ferrites remain ultra-linear following several surges. To ensure years of reliable performance, Antronix's splitters are encased in a Zinc Alloy diecast housing with Nickel Alloy plating. The splitter ports are sealed to 15 psi and SCTE compliant. The CMC2003HF-3 splitters employ high "Q" surface mount technology (SMT) components, guaranteeing consistent performance over time and temperature.

Features/Benefits:

- **3 Port Splitter with 5-13 MHz Window Filter**
  Ensures return band interference suppression on the two TV ports and clear modem signals on the Data port.
- **60 dB Data port to TV port return band isolation (16-40 MHz)**
  Prevents high level return band signals from distorting neighboring port signals.
- **6 kV ring wave surge protected**
  Protected against multiple 6kV ring wave surges per IEEE specification C62.41 Category A3.
- **-45 dBmV spurious and harmonics after 5 surges of 6 kV ring wave with a +55 dBmV return signal**
  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.
- **Data Port - Flat 1 GHz bandwidth with minimal insertion loss**
  Supports highly reliable modem performance & communications.
- **Eclipse Contact Technology (ECT) F-port**
  Provides 400% more contact surface area for lower contact resistance and higher reliability
- **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 repeatable 120 dB RFI shielding
- **Flat 15 psi sealed, SCTE compliant F-ports**
  Prevents water migration in to the splitter and ensures an excellent ground connection
- **UV resistant label**
- **Integrated mounting tabs and heavy duty ground block for years of reliable service**

Electrical Specifications – Horizontal Splitters

Model Number CMC2003HF-3

Specification	Freq (MHz)	Max/Min	Typ
Insertion Loss			
In-TV	5 – 13	9.8	9.5
Maximum	16 – 40	38	40
(dB)	54 – 550	9.0	8.5
	550 – 750	9.0	8.5
	750 – 1002	11.0	10.0
Insertion Loss			
In-Data	5 – 13	3.8	3.3
Maximum	16 – 40	3.7	3.1
(dB)	54 – 550	3.8	3.5
	550 – 750	4.1	3.8
	750 – 1002	4.6	4.0
Isolation			
Data-TV	5 – 13	25	28
Minimum	16 – 40	60	62
(dB)	54 – 550	25	28
	550 – 750	22	25
	750 – 1002	22	25
Isolation			
TV1-TV2	5 – 13	22	25
Minimum	54 – 550	22	25
(dB)	550 – 750	22	25
	750 – 1002	22	25
Return Loss			
In/TV	5 – 10	18	22
Minimum	10 – 13	15	18
(dB)	54 – 550	18	22
	550 – 750	18	22
	750 – 1002	18	22
Return Loss			
Data	5 – 13	25	30
Minimum	16 – 40	25	30
(dB)	54 – 550	20	22
	550 – 750	20	22
	750 – 1002	18	20
RFI Isolation			
dB (min)	5 – 1002		130dB

Specifications subject to change without notice.

General Specifications

Nominal Impedance	75Ω
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 five 6 kV ring wave surge with a +55 dBmV return input carrier

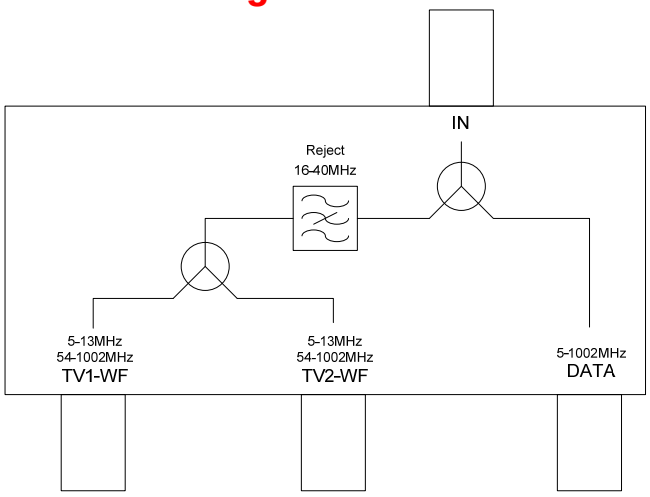
Environmental Specifications

Pressure Seal	15 psi
Operating Temperature	-40 °C to 60 °C
Corrosion Resistance	Exceeds ANSI/SCTE 143 specifications for 1000 hours

Physical Dimensions

Dimensions (Tol. ±0.5mm)	Length in (mm)	Width in (mm)	Depth in (mm)
Model			
CMC2003HF-3	1.9 (48.0)	3.4 (86.4)	0.6 (17.0)

Block Diagram



Contact Information

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