

Bias Tees



Products:

- DEV 8122/2/50** - Multi Channel Bias Tee, 2 Channels, 50 Ohm
- DEV 8122/2/75** - Multi Channel Bias Tee, 2 Channels, 75 Ohm
- DEV 8122/4/50** - Multi Channel Bias Tee, 4 Channels, 50 Ohm
- DEV 8122/4/75** - Multi Channel Bias Tee, 4 Channels, 75 Ohm

- DEV 8123/2/50** - Controlled Bias Tee, 2 Channels, 50 Ohm
- DEV 8123/2/75** - Controlled Bias Tee, 2 Channels, 75 Ohm
- DEV 8123/4/50** - Controlled Bias Tee, 4 Channels, 50 Ohm
- DEV 8123/4/75** - Controlled Bias Tee, 4 Channels, 75 Ohm

Features:

- LNB Bias Current Monitoring with Adjustment of Current Thresholds via RS 232 (DEV 8123)
- L-Band (DEV 8122) – Basic Performance
L-Band (DEV 8123) – Top Performance
- Two and Four Channel Versions available
- 50 Ohm Versions with SMA Connectors or
75 Ohm Versions with Precision F Connectors
- Redundant Power Supplies with Status Alarm Output
- Space Requirement 1 RU only

Application Areas:

- Satellite Ground Stations
- Cable Head End Stations

*Front DEV 8123/4/zz**Rear DEV 8123/4/75*

The Situation

In modern satellite ground stations the bias current for LNBS has to be provided by special power supplies. Frequently, these power supplies are required to monitor the current supplied to the LNBS. And usually, almost no space is left for these power supplies in the racks on site.

DEV worked out a Solution

DEV Systemtechnik developed a series of multi channel bias tees for the professional use which cover all requirements. The 1 RU instruments are designed for the frequency range of the L-Band and can feed either two or four LNB channels. Convenient bias current monitoring capability is offered with the application of the DEV 8123.

The Technical Concept

Each of the bias units of the two or four channel instrument consists of a bias tee combined with a hybrid passive divider. The incoming RF-signal is split and thus available at two output ports. These two ports are isolated to a high degree from each other. All output ports are DC blocked against any other port.

The L-Band bias tee DEV 8122 offers two identical output ports per channel; the L-Band bias tee DEV 8123 provides two output ports per channel as well, but the primary output is designed as a low-loss output port.

Additionally, the DEV 8123 comprises bias current monitoring via LED and via alarm connector; the lower and the upper current threshold of each channel can be easily adjusted using a standard terminal application via the serial interface at the front side of the instrument.

Technical Data

DEV 8122/c/zz Multi Channel Bias Tees DEV 8123/c/zz Controlled Bias Tees

RF Specifications

Frequency range	950...2150 MHz	
Number of channels (c)	2	(DEV 8122/2/zz, DEV 8123/2/zz)
	4	(DEV 8122/4/zz, DEV 8123/4/zz)
Number of outputs per channel	2 (DC blocked)	
Impedance, connectors (zz)	50 Ohm, SMA (f)	(DEV 8122/c/50, DEV 8123/c/50)
	75 Ohm, Precision F (f)	(DEV 8122/c/75, DEV 8123/c/75)
Damage level	+30 dBm	
Return loss	>14 dB	
Insertion loss	<4 dB	(DEV 8123/c/zz: inputs vs. primary outputs)
	<5 dB	(DEV 8122/c/zz, DEV 8123/c/zz: inputs vs. secondary outputs)
Frequency response	±1,0 dB	(over entire band)
	±0.3 dB	(within any 36 MHz segment)
Isolation between output ports	>20 dB	

Bias

Bias	15+3/-0 V; max. 500 mA per channel
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Bias Current Monitoring (DEV 8123/c/zz)

Alarm thresholds adjustment	Lower and upper alarm threshold level for each channel is adjustable using a standard terminal application via the RS 232 interface (Sub-D 9 (f) connector) at the front side of the instrument.
Alarm signalization	Via LEDs and via potential free contacts at the Alarm connector

Redundant Power Supply

Redundant power supplies	100...240 V AC supplied by two different lines
Power consumption	10 VA (plus bias)

Potential Free Contacts

Alarm connector	Sub-D-9 (m)
Contact load	60 V; 300 mA

Two Stage Alarm Signalization for Power Line Failure:

B-Alarm	One power supply unit does not deliver any secondary power.
A-Alarm	All power supply units do not deliver any secondary power.

General Specifications

Housing	19" (490 mm), 1 RU (45 mm), 260 mm depth
Weight	~5 kg
Environmental conditions	ETS 300019 Part 1-3 Class 3.1

Order Information

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DEV 8123/4/50	Controlled Bias Tee, 4 Channels, 50 Ohm
DEV 8123/4/75	Controlled Bias Tee, 4 Channels, 75 Ohm

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Rev. 02-AUG-2011