

Multi Channel Bias Tee



Products:

- DEV 8122/2/50** - L-Band Bias Tee, 2 Channels, 50 Ohm
- DEV 8122/4/50** - L-Band Bias Tee, 4 Channels, 50 Ohm
- DEV 8122/2/75** - L-Band Bias Tee, 2 Channels, 75 Ohm
- DEV 8122/4/75** - L-Band Bias Tee, 4 Channels, 75 Ohm

Features:

- /// Frequency Range 950...2150 MHz
- /// Versions in 50 Ohm with SMA Connectors or in 75 Ohm with Precision F Connectors
- /// Two and Four Channel Versions available
- /// Redundant Power Supplies with Status Alarm Output
- /// (Optional) LNB Bias Current Monitoring
- /// Space Requirement 1 RU only

Application Areas:

- /// Satellite Ground Stations
- /// Cable Head End Stations

DEV 8122

dev



Front DEV 8122/4/zz



Rear DEV 8122/4/75

The Situation

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

DEV worked out a Solution

DEV Systemtechnik developed a multi channel bias tee for the professional use which covers all requirements. The instrument can feed two or four LNBS and monitors the bias current of each LNB individually. It requires only 1 RU rack space.

The multi channel bias tee can be applied in ground stations, where controlled bias supply through additional equipment is needed and existing equipment e.g. L-Band splitters can not be used.

The Technical Concept

The unit 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 bias tee is available in four versions:

DEV 8122/2/50: 2 channels 50 Ohm

DEV 8122/4/50: 4 channels 50 Ohm

DEV 8122/2/75: 2 channels 75 Ohm

DEV 8122/4/75: 4 channels 75 Ohm

Customised solutions are available on request.

Technical Data

DEV 8122/2/50 / DEV 8122/4/50 / DEV 8122/2/75 / DEV 8122/4/75 L-Band Bias Tees

RF Specifications

Frequency range	950...2150 MHz	
Number of channels	2	(DEV 8122/2/50, DEV 8122/2/75)
	4	(DEV 8122/4/50, DEV 8122/4/75)
Number of outputs per channel	2 (DC blocked)	
Impedance, connectors	50 Ohm, SMA (f)	(DEV 8122/2/50, DEV 8122/4/50)
	75 Ohm, Precision F (f)	(DEV 8122/2/75, DEV 8122/4/75)
Damage level	+30 dBm	
Return loss	>14 dB	
Insertion loss	<5 dB (including 1:2 division)	
Frequency response	±1;0 dB	(950...2150 MHz)
	±0,3 dB	(within any 36 MHz segment)
Isolation between output ports	>20 dB	

Bias

Bias	15+3/-0 V; max. 0,5 A per channel, total max. 1,2 A
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Alarms

Two stage alarm signalisation	Potential free contacts
Alarm connector	Sub-D 9 (m)
Contact load	60 V; 0,3 A
B-Alarm	One power supply unit does not deliver any secondary power.
A-Alarm	Both power supply units do not deliver any secondary power.

Bias Current Monitoring (Option 33)

Alarm signalisation	Potential free contacts
Alarm connector	Sub-D 15 (m)
Contact load	60 V; 0,3 A
DEV factory settings	
Lower alarm threshold	100 mA
Upper alarm threshold	350 mA

Redundant Power Supply

Redundant power supplies	100...260 V AC supplied by two different lines
Power consumption	10 VA (plus bias)

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
Temperature range	-20...+60 °C

Order Information

DEV 8122/2/50	L-Band Bias Tee, 2 Channels, 50 Ohm
DEV 8122/4/50	L-Band Bias Tee, 4 Channels, 50 Ohm
DEV 8122/2/75	L-Band Bias Tee, 2 Channels, 75 Ohm
DEV 8122/4/75	L-Band Bias Tee, 4 Channels, 75 Ohm
Option 33	Bias Current Monitoring

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