

Signal Distribution with Perfection



Products:

- DEV 2182/zz** - 1:8 L-Band Distribution Amplifier
- DEV 2183/zz** - 2 * 1:8 L-Band Distribution Amplifier
- DEV 2185/zz** - 1:16 L-Band Distribution Amplifier

Features:

- Series of Distribution Amplifiers for the Frequency Range 950...2150 MHz
- 50 Ohm, 75 Ohm, 50-75 Ohm and 75-50 Ohm Versions available
- Monitoring Output at the Front Panel
- LNB Bias Current Supply
- RF Sensing with Adjustable Threshold and Alarm Output
- Dual Redundant Power Supplies with Status Alarm Output
- Optional Bias Current Monitoring with Alarm Output
- Optional DC Supply Voltage

Application Areas:

- Satellite Ground Stations
- Cable Head End Stations
- DAB-T with Satellite Input
- SNG Trucks

DEV 2182 / DEV 2183 / DEV 2185**dev***Front DEV 2182/zz**Rear DEV 2182/50***The Situation**

In modern head ends for CATV the incoming signal is to be divided so that all receivers used in parallel get the same satellite signal. For passive division above 1:8, the signal level gets very low i.e. amplification is necessary.

DEV worked out a Solution

DEV Systemtechnik developed an L-Band distribution amplifier series for the professional use. The amplifier unit realises a division of one input signal in up to 16 equal output signals without insertion loss and with a very good frequency response.

The RF Sensing functionality of the amplifier unit permits monitoring of the RF level at the input of the instrument.

An integrated Bias Tee at the input of the amplifier unit is capable to supply power to an LNB.

Optional the bias current can be monitored.

The Technical Concept

The base of the technical concept is the utilisation of an amplifier with hybrid splitters (Wilkinson splitters). The result is a very good VSWR of the inputs and outputs. The outputs are almost completely isolated from each other.

The frequency response of the splitter is optimised for a TV transponder channel of 36 MHz.

The L-Band Distribution Amplifier is available as 1:8 splitter in two versions – either as single channel or as dual channel version. For more signals per channel, a 1:16 splitter is available in addition. All three versions are delivered in 1 RU housings with dual redundant AC power supplies. Optional, dual redundant $\pm 36 \dots 60$ V DC power supplies are available.

Special requirements are realised on request.

Technical Data

DEV 2182/zz / DEV 2183/zz / DEV 2185/zz L-Band Distribution Amplifiers

RF Specifications

Frequency range	950...2150 MHz	
Number of inputs	1	(DEV 2182/zz, DEV 2185/zz)
	2	(DEV 2183/zz)
Number of outputs	8	(DEV 2182/zz)
	2 * 8	(DEV 2183/zz)
	16	(DEV 2185/zz)
Impedance, connectors	50 Ohm, SMA (f)	(for 50 Ohm inputs/outputs)
	75 Ohm, Precision F (f)	(for 75 Ohm inputs/outputs)
Damage level	+10 dBm	
Nominal input level	-10 dBm	
Return loss	>14 dB	
Insertion loss	0±3 dB	
Frequency response	±1,0 dB	(950...2150 MHz)
	±0,3 dB	(within any 36 MHz interval)
Isolation between output ports	>25 dB	
Intermodulation distortion	<-40 dBc	(two tones @ -13 dBm)
Group delay	<5 ns	
Noise figure	<10 dB	
Bias	15+3/-0 V, max. 0,5 A per input	

Monitoring Port

Impedance, connector	50 Ohm, SMA (f)	
Return loss	>18 dB	
Frequency response	= input level ±1,0 dB	(950...2150 MHz)

RF-Sensing

Adjustable threshold level	-15 dBm > threshold level >-45 dBm
DEV factory setting	-30 dBm
Separate alarm output	Potential free contacts
Contact load	60 V; 0,3 A

Alarms

Two stage alarm signalisation for power line failure	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.

Technical Data (cont.)

Redundant Power Supply

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

General Specifications

Housing	19" (483 mm), 1 RU (44 mm), 260 mm depth
Weight	~8 kg
Environmental conditions	ETS 300019 Part 1-3 Class 3.1

Option 14+ / Option 14-:

Supply Voltage $\pm 36...60$ V DC

Supply voltage	+36...+60 V DC supplied by two different lines (Option 14+) or -36...-60 V DC supplied by two different lines (Option 14-)
Power consumption	10 VA plus bias

Option 33:

Bias Current Monitoring

DEV factory settings:	
• Upper alarm level	350 mA
• Lower alarm level	150 mA (other values are possible)
Separate alarm outputs	Potential free contacts
Contact load	60 V; 0,3 A

Order Information

DEV 2182/50	1:8	L-Band Distribution Amplifier, 50 Ohm Input and Outputs
DEV 2182/75	1:8	L-Band Distribution Amplifier, 75 Ohm Input and Outputs
DEV 2182/50-75	1:8	L-Band Distribution Amplifier, 50 Ohm Input, 75 Ohm Outputs
DEV 2182/75-50	1:8	L-Band Distribution Amplifier, 75 Ohm Input, 50 Ohm Outputs
DEV 2183/50	2 * 1:8	L-Band Distribution Amplifier, 50 Ohm Inputs and Outputs
DEV 2183/75	2 * 1:8	L-Band Distribution Amplifier, 75 Ohm Inputs and Outputs
DEV 2183/50-75	2 * 1:8	L-Band Distribution Amplifier, 50 Ohm Inputs, 75 Ohm Outputs
DEV 2183/75-50	2 * 1:8	L-Band Distribution Amplifier, 75 Ohm Inputs, 50 Ohm Outputs
DEV 2185/50	1:16	L-Band Distribution Amplifier, 50 Ohm Input and Outputs
DEV 2185/75	1:16	L-Band Distribution Amplifier, 75 Ohm Input and Outputs
DEV 2185/50-75	1:16	L-Band Distribution Amplifier, 50 Ohm Input, 75 Ohm Outputs
DEV 2185/75-50	1:16	L-Band Distribution Amplifier, 75 Ohm Input, 50 Ohm Outputs
Option 14+		Supply Voltage +36...+60 V DC
Option 14-		Supply Voltage -36...-60 V DC
Option 33		Bias Current Monitoring

Contact

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