## L-Band Distributing Matrix $\mathbf{8}^{\mathbf{2}}$



The final product may vary from the above image depending on the options selected.

## Product

DEV $19828 \times 8$ Distributing Matrix $8^{2} ; 950 . . .2150 \mathrm{MHz} ; 75 \mathrm{Ohm}, \mathrm{F}$ (f)

## Features

- $8 \times 8$ in 1 RU
- Various Input and Output Modules
- 75 Ohm, F (f) or BNC (f), or 50 Ohm, SMA (f)
- Optical Inputs
- Variable Gain (MGC or AGC)
- Variable Slope
- RF Sensing
- Extra switchable Output Port for Monitoring
- LNB Powering, switchable 13/18 V and 22 kHz Tone
- Graphical Local User Interface
- Input Channel Redundancy
- Power Supply Redundancy
- Secure Lock Operation
- SNMP Support
- Easy to use DEV Web Interface
- Signal Recording and Data Backup Feature


## Technical Data

## DEV 1982 Distributing Matrix $\mathbf{8}^{\mathbf{2}}$

## Capacity

Number of Inputs x Outputs $8 \times 8$
RF Specifications
Frequency Range
Impedance, Connectors
Damage Level
Operational Input Level
Return Loss
Variable Gain
Flatness

Isolation

Intermodulation Distortion
Group Delay Distortion
Noise Figure
OP1dB
Relay Type
Monitoring Port
Impedance, Connector
Return Loss
Local Operation
Display
Controls
Remote Communication
Interface (Connector)
Remote Control \& Surveillance
(Interface)
Redundant Power Supply
Supply Voltage
Power Consumption

## General Specifications

Size
Weight
Environmental Conditions
$950 . . .2150 \mathrm{MHz}$
75 Ohm, precision F (f)
$+25 \mathrm{dBm}$
$<-5 \mathrm{dBm}$
$>14 \mathrm{~dB}$
$-20 . . .+30 \mathrm{~dB}$
$\pm 3.0 \mathrm{~dB}$ (over entire Band)
$\pm 0.4 \mathrm{~dB}$ (in any 36 MHz Interval)
Input/Input, Output/Output: typ. 60 dB
Input/Output (Crosstalk): typ. 60 dB
Off: typ. 80 dB
$<-40 \mathrm{dBc}$ (two Tones @ -8 dBm)
$<2 \mathrm{~ns}$ (in any 36 MHz Interval)
$<14$ dB
0 dBm
Semiconductor

50 Ohm, SMA (f)
$>14 \mathrm{~dB}$
2.2" Full Color (18 Bits)

Rotary Switch

Ethernet (RJ-45)

- via Web Interface (Ethernet)
- via SNMP (Ethernet)
100... 240 V AC supplied by two different Lines

Max. 100 VA

19" (483 mm) Width, 1 RU (44 mm) Height, ~300 mm Depth
$\sim_{6} \mathrm{~kg}$
ETS 300019 Part 1-3 Class 3.1E

## Option $201 \quad$ Change 4 Input Channels to 50 Ohm, SMA (f) <br> Option 20B Change 4 Input Channels to 50 Ohm, SMA (f) with LNB Powering <br> Option $200 \quad$ Change 4 Output Channels to 50 Ohm, SMA (f)

Per Option 201 (Option 200), one input (output) module with four channels is equipped with 50 Ohm, SMA (f) connectors instead of $75 \mathrm{Ohm}, \mathrm{F}$ (f) connectors.
With Option 20B the four input channels are capable to deliver LNB power in addition:
LNB Power \& Current Monitoring

LNB Power
Voltage and Tone Control
Adjustable Level Setting:
$\begin{array}{ll}\text { - Upper Alarm Level } & \text { - max. } 330 \mathrm{~mA} \\ \text { - Lower Alarm Level } & \text { - min. } 50 \mathrm{~mA}\end{array}$
max. 350 mA per Input
$13 \mathrm{~V}, 18 \mathrm{~V}$ and $0 \mathrm{~Hz}, 22 \mathrm{kHz}$

## Technical Data (cont.)

## Option 21 Change 4 Input Channels to 75 Ohm, BNC (f) <br> Option 21B Change 4 Input Channels to 75 Ohm, BNC (f) with LNB Powering <br> Option $210 \quad$ Change 4 Output Channels to 75 Ohm, BNC (f)

Per Option 211 (Option 210), one input (output) module with four channels is equipped with 75 Ohm, BNC (f) connectors instead of $75 \mathrm{Ohm}, \mathrm{F}$ (f) connectors.
With Option 21B the four input channels are capable to deliver LNB power, in addition:
LNB Power \& Current Monitoring

LNB Power
Voltage and Tone Control Adjustable Level Setting:

- Upper Alarm Level
- Lower Alarm Level
max. 350 mA per Input
$13 \mathrm{~V}, 18 \mathrm{~V}$ and $0 \mathrm{~Hz}, 22 \mathrm{kHz}$
- max. 330 mA
- min. 50 mA

Option 22I Change 4 Input Channels to Optical providing LC/APC
Option 22IHP Change 4 Input Channels to Optical providing LC/APC (High Input Power)
Option $241 \quad$ Change 4 Input Channels to Optical providing SC/APC
Option 24IHP Change 4 Input Channels to Optical providing SC/APC (High Input Power)
Per Option 221 (24I), one input module with four channels is equipped with optical LC/APC (SC/APC) connectors instead of 75 Ohm, F (f) RF connectors.
Furthermore, optical input modules are available that are capable to handle higher optical input levels, as provided by some optical LNBs. These high power optical input modules are to be ordered via Option 22IHP (with optical LC/APC connectors) and via Option 24IHP (with optical SC/APC connectors)

## Optical Specifications

| Fiber Type | Single Mode 9/125 $\mu \mathrm{m}$ |  |
| :---: | :---: | :---: |
| Connector Type | Option 221, Option 221HP: | LC/APC |
|  | Option 24I, Option 24IHP: | SC/APC |
| Wavelength | 1100... 1650 nm |  |
| Optical Input Level | Option 221, Option 241: | $-22 . . .0 \mathrm{dBm}$ |
|  | Option 22IHP, Option 24IHP: | -22... 3 dBm |
| Damage optical Input Level | +10 dBm |  |

## Option 23B Change 4 Input Channels to 75 Ohm, F (f) with LNB Powering

Per Option 23B, one input module with four channels with $75 \mathrm{Ohm}, \mathrm{F}$ (f) connectors is capable to deliver LNB power per input:
LNB Power \& Current Monitoring

LNB Power
Voltage and Tone Control Adjustable Level Setting:

- Upper Alarm Level
- Lower Alarm Level
- max. 330 mA
max. 350 mA per Input
$13 \mathrm{~V}, 18 \mathrm{~V}$ and $0 \mathrm{~Hz}, 22 \mathrm{kHz}$
- min. 50 mA


## Option $25 \quad$ Variable Slope (all Channels)

With Option 25 , the matrix provides slope control for all paths.
Variable Slope
$0 . . .8 \mathrm{~dB}$

## Technical Data (cont.)

## Option 38 Secure Lock Operation

With Option 38, the matrix provides the ability of Secure Lock Operation for multiple user operation. While each user can be configured to operate dedicated inputs and outputs, Secure Lock Operation allows user $X$ to lock a switched path while user $Y$ cannot unlock this path to prevent unwanted service interruptions. Admin user is able to overwrite any path locked by normal users.

## Option 48 Input Channel Redundancy

With Option 48, the matrix software provides the ability to configure redundant input channel configurations. Triggered via the integrated RF Sensing functionality an assigned redundancy channel can take over autonomously the signal transport of a main channel. The switching back to the main channel can be performed either manually or automatically.

## Option 854 Input Channels less <br> Option $86 \quad 4$ Output Channels less

With Option 85 or Option 86, the device is delivered with four input channels or with four output channels less. Thus, the standard configuration can be equipped with less input or output channels. This provides the flexibility to configure the device for the current requirements and to keep the option to upgrade the device to an application specific maximum size. The field upgrade can be performed by the customer by ordering the appropriate input module or output module.

Order Information

Product
DEV 1982

Options
Option 201
Option 20B
Option 200
Option 211
Option 21B
Option 210
Option 221
Option 22IHP
Option 23B
Option 24I
Option 24IHP
Option 25
Option 38
Option 48
Option 85
Option 86
Modules
DEV 13-0270
DEV 13-0281
DEV 13-0271
DEV 13-0268
DEV 13-0280
DEV 13-0269
DEV 13-0276
DEV 13-0242
DEV 13-0293
DEV 13-0253
DEV 13-0397
DEV 13-0384
DEV 13-0398

8x8 Distributing Matrix 8²; 950... $2150 \mathrm{MHz} ; 75$ Ohm, F (f)

Change 4 Input Channels to 50 Ohm, SMA (f)
Change 4 Input Channels to 50 Ohm, SMA (f) with LNB Powering
Change 4 Output Channels to 50 Ohm, SMA (f)
Change 4 Input Channels to 75 Ohm, BNC (f)
Change 4 Input Channels to 75 Ohm, BNC (f) with LNB Powering
Change 4 Output Channels to 75 Ohm, BNC (f)
Change 4 Input Channels to Optical providing LC/APC
Change 4 Input Channels to Optical providing LC/APC (High Input Power)
Change 4 Input Channels to 75 Ohm, F (f) with LNB Powering
Change 4 Input Channels to Optical providing SC/APC
Change 4 Input Channels to Optical providing SC/APC (High Input Power)
Variable Slope (all Channels)
Secure Lock Operation
Input Channel Redundancy
4 Input Channels less
4 Output Channels less
(Input Modules and Output Modules for Upgrade or as Spare Part)
Input Module, 4 Paths; $950 . .2150 \mathrm{MHz} ; 50 \mathrm{Ohm}$, SMA (f)
Input Module incl. LNB Powering, 4 Paths; $950 . .2150 \mathrm{MHz} ; 50 \mathrm{Ohm}$ SMA (f)
Output Module, 4 Paths; $950 . .2150 \mathrm{MHz} ; 50$ Ohm, SMA (f)
Input Module, 4 Paths; $950 . .2150 \mathrm{MHz} ; 75$ Ohm, BNC (f)
Input Module incl. LNB Powering, 4 Paths; $950 . .2150 \mathrm{MHz} ; 75$ Ohm, BNC (f)
Output Module, 4 Paths; $950 . .2150 \mathrm{MHz} ; 75$ Ohm, BNC (f)
Input Module, 4 Paths; 950.. 2150 MHz ; 75 Ohm, F (f)
Input Module incl. LNB Powering, 4 Paths; $950 . .2150 \mathrm{MHz} ; 75$ Ohm, F (f)
Output Module, 4 Paths; $950 . .2150 \mathrm{MHz} ; 75$ Ohm, F (f)
Optical Input Module, 4 Paths; LC/APC
Optical Input Module, 4 Paths; High Input Power; LC/APC
Optical Input Module, 4 Paths; SC/APC
Optical Input Module, 4 Paths; High Input Power; SC/APC

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