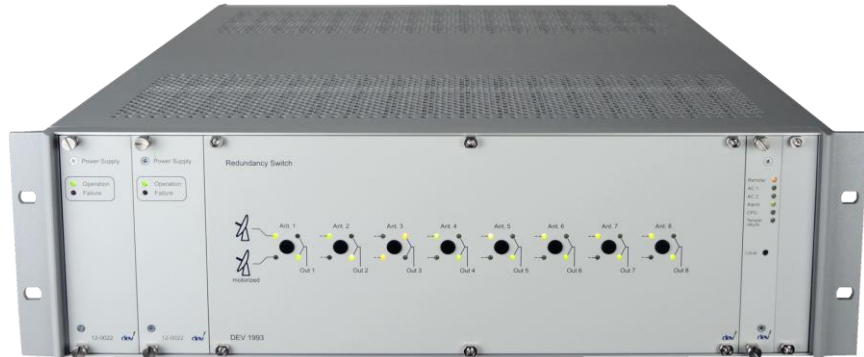


## L-Band Redundancy Switches



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

### Products:

**DEV 1993/50/m\*n+1** m\*n+1 Redundancy Switch; 950...2150 MHz;  
50 Ohm, SMA (f)

**DEV 1993/75/m\*n+1** m\*n+1 Redundancy Switch; 700...2300 MHz;  
75 Ohm, F (f)

### Features:

- Automatic Antenna Redundancy System with **m** (1, 2, or 4) of Redundancy Units to be switched in parallel  
A Redundancy Unit consists of one Redundancy Channel and of **n** Main Channels (4, 6, 8, 10, 12, 14, or 16).
- Impedance 50 Ohm, SMA (f) or 75 Ohm, F (f)
- Automatic Switching via RF Sensing
- Convenient Setup and Remote Control of a Motorized Antenna
- Dual Band Redundancy for Motorized Antennas with Dual Band Feedhorns for C-Band and Ku-Band
- SNMP Support
- DEV Web Interface
- Signal Recording and Data Backup Feature
- Power Supply Redundancy

## Technical Data

### DEV 1993/zz/m\*n+1 Redundancy Switches

- "zz" specifies the impedance and can be "50" or "75".
- "m" indicates the number of Redundancy Units and can be "1", "2", or "4".
- "n" is the number of Main Channels per Redundancy Unit and can be "4", "6", "8", "10", "12", "14", or "16".

#### Capacity

Redundancy Units (m)	1, 2, or 4
Main Channels (n)	4, 6, 8, 10, 12, 14, or 16

#### RF Specifications

Frequency Range	DEV 1993/50/m*n+1: DC, 700...2450 MHz DEV 1993/75/m*n+1: DC, 700...2300 MHz												
Impedance (zz), Connectors	DEV 1993/50/m*n+1: 50 Ohm, SMA (f) DEV 1993/75/m*n+1: 75 Ohm, precision F (f)												
Return Loss	>14 dB (Main Path In) >18 dB (Main Path Out) >12 dB (Redundancy Path)												
Insertion Loss	<ul style="list-style-type: none"> <li>• DEV 1993/50/m*n+1:           <table> <tr> <td>Main Path</td> <td>&lt;2.0 dB</td> </tr> <tr> <td>Redundancy Path (for n = 4)</td> <td>&lt;5.0 dB</td> </tr> <tr> <td>Redundancy Path (for n &gt; 4)</td> <td>&lt;6.0 dB</td> </tr> </table> </li> <li>• DEV 1993/75/m*n+1:           <table> <tr> <td>Main Path</td> <td>&lt;2.5 dB</td> </tr> <tr> <td>Redundancy Path (for n = 4)</td> <td>&lt;6.0 dB</td> </tr> <tr> <td>Redundancy Path (for n &gt; 4)</td> <td>&lt;7.0 dB</td> </tr> </table> </li> </ul>	Main Path	<2.0 dB	Redundancy Path (for n = 4)	<5.0 dB	Redundancy Path (for n > 4)	<6.0 dB	Main Path	<2.5 dB	Redundancy Path (for n = 4)	<6.0 dB	Redundancy Path (for n > 4)	<7.0 dB
Main Path	<2.0 dB												
Redundancy Path (for n = 4)	<5.0 dB												
Redundancy Path (for n > 4)	<6.0 dB												
Main Path	<2.5 dB												
Redundancy Path (for n = 4)	<6.0 dB												
Redundancy Path (for n > 4)	<7.0 dB												
Isolation between Input Ports	>60 dB												
Group Delay Distortion	<7 ns												
Relay Type	Latching												
Switching Power	<30 dBm												
Switching Cycles	>10E6												

#### LNB Power & Current Monitoring

LNB Power	15 V DC, max. 500 mA (per Redundancy Module)
Adjustable Level Setting:	
• Upper Alarm Level	max. 500 mA
• Lower Alarm Level	min. 0 mA

#### RF Sensing

Adjustable Threshold Level	0 dBm > Threshold Level > -50 dBm
Threshold Level Accuracy	±3 dB
Threshold Repeatability	<0.5 dB

#### Remote Communication

Interface (Connector)	<ul style="list-style-type: none"> <li>• Ethernet (RJ-45)</li> <li>• Serial Interface RS 232 (Sub-D-9 (f))</li> </ul>
Remote Control & Surveillance (Interface)	<ul style="list-style-type: none"> <li>• via Web Interface (Ethernet)</li> <li>• via SNMP (Ethernet)</li> </ul>

#### Redundant Power Supply

Supply Voltage	100...240 V AC supplied by two different Lines
Power Consumption	<100...200 VA (Note 1)

#### General Specifications

Size	19" (483 mm) Width, 3 RU (133 mm), 6 RU (266 mm), or 9 RU (400 mm) Height (Note 1), 495 mm Depth
Weight	~8...25 kg (Note 1)
Environmental Conditions	ETS 300019 Part 1-3 Class 3.1E

Note 1: Dependent on the Configuration

## Technical Data (cont.)

### Option 30 Monitoring and Control of a Motorized Antenna 2 and 3 Axis

This option supports the convenient setup of a motorized antenna via Web Interface. The motorized antenna can be positioned manually or autonomously in redundancy applications.

- Automatic antenna redundancy system for the DEV 1993/zz/m\*n+1 with m = 2 or 4
- Supported antenna controller types (support for other antenna controller types is possible on request):
  - SVS Satellite Systems AKS 200 & AKS 250 Antenna Controllers
  - Research Concepts Inc. RC2000 Dual Axis Antenna Controller
  - Hiltron Communications GmbH HMAM Motorized Antenna Mount
- Additional serial interface for antenna controller  
(the adaptor cable for the applied antenna controller is available on request)

### Option 31 Dual Band Redundancy

With this option, motorized antennas with dual band feedhorns for C-Band and Ku-Band are supported. In addition to the 4\*n+1 redundancy of a DEV 1993/zz/4\*n+1, a second 2\*s+1 redundancy is installed (n and s can be different, but n+s must not exceed 16 (i.e. n+s ≤ 16)).

- Prerequisite is Option 30
- To be ordered in combination with Option plus 50/2\*s+1 or with Option plus 75/2\*s+1;  
s can be 4, 6, 8, 10, or 12

## Order Information

### Products

- Please specify m = 1, 2, or 4 and n = 4, 6, 8, 10, 12, 14, or 16
    - "m" indicates the number of Redundancy Units.
    - "n" is the number of Main Channels per Redundancy Unit.
- |                   |  |
|-------------------|--|
| DEV 1993/50/m*n+1 | m*n+1 Redundancy Switch; 950...2150 MHz; 50 Ohm, SMA (f) |
| DEV 1993/75/m*n+1 | m*n+1 Redundancy Switch; 700...2300 MHz; 75 Ohm, F (f)   |

### Options

- |                      |  |
|----------------------|--|
| Option 30            | Monitoring and Control of a Motorized Antenna 2 and 3 Axis                     |
| Option 31            | Dual Band Redundancy   |
|                      | ■ Please specify the second Redundancy (s = 4, 6, 8, 10, or 12 with n+s ≤ 16): |
| Option plus 50/2*s+1 | Additional 2*s+1 Redundancy Switch; 50 Ohm, SMA (f) <b>OR</b>                  |
| Option plus 75/2*s+1 | Additional 2*s+1 Redundancy Switch; 75 Ohm, F (f)                              |

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Technical specifications are subject to change