

Switching of „Hot Standby“!



DEV 1993

Redundancy Switches $n + 1$ Redundancy Switches $4xn + 1$

Features:

- /// 50 and 75 Ω versions
- /// DC, 950...2150 MHz in Bands
- /// Redundant power supplies with hot swap from the front side
- /// 2 phases primary power supply, alternatively DC supply

Application Areas:

- /// Satellite Ground Stations
- /// Cable Head End Stations
- /// DAB-T with satellite input
- /// Digital TV



DEV 1993

Redundancy Switches $n + 1$ Redundancy Switches $4xn + 1$

The Problem

Ground Stations usually require a very high uptime. Therefore, spare instruments in “hot stand by” are used to secure the system uptime. For reasons of costs there is no 1:1 redundancy as it is in most cases sufficient, when several channels can use the same redundancy channel for a limited time. In our example 8 service channels are supposed to share one redundancy channel. In any case it is a special requirement to realize a high isolation between the different service channels and in addition to the redundancy channel.



DEV worked out a solution

To solve this problem DEV Systemtechnik has developed a redundancy switch, which fulfils exactly this functionality and which in addition meets the high RF requirements. A special firmware prevents, that several signal paths can have access simultaneously to the redundancy channel.

DEV 1993 Redundancy Switch 8+1



Front View



Rear View

Applications Area

The DEV Redundancy Switch can be applied in all systems needing a reliable redundancy switching. We realised this system for several frequency ranges in 50 or 75 Ohm.

e.g. $4+1$ $8+1$ $16+1$
 $4 \times 4+1$ $4 \times 8+1$ $4 \times 16+1$

We can also realize switches with more or less signal paths.

Individual requirements can be realised on request



Technical Data

DEV 1993/75/n+1

Frequency Range:	DC, 950...2150 MHz
Impedance:	75 Ω
Connectors:	F (f)
Return loss:	> 14 dB
Insertion loss for the signal path:	< 2,5 dB
Insertion loss for the redundancy path e.g. 8+1:	< 5 dB

DEV 1993/50/n+1

Frequency Range:	DC, 950...2150 MHz
Impedance:	50 Ω
Connectors:	SMA (f)
Return loss:	> 14 dB
Insertion loss for the signal path:	< 2 dB
Insertion loss for the redundancy path e.g. 8+1:	< 5 dB



Technical Data DEV 1993:

General Specification

Switching Power:	< 30 dBm
Isolation between e.g. Input 1 and 2:	> 60 dB
Group delay distortion:	< 1ns
Relay Type:	Latching
Lifetime:	10E6
Remote Interface:	Ethernet, SNMP; RS 232, RS 422, RS 485, Prosan Parallel (up to 16 channels with one card)
Connector:	D-Sub-9(f), D-Sub-25(f)

Alarms

Two-stage Alarm output:	Potential free contacts
Alarm connector:	D-Sub-9(m)
Contact rating:	60V; 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.
Summary alarm:	Via Remote Interface and potential free SPDT contact

Redundant power supply

Power supply:	100–260 V AC from 2 different phases
Power consumption:	~50 VA

General specifications

Housing:	19"/3RU/6RU/9RU* 420mm
Weight:	~8...25 kg
Climate active:	ETS 300 019 Part 1-3 Class 3.1

Option 14x	DC Supply voltage
Voltage:	±36 – 60 V DC, (± is variable but fixed, add + or – instead of x)

Option 52 **RS 422 instead of RS 232**

Option 53 **RS 485 instead of RS 232**

Option 58 **Digital I/O 24 V instead of RS 232**

* depending on switch size



Order Information

DEV 1993/50/n+1 DC, 950...2150 MHz 50 Ω
DEV 1993/75/n+1 DC, 950...2150 MHz 75 Ω
DEV 1993/50/4xn+1 DC, 950...2150 MHz 50 Ω
DEV 1993/75/4xn+1 DC, 950...2150 MHz 75 Ω

Option 14x: Supply voltage 36 – 60 V DC (x= \pm)
Option 52: RS 422 instead of RS 232
Option 53: RS 485 instead of RS 232
Option 58: Digital I/O 24 V instead of RS 232

Technical specifications are subject to change



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