

Switching Arrays with Combiner



Products:

DEV 1911/xx Multi-Channel On/Off Switch with Combiner, CATV-Band, 75 Ohm

Features:

- Series of Multi-Channel On/Off Switches with **xx**: 4, 8, 16, 24 or 32 Channels for the CATV-Band in 75 Ohm with BNC Connectors
- Each Channel can be switched on and off individually
- Integrated Combiner for up to 32 Signals
- 2 integrated Monitoring Outputs
- Comprehensive Web Interface for Surveillance and Setup of the Instrument
- Remote Control Protocol Support, e.g. SNMP
- Dual Redundant Power Supplies

Application Areas:

- Cable Head End Stations

DEV 1911

dev



Front DEV 1911/8



Rear DEV 1911/8

The Situation

In cable head end stations multiple modulators or converters are sending signals to a combiner of which the common path is connected to the CATV network. If, for instance, a modulator breaks down, it is essential to solve this problem fast and efficiently so that the TV spectators will not notice the defect at all. For this reason, precautions in the architecture of the cable head end stations have to be taken, to avoid interruptions of the signal transmission.

DEV worked out a Solution

DEV Systemtechnik has developed a series of multi-channel on/off switches with combiner for professional use. In case of a failure, the corresponding transmission unit can be taken out of the signal chain, without interruption of the signal transmission by just turning off the channel input to which the faulty device is connected to. By turning off the channel, the resulting open path will be automatically terminated with the appropriate load resistor.

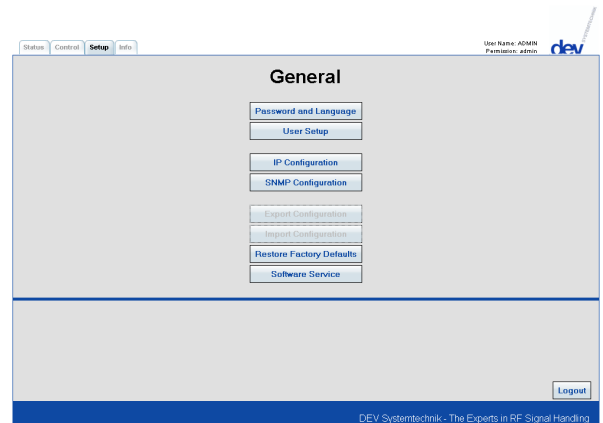
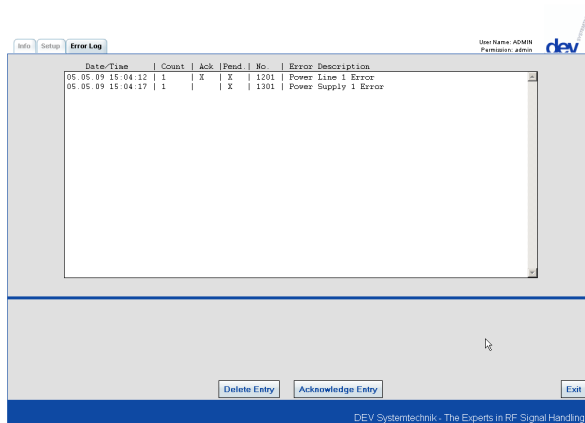
The Technical Concept

The DEV 1911 covers the frequency range of the CATV-Band and provides signal ports in 75 Ohm impedance with BNC connectors. The instrument is available with 4, 8, 16, 24 and 32 inputs, which can be switched on or off individually and which will be combined to a single output signal to be fed to the CATV network. Two monitoring ports for the output signal are an integral part of the output module. All RF ports are located at the rear side of the 19", 3 RU chassis.

The control of the instrument is either performed locally or via one of the implemented remote control protocols, e.g. SNMP. Additionally, a comfortable Web Interface is provided, which permits the configuration of parameters and basic surveillance of the instrument.

There is no question that the models of this series are equipped with DEV standards like redundant field replaceable power supply modules and with a dry contact alarm connector.

The Web Interface



The figures above show two screen shots of the Web Interface of a DEV 1911.

The Error Log Tab

The Error Log Tab displays in a table the errors, which were detected by the instrument. The different errors will fill the table line-wise, i.e. each distinct error will carry a Date/Time stamp informing about the last occurrence of that error. The second column is a Counter reporting the number of occurrences of that error. The third column denotes whether that error is Acknowledged. The fourth column informs whether the error is Pending. The fifth column indicates the Error Code Number. and the last column reports the Error Description. Errors can be acknowledged by highlighting the error(s) and using the **Acknowledge Entry** button and can be deleted with the **Delete Entry** button, if the error has been acknowledged before and if the error is not pending anymore.

The Setup Tab

To branch out in the different setup windows, the Setup Tab contains a number of buttons: The user who is currently logged in can change the password and the personal language setting using the **Password and Language** button. With the **User Setup** button an administrator may add or delete users and may alter the user permissions. For changing the IP settings of the instrument, the button **IP Configuration** is provided, the button **SNMP Configuration** enables modifications of the SNMP parameters. The button **Restore Factory Defaults** resets the instrument to the factory default values, finally the button **Software Service** permits updates of the firmware of the instrument.

Technical Data

DEV 1911/xx Multi-Channel On/Off Switch with Combiner

RF Specifications

Frequency range	47...862 MHz	
Number of inputs	4	(DEV 1911/4)
	8	(DEV 1911/8)
	16	(DEV 1911/16)
	24	(DEV 1911/24)
	32	(DEV 1911/32)
Number of outputs	1	
Impedance, connectors	75 Ohm, BNC (f)	
Return loss	>14 dB	
Insertion loss	<12 dB	(DEV 1911/4)
	<25 dB	(DEV 1911/8...DEV 1911/32)
Isolation on/off	>50 dB	
Switching cycles	>10E6	

Monitoring Ports

Number of monitoring ports	2
Return loss	>14 dB
Insertion loss	-20 dB of output signal

Remote Communication

Interfaces, connectors	Ethernet, RJ-45; serial interface RS 232 (optional RS 422/RS 485), Sub-D-9 (f)
Remote control & surveillance, interface	- via Web Interface (surveillance & setup only), Ethernet; - via Sandar Prosan protocol, serial interface; - via SNMP protocol, Ethernet; - via Leitch protocol, Ethernet/Telnet (up to 7 sessions) and optional via serial interface.

Alarms

Two stage alarm signalisation for power line failure	Potential free contacts
Alarm connector	Sub-D-9 (m)
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 via potential free contacts

Redundant Power Supply

Redundant power supplies	100...240 V AC supplied by two different lines
Power consumption	~30 VA, absolute max. 100 VA

General Specifications

Housing	19" (483 mm), 3 RU (133 mm), 495 mm depth
Weight	~9 kg
Environmental conditions	ETS 300019 Part 1-3 Class 3.1

Order Information

DEV 1911/4	4 Channel On/Off Switch with Combiner, CATV-Band, 75 Ohm
DEV 1911/8	8 Channel On/Off Switch with Combiner, CATV-Band, 75 Ohm
DEV 1911/16	16 Channel On/Off Switch with Combiner, CATV-Band, 75 Ohm
DEV 1911/24	24 Channel On/Off Switch with Combiner, CATV-Band, 75 Ohm
DEV 1911/32	32 Channel On/Off Switch with Combiner, CATV-Band, 75 Ohm
Option 52	RS 422 instead of RS 232
Option 53	RS 485 instead of RS 232
Option 76	Leitch protocol is available via serial interface (instead of Sandar Prosan protocol)

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