10209 Redundancy Switch

10 MHz to 18 GHz

SATCOM

Applications

- 1:1 Redundancy
- Site Diversity

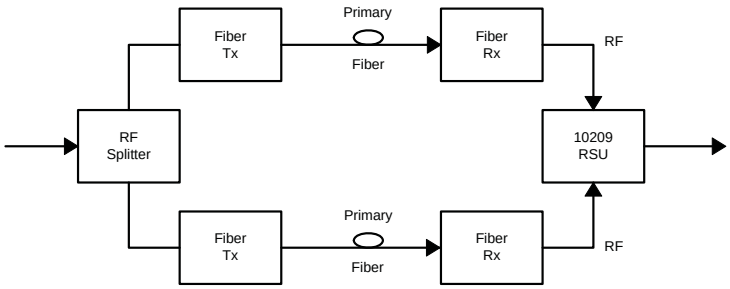
Features

- 50Ω or 75Ω
- 10 MHz to 18 GHz
- BNC, and SMA interface
- Remote status monitoring
- Remote control
- Automatic control

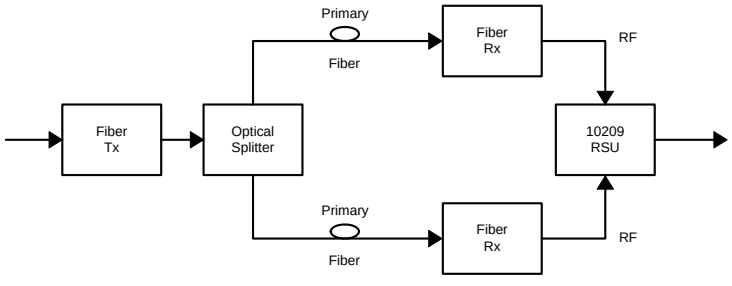
10209-Type 1:1 Redundancy Switch Units

The 10209-type redundancy switch plug-in modules are designed to protect systems against laser, photodiode, or fiber failure. The modules can be configured according to application requirements, as indicated in the block diagrams below. In the conventional 1:1 redundancy scenario, the RF output is split and sent to two separate transmitter and receiver links supported by a 10209 switch. In site-diversity applications, the optical output is split so that it can be sent over two separate fiber links and then fed into the 10209 switch.

Block Diagram



1:1 Redundancy Configuration



Site Diversity

Figure 1. 10209 Redundancy Switch Unit Applications

Order Information

10209A: 10 MHz - 2300 MHz, 75 ohm, BNC
10209C: 10 MHz - 2300 MHz, 75 ohm, Type "F"
10209E: 10 MHz -18000 MHz, 50 ohm, Type SMA

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Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of the data sheet. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Min	Max	Units
Operating Temperature Range	T_{OP}	-0	+50	˚C
Storage Temperature	T_{STG}	-20	+65	˚C
Humidity	-	-	95% - non condensing	%

Electrical / Optical Characteristics

Parameter	Symbol	Condition	Min	Type	Max	Units
Frequency Range		-				
10209A/C	F		10	-	2300	MHz
10209E			10	-	18000	MHz
Impedance		-				
10209A/C	Z		-	-	75	Ω
10209E			-	-	50	Ω
Insertion Loss		-				
Plug-in and Cables						
10209A/C			-	1.0	1.5	dB
10209E	L_{INS}		-	1.5	2.0	dB
Plug-in Only						
10209A/C			-	0.5	-	dB
10209E			-	0.5	-	dB
Flatness		Over any 40 MHz				
Plug-in and Cables						
10209A/C			-	0.4	0.5	dB p-p
10209E	-		-	0.5	1.0	dB p-p
Plug-in Only						
10209A/C			-	0.08	-	dB p-p
10209E			-	0.06	-	dB p-p
Flatness		Over any 500 MHz				
Plug-in and Cables						
10209A/C			-	0.5	1.0	dB p-p
10209E	-		-	0.6	1.2	dB p-p
Plug-in Only						
10209A/C			-	0.1	-	dB p-p
10209E			-	0.16	-	dB p-p
Return Loss	-	All ports with switch in corresponding				
10209A/C			8.1	-	-	dB
10209E		position	7.3	-	-	dB
Switch Speed	-		-	-	25	ms
Port-to-Port Isolation	ISO		>50	>65	-	dB
Drive Voltage Range[1]	V_{DRIVE}		15	-	24	Vdc
Drive Current	I_{DRIVE}	Steady State	-	45	24	Vdc
Drive Current		Peak when switching				
10209A/C	I_{DRIVE}		-	190	300	mA
10209E			-	218	300	mA

Note 1: When unit is installed in System 10K chassis, +15 Vdc is supplied via 10901G power supply

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Pin Information

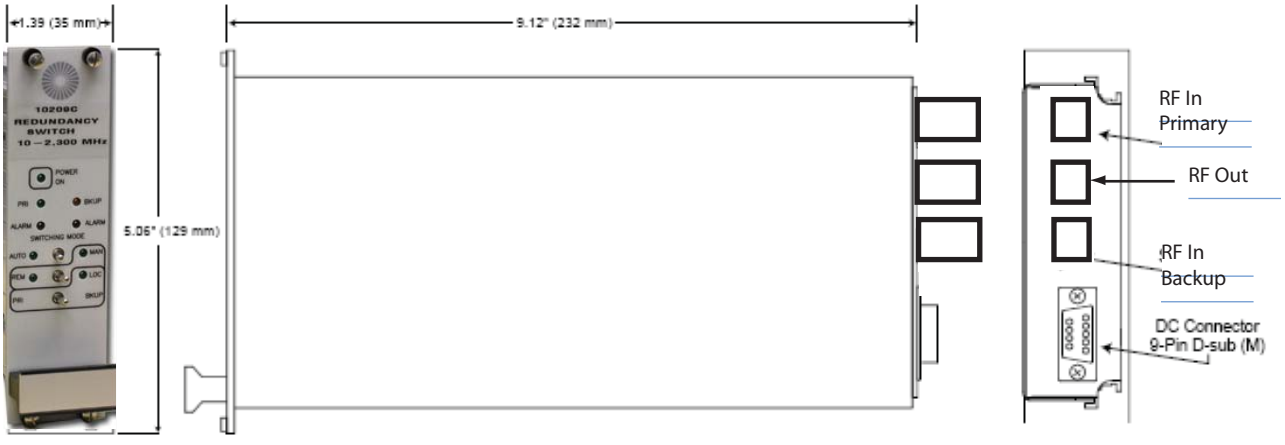
Plug-in-D-Sub	5-Pin Molex[1&2]	5-pin Molex Connector[1&2]	Description
1	-	-	+15 volts
2	-	-	NC
3	-	-	NC
4	-	-	GND
5	1	5	NC
6	2	4	Input: Low Optical Power Alarm - Primary
7	3	3	Input: Low Optical Power Alarm - Backup
8	4	2	Input[3]: RF Position Control If in Manual and Remote Primary = 0V or Open Backup = +5V)
9	5	1	Output[3]: Position of RF Switch

Note 1: Molex is a registered trademark of Molex
Note 2: The pin numbers above are based on the numbers on the chassis backplane.
Note 3: Open position available for customer.

Pin Information

Backplane Connector	Mating Connector	Pins
P11 - P18	Molex PN: 22-01-2057	Molex PN: 02-50-0114
P19	Molex PN: 22-01-2097	Molex PN: 02-50-0114
P20	Molex PN: 09-50-3031	Molex PN: 08-50-0108

Mechanical Outline



Front Panel

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