

# 10209 Redundancy Switch

10 MHz to 18 GHz



## 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.



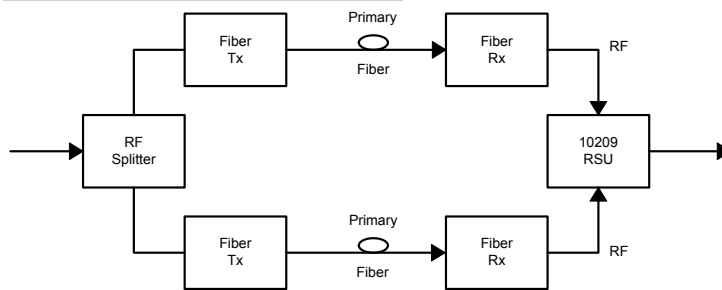
### Applications

- 1:1 Redundancy
- Site Diversity

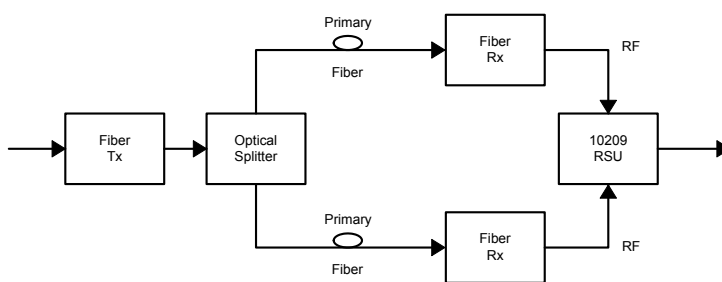
### Features

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

### 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 <sub>OP</sub>	-0	+50	°C
Storage Temperature	T <sub>STG</sub>	-20	+65	°C
Humidity	-	-	95% - non condensing	%

## Electrical / Optical Characteristics

Parameter	Symbol	Condition	Min	Type	Max	Units
Frequency Range 10209A/C 10209E	F	-	10 10	- -	2300 18000	MHz MHz
Impedance 10209A/C 10209E	Z	-	- -	- -	75 50	Ω Ω
Insertion Loss Plug-in and Cables 10209A/C 10209E Plug-in Only 10209A/C 10209E	L <sub>INS</sub>	-	- - - -	1.0 1.5 0.5 0.5	1.5 2.0 - -	dB dB dB dB
Flatness Plug-in and Cables 10209A/C 10209E Plug-in Only 10209A/C 10209E	-	Over any 40 MHz	- - - -	0.4 0.5 0.08 0.06	0.5 1.0 - -	dB p-p dB p-p dB p-p dB p-p
Flatness Plug-in and Cables 10209A/C 10209E Plug-in Only 10209A/C 10209E	-	Over any 500 MHz	- - - -	0.5 0.6 0.1 0.16	1.0 1.2 - -	dB p-p dB p-p dB p-p dB p-p
Return Loss 10209A/C 10209E	-	All ports with switch in corresponding position	8.1 7.3	- -	- -	dB dB
Switch Speed	-		-	-	25	ms
Port-to-Port Isolation	ISO		>50	>65	-	dB
Drive Voltage Range <sup>1</sup>	V <sub>DRIVE</sub>		15	-	24	Vdc
Drive Current	I <sub>DRIVE</sub>	Steady State	-	45	24	Vdc
Drive Current 10209A/C 10209E	I <sub>DRIVE</sub>	Peak when switching	- -	190 218	300 300	mA 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 <sup>1&amp;2</sup>	5-pin Molex Connector <sup>1&amp;2</sup>	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 <sup>3</sup> : RF Position Control If in Manual and Remote Primary = 0V or Open Backup = +5V)
9	5	1	Output <sup>3</sup> : Position of RF Switch

Note 1: Molex is a registered trademark of Molex

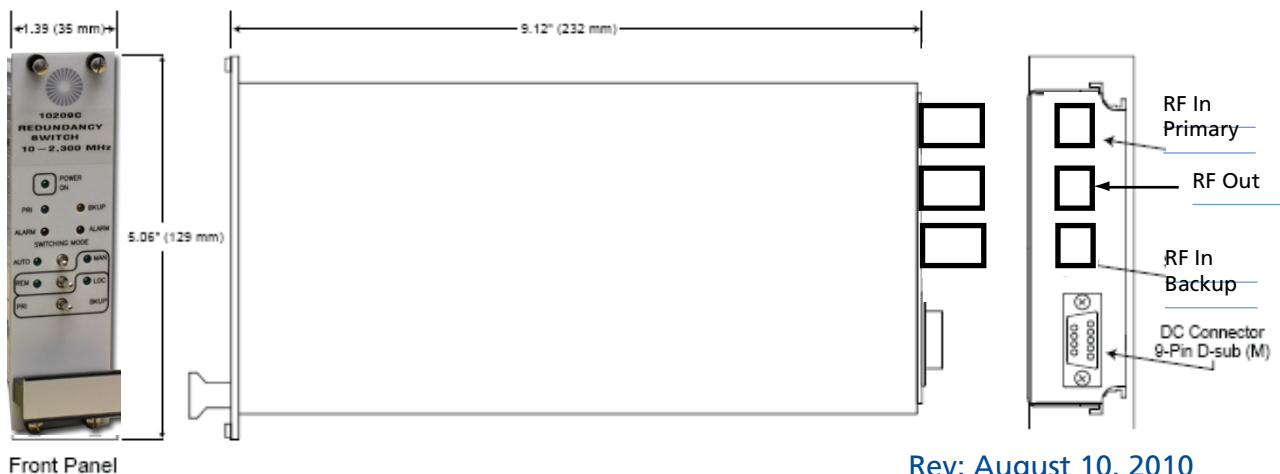
Note 2: The pin numbers above are based on the numbers on the chassis backplane.

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



Rev: August 10, 2010