

### General

The relay-based G2R19 coaxial microwave switching module provides a flexible MxN switch configuration for many applications. It provides array sizes up to 6x10 and is available with either N-Type or SMA connectors within a single eight slot high module. Each relay element is individually shielded from each other, and internal control circuitry.

Ultra-high reliability relay elements (>1,000,000 operations) are coupled with control and status circuitry. The module features hot-swap control technology for easy maintenance. The signal path is passive and bidirectional. No power dividers or amplifiers are included. Only 1:1 connections can be made (no signal fan-out).

Three sides of the module contains venting slots for flow through cooling for proper operation in extreme temperature environments. The rugged aluminum enclosure provides a shielded environment for low level, low noise signals. The module also provides aluminum slides for additional grounding to the host mainframe. Internally, the relay elements are interconnected using high performance semi-flex cabling.

The suffix of the model number specifies the connector type. For control and DC power, the module must be installed into any G2 type mainframe controller. The mainframe must have either the -100, -D100, -600 or -D600 power supply configuration. Optionally, a -200 or -D200 may be used with the special -20 module suffix. See the configuration table.

### Applications

- ATE systems
- Communication installations
- Antenna routing
- Switching high speed ECL/PECL data
- Satellite control centers
- Ground station IF signal routing

### Features

- High reliability relay elements
- DC to 18GHz bandpass (min)
- High performance N-Type or SMA connectors
- Hot-Swap module technology
- Rugged aluminum shielded enclosure
- Built-in control and status circuitry
- Individually shielded sections

# G2



Model G2R19-1610-60N  
6x10 Array with N-Type Connectors

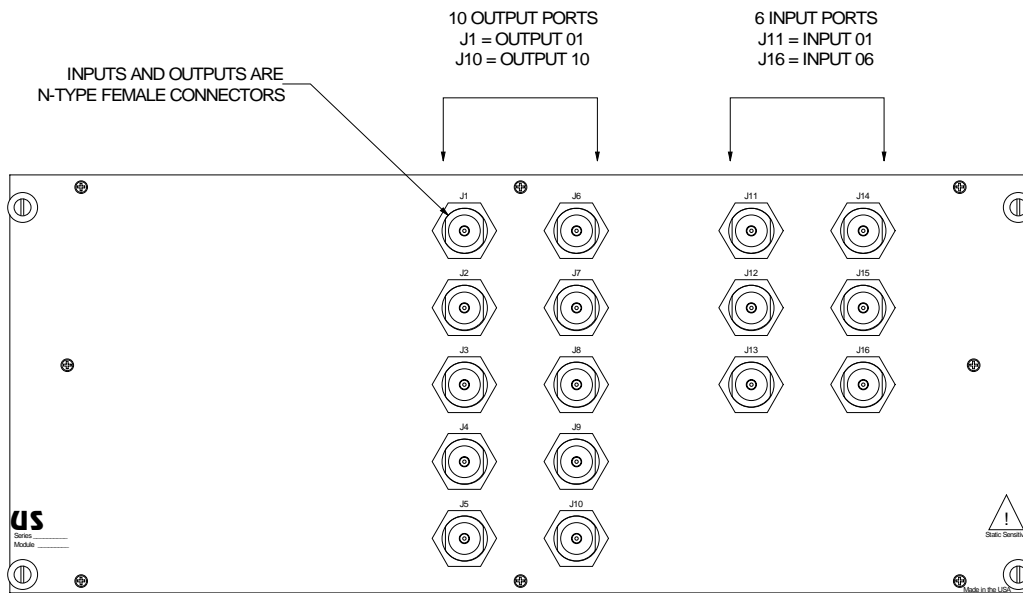
# Configurations

Model	Array Size	Connectors	Slot Height
G2R19-1208-60N	4 in, 8 out	N-Type	8
G2R19-1208-60S	4 in, 8 out	SMA	8
G2R19-1408-60N	6 in, 8 out	N-Type	8
G2R19-1408-60S	6 in, 8 out	SMA	8
G2R19-1410-60N	4 in, 10 out	N-Type	8
G2R19-1410-60S	4 in, 10 out	SMA	8
G2R19-1610-60N	6 in, 10 out	N-Type	8
G2R19-1610-60S	6 in, 10 out	SMA	8

**NOTE 1:** Consult the factory for special or other configuration types.

**NOTE 2:** By special order, the -20N or -20S suffix may be specified (-200 or -D200 power supply configuration)

**NOTE 3:** The G2R19A is similar to this unit but only occupies 4-slots. It is available from 4x4 to 10x10.



## Signal Specifications

Switching elements	Relay-based
Operating mode	Normally open (no terminations)
Signal type	Analog, bi-directional
Signal connector	Female N-Type or SMA
Frequency range	DC - 18GHz (min)
Impedance	.50 ohm
Insertion loss	<.050dB @ 4GHz <1.85dB @ 8GHz <3.00dB @ 12GHz <4.00dB @ 18GHz
Repeatability	<.020dB max
Crosstalk isolation (min)	>.75dB @ 4GHz >.70dB @ 8GHz >.65dB @ 12GHz >.60dB @ 18GHz
Maximum power	100 watts @ 2.5GHz 40 watts @ 18GHz
Switching speed	<.50mS (plus control time)
Power-off condition	No connections

## General Specifications

Module size	.8 slot height
Control type	G2 compatible
Sparing	Hot-Swappable
Construction	Shielded aluminum case
DC power	-100 or -600 configuration +5V (digital), +15V (analog) (or -200, -D200 by special order)
Weight	<14lbs
Operating temp	0 to +70C
Non-operating temp	-20 to +85C
Humidity	.0 to 95% (NC @ +25C)
Contact life	>1,000,000 operations (per port)
MTBF	>120,000 hours (per MIL-HDBK-217F, N1 ground benign @ +25C)

Universal Switching's policy is one of continuous development, and consequently the company reserves the right to vary from the descriptions and specifications shown in this publication.