

CE

Specification Sheet G2R12-001

Multi-Section N-Type DC-12GHz Mixed Size Switching Module Series G2R12

September 2006

General

The relay-based G2R20 coaxial microwave switching module provides a flexible configuration with N-Type connectors for high power or low-loss RF applications. It provides up to five individual relay sections within a single module, using only four slots. The relay sections are bidirectional and can be used to select one of six inputs to a single output, or route a single input to one of six destinations. This is considered a 1xN type configuration.

When a port is not selected, it is open and is not terminated to a load. 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. Sections can be field replaced, though the module cover must be removed. The module also features hot-swap control technology for easy maintenance.

A unique power saving control circuit reduces DC power and cooling requirements for the module and increases overall reliability. Proper relay operation is verified by the internal CPU monitoring the relay coil current. The number of sections included is determined by the model number. A reduced configuration can be further populated while in the field. Additional configurations are available on special order.

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 (-200 or -D200 by special order).

Applications

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

Features

- High reliability, high power relay elements
- DC to 12.5GHz bandpass (min)
- Flexible configuration expandable in field
- High performance stainless steel N-Type signal connectors
- Hot-Swap module technology
- Plug-in relay elements (cover must be removed)
- Rugged aluminum shielded enclosure
- Built-in control and status circuitry
- Individually shielded sections

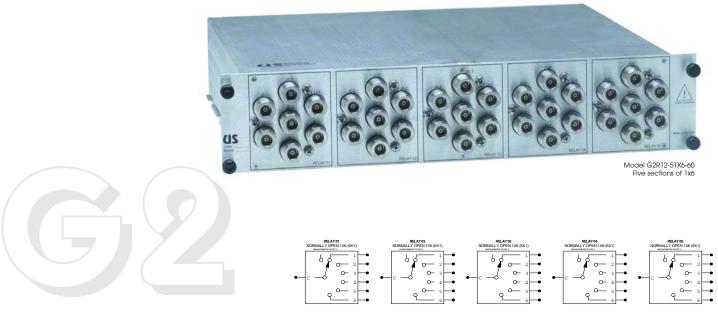
Configurations

•	G2R12-11X6-60One 1x6 re	lay	4 slots
	G2R12-21X6-60Two 1x6 rel	ays	4 slots
	G2R12-31X6-60Three 1x6 re	elays	4 slots
	G2R12-41X6-60 Four 1x6 re	lays	4 slots
•	G2R12-51X6-60 Five 1x6 rel	ays	4 slots

NOTE 1: A reduced number of sections can be further populated while in the field.

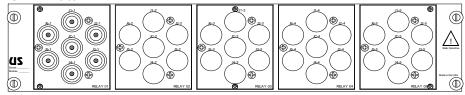
NOTE 2: Other relay configurations besides 1x6 are available such as 1x5, 1x4, and 1x3 or a mixture of elements. Contact the factory.

NOTE 3: By special order, the -20 suffix may be specified (-200 or -D200 power supply configuration).

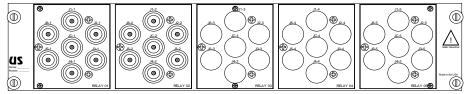


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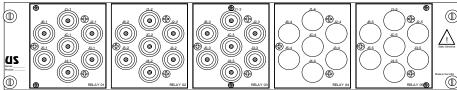




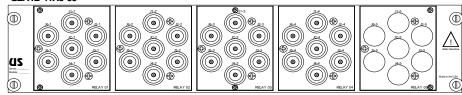
G2R12-21X6-60



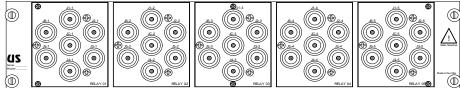
G2R12-31X6-60



G2R12-41X6-60



G2R12-51X6-60



Signal Specifications

Switching elements Relay-based Operating modeNormally Open

Ports per relay section Six (1x6) with others available

Number of sectionsOne to five

Signal typeAnalog, bi-directional

Signal connectorStainless steel female N-Type

Frequency rangeDC - 12GHz (min)

Impedance 50 ohm

Insertion loss<0.30dB @ 4GHz

<0.80dB @ 8GHz

<1.0dB @ 12GHz

Repeatability<0.10dB max

Crosstalk isolation (min) . . .>80dB @ 4GHz

>70dB @ 8GHz >60dB @ 12GHz

VSWR<1.2:1@4GHz

<1.3:1@8GHz <1.4:1@12GHz

Maximum power100 watts @ 10GHz

800 watts @ 100MHz

Switching speed<15mS (plus control time)

General Specifications

Module size4 slot height SparingHot-Swappable

ConstructionShielded aluminum case DC power-100 or -600 configuration +5V (digital), +15V (analog)

(or -200, -D200 by special order)

Operating temp 0 to +70C Non-operating temp-20 to +85C

(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.

