Universal Switching Corporation

Specification Sheet G2R17-001

Multi-Section Transfer Relays DC-18GHz
A-1, B-2 Switching Module
Series G2R17

September 2006

General

The relay-based G2R17 coaxial microwave switching module provides a flexible configuration for many back-up and selector applications. It provides up to eight individual transfer relay sections within a single module, or four transfer sections and eight 1x2 sections, using only two slots. THe transfer relays allow the user to swap connections. Default connections are A-1, B-2. Under command, the connection changes to A-2, B-1. Each relay element is individually shielded from each other and the internal control circuitry.

Ultra-high reliability relay elements (>1,000,000 operations) are coupled with control and status circuitry. Sections can be field replaced. 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. When power is lost to the module, the relays fall-back to the default state (A-1, B-2).

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. Optionally, a -200 or -D200 may be used with the special -20 module suffix.

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)
- Flexible configuration expandable in field
- High performance stainless steel SMA signal connectors
- Hot-Swap module technology
- Plug-in relay elements
- Rugged aluminum shielded enclosure
- Built-in control and status circuitry
- Individually shielded sections

Configurations

G2R17-1T-60 . . . . . .One transfer relay	2 slots
G2R17-2T-60 . . . . . .Two transfer relays	2 slots
G2R17-3T-60 . . . . . .Three transfer relays	2 slots
G2R17-4T-60 . . . . . .Four transfer relays	2 slots
G2R17-5T-60 . . . . . .Five transfer relays	2 slots
G2R17-6T-60 . . . . . .Six transfer relays	2 slots
G2R17-7T-60 . . . . . .Seven transfer relays	2 slots
G2R17-8T-60 . . . . . .Eight transfer relays	2 slots
G2R17-2T21X2-60 . . .Two transfer, two 1x2	2 slots
G2R17-2T41X2-60 . . .Two transfer, four 1x2	2 slots
G2R17-2T61X2-60 . . .Two transfer, six 1x2	2 slots
G2R17-2T81X2-60 . . .Two transfer, eight 1x2	2 slots
G2R17-4T21X2-60 . . .Four transfer, two 1x2	2 slots
G2R17-4T41X2-60 . . .Four transfer, four 1x2	2 slots
G2R17-4T61X2-60 . . .Four transfer, six 1x2	2 slots
G2R17-4T81X2-60 . . .Four transfer, eight 1x2	2 slots

NOTE-1: *By special order, the -20 suffix may be specified (-200 or -D200 power supply configuration)*

Model G2R17-8T-60

G2R17-001

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Signal Specifications

Switching elements	Relay-based
Operating mode	A-1, B-2 (transfer), or 1x2
Number of sections	See model number chart
Signal type	Analog, bi-directional
Signal connector	Stainless steel female SMA
Frequency range	DC - 18GHz (min)
Impedance	50 ohm
Insertion loss	<0.30dB @ 4GHz <0.35dB @ 8GHz <0.40dB @ 12GHz <0.50dB @ 18GHz
Repeatability	<0.10dB max
Crosstalk isolation (min)	>75dB @ 4GHz >70dB @ 8GHz >65dB @ 12GHz >60dB @ 18GHz
VSWR	<1.2 : 1 @ 4GHz <1.3 : 1 @ 8GHz <1.4 : 1 @ 12GHz <1.5 : 1 @ 18GHz
Maximum power	100 watts @ 2.5GHz 40 watts @ 18GHz
Switching speed	<50mS (plus control time)

General Specifications

Module size	2 slot height
Control type	G2 compatible
Sparing	Hot-Swappable
Construction	Shielded aluminum case
Mating SMA torque	8 inch pounds MAX
DC power	-100 or -600 configuration +5V (digital), +15V (analog) (or -200, -D200 by special order)
Weight	<5lbs (eight section)
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)

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