

Keithley Instruments, Inc.
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RF/Microwave Switch System Specifications

Maximum Configuration

- (8) – SPDT 50 ohm coaxial relays
- (4) – Multi-pole 50 ohm coaxial relays (SP4T, SP6T)

Relay Specifications

Standard Relays

FREQUENCY RANGE: DC–18GHz.

CONNECTOR TYPE: SMA Female.

CONTACT LIFE: 2 million cycles minimum.

ACTUATION TIME:

SPDT: 20ms maximum.

Multi-pole: 15ms maximum.

<i>Frequency</i>	<i>Insertion Loss (dB)</i>	<i>Isolation (dB)</i>	<i>VSWR</i>
DC–6GHz	0.2 max	70 min	1.25 max
6–12GHz	0.4 max	60 min	1.40 max
12–18GHz	0.5 max	60 min	1.50 max

High Performance Relays “A”

FREQUENCY RANGE: DC–18GHz.

CONNECTOR TYPE: SMA Female.

CONTACT LIFE:

SPDT: 10 million cycles minimum.

Multi-pole: 5 million cycles minimum.

ACTUATION TIME:

SPDT: 10ms maximum.

Multi-pole: 15ms maximum.

<i>Frequency</i>	<i>Insertion Loss (dB)</i>	<i>Isolation (dB)</i>	<i>VSWR</i>
DC–3GHz	0.2 max	80 min	1.20 max
3–8GHz	0.3 max	70 min	1.30 max
8–12.4GHz	0.4 max	60 min	1.40 max
12.4–18GHz	0.5 max	60 min	1.50 max

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RF/Microwave Switch System Specifications**High Performance Relays “B”**

FREQUENCY RANGE: DC–26.5GHz.

CONNECTOR TYPE: SPDT: SMA; SP4T, SP6T, XFER: SMA-2.9 Female.

CONTACT LIFE:

SPDT: 10 million cycles minimum.
Multi-pole: 2 million cycles minimum.

ACTUATION TIME:

SPDT: 10ms maximum.
Multi-pole: 15ms maximum.

<i>Frequency</i>	<i>Insertion Loss (dB)</i>	<i>Isolation (dB)</i>	<i>VSWR</i>
DC–6GHz	0.2 max	70 min	1.30 max
6–12.4GHz	0.4 max	60 min	1.40 max
12.4–18GHz	0.5 max	60 min	1.50 max
18–26.5GHz	0.7 max	55 min	1.70 max

High Performance Relays “C”

FREQUENCY RANGE: DC–40GHz.

CONNECTOR TYPE: SMA-2.9 Female.

CONTACT LIFE:

SPDT: 10 million cycles minimum.
Multi-pole: 2 million cycles minimum.

ACTUATION TIME:

SPDT: 20ms maximum.
Multi-pole: 15ms maximum.

<i>Frequency</i>	<i>Insertion Loss (dB)</i>	<i>Isolation (dB)</i>	<i>VSWR</i>
DC–6GHz	0.2 max	70 min	1.30 max
6–12.4GHz	0.4 max	60 min	1.40 max
12.4–18GHz	0.5 max	60 min	1.50 max
18–26.5GHz	0.7 max	55 min	1.70 max
26.5–40GHz	1.1 max	50 min	2.20 max

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RF/Microwave Switch System Specifications**General**

MAXIMUM SIGNAL: 42V peak, any terminal to earth.

CONTACT CLOSURE COUNTERS: 1 counter per channel, up to 10 million counts each, maintained in non-volatile memory.

NON-VOLATILE STORAGE: 32 separate locations; each location up to 68 bytes long, for user-definable channel and system parameters.

NUMBER OF RELAY CONTROL LINES: 32, each open collector driver capable of 300mA sink current (maximum).

INTERFACE: GPIB (IEEE 488.2) and SCPI.

INDICATORS: Power, relay position status and error LED.

POWER: 100–240VAC, 50 or 60Hz.

POWER CONSUMPTION: 120VA maximum.

WARRANTY: 1 year.

ENVIRONMENT:

Operating: 0° to 40°C, up to 35°C < 80% RH.

Storage: –25° to 65°C.

EMC: Conforms to European Union Directive 89/336/EEC.

SAFETY: Conforms with European Union Directive 73/23/EEC, UL/CSA 61010-1.

DIMENSIONS: 89mm high × 485mm wide × 370mm deep
(3.5" × 19" × 14.563").

SHIPPING WEIGHT: 13kg (28 lbs).

ACCESSORIES SUPPLIED:

Power cord, instruction manual, and rack mount kit.