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Racal Instruments™ 1260-152/172

High-Frequency Coaxial Switch Plug-In

The Racal Instruments™ 1260-152/172 is a high-frequency coaxial switch plug-in. It can be used in either the Racal Instruments™ 1260-100 Adapt-A-Switch® VXI carrier or the Racal Instruments™ 1256 GPIB/RS-232 switching mainframe. This switch plug-in is ideal for high-frequency RF switching, as required in the Telecom and Communications markets.

Key Features

- **1260-152: 1.2 GHz bandwidth**
- **1260-172: >900 MHz bandwidth**
- **50 Ω And 75 Ω versions**
- **Coaxial interface**
- **17 channels of SPDT switches**
- **Ideal for high-frequency RF switching**

Product Information

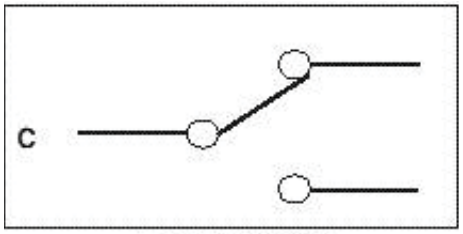
The 1260-152/172 maintains excellent signal integrity as a result of the high-frequency RF relays and the matching coaxial interface. The 1260-152 has a -3 dB bandwidth of 1.2 GHz at 50 Ω. The 1260-172 has a -3 dB bandwidth of 900 MHz at 75 Ω. Both are comprised of 17 channels of SPDT switches and are capable of switching up to 30 V.

SPDT switches may be used independently or cascaded externally to make a multichannel RF multiplexer. For example, 3 SPDTs can be cascaded to configure a 1X4 RF multiplexer.

All relays on the 1260-152/172 are electromechanical, making all inputs/outputs interchangeable to meet test requirements. Coaxial connector housings (shells) are included with each switch card; however, the connector pins must be purchased separately. Cables supplied with the coaxial pins at both ends (tested up to 1 GHz) are optional and may be ordered in 2, 6, or 12-foot lengths. With the cable cut in half, you can support 2 channels per cable and alleviate the need for a special crimp tool. See ordering information on the second page of this data sheet.

When used with the Adapt-a-Switch™ carrier, the 1260-152/172 requires a Racal Instruments™ Option 01T to communicate with the switch cards and to provide both message-based operation for ease of use and register-based operation for maximum speed. When used with the 1256 Switching Mainframe, no controller is required, and message-based operation is available.

The Adapt-a-Switch™ line provides VXI*plug&play* support for frameworks based on Microsoft Win32® application programming interface, including drivers for LabWindows™/CVI and LabVIEW™.



17 independent relays. I channel shown.

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Specifications

Note: The Astronics Test Systems policy is one of continuous development and improvement. Consequently, the equipment may vary in detail from the description and specifications in this publication.

Input

Maximum Switching Voltage
- AC: 30 VAC pk
- DC: 30 VDC

Switching Current
- AC: 0.50 AAC pk
- DC: 0.50 A

Switching Power
- AC: 10 VA
- DC: 10 W

Power Requirements
- +5 VDC 150 mA + 40 mA per energized relay (850 mA Max.)

DC Performance

Path Resistance
- <1 Ω

Insulation Resistance
- $>10^9$ Ω

Thermal EMF
- ≤10 µV

AC Performance

Characteristic Impedance
- 1260-152: 50 Ω
- 1260-172: 75 Ω

Bandwidth (-3 dB)
- 1260-152: ≥1.2 GHz
- 1260-172: ≥900 MHz

Insertion Loss
- 1260-152:
  ≤0.5 dB to 300 MHz
  ≤0.75 dB to 600 MHz
  ≤0.9 dB to 900 MHz
- 1260-172:
  ≤0.5 dB to 300 MHz
  ≤1.5 dB to 600 MHz

Isolation
- ≥85 dB to 100 MHz
- ≥55 dB to 600 MHz
- ≥45 dB to 900 MHz

VSWR
- 1260-152:
  ≤1.1:1 to 100 MHz
  ≤1.6:1 to 500 MHz
  ≤2.0:1 to 900 MHz
- 1260-172:
  ≤1.5:1 to 100 MHz
  ≤2.1:1 to 500 MHz

Crosstalk
- -80 dB to 100 MHz
- -55 dB to 600 MHz
- -50 dB to 900 MHz

Relay Settling Time
- < 10 ms

Interface

Front Panel I/O Connectors
- Two 26-Pin GMCT connectors (from Souriau)

Environmental

Temperature
- Operating: 0° C to +55° C
- Non-operating: -40° C to +75° C

Relative Humidity
- 85% ±5% non-condensing at <30° C

Altitude
- Operating: 10,000 ft
- Non-operating: 15,000 ft

Emissions
- EN61326, Class A, Table 3

Immunity
- EN61326, Class A, Table 1

Safety
- CE, EN61010-1

Shock
- 30 g, 11 ms, ½ sine wave

Vibration
- 0.013 in: (pk-pk), 5 to 55 Hz

MTBF (MIL-HDBK-217E)
- > 300,000 hrs

Mechanical

Bench Handling
- 4-inch drop at 45°

Weight
- 8 oz (0.23 kg)

Dimensions
- 4.5” H X 0.75” W X 9.5” D

Cooling
- See 1260 100 cooling data

CE The CE Mark indicates that the product has completed and passed rigorous testing in the area of RF Emissions and Immunity to Electromagnetic Disturbances, and complies with European electrical safety standards.

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Ordering Information

Note: When the 1260-152/172 is used in a VXI mainframe other than a 1256, a Racal Instruments™ Option 01T Smart Control Module must be installed in the mainframe's left-most slot.

Note: Includes two mating connector housings with cable and strain relief. Pins not included. Pins can be ordered separately, either un-crimped or attached to a cable.

407742-003 : Racal Instruments™ 1260-152
High-Frequency Coaxial Switch Module, 50 Ω

407742-004 : Racal Instruments™ 1260-172 (Obsolete)
High-Frequency Coaxial Switch Module, 75 Ω

Accessories:

OPT-405108-001 : Racal Instruments™ Option 01T Smart Card Module installed (manual must be ordered separately)
407531-001 : Racal Instruments™ Option 01T Smart Card Module (not installed) with manual
602221-126 : One spare 26-Pin mating connector housing with cable and strain relief
602221-903 : HV Coaxial Mating Pin (52 pins required for 2 sets of 26 pins)
407746-001 : Single Coaxial Cable with HV pins, 50 Ω, 2 ft
407746-003 : Single Coaxial Cable with HV pins, 50 Ω, 6 ft.
407746-006 : Single Coaxial Cable with HV pins, 50 Ω, 12 ft
407747-001 : Single Coaxial Cable with HV pins, 75 Ω, 2 ft.
407747-003 : Single Coaxial Cable with HV pins, 75 Ω, 6 ft
407747-006 : Single Coaxial Cable with HV pins, 75 Ω, 12 ft.
990922 : Contact Extraction Tool

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