



## 1 GHz Coaxial Tree Switch Plug-in Eight 1x4 and Four 1x2 1260-X153

- ◆ **High-Density Coaxial Connector Interface**
- ◆ **Software Re-configurable**
- ◆ **Excellent Signal Integrity**
- ◆ **No Un-terminated Stubs**

Racal Instruments 1260-X153 is a high frequency, coaxial 1x4 binary tree switch plug-in for use in the X-series Adapt-a-Switch® 1260-100X VXI carrier.

The 1260-X153 is intended to switch signals to and from the following types of high-speed instruments; oscilloscopes, digitizers, arbitrary waveform generators, function generators, pulse/pattern generators and counter/timers.

This module is highly configurable via software. Configurations include:

- ◆ **Ten (1x4)**
- ◆ **Eight (1x4) and Four (1x2)**
- ◆ **Nine (1x4) and Two (1x2)**
- ◆ **Four (1x8) and Two (1x4)**

High signal fidelity is maintained through the use of high quality RF relays and coaxial connectors. This high quality design reduces insertion loss while maintaining excellent isolation and crosstalk.

When used with the Racal Instruments 1260-100X VXI carrier, the 1260-X153 requires an 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.

An IVI-COM driver is available for this module.

# 1260-X153 PRODUCT SPECIFICATIONS

## INPUT PERFORMANCE

- Maximum Voltage**  
200V peak
- Maximum Switching Voltage**  
110 VDC, 125 VAC
- Switching Current**  
1 Amp, 2 Amps Carry
- Switching Power**  
30 W, 37.5 VA, 1W RF

## DC PERFORMANCE

- Initial Path Resistance**  
< 0.5 ohm
- Insulation Resistance**  
> 10<sup>8</sup> ohms to ground  
> 10<sup>9</sup> ohms open channel

## AC PERFORMANCE (into 50 Ω)

- Bandwidth (-3 dB)**  
> 1 GHz
- Insertion Loss**  
<0.4 dB to 100 MHz  
<1.2 dB to 500 MHz  
<2.0 dB to 800 MHz  
<3.0 dB to 1 GHz

## VSWR

- <1.1:1 to 100 MHz
- <1.6:1 to 500 MHz
- <1.8:1 to 1 GHz

## Crosstalk

- <-70 dB to 1 MHz
- <-65 dB to 100 MHz
- <-45 dB to 500 MHz
- <-35 dB to 1 GHz

## Isolation

- >70 dB to 1 MHz
- >65 dB to 100 MHz
- >40 dB to 500 MHz
- >30 dB to 1 GHz

## Capacitance

- <100 picofarads to ground
- <10 picofarads open channel

## INTERFACE DATA

### Current Draw

- +5 VDC at 1.0 Amp Max
- +5 VDC at 27 mA per energized relay

### Cooling Requirements

- See 1260-100X cooling data

### Maximum Overall Power Dissipation

- 60 W

## ENVIRONMENTAL DATA

### Temperature

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

### Relative Humidity

- 85% ± 5% non-condensing at < 35° C

### Altitude

- Operating: 10,000\* ft.
- Non-operating: 15,000 ft.

### Shock

- 30 g, 11 ms, ½ sine wave

### Vibration

- 0.013 in. (pk-pk), 5-55 Hz

## EMC

### Emissions\*\*

- EN55011A with limits in accordance with EN50081-1

## Immunity\*\*

- IEC901-2,3,4 with limits in accordance with EN50082-1

## SAFETY\*\*

- EN61010-1
- Impulse Withstand 1000 V

## RELIABILITY

### Relay Settling Time

- < 10 ms

### MTBF (MIL-HDBK-217 E)

- > 130,000 hrs at 25 ° C

### Relay Life

- Mechanical: 50,000,000
- Electrical: 100,000 At full rated load  
500,000 At 12W or 18.75 VA

## MECHANICAL

### Bench Handling

- 4-inch drop at 45°

### Weight

- 18 oz. (0.51 kg)

### Dimensions

- 4.4" H X 0.75" W X 12.6" D

### Front Panel I/O Interface Connectors

- 2, 26-pin connectors

\* Operation at 15,000 feet requires derating of maximum overall power dissipation to 49 W.

\*\* Certification Pending

## ORDERING INFORMATION

### MODEL/DESCRIPTION

- Racal Instruments 1260-X153, 8 (1x4), 4 (1x2) Coaxial switch card plug-in
- Mating Connector Backshell
- Mating Connector Pin
- Cable Assembly, 2 ft., 50 Ω, Single Coax Cable w/(2) Coax Plugs
- Cable Assembly, 6 ft., 50 Ω, Single Coax Cable w/(2) Coax Plugs
- Cable Assembly, 12 ft., 50 Ω, Single Coax Cable w/(2) Coax Plugs

### PART NUMBER

- 408011
- 602221-126
- 602221-903
- 407746-001
- 407746-003
- 407746-006

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