

# Racal Instruments™

# 1260-58

## 1 GHz RF Switch Module

The Racal Instruments™ 1260-58 is a high-density switch module with four 1x8 coaxial trees. It is designed for high-frequency, 50  $\Omega$  signals, making it ideal for switching source or measurement signals in an ATE environment or modern communication system.

### Key Features

- Four 1x8 coaxial trees
- 1 GHz bandwidth
- Excellent crosstalk and isolation characteristics
- Single-slot, C-size, VXIbus module
- High-quality 50  $\Omega$  SMB coaxial interface connectors
- Ideal for switching high-frequency signals in ATE systems

### Product Information

The 1260-58 is intended for use with function/pulse generators, universal timer/counters, oscilloscopes, high-speed digital test units, and other instruments involving high-frequency or fast rise-times.

This switch module has excellent AC performance, with a bandwidth greater than 1 GHz. All relays are bi-directional, making inputs and outputs interchangeable to meet different test requirements.

Larger switching systems can be configured by using external jumpers with easy-to-interface SMB connectors. This method configures large multiplexers as well as large matrices.

The 1260-58 requires a Racal Instruments™ Option 01T to communicate with 1260-series modules. This option provides message-based operation for ease-of-use and register-based operation for maximum speeds.

The 1260-series includes *VXIplug&play* support for frameworks based on Microsoft Win32® application programming interface, including drivers for LabWindows™/CVI and LabVIEW™.

## 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

- 30 VDC or 30 VAC<sub>pk</sub>

#### Maximum Switching Current

- 0.5 ADC, 0.5 AAC<sub>pk</sub>

#### Maximum Switching Power

- 10 WDC, 10 VA, 10 WRF into 50 Ω

### DC Performance

#### Path Resistance

- <1.0 Ω

#### Insulation Resistance

- >10<sup>9</sup> Ω

#### Thermal EMF

- <20 μV

### AC Performance (Into 50 Ω)

#### Bandwidth (-3 dB)

- >1 GHz

#### Insertion Loss

- 100 MHz: <0.6 dB
- 500 MHz: <1.0 dB
- 1 GHz: <1.5 dB

#### Isolation

- 100 MHz: >70 dB
- 500 MHz: >55 dB
- 1 GHz: >35 dB

#### Crosstalk

- 100 MHz: <-60 dB
- 500 MHz: <-43 dB
- 1 GHz: <-35 dB

#### VSWR

- 100 MHz: <1.1:1
- 500 MHz: <1.3:1
- 1 GHz: <1.9:1

#### Capacitance

- Closed Channel to Input Ground: <200 pF
- Open Channel to Input Ground: <150 pF

### Interface

#### Power Requirements (I<sub>PM</sub>)

- +5 V: 0.4 A (+5 V: 2.5 A with Option 01T installed)
- +12 V: 0.5 A

#### User Connector

- SMB (interface connectors not supplied, 36 maximum required)

### Environmental

#### Temperature

- Operating: 0° C to 55° C
- Storage: -40° C to 71° C

#### Relative Humidity

- 95% +5%, non-condensing at <30° C

#### Altitude

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

#### Shock

- 30 g, 11 ms, 1/2 sine wave

#### Vibration

- 0.013 in: double amplitude, 5 to 55 Hz

#### Bench Handling

- 4-inch drop at 45°

#### Emissions

- EN55011A with limits in accordance with EN50081-1

#### Immunity

- IEC801-2, 3, 4 with limits in accordance with EN50082-1

#### Safety

- EN61010-1

#### Switch Time

- <10 ms (includes settling time)

#### Rated Switch Operations

- >100,000,000 operations

#### MTBF (MIL-HDBK-217E, includes relays)

- 312,218 hrs

### Mechanical

#### Dimensions

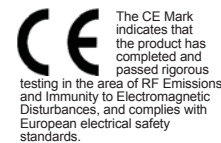
- C-Size, Single-Slot VXIbus Module

#### Weight

- 2.49 lb (1.17 kg) w/o Option 01T
- 2.87 lb. (1.29 kg) w/ Option 01T

#### Cooling Requirements

- Without Option 01T
  - Airflow: 1.0 l/s
  - Backpressure: 0.05 mm H<sub>2</sub>O
- With Option 01T
  - Airflow: 2.0 l/s
  - Backpressure: 0.2 mm H<sub>2</sub>O



## Ordering Information

Note: Compatible smart controller: A smart card must be installed in the left-most slot of a set of 1260-xx series switch cards. Two 1260 series smart cards exist:

- Option 01: Native command set. Not compatible with this 1260-xx series switch card and cannot be used.
- Option 01T: SCPI command set. Compatible with this 1260-xx series switch card and must be used in the chain.

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#### Options:

OPT-401901-005 : Racal Instruments™ Option 01, Smart Control Module installed (manual must be ordered separately; see below)

404820-005 : Racal Instruments™ Option 01, Smart Control Module (not installed) with manual

OPT-405108-001 : Racal Instruments™ Option 01T Smart Control Module installed (manual must be ordered separately; see below)

407531-001 : Racal Instruments™ Option 01T Smart Control Module (not installed) with manual



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