



## Ultra High-Density Matrix Module 1260-43

- ◆ **Three 8x24 Matrices in a Single VXI Slot**
- ◆ **10-Lane Programmable Matrix Expansion Bus Allows the Construction of Multiple Small MxN Matrices or Very Large Matrices**
- ◆ **Programmable Load Terminations**
- ◆ **Link Multiple Modules via the Front Panel**

Racal Instruments™ 1260-43 is an ultra high-density matrix switch card. Each module consists of three 8x24 single-wire matrices, which are interconnected via a 10-lane, single-wire bus. On-board configuration relays allow software control of the matrix configuration.

With its combination of density, versatility, expandability, and excellent signal integrity, the 1260-43 is ideal for constructing large switching systems. Multiple modules can be linked together via a front panel 10-Lane bus allowing the user to construct very large matrices. It allows great flexibility in the connection of a large numbers of instruments to a large number of test points. Designed for single-wire 50 ohm operation and featuring exceptional signal isolation, the 1260-43 is an excellent choice for audio, video, telecom, datacom, and ATE systems testing.

An Option 01T is required to communicate with this module and must be installed in a module that is adjacent, to the left, to this one in the VXI chassis.

An IVI-COM driver is available for this module.

# 1260-43 PRODUCT SPECIFICATIONS

## INPUT PERFORMANCE

### Maximum Switching Voltage

220 VDC or 250 VAC

### Maximum Switching Current

2 ADC or 2 AAC

### Maximum Switching Power

60 W, 62.5 VA

## DC PERFORMANCE (INITIAL)

### Path Resistance

> 1.1  $\Omega$  (8x24 configuration)

> 500 m $\Omega$  (1x4 configuration)

note: Additional 500 m $\Omega$  when using expansion bus in configuration

### Insulation Resistance

> 10<sup>9</sup> m $\Omega$

### Module Capacitance

< 300 pf (8x24 configuration)

< 250 pf (1x4 configuration)

note: Additional 50 pf when using expansion bus in configuration

### Thermal EMF

<10  $\mu$ V

### Impedance

50  $\Omega$

## AC PERFORMANCE (INTO 50 $\Omega$ )

### Bandwidth (-3 dB)

> 75 MHz (8x24 configuration)

> 100 MHz (1x4 configuration)

### Insertion Loss

#### 8 x 24 Configuration

10 MHz: < 1.0 dB

40 MHz: < 3.0 dB

#### 1 x 4 Configuration

10 MHz: < 1.0 dB

40 MHz: < 2.5 dB

### Isolation

#### 8 x 24 Configuration

100 kHz: > 80 dB

1 MHz: > 60 dB

10 MHz: > 40 dB

#### 1 x 4 Configuration

100 KHz: > 80 dB

1 MHz: > 60 dB

10 MHz: > 40 dB

## Crosstalk

### 8 x 24 Configuration

100 kHz: <-70 dB

1 MHz: <- 55 dB

10 MHz: <- 38 dB

### 1 x 4 Configuration

100 KHz: < -70 dB

1 MHz: < -60 dB

10 MHz: < -40 dB

## Noise Floor

100 Hz B/W, 0 to 10 MHz: < 100 dBm

## Leakage to Ground

> 100 M $\Omega$

## Impulse Withstanding Voltage

> 1000 V rms

## Terminations

There is one load set for each 8X24 matrix consisting of one pull-up (to +5V)/one pull-down (to ground). The load set is individually programmable to the following values and accuracies:

50 Ohms +15/-5 Ohms, 3/4 W

75 Ohms +17.5/-7.5 Ohms, 3/4 w

100 Ohms +20/-10 Ohms, 3/4 w

500 Ohms +60/-50 Ohms, 3/4 w

1000 Ohms +110/-100 Ohms, 3/4 w

## INTERFACE DATA

### Cooling Requirements

Airflow: 5.6 liters/sec

Backpressure: 0.59 mm H<sub>2</sub>O

### Power Requirements

+5 VDC at 8.5 A

+5VDC at 20 mA per energized relay

## ENVIRONMENTAL DATA

### Temperature

Operating: 0° C to 55° C

Storage: -40° C to 75° C

### Relative Humidity

85%  $\pm$ 5%, non-condensing at <30° C

### Altitude

Operating: 10,000 ft.\*

Non-Operating: 15,000 ft.

## Shock

30 g, 11 ms, ½ sine wave

## Vibration

0.013 inch P-P, 5-55 Hz

## Bench Handling

4-inch drop at 45°

## 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

### Switching Time

<10ms

### Rated Switch Operations

Mechanical: 1 x 10<sup>8</sup>

Electrical: 500,000 @ 30 V/1 A

### MTBF

With relays 25,535 Hours (25° C)  
(50% rated load, 0.1cycle/hour)

## MECHANICAL

### Weight

4.7 lbs

### Dimensions

C-size single slot VXIbus module

### Front Panel Connector

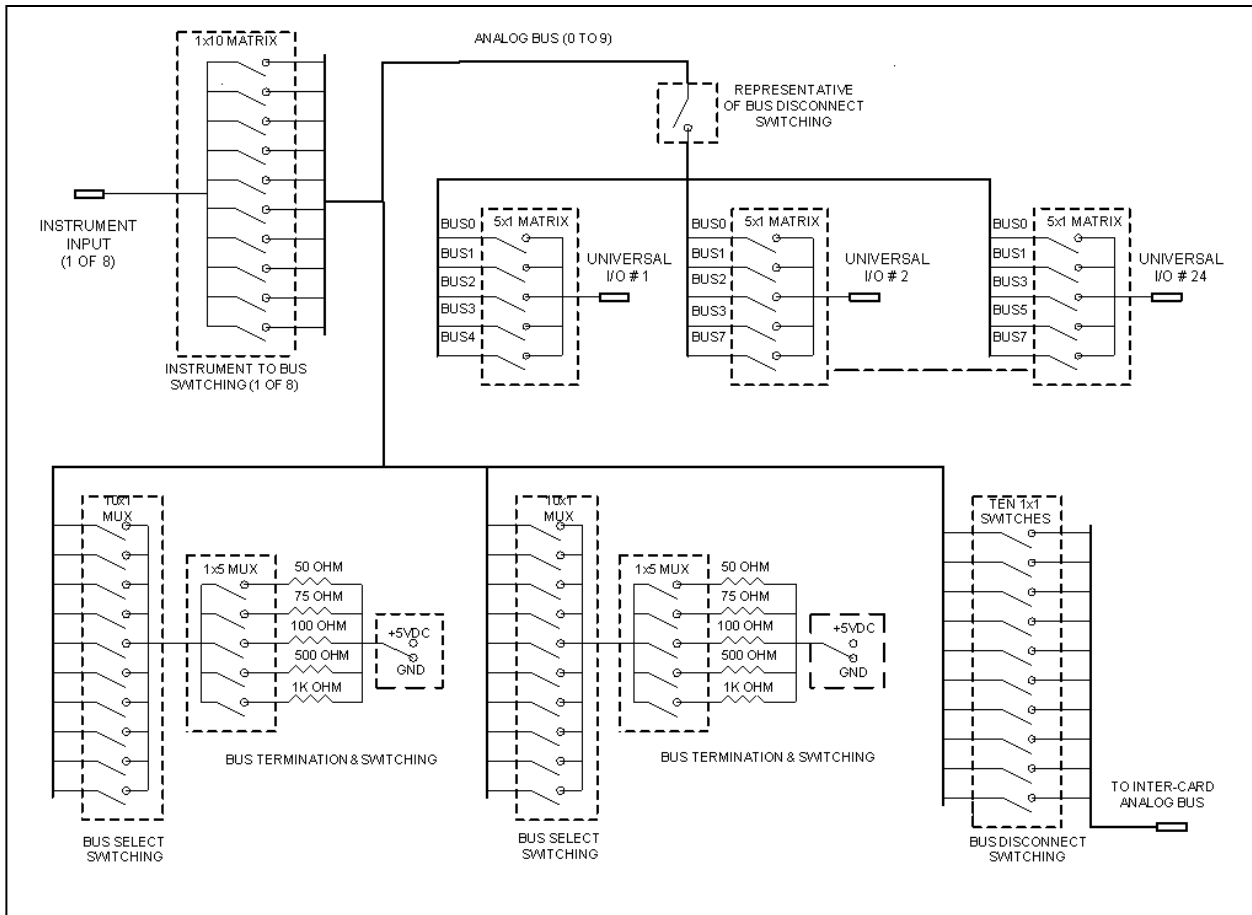
Eight, Two Row IDC Connectors:

Six, 34 pin, 0.1" pitch

Two, 20 pin, 0.1" pitch

\* Operation at 15,000 feet requires derating of maximum overall power dissipation to 65 W.

# 1260-43 BLOCK DIAGRAM



## ORDERING INFORMATION

### MODEL/DESCRIPTION

Racal Instruments 1260-43, Three 8x24 High-Density Switch Matrix  
 10 Lane Bus Module Interconnect Cable, 4 in.  
 20-pin Mating Cable Assembly, 3 ft.  
 34-pin Mating Cable Assembly, 3 ft.

### PART NUMBER

408006-001  
 602715-001  
 602715-002  
 602715-003

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