

## PXI High-Density, 64-Channel, MUX (Multiplexer) Switch Module

- ◆ **Highest Density 2 A (3006) MUX Module Available**
- ◆ **Versatile, 64 Bi-Directional Channels Under Software Control**
- ◆ **High Switch Voltage and High Current**
- ◆ **Excellent AC Bandwidth and Signal Integrity Ideal for Differential Applications**

Racal Instruments 1260-1138's high 220/250 VDC/VAC channel switching voltage is 300% greater than typical modules with 60 VDC rating while its 2A switching current is twice typical 1A module ratings.

The module is a versatile 2-wire, bi-directional, scanner/MUX that can be constructed in a wide range of MUX configurations under software control.

Each (1x8) multiplexer can be used to connect any combination of up to 2-wire signals to a 2-wire common. These commons may be linked under software control to construct many combinations of larger multiplexers. Possible configurations include:

- One (1x64) 2-wire
- Two (1x32) 2-wire
- Four (1x16) 2-wire
- One (1x16) 2-wire plus
- One (1x48) 2-wire
- Many other configurations

Racal Instruments 1260-1138A, a PXI scanner/MUX switch, is an innovative, seamless integration of an Off-the-Shelf Adapt-a-Switch® MUX module on a Racal Instruments PXI carrier. The module installs easily in any PXI/cPCI chassis without the need for user-supplied software or hardware to install or operate.

The 12.1" module length has market-leading performance that utilizes the available service area between the front of a chassis and a cable/connector receiver. It has 85% greater component density than a typical PXI switch module, providing higher switch performance.

The 1260-1138A is designed for true differential switching with low insertion loss, isolation and channel crosstalk, allowing it to maintain excellent AC bandwidth and signal integrity. The module is ideal for continuity testing, audio applications, video signals, telecom environments, datacom networks, and multipurpose ATE systems. Also, it is ideal for large switching systems or where the final switching requirements are not fully defined.

In keeping with cPCI requirements, the module can be ordered either as a 5 V or 3.3 V PXI bus voltage module. The module includes drivers for LabWindows/CVI 5.1 and LabVIEW 7.0.

# 1260-1138A PRODUCT SPECIFICATIONS

## INPUT

**Maximum Switching Voltage**  
220 VDC or 250 VAC

**Maximum Switching Current**  
2 A DC or 2 A AC

**Maximum Switching Power**  
60 W, 125 VA

## DC PERFORMANCE

**Path Resistance**  
1x8 (2-wire): <500 mΩ  
1x64 (2-wire): <800 mΩ

**Insulation Resistance**  
10<sup>9</sup> Ω

**Thermal EMF**  
1x8 (2-wire): <10 μV  
1x64 (2-wire): <20 μV

## AC PERFORMANCE (into 50 Ω)

**Bandwidth** (-3 dB)  
1x8: >85 MHz  
1x64: >4 MHz

**Insertion Loss** (1x8)  
100 kHz: <0.1 dB  
1 MHz: <0.2 dB  
10 MHz: <1.7 dB  
30 MHz: <1.7 dB

**Isolation** (1x8)  
100 kHz: >88 dB  
1 MHz: >78 dB  
10 MHz: >44 dB  
30 MHz: >40 dB

**Crosstalk** (1x8)  
100 kHz: <-63 dB  
1 MHz: <-63 dB  
10 MHz: <-41 dB  
100 MHz: <-34 dB

## Capacitance

1x8 (Channel-to-Chassis): <150 pF  
1x8 (Open Channel): <5 pF  
1x8 (Hi to Lo): <110 pF  
1x64 (Hi to Lo): <400 pF

## Adapt-a-Switch® Plug-in

### INTERFACE DATA

#### Cooling Requirements

Airflow: 3.0 l/s  
Back Pressure: 0.7 mm H<sub>2</sub>O

#### Power Requirements

+5 VDC at 150 mA plus  
30 mA per energized relay (2 A)

## ENVIRONMENTAL DATA

### Temperature

Operating: 0° C to 55° C  
Storage: -40° C to 75° C

### Relative Humidity

85% ±5%, non condensing at <30° C

### Altitude

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

### Shock

30G, 11 ms, ½ sine wave

### Vibration

0.013 in. pk-pk, 5-55 Hz

### Bench Handling

4-inch drop at 45°

## EMC

### Emissions

EN5501A with limits in accordance with  
EN50081-1

### Immunity

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

### Safety

EN61010-1

## RELIABILITY

### Switching Time

<5 ms max. (includes settling time)

## Rated Switch Operations

Mechanical: 100,000,000 operations  
Electrical: 100,000 operations at  
full-rated load

## MTBF (including relays)

MIL-HDBK-217E: 183,169 hrs.  
Bellcore: 154,107 hrs.

## MTRR

<5 min.

## MECHANICAL

### Weight

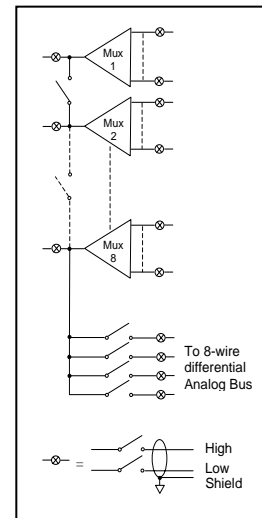
51.1 oz. (1.45 kg)

### Dimensions

4.5" H x 0.85" W x 12.1" D

## Front Panel I/O Interface Connector

160-pin DIN Connector



1260-1138A Block Diagram

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

## ORDERING INFORMATION

### MODEL/DESCRIPTION

Racal Instruments 1260-1138A-5, PXI, AaS, High-Density Multiplexer 5V Bus Voltage  
PXI to AaS Carrier/Enclosure 3.3 V Kit  
PXI to AaS Carrier/Enclosure 5 V Kit  
160-pin Mating Connector, 160-pin Connector w/pins  
160-pin Cable Assembly, 6 ft., 24 AWG

### PART NUMBER

1260-1138A-002  
408000-001  
408000-002  
407664  
407408-001

The EADS North America Defense Test and Services policy is one of continuous development, consequently the equipment may vary in detail from the description and specification in this publication.



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