

PXI High-Density, 64-Channel, MUX (Multiplexer) Switch Module Model 1260-1138A



- ◆ **Adapt-a-Switch® Scanner/MUX (multiplexer) Module on a Racal Instruments PXI Carrier**
- ◆ **Extended 12.1 inch Depth for High-Density, High-Channel Count and Market-Leading Performance**
- ◆ **Versatile, 64 Bi-Directional Channels Under Software Control**
- ◆ **High Switch Voltage and High Current**
- ◆ **Excellent AC Bandwidth and Signal Integrity Ideal for Differential Applications**
- ◆ **Unmatched 8 MHz Data Transfer Speed**

Model 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 use 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 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!

The 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.

Model 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.

The module has an 8 MHz data transfer speed, incomparably faster than typical 250,000 instructions/cycle, for fast data transfer required in timely, uninterrupted data acquisition and processing.

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.

Model 1260-1138A 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
10⁹ 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 H₂O

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.

MTTR

<5 min.

MECHANICAL

Weight

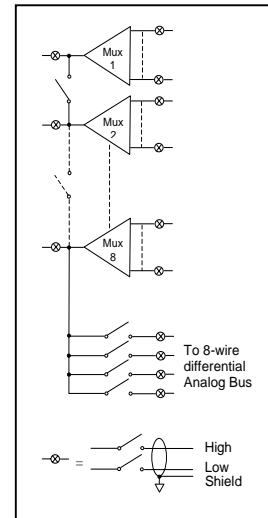
51.1 oz. (1.45 kg)

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

ORDERING INFORMATION

Model	Description	Part Number
1260-1138A-3	PXI, AaS, High-Density Multiplexer 3.3V Bus Voltage	1260-1138A-001
1260-1138A-5	PXI, AaS, High-Density Multiplexer 5V Bus Voltage	1260-1138A-002
408000-001	PXI to AaS Carrier/Enclosure 3.3 V Kit	408000-001
408000-002	PXI to AaS Carrier/Enclosure 5 V Kit	408000-002
407664	160-pin Mating Connector, 160-pin Connector w/pins	407664
407408-001	160-pin Cable Assembly, 6 ft., 24 AWG	407408-001

The Racal 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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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.

