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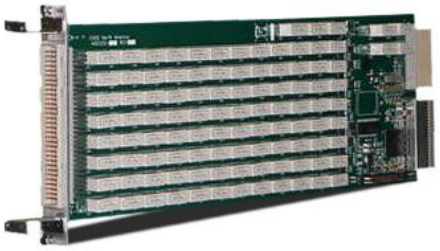
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Racal Instruments™ 1380

64-Channel 2-Wire 2 A Scanner/Multiplexer Plug-In

The Racal Instruments™ 1380 64-Channel Scanner/Multiplexer plug-in card for the 1800 series LXI Source/Measure Switch System is engineered for high reliability.

The truly scalable design expands the number of channels without inter-module cabling and easily integrates with instrumentation.

Key Features

- **Long-life operation with one million cycles at half-rated load (30 VDC/1 A)**
- **High-throughput scanning and simultaneous testing with 410x series DMMs**
- **Integrated discharge resistor for fast, accurate DMM measurements**
- **Software-configurable for one, two, four, and six-wire routing**
- **300 VAC/VDC switching of up to 2 A**
- **Supports Lab-Windows™/CVI, LabVIEW™, ActivATE™, and other popular test platforms**
- **Made in the USA**

Product Information

Engineered for High Reliability and Long Life

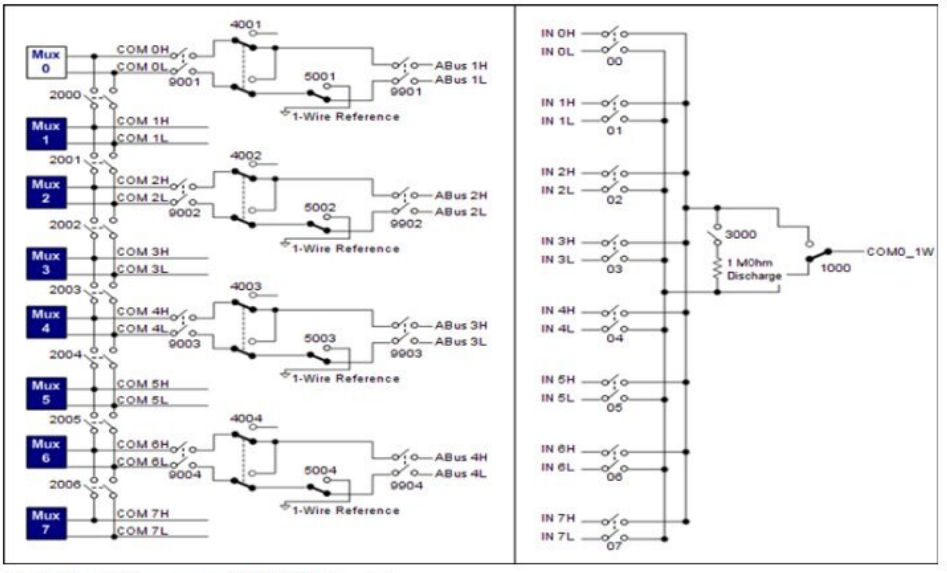
The 1380 scanner/multiplexer is engineered for longer life and increased system uptime with a lifetime rating twice that of typical switch plug-ins. Each channel is rated for 200,000 cycles at a full rated load of 60 W or 125 VA and 1,000,000 cycles at half of the rated load (30 VDC/1 A).

Integrated Signal Raceway Simplifies Cabling

The 1830 system features a multi-lane signal raceway for direct connectivity to simplify cabling. Each 1380 module can utilize the raceway as a direct connection to an instrument, such as a DMM, without the need for cabling between the module and the instrument. Multiple 1380 modules can also be combined for high-channel count testing on one or more UUTs.

Designed for Easy Integration

The 1380 plugs into an 1800 series mainframe, which includes USB-2, LXI, Ethernet, and GPIB connectivity for quick and easy connection to your host controller. Software drivers are included for popular test environments. Drivers based on the Microsoft Visual Studio® and .NET frameworks are provided for the ActivATE™ Test Platform development system. IVI-COM drivers are provided for NI's LabVIEW™ or Microsoft's Visual C++® development systems. IVI-C drivers are provided for NI's LabWindows™/CVI development system.



1380 Block Diagram and LXI Web Control

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Specifications

Note: The EADS North America Test and Services 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
- 300 VDC or 300 VAC

Maximum Switching Current
- 2 ADC/AC

Maximum Switching Power
- 60 W, 125 VA

DC Performance
(1X8, 2-Wire)

Path Resistance
- <750 mΩ (Initial)

Discharge Resistor
- 1 MΩ

Insulation Resistance
- $>10^9$ Ω

Thermal EMF
- <10 µV

Signal Raceway Connections
- x4 Connection to Differential Bus
- Thermal EMF: +2 µV
- Path Resistance: +1 Ω

AC Performance
(INTO 50 Ω)

Bandwidth (-3 dB)
- 1x8: 75 MHz
- 1x32: 24 MHz
- 1x64: 12 MHz

Insertion Loss (1x8)
- 100 kHz: <0.1 dB
- 1 MHz: <0.1 dB
- 10 MHz: <0.2 dB
- 75 MHz: <3 dB

Isolation (1x8)
- 100 kHz: >90 dB
- 1 MHz: >70 dB
- 10 MHz: >60 dB
- 75 MHz: >30 dB

Crosstalk (1x8)
- 100 kHz: <-90 dB
- 1 MHz: <-70 dB
- 10 MHz: <-60 dB
- 75 MHz: <-20 dB

Capacitance
- Channel-Chassis (1x8): <250 pF
- Open Channel (1x8): <20 pF
- Hi to Lo (1x8): <100 pF
- Hi to Lo (1x64): <300 pF

Interface

Front Panel I/O Interface Connector
- 160 pin DIN connector

Power Requirements
- +5 VDC at 100 mA
- +3.3 VDC at 100 mA
- +5 VDC at 30 mA per energized relay

Software

Operating System
- Runs on RedHat Linux to ensure full compliance with LXI and emerging network protocols

Native Language
- SCPI & SCPI scripting

Driver Support
- IVI (C and COM), LabVIEW™

Test Executive/GUI
- ActivATE™ (optional)

Web Page
- Accessed via LXI bus

Environmental

Temperature
- Operating: 0° C to 50° C
- Storage: -40° C to 71° C

Relative Humidity
- 80% RH at 40° C

Emissions/Immunity
- EN61326: 2006 Class B

Safety
- EN61010-1: 2001
- Pollution degree 1: 300 V
- Pollution degree 2: 250 V
- Not for connection directly to mains power
- Analog bus safety interlock

Material Handling
- RoHS

Switching Time
- <10 ms (includes settling time)

Rated Switch Operations
- Mechanical: 1 X 10^8
- Electrical: 200,000 @ 300 V_{rms}/ 0.416 A/125 VA

MTBF (MIL-STD-217FN2)
- 131,839 hrs

MTTR
- <5 min

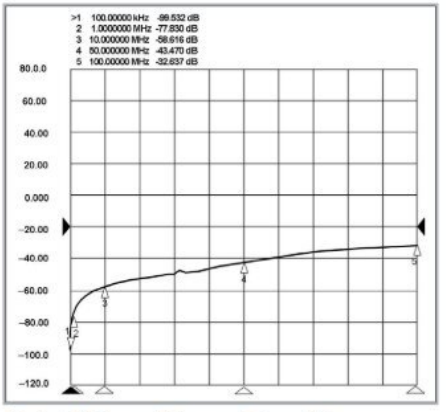
Relay Operations Counter
- Running total of operations stored in on-board non-volatile memory

Mechanical

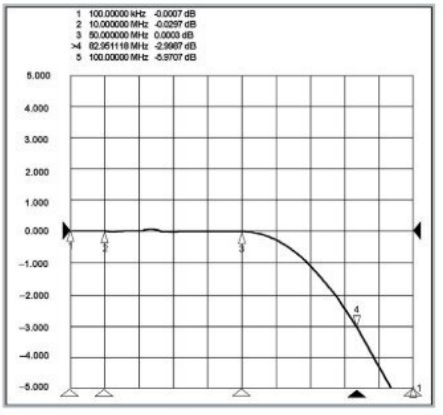
Dimensions
- 4.26" H x 0.75" W x 11.82" D

Weight
- 16 oz (0.45 kg)

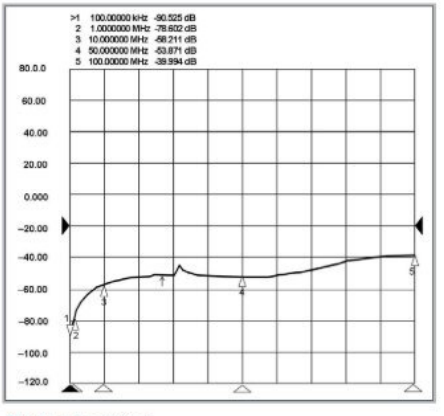
Typical Channel



Typical Adjacent Channel Crosstalk



Typical Insertion Loss



Typical Isolation

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Specifications
continued

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

Ordering Information

405325 : Racal Instruments™ 1380
64-Channel 2 A Scanner/Multiplexer Plug-In

Accessories:
408191 : 160 pin cable assembly, 6 ft.
408192 : 160 pin connector kit with back shell and pins
991084 : Crimp Tool Kit
991082 : Crimp Took Kit
991083 ; Turret Head

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