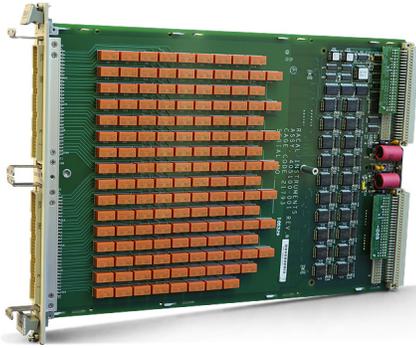


# Racal Instruments™ 1260-38T

## Shielded High-Density Scanner/Multiplexer



The Racal Instruments™ 1260-38T with its combination of density, versatility, expandability, and high signal integrity, is ideal for construction of large switching systems. It is an excellent choice for continuity testing, audio and telecomm switching, and multi-purpose ATE systems.

### Key Features

- Sixteen 1x8 two-wire scanner/multiplexer
- Link muxes up to 1x128 under program control
- 30 MHz bandwidth
- Switches up to 2 A and 220 VDC/250 VAC
- Two and four-wire switching modes
- High isolation/low crosstalk design

### Product Information

The 1260-38T is user-configurable using inter-connecting relays as sixteen 1x8 muxes to a 1x128 mux under program control. Four-wire switching is accomplished by switching adjacent channels simultaneously.

Special shielding, design, and added front panel “guard” grounds increase the isolation and lower the crosstalk.

All relays are bi-directional, enabling use as either a scanner or multiplexer. Each (1x8) multiplexer can be used to connect any combination of up to 8 two-wire signals to a two-wire common. These commons

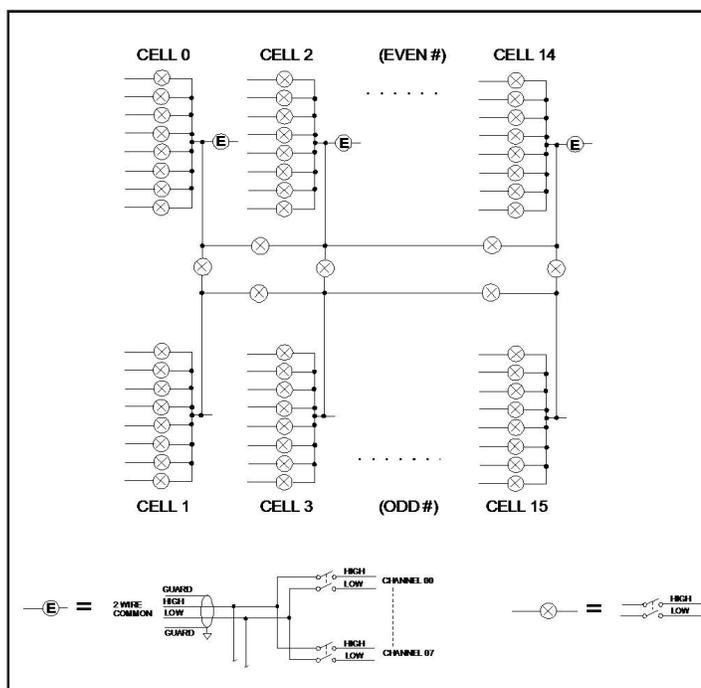
can be linked under program control to construct any combination of larger multiplexers.

The Racal Instruments™ Option 01 or 01T switch controller is required to communicate with the 1260-38T. The Option 01 should be used for applications with existing Option 01 software, but for all new applications the Option 01T should be used. The Option 01T provides message-based operation for ease of use and register-based operation for maximum speed.

The Option 01T mounts on the left-most 1260 Series module or Adapt-A-Switch® carrier 1260-100 and does not consume any VXI or Plug-in slots. It provides a single point of software control for the switching system with advanced features such as include, exclude, scan, relay monitoring, user defined path names, and reset states.

The scan feature is particularly useful with the 1260-38T; it permits scanning through a pre-defined list of closures across the entire switching system using the VXI TTL triggers. This can be used to construct a scanning DMM, counter, or other instrument. A block of measurements can be stored in the instrument’s memory for a single read-back, reducing test time.

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



Block Diagram

## 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

- 220 VDC or 220 VAC

#### Maximum Switching Current

- 2 ADC or 2 AAC

#### Maximum Switching Power

- 60 W, 125 VA

### DC Performance

#### Path Resistance

- 1x8 (2-wire): <750 M  $\Omega$
- 1x128 (2-wire): <1  $\Omega$

#### Insulation Resistance

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

#### Thermal EMF

- 1x8 (2-wire): <15  $\mu$ V
- 1x64 (2-wire): <20  $\mu$ V

### AC Performance

#### Bandwidth (-3 dB)

- 1x8: >30 MHz
- 1x128: >2 MHz

#### Insertion Loss (1X8)

- 100 kHz: <0.1 dB
- 1 MHz: <0.2 dB
- 10 MHz: <0.25 dB

#### Isolation (1x8)

- 10 MHz: >45 dB
- 30 MHz: >30 dB

#### Crosstalk (1X8)

- 10 MHz: <-50 dB
- 30 MHz: <-34 dB

#### Capacitance

- 1x8 (Channel to Chassis): <5 pF
- 1x8 (Hi to Lo): <120 pF
- 1x64 (Hi to Lo): <600 pF

### Interface

#### Power Requirements

- Without Option 01 or 01T installed:
  - +5 V Static Current, I<sub>PM</sub>: 0.4 A
  - +5 V Dynamic Current, I<sub>DM</sub>: 0.075 A
- With Option 01 or 01T installed:
  - +5 V Static Current, I<sub>PM</sub>: 2.5 A
  - +5 V Dynamic Current, I<sub>DM</sub>: 0.225 A
  - +24 V Static Current, I<sub>PM</sub>: 6 mA per energized relay
  - +24 V Dynamic Current, I<sub>DM</sub>: 0 A

### Environmental

#### 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 in: (pk-pk), 5 to 55 Hz

#### Bench Handling

- 4 in drop at 45°

#### Switching Time

- <5 ms max (includes settling time)

#### Rated Switch Operations

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

#### MTBF (MIL-HDBK-217E)

- 16,570 hrs

#### Emissions

- EN55011A with limits in accordance with EN50081-1

#### Immunity

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

#### Safety

- EN61010-1

### Mechanical

#### Weight

- Without Option 01/01T installed: 3.2 lb (1.45 kg)
- With Option 01/01T installed: 3.5 lb (1.60 kg)

#### Dimensions

- C-size, Single-slot VXIbus Module

#### Front Panel I/O Interface Connector

- Two 160 pin DIN Connector

#### Cooling Requirements

- Without Option 01/01T
  - Airflow: 2.0 l/s
  - Backpressure: 0.05 mm H<sub>2</sub>O
- With Option 01/01T
  - Airflow: 3.0 l/s
  - Backpressure: 0.2 mm H<sub>2</sub>O



## Ordering Information

Notes: Compatible smart controllers: A smart card must be installed in the left-most slot of a set of 1260-xx series switch cards. There are two options:

- Option 01: Native command set. For use in previously designed switching systems that used the Option 01.
- Option 01T: SCPI command set. For use in new systems and previously designed systems that used the Option 01T.

### 407410-001 : Racal Instruments™ 1260-38T

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# Ordering Information

continued

## Options and Accessories:

- 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
- 407407 : 160-pin Mating Connector Kit, w/ Backshell and Pins(1260-38T uses two)
- 407408 : 160-pin Cable Assembly, 24GA, 6 Feet (1260-38T uses two)
- 407409 : 160-pin Cable Assembly, 24GA, 12 Feet (1260-38T uses two)
- 990898 : Insertion Tool
- 990899 : Extraction Tool



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