Model: 232DRIO
RS-232 Digital Relay I/O

Features

- RS-232 Serial Communications
- CMOS/TTL Compatible Input and Outputs
- One 2500V Isolated Port
- Two Single Pole, Double Throw (SPDT) Relay Outputs
- LEDs Indicate Input and Relay Channel Status
- Screw Terminals for Easy Field Wiring

Functional Description

The 232DRIO provides a low-cost, easy to use solution for RS-232 serial port to discrete relay output applications. It offers one optically isolated input and two relay outputs. The General Purpose Control Module can be used to sense external ON/OFF conditions and to control a variety of devices. The 232DRIO includes a CD ROM with an instruction manual and demonstration programs written in QuickBASIC and C/C++.

Ordering Information

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>232DRIO</td>
<td>RS-232 Digital Relay I/O</td>
</tr>
<tr>
<td>Accessories</td>
<td></td>
</tr>
<tr>
<td>232CAMR</td>
<td>DB25F to DB9M 6 inch adapter cord</td>
</tr>
<tr>
<td>232PS2</td>
<td>12VDC (100mA) Wall Transformer Power Supply</td>
</tr>
<tr>
<td>9PAMF10</td>
<td>10 ft - DB9 to DB9 Cable, Male to Female</td>
</tr>
<tr>
<td>9PAMF6</td>
<td>6 ft - DB9 to DB9 Cable, Male to Female</td>
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</tbody>
</table>
Operation

- The Instruction Manual contained on the CD ROM has detailed operational information.
- Table One is the RS-232 DB9F Pin-out. Note: this device is wired as DCE.
- Table Two is the I/O Line Terminal layout.

### Table 1
**RS-232 DB9F Pin-out (DCE)**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Receive Data (RD)</td>
<td>Output</td>
</tr>
<tr>
<td>3</td>
<td>Transmit Data (TD)</td>
<td>Input</td>
</tr>
<tr>
<td>5</td>
<td>Signal Ground</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Power</td>
<td></td>
</tr>
</tbody>
</table>

Note: Pin 9 is NOT Required. Refer to Manual

### Table 2
**Terminal Block Layout**

<table>
<thead>
<tr>
<th>Blue Function</th>
<th>Black Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 1 Ground Input Power</td>
<td>Pin 1 Opto-Isolated Input</td>
</tr>
<tr>
<td>Pin 2 +12VDC Input Power</td>
<td>Pin 2 Opto-Isolated Input</td>
</tr>
<tr>
<td>Pin 3 #2 – Normally Closed</td>
<td>Note Non Polarized</td>
</tr>
<tr>
<td>Pin 4 #2 – Normally Open</td>
<td>0 – 30 VAC / VDC</td>
</tr>
<tr>
<td>Pin 5 #2 – Common</td>
<td></td>
</tr>
<tr>
<td>Pin 6 #1 – Normally Closed</td>
<td></td>
</tr>
<tr>
<td>Pin 7 #1 – Normally Open</td>
<td></td>
</tr>
<tr>
<td>Pin 8 #1 – Common</td>
<td></td>
</tr>
</tbody>
</table>

### Specifications

#### Non-Polarized Optically Isolated Input

- Channels: 1

#### Indication Mode

- Logic “0”: LED On, Input Voltage High
- Logic “1”: LED Off, Input Voltage Low

#### Electrical Characteristics

- Input Voltage Low: Less Than 1.5VAC/VDC
- Input Voltage High: 5 – 30 VAC/VDC @ 1 – 30 mA
- Isolation Voltage: 2500 VAC RMS
- Leakage Current: 10 micro A (max)

### Relay Outputs

- Channels: 2 Electromechanical Relays

#### Indication Mode

- Logic “0”: LED Off, Relays De-energized
- Logic “1”: LED On, Relays Energized

#### Relay Ratings

- Contact (standard): 10 A @ 120 VAC
- Max Switching Capacity: 1200VA / 240 W
- Max Operating Voltage: 250VAC / 125 VDC
- Max Carrying Current: 10A (AC), 8A (DC) – standard
- Min Permissible Load: 100mA @ 5 VDC
- Relay Form: Form C, SPDT
- Operating Time: 10ms Max (mean 5.1 ms)
- Mechanical Life: 10 million operations minimum
- Load Dependent Life: 100 thousand operations minimum

### Power Supply

- Standard: RS-232 (Unit is DCE)
- Input Voltage: 9 to 16 VDC
- Input Current: 100 mA
- Connection: Blue terminal block field wiring or DB9F Pin 9 (see manual)

### Communications

- Baud Rate: 9600
- Format: 8 data bits, 1 stop bit, no parity
- Connection: DB9F

### Environment

- Op Temperature: 32 to 158 F (0 to 70 C)
- Op Humidity: 0 to 95% Non-condensing
- Storage Temp: -4 to 158 F (-20 to 70 C)
- Dimensions: 4.6 x 2.4 x 1.3 in (11.7 x 6.1 x 3.3 cm)
- MTBF: 141777 hours
- MTBF Calc Method: Parts Count Reliability Prediction