RS-232 Digital Relay I/O
Model 232DRIO

OVERVIEW
Model 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++.

PRODUCT 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

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>
</tbody>
</table>

ACCESSORIES
232CAMR - DB25F to DB9M 6 inch adapter cord
SMI6-12-V-ST - Power Supply, 12 VDC 6 Watt, Stripped and Tinned, International AC Input, International AC Blades
9PAMF6 - DB9 Male to DB9 Female Serial Adapter Cable, 1.83 m (6 feet)
9PAMF10 - DB9 Male to DB9 Female Serial Adapter Cable, 3.05 m (10 feet)
# RS-232 Digital Relay I/O
## Model 232DRIO

### SPECIFICATIONS

#### COMMUNICATIONS

- **Standard**: RS-232 (DCE)
- **Baud Rate**: 9600
- **Format**: 8 data bits, 1 stop bit, no parity
- **Connection**: DB9 Female

#### 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 (maximum)

#### RELAY OUTPUTS

- **Channels**: 2 Electromechanical Relays
- **Indication Mode**: Logic “0”: LED Off, Relays De-energized
  Logic “1”: LED On, Relays Energized

#### POWER SUPPLY

- **Input Voltage**: 9 to 16 VDC
- **Input Current**: 100 mA
- **Connection**: Blue terminal block field wiring or DB9F Pin 9 (see manual)

#### ENVIRONMENT

- **Operating Temperature**: 32 to 158 °F (0 to 70 °C)
- **Operating Humidity**: 0 to 95% Non-condensing
- **Storage Temperature**: -4 to 158 °F (-20 to 70 °C)
- **Dimensions**: 11.7 x 6.1 x 3.3 cm (4.6 x 2.4 x 1.3 in)
- **MEANTIME BEFORE FAILURE (MTBF)**
  - MTBF: 1,156,144 hours
  - MTBF Calculation Method: MIL217 Parts Count Reliability Prediction

#### RS-232 DB9F PINOUT (WIRED AS 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 for more details).

#### I/O LINE TERMINAL LAYOUT

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