**Single Shot (Pulse Former)**

**KRDS Digi-Timer**

**Time Delay Relay**

**Description**

The KRDS Series is a compact time delay relay measuring only 2 in. (50.8 mm) square. Its microcomputer timing circuit provides excellent repeat accuracy and stability. Encapsulation protects against shock, vibration, and humidity. The KRDS Series is a cost effective approach for OEM applications that require small size, isolation, reliability, and long life.

**Operation**

Input voltage must be applied to the input before and during timing. Upon momentary or maintained closure of the initiate switch, the output relay is energized for a measured interval of time. At the end of the delay, the output de-energizes. Opening or reclosing the initiate switch during timing has no affect on the time delay. The output will energize if the initiate switch is closed when input voltage is applied.

**Reset:** Reset occurs when the time delay is complete and the initiate switch is opened. Loss of input voltage resets the time delay and output.

**Ordering Table**

<table>
<thead>
<tr>
<th>KRDS Series</th>
<th>Input</th>
<th>X Adjustment</th>
<th>X Time Delay</th>
<th>P/N: KRDS421</th>
<th>P/N: KRDS4110M</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 12 V DC</td>
<td>1 - Fixed</td>
<td>0 - 0.1</td>
<td>Fixed Delay</td>
<td>10 s</td>
<td>1000 s</td>
</tr>
<tr>
<td>2 - 24 V AC/DC</td>
<td>2 - Onboard</td>
<td>1 - 1</td>
<td>Fixed Delay</td>
<td>100 s</td>
<td>10000 s</td>
</tr>
<tr>
<td>3 - 120 V AC</td>
<td></td>
<td>2 - 10</td>
<td>Fixed Delay</td>
<td>1000 s</td>
<td>10000 s</td>
</tr>
<tr>
<td>4 - 110 V AC</td>
<td></td>
<td>3 - 0.1</td>
<td>Fixed Delay</td>
<td>10 m</td>
<td>100 m</td>
</tr>
<tr>
<td>5 - 110 V DC</td>
<td></td>
<td>4 - 1</td>
<td>Fixed Delay</td>
<td>100 m</td>
<td>1000 m</td>
</tr>
</tbody>
</table>

**Example P/N:** KRDS421 Fixed - KRDS4110M

**Technical Data**

**Time Delay**

- **Type:** Microcontroller with watchdog circuitry
- **Range:** 0.1 s ... 1000 m in 6 adjustable ranges or fixed
- **Tolerance (Factory Calibration):** ±1% or 16 ms @ 60 Hz, 20 ms @ 50 Hz, whichever is greater
- **Recycle Time:** ≤250 ms
- **Initiate Time:** AC: ≤40 ms; DC: ≤10 ms
- **Time Delay vs. Temperature & Voltage:** ≤±5%

**Input**

- **Voltage:** 12, 24 or 110 V DC; 120 V AC; 24 V AC/DC
- **Line Frequency:** 50 ... 60 Hz
- **Tolerance:** 12 V DC & 24 V DC/AC: -15% ... +20%
- **Power Consumption:**
  - 12 V DC: ≤1 W; 120 V AC: ≤1/4 hp; 120 V AC: ≤2 VA
- **Output**
  - **Type:** Isolated relay contacts
  - **Form:** Single pole double throw (SPDT)
  - **Rating (at 40°C):** 5 A resistive at 30 V DC; 1/4 hp at 125 V AC
  - **Max. Switching Voltage:** 250 V AC

**Protection**

- **Circuitry:** Encapsulated
- **Insulation Voltage:** ≥1500 V RMS, input to output
- **Insulation Resistance:** ≥100 MΩ
- **Polarity:** DC units are reverse polarity protected

**Mechanical**

- **Mounting:** Surface mount with one #10 (M5 x 0.8) screw
- **Package:** 2 x 2 x 1.21 in. (50.8 x 50.8 x 30.7 mm)
- **Termination:** 0.25 in. (6.35 mm) male quick connect terminals

**Environmental**

- **Operating Temperature:** -40°C ... +60°C
- **Storage Temperature:** -40°C ... +85°C
- **Humidity:** 95% relative, non-condensing
- **Weight:** 2.6 oz (74 g)

**Accessories**

- **Female quick connect:** P/N: P1015-64 (AWG 14/16)
- **Quick connect to screw adapter:** P/N: P1015-18
- **Mounting bracket:** P/N: P1023-6
- **DIN rail P/Ns:**
  - 1732205 (Steel)
  - C1303PM (Al)

See accessory pages at the end of this section.