

# KRDI SERIES



## Description

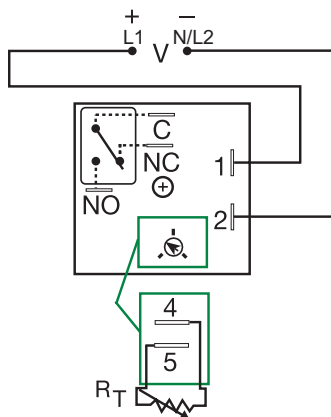
The KRDI Series is a compact time-delay relay measuring only 2 in. (50.8 mm) square. Its solid-state timing circuit provides excellent repeat accuracy and stability. Encapsulation protects against shock, vibration, and humidity. The KRDI Series is a cost effective approach for OEM applications that require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

### Operation (Interval)

Upon application of input voltage, the time delay begins. The output relay energizes during the time delay. At the end of the time delay, the output de-energizes and remains de-energized until input voltage is removed.

**Reset:** Removing input voltage resets the time delay and the output.

## Wiring Diagram



V = Voltage  
C = Common, Transfer Contact  
NO = Normally Open  
NC = Normally Closed

A knob is supplied for adjustable units, or  $R_T$  terminals 4 & 5 for external adjust. See external adjustment vs time delay chart.

Relay contacts are isolated.

## Features & Benefits

FEATURES	BENEFITS
<b>Compact, low cost design measuring 2 in. (50.8mm) square</b>	Allows flexibility for OEM applications
<b>Microcontroller based</b>	Repeat Accuracy + / - 0.5%, Factory calibration + / - 5%
<b>Isolated, 10A, SPDT output contacts</b>	Allows control of loads for AC or DC voltages
<b>Encapsulated</b>	Protects against shock, vibration, and humidity

## Accessories

**P1004-95, P1004-95-X Versa-Pot**  
Panel mountable, industrial potentiometer recommended for remote time delay adjustment.

**P1023-6 Mounting bracket**  
The 90° orientation of mounting slots makes installation/removal of modules quick and easy.

**P0700-7 Versa-Knob**  
Designed for 0.25 in (6.35 mm) shaft of Versa-Pot. Semi-gloss industrial black finish.

**P1015-13 (AWG 10/12), P1015-64 (AWG 14/16) Female Quick Connect**  
These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.

**P1015-18 Quick Connect to Screw Adapter**  
Screw adapter terminal designed for use with all modules with 0.25 in. (6.35 mm) male quick connect terminals.

## Ordering Information

MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY
KRDI120	12VDC	Onboard knob	0.1 - 10s
KRDI121	12VDC	Onboard knob	1 - 100s
KRDI122	12VDC	Onboard knob	10 - 1000s
KRDI2110S	24VAC/VDC	Fixed	10s
KRDI2160S	24VAC/VDC	Fixed	60s
KRDI220	24VAC/VDC	Onboard knob	0.1 - 10s
KRDI320	24VDC	Onboard knob	0.1 - 10s
KRDI420	120VAC	Onboard knob	0.1 - 10s
KRDI424	120VAC	Onboard knob	1 - 100m

If you don't find the part you need, call us for a custom product 800-843-8848

## KRDI SERIES

### Accessories



**C103PM (AL) DIN Rail**  
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



**P1023-20 DIN Rail Adapter**  
Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

### Specifications

#### Time Delay

**Range** 0.1s - 100m in 5 adjustable ranges or fixed  
**Repeat Accuracy**  $\pm 0.5\%$  or 20ms, whichever is greater  
**Tolerance**  
**(Factory Calibration)**  $\leq \pm 5\%$   
**Reset Time**  $\leq 150\text{ms}$   
**Time Delay vs Temp. & Voltage**  $\leq \pm 5\%$

#### Input

**Voltage** 12, 24 or 110VDC; 24, 120 or 230VAC  
**Tolerance**  
**12VDC & 24VDC/AC** -15% - 20%  
**110VDC, 120VAC or 230VAC** -20% - 10%  
**AC Line Frequency/DC Ripple** 50/60 Hz /  $\leq 10\%$   
**Power Consumption** AC  $\leq 2\text{VA}$ ; DC  $\leq 2\text{W}$

#### Output

**Type** Isolated relay contacts  
**Form** SPDT  
**Rating (at 40°C)** 10A resistive @ 125VAC;  
 5A resistive @ 230VAC & 28VDC;  
 1/4 hp @ 125VAC  
 250VAC  
**Max. Switching Voltage**  
**Life (Operations)** Mechanical -  $1 \times 10^7$ ; Electrical -  $1 \times 10^5$

#### Protection

**Circuitry** Encapsulated  
**Isolation Voltage**  $\geq 1500\text{V RMS}$  input to output  
**Insulation Resistance**  $\geq 100 \text{ M}\Omega$   
**Polarity** DC units are reverse polarity protected

#### Mechanical

**Mounting** Surface mount with one #10 (M5 x 0.8) screw  
**Dimensions** **H** 50.8 mm (2"); **W** 50.8 mm (2");  
**D** 30.7 mm (1.21")

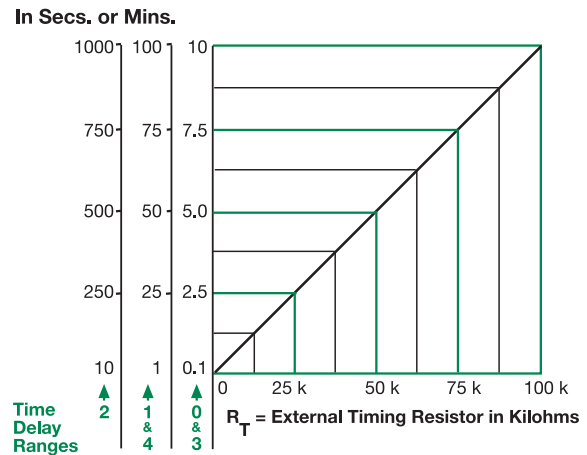
#### Termination

0.25 in. (6.35 mm) male quick connect terminals

#### Environmental

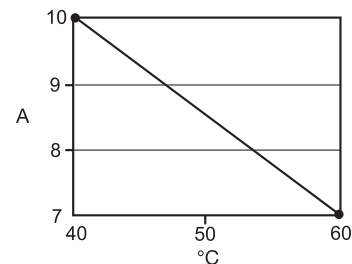
**Operating/Storage Temperature** -20° to 60°C / -40° to 85°C  
**Humidity** 95% relative, non-condensing  
**Weight**  $\cong 2.6 \text{ oz (74 g)}$

### External Resistance vs. Time Delay



This chart applies to externally adjustable part numbers. The time delay is adjustable over the time delay range selected by varying the resistance across the  $R_T$  terminals; as the resistance increases the time delay increases. When selecting an external  $R_T$ , add the tolerances of the timer and the  $R_T$  for the full time range adjustment.  
**Examples:** 1 to 50 S adjustable time delay, select time delay range 1 and a 50 K ohm  $R_T$ . For 1 to 100 S use a 100 K ohm  $R_T$ .

### Output Current/Ambient Temperature



### Function Diagram

