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# KRDM SERIES



## Description

The KRDM 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 KRDM Series is a cost effective approach for OEM applications that require small size, isolation, reliability, and long life.

### Operation (Delay-on-Make)

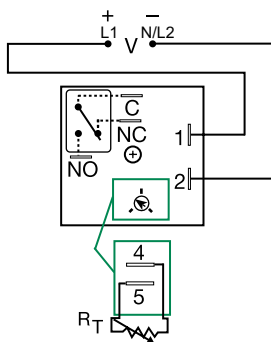
Upon application of input voltage, the time delay begins. The output is de-energized before and during the time delay. At the end of the time delay, the output relay energizes and remains energized until input voltage is removed.

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

## Features & Benefits

FEATURES	BENEFITS
<b>Microcontroller based</b>	Repeat Accuracy + / - 0.5%
<b>Compact, low cost design</b>	Allows flexibility for OEM applications
<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

## 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.

## 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.

## Ordering Information

MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY	MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY
KRDM1110S	12VDC	Fixed	10s	KRDM4110M	120VAC	Fixed	10m
KRDM1130S	12VDC	Fixed	30s	KRDM4110S	120VAC	Fixed	10s
KRDM120	12VDC	Onboard knob	0.1 - 10s	KRDM4145S	120VAC	Fixed	45s
KRDM121	12VDC	Onboard knob	1 - 100s	KRDM420	120VAC	Onboard knob	0.1 - 10s
KRDM2110M	24VAC/DC	Fixed	10m	KRDM421	120VAC	Onboard knob	1 - 100s
KRDM215M	24VAC/DC	Fixed	5m	KRDM424	120VAC	Onboard knob	1 - 100m
KRDM220	24VAC/DC	Onboard knob	0.1 - 10s	KRDM430	120VAC	External	0.1 - 10s
KRDM221	24VAC/DC	Onboard knob	1 - 100s	KRDM433	120VAC	External	0.1 - 10m
KRDM223	24VAC/DC	Onboard knob	0.1 - 10m	KRDM6115M	230VAC	Fixed	15m
KRDM310.2S	24VDC	Fixed	0.2s				

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

## KRDM SERIES

### Accessories



**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.

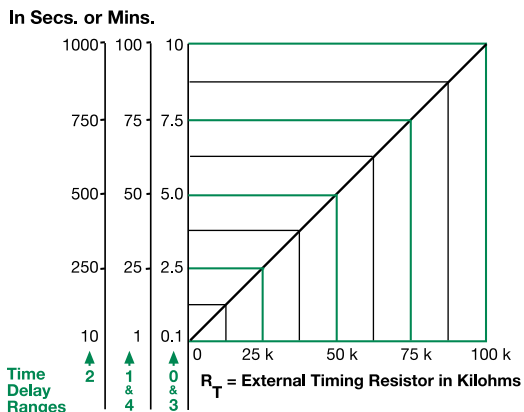


**C103PM (AL) DIN Rail**  
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



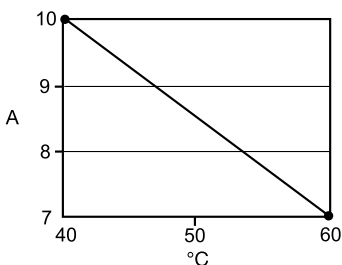
**P1023-20 DIN Rail Adapter**  
Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

### 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



### Specifications

<b>Time Delay Range</b>	0.1s - 100m in 5 adjustable ranges or fixed $\pm 0.5\%$ or 20ms, whichever is greater
<b>Repeat Accuracy Tolerance</b>	
<b>Factory Calibration)</b>	$\leq \pm 5\%$
<b>Recycle Time</b>	$\leq 150\text{ms}$
<b>Time Delay vs Temp. &amp; Voltage</b>	$\leq \pm 5\%$
<b>Input Voltage</b>	12, 24 or 110VDC; 24, 120 or 230VAC
<b>Tolerance</b>	
<b>12VDC &amp; 24VAC/DC</b>	-15% - 20%
<b>110VDC 120 &amp; 230VAC</b>	-20% - 10%
<b>AC Line Frequency/DC Ripple</b>	50/60 Hz / $\leq 10\%$
<b>Power Consumption</b>	AC $\leq 2\text{VA}$ ; DC $\leq 2\text{W}$
<b>Output Type</b>	Isolated relay contacts
<b>Form</b>	SPDT
<b>Rating (at 40°C)</b>	10A resistive @ 125VAC; 5A resistive @ 230VAC & 28VDC; 1/4 hp @ 125VAC
<b>Max. Switching Voltage</b>	250VAC
<b>Life (Operations)</b>	Mechanical - $1 \times 10^7$ ; Electrical - $1 \times 10^5$
<b>Protection</b>	Encapsulated
<b>Circuitry</b>	
<b>Isolation Voltage</b>	$\geq 1500\text{V RMS}$ input to output
<b>Insulation Resistance</b>	$\geq 100 \text{M}\Omega$
<b>Polarity</b>	DC units are reverse polarity protected
<b>Mechanical</b>	
<b>Mounting</b>	Surface mount with one #10 (M5 x 0.8) screw
<b>Dimensions</b>	<b>H</b> 50.8 mm (2.0"); <b>W</b> 50.8 mm (2.0"); <b>D</b> 30.7 mm (1.21")
<b>Termination</b>	0.25 in. (6.35 mm) male quick connect terminals
<b>Environmental</b>	
<b>Operating/Storage Temperature</b>	-20° to 60°C / -40° to 85°C
<b>Humidity</b>	95% relative, non-condensing
<b>Weight</b>	$\approx 2.6 \text{ oz (74 g)}$

### Function Diagram

