

## Single Shot



R<sub>T</sub> is used when external adjustment is ordered.  
A knob is supplied for adjustable units. The untimed load is optional.  
Relay contacts are isolated.

MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY
KRDS1135M	12VDC	Fixed	35m
KRDS120	12VDC	Onboard	0.1 - 10s
KRDS221	24VAC/DC	Onboard	1 - 100s
KRDS420	120VAC	Onboard	0.1 - 10s
KRDS421	120VAC	Onboard	1 - 100s
KRDS424	120VAC	Onboard	1 - 100m
KRDS430	120VAC	External	0.1 - 10s

## Description

The KRDS Series is a compact time delay relay measuring only 2 in. (50.8 mm) square. Its microcontroller 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.

Input voltage must be applied before and during timing. Upon momentary or maintained closure of the initiate switch, the output relay energizes 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.

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>	To protect against shock, vibration, and humidity

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

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

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

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**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.

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**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.

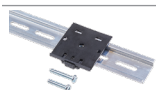
## KRDS SERIES

### Accessories



#### C103PM (AL) DIN Rail

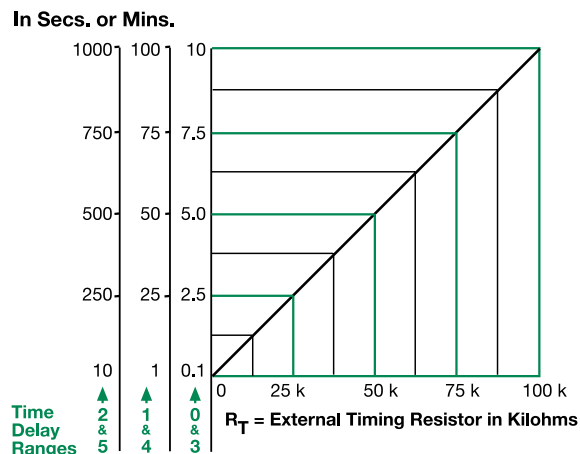
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



#### P1023-20 DIN Rail Adapter

Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

### External Resistance vs. Time Delay



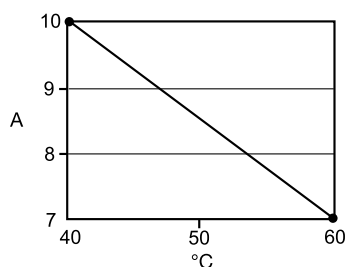
#### This chart applies to externally adjustable part numbers.

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

#### Time Delay

##### Type

Microcontroller with watchdog circuitry  
0.1s - 1000ms in 6 adjustable ranges or fixed

##### Range

##### Repeat Accuracy

##### Tolerance

##### (Factory Calibration)

##### Reset Time

##### Initiate Time

##### Time Delay vs Temp.

##### & Voltage

##### Input

##### Voltage

##### Tolerance

##### 12VDC & 24VDC/AC

##### 110VDC, 120VAC or 230VAC

##### AC Line Frequency/DC Ripple

##### Power Consumption

##### Output

##### Type

##### Form

##### Rating (at 40°C)

#### Life (Operations)

#### Protection

#### Circuitry

#### Isolation Voltage

#### Insulation Resistance

#### Polarity

#### Mechanical

#### Mounting

#### Dimensions

#### Termination

#### Environmental

#### Operating/Storage

#### Temperature

#### Humidity

#### Weight

12, 24 or 110VDC; 24, 120 or 230VAC

-15% - 20%

-20% - 10%

50/60 Hz /  $\leq 10\%$

AC  $\leq 2$ VA; DC  $\leq 2$ W

Isolated relay contacts

SPDT

10A resistive @ 125VAC;

5A resistive @ 230VAC & 28VDC;

1/4 hp @ 125VAC

Mechanical -  $1 \times 10^7$ ; Electrical -  $1 \times 10^5$

Encapsulated

$\geq 1500$ V RMS input to output

$\geq 100$  M $\Omega$

DC units are reverse polarity protected

Surface mount with one #10 (M5 x 0.8) screw

**H** 50.8 mm (2.0"); **W** 50.8 mm (2.0");

**D** 30.7 mm (1.21")

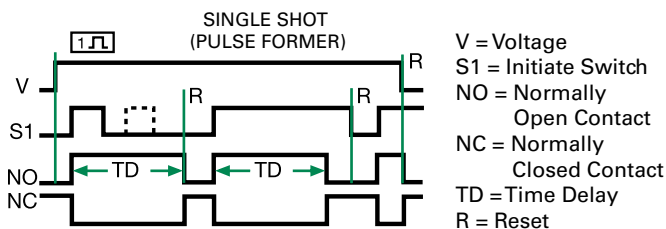
0.25 in. (6.35 mm) male quick connect terminals

-40° to 60°C/-40° to 85°C

95% relative, non-condensing

$\approx 2.6$  oz (74 g)

### Function Diagram



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Littelfuse:](#)

[KRDS221](#) [KRDS430](#) [KRDS420](#) [KRDS424](#) [KRDS1135M](#) [KRDS421](#) [KRDS120](#)