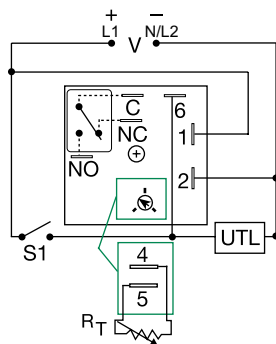


## KRDS SERIES

### Single Shot



### Wiring Diagram



V = Voltage  
S1 = Initiate Switch  
C = Common, Transfer Contact  
NO = Normally Open  
NC = Normally Closed  
UTL = Untimed Load

$R_T$  is used when external adjustment is ordered. A knob is supplied for adjustable units. The untimed load is optional. Relay contacts are isolated.

### Ordering Information

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

If desired part number is not listed, please call us to see if it is technically possible to build.

### 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.

#### Operation (Single Shot)

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 effect 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

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

### 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.



#### P1015-64 (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.

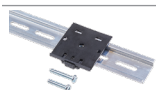
## KRDS SERIES

### Accessories



#### C103PM (AL) DIN Rail

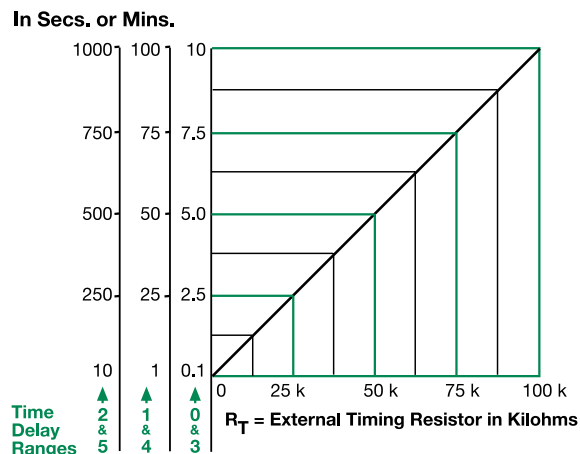
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



#### 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



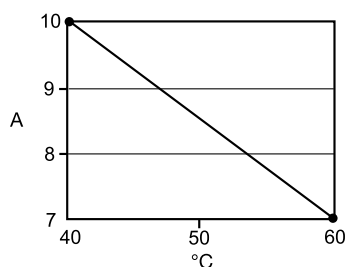
#### This chart applies to externally adjustable part numbers.

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

≤ ±5%

≤ 150ms

≤ 40ms

≤ ±5%

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

-15% - 20%

-20% - 10%

50/60 Hz / ≤ 10%

AC ≤ 2VA; DC ≤ 2W

Isolated relay contacts

SPDT

10A resistive @ 125VAC;

5A resistive @ 230VAC & 28VDC;

1/4 hp @ 125VAC

Mechanical - 1 x 10<sup>7</sup>; Electrical - 1 x 10<sup>5</sup>

Encapsulated

≥ 1500V RMS input to output

≥ 100 MΩ

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

≈ 2.6 oz (74 g)

### Function Diagram

