

Single Shot



The circuit diagram shows a power supply connected to a relay assembly. The positive terminal (+) is labeled L1 and the negative terminal (-) is labeled N/L2. A voltage source V is indicated between them. The relay assembly contains a switch mechanism with terminals NO (Normally Open), NC (Normally Closed), and C (Common). The common terminal C is connected to a capacitor with values 6 and 1. The normally closed terminal NC is connected to a terminal labeled 2. The normally open terminal NO is connected to a switch S1. A green box highlights a component labeled 4, which is connected to a terminal labeled 5. This terminal 5 is connected to a resistor R_T. A unit labeled UTL is also connected to the circuit.

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.

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

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

Panel mountable, industrial potentiometer recommended for remote time delay adjustment.

The 90° orientation of mounting slots makes installation/removal of modules quick and easy.

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

These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.

Screw adapter terminal designed for use with all modules with 0.25 in. (6.35 mm) male quick connect terminals.

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.

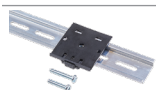
KRDS SERIES

Accessories



C103PM (AL) DIN Rail

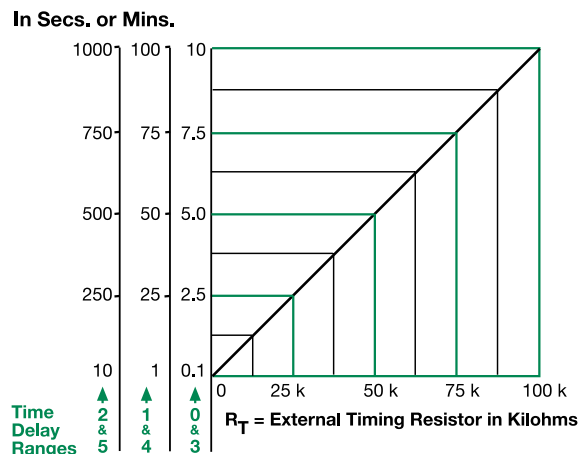
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



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



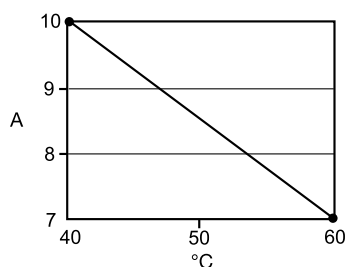
This chart applies to externally adjustable part numbers.

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

Range

0.1s - 1000m in 6 adjustable ranges or fixed

Repeat Accuracy

$\pm 0.5\%$ or 20ms, whichever is greater

Tolerance

(Factory Calibration)

$\leq \pm 5\%$

Reset Time

$\leq 150\text{ms}$

Initiate Time

$\leq 40\text{ms}$

Time Delay vs Temp.

$\leq \pm 5\%$

& Voltage

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

Mechanical - 1×10^7 ; Electrical - 1×10^5

Life (Operations)

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

D 30.7 mm (1.21")

0.25 in. (6.35 mm) male quick connect terminals

Termination

Environmental

Operating/Storage

Temperature

-40° to 60°C/-40° to 85°C

Humidity

95% relative, non-condensing

Weight

$\approx 2.6 \text{ oz (74 g)}$

Function Diagram

