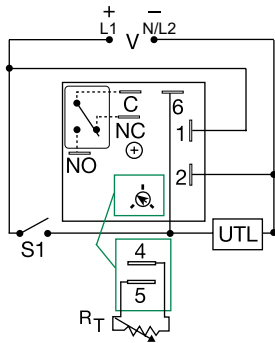


KRD9 SERIES



Wiring Diagram



V = Voltage
S1 = Initiate Switch C = Common, Transfer Contact
UTL = Untimed Load (optional)

A knob is supplied for adjustable units, or R_T terminals 4 & 5 for external adjust. See external adjustment vs time delay chart. The untimed load is optional. Relay contacts are isolated.

Description

The KRD9 Series microcontroller timing circuit provides excellent repeat accuracy and stability. Cost effective approach for OEM applications that require small size, isolation, reliability, and long life.

Operation (Retriggerable Single Shot)

Function Type A (Output Initially De-energized): Input voltage must be applied prior to and during timing. When the initiate switch is closed, (momentary or maintained) the output energizes and the time delay starts. On completion of the delay, the output de-energizes. The unit will time out if S1 remains in the open or closed position for the full time delay. Reclosing the initiate switch resets the time delay and restarts timing; the output remains energized. The output will not energize if the initiate switch is closed when input voltage is applied.

Function Type B (Output Initially Energized): Upon application of input voltage, the output energizes and the time delay starts. At the end of the time delay, the load de-energizes. The unit will time out if S1 remains in the open or closed position for the full time delay. Closing (re-closing) the initiate switch resets the time delay and restarts timing; the output remains energized.

Reset: The time delay and the output are reset when input voltage is removed.

Features & Benefits


FEATURES	BENEFITS
Microcontroller based	Repeat Accuracy +/- 0.5%, Factory calibration +/- 5%
Compact, low cost design	Allows flexibility for OEM applications and reduces labor and component costs
Isolated, 10A, SPDT output contacts	Allows control of loads for AC or DC voltages
Encapsulated circuitry	Protects against shock, vibration, and humidity


Ordering Information


MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY	FUNCTION TYPE
KRD9120B	12VDC	Onboard	0.1 - 10s	Energized
KRD92115MA	24VAC/DC	Fixed	15m	De-energized
KRD92115MB	24VAC/DC	Fixed	15m	Energized
KRD9220B	24VAC/DC	Onboard	0.1 - 10s	Energized
KRD93115MA	24VDC	Fixed	15m	De-energized
KRD9423B	120VAC	Onboard	0.1 - 10m	Energized


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

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.

KRD9 SERIES

Accessories



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.



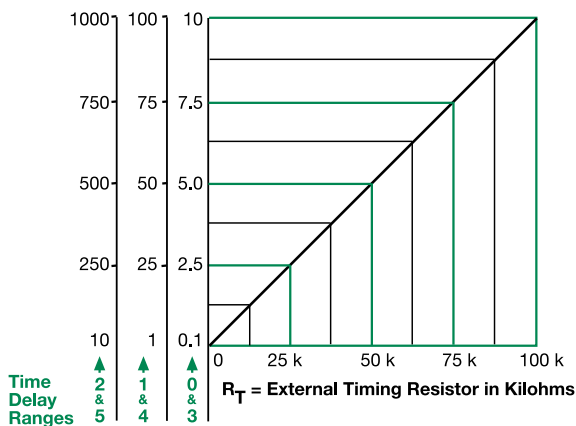
C103PM (AL) DIN Rail
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



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

In Secs. or Mins.

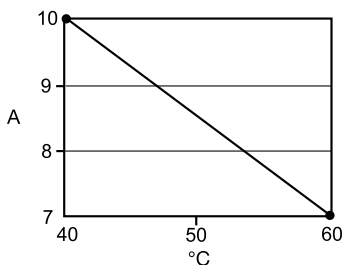


This chart applies to externally adjustable part numbers.
The time delay is adjustable over the time delay range selected by varying the resistance across the R_T terminals; as the resistance increases the time delay increases.

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 based with watchdog circuitry

Range

0.1s - 1000ms in 6 adjustable ranges or fixed

Repeat Accuracy

±0.5% or 20ms, whichever is greater

Tolerance

(Factory Calibration)

≤ ±5%

Reset Time

≤ 150ms

Initiate Time

≤ 40ms; ≤ 750 operations per minute

Time Delay vs Temp. & Voltage

≤ ±5%

Input

Voltage

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

Tolerance

12VDC & 24VDC/AC

-15% - +20%

110VDC, 120 or 230VAC

-20% - +10%

AC Line Frequency/DC Ripple

50/60 Hz / ≤ 10%

Power Consumption

AC ≤ 2VA; DC ≤ 2W

Output

Type

Isolated relay contacts

Form

SPDT

Rating (at 40°C)

10A resistive @ 125VAC;
5A resistive @ 230VAC & 28VDC;
1/4 hp @ 125VAC

Max. Switching Voltage

250VAC

Life (Operations)

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

Protection

Circuitry

Encapsulated

Isolation Voltage

≥ 1500V RMS input to output

Insulation Resistance

≥ 100 MΩ

Polarity

DC units are reversed 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")

Termination

0.25 in. (6.35 mm) male quick connect terminals

Environmental

Operating/Storage

Temperature

-40° to 60°C / -40° to 85°C

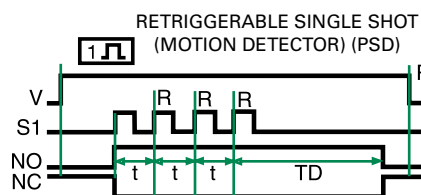
Humidity

95% relative, non-condensing

Weight

≈ 2.6 oz (74 g)

Function Diagram



V = Voltage

S1 = Initiate Switch

NO = Normally Open Contact

NC = Normally Closed Contact

t = Incomplete Time Delay

TD = Time Delay

R = Reset