

Motion Detector - Retriggerable Single Shot KRD9 Digi-Timer Time Delay Relay



10 YEAR WARRANTY

5

- Compact Time Delay Relay
- Microcontroller Circuitry, +/- 0.5% Repeat Accuracy
- Isolated 10 A SPDT Output Contacts
- Onboard or External Adjustment or Fixed Time Delay
- Delays from 100 ms ... 1000 m in 6 Ranges
- Input Voltages from 12 ... 230 V in 5 Ranges

Approvals:



Accessories



External adjust potentiometer
P/Ns:
P1004-95 (fig A)
P1004-95-X (fig B)



Versa-knob
P/N: P0700-7



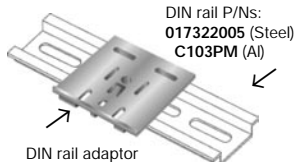
Mounting bracket
P/N: P1023-6



Female quick connect
P/Ns:
P1015-64 (AWG 14/16)
P1015-13 (AWG 10/12)



Quick connect to screw adaptor
P/N: P1015-18



DIN rail adaptor
P/N: P1023-20

See accessory pages for specifications.

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.

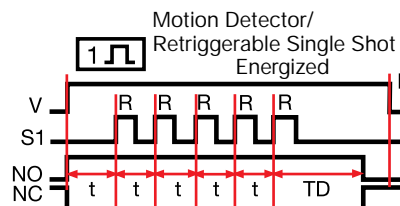
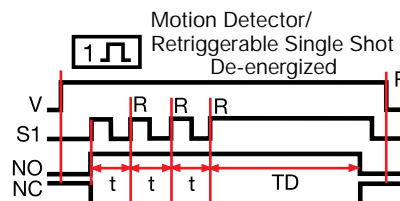
Operation- Retriggerable Single Shot

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.

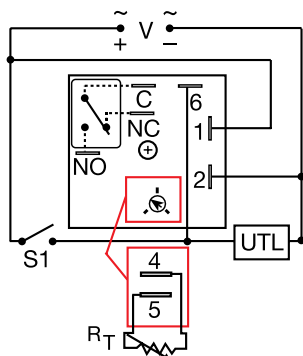
Reset: The time delay and the output are reset when input voltage is removed.

Function



V = Voltage S1 = Initiate Switch
R = Reset TD = Time Delay
t = Incomplete Time Delay
NO = Normally Open NC = Normally Closed

Connection



C = Common, Transfer Contact UTL = Untimed Load

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. Dashed lines are internal connections. Relay contacts are isolated.

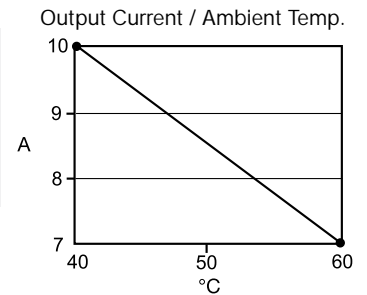
Ordering Table

KRD9 Series	X Input	X Adjustment	X Time Delay *	X Function Type
	-1 - 12 V DC	-1 - Fixed	-0 - 0.1 ... 10 s	-A - De-energized
	-2 - 24 V AC/DC	-2 - Onboard Adjustment	-1 - 1 ... 100 s	-B - Energized
	-4 - 120 V AC		-2 - 10 ... 1000 s	
	-5 - 110 V DC	-3 - External Adjustment	-3 - 0.1 ... 10 m	
	-6 - 230 V AC		-4 - 1 ... 100 m	
			-5 - 10 ... 1000 m	

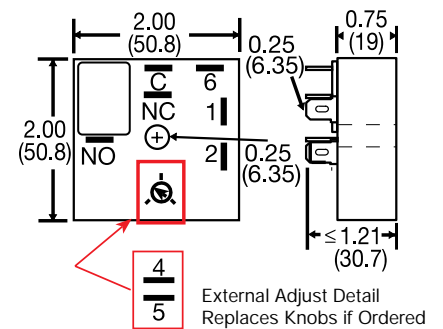
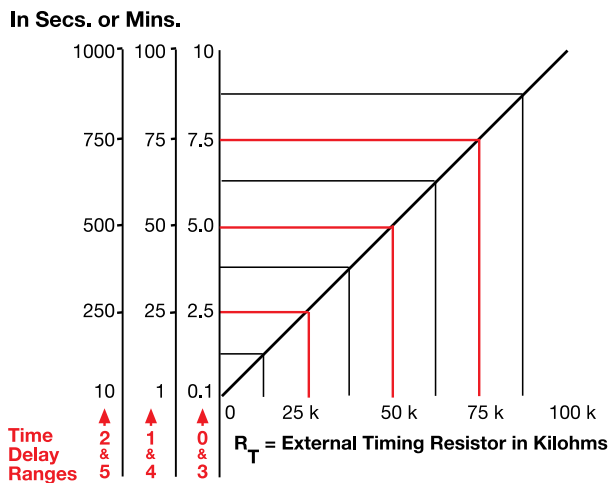
* If Fixed Delay is selected, insert delay [0.1 ... 1000] followed by (S) sec. or (M) min.

Example P/N: KRD9421A = 120 V AC; Onboard adjust from 1 to 100 seconds, De-energized Function
KRD9610.5SB = 230 V AC, Fixed at 0.5 seconds, Energized Function

Time Delay	
Type	Microcontroller based with watchdog circuitry
Range	0.1 s ... 1000 m in 6 adjustable ranges or fixed
Repeat Accuracy	+/-0.5% or 20 ms, whichever is greater
Tolerance (Factory Calibration)	≤ +/-5%
Reset Time	≤ 150 ms
Initiate Time	≤ 40 ms; ≤ 750 operations per minute
Time Delay vs. Temperature & Voltage	≤ +/-5%
Input	
Voltage	12, 24 or 110 V DC; 24, 120 or 230 V AC
Tolerance	12 V DC & 24 V DC/AC -15% ... +20%
	110 VDC, 120 or 230 V AC -20% ... +10%
AC Line Frequency / DC Ripple	50 ... 60 Hz / ≤ 10%
Power Consumption	AC ≤ 2 VA; DC ≤ 2 W
Output	
Type	Isolated relay contacts
Form	Single pole double throw (SPDT)
Rating (at 40°C)	10 A resistive at 125 V AC 5 A resistive at 230 V AC & 28 V DC; 1/4 hp at 125 V AC; 250 V AC
Max. Switching Voltage	
Life (Operations)	Mechanical -- 1 x 10 ⁷ ; Electrical -- 1 x 10 ⁵
Protection	
Circuitry	Encapsulated
Isolation Voltage	≥ 1500 V 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
Package	2 x 2 x 1.21 in. (50.8 x 50.8 x 30.7 mm)
Termination	0.25 in. (6.35 mm) male quick connect terminals
Environmental	
Operating/Storage Temperature	-40°C ... +60°C / -40°C ... +85°C
Humidity	95% relative, non-condensing
Weight	≈ 2.6 oz (74 g)



External Resistance vs Time Delay



This chart applies to externally adjustable part numbers.
e delay is adjustable over the time delay range selected by varying