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KRDM SERIES

Description

The KRDM Series is a compact time delay relay measuring only 2 in. (50.8 mm) square. Its solid-state timing circuit provides excellent repeat accuracy and stability. Encapsulation protects against shock, vibration, and humidity. The KRDM Series is a cost effective approach for OEM applications that require small size, isolation, reliability, and long life.

Operation (Delay-on-Make)

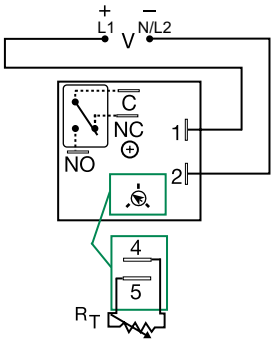
Upon application of input voltage, the time delay begins. The output is de-energized before and during the time delay. At the end of the time delay, the output relay energizes and remains energized until input voltage is removed.

Reset: Removing input voltage resets the time delay and output.

Features & Benefits

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

Wiring Diagram



V = Voltage
C = Common, Transfer Contact
NO = Normally Open
NC = Normally Closed

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

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.

Ordering Information

MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY	MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY
KRDM1110S	12VDC	Fixed	10s	KRDM4110M	120VAC	Fixed	10m
KRDM1130S	12VDC	Fixed	30s	KRDM4110S	120VAC	Fixed	10s
KRDM120	12VDC	Onboard knob	0.1 - 10s	KRDM4145S	120VAC	Fixed	45s
KRDM121	12VDC	Onboard knob	1 - 100s	KRDM420	120VAC	Onboard knob	0.1 - 10s
KRDM2110M	24VAC/DC	Fixed	10m	KRDM421	120VAC	Onboard knob	1 - 100s
KRDM215M	24VAC/DC	Fixed	5m	KRDM424	120VAC	Onboard knob	1 - 100m
KRDM220	24VAC/DC	Onboard knob	0.1 - 10s	KRDM430	120VAC	External	0.1 - 10s
KRDM221	24VAC/DC	Onboard knob	1 - 100s	KRDM433	120VAC	External	0.1 - 10m
KRDM223	24VAC/DC	Onboard knob	0.1 - 10m	KRDM6115M	230VAC	Fixed	15m
KRDM310.2S	24VDC	Fixed	0.2s				

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Accessories

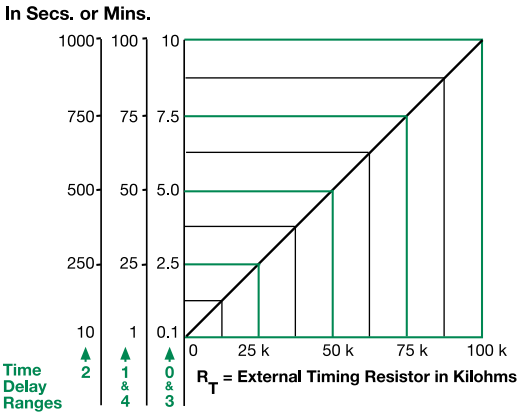
P1015-13 (AWG 10/12), **P1015-64** (AWG 14/16)
Female Quick Connect
These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.

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.

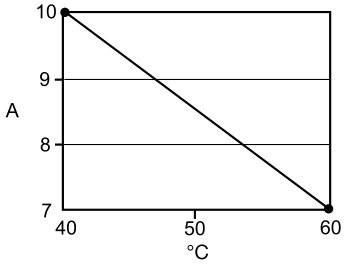
P1023-20 DIN Rail Adapter
Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

External Resistance vs. Time Delay



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 RT terminals; as the resistance increases the time delay increases.
When selecting an external RT, add the tolerances of the timer and the RT for the full time range adjustment.
Examples: 1 to 50 S adjustable time delay, select time delay range 1 and a 50 K ohm RT. For 1 to 100 S use a 100 K ohm RT.

Output Current/Ambient Temperature



Specifications

Time Delay

Range	0.1s - 100m in 5 adjustable ranges or fixed
Repeat Accuracy	±0.5% or 20ms, whichever is greater
Tolerance (Factory Calibration)	≤ ±5%
Recycle Time	≤ 150ms
Time Delay vs Temp. & Voltage	≤ ±5%

Input

Voltage	12, 24 or 110VDC; 24, 120 or 230VAC
Tolerance	
12VDC & 24VAC/DC	-15% - 20%
110VDC 120 & 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 x 10^7; Electrical - 1 x 10^5

Protection

Circuitry	Encapsulated
Isolation Voltage	≥ 1500V RMS input to output
Insulation Resistance	≥ 100 MΩ
Polarity	DC units are reverse polarity protected

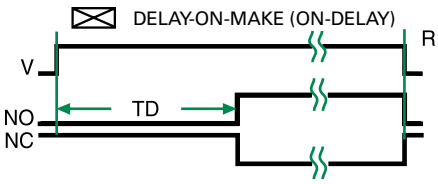
Mechanical

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")
Termination	0.25 in. (6.35 mm) male quick connect terminals

Environmental

Operating/Storage Temperature	-20° to 60°C / -40° to 85°C
Humidity	95% relative, non-condensing
Weight	≅ 2.6 oz (74 g)

Function Diagram



V = Voltage
NO = Normally Open Contact
NC = Normally Closed Contact
TD = Time Delay
R = Reset
= Undefined Time