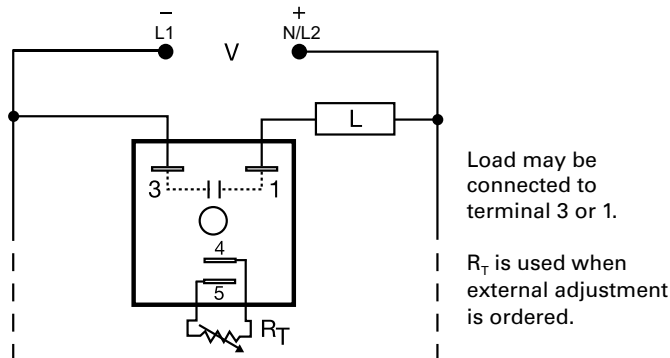


# KSD1 SERIES

## Delay-on-Make Timer



### Wiring Diagram



### Description

The KSD1 Series features two-terminal, series-connection with the load. The KSD1 Series is an ideal choice for delay-on-make timing applications. This series is designed for general purpose commercial and industrial applications where a small, cost effective, reliable solid-state timer is required. The factory calibration for fixed time delays is within 5% of the target time delay. The repeat accuracy, under stable conditions, is 0.5% of the selected time delay. This series is designed for popular AC and DC voltages. Time delays of 0.1 seconds to 1000 minutes are available in 6 ranges. The output is rated 1A steady and 10A inrush. The modules are totally solid state and encapsulated to protect the electronic circuitry.

#### 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 energizes and remains energized until input voltage is removed.

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

### Features & Benefits

FEATURES	BENEFITS
<b>Microcontroller based</b>	Repeat Accuracy + / - 0.5%, + / -5% time delay accuracy
<b>Compact, low cost design</b>	Allows flexibility for OEM applications
<b>1A Steady solid-state output, 10A inrush</b>	Provides 100 million operations in typical conditions.
<b>Totally solid state and encapsulated</b>	No moving parts to arc and wear out over time and encapsulated 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.

### Ordering Information

MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY
KSD11120S	12VDC	Fixed	20s
KSD1123	12VDC	External	0.1 - 10m
KSD1230	24VAC	Onboard	0.1 - 10s
KSD1320	24VDC	External	0.1 - 10s
KSD1412S	120VAC	Fixed	2s
KSD14130S	120VAC	Fixed	30s
KSD1420	120VAC	External	0.1 - 10s
KSD16130S	230VAC	Fixed	30s

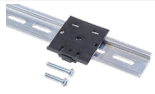
If you don't find the part you need, call us for a custom product 800-843-8848

# KSD1 SERIES

## Accessories

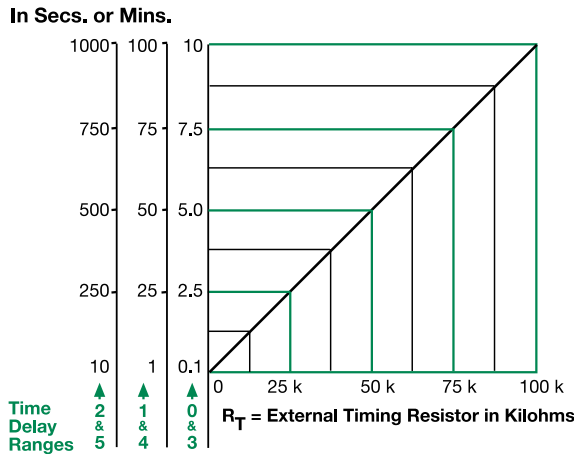


**C103PM (AL) DIN Rail**  
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



**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

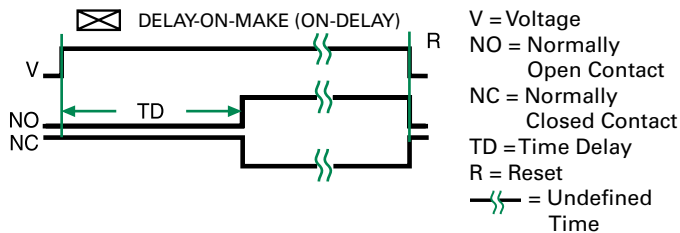


**This chart applies to externally adjustable part numbers.**  
The time delay is adjustable over the time delay range selected by varying the resistance across the  $R_T$  terminals; as the resistance increases the time delay increases.

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  $R_T$ .

## Function Diagram



## Specifications

<b>Time Delay Range</b>	0.1s - 1000m in 6 adjustable ranges or fixed
<b>Repeat Accuracy Tolerance (Factory Calibration)</b>	$\pm 0.5\%$ or 20ms, whichever is greater
<b>Recycle Time</b>	$\leq \pm 5\%$
<b>Time Delay vs. Temperature &amp; Voltage</b>	$\leq 150\text{ms}$
<b>Input Voltage</b>	$\leq \pm 10\%$
<b>AC Line Frequency</b>	24, 120, or 230VAC; 12 or 24VDC
<b>Output Type</b>	$\pm 20\%$
<b>Form</b>	50/60 Hz
<b>Maximum Load Current</b>	Solid state
<b>Minimum Holding Current</b>	NO, open during timing
<b>OFF State Leakage Current</b>	1A steady state, 10A inrush at 60°C
<b>Voltage Drop</b>	$\leq 40\text{mA}$
<b>Protection Circuitry</b>	$\approx 7\text{mA @ 230VAC}$
<b>Dielectric Breakdown</b>	$\approx 2.5\text{V @ 1A}$
<b>Insulation Resistance</b>	Encapsulated
<b>Polarity</b>	$\geq 2000\text{V RMS}$ terminals to mounting surface
<b>Mechanical Mounting</b>	$\geq 100\text{M}\Omega$
<b>Dimensions</b>	DC units are reverse polarity protected
<b>Termination</b>	Surface mount with one #10 (M5 x 0.8) screw
<b>Environmental Operating/Storage Temperature</b>	<b>H</b> 50.8 mm (2"); <b>W</b> 50.8 mm (2");
<b>Humidity</b>	<b>D</b> 30.7 mm (1.21")
<b>Weight</b>	0.25 in. (6.35 mm) male quick connect terminals
	-40° to 60°C / -40° to 85°C
	95% relative, non-condensing
	$\approx 2.4\text{ oz (68 g)}$