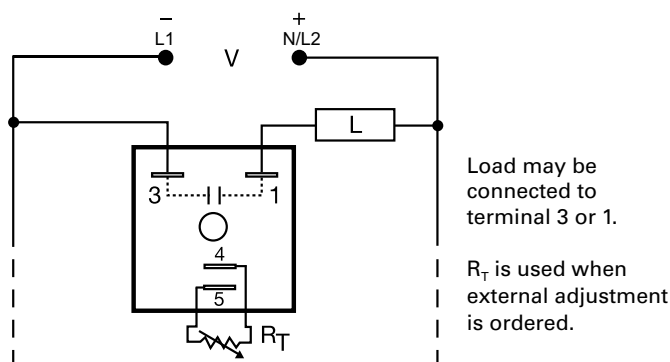


## KSD1 SERIES

### 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%,<br>+ / - 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

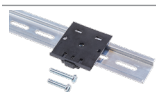
## KSD1 SERIES

### Accessories



#### C103PM (AL) DIN Rail

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

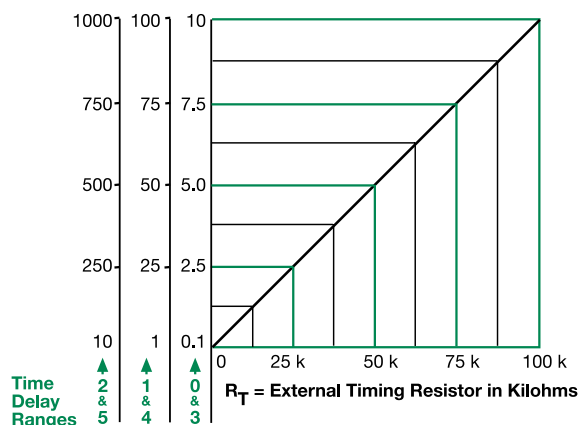


#### P1023-20 DIN Rail Adapter

Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

### External Resistance vs. Time Delay

In Secs. or Mins.



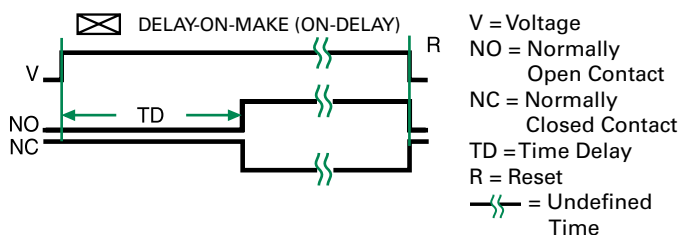
**This chart applies to externally adjustable part numbers.**

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  $R_T$ .

### Function Diagram



### Specifications

#### Time Delay

##### Range

0.1s - 1000m in 6 adjustable ranges or fixed

##### Repeat Accuracy

±0.5% or 20ms, whichever is greater

##### Tolerance

##### (Factory Calibration)

≤ ±5%

##### Recycle Time

≤ 150ms

##### Time Delay vs. Temperature

##### & Voltage

≤ ±10%

##### Input

##### Voltage

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

##### Tolerance

±20%

##### AC Line Frequency

50/60 Hz

##### Output

##### Type

Solid state

##### Form

NO, open during timing

##### Maximum Load Current

1A steady state, 10A inrush at 60°C

##### Minimum Holding Current

≤ 40mA

##### OFF State Leakage Current

≅ 7mA @ 230VAC

##### Voltage Drop

≅ 2.5V @ 1A

##### Protection

##### Circuitry

Encapsulated

##### Dielectric Breakdown

≥ 2000V RMS terminals to mounting surface

##### 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"); **W** 50.8 mm (2");

**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

≅ 2.4 oz (68 g)

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