

# Delay On Make (Operate) KSD1 Digi-Timer Timing Module



- Fixed or Adjustable Delays from 0.1 s ... 500 min
- +/-0.5% Repeat Accuracy
- +/-10% Stability over Voltage and Temperature
- 12 ... 230 V
- Encapsulated

## Description

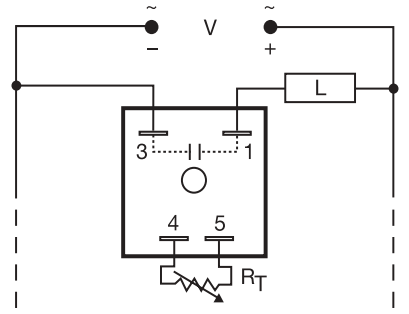
The KSD1 Series provides excellent repeat accuracy and extended time delays. This combined with two-terminal, simple series-connection with the load makes the KSD1 Series an ideal choice for timing applications where previously only electromechanical timers were available.

## Operation

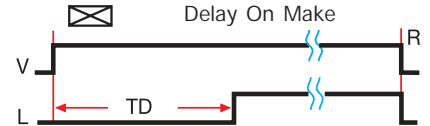
Upon application of input voltage, the time delay begins. The output is de-energized before and during the time delay. At the end of the time delay, the output is energized and remains energized until input voltage is removed.

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

■ Approvals:



$R_T$  is used when external adjustment is ordered. Load may be connected to terminal 3 or 1.



V = Voltage L = Load R = Reset  
TD = Time Delay — = Undefined time

## Ordering Table

KSD1 Series	X Input Voltage	X Adjustment	X Time Delay*
	-1 - 12 V DC	-1 - Fixed	-0 - 0.1 ... 10 s
	-2 - 24 V AC	-2 - External Adjust	-1 - 1 ... 100 s
	-3 - 24 V DC		-2 - 10 ... 1000 s
	-4 - 120 V AC		-3 - 0.1 ... 10 m
	-6 - 230 V AC		-4 - 1 ... 100 m
			-5 - 5 ... 500 m

\*If Fixed Delay is selected, insert delay [0.1 ... 1000] followed by (S) secs. or [0.1 ... 500] (M) mins.

Example P/N: **KSD1421** Fixed - **KSD1410.5S**

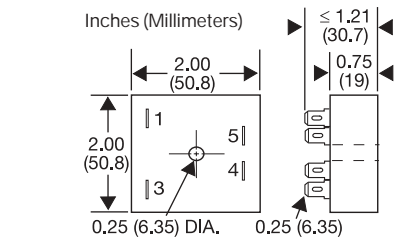
Desired Time Delay*						$R_T$ Megohm
Seconds			Minutes			
0	1	2	3	4	5	
0.1	1	10	0.1	1	5	0.0
1	10	100	1	10	50	0.1
2	20	200	2	20	100	0.2
3	30	300	3	30	150	0.3
4	40	400	4	40	200	0.4
5	50	500	5	50	250	0.5
6	60	600	6	60	300	0.6
7	70	700	7	70	350	0.7
8	80	800	8	80	400	0.8
9	90	900	9	90	450	0.9
10	100	1000	10	100	500	1.0

\* When selecting an external  $R_T$  add at least 20% for tolerance of unit and the  $R_T$ .

## Technical Data

Time Delay	
Type	Digital integrated circuitry
Range	0.1 s ... 500 m in 6 adjustable ranges or fixed
Repeat Accuracy	+/-0.5% or 16 ms, whichever is greater
Tolerance (Factory Calibration)	≤ +/-10%
Recycle Time	≤200 ms
Time Delay vs. Temperature & Voltage	≤ +/-10%
Input	
Voltage	24, 120, or 230 V AC; 12 or 24 V DC
Tolerance	+/-20%
Line Frequency	50 ... 60 Hz
Output	
Type	Solid state
Form	Normally Open, open during timing
Maximum Load Current	1 A steady state, 10 A inrush at 60°C
Minimum Holding Current	≤40 mA
Voltage Drop	≅ 2.5 V at 1 A
Protection	
Circuitry	Encapsulated
Dielectric Breakdown	≥ 2000 V RMS terminals to mounting surface
Insulation Resistance	≥ 100 MΩ
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 Temperature	-40°C ... +60°C
Storage Temperature	-40°C ... +85°C
Humidity	95% relative, non-condensing
Weight	≅ 2.4 oz (68 g)

Time Delay	VTP P/N
0 - 0.1 ... 10 s	VTP2C
1 - 1 ... 100 s	VTP2G
2 - 10 ... 1000 s	VTP2K
3 - 0.1 ... 10 m	VTP2N
4 - 1 ... 100 m	VTP2P
5 - 5 ... 500 m	VTP2R



## Accessories

Mounting bracket  
P/N: P1023-6

Female quick connect  
P/N: P1015-64 (AWG 14/16)

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

Versa-knob  
P/N: P0700-7

External adjust potentiometer  
P/Ns: P1004-16 (fig A) P1004-16-X (fig B)

Plug-on adjustment module  
P/N: VTP(X)(X)

DIN rail adaptor  
P/N: P1023-20

DIN rail adaptor  
P/Ns: C103PM (Al) 17322005 (Steel)

See accessory pages at the end of this section.