

KSPS Series Single Function Timing Module



US Patent 6708135



- Choose 1 of 12 Standard Functions
- Special Time Ranges and Functions Available
- Factory Programmed
- Microcontroller Circuitry, +/-0.5% Repeat Accuracy
- Solid State Output 1 A Steady, 10 A Inrush
- Onboard, External Adjust or Fixed Time Delay
- 12 ... 240 V in 3 Ranges
- Delays from 100 ms...1000 h in 9 Ranges

Approvals:

Accessories

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

Versa-knob
P/N: P0700-7

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

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

DIN rail P/Ns:
C103PM (A)

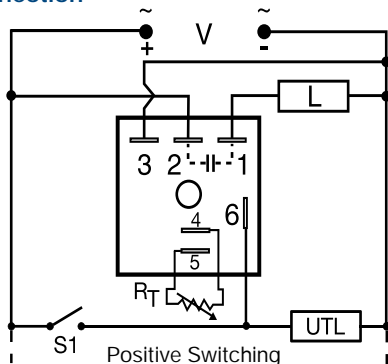
DIN rail adaptor
P/N: P1023-20

See accessory pages for specifications.

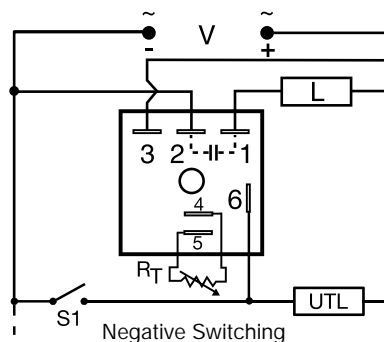
Description

The KSPS Series is a factory programmed module available in any 1 of 12 standard functions. The KSPS offers a single, fixed, externally or onboard adjustable time delay. Modules are manufactured without the function assigned. When an order is received, the function software is added, making the modules complete. This provides fast delivery on all part numbers. The 1 A steady, 10 A inrush rated solid state output provides 100 million operations typical. Its microcontroller timing circuit provides excellent repeat accuracy and stability. Encapsulation protects against shock, vibration, and humidity. The KSPS Series is a cost effective approach for OEM applications that require small size and solid state reliability. Special time ranges and functions are available, contact Technical Assistance (see below) for more information.

Connection

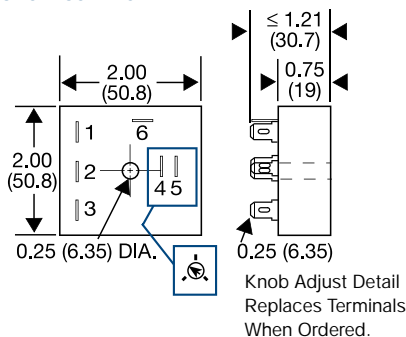


L = Load UTL = Untimed Load
V = Voltage S1 = Initiate Switch



A knob is supplied for adjustable units, or R_T terminals for external adjust. See external adjustment vs time delay chart. The untimed load is optional. S1 is not used for some functions. Dashed lines are internal connections.

Mechanical View



Inches (Millimeters)

Available Models-

- | | | |
|--------------|------------|------------|
| KSPS121TS | KSPSA12SB | KSPSA21FT |
| KSPS124PS | KSPSN110SI | KSPSN21B |
| KSPS2180SB | KSPSP110SI | KSPSP145SM |
| KSPS3115SRE | KSPSP25B | KSPSP31SD |
| KSPS3115SPS | | |
| KSPSA23PSD | | |
| KSPSP10.4SRE | | |
| KSPSP21B | | |

External Resistance vs Time Delay

For details on external R_T see the external resistance vs. time delay chart at the beginning of this section.

**Function Chart

	Code
Delay on Make	M
Delay on Break	B
Recycle (ON Time First, Equal Times)	RE
Recycle (OFF Time First, Equal Times)	RD
Single Shot	S, SD
Interval	I
Trailing Edge Single Shot	TS
Inverted Single Shot	US
Inverted Delay on Break	UB
Accumulative Delay on Make	AM
Motion Detector/Retriggerable Single Shot	PSD

For a Complete List of Functions with Descriptions, see Timer Function Section.

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Ordering Table

KSPS Series	X Input	X Adjustment	X Time Delay*	X Function**
	A - 24 ... 240 V AC	1 - Fixed	1 - 0.1 ... 10 s	Specify Function (Refer to Function Chart for Code)
	P - 12 ... 120 V DC Positive Switching	2 - Onboard Adjust	2 - 1 ... 100 s	
	N - 12 ... 120 V DC Negative Switching	3 - External Adjust	3 - 10 ... 1000 s	
			4 - 0.1 ... 10 m	
			5 - 1 ... 100 m	
			6 - 10 ... 1000 m	
			7 - 0.1 ... 10 h	
			8 - 1 ... 100 h	
			9 - 10 ... 1000 h	

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

Example P/N: KSPSA23RE Fixed - KSPSP10.5SI

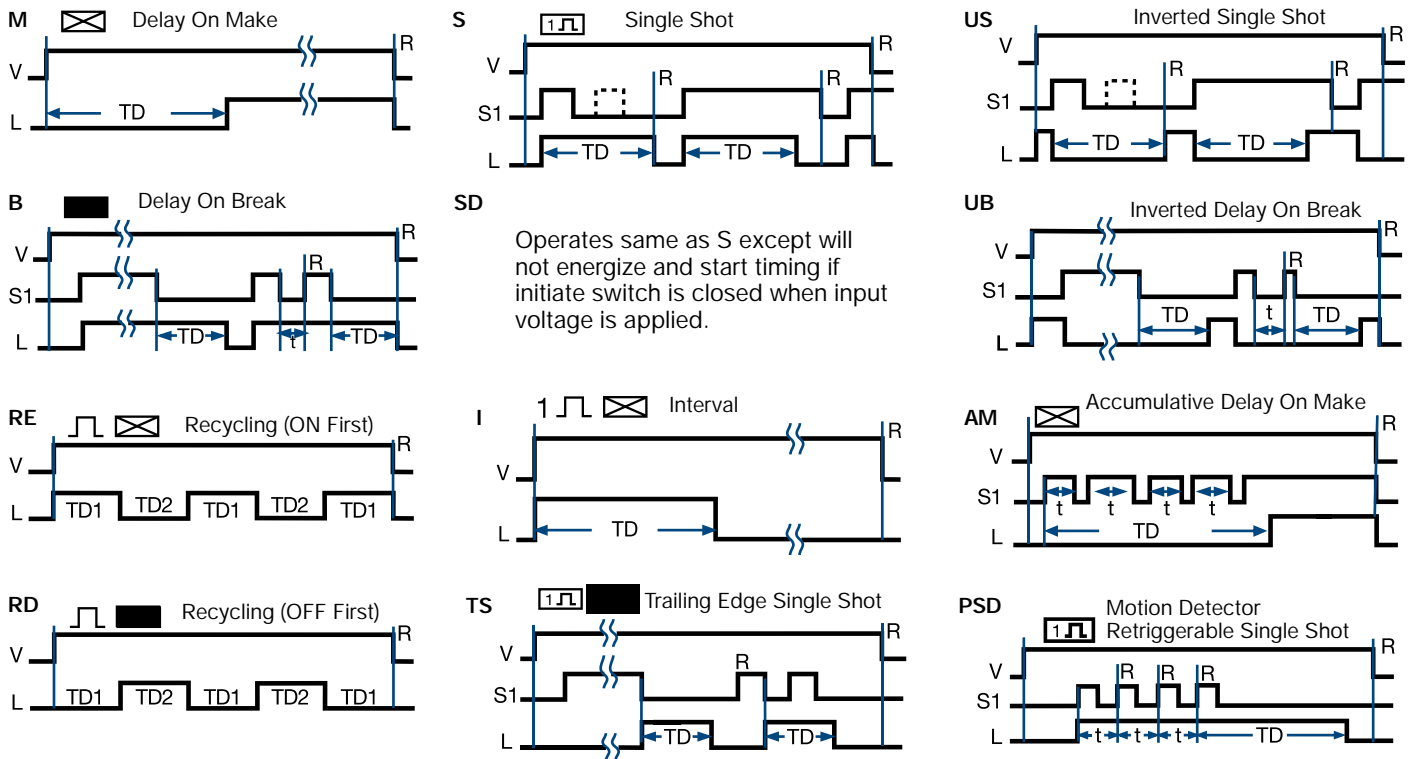
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Technical Data

Time Delay Type Range Repeat Accuracy Tolerance (Factory Calibration) Reset Time Initiate Time Time Delay / Temp. & Voltage	Microcontroller circuitry 0.1 s ... 1000 h in 9 adjustable ranges or xed +/-0.5% or 20 ms, whichever is greater +/-2% 150 ms 20 ms; 1500 operations per minute +/-2%	Protection Circuitry Dielectric Breakdown Insulation Resistance Polarity	Encapsulated 2000 V RMS terminals to mounting surface 100 M DC units are reverse polarity protected
Input Voltage/Frequency Tolerance DC Ripple Power Consumption	12 ... 120 V DC; 24 ... 240 V AC/50 ... 60 Hz +/-15% 10% AC 2 VA; DC 1 W	Mechanical Mounting Package Termination	Surface mt. with one #10 (M5 x 0.8) screw 2 x 2 x 1.21 in. (50.8 x 50.8 x 30.7 mm) 0.25 in. (6.35 mm) male quick connects
Output Type Rating Voltage Drop OFF State Leakage Current	Solid state output 1 A steady, 10 A inrush for 16 ms AC \cong 2.5 V at 1 A; DC \cong 1 V at 1 A AC \cong 5 mA at 240 V AC; DC \cong 1 mA	Environmental Operating Temp. Storage Temp. Humidity Weight	-40°C ... +60°C -40°C ... +85°C 95% relative, non-condensing \cong 2.4 oz (68 g)

Function Diagrams

For a Complete List of Functions with Descriptions, see Timer Function Section.



Note: If S1 is closed when input voltage is applied, the function starts and the time delay begins. (B, S, TS, US, UB, AM, PSD)

Legend

V	Voltage
R	Reset
S1	Initiate Switch
L	Output & Load
TD, TD1, TD2	Time Delay
t	Incomplete Time Delay
— —	Unde ned time