

# ProgramaCube® KSPU Series Single Timer or Counter Function Timing Module (1A Solid State Output)



US Patent 6708135

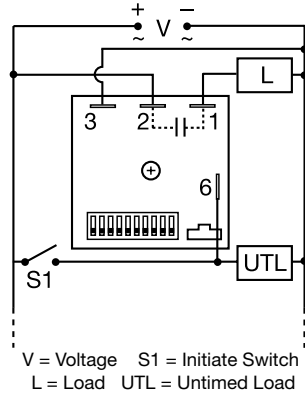


## Switch Adjustment

Adjustment Switch Operation			
TIME DELAY		COUNTER	
0.1...102.3	1...1023	1...165	1...63
OFF ▶ ON	OFF ▶ ON	OFF ▶ ON	OFF ▶ ON
0.1	1	1	1
0.2	2	2	2
0.4	4	3	3
0.8	8	4	4
1.6	16	5	5
3.2	32	10	16
6.4	64	20	32
12.8	128	30	M
25.6	256	40	1
51.2	512	50	2
6.3	544	57 counts	4
			44 s Delay 2 counts to Start

One or more switches must be ON for proper operation.

## Connection



The untimed load is optional. S1 is not used for some functions. Dashed lines are internal connections.

The KSPU Series is a factory programmed 1 amp solid state module available in any 1 of 16 switch adjustable timer or counter functions. Modules are manufactured without the function assigned. When an order is received, the function and time delay software are added. This approach provides fast QuickShip delivery on a large number of part numbers. Switch adjustment allows accurate selection of the time delay or number of counts the first time and every time. The solid state output provides 100 million operations, typical. The KSPU Series is a cost effective approach for OEM applications that require small size, solid state reliability, and accurate switch adjustment.

## \*\*Function Chart

- 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 PSE**
- Counter/Pulsed Output **C**
- Counter/Interval Output **CI**
- Flip Flop (trailing edge, alternating) **FT**
- Flip Flop (leading edge) **F**

Code

See page 9 for function time diagrams

- Choose 1 of 16 Standard Functions
- Factory Programmed
- Microcontroller Circuitry, +/-0.1% Repeat Accuracy
- Solid State Output 1 A Steady, 10 A Inrush
- Accurate Switch Adjustment
- Universal Voltage 24 ... 240 V AC
- Delays from 100 ms...1023 h in 6 ranges
- Counts to 1023 in 3 Ranges

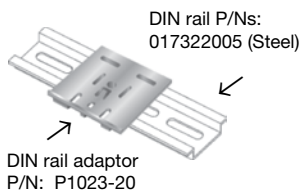
Complete Product Details:  
<http://www.ssac.com/pp1.htm>



## Technical Data

<b>Count</b>	Rate	≤ 25 counts per second
<b>Output</b>	Rating	1 A steady, 10 A inrush for 16 ms
	Counter Output (P/N Variable 7 & 8)	Output Pulse width: 300 ms +/-20%
<b>Protection</b>	Circuitry	Encapsulated
<b>Mechanical</b>	Mounting	Surface mt. 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 connects

## Mounting Accessory



See accessory pages

## Ordering Table

Series	X Input	X Time Delay/Counts	X Function**
	A - 24 ... 240 V AC	1 - 0.1 ... 102.3 s	Specify Function (Refer to Function Chart for Code)
	P - 12 ... 120 V DC Positive Switching	2 - 1 ... 1023 s	
	N - 12 ... 120 V DC Negative Switching	3 - 0.1 ... 102.3 m	
		4 - 1 ... 1023 m	
		5 - 0.1 ... 102.3 h	
		6 - 1 ... 1023 h	
		7 - 1 ... 165 counts (straight) w/pulsed output	
		8 - 1 ... 1023 counts (binary) w/pulsed output	
		9 - 1 ... 7 counts to start 1 ... 63 s or m interval time	

\*Note: Grayed option is available in standard lead time.

## Example P/N:

**KSPUA2RE** = Universal AC voltage, switch adjustment, 1...1023 sec., recycling, ON first