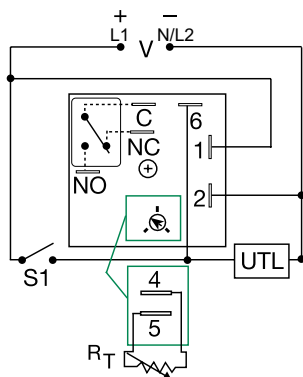


## KRPS SERIES



### Wiring Diagram



V = Voltage  
C = Common, Transfer Contact  
NC = Normally Closed  
NO = Normally Open  
S1 = Initiate Switch  
UTL = Untimed Load

A knob is supplied for adjustable units, or RT terminals 4 & 5 for external adjust. See external adjustment vs. time delay chart. The untimed load is optional. S1 is not used for some functions.

### Ordering Information

| MODEL        | INPUT VOLTAGE  | ADJUST. | TIME DELAY | FUNCTION                 |
|--------------|----------------|---------|------------|--------------------------|
| KRPS4160MM   | 120VAC         | Fixed   | 60m        | Delay-on-Make            |
| KRPS913MB    | 230VAC         | Fixed   | 3m         | Delay-on-Break           |
| KRPSA10.1SFT | 24 - 240VAC/DC | Fixed   | 0.1s       | Alternating              |
| KRPSA21RE    | 24 - 240VAC/DC | Onboard | 0.1 - 10s  | Recycling, On Time First |
| KRPSA22B     | 24 - 240VAC/DC | Onboard | 1 - 100s   | Delay-on-Break           |
| KRPSA24M     | 24 - 240VAC/DC | Onboard | 0.1 - 10m  | Delay-on-Make            |
| KRPSD10.1SF  | 12 to 48VDC    | Fixed   | 0.1s       | Leading Edge Flip-Flop   |
| KRPSD21B     | 12 to 48VDC    | Onboard | 0.1 - 10s  | Delay-on-Break           |
| KRPSD21M     | 12 to 48VDC    | Onboard | 0.1 - 10s  | Delay-on-Make            |
| KRPSD22M     | 12 to 48VDC    | Onboard | 1 - 100s   | Delay-on-Make            |
| KRPSD22S     | 12 to 48VDC    | Onboard | 1 - 100s   | Single Shot              |
| KRPSD25S     | 12 to 48VDC    | Onboard | 1 - 100m   | Single Shot              |

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

### Description

The KRPS Series is a factory programmed time delay relay available with 1 of 15 functions and measures only 2 inches square. The KRPS offers a wide range of fixed, onboard, or externally adjustable time delays. The output relay contacts offer a full 10A rating with complete isolation. Its microcontroller timing circuit provides excellent repeat accuracy and stability. Encapsulation protects against shock, vibration, and humidity. The KRPS Series is a cost effective approach for OEM applications that require small size, isolation, accuracy, and long life. Special time ranges and functions are available.

### Features & Benefits

| FEATURES                          | BENEFITS                                                       |
|-----------------------------------|----------------------------------------------------------------|
| <b>Microcontroller based</b>      | Repeat Accuracy + / - 0.5%                                     |
| <b>Compact design</b>             | Allows flexibility for OEM applications                        |
| <b>Isolated, SPDT, 10A output</b> | Allows control of loads for AC or DC voltages                  |
| <b>Encapsulated</b>               | 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.



#### 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.



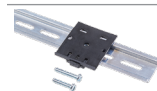
#### P1015-18 Quick Connect to Screw Adapter

Screw adapter terminal designed for use with all modules with 0.25 in. (6.35 mm) male quick connect terminals.



#### 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.

## KRPS SERIES

### Specifications

#### Time Delay

|                                          |                                              |
|------------------------------------------|----------------------------------------------|
| <b>Type</b>                              | Microcontroller circuitry                    |
| <b>Range</b>                             | 0.1s - 1000h in 9 adjustable ranges or fixed |
| <b>Repeat Accuracy</b>                   | ±0.5% or 20ms, whichever is greater          |
| <b>Tolerance</b>                         |                                              |
| <b>(Factory Calibration)</b>             | ≤ ±2%                                        |
| <b>Reset Time</b>                        | ≤ 150ms                                      |
| <b>Initiate Time</b>                     | ≤ 40ms; ≤ 750 operations per minute          |
| <b>Time Delay vs Temp. &amp; Voltage</b> | ≤ ±2%                                        |

#### Input

|                                    |                              |
|------------------------------------|------------------------------|
| <b>Voltage</b>                     | 12 to 48VDC; 24 to 240VAC/DC |
| <b>Tolerance</b>                   |                              |
| <b>12 to 48VDC</b>                 | -15% - 20%                   |
| <b>24 to 240VAC/DC</b>             | -20% - 10%                   |
| <b>AC Line Frequency/DC Ripple</b> | 50/60Hz / ≤ 10%              |
| <b>Power Consumption</b>           | AC ≤ 2VA; DC ≤ 2W            |

#### Output

|                               |                                                                            |
|-------------------------------|----------------------------------------------------------------------------|
| <b>Type</b>                   | Isolated relay contacts                                                    |
| <b>Form</b>                   | SPDT                                                                       |
| <b>Rating (at 40°C)</b>       | 10A resistive @ 125VAC<br>5A resistive @ 230VAC & 28VDC<br>1/4 hp @ 125VAC |
| <b>Max. Switching Voltage</b> | 250VAC                                                                     |
| <b>Life (Operations)</b>      | Mechanical - $1 \times 10^7$ ; Electrical - $1 \times 10^5$                |

#### Protection

|                              |                                         |
|------------------------------|-----------------------------------------|
| <b>Circuitry</b>             | Encapsulated                            |
| <b>Isolation Voltage</b>     | ≥ 1500V RMS input to output             |
| <b>Insulation Resistance</b> | ≥ 100 MΩ                                |
| <b>Polarity</b>              | DC units are reverse polarity protected |

#### Mechanical

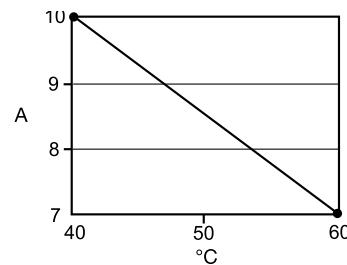
|                   |                                                                                                                         |
|-------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Mounting</b>   | Surface mt. with one #10 (M5 x 0.8) screw                                                                               |
| <b>Dimensions</b> | <b>H</b> 50.8 mm (2.0"); <b>W</b> 50.8 mm (2.0");<br><b>D</b> 30.7 mm (1.21")<br>0.25 in. (6.35 mm) male quick connects |

#### Termination

#### Environmental

|                                      |                              |
|--------------------------------------|------------------------------|
| <b>Operating/Storage Temperature</b> | -40° to 60°C / -40° to 85°C  |
| <b>Humidity</b>                      | 95% relative, non-condensing |
| <b>Weight</b>                        | ≈ 2.6 oz (74 g)              |

### Output Current/Ambient Temperature



### Timer Functions

#### Operation (Delay-on-Make)

Upon application of the input voltage, the time delay begins. The output relay 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.

#### Operation (Delay-on-Break)

Input voltage must be applied before and during timing. Upon closure of the initiate switch, the output relay energizes. The time delay begins when the initiate switch is opened. The output remains energized during timing. At the end of the time delay, the output de-energizes. The output will energize if the initiate switch is closed when input voltage is applied.

**Reset:** Re-closing the initiate switch during timing resets the time delay. Removing input voltage resets the time delay and output.

#### Operation (Recycling)

Upon application of input voltage, the output relay energizes and the ON time begins. At the end of the ON time, the output de-energizes and the OFF time begins. At the end of the OFF time, the output energizes and the cycle repeats as long as input voltage is applied.

**Reset:** Removing input voltage resets the output and time delays, and returns the sequence to the first delay.

