

# ProgramaCube® KRPS Series Single Function Time Delay Relay

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US Patent 6708135

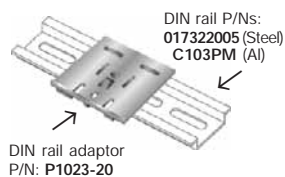


- Choose 1 of 13 Standard Functions
- Special Time Ranges and Functions Available
- Factory Programmed
- Microcontroller Circuitry, +/-0.5% Repeat Accuracy
- Isolated 10 A SPDT Output Contacts
- Input Voltage from 12...240 V in 2 Ranges
- Delays from 100 ms...1000 h in 9 Ranges

Approvals:

## Accessories

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

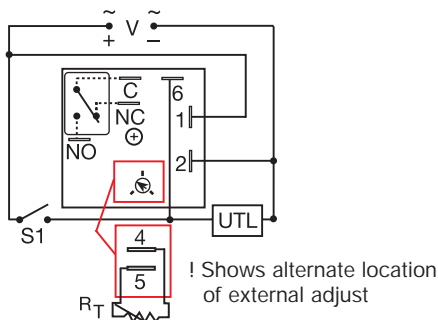


See accessory pages for specifications.

## Description

The KRPS Series is a factory programmed time delay relay available in any 1 of 13 functions and measures only 2 inches square. The KRPS offers a wide range of fixed, onboard, or externally adjustable time delays. Modules are manufactured without the function assigned. When an order is received, the function software is added making the modules complete. This approach provides fast delivery on all part numbers. The output relay contacts offer a full 10 A 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; contact Technical Assistance (see below) for more information.

## Connection



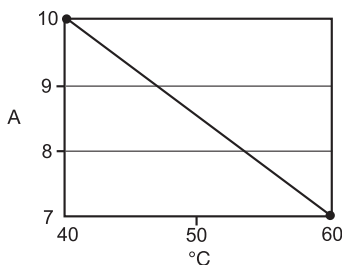
V = Voltage C = Common, Transfer Contact  
NC = Normally Closed NO = Normally Open  
S1 = Initiate Switch UTL = Untimed Load

A knob is supplied for adjustable units, or  $R_T$  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. Dashed lines are internal connections.

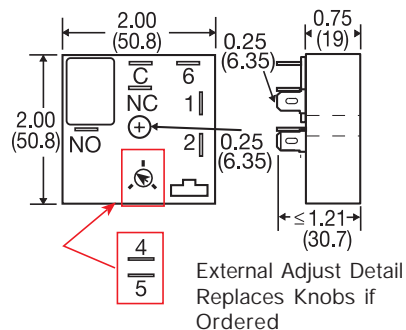
## External Resistance vs Time Delay

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

## Output Current/Ambient Temperature



## Mechanical View



Inches (Millimeters)

## \*\*Function Chart

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

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

## Ordering Table

KRPS Series	X Input	X Adjustment	X Time Delay*	X Function**
	- A - 24 ... 240 V AC/DC	- 1 - Fixed	- 1 - 0.1 ... 10 s	- Specify Function (Refer to Function Chart for Code)
	- D - 12 ... 48 V DC	- 2 - Onboard Adjustment	- 2 - 1 ... 100 s	
		- 3 - External Adjustment	- 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: KRPSA23RE Fixed - KRPSD10.5SI

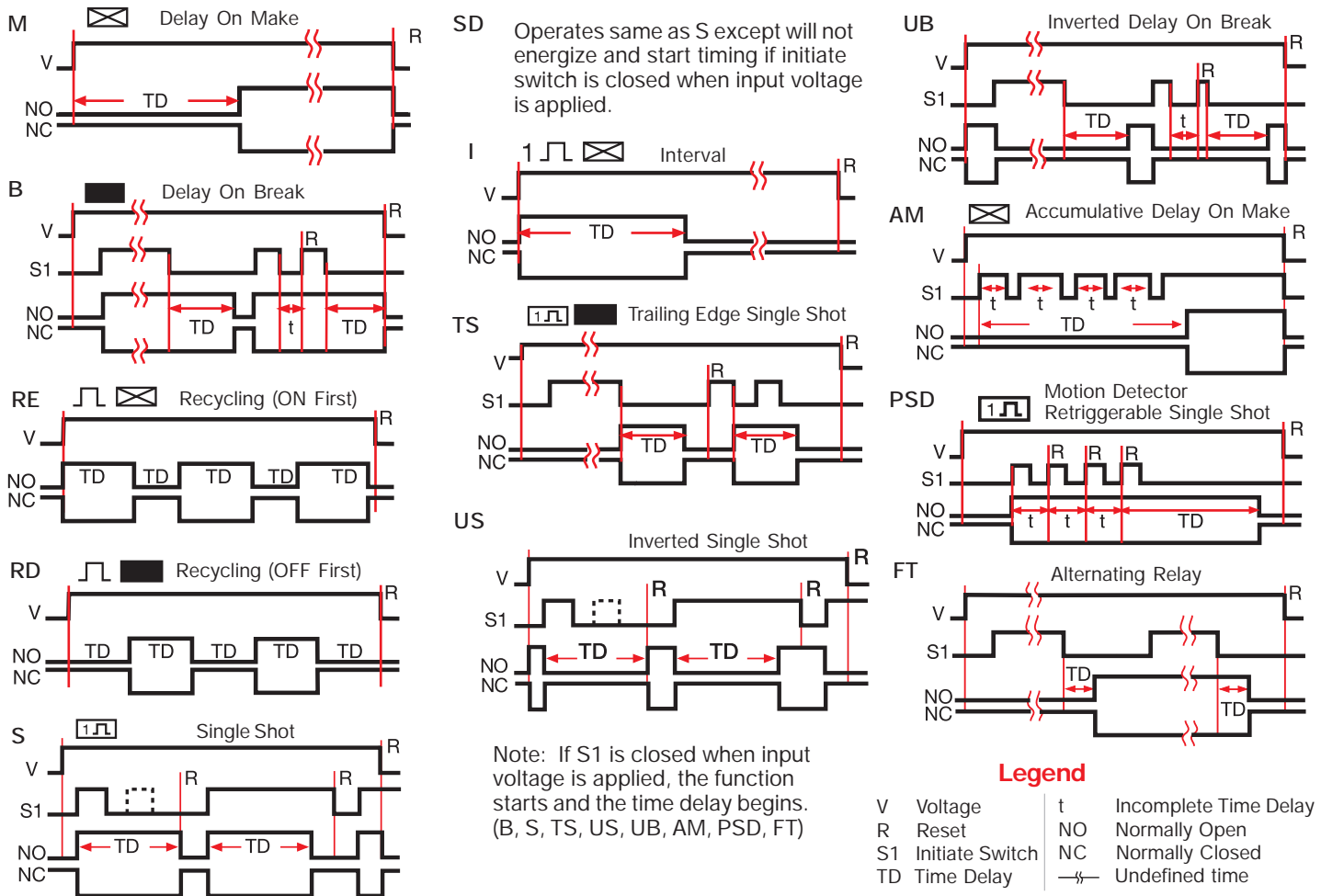
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3

## Technical Data

<b>Time Delay</b> Type: Microcontroller circuitry Range: 0.1 s ... 1000 h in 9 adjustable ranges or fixed Repeat Accuracy: +/-0.5% or 20 ms, whichever is greater Tolerance (Factory Calibration): ≤ +/-2% Reset Time: ≤ 150 ms Initiate Time: ≤ 40 ms; ≤ 750 operations per minute Time Delay/Temp. & Input Voltage: ≤ +/-2%		<b>Protection</b> Circuitry: Encapsulated Isolation Voltage: ≥ 1500 V RMS Input to Output Insulation Resistance: ≥ 100 MΩ Polarity: DC units are reverse polarity protected	
<b>Input</b> Voltage: 12 ... 48 V DC; 24 ... 240 V AC/DC Tolerance: 12 ... 48 V DC: -15% ... +20%; 24 ... 240 V AC/DC: -20% ... +10% Line Frequency/DC Ripple: 50 ... 60 Hz/≤ 10% Power Consumption: AC ≤ 2 VA; DC ≤ 2 W		<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	
<b>Output</b> Type: Isolated relay contacts Form: Single pole double throw, SPDT Rating (at 40°C): 10 A resistive at 125 V AC; 5 A resistive at 230 V AC & 28 V DC; 1/4 hp at 125 V AC Max. Switching Voltage: 250 V AC Life (Operations): Mechanical - 1 x 10 <sup>7</sup> ; Electrical - 1 x 10 <sup>5</sup>		<b>Environmental</b> Operating Temp.: -40°C ... +60°C Storage Temp.: -40°C ... +85°C Humidity: 95% relative, non-condensing Weight: ≈ 2.6 oz (74 g)	

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



KRPSGen 06.06.05