

# TRU SERIES

## Knob Adjustable Universal Time Delay Relay



8-PIN



11-PIN

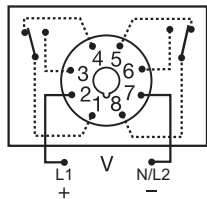
### Description

The TRU Series is a multifunction, knob adjustable, Universal Time Delay Relay. It includes six of the most popular timing functions selected by a slide switch. The time delay is knob adjustable and the time delay range is switch selectable. The repeat accuracy is + 0.1%. Both function and time range can be selected on the top face of the unit. In addition to multifunctioning and multiple time ranges, the TRU Series features universal input voltage; 19 to 264VAC and 19 to 30VDC and full 10A output relay. The TRU Series can directly replace up to 1000 competitive time delay relay models.

### Operation

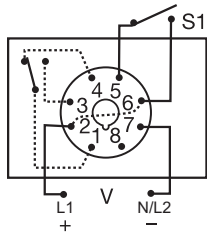
A six position slide switch selects delay-on-make, interval, single shot, recycling (ON time first, equal recycle delays), delay-on-break, and retriggerable single shot. 8-pin DPDT base wiring is limited to delay-on-make, interval, and recycling functions. All six functions are available in the 8-pin SPDT and 11-pin DPDT versions.

### Wiring Diagram



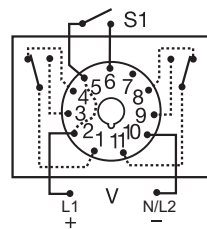
8-PIN DPDT

Delay-on-Make  
Interval  
Recycling



8-PIN SPDT

Delay-on-Make  
Interval  
Single Shot  
Recycling  
(ON Time First, Equal  
Recycle Delays)  
Delay-on-Break  
Retriggerable Single Shot

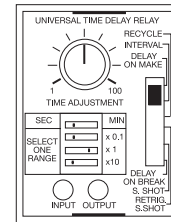


11-PIN DPDT

Delay-on-Make  
Interval  
Single Shot  
Recycling  
(ON Time First, Equal  
Recycle Delays)  
Delay-on-Break  
Retriggerable Single Shot

V = Voltage  
S1 = Initiate Switch

Relay contacts  
are isolated



### Features & Benefits

FEATURES	BENEFITS
<b>Microcontroller based</b>	Repeat Accuracy +/- 0.1% or +/- 20ms, whichever is greater
<b>6 time ranges (0.1s to 1,000m)</b>	Broad range will satisfy most requirements
<b>Knob adjustable time delay</b>	Allows user to fine tune time delay based on application needs
<b>Universal input voltage</b>	Makes it versatile for use in most applications
<b>Multifunction</b>	Provides the most common standard timing functions
<b>LED Indicators</b>	Provide visual indication of input voltage and relay status
<b>10A isolated output contacts</b>	Allows control of loads for AC or DC voltages

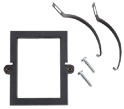
### Ordering Information

MODEL	INPUT VOLTAGE	BASE WIRING	FUNCTIONS
TRU1	19 to 264VAC; 19 to 30VDC	8-pin DPDT	3
TRU2	19 to 264VAC; 19 to 30VDC	8-pin SPDT	6
TRU3	19 to 264VAC; 19 to 30VDC	11-pin DPDT	6

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# TRU SERIES

## Accessories



**BZ1 Front Panel Mount Kit**  
Provides an easy method of through-the-panel mounting of 8- or 11-pin plug-in timers, flashers, and other controls.



**NDS-8 Octal 8-pin Socket**  
8-pin 35mm DIN rail or surface mount. Rated at 10A @ 300VAC. Surface mounted with two #6 (M 3.5 x 0.6) screws or snaps onto a 35 mm DIN rail. Uses PSC8 hold-down clips.

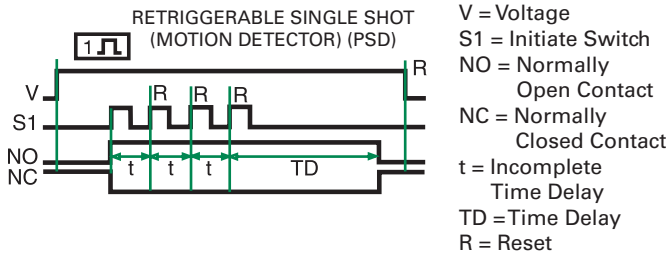


**NDS-11 11-pin Socket**  
11-pin 35mm DIN rail or surface mount. Rated at 10A @ 300VAC. Surface mounted with two #6 (M 3.5 x 0.6) screws or snaps onto a 35 mm DIN rail. Uses PSC11 hold-down clips.



**PSC8 or PSC11 Hold-down Clips**  
Securely mounts plug-in controls in any position. Provides protection against vibration. Use PSC8 with NDS-8 Octal Socket or PSC11 with NDS-11 Socket. Sold in pairs.

## Function Diagram



## Specifications

### Time Delay

Type  
Range  
Switch Selectable

Digital integrated circuitry

0.1s - 1000m in 6 ranges:

- 1) 0.1 - 10s
- 2) 1 - 100s
- 3) 10 - 1000s
- 4) 0.1 - 10m
- 5) 1 - 100m
- 6) 10 - 1000m

### Adjustments Multiplier

4 position DIP switch selects x0.1, x1, x10, and sec. or min. Onboard knob adjustment with 1 - 100 reference dial

### Time Setting

### Two LEDs indicate

- 1) Input voltage applied
  - 2) Output relay status
- ±0.1% or ±20ms, whichever is greater  
≤ 300ms

### Repeat Accuracy Reset Time

### Time Delay vs Temp. & Voltage

±2%

### Input

### Voltage - Universal Input Range

19 to 264VAC and 19 to 30VDC

### AC Line Frequency

50/60Hz

### Output

### Type Form Rating

Electromechanical relay  
SPDT or DPDT, isolated  
10A resistive @ 120/240VAC & 28VDC;  
1/3 hp @ 120/240VAC  
Mechanical - 1 x 10<sup>7</sup>; Electrical - 1 x 10<sup>6</sup>

### Life

### Protection

### Transient Isolation Voltage

38 joules  
≥ 1500V RMS input to output  
DC units are reversed polarity protected

### Polarity

### Mechanical

### Mounting

### Dimensions

Plug-in socket  
H 87.3 mm (3.44"); W 60.7 mm (2.39");  
D 45.2 mm (1.78")

### Termination

### Environmental

### Operating/Storage

### Temperature

-20° to 65°C / -30° to 85°C

### Weight

≈ 6 oz (170 g)

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