

#### TR Series

3



### TR Series

#### Product Description

The upgraded TR Series Timing Relays are designed to meet most timing requirements by offering more flexibility in range of input voltage, timing range and functionality. Use a rotary switch to choose from 20 selectable time ranges from 0.1 second to 600 hours. We offer both a power triggered and signal triggered model—each with expanded operation modes. There is a green LED to indicate when power is ON and an orange LED when output is ON.

#### Features

- 20 time ranges and 10 timing functions
- Time delays from 0.1 sec to 600 hrs
- Space-saving, compact package
- High repeat accuracy of  $\pm 0.2\%$
- LED indication
- Standard 8- or 11-pin and 11-blade termination
- 2 Form C DPDT delayed output contacts
- 10A contact rating

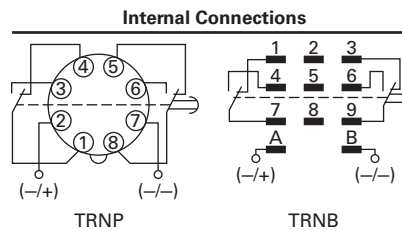
### Contents

#### Description

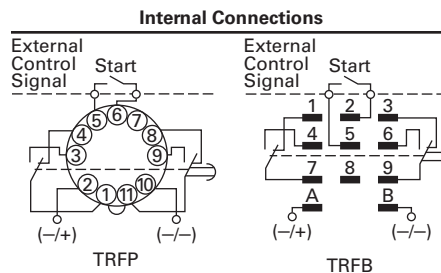
	<i>Page</i>
Universal TR Series . . . . .	<b>V7-T3-176</b>
TR Series	
Catalog Number Selection . . . . .	<b>V7-T3-181</b>
Product Selection . . . . .	<b>V7-T3-181</b>
Accessories . . . . .	<b>V7-T3-181</b>
Technical Data and Specifications . . . . .	<b>V7-T3-182</b>
Dimensions . . . . .	<b>V7-T3-182</b>
TMR5 Series . . . . .	<b>V7-T3-183</b>
TMR6 Series . . . . .	<b>V7-T3-187</b>
TMRP Series . . . . .	<b>V7-T3-189</b>

### Operation

#### TRNP and TRNB



#### TRFP and TRFB

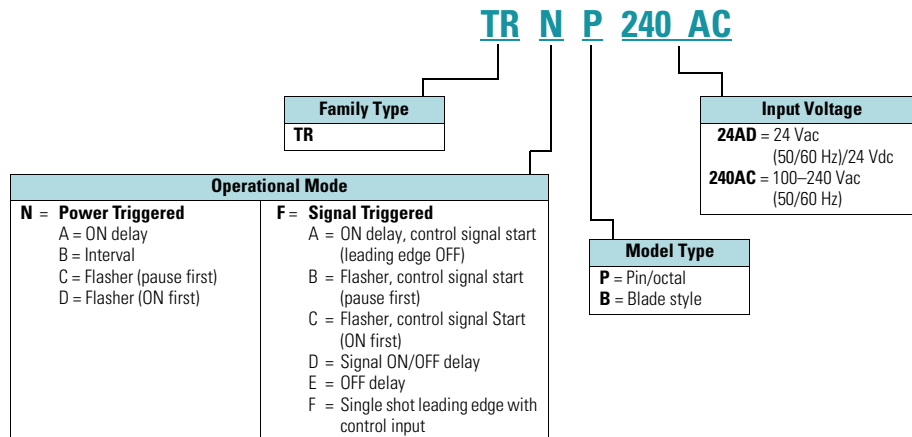


### Standards and Certifications

- cULus listed
- CSA
- CE marked
- TUV



### Catalog Number Selection



### Product Selection

#### TR Plug-In Timing Relays—Power Triggered

Coil Voltage	Octal Catalog Number	Blade Catalog Number
24 Vac/Vdc	<b>TRNP24AD</b>	<b>TRNB24AD</b>
100–240 Vac	<b>TRNP240AC</b>	<b>TRNB240AC</b>

#### TR Plug-In Timing Relays—Signal Triggered

Coil Voltage	Octal Catalog Number	Blade Catalog Number
24 Vac/Vdc	<b>TRFP24AD</b>	<b>TRFB24AD</b>
100–240 Vac	<b>TRFP240AC</b>	<b>TRFB240AC</b>

### Accessories

#### Sockets for Use with TR Timers—Standard Pack of 10

Timing Relay	Terminal Style	Catalog Number
TRNP	8-pin octal	<b>D3PA2</b>
TRFP	11-pin octal	<b>D3PA3</b>
TRNB, TRFB	0.187 in solder/QC terminals (blade style)	<b>D5PA2</b>

### Technical Data and Specifications

#### General

Description	Specification
Operation system	Solid-state CMOS circuit
Time range	0.1 sec to 600 hours
Pollution degree	2 (IE60664-1)
Overvoltage category	III (IE60664-1)
Rated operational voltage	
240 AC	100–240 Vac (50/60 Hz)
24 AC	24 Vac (50/60 Hz)/24 Vdc
12 DC	12 Vdc
Voltage tolerance	
240 AC	85–264 Vac (50/60 Hz)
24 AC	20.4–26.4 Vac (50/60 Hz)/21.6–26.4 Vdc
12 DC	10.8–13.2 Vdc
Input OFF voltage	Rated voltage x 10% minimum
Ambient operating temperature	–4 to 149°F (–20 to 65°C)
Reset time	100 ms maximum
Repeat error	± 0.2%, ± 20 ms <sup>①</sup>
Voltage error	± 0.2%, ± 20 ms <sup>①</sup>
Temperature error	± 0.5%, ± 20 ms <sup>①</sup>
Setting error	± 10% maximum
Insulation resistance	100M ohm minimum (500 Vdc)
Dielectric strength	
Between power and output terminals	2000 Vac, 1 minute
Between contacts of different poles	2000 Vac, 1 minute
Between contacts of same pole	1000 Vac, 1 minute
Vibration resistance	10–55 Hz amplitude 0.5 mm; 2 hrs in each of 3 axes
Shock resistance	
Operating extremes	10G
Damage limits —	
TRNP, TRFP	40G (3x in each of 3 axes)
TRNB, TRFB	10G (3x in each of 3 axes)
Power consumption (approx.)	
240 AC	6.5 VA TRNP, TRNB/6.6 VA TRFP, TRFB
240 Vac/60 Hz	11.6 VA TRNP, TRNB/12.1 VA TRFP, TRFB
24 AC (AC/DC)	3.4 VA–1.7W TRNP, TRNB/3.5 VA–1.7W TRFP, TRFB
12 DC	1.6W

#### TR Series Contact Ratings

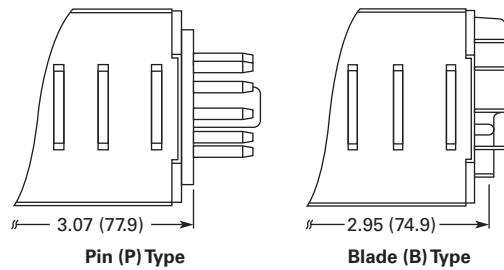
Description	Specification
Contact configuration	2 Form C, DPDT (delayed output)
Allowable voltage/current	240 Vac, 30 Vdc/10A
Max. permissible operating frequency	1800 cycles per hour
Rated load	
Resistive	10A, 240 Vac/30 Vdc
Inductive	7A, 240 Vac/30 Vdc
Horsepower rating	1/6 hp 120 Vac, 1/3 hp 240 Vac
Life	
Electrical	500,000 operations minimum (resistive)
Mechanical	50,000,000 operations minimum

### Dimensions

Approximate Dimensions in Inches (mm)

#### TR Series Dimensions and Weights

Description	Specification
<b>Dimensions</b>	
TRNP, TRFP	1.58H x 1.42W x 3.07D in. (40H x 36W x 77.9D mm)
TRNB, TRFB	1.58H x 1.42W x 2.95D in. (40H x 36W x 74.9D mm)
<b>Weights</b>	
TRNP	87g
TRFP	89g
TRNB, TRFB	85g



#### Note

<sup>①</sup> For the value of the error against a preset time, whichever value is larger should apply.