

# NON-PROGRAMMABLE | ON DELAY, INTERVAL, TRUE OFF DELAY & FLASHER

## TR-5 SERIES



- ◆ Onboard & remote adjustable or fixed time delays from 0.05 seconds to 2 hours
- ◆ Uses industry-standard 8 pin octal sockets
- ◆ 10A DPDT output contacts
- ◆ Pilot duty rating



with appropriate socket

FUNCTION ■	INPUT VOLTAGE 50/60Hz.	CATALOG NUMBER **	WIRING/ SOCKETS ▲
<b>ON DELAY</b> <b>A</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-50222-** TR-50226-** TR-50228-** TR-50221-**	8 PIN OCTAL <b>70169-D</b>  <b>DIAGRAM 1</b>
<b>INTERVAL ON</b> <b>B</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-50522-** TR-50526-** TR-50528-** TR-50521-**	
<b>TRUE OFF DELAY</b> <b>R</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-50622-** TR-50626-** TR-50628-** TR-50621-**	
<b>FLASHER</b> (OFF 1st) <b>E</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-50822-** TR-50826-** TR-50828-** TR-50821-**	

■ See "Definitions of Timing Functions".

\*\* Complete Product Number using two-digit Code from Table below.

▲ Note: If these products are ordered with the Remote Adjustable Time Delay modification (suffix -Rx), they will require an 11 pin octal socket—see [www.macromatic.com/remote](http://www.macromatic.com/remote) for information. Remote Adjustable Time Delay not available on TR-506 products.

## TIME DELAYS

TR-5 Series Products have three time delay options:

- **Onboard Adjustable Time Delay**--complete Product Number by adding two-digit Code from Table at right, i.e., TR-50222-05 is an On Delay with a time delay range of 0.1-10 seconds.
- **Onboard Fixed Time Delay**--replace two-digit Code with suffix "F" followed by delay [0.1 ... 100] followed by (S) seconds, (M) minutes or (H) hours, i.e., TR-50222-F5S is an On Delay with a time delay fixed at 5 seconds.
- **Remote Adjustable Time Delay**--Selected TR-5 Series products can be built with two terminals for remote adjustable or fixed time delays. See [www.macromatic.com/remote](http://www.macromatic.com/remote) for information.

\*\* TIMING RANGE TABLE

Time Delay Range	Code
0.05 - 5 Sec.	04
0.1 - 10 Sec.	05
0.3 - 30 Sec.	07✘
0.6 - 60 Sec.	08
1.2 - 120 Sec.	09
1.8 - 180 Sec.	10
3 - 300 Sec.	12
0.1 - 10 Min.	22
0.3 - 30 Min.	15
0.6 - 60 Min.	16✘
1.2 - 120 Min.	17✘

✘ Not offered on TR-506

Sockets & Accessories available

Build your Time Delay Relays with the [Online Product Builder](#)



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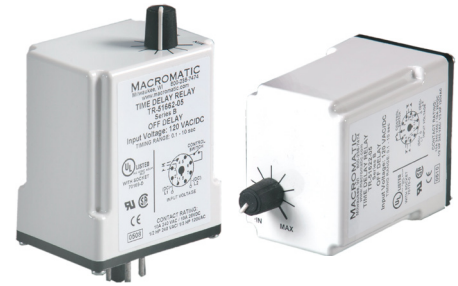
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# NON-PROGRAMMABLE | OFF DELAY, SINGLE SHOT, WATCHDOG & SINGLE SHOT FALLING EDGE

## TR-5 SERIES

FUNCTION ■ ▲	INPUT VOLTAGE 50/60Hz.	CATALOG NUMBER **	WIRING/SOCKETS ▲
<b>OFF DELAY</b> Control Switch Trigger <b>C</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-51622-** TR-51626-** TR-51628-** TR-51621-**	<p>TRIGGER</p> <p>DIAGRAM 2</p>
<b>SINGLE SHOT</b> Control Switch Trigger <b>D</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-51522-** TR-51526-** TR-51528-** TR-51521-**	
<b>WATCHDOG</b> Control Switch Trigger (Retriggerable Single Shot) <b>J</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-51322-** TR-51326-** TR-51328-** TR-51321-**	
<b>SINGLE SHOT FALLING EDGE</b> Control Switch Trigger <b>H</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-52222-** TR-52226-** TR-52228-** TR-52221-**	
<b>OFF DELAY</b> Power Trigger <b>C</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-51922-** TR-51926-** TR-51928-** TR-51921-**	
<b>SINGLE SHOT</b> Power Trigger <b>D</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-51722-** TR-51726-** TR-51728-** TR-51721-**	
<b>WATCHDOG</b> Power Trigger (Retriggerable Single Shot) <b>J</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-51822-** TR-51826-** TR-51828-** TR-51821-**	<p>POWER TRIGGER</p> <p>DIAGRAM 4</p> <p>* MUST BE SAME VOLTAGE AS INPUT VOLTAGE</p>



- ◆ Onboard & remote adjustable or fixed time delays from 0.05 seconds to 2 hours
- ◆ Uses industry-standard 11 pin octal sockets
- ◆ 10A DPDT output contacts
- ◆ Pilot duty rating



with appropriate socket

■ See "Definitions of Timing Functions".

\*\* Complete Product Number using two-digit Code from Table below.

▲ 8 Pin SPDT versions of these functions (except Single Shot Falling Edge) are available.

## TIME DELAYS

TR-5 Series Products have three time delay options:

- **Onboard Adjustable Time Delay**--complete Product Number by adding two-digit Code from Table at right, i.e., TR-51622-05 is an Off Delay with a time delay range of 0.1-10 seconds.
- **Onboard Fixed Time Delay**--replace two-digit Code with suffix "F" followed by delay [0.1 ... 100] followed by (S) seconds, (M) minutes or (H) hours, i.e., TR-51622-F5S is an Off Delay with a time delay fixed at 5 seconds.
- **Remote Time Delay**--Selected TR-5 Series products can be built with two terminals for remote adjustable or fixed time delays. See [www.macromatic.com/remotec](http://www.macromatic.com/remotec) for information.

** TIMING RANGE TABLE	
Time Delay Range	Code
0.05 - 5 Sec.	04
0.1 - 10 Sec.	05
0.3 - 30 Sec.	07
0.6 - 60 Sec.	08
1.2 - 120 Sec.	09
1.8 - 180 Sec.	10
3 - 300 Sec.	12
0.1 - 10 Min.	22
0.3 - 30 Min.	15
0.6 - 60 Min.	16
1.2 - 120 Min.	17

Sockets & Accessories available

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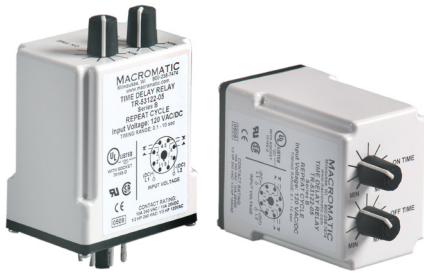
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# NON-PROGRAMMABLE | REPEAT CYCLE, ON/OFF DELAY, & DELAYED INTERVAL

## TR-5 SERIES



- ◆ Onboard & remote adjustable or fixed time delays from 0.05 seconds to 2 hours
- ◆ Independently adjustable ON & OFF times
- ◆ Uses industry-standard 8 or 11 pin octal sockets
- ◆ 10A DPDT output contacts
- ◆ Pilot duty rating



with appropriate socket

FUNCTION ■	INPUT VOLTAGE 50/60Hz.	CATALOG NUMBER **	WIRING/SOCKET
<b>REPEAT CYCLE*</b> (OFF Time First Followed By ON Time and Repeating) <b>L</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-53122-** TR-53126-** TR-53128-** TR-53121-**	8 PIN OCTAL <b>70169-D</b>  <b>DIAGRAM 1</b>
<b>ON/TRUE OFF DELAY</b> <b>S</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-54622-** TR-54626-** TR-54628-** TR-54621-**	
<b>REPEAT CYCLE*</b> (ON Time First Followed By OFF Time and Repeating) <b>M</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-55122-** TR-55126-** TR-55128-** TR-55121-**	
<b>DELAYED INTERVAL*</b> (OFF Time Followed by ON Time Followed by OFF State Until Reset) <b>N</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-56122-** TR-56126-** TR-56128-** TR-56121-**	
<b>ON/OFF DELAY*</b> Control Switch Trigger <b>G</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-54122-** TR-54126-** TR-54128-** TR-54121-**	11 PIN OCTAL <b>70170-D</b>  <b>DIAGRAM 2</b>
<b>DELAYED INTERVAL*</b> Control Switch Trigger (OFF Time Followed by ON Time Followed by OFF State Until Reset) <b>P</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	TR-56522-** TR-56526-** TR-56528-** TR-56521-**	

■ See "Definitions of Timing Functions".

\* ON & OFF Time Ranges for these functions are the same. See [www.macromatic.com/onoff](http://www.macromatic.com/onoff) for information on how to order a unit with different ON & OFF time ranges.

\*\* Complete Product Number using two-digit Code from Table below.

## TIME DELAYS

TR-5 Series Products have three time delay options:

- **Onboard Adjustable Time Delay**--complete Product Number by adding two-digit Code from Table at right, i.e., TR-53122-05 is a Repeat Cycle with both an ON & OFF time delay range of 0.1-10 seconds. See [www.macromatic.com/onoff](http://www.macromatic.com/onoff) for information on how to order a unit with different ON & OFF time ranges.
- **Onboard Fixed Time Delay**--replace two-digit Code with suffix "F" followed by delay [0.1 ... 100] followed by (S) seconds, (M) minutes or (H) hours, i.e., TR-53122-F5S is a Repeat Cycle with a time delay fixed at 5 seconds.
- **Remote Time Delay**--Selected TR-5 Series products can be built with two terminals for remote adjustable or fixed time delays. See [www.macromatic.com/remot](http://www.macromatic.com/remot) for information.

### \*\* TIMING RANGE TABLE

Time Delay Range	Code
0.05 - 5 Sec.	04
0.1 - 10 Sec.	05
0.3 - 30 Sec.	07*
0.6 - 60 Sec.	08
1.2 - 120 Sec.	09
1.8 - 180 Sec.	10
3 - 300 Sec.	12
0.1 - 10 Min.	22
0.3 - 30 Min.	15
0.6 - 60 Min.	16*
1.2 - 120 Min.	17*

\* Not offered on TR-546

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# TR-5 SERIES

## NON-PROGRAMMABLE

### APPLICATION DATA

#### Voltage Tolerance:

AC Operation: +10/-15% of nominal at 50/60 Hz.  
 DC Operation: +10/-15% of nominal.

#### Load (Burden):

Maximum of 2 VA for all voltages

#### Setting Accuracy:

Maximum Setting (Adjustable): +5%, -0%  
 Minimum Setting (Adjustable): +0%, -50%  
 Fixed Time Delay: ±2% or 50ms, whichever is greater

**Repeat Accuracy** (constant voltage and temperature):  
 ±0.1% or ± 0.04 seconds, whichever is greater

#### Reset Time:

Input Voltage (All Functions)	0.100 Seconds
Triggered Functions only	0.04 Seconds

#### Start-up Time:

(Time from when power is applied until unit is timing)  
 0.05 Seconds

#### Maintain Function Time:

(Time unit continues to operate after power is removed)  
 0.01 Seconds for all units

**Temperature:** Operating: -28° to 65°C (-18° to 149°F)  
 Storage: -40° to 85°C (-40° to 185°F)

#### Output Contacts:

(All TR-5 Series Products except TR-506 & TR-546)  
 DPDT 10A @ 240V AC/30V DC,  
 1/2HP @ 120/240V AC (N.O.), 1/3HP @ 120/240V AC (N.C.)  
 B300 & R300; AC15 & DC13

(TR-506 & TR-546)  
 DPDT 10A @ 240V AC; 8A @ 28V DC,  
 1/2 HP @ 240V AC, 1/4HP @ 120V AC  
 B300 & R300

#### Life:

Mechanical: 10,000,000 operations (2,000,000 operations  
 on TR-506 & TR-546 Series only)  
 Full Load: 100,000 operations

#### Compatibility:

Using a solid state switch to initiate the time sequence is acceptable. See [www.macromatic.com/leakage](http://www.macromatic.com/leakage) or contact Macromatic for information regarding leakage current limits and other solid state design considerations.

#### Triggering Off Delay, Single Shot or Watchdog Units:

Timing sequence must be initiated only after input voltage is applied to unit. Minimum required trigger switch closure time is 0.05 seconds.

**IMPORTANT FOR TR-506 & TR-546 SERIES ONLY:** These relays are shipped from the factory in the OFF state. A shock to the relay during shipping or installation may cause it to change to the ON state. It is recommended that input voltage be applied to the product for at least 0.1 second and removed to cycle the unit to the OFF state prior to use in the application. Please note that it will take as long as the OFF Delay setting to reset the unit once input voltage has been removed.

#### Approvals:

(All TR-5 Series Products  
 except TR-506 & TR-546)



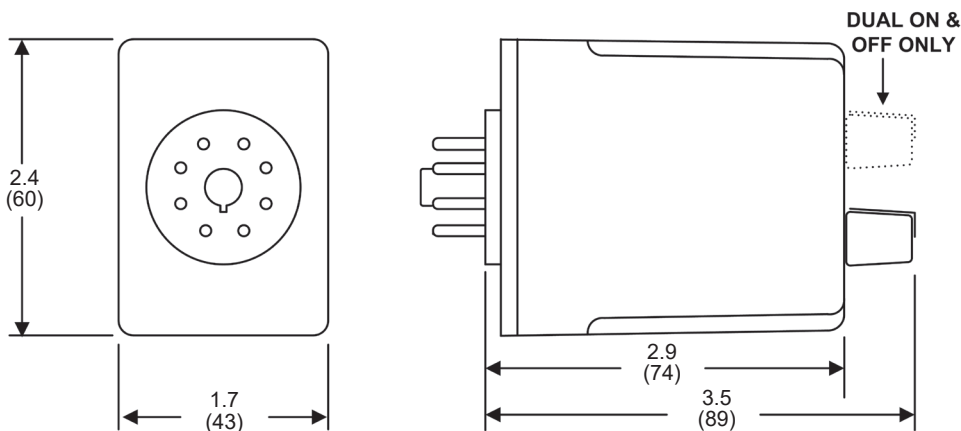
(TR-506 & TR-546 only)



(All TR-5 Series  
 Products)



### DIMENSIONS



All Dimensions in Inches (Millimeters)