

# ON DELAY, INTERVAL, FLASHER, CYCLE & DELAYED INTERVAL

## RELAY OUTPUT | THR-1 SERIES

### Isolated Relay Common

FUNCTION	VOL	INPUT TAGE	CATALOG NUMBER **	WIRING
<b>A</b> ON DELAY	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-10262-** THR-10266-** THR-10268-** THR-10261-**	<p><b>Onboard Adjustable or Fixed Time Delay</b></p> <p><b>DIAGRAM 300</b></p> <p><b>Remote Time Delay</b></p> <p><b>DIAGRAM 302</b></p>
<b>B</b> INTERVAL ON		120V AC/DC 12V DC 24V AC/DC 240V AC	THR-10562-** THR-10566-** THR-10568-** THR-10561-**	
<b>E</b> FLASHER (OFF Time 1st)	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-10862-** THR-10866-** THR-10868-** THR-10861-**	
<b>F</b> FLASHER (ON Time 1st)	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-10962-** THR-10966-** THR-10968-** THR-10961-**	
<b>L</b> REPEAT CYCLE * (OFF Time 1st)	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-13162-** THR-13166-** THR-13168-** THR-13161-**	
<b>M</b> REPEAT CYCLE * (ON Time 1st)	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-15162-** THR-15166-** THR-15168-** THR-15161-**	
<b>N</b> DELA YED INTERVAL * 12V	120V 12V	AC/DC DC 24V AC/DC 240V AC	THR-16162-** THR-16166-** THR-16168-** THR-16161-**	



- ◆ Cost effective design & compact 2" x 2" enclosure are ideal for volume OEM applications
- ◆ Microprocessor-based design for greater performance & maximum flexibility
- ◆ Encapsulated for protection against harsh environments
- ◆ 10A SPDT relay output contacts can handle most pilot duty & fractional HP loads
- ◆ Onboard & remote adjustable or fixed time delays from 0.05 seconds to 100 hours



■ See "Definitions of Timing Functions".

\* ON & OFF Time Ranges for these functions are the same.

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

## TIME DELAYS

THR-1 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., THR-10262-30 is an On Delay with a time delay range of 0.1-10 seconds. \* See [www.macromatic.com/onoff](http://www.macromatic.com/onoff) for information on how to order these functions with different ON & OFF time ranges.
- **Onboard Fixed Time Delay**--replace two-digit Code with suff x "F" followed by delay [0.1 ... 100] followed by (S) seconds, (M) minutes or (H) hours, i.e., THR-10262-F5S is an On Delay with a time delay fixed at 5 seconds.
- **Remote Time Delay**--THR-1 Series products can be built with two terminals for remote adjustable or fixed time delays.

** TIMING RANGE TABLE	
Time Delay Range	Code
0.05 - 5 Sec.	04
0.1 - 10 Sec.	30
1 - 100 Sec.	31
10 - 1,000 Sec.	36
0.1 - 10 Min.	32
1 - 100 Min.	33
10 - 1,000 Min.	37
1 - 100 Hr.	35



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# ON DELAY, INTERVAL, FLASHER, CYCLE & DELAYED INTERVAL

## RELAY OUTPUT | THR-1 SERIES

TIME DELAY RELAYS | ENCAPSULATED



- ◆ Cost effective design & compact 2" x 2" enclosure are ideal for volume OEM applications
- ◆ Microprocessor-based design for greater performance & maximum flexibility
- ◆ Encapsulated for protection against harsh environments
- ◆ 10A SPDT relay output contacts can handle most pilot duty & fractional HP loads
- ◆ Relay Common internally connected to Pin 2-makes wiring easier
- ◆ Onboard & remote adjustable or fixed time delays from 0.05 seconds to 100 hours



Relay Common Internally Connected to Pin 2

FUNCTION ■ VOL	INPUT TAGE	CATALOG NUMBER **	WIRING
<b>ON DELAY</b> <b>A</b> 120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-10262-**J THR-10266-**J THR-10268-**J THR-10261-**J	<b>Onboard Adjustable or Fixed Time Delay</b>  <b>DIAGRAM 301</b>
<b>INTERVAL ON</b> <b>B</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-10562-**J THR-10566-**J THR-10568-**J THR-10561-**J	
<b>FLASHER</b> (OFF Time 1st) <b>E</b> 120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-10862-**J THR-10866-**J THR-10868-**J THR-10861-**J	<b>Remote Time Delay</b>  <b>DIAGRAM 303</b>
<b>FLASHER</b> (ON Time 1st) <b>F</b> 120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-10962-**J THR-10966-**J THR-10968-**J THR-10961-**J	
<b>REPEAT CYCLE</b> * (OFF Time 1st) <b>L</b> 120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-13162-**J THR-13166-**J THR-13168-**J THR-13161-**J	
<b>REPEAT CYCLE</b> * (ON Time 1st) <b>M</b> 120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-15162-**J THR-15166-**J THR-15168-**J THR-15161-**J	
<b>DELAYED INTERVAL</b> * <b>N</b> 120V 12V	AC/DC DC 24V AC/DC 240V AC	THR-16162-**J THR-16166-**J THR-16168-**J THR-16161-**J	

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\* ON & OFF Time Ranges for these functions are the same.

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

### TIME DELAYS

THR-1 Series Products have three time delay options:

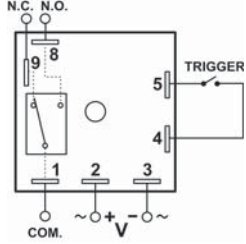
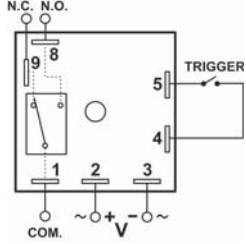
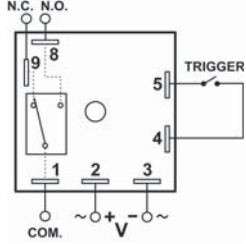
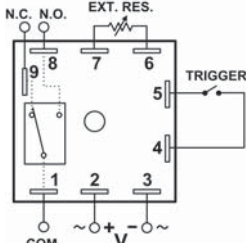
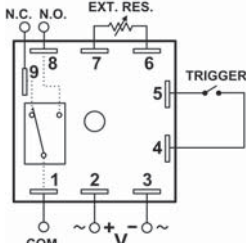
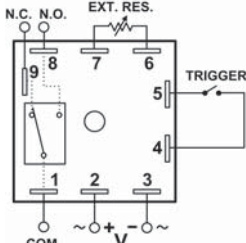
- **Onboard Adjustable Time Delay**--complete Product Number by adding two-digit Code from Table at right, i.e., THR-10262-30J is an On Delay with a time delay range of 0.1-10 seconds.
- **Onboard Fixed Time Delay**--replace two-digit Code with suff x "F" followed by delay [0.1 ... 100] followed by (S) seconds, (M) minutes or (H) hours, i.e., THR-10262-F5SJ is an On Delay with a time delay fixed at 5 seconds.
- **Remote Adjustable Time Delay**--THR-1 Series products can be built with two terminals for remote adjustable or fixed time delays.

** TIMING RANGE TABLE	
Time Delay Range	Code
0.05 - 5 Sec.	04
0.1 - 10 Sec.	30
1 - 100 Sec.	31
10 - 1,000 Sec.	36
0.1 - 10 Min.	32
1 - 100 Min.	33
10 - 1,000 Min.	37
1 - 100 Hr.	35

# OFF DELAY, SINGLE SHOT, WATCHDOG, SINGLE SHOT FALLING EDGE, ON DELAY/OFF DELAY & DELAYED INTERVAL

## RELAY OUTPUT | THR-1 SERIES

Isolated Control Switch & Isolated Relay Common

FUNCTION	VOL	INPUT TAGE	CATALOG NUMBER **	WIRING
<b>C</b> OFF DELAY	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-11662-** THR-11666-** THR-11668-** THR-11661-**	<b>Onboard Adjustable or Fixed Time Delay</b> 
<b>D</b> SINGLE SHOT	120V AC/DC 12V DC 24V AC/DC 240V AC	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-11562-** THR-11566-** THR-11568-** THR-11561-**	
<b>J</b> WATCHDOG (Retriggerable Single Shot)	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-11362-** THR-11366-** THR-11368-** THR-11361-**	
<b>H</b> SINGLE SHOT FALLING EDGE (Retriggerable)	120V 12V DC	AC/DC DC 24V AC/DC 240V AC	THR-12262-** THR-12266-** THR-12268-** THR-12261-**	<b>Remote Time Delay</b> 
<b>G</b> ON/OFF DELAY *	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-14162-** THR-14166-** THR-14168-** THR-14161-**	
<b>P</b> DELAYED INTERVAL * (Retriggerable)	120V 12V DC	AC/DC DC 24V AC/DC 240V AC	THR-16562-** THR-16566-** THR-16568-** THR-16561-**	

■ See "Definitions of Timing Functions".

\* ON & OFF Time Ranges for these functions are the same.

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

## TIME DELAYS

THR-1 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., THR-11662-30 is an Off Delay with a time delay range of 0.1-10 seconds.
- **Onboard Fixed Time Delay**--replace two-digit Code with suff x "F" followed by delay [0.1 ... 100] followed by (S) seconds, (M) minutes or (H) hours, i.e., THR-11662-F5S is an Off Delay with a time delay fixed at 5 seconds.
- **Remote Adjustable Time Delay**--THR-1 Series products can be built with two terminals for remote adjustable or fixed time delays.

\*\* TIMING RANGE TABLE

Time Delay Range	Code
0.05 - 5 Sec.	04
0.1 - 10 Sec.	30
1 - 100 Sec.	31
10 - 1,000 Sec.	36
0.1 - 10 Min.	32
1 - 100 Min.	33
10 - 1,000 Min.	37
1 - 100 Hr.	35



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- ◆ Microprocessor-based design for greater performance & maximum flexibility
- ◆ Encapsulated for protection against harsh environments
- ◆ 10A SPDT relay output contacts can handle most pilot duty & fractional HP loads
- ◆ Onboard & remote adjustable or fixed time delays from 0.05 seconds to 100 hours



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# OFF DELAY, SINGLE SHOT, WATCHDOG, SINGLE SHOT FALLING EDGE, ON DELAY/OFF DELAY & DELAYED INTERVAL

## RELAY OUTPUT | THR-1 SERIES



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Isolated Control Switch & Relay Common Internally Connected to Pin 2

FUNCTION	VOL	INPUT TAGE	CATALOG NUMBER **	WIRING
<b>OFF DELAY</b> <b>C</b>	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-11662-**J THR-11666-**J THR-11668-**J THR-11661-**J	<b>Onboard Adjustable or Fixed Time Delay</b> 
<b>SINGLE SHOT</b> <b>D</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-11562-**J THR-11566-**J THR-11568-**J THR-11561-**J	
<b>WATCHDOG</b> (Retriggerable Single Shot) <b>J</b>	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-11362-**J THR-11366-**J THR-11368-**J THR-11361-**J	<b>Remote Time Delay</b> 
<b>SINGLE SHOT FALLING EDGE</b> (Retriggerable) <b>H</b>	120V 12V DC	AC/DC DC 24V AC/DC 240V AC	THR-12262-**J THR-12266-**J THR-12268-**J THR-12261-**J	
<b>ON/OFF DELAY</b> * <b>G</b>	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-14162-**J THR-14166-**J THR-14168-**J THR-14161-**J	<b>Remote Time Delay</b> 
<b>DELAYED INTERVAL</b> * (Triggered) <b>P</b>	120V 12V DC	AC/DC DC 24V AC/DC 240V AC	THR-16562-**J THR-16566-**J THR-16568-**J THR-16561-**J	

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## TIME DELAYS

THR-1 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., THR-11662-30J is an Off Delay with a time delay range of 0.1-10 seconds.
- **Onboard Fixed Time Delay**--replace two-digit Code with suff x "F" followed by delay [0.1 ... 100] followed by (S) seconds, (M) minutes or (H) hours, i.e., THR-11662-F5SJ is an Off Delay with a time delay fixed at 5 seconds.
- **Remote Adjustable Time Delay**--THR-1 Series products can be built with two terminals for remote adjustable or fixed time delays.

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Time Delay Range	Code
0.05 - 5 Sec.	04
0.1 - 10 Sec.	30
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10 - 1,000 Sec.	36
0.1 - 10 Min.	32
1 - 100 Min.	33
10 - 1,000 Min.	37
1 - 100 Hr.	35

# OFF DELAY, SINGLE SHOT, WATCHDOG, SINGLE SHOT FALLING EDGE, ON DELAY/OFF DELAY & DELAYED INTERVAL

## RELAY OUTPUT | THR-1 SERIES

Control Switch Common to Pin 2 & Isolated Relay Common

FUNCTION	VOL	INPUT TAGE	CATALOG NUMBER **	WIRING
<b>C</b> OFF DELAY	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-11662-**T THR-11666-**T THR-11668-**T THR-11661-**T	<b>Onboard Adjustable or Fixed Time Delay</b> 
<b>D</b> SINGLE SHOT	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-11562-**T THR-11566-**T THR-11568-**T THR-11561-**T		
<b>J</b> WATCHDOG (Retriggerable Single Shot)	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-11362-**T THR-11366-**T THR-11368-**T THR-11361-**T	<b>Remote Time Delay</b> 
<b>H</b> SINGLE SHOT FALLING EDGE (Retriggerable)	120V 12V DC 24V AC/DC 240V AC	AC/DC DC AC/DC AC	THR-12262-**T THR-12266-**T THR-12268-**T THR-12261-**T	
<b>G</b> ON/OFF DELAY *	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-14162-**T THR-14166-**T THR-14168-**T THR-14161-**T	
<b>P</b> DELAYED INTERVAL * (Retriggered)	120V 12V DC 24V AC/DC 240V AC	AC/DC DC AC/DC AC	THR-16562-**T THR-16566-**T THR-16568-**T THR-16561-**T	

■ See "Definitions of Timing Functions".

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## TIME DELAYS

THR-1 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., THR-11662-30T 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., THR-11662-F5ST is an Off Delay with a time delay fixed at 5 seconds.
- **Remote Adjustable Time Delay**--THR-1 Series products can be built with two terminals for remote adjustable or fixed time delays.

\*\* TIMING RANGE TABLE

Time Delay Range	Code
0.05 - 5 Sec.	04
0.1 - 10 Sec.	30
1 - 100 Sec.	31
10 - 1,000 Sec.	36
0.1 - 10 Min.	32
1 - 100 Min.	33
10 - 1,000 Min.	37
1 - 100 Hr.	35



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# OFF DELAY, SINGLE SHOT, WATCHDOG, SINGLE SHOT FALLING EDGE, ON DELAY/OFF DELAY & DELAYED INTERVAL

## RELAY OUTPUT | THR-1 SERIES



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Control Switch Common to Pin 2 &  
Relay Common Internally Connected to Pin 2

FUNCTION	VOL	INPUT TAGE	CATALOG NUMBER **	WIRING
<b>OFF DELAY</b> <b>C</b>	120V	AC/DC 12V DC 24V AC/DC 240V AC	THR-11662-**JT THR-11666-**JT THR-11668-**JT THR-11661-**JT	<b>Onboard Adjustable or Fixed Time Delay</b>  <b>DIAGRAM 309</b>  <b>Remote Time Delay</b>  <b>DIAGRAM 311</b>
<b>SINGLE SHOT</b> <b>D</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-11562-**JT THR-11566-**JT THR-11568-**JT THR-11561-**JT		
<b>WATCHDOG</b> <b>J</b> (Retriggerable Single Shot)	120V 12V DC 24V AC/DC 240V AC	THR-11362-**JT THR-11366-**JT THR-11368-**JT THR-11361-**JT		
<b>SINGLE SHOT FALLING EDGE</b> <b>H</b> (Retriggerable)	120V 12V DC 24V AC/DC 240V AC	THR-12262-**JT THR-12266-**JT THR-12268-**JT THR-12261-**JT		
<b>ON/OFF DELAY</b> * <b>G</b>	120V 12V DC 24V AC/DC 240V AC	THR-14162-**JT THR-14166-**JT THR-14168-**JT THR-14161-**JT		
<b>DELAYED INTERVAL</b> * <b>P</b> (Triggered)	120V 12V DC 24V AC/DC 240V AC	THR-16562-**JT THR-16566-**JT THR-16568-**JT THR-16561-**JT		

■ See "Definitions of Timing Functions".

\* ON & OFF Time Ranges for these functions are the same.

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

## TIME DELAYS

THR-1 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., THR-11662-30JT is an Off Delay with a time delay range of 0.1-10 seconds.
- **Onboard Fixed Time Delay**--replace two-digit Code with suff x "F" followed by delay [0.1 ... 100] followed by (S) seconds, (M) minutes or (H) hours, i.e., THR-11662-F5SJT is an Off Delay with a time delay fixed at 5 seconds.
- **Remote Adjustable Time Delay**--THR-1 Series products can be built with two terminals for remote adjustable or fixed time delays.

** TIMING RANGE TABLE	
Time Delay Range	Code
0.05 - 5 Sec.	04
0.1 - 10 Sec.	30
1 - 100 Sec.	31
10 - 1,000 Sec.	36
0.1 - 10 Min.	32
1 - 100 Min.	33
10 - 1,000 Min.	37
1 - 100 Hr.	35