
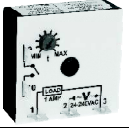










# TIME DELAY RELAYS

## PRODUCT SUMMARY

Macromatic offers a wide variety of time delay relays and accessories. Each one has different features and operating characteristics, allowing you to choose the exact product to meet your needs. Our time delay relays are available in either programmable or non-programmable versions. We offer both single or multiple function time delay relays. Choose between SPDT or DPDT relay outputs & solid state outputs for high duty cycle applications. Time delay relays are available as plug-in units for use with industry standard 8 & 11 pin octal sockets. They also come in 2" x 2" encapsulated & 1/16 DIN mounting configurations. Choose between analog or digital-set time delay relays. Refer to the Selection Table on this page for more information.

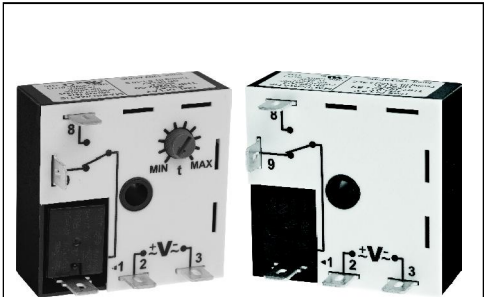
Product Series		Mounting Configuration	Time Delay Setting & Ranges	Functions	Input Voltages	Output	See Pages	
	<b>THR Series Relay Output</b>	2" x 2" Encapsulated Panel Mounted with One Screw	Analog-Set 0.1 SEC - 100 HR	Single- Function	12VDC, 24VAC/DC, 120VAC/DC, 240VAC	10A SPDT Relay	43-49	
	<b>THS Series Solid State Output</b>		Analog-Set 0.01 SEC - 100 HR	Single- Function	24-240VAC, 12-48VDC	1A SPNO Solid State	50-53	
	<b>THL Series Solid State Inline (Series) Output</b>		Analog-Set 0.01 SEC - 100 HR	Single- Function	240-240VAC & 12-48VDC	1A SPNO Solid State	54-55	
	<b>TR-5 Series Standard</b>	Plug-in Utilizing Industry-Standard 8 & 11 Pin Sockets	Analog-Set 0.05 SEC - 2 HR	Single- Function	12VDC, 24VAC/DC, 120VAC/DC, 240VAC	10A DPDT 10A SPDT Relay	56-59 60-61	
	<b>TR-6 Series Time Ranger Programmable</b>		Analog-Set Multi-Range 0.1 SEC - 24 HR	Single- Function	12VAC/DC, 24VAC/DC, 120VAC/DC, 240VAC	10A DPDT Relay	62-65	
	<b>TD-8 Series Time Ranger Digital-Set Programmable</b>		Digital-Set Multi-Range 0.1 SEC - 1,023 HR	Multi-Function (16) & Single- Function	12VAC/DC, 24VAC/DC, 120VAC/DC, 240VAC	10A DPDT 10A SPDT Relay	66-68	
	<b>TD-7 Series Time Ranger Digital-Set Programmable</b>		Digital-Set Multi-Range 0.05 SEC - 999 HR	Multi-Function (10) & Single- Function	12VAC/DC, 24VAC/DC, 120VAC/DC, 240VAC	10A DPDT 10A SPDT Relay	69-71	
	<b>SS-6 &amp; SS-8 Series Compact</b>		Analog-Set 0.2 - 300 SEC	Single- Function	12VDC, 24VAC/DC, 120VAC	5A SPDT Relay	76	
	<b>TAD Series Digital-Set 1/16 DIN</b>		1/16 DIN (48mm <sup>2</sup> )	Digital-Set Multi-Range 0.01 SEC - 9,990 HR	Multi-Function (10)	24-240VAC & 24-240VDC	5A DPDT Relay	72-73
	<b>TAA Series Analog-Set 1/16 DIN</b>			Digital-Set Multi-Range 0.05 SEC - 100 HR	Multi-Function (6)--2 Versions	24-240VAC & 24-240VDC	3A DPDT & SPDT Relay	74-75

# TIME DELAY RELAYS

## THR SERIES ENCAPSULATED--RELAY OUTPUT ON DELAY, INTERVAL, FLASHER, CYCLE & DELAYED INTERVAL

### Isolated Relay Common

FUNCTION ■	INPUT VOLTAGE	PRODUCT NUMBER **	WIRING
<b>ON DELAY</b> <b>A</b>	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>INTERVAL ON</b> <b>B</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-10562-** THR-10566-** THR-10568-** THR-10561-**	
<b>FLASHER</b> (OFF Time 1st) <b>E</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-10862-** THR-10866-** THR-10868-** THR-10861-**	
<b>FLASHER</b> (ON Time 1st) <b>F</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-10962-** THR-10966-** THR-10968-** THR-10961-**	
<b>REPEAT CYCLE *</b> (OFF Time 1st) <b>L</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-13162-** THR-13166-** THR-13168-** THR-13161-**	
<b>REPEAT CYCLE *</b> (ON Time 1st) <b>M</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-15162-** THR-15166-** THR-15168-** THR-15161-**	
<b>DELAYED INTERVAL *</b> <b>N</b>	120V AC/DC 12V 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 Pages 77-79 for definitions & explanations 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

THR 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 suffix "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 Series products can be built with two terminals for remote adjustable or fixed time delays. See Page 49 for information.

\*\* 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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[sales@macromatic.com](mailto:sales@macromatic.com)

# TIME DELAY RELAYS

## THR SERIES ENCAPSULATED--RELAY OUTPUT ON DELAY, INTERVAL, FLASHER, CYCLE & DELAYED INTERVAL



- ◆ 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



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**sales@macromatic.com**

### Relay Common Internally Connected to Pin 2

FUNCTION ■	INPUT VOLTAGE	PRODUCT 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>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 AC/DC 12V DC 24V AC/DC 240V AC	THR-16162-**J THR-16166-**J THR-16168-**J THR-16161-**J	<b>Remote Time Delay</b>  <b>DIAGRAM 303</b>

■ See Pages 77-79 for definitions & explanations 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

THR 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. \* 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 suffix "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 Series products can be built with two terminals for remote adjustable or fixed time delays. See Page 49 for information.

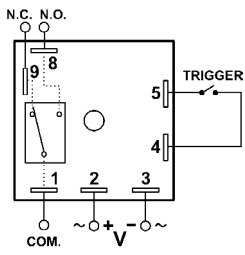
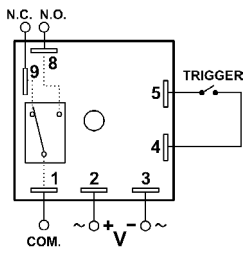
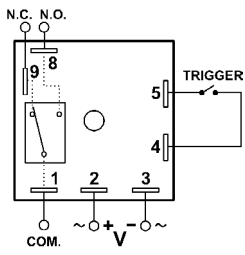
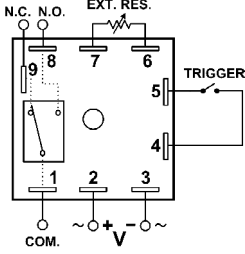
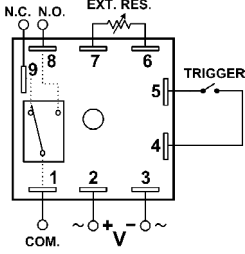
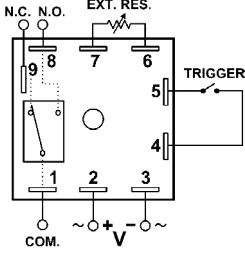
#### \*\* TIMING RANGE TABLE

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

# TIME DELAY RELAYS

## THR SERIES ENCAPSULATED--RELAY OUTPUT OFF DELAY, SINGLE SHOT, WATCHDOG, SINGLE SHOT FALLING EDGE, ON DELAY/OFF DELAY & DELAYED INTERVAL

Isolated Control Switch & Isolated Relay Common

FUNCTION ■	INPUT VOLTAGE	PRODUCT NUMBER **	WIRING
<b>OFF DELAY</b> ■ <b>C</b>	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>SINGLE SHOT</b> ■ <b>D</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-11562-** THR-11566-** THR-11568-** THR-11561-**	
<b>WATCHDOG</b> (Retriggerable Single Shot) ■ <b>J</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-11362-** THR-11366-** THR-11368-** THR-11361-**	
<b>SINGLE SHOT FALLING EDGE</b> (Retriggerable) ■ <b>H</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-12262-** THR-12266-** THR-12268-** THR-12261-**	
<b>ON/OFF DELAY *</b> ■ <b>G</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-14162-** THR-14166-** THR-14168-** THR-14161-**	
<b>DELAYED INTERVAL *</b> (Triggered) ■ <b>P</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-16562-** THR-16566-** THR-16568-** THR-16561-**	

■ See Pages 77-79 for definitions & explanations 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.

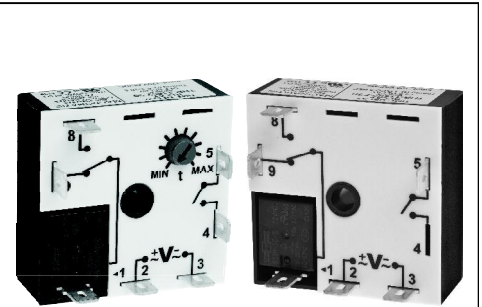
\*\* Complete Product Number using two-digit Code from Table below.

### TIME DELAYS

THR 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. \* 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 suffix "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 Series products can be built with two terminals for remote adjustable or fixed time delays. See Page 49 for information.

** 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



- ◆ 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



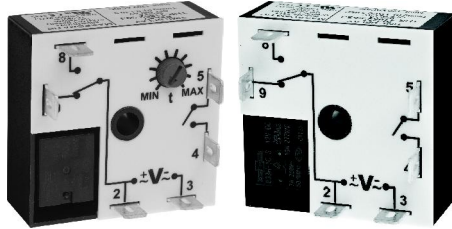
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# TIME DELAY RELAYS

## THR SERIES ENCAPSULATED--RELAY OUTPUT

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



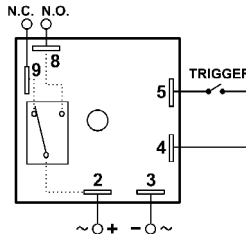
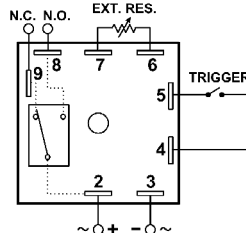
- ◆ Cost effective design & compact 2" x 2" enclosure are ideal for volume OEM applications
- ◆ Microprocessor-based design for greater performance & maximum flexibility
- ◆ Encapsulated for protection against harsh environments
- ◆ 10A SPDT relay output contacts can handle most pilot duty & fractional 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



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Isolated Control Switch & Relay Common Internally Connected to Pin 2

FUNCTION ■	INPUT VOLTAGE	PRODUCT 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	THR-11562-**J THR-11566-**J THR-11568-**J THR-11561-**J	<b>Remote Time Delay</b> 
<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>SINGLE SHOT FALLING EDGE</b> (Retriggerable) <b>H</b>	120V AC/DC 12V 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>DELAYED INTERVAL *</b> (Triggered) <b>P</b>	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-16562-**J THR-16566-**J THR-16568-**J THR-16561-**J	

■ See Pages 77-79 for definitions & explanations 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

THR 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. \* 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 suffix "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 Series products can be built with two terminals for remote adjustable or fixed time delays. See Page 49 for information.

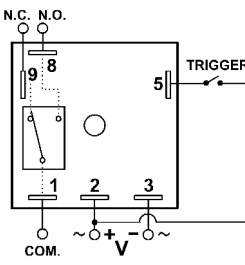
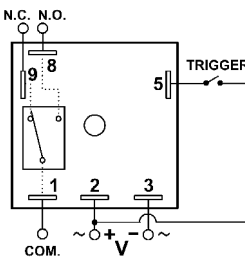
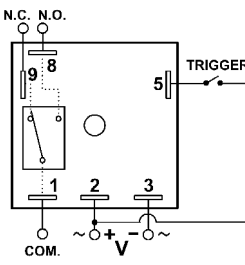
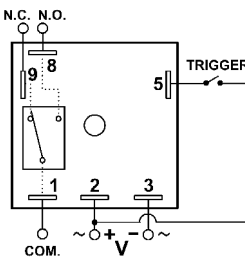
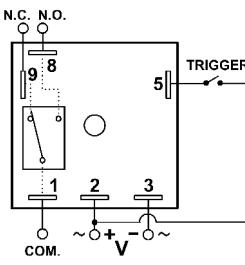
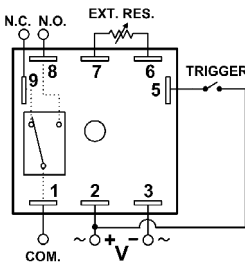
** TIMING RANGE TABLE	
Time Delay Range	Code
0.05 - 5 Sec.	04
0.1 - 10 Sec.	30
1 - 100 Sec.	31
10 - 1,000 Sec.	36
0.1 - 10 Min.	32
1 - 100 Min.	33
10 - 1,000 Min.	37
1 - 100 Hr.	35



# TIME DELAY RELAYS

## THR SERIES ENCAPSULATED--RELAY OUTPUT OFF DELAY, SINGLE SHOT, WATCHDOG, SINGLE SHOT FALLING EDGE, ON DELAY/OFF DELAY & DELAYED INTERVAL

Control Switch Common to Pin 2 & Isolated Relay Common

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

■ See Pages 77-79 for definitions & explanations 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.

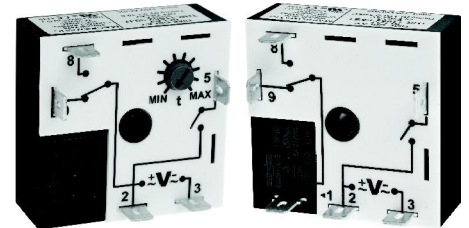
\*\* Complete Product Number using two-digit Code from Table below.

### TIME DELAYS

THR 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. \* 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 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 Series products can be built with two terminals for remote adjustable or fixed time delays. See Page 49 for information.

** 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



- ◆ 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



800-238-7474

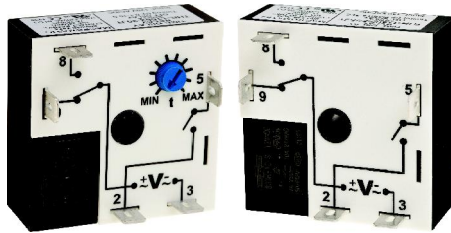
[www.macromatic.com](http://www.macromatic.com)  
[sales@macromatic.com](mailto:sales@macromatic.com)

Application Data & Dimensions--Page 49

# TIME DELAY RELAYS

## THR SERIES ENCAPSULATED--RELAY OUTPUT

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



- ◆ 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



800-238-7474

www.macromatic.com  
sales@macromatic.com

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

FUNCTION ■	INPUT VOLTAGE	PRODUCT NUMBER **	WIRING
<b>OFF DELAY</b> C	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-11662-**JT THR-11666-**JT THR-11668-**JT THR-11661-**JT	<p><b>Onboard Adjustable or Fixed Time Delay</b></p> <p><b>DIAGRAM 309</b></p> <p><b>Remote Time Delay</b></p> <p><b>DIAGRAM 311</b></p>
<b>SINGLE SHOT</b> D	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> (Retriggerable Single Shot) J	120V AC/DC 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> (Retriggerable) H	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-12262-**JT THR-12266-**JT THR-12268-**JT THR-12261-**JT	
<b>ON/OFF DELAY *</b> G	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-14162-**JT THR-14166-**JT THR-14168-**JT THR-14161-**JT	
<b>DELAYED INTERVAL *</b> (Triggered) P	120V AC/DC 12V DC 24V AC/DC 240V AC	THR-16562-**JT THR-16566-**JT THR-16568-**JT THR-16561-**JT	

- See Pages 77-79 for definitions & explanations 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

THR 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. \* 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 suffix "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 Series products can be built with two terminals for remote adjustable or fixed time delays. See Page 49 for information.

** 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

# TIME DELAY RELAYS

## THR SERIES ENCAPSULATED--RELAY OUTPUT

### APPLICATION DATA & DIMENSIONS

#### 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:**

Triggered with Input Voltage: 100ms  
 Triggered with Control Switch: 40ms

**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

**Units Triggered by a Control Switch:**

Minimum required trigger switch closure time is 50ms.

**Temperature:** -28° to 65°C (-18° to 149°F)

**Output Contacts:**

10A @ 240VAC / 7A @ 28VDC SPDT, 1/4hp @ 120VAC (N.O.)

**Life:**

Mechanical: 10,000,000 operations  
 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.

**Mounting:**

Surface with one #8 or #10 screw

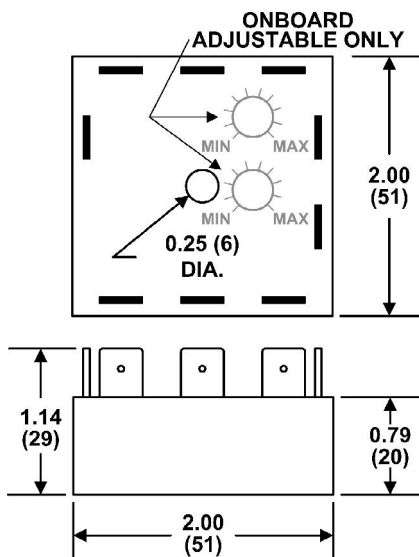
**Termination:**

0.25" male quick-connect terminals

**Approvals:**



#### DIMENSIONS



All Dimensions in Inches (Millimeters)

#### REMOTE TIME DELAY

Most THR Series products can be built with two terminals for remote adjustable or fixed time delays. To order a product with a remote time delay, complete the Product Number by adding the two-digit Code from the Table shown on the appropriate product selection page followed by the suffix "R1", i.e., THR-10262-30R1. Contact Macromatic for information on limitations of remote time delays on functions with ON & OFF timing ranges.

**Adjustable Time Delay**

A 100K ohm potentiometer is required to obtain the maximum time delay for all standard ranges. To use other values of remote potentiometers, contact Macromatic.

**Fixed Time Delay**

A fixed time delay can be set by connecting a resistor across the two terminals. To determine the resistor value required, use the following equation:

$$R = \frac{T}{T_{max}} \times 100,000$$

R = Resistance value required to obtain T  
 T = Desired time delay  
 T<sub>max</sub> = Maximum time delay of range

**Example:** Using time range 0.1-10 seconds, what resistor value is required for a fixed time delay of 5 seconds:

$$R = \frac{5}{10} \times 100,000 = 50,000 \text{ ohms (50K ohms)}$$



# TIME DELAY RELAYS

## DEFINITION OF TIMING FUNCTIONS

Understanding the differences between all the functions available in time delay relays can sometimes be a daunting task. To begin with, time delay relays are simply control relays with a time delay built in. Their purpose is to control an event based on time.

Typically, time delay relays are initiated or triggered by one of two methods, depending on the function:

- ◆ application of input voltage
- ◆ application of a trigger

These triggers can be one of two signals: a control switch (dry contact), i.e., limit switch, push button, float switch, etc., or voltage (commonly known as a power trigger).

**CAUTION: any time delay relay that is designed to be initiated with a dry contact control switch trigger could be damaged if voltage is applied to the trigger switch terminals. Only products that have a "power trigger" should be used with voltage as the trigger.**

To help understand, some definitions are important:

- ◆ Input Voltage - control voltage applied to the input terminals. Depending on the function, input voltage will either initiate the unit or make it ready to initiate when a trigger is applied.
- ◆ Trigger - on certain timing functions, a trigger is used to initiate the unit after input voltage has been applied. As noted above, this trigger can either be a control switch (dry contact switch) or a power trigger (voltage).
- ◆ Output (Load) - every time delay relay has an output (either mechanical relay or solid state) that will open & close to control the load. Note that the user must provide the voltage to power the load being switched by the output contacts of the time delay relay. In all wiring diagrams, the output is shown in the normal de-energized position.

Below and on the following pages are both written and visual descriptions on how the common timing functions operate. A Timing Chart shows the relationship between Input Voltage, Trigger (if present) and Output. If you cannot find a product to fit your requirements or have any questions, Macromatic's Application Engineers offer technical information along with product selection and application assistance. Just call us at 800-238-7474 or e-mail us at tech-help@macromatic.com.

Function/Code	Operation	Timing Chart
<b>ON DELAY</b> Delay on Operate Delay on Make <b>A</b>	Upon application of input voltage, the time delay (t) begins. At the end of the time delay (t), the output is energized. Input voltage must be removed to reset the time delay relay & de-energize the output..	
<b>INTERVAL ON</b> Interval <b>B</b>	Upon application of input voltage, the output is energized and the time delay (t) begins. At the end of the time delay (t), the output is de-energized. Input voltage must be removed to reset the time delay relay.	
<b>OFF DELAY</b> Delay on Release Delay on Break Delay on De-Energization <b>C</b>	Upon application of input voltage, the time delay relay is ready to accept a trigger. When the trigger is applied, the output is energized. Upon removal of the trigger, the time delay (t) begins. At the end of the time delay (t), the output is de-energized. Any application of the trigger during the time delay will reset the time delay (t) and the output remains energized.	
<b>SINGLE SHOT</b> One Shot Momentary Interval <b>D</b>	Upon application of input voltage, the time delay relay is ready to accept a trigger. When the trigger is applied, the output is energized and the time delay (t) begins. During the time delay (t), the trigger is ignored. At the end of the time delay (t), the output is de-energized and the time delay relay is ready to accept another trigger.	

# TIME DELAY RELAYS

## DEFINITION OF TIMING FUNCTIONS

Function/Code	Operation	Timing Chart
<b>FLASHER</b> (Off First) <b>E</b>	Upon application of input voltage, the time delay (t) begins. At the end of the time delay (t), the output is energized and remains in that condition for the time delay (t). At the end of the time delay (t), the output is de-energized and the sequence repeats until input voltage is removed.	
<b>FLASHER</b> (ON First) <b>F</b>	Upon application of input voltage, the output is energized and the time delay (t) begins. At the end of the time delay (t), the output is de-energized and remains in that condition for the time delay (t). At the end of the time delay (t), the output is energized and the sequence repeats until input voltage is removed.	
<b>ON/OFF DELAY</b> <b>G</b>	Upon application of input voltage, the time delay relay is ready to accept a trigger. When the trigger is applied, the time delay (t1) begins. At the end of the time delay (t1), the output is energized. When the trigger is removed, the output contacts remain energized for the time delay (t2). At the end of the time delay (t2), the output is de-energized & the time delay relay is ready to accept another trigger. If the trigger is removed during time delay period (t1), the output will remain de-energized and time delay (t1) will reset. If the trigger is removed during time delay period (t2), the output will remain energized and the time delay (t2) will reset.	
<b>SINGLE SHOT FALLING EDGE</b> <b>H</b>	Upon application of input voltage, the time delay relay is ready to accept a trigger. When the trigger is applied, the output remains de-energized. Upon removal of the trigger, the output is energized and the time delay (t) begins. At the end of the time delay (t), the output is de-energized unless the trigger is removed and re-applied prior to time out (before time delay (t) elapses). Continuous cycling of the trigger at a rate faster than the time delay (t) will cause the output to remain energized indefinitely.	
<b>WATCHDOG Retriggerable Single Shot</b> <b>J</b>	Upon application of input voltage, the time delay relay is ready to accept a trigger. When the trigger is applied, the output is energized and the time delay (t) begins. At the end of the time delay (t), the output is de-energized unless the trigger is removed and re-applied prior to time out (before time delay (t) elapses). Continuous cycling of the trigger at a rate faster than the time delay (t) will cause the output to remain energized indefinitely.	
<b>TRIGGERED ON DELAY</b> <b>K</b>	Upon application of input voltage, the time delay relay is ready to accept a trigger. When the trigger is applied, the time delay (t) begins. At the end of the time delay (t), the output is energized and remains in that condition as long as either the trigger is applied or the input voltage remains. If the trigger is removed during the time delay (t), the output remains de-energized & the time delay (t) is reset.	

# TIME DELAY RELAYS

## DEFINITION OF TIMING FUNCTIONS

Function/Code	Operation	Timing Chart
<b>REPEAT CYCLE (OFF 1st)</b> <b>L</b>	Upon application of input voltage, the time delay (t1) begins. At the end of the time delay (t1), the output is energized and remains in that condition for the time delay (t2). At the end of this time delay, the output is de-energized and the sequence repeats until input voltage is removed.	
<b>REPEAT CYCLE (ON 1st)</b> <b>M</b>	Upon application of input voltage, the output is energized and the time delay (t1) begins. At the end of the time delay (t1), the output is de-energized and remains in that condition for the time delay (t2). At the end of this time delay, the output is energized and the sequence repeats until input voltage is removed.	
<b>DELAYED INTERVAL Single Cycle</b> <b>N</b>	Upon application of input voltage, the time delay (t1) begins. At the end of the time delay (t1), the output is energized and remains in that condition for the time delay (t2). At the end of this time delay (t2), the output is de-energized. Input voltage must be removed to reset the time delay relay.	
<b>TRIGGERED DELAYED INTERVAL</b> <b>P</b>	Upon application of input voltage, the time delay relay is ready to accept a trigger. When the trigger is applied, the time delay (t1) begins. At the end of the time delay (t1), the output is energized and remains in that condition for the time delay (t2). At the end of the time delay (t2), the output is de-energized & the relay is ready to accept another trigger. During both time delay (t1) & time delay (t2), the trigger is ignored.	
<b>TRUE OFF DELAY</b> <b>R</b>	Upon application of input voltage, the output is energized. When the input voltage is removed, the time delay (t) begins. At the end of the time delay (t), the output is de-energized. Input voltage must be applied for a minimum of 0.5 seconds to assure proper operation. Any application of the input voltage during the time delay (t) will reset the time delay. No external trigger is required.	
<b>ON DELAY/ TRUE OFF DELAY</b> <b>S</b>	Upon application of input voltage, the time delay (t1) begins. At the end of the time delay (t1), the output is energized. When the input voltage is removed, the output remains energized for the time delay (t2). At the end of the time delay (t2), the output is de-energized. Input voltage must be applied for a minimum of 0.5 seconds to assure proper operation. Any application of the input voltage during the time delay (t2) will keep the output energized & reset the time delay (t2). No external trigger is required.	
<b>SINGLE SHOT-FLASHER</b> <b>T</b>	Upon application of input voltage, the time delay relay is ready to accept a trigger. When the trigger is applied, the time delay (t1) begins and the output is energized for the time delay (t2). At the end of this time delay (t2), the output is de-energized and remains in that condition for the time delay (t2). At the end of the time delay (t2), the output is energized and the sequence repeats until time delay (t1) is completed. During the time delay (t1), the trigger is ignored.	
<b>ON DELAY-FLASHER</b> <b>X</b>	Upon application of input voltage, the time delay begins (t1). At the end of the time delay (t1), the output is energized and remains in that condition for the time delay (t2). At the end of this time delay (t2), the output is de-energized and remains in that condition for the time delay (t2). At the end of the time delay (t2), the output is energized and the sequence repeats until input voltage is	

# SOCKETS & ACCESSORIES

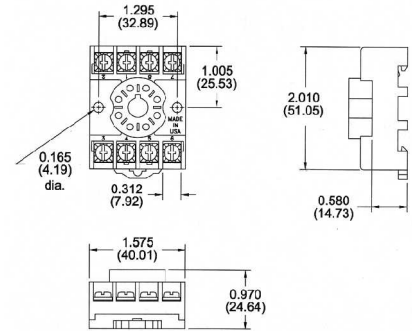
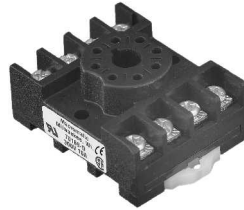
## 8 Pin Octal Socket-- Surface or DIN Rail-Mounted

10A @ 600V \*  
1 or 2 #12-22 AWG Wire  
Recommended Tightening Torque  
of 6-7 in-lbs. (12 in-lbs maximum)  
Pressure Wire Clamp Terminations



File #E169693 File #LR701114

## Product Number 70169-D



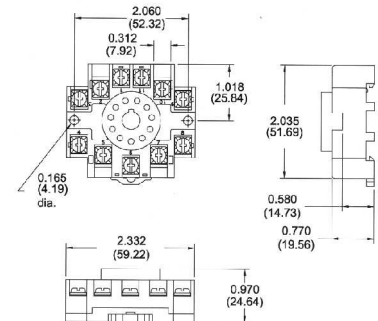
## 11 Pin Octal Socket-- Surface or DIN Rail-Mounted

10A @ 300V  
1 or 2 #12-22 AWG Wire  
Recommended Tightening Torque  
of 6-7 in-lbs. (12 in-lbs maximum)  
Pressure Wire Clamp Terminations



File #E169693 File #LR701114

## Product Number 70170-D



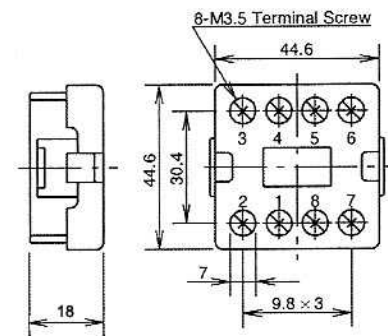
## 8 Pin Octal Socket-- Back-Mounted

10A @ 300V  
Pressure Wire Clamp Terminations



File #E62437

## Product Number SR6P-M08G



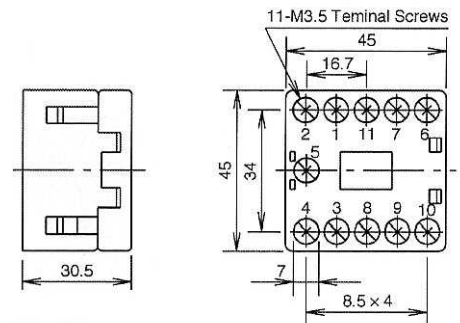
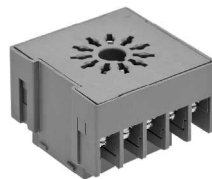
## 11 Pin Octal Socket-- Back-Mounted

10A @ 300V  
Pressure Wire Clamp Terminations



File #E62437

## Product Number SR6P-M11G



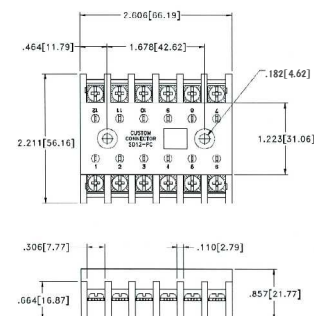
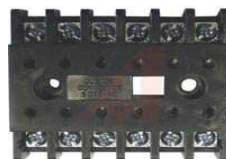
## 12 Pin Socket-- Surface-Mounted

10A @ 600V  
#12-20 AWG Wire  
Pressure Wire Clamp Terminations



File #E60008 File #LR29513

## Product Number SD12-PC



**NOTE:** if a 12 Pin Socket is required for DIN-rail mounting, please contact Macromatic.

\* Plug-in Three-Phase Monitor Relays require a 600V-rated socket when used on system voltages greater than 300V.

# SOCKETS & ACCESSORIES

## Hold Down Spring Product Number 70166

Can be used for:

- ◆ Panel-Mounted Sockets
- ◆ Sockets Mounted to 35mm DIN Track \*

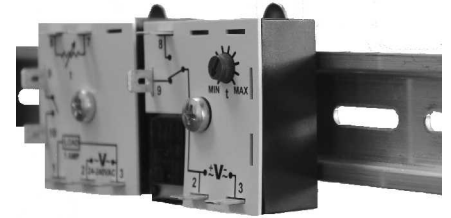
\* Requires two machine screws with washers & nuts-- contact Macromatic or [www.macromatic.com/70166](http://www.macromatic.com/70166) for more information.



## DIN Rail Adaptor Kit Product Number 70500

Quick & Economical Way to Install Any THx Series 2" x 2" Encapsulated Time Delay Relays on 35mm DIN Track

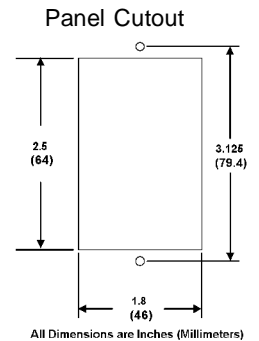
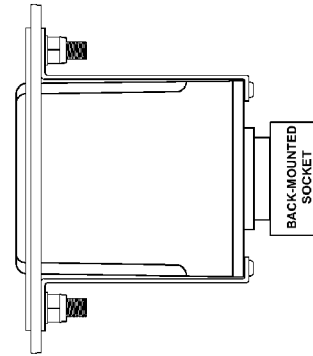
- ◆ Clip Comes with a Threaded Hole to Eliminate Need for a Washer & Nut
- ◆ All Mounting Hardware Included



## Panel Mount Assembly For Panel Mounting Standard Plug-in Products Product Number 70400

This assembly provides a simple & economical method to mount plug-in products to the deadfront of an enclosure/panel:

- ◆ Sturdy Aluminum Construction
- ◆ Stainless Steel Studs
- ◆ All Mounting Hardware Included
- ◆ White Textured Painted Finish
- ◆ 2 3/16" W x 3 7/16" H



(Relay Not Included with Assembly-- Shown for Reference Only)

## INDEX BY PRODUCT NUMBER

Product *	Page	Product *	Page	Product *	Page	Product *	Page	Product *	Page	Product *	Page
70166	81	ARP024A6	32	ATP024A1R	36	CMKP10A68	18	COKP01A68	19	COP10A62	19
70169-D	80	ARP024A6R	32	ATP024A7R	36	CMP01A22	18	COKP05A22	19	COP10A68	19
70170-D	80	ARP120A2	32	ATP120A1	36	CMP01A28	18	COKP05A28	19	CUH05Ayyy ***	16
70400	81	ARP120A2R	32	ATP120A1R	36	CMP01A62	18	COKP05A62	19	CUH20Ayyy ***	16
70500	81	ARP120A3	34	ATP120A7R	36	CMP01A68	18	COKP05A68	19	CUH50Ayyy ***	16
ARP012A2	32	ARP120A3R	34	CAH05Ayyy	16	CMP05A22	18	COKP10A22	19	CUP01A22	20
ARP012A2R	32	ARP120A5	34	CAH20Ayyy	16	CMP05A28	18	COKP10A28	19	CUP01A28	20
ARP012A3	34	ARP120A5R	34	CAH50Ayyy	16	CMP05A62	18	COKP10A62	19	CUP01A62	20
ARP012A3R	34	ARP120A6	32	CMKP01A22	18	CMP05A68	18	COKP10A68	19	CUP01A68	20
ARP012A5	34	ARP120A6R	32	CMKP01A28	18	CMP10A22	18	COP01A22	19	CUP05A22	20
ARP012A5R	34	ARP240A2	32	CMKP01A62	18	CMP10A28	18	COP01A28	19	CUP05A28	20
ARP012A6	32	ARP240A2R	32	CMKP01A68	18	CMP10A62	18	COP01A62	19	CUP05A62	20
ARP012A6R	32	ARP240A3	34	CMKP05A22	18	CMP10A68	18	COP01A68	19	CUP05A68	20
ARP024A2	32	ARP240A3R	34	CMKP05A28	18	COH05Ayyy	16	COP05A22	19	CUP10A22	20
ARP024A2R	32	ARP240A5	34	CMKP05A62	18	COH20Ayyy	16	COP05A28	19	CUP10A28	20
ARP024A3	34	ARP240A5R	34	CMKP05A68	18	COH50Ayyy	16	COP05A62	19	CUP10A62	20
ARP024A3R	34	ARP240A6	32	CMKP10A22	18	COKP01A22	19	COP05A68	19	CUP10A68	20
ARP024A5	34	ARP240A6R	32	CMKP10A28	18	COKP01A28	19	COP10A22	19		
ARP024A5R	34	ATP024A1	36	CMKP10A62	18	COKP01A62	19	COP10A28	19		

\* The "-xx" suffix denotes the time range for time delay relays with adjustable time delay. Contact Macromatic for any product not listed.

\*\*\* The "-yyy" suffix denotes the input voltage, trip delay & sensing delay for CxH Series encapsulated current sensing relays.



# INDEX BY PRODUCT NUMBER (CONTINUED)

Product *	Page	Product *	Page	Product *	Page	Product *	Page	Product *	Page	Product *	Page
ISP024A	40	TD-78122	69	THR-11561-xx	45	THR-16161-xx	43	TR-51521-xx	57	TR-61322	63
ISP120A	40	TD-78126	69	THR-11561-xxJ	46	THR-16161-xxJ	44	TR-51522-xx	57	TR-61326	63
PAP120	8	TD-78128	69	THR-11561-xxJT	48	THR-16162-xx	43	TR-51526-xx	57	TR-61328	63
PAP208	8	TD-80221-xx	67	THR-11561-xxT	47	THR-16162-xxJ	44	TR-51528-xx	57	TR-61521	63
PAP240	8	TD-80222-xx	67	THR-11562-xx	45	THR-16166-xx	43	TR-51561-xx	60	TR-61522	63
PAP400	8	TD-80226-xx	67	THR-11562-xxJ	46	THR-16166-xxJ	44	TR-51562-xx	60	TR-61526	63
PAP480	8	TD-80228-xx	67	THR-11562-xxJT	48	THR-16168-xx	43	TR-51566-xx	60	TR-61528	63
PCP1	6	TD-80521-xx	67	THR-11562-xxT	47	THR-16168-xxJ	44	TR-51568-xx	60	TR-61621	63
PCP2	6	TD-80522-xx	67	THR-11566-xx	45	THR-16561-xx	45	TR-51621-xx	57	TR-61622	63
PLP120	6	TD-80526-xx	67	THR-11566-xxJ	46	THR-16561-xxJ	46	TR-51622-xx	57	TR-61626	63
PLP208	6	TD-80528-xx	67	THR-11566-xxJT	48	THR-16561-xxJT	48	TR-51626-xx	57	TR-61628	63
PLP240	6	TD-81521-xx	67	THR-11566-xxT	47	THR-16561-xxT	47	TR-51628-xx	57	TR-61721	63
PLP400	6	TD-81522-xx	67	THR-11568-xx	45	THR-16562-xx	45	TR-51661-xx	60	TR-61722	63
PLP480	6	TD-81526-xx	67	THR-11568-xxJ	46	THR-16562-xxJ	46	TR-51662-xx	60	TR-61726	63
PMD120	14	TD-81528-xx	67	THR-11568-xxJT	48	THR-16562-xxJT	48	TR-51666-xx	60	TR-61728	63
PMD600	14	TD-81621-xx	67	THR-11568-xxT	47	THR-16562-xxT	47	TR-51668-xx	60	TR-61821	63
PMDU	14	TD-81622-xx	67	THR-11661-xx	45	THR-16566-xx	45	TR-51721-xx	57	TR-61822	63
PMP120	10	TD-81626-xx	67	THR-11661-xxJ	46	THR-16566-xxJ	46	TR-51722-xx	57	TR-61826	63
PMP208-FA11	12	TD-81628-xx	67	THR-11661-xxJT	48	THR-16566-xxJT	48	TR-51726-xx	57	TR-61828	63
PMP240-FA11	12	TD-83121-xx	67	THR-11661-xxT	47	THR-16566-xxT	47	TR-51728-xx	57	TR-61921	63
PMPU	10	TD-83122-xx	67	THR-11662-xx	45	THR-16568-xx	45	TR-51761-xx	60	TR-61922	63
PMPU-FA12	12	TD-83126-xx	67	THR-11662-xxJ	46	THR-16568-xxJ	46	TR-51762-xx	60	TR-61926	63
PMPU-FA8	12	TD-83128-xx	67	THR-11662-xxJT	48	THR-16568-xxJT	48	TR-51766-xx	60	TR-61928	63
PMPU-FA8X	12	TD-85121-xx	67	THR-11662-xxT	47	THR-16568-xxT	47	TR-51768-xx	60	TR-63121	64
SD12-PC	80	TD-85122-xx	67	THR-11666-xx	45	THS-1024A-xx	50	TR-51821-xx	57	TR-63122	64
SFP120A025	38	TD-85126-xx	67	THR-11666-xxJ	46	THS-1024D-xx	50	TR-51822-xx	57	TR-63126	64
SFP120A100	38	TD-85128-xx	67	THR-11666-xxJT	48	THS-1054A-xx	50	TR-51826-xx	57	TR-63128	64
SFP120A250	38	TD-88121	66	THR-11666-xxT	47	THS-1054D-xx	50	TR-51828-xx	57	TR-65121	64
SFP120B025	38	TD-88122	66	THR-11668-xx	45	THS-1094A-xx	50	TR-51861-xx	60	TR-65122	64
SFP120B100	38	TD-88126	66	THR-11668-xxJ	46	THS-1094D-xx	50	TR-51862-xx	60	TR-65126	64
SFP120B250	38	TD-88128	66	THR-11668-xxJT	48	THS-1134A-xx	51	TR-51866-xx	60	TR-65128	64
SFP120C025	38	THL-1024U-xx	54	THR-11668-xxT	47	THS-1134A-xxT	52	TR-51868-xx	60	TR-66121	64
SFP120C100	38	THR-10261-xx	43	THR-12261-xx	45	THS-1134D-xx	51	TR-51921-xx	57	TR-66122	64
SFP120C250	38	THR-10261-xxJ	44	THR-12261-xxJ	46	THS-1134D-xxT	52	TR-51922-xx	57	TR-66126	64
SFP240A025	38	THR-10262-xx	43	THR-12261-xxJT	48	THS-1154A-xx	51	TR-51926-xx	57	TR-66128	64
SFP240A100	38	THR-10262-xxJ	44	THR-12261-xxT	47	THS-1154A-xxT	52	TR-51928-xx	57	TR-66521	64
SFP240A250	38	THR-10266-xx	43	THR-12262-xx	45	THS-1154D-xx	51	TR-51961-xx	60	TR-66522	64
SFP240B025	38	THR-10266-xxJ	44	THR-12262-xxJ	46	THS-1154D-xxT	52	TR-51962-xx	60	TR-66526	64
SFP240B100	38	THR-10268-xx	43	THR-12262-xxJT	48	THS-1164A-xx	51	TR-51966-xx	60	TR-66528	64
SFP240B250	38	THR-10268-xxJ	44	THR-12262-xxT	47	THS-1164A-xxT	52	TR-51968-xx	60	VAKP012D	24
SFP240C025	38	THR-10561-xx	43	THR-12266-xx	45	THS-1164D-xx	51	TR-53121-xx	58	VAKP024A	24
SFP240C100	38	THR-10561-xxJ	44	THR-12266-xxJ	46	THS-1164D-xxT	52	TR-53122-xx	58	VAKP024D	24
SFP240C250	38	THR-10562-xx	43	THR-12266-xxJT	48	THS-1224A-xx	51	TR-53126-xx	58	VAKP048D	24
SR6P-M08G	80	THR-10562-xxJ	44	THR-12266-xxT	47	THS-1224A-xxT	52	TR-53128-xx	58	VAKP110D	24
SR6P-M11G	80	THR-10566-xx	43	THR-12268-xx	45	THS-1224D-xx	51	TR-54121-xx	58	VAKP120A	24
SS-6262-xx	76	THR-10566-xxJ	44	THR-12268-xxJ	46	THS-1224D-xxT	52	TR-54122-xx	58	VAKPU	26
SS-6266-xx	76	THR-10568-xx	43	THR-12268-xxJT	48	THS-1314A-xx	50	TR-54126-xx	58	VAP012D	24
SS-6268-xx	76	THR-10568-xxJ	44	THR-12268-xxT	47	THS-1314D-xx	50	TR-54128-xx	58	VAP024A	24
SS-8062-xx	76	THR-10861-xx	43	THR-13161-xx	43	THS-1414A-xx	51	TR-55121-xx	58	VAP024D	24
SS-8066-xx	76	THR-10861-xxJ	44	THR-13161-xxJ	44	THS-1414A-xxT	52	TR-55122-xx	58	VAP048D	24
SS-8068-xx	76	THR-10862-xx	43	THR-13162-xx	43	THS-1414D-xx	51	TR-55126-xx	58	VAP110D	24
SS-8562-xx	76	THR-10862-xxJ	44	THR-13162-xxJ	44	THS-1414D-xxT	52	TR-55128-xx	58	VAP120A	24
SS-8566-xx	76	THR-10866-xx	43	THR-13166-xx	43	THS-1514A-xx	50	TR-56121-xx	58	VMKP012D	23
SS-8568-xx	76	THR-10866-xxJ	44	THR-13166-xxJ	44	THS-1514D-xx	50	TR-56122-xx	58	VMKP024A	23
SS-8762-xx	76	THR-10868-xx	43	THR-13168-xx	43	THS-1614A-xx	50	TR-56126-xx	58	VMKP024D	23
SS-8766-xx	76	THR-10868-xxJ	44	THR-13168-xxJ	44	THS-1614D-xx	50	TR-56128-xx	58	VMKP048D	23
SS-8768-xx	76	THR-10961-xx	43	THR-14161-xx	45	THS-1654A-xx	51	TR-56521-xx	58	VMKP110D	23
TAA1U	74	THR-10961-xxJ	44	THR-14161-xxJ	46	THS-1654A-xxT	52	TR-56522-xx	58	VMKP120A	23
TAA2U	74	THR-10962-xx	43	THR-14161-xxJT	48	THS-1654D-xx	51	TR-56526-xx	58	VMP012D	23
TD-70221	70	THR-10962-xxJ	44	THR-14161-xxT	47	THS-1654D-xxT	52	TR-56528-xx	58	VMP024A	23
TD-70222	70	THR-10966-xx	43	THR-14162-xx	45	TR-50221-xx	56	TR-60221	62	VMP024D	23
TD-70226	70	THR-10966-xxJ	44	THR-14162-xxJ	46	TR-50222-xx	56	TR-60222	62	VMP048D	23
TD-70228	70	THR-10968-xx	43	THR-14162-xxJT	48	TR-50226-xx	56	TR-60226	62	VMP110D	23
TD-70521	70	THR-10968-xxJ	44	THR-14162-xxT	47	TR-50228-xx	56	TR-60228	62	VMP120A	23
TD-70522	70	THR-11361-xx	45	THR-14166-xx	45	TR-50521-xx	56	TR-60521	62	VWKP012D	28
TD-70526	70	THR-11361-xxJ	46	THR-14166-xxJ	46	TR-50522-xx	56	TR-60522	62	VWKP024A	28
TD-70528	70	THR-11361-xxJT	48	THR-14166-xxJT	48	TR-50526-xx	56	TR-60526	62	VWKP024D	28
TD-70821	70	THR-11361-xxT	47	THR-14166-xxT	47	TR-50528-xx	56	TR-60528	62	VWKP048D	28
TD-70822	70	THR-11362-xx	45	THR-14168-xx	45	TR-50821-xx	56	TR-60621	62	VWKP110D	28
TD-70826	70	THR-11362-xxJ	46	THR-14168-xxJ	46	TR-50822-xx	56	TR-60622	62	VWKP120A	28
TD-70828	70	THR-11362-xxJT	48	THR-14168-xxJT	48	TR-50826-xx	56	TR-60628	62	VWKP120A	28
TD-71521	70	THR-11362-xxT	47	THR-14168-xxT	47	TR-50828-xx	56	TR-60821	62	VWKP120A	28
TD-71522	70	THR-11366-xx	45	THR-15161-xx	43	TR-51321-xx	57	TR-60822	62	VWP024A	28
TD-71526	70	THR-11366-xxJ	46	THR-15161-xxJ	44	TR-51322-xx	57	TR-60826	62	VWP024D	28
TD-71528	70	THR-11366-xxJT	48	THR-15162-xx	43	TR-51326-xx	57	TR-60828	62	VWP048D	28
TD-71621	70	THR-11366-xxT	47	THR-15162-xxJ	44	TR-51328-xx	57	TR-60921	62	VWP110D	28
TD-71622	70	THR-11368-xx	45	THR-15166-xx	43	TR-51361-xx	60	TR-60922	62	VWP120A	28
TD-71626	70	THR-11368-xxJ	46	THR-15166-xxJ	44	TR-51362-xx	60	TR-60926	62		
TD-71628	70	THR-11368-xxJT	48	THR-15168-xx	43	TR-51366-xx	60	TR-60928	62		
TD-78121	69	THR-11368-xxT	47	THR-15168-xxJ	44	TR-51368-xx	60	TR-61321	63		

\* The "-xx" suffix denotes the time range for time delay relays with adjustable time delay. Contact Macromatic for any product not listed.