



INSTALLATION INSTRUCTIONS

TIME RANGER™ TR-6 SERIES PROGRAMMABLE PLUG-IN TIME DELAY RELAY (EXCEPT TR-606 SERIES)

February 2017, Rev C (Replaces January 2017, Rev B)

901-0000-322

DANGER!



Potentially hazardous voltages are present. Electrical shock can cause death or serious injury. Installation should be done by qualified personnel following all National, State & Local Codes.



BE SURE TO REMOVE ALL POWER SUPPLYING THIS EQUIPMENT BEFORE CONNECTING OR DISCONNECTING WIRING. READ INSTRUCTIONS BEFORE INSTALLING OR OPERATING THIS DEVICE. KEEP FOR FUTURE REFERENCE.



IMPORTANT: READ THIS FIRST IF REPLACING AN EXISTING MACROMATIC TR-6 SERIES TIME DELAY RELAY

Macromatic made several product design enhancements on all TR-6 Series Time Ranger™ Time Delay Relays in January, 2017 (see www.macromatic.com/new-tr6). These changes include the addition of a universal input voltage power supply (24-240V AC & 12-125V DC) vs. individual voltages. There are still 16 different time ranges available, but now the maximum delay is 100 hours and the maximum-to-minimum ratio of each range is 10:1 vs. 4:1. Finally, the voltage of the trigger switch is now equal to the input voltage on any function requiring the use of a trigger switch (non power-trigger function) vs. 10V DC on the older designs—see special **NOTE** below regarding added precautions when connecting a single trigger switch to more than one device.

Installation: Mount the appropriate 8 or 11 pin octal socket in a suitable enclosure. Wire the socket per the wiring diagram on the side of the time delay relay. **Make sure to match the terminal numbers on the socket to the ones shown on the wiring diagram (the wiring diagram on the relay is the view looking towards the bottom of the relay vs. the top of the socket).** Use #12-20 solid or stranded copper or copper-clad aluminum wires with Macromatic sockets and a terminal tightening torque of 12 in-lbs. Plug the time delay relay into the socket, making sure the key on the center post is in the proper orientation before insertion. **If the relay must be removed from the socket, do NOT rock the relay back and forth excessively—the center post could be damaged.**

NOTE: When the trigger switch is connected to more than one device, whether it be another Macromatic time delay relay or another brand, please review the compatibility of the combination. The potential exists where different relays have different trigger switch voltages, and combining one trigger switch on multiple voltages could damage one of the units. For additional information, see www.macromatic.com/line-trigger.

The following step applies only to the TR-681 & TR-682 Series Multi-Function units (Figure 1):

Setting Function: To set the function, first select one of the eight (TR-681 Series) or four (TR-682 Series) functions from the Select Function Chart located on the side of the relay. Position the eight-position rotary switch to the number that corresponds to the desired function. **NOTE:** Because the TR-682 Series comes with only four functions, but uses an eight-position rotary switch to select a function, each function can be selected with the same number in either of two positions. **NOTE: Function cannot be changed with power applied to unit.**

As a guide, a description of how each function operates is shown on the back of this sheet.

TR-681 Series

Select Function	
1	On Delay
2	Interval On
3	Flasher - On 1st
4	Triggered On Delay
5	Watchdog
6	Single Shot
7	Off Delay
8	One Shot Falling Edge

TR-682 Series

Select Function	
1	On Delay
2	Interval On
3	Flasher - Off 1st
4	Flasher - On 1st

Figure 1

The remaining step applies to all TR-6 Series units (Figure 1 & Figure 2):

Setting Time Range and Time Delay: To set the desired time delay, first select one of the 16 time ranges from the Timing Range Chart located on either the top or the side of the product. Position the rotary switch to the letter that corresponds to the desired time range. Then adjust the time delay within the selected time range by rotating the large knob of the potentiometer located on the top of the unit. **NOTE:** The tick marks are for reference only. On functions with two timing ranges t1 & t2, both are independently selectable and adjustable.

Figure 2

Dial Setting	Timing Range
A	0.05 - 0.5 Sec.
B	0.1 - 1 Sec.
C	0.5 - 5 Sec.
D	1 - 10 Sec.
E	3 - 30 Sec.
F	6 - 60 Sec.
G	0.2 - 2 Min.
H	0.5 - 5 Min.
I	1 - 10 Min.
J	3 - 30 Min.
K	6 - 60 Min.
L	0.2 - 2 Hr.
M	0.5 - 5 Hr.
N	1 - 10 Hr.
O	2.4 - 24 Hr.
P	10 - 100 Hr.

Troubleshooting: If the unit fails to operate properly, check that all connections are correct per the appropriate wiring diagram on the product. Refer to the description of the function operation on the next page. If problems continue, contact Macromatic at 800-238-7474 or e-mail tech-support@macromatic.com for assistance.

Warranty: All catalog-listed TR-6 Series Time Delay Relays manufactured by Macromatic are warranted to be free from defects in workmanship or material under normal service and use for a period of five (5) years from date of manufacture.



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