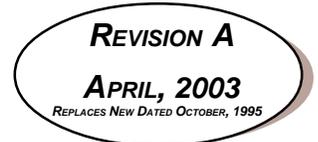




INSTALLATION INSTRUCTIONS

TIME RANGER™ III DIGITAL-SET MULTI-FUNCTION/MULTI-RANGE TIME DELAY RELAY



901-0000-050

**READ INSTRUCTIONS BEFORE INSTALLING OR OPERATING THIS DEVICE.
KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE.**

DESCRIPTION ————— The Time Ranger III (Product No. 9816U1) is a time delay relay with multiple functions and timing ranges. Timing functions include On Delay, Flasher, Interval/Off Delay, Off Delay (2 Versions), Interval, Delayed Interval, and On Delay/Off Delay. It has a 0.1 second to 9,990 hour programmable time range. Three mounting configurations are available: panel, track or surface.

SPECIFICATIONS —————

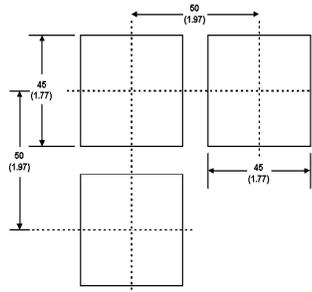
Input Voltage:	24-240VAC 50/60Hz. 12-240VDC
Output Contact Rating:	3A Resistive @ 250VAC 5A Resistive @ 28VDC
Temperature Range:	-10° to 55°C (14° to 131° F)

MOUNTING

RECOMMENDATIONS —————

Mounting Configuration	Use Socket
Panel	70300
35mm DIN Track	70170-D
Surface	70170-D

PANEL CUTOUT —————

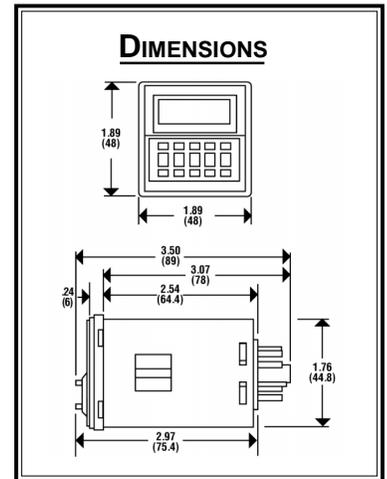


CHANGING FUNCTION ————— Operate the leftmost pushbutton to set the function. Eight functions (A, B, C, D, E, F, G, and H) are selectable. The selected function is displayed in the operation mode display window.

CHANGING TIME UNIT

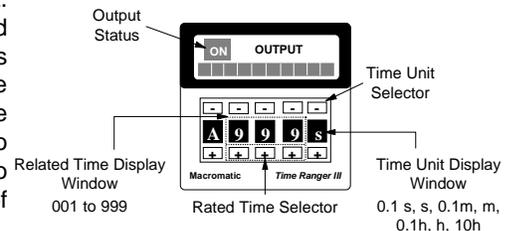
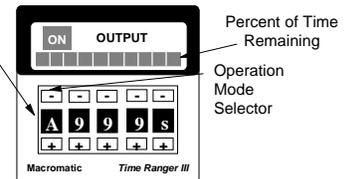
AND TIME DELAY ————— Operate the rightmost button to set the time unit. Seven time units (0.1s, 1s, 0.1m, 1m, 0.1h, 1h, and 10h) are selectable. The selected time unit is displayed in the time unit display window. The desired time delay is specified by operating the three middle pushbuttons within a range of 001 to 999 for each time unit. Do not set the switches to 000. The LCD has a bar graph showing percent of time remaining and an output status indicator.

TROUBLESHOOTING ————— If the unit fails to operate properly, check that all connections are correct per the diagrams on back. If problems continue, contact Macromatic at 800-238-7474 for assistance.



Operation Mode Display Window

- A. On Delay
- B. Flasher
- C. Interval/Off-Delay
- D. Off-Delay (I)
- E. Interval
- F. Delayed Interval
- G. On-Delay/Off Delay
- H. Off-Delay (II)



WARRANTY

All products 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 purchase by the user.

WARNING

Potentially hazardous voltages are present. Turn off all power supplying this equipment before connecting or disconnecting wiring.

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FUNCTION		OPERATION		TIMING CHART
MODE A On-Delay	Standard (Diagram 7)	Upon application of control power, the preset time begins. At the end of the preset time, the relay contacts transfer. Control power must be removed and reapplied to reset the time delay relay.		
	Triggered (Diagram 9)	Upon application of control power, the time delay relay is ready to accept trigger signals. Upon closure of the Start switch, the preset time begins. At the end of the preset time, the relay contacts transfer. Any closure of the Start switch is ignored until reset. The time delay relay is reset by closing the Reset switch or removing the control power.		
MODE B Flasher	Standard (Diagram 7)	Upon application of control power, the preset time begins. At the end of the preset time, the relay contacts transfer and remain in that condition for the preset time. At the end of this time, the relay contacts return to their normal condition and the sequence repeats until control power is removed.		
	Triggered (Diagram 9)	Upon application of control power, the time delay relay is ready to accept trigger signals. Upon closure of the Start switch, the preset time begins. At the end of the preset time, the relay contacts transfer and remain in that condition for the preset time. At the end of this time, the relay contacts return to their normal condition and the sequence repeats until the Reset switch is closed or control power is removed.		
MODE C Interval/Off-Delay	(Diagram 8)	Upon application of control power, the time delay relay is ready to accept trigger signals. Upon closure or opening of the Start switch, the relay contacts transfer and the preset time begins. At the end of the preset time, the relay contacts return to their normal condition. Any closure or opening of the Start switch during timing causes the time to reset.		
MODE D Off-Delay (I)	(Diagram 8)	Upon application of control power, the time delay relay is ready to accept trigger signals. Upon closure of the Start switch, the relay contacts transfer and hold. Upon release of the Start switch, the preset time begins. At the end of the preset time, the relay contacts return to their normal condition. Any application of the Start switch will reset the time.		
MODE E Interval	Standard (Diagram 7)	Upon application of control power, the relay contacts transfer and the preset time begins. At the end of the preset time, the contacts return to their normal condition. Control power must be removed and reapplied to reset the time delay relay.		
	Triggered (Diagram 9)	Upon application of control power, the time delay relay is ready to accept trigger signals. Upon closure of the Start switch, the relay contacts transfer and the preset time begins. At the end of the preset time, the contacts return to their normal condition. Any closure of the Start switch is ignored until reset. The time delay relay is reset by closing the Reset switch or removing the control power.		
MODE F Delayed Interval	Standard (Diagram 7)	Upon application of control power, the preset time begins. At the end of the preset time, the relay contacts transfer and remain in that condition for the preset time. At the end of this time, the relay contacts return to their normal condition and the sequence stops. Power must be removed and reapplied to reset the time delay relay.		
	Triggered (Diagram 9)	Upon application of control power, the time delay relay is ready to accept trigger signals. At the end of the preset time, the relay contacts transfer and remain in that condition for the preset time. At the end of this time, the relay contacts return to their normal condition and the sequence stops. Power must be removed and reapplied to reset the time delay relay.		
MODE G On-Delay/Off-Delay	(Diagram 8)	Upon application of control power, the time delay relay is ready to accept trigger signals. Upon closure of the Start switch, the preset time begins. At the end of the preset time, the relay contacts will transfer. Upon opening of the Start switch, the preset time begins. At the end of the preset time, the output contacts return to their normal condition.		
MODE H Off-Delay (II)	(Diagram 8)	Upon application of control power, the time delay relay is ready to accept trigger signals. Closure of the Start switch is ignored. Upon release of the Start switch, the relay contacts transfer and the preset time begins. At the end of the preset time, the relay contacts return to their normal condition. Opening the Start switch during timing resets the time.		

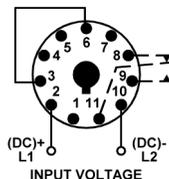


DIAGRAM 7

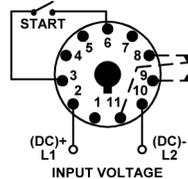


DIAGRAM 8

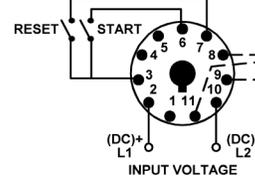


DIAGRAM 9