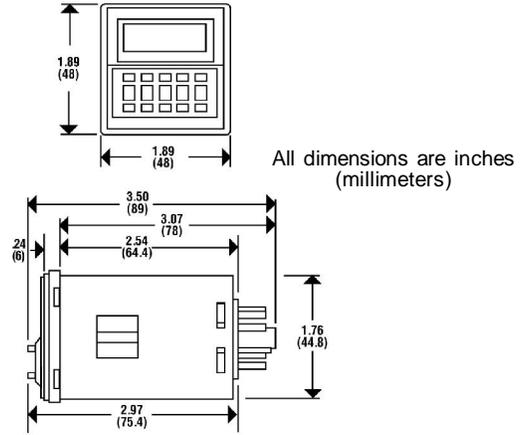


# TIME DELAY RELAYS

*Time Ranger*™ III  
 Digital -Set  
 Multi-Function  
 Multi-Range



- u 8 field-selectable functions in one unit
- u Push-button thumbwheels for digital-setting of time delay
- u Universal AC/DC input voltage
- u LCD display
- u 0.1 Second to 9,990 Hours programmable timing range
- u Panel, track or surface mounting
- u 1/16 DIN style case
- u 3A SPDT output contacts



FUNCTION	INPUT VOLTAGE	PRODUCT NUMBER	WIRING/SOCKETS <sub>n</sub>
<b>8 FIELD-SELECTABLE FUNCTIONS</b> <sub>u</sub>	24-240V AC 50/60Hz & 12-240V DC	9816U1	<b>SEE DIAGRAMS ON PAGE 49</b> 11 Pin Octal

<sub>u</sub> Functions Include: On Delay, Flasher, Interval/Off Delay, Off Delay (2 Versions), Interval, Delayed Interval and On Delay/Off Delay (see Page 49 for Further Details)

<sub>n</sub> See below for **Sockets & Accessories**.

## Application Data

**Voltage Tolerance:**  
 ±10% of rated voltage.

**Load (Burden):**  
 Less than 3 VA

**Repeat Accuracy:**  
 ±0.3%, ±0.05 seconds (includes variation due to voltage and temperature changes).

**Setting Accuracy:**  
 ±0.5%, ±0.05 seconds maximum.

**Recycle Time:**  
 0.5 seconds maximum.

**Temperature:**  
 -10° to 55°C (14° to 131°F)

**Output Contacts:**  
 SPDT 3A Resistive @ 250V AC  
 SPDT 5A Resistive @ 28V DC

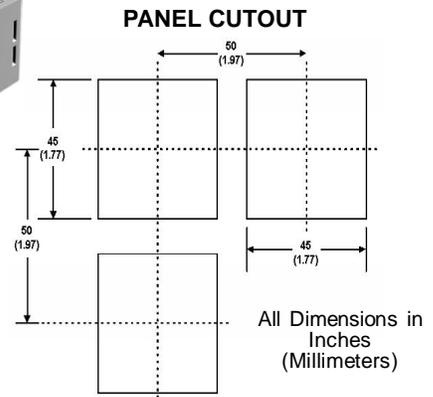
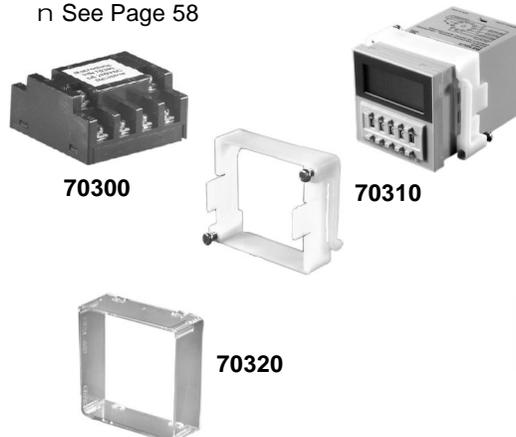
**Life:**  
 Mechanical: 10,000,000 operations  
 Full Load: 100,000 operations

**Approvals:**    
 File #E170213 File #LR701134

## Sockets & Accessories

DESCRIPTION	PRODUCT NUMBER
11 Pin Octal Socket (Surface or Track Mounting)	70170-Dn
11 Pin Octal Socket (Back Mounting)	70300
Panel Mounting Adaptor	70310
Protective Cover	70320

<sub>n</sub> See Page 58



**800-238-7474**

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[whats-up@macromatic.com](mailto:whats-up@macromatic.com)

# TIME DELAY RELAYS

## Time Ranger™ III Digital -Set Multi-Function Multi-Range

FUNCTION		OPERATION		TIMING CHART
<b>MODE A</b> On-Delay	Standard (Diagram 7)	Standard	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)	Triggered	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.	
<b>MODE B</b> Flasher	Standard (Diagram 7)	Standard	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)	Triggered	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.	
<b>MODE C</b> Interval/Off-Delay	(Diagram 8)	Standard	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.	
<b>MODE D</b> Off-Delay (I)	(Diagram 8)	Standard	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.	
<b>MODE E</b> Interval	Standard (Diagram 7)	Standard	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)	Triggered	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.	
<b>MODE F</b> Delayed Interval	Standard (Diagram 7)	Standard	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)	Triggered	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.	
<b>MODE G</b> On-Delay/Off-Delay	(Diagram 8)	Standard	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.	
<b>MODE H</b> Off-Delay (II)	(Diagram 8)	Standard	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.	

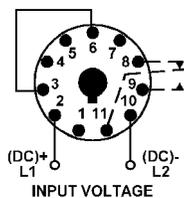


DIAGRAM 7

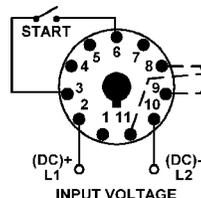


DIAGRAM 8

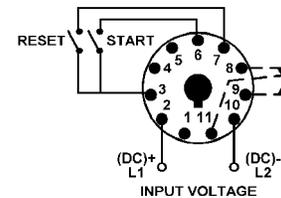


DIAGRAM 9