

# Series 653

## Multi-Function Multi-Range Solid-State Timer/Counter



### OPERATION

The Model 653 is a micro-processor-based control that can function as either a timer or a counter. It has a 4 1/2 digit LCD that can provide an indication of either the time or count value remaining or elapsed. There are five timing ranges covering time values from one millisecond to 199 hours 59 minutes. There are also three count speeds to a maximum of 7500 counts per second. The unit has an instantaneous relay output and a programmable relay output which can be programmed for any one of 14 different timing modes.

The timing range, count speed and timing mode are programmed with an internal DIP switch assembly. An external switch determines whether the time inhibit or count input takes place with application or removal of voltage. The time or count value is preset by the operator using the keypad on the front face.

These programmed values are retained in memory and are secured in memory by a keypad lockout command. The keypad can also be used to perform secondary functions such as reset, immediate time/count out, time/count inhibit, changing the direction of the display, displaying the number of cycles run, and clearing the cycle counter.

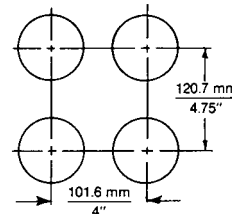
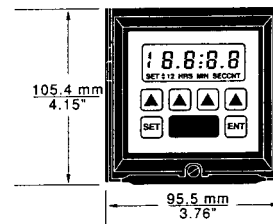
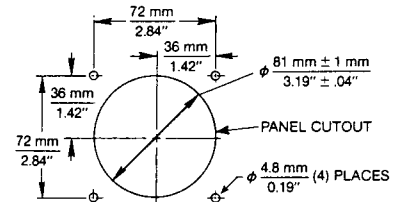
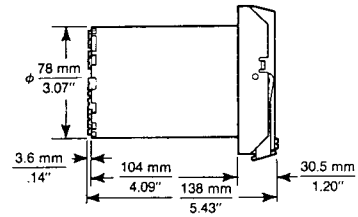
The Model 653 is housed in a standard 15-terminal plug-in round case. Models are available for operation on either 120 VAC or 240 VAC. Counting can be done at either line voltage or at 12-48 VDC/24 VAC.

### FEATURES

- Data Retention Memory with EEPROM Circuitry. (653-8-2000, 653-8-2001 Models)
- Data Retention Memory with Lithium Battery (653-8-3000, 653-8-3001 Models)
- Functions As Timer or Counter
- Six Single-Cycle and Eight Repeat-Cycle Timing Modes
- Five Time Ranges From 0.001
- Sealed Faceplate
- Cycle Counter
- Count Input Scaling

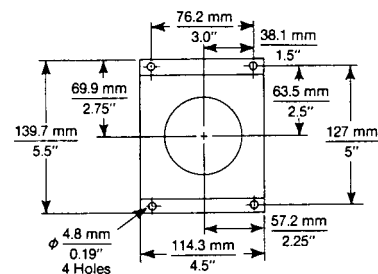
### DIMENSIONS

INCHES  
MILLIMETERS



### MODEL A600-3-3950

### SURFACE MOUNTING BRACKET



## SPECIFICATIONS — ALL MODELS

### TIMING RANGES

0.001 Sec. to 19.999 Sec.  
 0.01 Sec. to 199.99 Sec.  
 0.1 Sec. to 1999.9 Sec.  
 1 Sec. to 199 Min. 59 Sec.  
 1 Min. to 199 Hr. 59 Min.

### TIMING MODES

ON-Delay, Interval, Reverse Start Delay,  
 Reverse Start Interval, Momentary Start,  
 Accumulator, Repeat Cycle-OFF First,  
 Repeat Cycle-ON First, Repeat Cycle  
 Reverse Start-OFF First, Repeat Cycle  
 Reverse Start-ON First, Repeat Pulse,  
 Repeat Pulse, First Pulse Immediate,  
 Repeat Pulse-Reverse Start, Repeat Pulse,  
 First Pulse Immediate Reverse Start.

### TIME SETTING

Front Panel Keypad

### TIME REPEAT ACCURACY

Count: 100%  
 Time: ±0.005 Sec

### OPERATING POWER

120 or 240 VAC, +10%, -20%, 50/60 Hz.

### DISPLAY

LCD - 4 1/2 Digit, 7/16" High

### TERMINATION

Screw Terminals

### MOUNTING

Plug In Case

### TRANSIENT VOLTAGE PROTECTION

Metal Oxide Varistor

### OPERATING TEMPERATURE

0°-60°C

### NEMA RATING

NEMA 12

### TIMED RELAY OUTPUT

7 Amps Resistive, 240 VAC, 2 N.O.,  
 2 N.C. Contacts

### RELAY MECHANICAL LIFE

50,000,000 Operations

### UL & C-UL (Canada) RECOGNIZED

File No. E104697

## SPECIFICATIONS

653-8-2000 and 653-8-2001

### RESET TIME

25 Milliseconds

### CONTROL VOLTAGE INITIATE TIME

25 Milliseconds

### MEMORY

EEPROM Circuitry

### POWER CONSUMPTION

5.2 VA

### INSTANTANEOUS RELAY OUTPUT

7 Amps Resistive, 240 VAC, 2 N.O.,  
 1 N.C. Contacts

## SPECIFICATIONS

653-8-3000 and 653-8-3001

### RESET TIME

8 Milliseconds

### CONTROL VOLTAGE INITIATE TIME

8 Milliseconds

### MEMORY

Lithium Battery

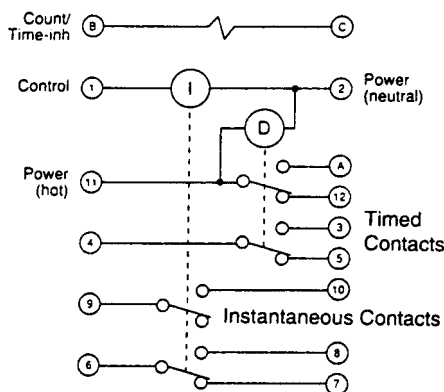
### POWER CONSUMPTION

3.7A

### INSTANTANEOUS RELAY OUTPUT

7 Amps Resistive, 240 VAC, 2 N.O.,  
 1 N.C. Contacts

## WIRING



## ORDERING INFORMATION

Part Number	Description
653-8-2000	Plug-in, Round Case Timer/Counter 120VAC W/EEPROM Memory
653-8-2001	Plug-in, Round Case Timer/Counter 240VAC W/EEPROM Memory
653-8-3000	Plug-in, Round Case Timer/Counter 120VAC W/Battery Memory
653-8-3001	Plug-in, Round Case Timer/Counter 240VAC W/Battery Memory
A651-3-0128	Mounting Gasket, 1/8" Thick (Included With Timer)
A651-3-0129	Mounting Gasket, 1/4" Thick (Included With Timer)
A600-3-3950	Base Mounting Bracket
A652-3-0130	Replacement Lithium Battery

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