

OPERATION INSTRUCTIONS
GRALAB UNIVERSAL TIMER MODELS 170 & 171

The GRALAB Universal Timer is suitable for both automatic interval timing and elapsed time indication.

AUTOMATIC INTERVAL TIMING

For interval timing, the GRALAB Timer is used to switch external electrical appliances ON or OFF. It will also sound a built-in buzzer signal at the end of an interval.

The Model 171 will time any interval from 1 second up to 60 minutes with split-second accuracy.

The slow-moving hand (with hooked end) makes one revolution of the dial in 60 minutes and is used to set the "minutes" portion of the time interval.

The fast-moving hand (with plastic knob attached) makes one dial revolution in 60 seconds and is used to complete the setting in "seconds."

The hands are set in a clockwise direction on the outer circle of large numbers.

EXAMPLE: To set the timer for 2 minutes, 49 seconds.

- (1) Rotate the slow hand clockwise until it rests on the second graduation beyond the large 0 which corresponds to a setting of 2 minutes.
- (2) Using the plastic knob rotate the fast hand to the fourth graduation beyond the numeral 45 which corresponds to 49 seconds.

NOTE: For Model 170...change seconds to minutes, change minutes to hours.

To switch external electrical appliances ON or OFF automatically at the end of a selected interval, use the two receptacles on the side of the timer case.

The black receptacle is used to switch the appliance ON at the beginning and OFF at the end of the timer interval.

The white receptacle is controlled by the outlet selector switch located in the upper left hand corner of the timer dial. The pictographs on each side of the switch use "X" to indicate that no power is available at a particular receptacle.

Depending on the setting of that switch, the white receptacle will either duplicate the action of the black receptacle or will switch an appliance ON at the end of the time interval.

When the selector switch is moved to the left position, an appliance plugged into the white receptacle will be turned ON at the beginning of the interval and turned OFF when both hands reach zero.

With the selector switch in the right position, the white receptacle will turn an appliance ON at the end of the interval.

This selector switch can also be used to turn the white receptacle ON and OFF while both timer hands are at zero prior to setting of the timer, but only if power switch is "ON."

SUMMARY

- 1) Turn timer ON-OFF switch (upper right hand corner of dial) to OFF position.
- 2) Plug appliance to be controlled into either white or black receptacle depending on how the appliance is to be switched. If white receptacle is used, selector switch must be set to desired position.
- 3) Set the two hands of the timer in a clockwise direction to the desired setting. The slow hooked hand is set first.
- 4) Turn the knob for the adjustable buzzer (lower right hand corner of dial) to select desired volume of signal - off to loud.
- 5) Move timer ON-OFF switch to ON position. This starts timer operation and is the beginning of the time interval.
- 6) When the two timer hands have rotated until they coincide at zero, the time interval is completed and the timer automatically switches the appliances ON or OFF.

ELAPSED TIME INDICATOR

To use the GRALAB Universal Timer as an elapsed time indicator (stop clock) the hands are read on the inner circle of small numerals. Outlined below is the procedure to be followed:

- 1) Turn timer power switch to OFF.
- 2) Rotate the two timer hands together in a clockwise direction around the dial until they both rest on the small 0 graduation (which is the large 55).
- 3) To start timer, flip the power switch to ON.
- 4) The elapsed time may then be read on the inner circle of numerals, reading minutes from the position of the slow hand and adding the seconds from the position of the fast hand.

PRECAUTIONS:

- 1) Connect the timer only to alternating current with voltage and cycle corresponding to those on the timer nameplate.
- 2) Be sure that any appliance or combination of appliances connected to the timer do not have a total wattage in excess of 750 watts (or 6 amps at 125 volts).
- 3) When moving the timer hands away from the large 0 position, always rotate them in a clockwise direction. Once they have left the 0 position, they can be moved in either direction equally as well.

If properly operated and cared for, your GRALAB Universal Timer will give you many years of trouble-free service.

It is guaranteed against defective materials and workmanship for a period of one year after date of purchase, providing it has not been tampered with. The guarantee is void if any of the seals on the case are broken.

If the timer should need repair, return it to your dealer or forward it directly to our factory. Special care in packing should be exercised. A notation of some kind should be included advising the nature of the trouble.

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