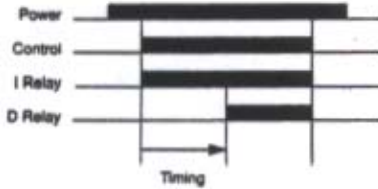


Models 652 and 653 Operating Modes

Single Cycle Modes 1, 2, 3, 4, 5, 6

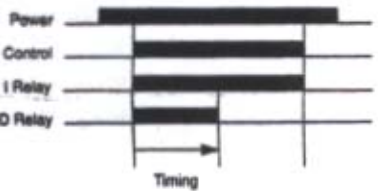
MODE 1: ON-DELAY

The supply voltage is applied at all times. When voltage is applied to the control terminal, the instantaneous contacts change state and timing begins. Upon completion of timing, the delayed contacts change state. Reset takes place upon removal of the control voltage.



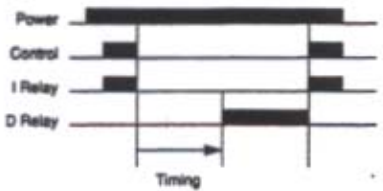
MODE 2: INTERVAL

The supply voltage is applied at all times. When voltage is applied to the control terminal, both the instantaneous and delayed contacts change state and timing begins. Upon completion of timing, the delayed contacts return to their original state. Reset takes place upon removal of the control voltage.



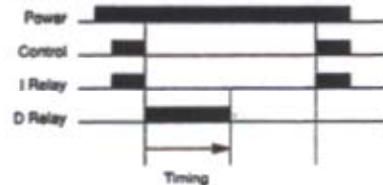
MODE 3: REVERSE START, DELAY

The supply voltage is applied at all times. Applying voltage to the control terminal holds the unit in reset with the instantaneous relay energized. When the voltage is removed from the control terminal, the instantaneous relay returns to its rest state and timing begins. Upon completion of timing, the delayed contacts change state. Reset takes place when voltage is once again applied to the control terminal.



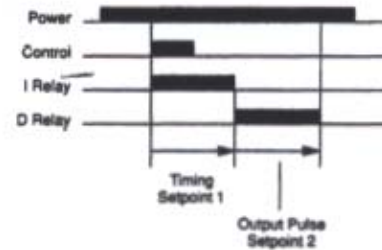
MODE 4: REVERSE START, INTERVAL

The supply voltage is applied at all times. Applying voltage to the control terminal holds the unit in reset with the instantaneous relay energized. When the voltage is removed from the control terminal, the instantaneous relay returns to its rest state, the delayed contacts become energized, and timing begins. Upon completion of timing, the delayed contacts return back to their original state. Reset takes place when voltage is once again applied to the control terminal.



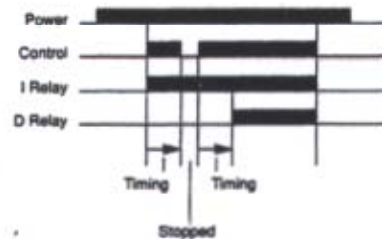
MODE 5: MOMENTARY START

The supply voltage is applied at all times. When voltage is applied to the control terminal, the instantaneous contacts change state and timing begins. The control voltage can now be removed. Upon completion of timing, the instantaneous contacts change back to their original state and the delayed contacts change state for a programmable amount of time. The timing interval is controlled by setpoint 1, and the output pulse width is controlled by setpoint 2 (with a time base of .01 sec). If the control is still on at the end of timing, both the instantaneous and delayed contacts remain in their transferred state until reset by removal of the control voltage.



MODE 6: ACCUMULATOR

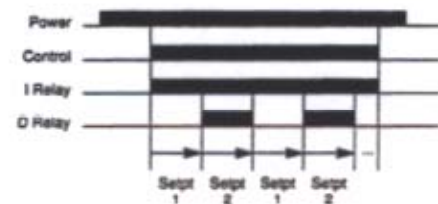
The supply voltage is applied at all times. When voltage is applied to the control terminal, the instantaneous contacts change state and timing begins. If the control voltage is removed while timing, the current state is held. Reapplying control voltage causes timing to continue from the point of interruption. Upon completion of timing, the delayed contacts change state. Reset takes place upon removal of the control voltage. A keypad time-out while the unit is stopped will cause a pulse output which is controlled by setpoint 2 (with a time base of .01 sec).



Repeat Cycle Modes 7, 8, 9, 10

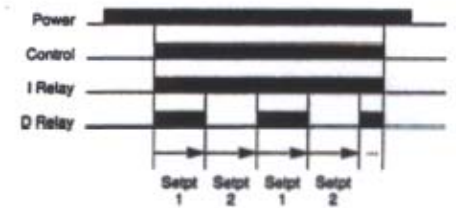
MODE 7: REPEAT CYCLE, OFF FIRST

The supply voltage is applied at all times. When voltage is applied to the control terminal, the instantaneous contacts change state and timing begins using setpoint 1. When the time has satisfied setpoint 1, the delayed contacts change state and timing continues using setpoint 2. When timing has reached setpoint 2, the delayed contacts return to their original state and operation begins over again with setpoint 1. The third setpoint (SET CNT) controls the number of cycles (continuous operation if setpoint 3 is programmed for 0). Reset takes place upon removal of control voltage.



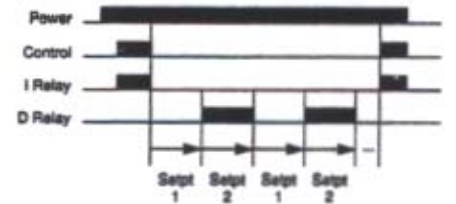
MODE 8: REPEAT CYCLE, ON FIRST

The supply voltage is applied at all times. When voltage is applied to the control terminal, both the instantaneous and delayed contacts change state and timing begins using setpoint 1. When the time has satisfied setpoint 1, the delayed contacts return to their original state and timing continues using setpoint 2. When timing has reached setpoint 2, the delayed contacts are once again energized and operation begins over with setpoint 1. The third setpoint (SET CNT) controls the number of cycles (continuous operation if setpoint 3 is programmed for 0). Reset takes place upon removal of control voltage.



MODE 9: REPEAT CYCLE, REVERSE START, OFF FIRST

The supply voltage is applied at all times. Applying voltage to the control terminal holds the unit in reset with the instantaneous relay energized. When voltage is removed from the control terminal, the instantaneous relay returns to its rest state and timing begins using setpoint 1. When the time has satisfied setpoint 1, the delayed contacts change state and timing continues using setpoint 2. When timing has reached setpoint 2, the delayed contacts return to their original state and operation begins over again with setpoint 1. The third setpoint (SET CNT) controls the number of cycles (continuous if programmed for 0). Reset takes place when voltage is once again applied to the control terminal.



MODE 10: REPEAT CYCLE, REVERSE START, ON FIRST

The supply voltage is applied at all times. Applying voltage to the control terminal holds the unit in reset with the instantaneous relay energized. When voltage is removed from the control terminal, the instantaneous relay returns to its rest state, the delayed contacts change state, and timing begins using setpoint 1. When the time has reached setpoint 1, the delayed contacts return to their original state and timing continues using setpoint 2. When setpoint 2 has been satisfied, the delayed contacts are once again energized and operation begins over with setpoint 1. The third setpoint (SET CNT) controls the number of cycles (continuous if 0). Reset takes place when voltage is once again applied to the control terminal.

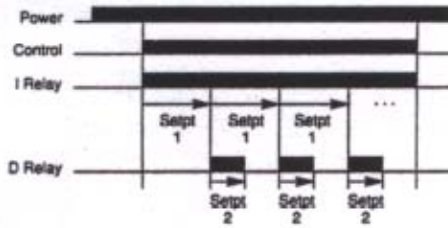


Repeat Pulse Modes

11, 12, 13, 14

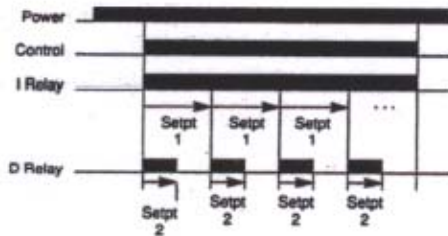
MODE 11: REPEAT PULSE

The supply voltage is applied at all times. When voltage is applied to the control terminal, the instantaneous contacts change state and timing begins using setpoint 1. When the time has satisfied setpoint 1, the delayed contacts are energized for a period of time which is controlled by setpoint 2. At the same time that the output pulse begins, a new cycle time (setpoint 1) begins. During an output pulse, the display shows the pulse. The third setpoint (SET CNT) controls the number of cycles (continuous operation if setpoint 3 is programmed for 0). Reset takes place upon removal of control voltage.



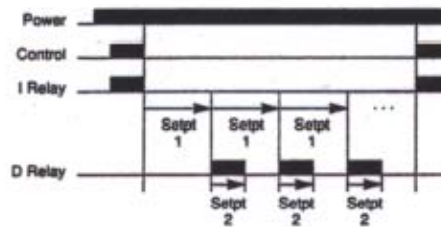
MODE 12: REPEAT PULSE, 1st PULSE IMMEDIATE

The supply voltage is applied at all times. When voltage is applied to the control terminal, the instantaneous contacts change state, timing begins using setpoint 1, and the delayed contacts are energized for a period of time which is controlled by setpoint 2. When the time has satisfied setpoint 1, another output pulse begins and the cycle time (setpoint 1) restarts. During an output pulse, the display shows the pulse. The third setpoint (SET CNT) controls the number of cycles (continuous operation if setpoint 3 is programmed for 0). Reset takes place upon removal of control voltage.



MODE 13: REPEAT PULSE, REVERSE START

The supply voltage is applied at all times. Applying voltage to the control terminal holds the unit in reset with the instantaneous relay energized. When the voltage is removed from the control terminal, the instantaneous relay returns to its rest state and timing begins using setpoint 1. When the time has satisfied setpoint 1, the delayed contacts are energized for a period of time which is controlled by setpoint 2. At the same time that the output pulse begins, a new cycle time (setpoint 1) begins. During an output pulse, the display shows the pulse. The third setpoint (SET CNT) controls the number of cycles (continuous operation if 0). Reset takes place when voltage is once again applied to the control terminal.



MODE 14: REPEAT PULSE, 1st PULSE IMMEDIATE, REVERSE START

The supply voltage is applied at all times. Applying voltage to the control terminal holds the unit in reset with the instantaneous relay energized. When voltage is removed from the control terminal, the instantaneous relay returns to its rest state, timing begins using setpoint 1, and the delayed contacts are energized for a period of time which is controlled by setpoint 2. When the time has satisfied setpoint 1, another output pulse begins and the cycle time (setpoint 1) restarts. During an output pulse, the display shows the pulse. The third setpoint (SET CNT) controls the number of cycles (continuous if 0). Reset takes place when voltage is once again applied to the control terminal.

